

AI-INFUSED WEB DÉCOR SHOP

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UNIVERSITI TUNKU ABDUL RAHMAN

AI-INFUSED WEB DÉCOR SHOP

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**A project report submitted in partial fulfilment of the
requirements for the award of Bachelor of Science (Honours)
Software Engineering**

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September 2023

DECLARATION

I hereby declare that this project report is based on my original work except for citations and quotations which have been duly acknowledged. I also declare that it has not been previously and concurrently submitted for any other degree or award at UTAR or other institutions.

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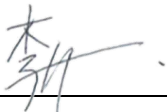
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APPROVAL FOR SUBMISSION

I certify that this project report entitled “**AI-INFUSED WEB DÉCOR SHOP**” was prepared by **CINDY WEE ZI WEI** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of Science (Honours) Software Engineering at Universiti Tunku Abdul Rahman.

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ABSTRACT

In an age where reliance on the internet is ubiquitous, the transformation of traditional retail stores into online counterparts has become a necessity. This paradigm shift addresses the needs and preferences of a digitally connected populace. To tackle this challenge, an AI-infused web decor shop is proposed, offering a seamless shopping experience for both customers and management teams. The core objective of this web application is to streamline administrative tasks while providing customers with convenient access to an array of products, eliminating the need for physical store visits. Targeted users encompass a wide spectrum, including customers seeking personalized decor solutions and the management team comprising administrators, staff, and shop owners. Harnessing the power of AI technology, this innovative platform empowers customers to customize and curate their ideal decor, enhancing the allure of their memorable occasions. By seamlessly integrating AI, customers are enabled to transform their visions into reality with ease. The development of this system adheres to a phased approach, aligning with the project's scope. Each phase focuses on essential modules crucial for the platform's functionality. Upon system completion, rigorous testing was conducted to ensure compliance with project requirements. User acceptance tests yielded overwhelmingly positive results, with most users rating their satisfaction levels at more than 4 out of 5. In conclusion, this research demonstrates the successful fulfillment of its objectives, offering a compelling solution to the imperative need for online retail transformation in the digital age.

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LIST OF SYMBOLS / ABBREVIATIONS

API	Application Programming Interface
CRUD	Create, Read, Update, Delete
CSS	Cascading Style Sheets
EA	Enterprise Architecture
ERD	Entity Relationship Diagram
HTML	HyperText Markup Language
HTTP	HyperText Transfer Protocol
IDE	Integrated Development Environment
KEGA	Key Economic Growth Activities
MVC	Model-View-Controller
PHP	Hypertext Preprocessor
RAD	Rapid Application Development
SDLC	Software Development Life Cycle
UAT	User Acceptance Testing
UI	User Interface
WBS	Work Breakdown Structure

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CHAPTER 1

INTRODUCTION

1.1 General Introduction

An e-commerce web application enables customers to purchase and sell tangible things, services, and digital commodities via the internet instead of visiting an actual store (Lutkevich, 2022). An e-commerce web application may be used by a business to process orders, take payments, manage shipping and logistics, and provide customer service.

E-commerce is a term used to refer to online sales of goods and services. In its simplest form, e-commerce is the electronic transfer of funds and data between two or more parties (Fuscaldo, 2023). This kind of business has seen substantial transformation since its inception, with the introduction of electronic data interchange in the 1960s and the introduction of online shopping in the 1990s (Miva, 2020). E-commerce has seen remarkable development due to customers being able to make purchases from practically anywhere due to the widespread use of smartphones in recent years.

A suitable strategy is necessary for the effective design and execution of an e-commerce web application. From the beginning of the website until its conclusion, everything must be planned. Due to the e-commerce industry's rapid expansion especially in the pandemic, a new choice will inevitably join this parade of business websites (The Star, 2022). A variety of stylish goods will be available online via the e-commerce web application. Business workers will be able to conduct all of their operations via the suggested web application, which would vastly expand their reachability compared to what it is now. It will make it possible for several retailers to offer their goods online. A specific type of business model or component of a broader business model enables a company or an individual to conduct business via an electronic network, typically the Internet. All four of the leading market segments—business to business, business to consumer, consumer to consumer, and consumer to business—are served by electronic commerce (Elearnmarkets, 2022).

Besides, the system's primary need will be addressed in accordance with information security. Secure communication and transactions are necessary as more and more individuals started doing business online. According to Truvariantis (Truvariantis, n.d.), the Payment Card Industry Security Standards Council (PCI) was established in 2004 to make sure organizations were adhering to different security regulations. The organization was created to develop, improve, maintain, distribute, and implement security standards for protecting customer account information (Kagan, 2022).

Daily living would be difficult to fathom without e-commerce. We make online purchases of food, clothing, and furniture, sign up for online courses and other services, download audiobooks, music, and movies, and others. Besides, an e-commerce platform is also a digital platform that enables businesses to sell their products or services online. These platforms allow customers to browse products, add them to a cart, and make payments electronically. Many e-commerce platforms provide additional features such as product reviews, customer ratings, and recommendations based on browsing history. For instance, a web-based party decoration shop can leverage an e-commerce platform to reach a wider audience, offer a greater variety of products, and simplify the purchasing process for customers. By utilizing an e-commerce platform, the party decoration shop can create an online store that is accessible 24/7 and allows customers to shop from the comfort of their homes. The platform can also provide tools for the shop to track inventory, manage orders, and process payments securely. Additionally, the platform can offer features such as wishlists and recommendations things like those product that have the highest rating to enhance the shopping experience and encourage repeat purchases.

By 2030, Malaysians are expected to have a respectable quality of life, according to the Shared Prosperity Vision 2030, which the Malaysian government unveiled on October 5th, 2019. One of the seven strategic thrusts included in the Shared Prosperity Vision is the Key Economic Growth Activities (KEGA), which are projects that have the potential to help Malaysia accomplish its goal of achieving high-level economic growth. There are 15 KEGA in total, according to the Ministry of Economic Affairs (2019), and the 14th KEGA, which is advanced and contemporary services, said that the

services industry has to undergo diversification and modernization to keep up with market demand and technological advancements (Ministry of Economic Affairs, 2019). With the help of this project, it is possible to carry out the 14th KEGA by digitalizing the process of online shopping according to the demands of the consumer.

In general, this project was initiated to analyze the issues faced in the current manual system and propose solutions regarding issues found in the traditional party decoration shop. This chapter will discuss the background of the problem, problem statements, project objectives, proposed solution, proposed approach, and project scope.

1.2 Background of Problem

Generally, the rise of e-commerce has caused a change in the conventional marketing and administration of the entertainment sector (Cramer-Flood, 2022). Since the emergence of e-commerce, businesses have effectively implemented business re-engineering while reducing purchasing costs, managing supplier relationships, streamlining transportation, and managing inventory. Businesses may expand their service offerings and communicate more effectively throughout the supply chain through e-commerce, which opens up the potential for market differentiation. New technologies like augmented reality and IoT (Internet of Things) commerce have presented new challenges and considerations for e-commerce businesses. The e-commerce industry has seen rapid expansion, and it is predicted that by 2023, worldwide e-commerce sales will reach \$1.065 trillion (Davis, 2023). Users as owners of e-commerce businesses confront unique challenges in comparison to owners of brick and mortar enterprises.

Traditional commerce refers to the type of trade that existed before to the digital revolution. In truth, it was the only medium of transaction at the time. In exchange for funds, it involves the actual transfer of commodities or information from seller to buyer. Since this type of trade does not involve the internet, all transactions are carried out in person (Wang, 2022). A new and more efficient form of trade called electronic commerce, or e-commerce as it is now often known, evolved during the digital revolution. This innovative concept of trade is based on the same-old idea of trade but with a modern twist:

customers and sellers can now transact business virtually rather than in person (Kaur, n.d.). E-commerce is growing in popularity since it is now the quickest and easiest way to conduct business, especially among millennials who frequently use the internet. For instance, when customers want to purchase anything, they just have to surf the internet and almost everything they can get without going to the traditional retail store nowadays.

Physical shop sales have been declining in recent years. Online party decoration shops may be able to offer lower prices than traditional stores due to lower overhead costs such as rent, utilities, staffing and provide things at lower prices more conveniently. This can make web-based shops more attractive to cost-conscious customers. Additionally, it is also simpler to access the items, compare them, and purchase them on the web application that are quicker and more responsive than physical shops, where a customer must constantly look for the best deal. A recent Invesp Consulting survey found that 59% of customers had an easier time finding the things they desire in personalized online marketplaces. Additionally, 53% said that services at online shops that allow product customization are superior (Invesp, 2023). By tailoring an online store to the interests of each consumer and making online shopping a unique experience, business can boost the chances that each visit will result in a purchase.

In recent years, with the rise of social media platforms such as Instagram and Facebook, many traditional party decoration shops have been using these platforms as a way to showcase their products and services to potential customers. However, as the popularity of these platforms has increased, so has the number of direct messages that these shops receive from customers inquiring about their products or services. While direct messages can be a convenient way for customers to ask questions and place orders, it can also be overwhelming for shops to handle a large volume of inquiries. This can lead to delays in response times or even unanswered messages, resulting in poor customer service and potential loss of business. In addition, many traditional party decoration shops may not have the resources to hire additional staff to manage direct messages or invest in automated messaging systems. This can further exacerbate the problem and lead to a negative customer experience.

Basically, traditional party decoration shops may have limited operating hours, which can be inconvenient for customers who have busy schedules., unlike the virtual e-commerce online store. The online store can operate 24 hours since it going through the online platform while the traditional commerce can only operate until around 10 pm since it is a physical store and the customer's flow during night time will be less too. According to the supply-and-demand model, the quantity of an item that customers demand as well as the quantity of a thing that firms offer are primarily influenced by price, in addition to other factors such as income and input costs (Fernando, 2021). Customers usually expect less of a product when it is expensive, whereas they want more when it is affordable. Conversely, businesses that provide an item may offer more for a higher price and less at a lesser price. Online retailers can provide customers with more products at cheaper prices than those conventional retail outlets. As a result, it may have an impact on traditional commerce's income.

Also, traditional party decoration shops are often limited in their selection of products due to physical space constraints. They can only stock a certain amount of inventory in their store, which may not include all the latest or trendiest items. This can be especially problematic for customers looking for unique or hard-to-find decorations. Some people see online shopping as making things much easier compared to the traditional commerce in terms of time such as when having a long list to shopping and want to buy all those. In online shopping, they can shop at home, and with just clicks of the mouse, customer can get what they want to order. It is more convenient to buy online since customers can do their shopping from any computer with an internet connection at any time, saving them the trouble of traveling to stores, paying for parking, waiting in line, and other similar hassles.

The creative constraints of the customers are a problem that traditional party decoration shops may face due to a variety of factors. One such factor is that customers today have access to a wider range of creative inspiration and ideas through social media platforms such as Pinterest and Instagram. This can lead to customers having higher expectations for the creativity and uniqueness of their party decorations, which traditional shops may struggle to meet with their limited range of products and services. In

addition, traditional party decoration shops may face limitations in terms of their resources, such as their staff, equipment, and materials. This can make it difficult for them to offer a wide range of customization options or to keep up with the latest trends and styles in party decorations. Many customers may prioritize ease of use and cost-effectiveness over creativity and uniqueness when it comes to party decorations, leading them to choose more standard and traditional options that may not align with their desired level of creativity.

Last but not least, one major problem is that traditional party decoration shops often rely on manual or paper-based booking systems, which can be inefficient and prone to errors. These systems can lead to scheduling conflicts, missed bookings, and delays in service delivery. Moreover, these systems may not be able to accommodate last-minute changes or cancellations, which can cause further difficulties for the shop. Another problem is the potential for high demand during peak seasons or holidays, which can put a strain on the shop's staff and resources. It may be difficult for the shop to meet the demands of multiple bookings during these times, leading to delays or even lost business opportunities.

1.3 Problem Statement

Recently, customers have always been accustomed to purchasing goods from actual stores. It requires the customers to physically visit the stores and browse the many shelves of merchandise. Other than that, the store owners need to stock, display, and deliver the items based on customers' needs. This requires a lot of labor, time, and space to handle these tasks. These challenges are also applicable to traditional party decoration shops. Additionally, the Covid-19 pandemic has had a significant impact on traditional businesses, including party decoration shops, as customers may be reluctant or unable to visit physical stores. Many people are afraid to leave their houses, and thus, increasing social isolation. As a result, small businesses that rely on the traditional selling approach suffer extensively.

This section discusses the three problem statements noticed from the problem formulation phase, which include poor customer service due to overloaded messages through direct message (DM), limitation of creativity for

the customers and inefficiencies and difficulties in managing and scheduling bookings.

1.3.1 Poor customer service due to the overwhelming direct messages (DM)

When it comes to marketing their wares, some proprietors of businesses believe that the usage of social media platforms such as Facebook is ideal. However, the use of social media platforms has only shown to be beneficial for commercial objectives (Reno, 2022), leaving the burden for the business owner to manage a large number of customers and orders via direct messaging (DM). For instance, it takes business owners a lot of time to answer all customers.

For social-media based party decoration page, poor customer service due to the overwhelming volume of messages received through direct message (DM) is a common issue many businesses face, particularly those with a large social media following or relying heavily on digital communication channels. With the rise of social media platforms like Twitter, Instagram, and Facebook, many customers prefer to use DMs to reach out to businesses for support, inquiries, or complaints. If a business is unable to respond to messages in a timely manner, it can lead to frustrated customers, negative reviews, and a damaged reputation (Kumar and Sharma, 2022). According to Salesforce Research, 89% of consumers are more inclined to buy something else after having good customer service (Mulcahy, 2019).

Customer frustration with internet shopping primarily stems from this issue. They take too long to respond to direct messages (DM) or messages being ignored by the seller when they wish to ask the seller for more details about the product. Customers who have purchased a product but are having inquiries or issues with it are in a similar scenario. Some online merchants may additionally experience it due to technological limitations or hiring the incorrect partners or organizations to assist them in project management. A solid technical foundation is required for retailers who want to thrive. Similarly, IT affects the ability of a business to gain a competitive advantage over its rivals (Shen, Yeh and Lin, 2022).

Hence, improving customer service is crucial for any business that aims to achieve success and growth in the long term. Businesses should provide accurate and timely information to customers, be responsive to their inquiries, and be transparent about policies and procedures.

1.3.2 Limitation of creativity for the customer

Nowadays, customers expect companies to tailor their products or services specifically for everyone. This level of personalization doesn't just give the customer what they want – it also creates a closer bond between the brand and the consumer (Coelho and Henseler, 2012). The limitation of customers' creativity and constraints on customer creativity refers to the factors that prevent or restrict customers from being fully creative in their use or adaptation of a product or service.

Customization can be an important aspect of a web-based party decoration shop. Customizing products not only aids in boosting sales but also ensures buyers satisfaction, which fosters customer loyalty and word-of-mouth referrals. According to a Deloitte survey, 36% of customers are reportedly open to purchasing customized goods or services across various retail industries. Also, the study proves that one out of every five of these customers would be prepared to pay 20% extra for a unique or exclusive product (Walton and Perkins, 2017). This demonstrates a shift in customers mindset towards inherent value and away from monetary cost.

Besides, customers often decide to take on the role of solution designer across various industries, locating the required parts and putting the pieces together to achieve their objectives, especially for a special event that means a lot to them, like a birthday party or anniversary (Irani and Frankel, 2020). In the highly competitive world of online retail, by allowing customers to personalize and create their own unique decorations on a web-based party decoration shop, businesses can increase customer satisfaction, leading to higher repeat business and positive reviews.

Customization increases perceived service quality, customer happiness, and customer trust, which increases customer loyalty to a service provider. Customer satisfaction and confidence have an interactional influence on

customization's direct and indirect effects on customer loyalty (Coelho and Henseler, 2012).

Overall, understanding the limitations of customers' creativity and constraints on customer creativity is essential for businesses to ensure they create products and services that meet customer needs and foster creative expression. By addressing the technical limitations, legal constraints, cultural or social norms, and lack of resources that limit customer creativity, businesses can provide more opportunities for their customers to customize or adapt their products and services. This, in turn, can lead to increased customer satisfaction, loyalty, and overall business success.

1.3.3 Inefficiencies and difficulties in managing and scheduling bookings

Currently, the problem of inefficiencies and difficulties in managing and scheduling bookings is a common issue many organizations face, particularly those that deal with a high volume of customer bookings or appointments.

For party decoration shop owners, inefficiencies and difficulties in managing and scheduling bookings can have a significant impact on their business. This occurs when more bookings are accepted than can be accommodated, resulting in customers being turned away or experiencing long wait times. In a traditional party decoration shop, staffing resources may be limited, which can result in missed or delayed bookings. This can impact revenue and result in negative customer feedback. Besides, when customers fail to show up for their reservation or order, it can result in lost revenue for the organization and wasted time and resources. Manually recording booking details can be time-consuming, especially for businesses that receive a large number of bookings (Bowers, 2017). Additionally, the manual process can be error-prone, leading to mistakes such as double bookings or incorrect customer information.

Manually recorded bookings can be challenging to track and manage, especially if they are stored in physical records such as paper forms or notebooks (Breitmeyer, 2015). This can lead to confusion and inefficiencies in managing resources and scheduling. Physical descriptions of bookings can be limited in terms of accessibility, especially for staff members who need to

access booking information remotely or from multiple locations. Also, manually recording booking details can restrict a business's ability to scale its operations as it grows, as the manual process may become increasingly unwieldy and difficult to manage (Makinde-Oji et al., 2022).

As a result, inefficiencies and difficulties in managing and scheduling bookings can significantly impact a business's operations, customer satisfaction, and revenue of a party decoration shop. These challenges can arise for various reasons, including overbooking, communication breakdowns, and manual recording of booking details. As such, this problem should be avoided.

1.4 Project Objectives

The objectives to be achieved in this project are:

1. To identify the current faced problem by the traditional retail store and understand the present existing flow of business
2. To develop an easy-to-use web-based party decoration shop for users to made order, customization and reservation
3. To evaluate the proposed system through user acceptance test after the completion of whole system

1.5 Project Solution

In order to solve the problems addressed above, a AI-Infused web décor shop was proposed. The targeted users were the admin and the customer. Additionally, it provided a platform for users to purchase things and allowed them to create a wonderful and memorable party event based on their preferences and creativity with the help of AI. In contrast, it helped the shop owner or staff to do their job more efficiently. This system generally incorporated most of the standard features seen in other current systems. There were also some novel and distinctive features added to this system to make it more appealing. The following subsection discussed the proposed web application and its system architecture.

1.5.1 Proposed web application

Generally, the proposed web application was designed to solve a particular problem or meet a specific need.

As mentioned above, the AI-Infused web décor shop was developed to ease both the user and staff. This management system was crucial for doing business successfully across a range of sectors in order to guarantee that all management was streamlined and structured. Thus, several functions essential for the efficient operation of the company were included in this web-based party decoration shop. One of the features in this system was the integration of chatbot in order to resolve the problem of poor customer service due to overwhelming direct messages which were stated in the problem statement. With a chatbot, customers could receive instant responses to their queries. This meant they didn't have to wait for long periods to get a response to their DMs from the staff of the party decoration shop, which could lead to frustration and dissatisfaction. Chatbots could also be programmed to work around the clock, meaning customers could get their queries answered at any time of the day. This was especially useful for businesses that had customers in different time zones. Customer satisfaction was maintained at very high levels in this manner.

Beside the integration of chatbot, offering customization on products or events with the help of AI based on customer needs could definitely help to resolve the problem of limitation of creativity of the customers in a web-based party decoration shop. Customization allowed customers to personalize their party decor to their specific tastes and preferences. This meant they had more control over the creative process, which could lead to greater satisfaction with the end result. Customization offered more flexibility in terms of the design options available. Customers could choose from a wide range of colors, materials, and themes to create a unique party decor that reflected their personality and style. Customization also allowed customers to meet specific needs that may not have been available in pre-designed party decor. For example, a customer may have required a particular theme, color scheme, or size that wasn't readily available.

Other than that, this system also implemented a centralized calendar in order to create simplicity for the customer to make a reservation or for the staff to check on their booking schedule. With a centralized calendar,

customers could easily see the availability of the selected date and make reservations accordingly. This reduced the time and effort required for the customer to make a booking, thereby simplifying the process. Moreover, a centralized calendar also provided real-time availability of the party decoration shop which allow customers to make reservations based on the latest information. This meant that customers could be assured that their reservation was confirmed and there wouldn't be any scheduling conflicts as mentioned in the problem statement. The centralized calendar could also simplify the process of staff scheduling by providing a centralized view of all bookings and reservations. This allowed the staff to easily see when they were scheduled to work. A centralized calendar could also reduce the administrative workload for the party decoration shop by eliminating the need for manual scheduling and reservation management. This freed up the staff to focus on other tasks, such as customer service and party decor preparation.

1.5.2 Proposed Design Architecture

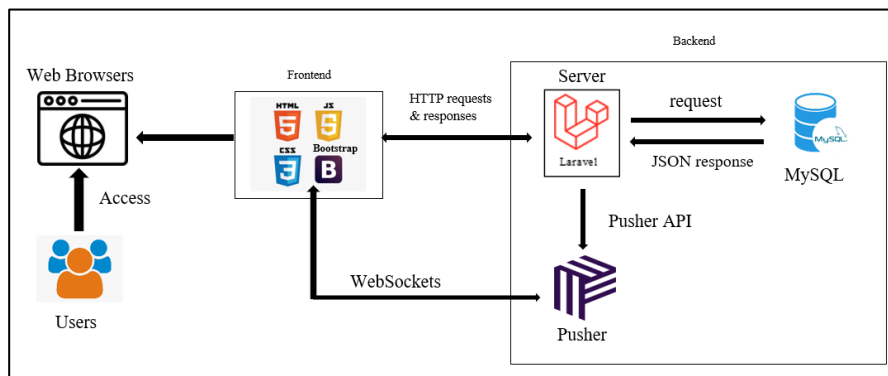


Figure 1.1: System Flow Overview.

The high-level system overview for this project is shown in Figure 1.1. HTML 5, CSS, JavaScript, and Bootstrap were used for front-end development, and Laravel with a MySQL database were used for back-end development. After receiving an HTTP request, the server implemented WebSocket to push the event to clients after sending it to the Pusher server via the Pusher API. Generally, Pusher was a real-time messaging API that allowed developers to add real-time communication and functionality to their web applications. It provided a simple and easy-to-use API for sending and receiving real-time data. Clients from various sites or locations were able to view the updates of

the stocks or slots availability without having to refresh the web application because it provided the ability of the system to update the data in real-time after the customers made the purchase.

Client-side rendering, commonly called front-end development, used JavaScript, the web language, to render information on devices instead of a distant web server. In other words, this guaranteed that a server was just required to handle a web application in its raw state, with the browser displaying it as HTML. Moreover, it indicated that some client-side logic governed how objects were shown to users on screens and were handled while building web pages (known as presentation logic).

1.6 Project Approach

A project approach refers to the methodology or process used to plan, execute, and complete a project. There are several different project approaches, each with its own unique characteristics and advantages. In this section, research approach and development approach were discussed.

1.6.1 Research Approach

Quantitative research involves collecting numerical data and analyzing it using statistical methods to test hypotheses and quantify relationships between variables (Apuke, 2017). Qualitative research, on the other hand, involves collecting non-numerical data, such as interviews and observations in order to explore subjective experiences and understand the meanings and perspectives of individuals or groups (Ugwu and Eze, 2023).

In this project, a quantitative approach was used by conducting surveys to collect numerical data. Targeted users were asked questions based on their prior experience buying party decoration kits from brick-and-mortar retailers or online retailers using Google Forms. Besides, a qualitative approach such as interviewing the shop owner was also used to gather information from the shop owner about their needs and expectations for the project.

In conclusion, both quantitative and qualitative research methods had their own unique approaches and were utilized based on the research question and objectives. For this project, a combination of both methods was used. The

quantitative approach was used to collect numerical data through surveys, while the qualitative approach was used to gather in-depth information from the shop owner through interviews.

1.6.2 Development Approach

The proposed system development methodology for this project was the Phased-Development Based Rapid Application Development (RAD).

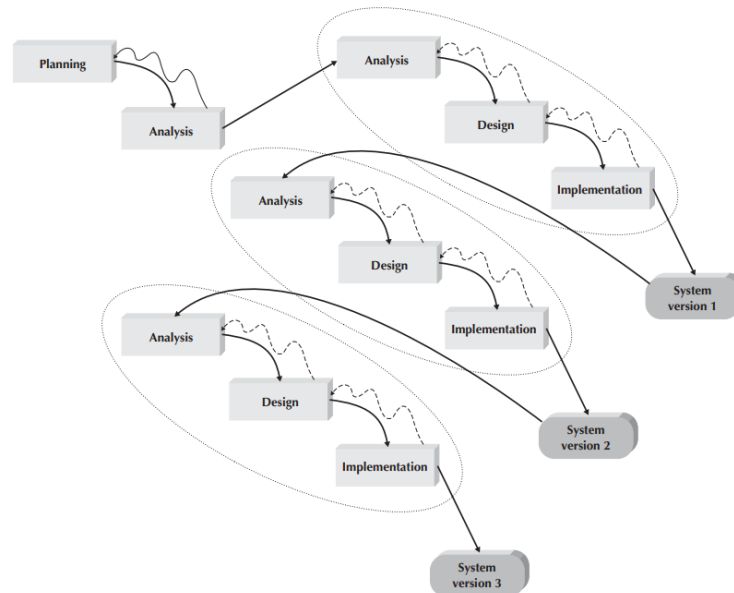


Figure 1.2: Phased Development Based Methodology.

Source: (Dennis, Haley Wixom and Tegarden, 2015)

With this methodology, the whole system (AI-Infused Web Decor Shop) was broken down into many iterations, and each module was built in the order that it was introduced. The analysis step identified the overall system idea, and the specifications were divided into several versions. In the first version, the most critical needs were moved to the top of the priority list, and then the project proceeded to the design and implementation phase, which only included the requirements for the first version. After completing the implementation of version 1, a new cycle of analysis, design, and implementation could be carried out for version 2. This approach continued to repeat until a fully functioning system was built. As a result, the development of a system with functional components could occur rapidly (Dennis, Haley Wixom and Tegarden, 2015).

Throughout this project's planning and analysis phase, requirements were acquired by looking at similar existing applications and identifying the features to be included in this project. Additionally, a questionnaire and an interview with users were developed to learn more about their needs and expectations for the intended system in order to build the user requirement specification. This stage also included project scheduling with the identification of primary activities and sub-tasks.

In the design phase, with the requirements acquired from users in the first step, a quick design of the straightforward system was created. This simple design aimed to give users a visual representation of the fundamental concept behind the web décor shop. Additionally, this phase aided in the creation of the prototype during the following phase.

Furthermore, the AI-Infused web décor shop was broken down into three distinct iterations, with the first iteration including modules considered to be of the utmost significance. Setting up databases was necessary to facilitate later development, as these modules were essential for further progress. The first module included in this version was the creation of a chatbot to improve response time to customers by 50%, as it was the project's main objective. All CRUD operations for users and admins were also implemented in this version.

The second version encompassed the customization function on products based on customer preferences with the integration of AI. Lastly, the third version involved the creation of a centralized calendar.

Overall, the phased development methodology proved to be an effective project management approach for complex projects as it helped break down the project into smaller, more manageable components and allowed for greater flexibility and adaptability.

1.7 Project Scope

This project aimed to develop a simple AI-Infused web décor shop primarily using Visual Studio Code and JavaScript. The web-based application was designed to be highly accessible as it allowing users including the admin and end-users to access it anytime and from anywhere.

1.7.1 Target Users

This project's intended users are the customers and employees of a party decoration shop.

1.7.1.1 Target Customers

The target customers consists of people from all walks of life who want to buy party decoration kits including event organizer, youngster but are unable or unwilling to visit the store due to various factors physically. Additionally, it covers those who want to customize their orders or make reservations for a particular date or special occasion.

1.7.1.2 Target Staff

This system was intended for use by three different types of target users: the store owner, administrator and the on-duty staff. The store owner had the authority to modify product information and utilize the system to implement any necessary changes. For example, the store owner could adjust the pricing of each product using the online system. The on-duty staff were also part of the project's target group as they would use the system to monitor customer orders.

1.7.2 Application Modules

In Table 1.1, the actions that can be taken and the functionalities provided for respective roles were clearly listed. The web-based party decoration shop consisted of three main modules: integration of a chatbot, customization function on products or events based on customer needs, and the creation of a centralized calendar.

Table 1.1: Roles and Responsibilities for AI-Infused Web Décor Shop.

Roles	Actions/Responsibilities
Admin / Staff / Shop Owner	<ul style="list-style-type: none"> - Add, update, view and delete the products information for sale - Add, update, view and delete a

	<p>category</p> <ul style="list-style-type: none"> - Retrieve any information, such as product details from the database - View the feedbacks sent by customers - Reply any enquiry from the customer - View all the ordering or booking placed by the customer
Customer (including event organizer, youngster)	<ul style="list-style-type: none"> - Register their account and edit their account settings - Make purchase and request for delivering the products to a specific place - Track their order status

1.7.2.1 Integration of Chatbot

The first module was the integration of a chatbot which allow the customers to interact with the chatbot instead of waiting for hourly responses from the owner. For instance, the admin had the ability to program the chatbot to address common questions or guide customers to relevant information or resources. Chatbots were capable of handling a high volume of customer inquiries and requests simultaneously, thereby assisting businesses in saving time and reducing costs. Additionally, chatbots were automated programs that utilized artificial intelligence (AI) to provide automated customer support. They offered 24/7 customer support and were able to swiftly and efficiently respond to frequently asked questions.

1.7.2.2 Customization on products or event based on customer needs

The second module enabled customers to create and customize products based on their own creativity or ideas with the help of AI. Customization of products or events based on customer needs involved adapting the product or event to meet specific requirements or preferences of individual customers. Customers

had the ability to decorate balloons, and party set-ups according to their preferences. For instance, if customers wanted to design a unique birthday party celebration event for their children, they could directly book it through the web application or request further assistance. Additionally, if customers desired to purchase a customized balloon with specific shapes or colors, they could utilize the customization options provided by the shop.

1.7.2.3 Centralized calendar

The third module involved the implementation of a centralized calendar in the system, which aimed to facilitate the management of appointments and reservations. A calendar provided several benefits for both admins and customers.

For admins, a centralized calendar offered a clear overview of upcoming appointments and reservations, enabling them to effectively manage their workload, prioritize tasks, and ensure their availability for scheduled appointments. It helped admins avoid double bookings and prevented them from overloading their schedules.

For customers, a calendar provided an easy way to view available appointments and make reservations. By having a clear overview of open time slots, customers could choose a convenient time that suited them and avoid scheduling conflicts. The inclusion of a user-friendly booking system with a calendar feature also saved customers time and eliminated the need for scheduling appointments through email or phone.

By incorporating a centralized calendar function into the booking system, the overall efficiency and effectiveness of the system were enhanced. It facilitated better schedule management for both admins and customers, resulting in reduced scheduling conflicts and missed appointments. Additionally, the streamlined booking process improved customer satisfaction and fostered brand loyalty.

1.7.3 Limitation of Scope

The project module that are out of scope are stated as below:

1. Real-time Tracking Module

Due to the time constraints, the real-time tracking module is not included in this project. The system will not provide the real-time tracking info for the customer to track their order.

1.8 Conclusion

In conclusion, the AI-Infused web décor shop was developed in response to the growing popularity of online shopping particularly during the pandemic time. It provided customers with a convenient and efficient way to purchase party decoration kits and make reservations without the need to physically visit a store.

Nevertheless, if a company does not have a reliable online management system, it is possible to soon become overburdened. This is due to the fact that the management of orders, items, and the information linked with them, delivery, inventories, and so on, may all come under strain very fast. A new set of difficulties will also arise if hundreds more orders pour in. Assume that one of the managements fails and makes a mistake, the shop may be at risk of missing clients, revenue, earnings, and reputational harm.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Nowadays, everyone knows that the World Wide Web has a significant effect on people's thoughts and actions all over the globe. This benefit led to the development of internet shopping, which has impacted people's lives, particularly during the global epidemic of Covid-19. The ease of use allows us to save valuable time by not having to go to a real place to make a purchase, is something that many people can attest to having a positive impact on their lives.

In this chapter, the key features and capabilities of three comparable web-based party decoration shops that were already in use were analyzed. Additionally, research was conducted on different platforms for online application development and system development methodologies. Following the research, the appropriate approach and structure for this project were selected and applied. Moreover, my computing expertise and experience in creating a web-based system supported these decisions regarding approach and structure.

The chapter will mainly focus on:

- i. Review similar web application on web-based party decoration shop
- ii. Comparison between the various SDLC methodologies
- iii. Identify the key features to be included in the project
- iv. Identify a suitable development methodology for this project
- v. Comparison between the different type of web application framework

2.2 Similar Web Application Review

Reviewing Similar Web Applications before carrying out an project can provide valuable insights and information to make informed decisions about the project's direction, functionality, and potential success.

2.2.1 D'Special Day Décor Gift Balloon

[Source: <https://www.dspecialday.com.my/>]

D'special day is a shop specializing in party and event planning in Malaysian KL and PJ areas. The shop aims to provide high-quality products and services that meet its customers' unique needs and preferences. Also, d'special day's primary goal is to create a memorable and personalized experience for their customers and exceed their expectations.

One of the unique features of d'special day is its wide range of products and services. Whether people are planning a small gathering or a significant event, the shop has a variety of party supplies, decorations, and other essentials to help them create the perfect atmosphere. They also offer customized gifts, photo booth rentals, and venue decoration services, which can help to make any event more memorable and personalized. Another critical feature of d'special day is its commitment to customer satisfaction. The shop has a team of experienced event planners and customer service representatives dedicated to helping customers plan and execute their events efficiently. They also offer delivery services for their products, which can save customers time and hassle.

In addition, d'special day has a user-friendly website that allows customers to browse their products and services, make purchases, and schedule appointments. They also have an active social media presence, where they share photos and information about their latest products and events.

Overall, d'special day is a shop that offers a range of products and services for party and event planning in Malaysia. With its wide range of offerings, commitment to customer satisfaction, and user-friendly website, d'special day is an excellent choice for anyone looking to create a memorable and personalized event.

D'SPECIAL DAY
DECOR GIFT BALLOON

Search... HOME PAGE CONTACT US ABOUT US EVENTS SHOP f i t y CART / RM0.00

Shop Online or Walk-in to our stores

- Established since 2015
- Delivery 365 days a year
- Multiple stores in Klang Valley
- Pre-order discounts
- Same Day Delivery

Same Day Delivery
In Klang Valley Locations
Delivery Within 4 Hours

Chat with us (whatsapp)
One-to-One Communication
Interactive Responses

Easy Payment Methods
Online Banking / FPX
Credit Card Payments

SME 100 Award 2022
FAST MOVING COMPANIES*

MyMalaysia Award

HAPPY VALENTINE'S DAY

Appreciate your love ones
Time to show that you think of them on this special day

0 HOURS 0 MIN 0 SEC

Figure 2.1: D'special Day Home Page.

Source : <https://www.dspecialday.com.my/>

On this shop's homepage, consumers can search for the required kits by entering the keyword. Besides, there is also some information about the shop, including the established year, awards they got, etc. Besides, this shop has countdown features for special events such as valentine's day, Christmas and others.

D'SPECIAL DAY
DECOR GIFT BALLOON

balloon HOME PAGE CONTACT US ABOUT US EVENTS SHOP CART / RM0.00

HOME / SHOP / SEARCH RESULTS FOR "BALLOON" Showing 1-12 of 71 results Relevance

PRODUCT CATEGORIES

Categories

Occasion

Rental

FILTER BY PRICE

Price: RM0 – RM330

Christmas Balloon Decor
RM151.60 - RM167.60

I Love You Hot Air Balloon Set
RM114.80 - RM74.80

Happy Birthday Foil Balloon (16 Inch)
RM49.90

Unicorn Dream Balloon
RM157.60

What A Wonderful World - Hot Air Balloon Set
RM114.80 - RM74.80

Balloon Pillar (Set of 2pcs)
RM330.00

Hot Air Balloon with Bear
RM154.80 - RM114.80

I Care For You (Bubble Balloon)
RM93.00 - RM96.00

Age is Just a Number Balloon
RM53.90

Rental Item 1
RM69.90

Paw Patrol - Chase (Supershapes Anagram)
RM69.90

Magical Unicorn (Supershapes Anagram)
RM69.90

1 2 3 4 5 6 >

Figure 2.2: D'special Day Listing Page

Source : <https://www.dspecialday.com.my/>

After users search for the things they want, it is directed to the listing page to view the search result. Also, it has a filter function on the side, which the user can filter according to the category, occasion and price.

D'SPECIAL DAY
DECOR GIFT BALLOON

Search... HOME PAGE CONTACT US ABOUT US EVENTS SHOP f i t y CART / RM0.00

Happy Birthday Foil Balloon (16 Inch)

HOME / CATEGORIES / ALPHABETS BALLOON

#StayHome ONLINE CATALOG
Be safe, no parties. We deliver, you decorate. Let's create memories and post photos online.

Happy Birthday Foil Balloon (Price: RM49.90/set)

Gold Pink Blue
Silver Vibrant Colors Rose Gold
Soft Lites

Happy Birthday Foil Balloon (16 Inch)
RM49.90

This package consists of:
One Set (Happy Birthday)

Size: 16 Inches Height
Fill: Normal Air

Note:
Foil balloon filled with normal air can remain inflated for a few days.
(Caution: Over pressure the foil balloon may cause it to burst)

COLORS
Gold

Preparation
Choose an option

Greeting Card
Choose an option

Ferrero Rocher Chocolate (24pcs Square Flat)
Choose an option

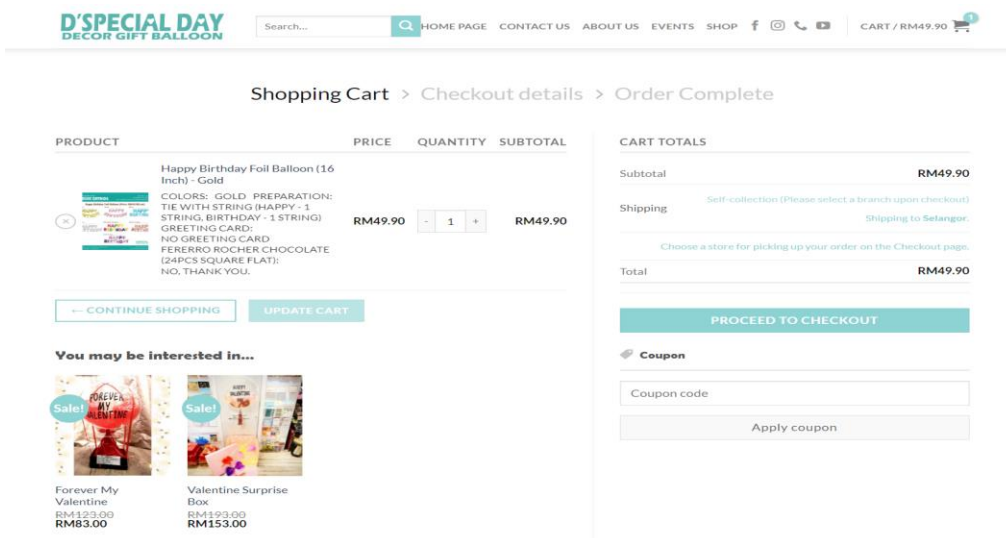
Special Requests/Additional Notes

- 1 + **ADD TO CART**

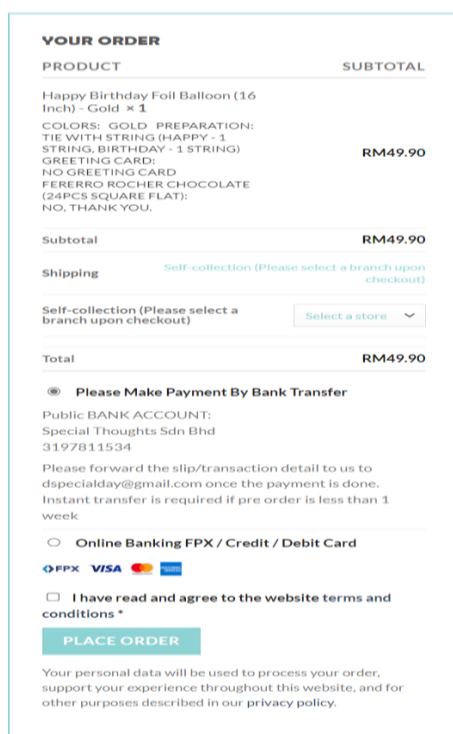
Figure 2.3: D'special Day Product Page.

Source : <https://www.dspecialday.com.my/>

After users select the products, they will be redirected to the selected product's web page to view the product's detailed description. The information includes the price, size, etc. Additionally, users can make the selection based on the colour and add-on products such as cards and chocolate with additional fees. Also, when the user chooses the desired product, they can click the add-to-cart button to save it for payment later.



(a)



(b)

Figure 2.4: D’special Day Checkout Page where (a) is the checkout page, (b) is the payment detail page.

Source : <https://www.dspecialday.com.my/>

Moreover, on the checkout page, users are required to fill up all the details such as name, address, email address and so on to perform delivery of pick-up by their own in the store. But, they are limited in their payment choices. Users can only purchase through online banking or by bank transfer.

D'SPECIAL DAY
DECOR GIFT BALLOON

Search... HOME PAGE CONTACT US ABOUT US EVENTS SHOP f @ v CART / RM49.90

Special Events

DECORATION, EVENTS AND SPECIAL OCCASIONS

Whatever the occasion, our team of expert planners and organisers are always ready to spice up that special day with a bang. Do drop us a line describing what you have in mind, and we will tell you what we can do, to make that day memorable.

Your name

Your email

Subject

Your message (optional)

SUBMIT

Figure 2.5: D’special Day Special Events Page.

Source : <https://www.dspecialday.com.my/>

On the special events page, users are not required to perform reservations or booking directly through the web. Users are required to fill out their information, which includes their name, email address, the subject of the event they want to organize, and any messages related to the event. This process is time-consuming because customers cannot immediately see the available slots and the prices at the location where they are located.

2.2.2 M Tree Event

[Source: <https://www.mtree.com.my/>]

M Tree Event is an event management company based in Kuala Lumpur, Malaysia. The company specializes in planning and organizing various types of events, such as weddings, corporate events, private parties, product launches, and exhibitions. The company has a reputation for delivering high-quality events that exceed clients' expectations. They have received many positive reviews from clients who have praised their professionalism, creativity, and attention to detail.

M Tree Events also offers a wide range of event services, including birthday party planning, performers such as live bands, singers, magicians, and dancers, decoration services, emceeing, private party planning, sound and lighting engineers, sound system equipment rental, wedding planning services such as photographers, videographers, and planners. They specialize in

wooden and wedding decorations and offer a range of performers, including culture dancers, cheerleading dancers, saxophonists, percussionists, and more. They work with clients to understand their needs and preferences and provide customized solutions to ensure a successful event.

The company has years of experience in the industry and has organized many successful events for a diverse range of clients. They have a team of experts passionate about creating unique and memorable events and the skills and expertise to handle every aspect of event planning and management.

M Tree Event prides itself on its personalized approach to event management. They work closely with clients to understand their goals and objectives and tailor their services accordingly. They also stay up-to-date with the latest trends and technologies in event planning to ensure that they provide innovative and creative solutions for their clients.

Overall, M Tree Event is a professional event organizer in Kuala Lumpur that provides high-quality event planning and management services for various types of events. They have a dedicated team of experts passionate about creating unique and unforgettable events for their clients.

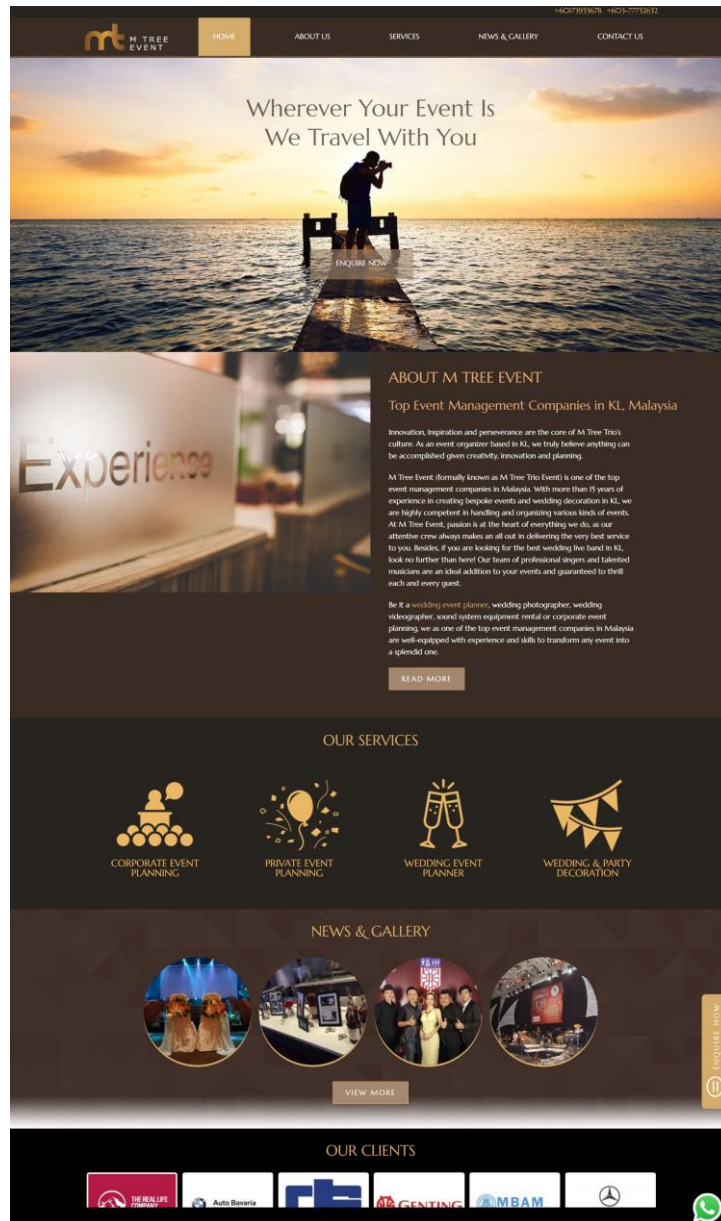
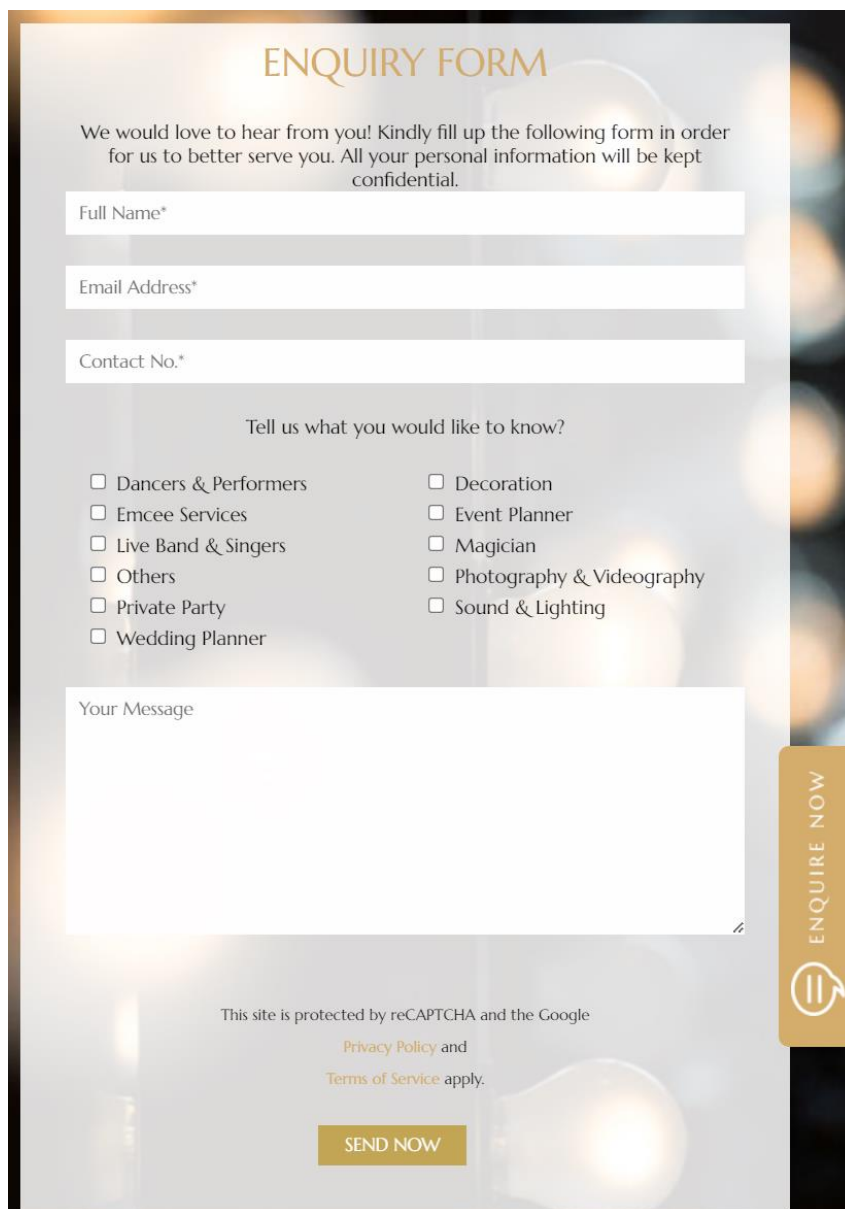


Figure 2.6: M Tree Event Home Page.

Source : <https://www.mtree.com.my/>

On this shop's homepage, it only shows the company's background and the services they provide, such as private events, weddings, parties, corporate events and so on. It also shows the news and gallery, which include their past event or decoration they did.



ENQUIRY FORM

We would love to hear from you! Kindly fill up the following form in order for us to better serve you. All your personal information will be kept confidential.

Full Name*

Email Address*

Contact No.*

Tell us what you would like to know?

<input type="checkbox"/> Dancers & Performers	<input type="checkbox"/> Decoration
<input type="checkbox"/> Emcee Services	<input type="checkbox"/> Event Planner
<input type="checkbox"/> Live Band & Singers	<input type="checkbox"/> Magician
<input type="checkbox"/> Others	<input type="checkbox"/> Photography & Videography
<input type="checkbox"/> Private Party	<input type="checkbox"/> Sound & Lighting
<input type="checkbox"/> Wedding Planner	

Your Message

This site is protected by reCAPTCHA and the Google
[Privacy Policy](#) and
[Terms of Service](#) apply.

SEND NOW

ENQUIRE NOW

Figure 2.7: M Tree Event Enquiry Page.

Source : <https://www.mtree.com.my/>

In the enquiry page, it is same as the d'special day shop. Users are not allowed to book the event they desired directly through the websites. Users are required to fill out their information, which includes their name, email address, the subject of the event they want to organise, and any messages related to the event. This process is time-consuming because customers cannot immediately see the available slots of the event planner and the prices at the directly on the page.

2.2.3 Party Wonderland

[Source: <https://www.partywonderland.my/>]

Party Wonderland is a one-stop party supply shop based in Kuala Lumpur and Klang Valley that provides a wide range of products and services for various events and occasions. Their inventory includes party decorations, balloons, tableware, costumes, props, and accessories for various events, such as birthdays, weddings, baby showers, graduations, and corporate events.

In addition to their physical store in Malaysia, Party Wonderland also has an online store where customers can conveniently browse and purchase products. They offer delivery services to locations within Malaysia and international shipping to selected countries.

Customers who want their parties to be genuinely memorable can take advantage of Party Wonderland's event planning and decorating services. They have a team of seasoned event planners and decorators who are able to assist customers in conceptualizing, planning, and carrying out their events to the fullest extent of their abilities.

Overall, Party Wonderland is a basic one-stop-shop for all party supplies and services, catering to a wide range of events and occasions.

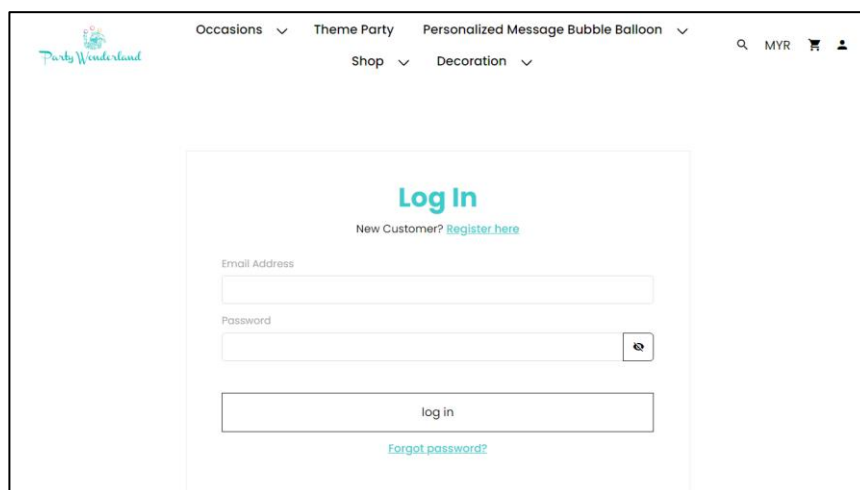


Figure 2.8: Party Wonderland Login Page.

Source : <https://www.partywonderland.my/>

On the login page, users must create an account if they do not own an account by filling up their name, email, etc.

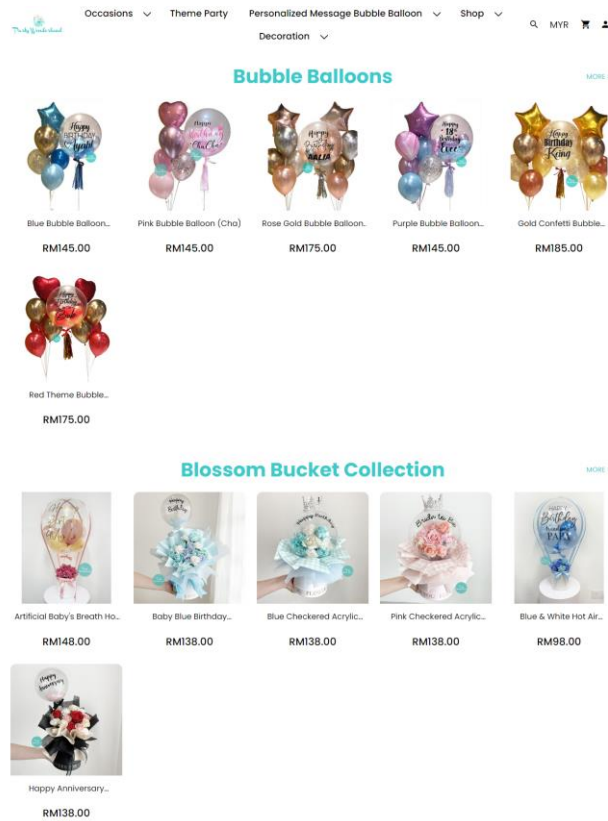


Figure 2.9: Party Wonderland Home Page.

Source : <https://www.partywonderland.my/>

On the home page, users will directly see a bunch of products listed. Besides, users are also allowed to search for the product they desire by clicking the magnifying glass and entering some keywords.

Party Wonderland

Occasions ▾ Theme Party Personalized Message Bubble Balloon ▾ Shop ▾

MYR

Decoration ▾

Home > Search

balloon Sort by All Categories Search in Subcategories Product description search

Search Result

Sort by Default Show result 1-30











 <p>12" Latex Balloon Bunch -...</p> <p>RM50.00</p>	 <p>12" Latex Balloon Bunch -...</p> <p>RM71.00</p>	 <p>12" Latex Balloon Bunch -...</p> <p>RM59.00</p>	 <p>24" Bubble Balloon Mr. &...</p> <p>RM240.00</p>	 <p>40" Black Colour Number..</p> <p>RM48.00</p>
 <p>40" Cream Colour Numb...</p> <p>RM48.00</p>	 <p>40" Gold Colour Number...</p> <p>RM48.00</p>	 <p>40" Rose Gold Colour...</p> <p>RM48.00</p>	 <p>40" Silver Colour Number...</p> <p>RM48.00</p>	 <p>Among Us Theme Balloo...</p> <p>RM168.00</p>



Figure 2.10: Party Wonderland Listing Products Page.

Source : <https://www.partywonderland.my/>

On the listing page, users can select the desired product. Besides, users are also able to filter the products by using the filter function. Party Wonderland shop enables users to sort their products based on theme or occasion.


Party Wonderland

Occasions ▾ Theme Party Personalized Message Bubble Balloon ▾ Shop ▾


MYR  

Decoration ▾

Home > Room Decor > DIY Birthday Decoration Gold, Silver & Black Theme



DIY Birthday Decoration Gold, Silver & Black Theme






Price **RM288.00**


Product SKU RD02

Availability In Stock

* Age (Max. 2) 0 1 2 3 4 5 6 7 8 9

* Foil Balloon (RD)   

Quantity

 Chat With Us

Description

- **Does not include Setting Up Service, We Deliver Only.**
- Actual Colour Of Product May Vary Slightly From What Is Displayed On Your Device.
- **INCLUDE :-**
- Helium-Inflated 12" Latex Balloons for Ceiling Decoration x 30 Nos (**Floating Duration : 20-24 Hours**)
- Flat (Non Inflated) 12" Latex Balloons for Floor/Bed Decoration x 20 Nos
- Air-Filled 16" HAPPY BIRTHDAY Letter Balloon x 1 Set
- Hand Pump x 1 No
- HAPPY BIRTHDAY Banner x 1 Set
- Air-Filled 18" Star-Shaped Plain Foil Balloon x 1Pc
- Air-Filled 18" Heart-Shaped Plain Foil Balloon x 1Pc
- Air-Filled Large Size Foil Balloon x 1Pc
- Air-Filled 32" Number Foil Balloon x Max.2Pcs
- Warm White L.E.D Lights x 2



Figure 2.11: Party Wonderland Product Details Page.

Source : <https://www.partywonderland.my/>

On this page, users are able to see the product description. One limitation of this Party Wonderland shop is that they didn't provide the set-up service, which can cause trouble for the buyer since they have to spend extra time searching for the helium supplier or finding an expert to help.



Party Wonderland

Occasions ▾ Theme Party Personalized Message Bubble Balloon ▾ Shop ▾


MYR  

Decoration ▾

Home > Bubble Balloon > Pink Bubble Balloon (Jocelyn)

Pink Bubble Balloon (Jocelyn)



Price **RM145.00 - RM155.00**

Product SKU **BBP01**


Availability **In Stock**

* Balloon Message

* LED Light

Remarks

Quantity

 Chat With Us

Description

What's in the box

- The Price Displayed Is For One (1) Set As Shown In Image.
- Floating Time : Bubble Balloon (7-14 Days) / Foil Balloon (2-3 Days) / Latex Balloon (20-24 Hours)
- Actual Colour Of Product May Vary Slightly From What Is Displayed On Your Device.

Figure 2.12: Party Wonderland Customization Page.

Source : <https://www.partywonderland.my/>

Users can customize the balloon on this page, but it is only limited to the balloon message. Users are not able to choose the pattern of the balloon they desire since this Party Wonderland shop sells their products package by package followed by color theme.

My Shopping Cart 1 Items (0.00kg)

12" Latex Balloon Bunch – Olive Green, Gold & White Colour RM59.00

Order Summary

Sub-Total: RM59.00

Total: RM59.00

Coupon Code apply

Delivery Date : 2023-02-27 Delivery Time

Occasions Theme Party Personalized Message Bubble Balloon Shop

Decorations

03:00 PM – 05:00 PM

Write your remarks here:

Figure 2.13: Party Wonderland Checkout Page.

Source : <https://www.partywonderland.my/>

On the checkout page, users are able to choose the delivery date and time. But, they are limited in their payment choices. Users can only purchase through online banking or via iPay88.

2.2.4 Comparison between Similar Web-based Party Decoration Shop

In the following sub-section, Table 2.1 provides a comprehensive summary of features for the researched web-based party decoration shops. This table offers a convenient reference point to compare and contrast the key attributes of each shop, aiding in the decision-making process.

Table 2.1: Summary of features in 3 Web-based Party Decoration Shop.

Source: own findings

Sources	D'Special Day Décor Gift Balloon	M Tree Event	Party Wonderland
Features			
URL	https://www.dspecialday.com.my/	https://www.mtree.com.my/	https://www.partywonderland.my/
Real-Time Chat (WhatsApp)	Available	Available	Available
Payment System	Available	Not Available	Available
Add-to-Cart	Available	Not Available	Available
Wishlist	Available	Not Available	Not Available
Customer Support (chatbot)	Not Available	Not Available	Not Available
Search bar	Available	Available	Available
Event Decoration reservation directly on web page	Not Available	Not Available	Not Available
Customization on products / services	Yes – only banners and cakes	Not Available	Yes – only for banners and balloons
Product categories	Available	Not Available	Available
Provides one-stop service	Not Available	Available	Not Available
Delivery Service	Available	Available	Available

After studying and accessing the similar web-based party decoration shop, it is found out that 3 of the shops have same essential features of making purchasing on products and making reservation on event.

D'Special Day Décor Gift Balloon and Party Wonderland offer a payment system, while M Tree Event does not. This means that customers can complete their transactions directly on the websites of D'Special Day Décor Gift Balloon and Party Wonderland, making it easier and more convenient for them to make purchases. Besides, D'Special Day Décor Gift Balloon and Party Wonderland offer an add-to-cart feature, while M Tree Event does not. This feature allows customers to add multiple items to their shopping cart before checking out, which is useful when buying multiple products or services. Only D'Special Day Décor Gift Balloon offers a wishlist feature, allowing customers to save items they are interested in for future purchases.

None of the shops offer a chatbot for customer support, which could have been a helpful feature for customers who need assistance outside of business hours. Threes of the shops provide real-time communication only through WhatsApp. Real-time chat support via WhatsApp allows customers to communicate directly with a human customer service representative in real-time, which can provide a more personalized and human touch to the customer service experience. However, real-time chat support via WhatsApp may not be available 24/7, and there may be wait times depending on how busy the customer service representative is. Only D'Special Day Décor Gift Balloon and Party Wonderland provide a search bar on their websites, making it easier for customers to find specific products or services.

Overall, each shop has its own unique features, strengths, and limitation. The best one for a customer will depend on their individual needs and preferences.

2.2.5 Limitation of Existing Web-based Party Decoration Shop

D'Special Day Décor Gift Balloon:

[Source: <https://www.dspecialday.com.my/>]

One limitation of D'Special Day Décor Gift Balloon is that they only offer customization on some of their products and services, such as banners and cakes. This means that customers may not have as much flexibility in customizing other products that they might be interested in purchasing which may lead to the problem statement 2 as stated in previous chapter. Another potential limitation is that they do not offer a one-stop service for event planning, which may be important for customers who want to plan an entire event or party from start to finish. Lastly, while D'Special Day Décor Gift Balloon offers a payment system and add-to-cart feature, it's possible that some customers may encounter technical issues when using these features or may prefer to use a different payment method because this shop only able to make purchase through online banking or by bank transfer.

M Tree Event:

[Source: <https://www.mtree.com.my/>]

One limitation of M Tree Event is that they do not offer a payment system or add-to-cart feature on their website, which means that customers may not be able to make purchases directly online. Instead, they may need to contact the business directly to inquire about prices and services, which can be less convenient than being able to make purchases directly on the website which may cause to the problem statement 3 as stated in chapter 1. Another potential limitation is that M Tree Event specializes in event planning and management, which means that they may not offer as wide a variety of products or services as other retailers. This can be a limitation for customers who are looking for specific products or services that are not related to event planning.

Party Wonderland:

[Source: <https://www.partywonderland.my/>]

One limitation of Party Wonderland is that they do not offer event planning or management services, which means that customers may need to plan and organize their own events or parties. This can be a limitation for customers who are looking for a one-stop shop for all of their party needs. Another potential limitation is that Party Wonderland only offers customization on their banners and balloons, which means that customers may not have as much flexibility in customizing other products that they might be interested in purchasing.

Overview:

Overall, the 3 shops offer real-time chat support only through WhatsApp. Real-time chat support via WhatsApp allows customers to communicate directly with a human customer service representative in real-time, which can provide a more personalized and human touch to the customer service experience. The customer service representative can provide quick assistance to customers, answer their questions, and help them with their purchases. However, real-time chat support via WhatsApp may not be available 24/7, and there may be wait times depending on how busy the customer service representative is. As stated in the problem statement 1, it may lead to the overwhelming volume of messages received by the shop owner and may affect the business reputation due to slow reply.

2.2.6 Features to be Included in Project

To summarize, even though each party decoration shop focuses on a unique area of expertise and offers a unique set of features, certain features are shared among the shops that will be incorporated into this project. It is possible to draw the following conclusions about the shared characteristics:

- i. Registration module
- ii. Login module
- iii. Product module
- iv. Search module
- v. Shopping cart module

- vi. Order module
- vii. Customization module
- viii. Manage Profile module
- ix. Centralized calendar module

Following an investigation into and comparison of the web-based party decoration shop that is already accessible via the internet, I concluded that this project should incorporate several features and functionalities mentioned above.

2.3 Software Development Methodologies

Every software project still depends on the software development process to meet its goals. Choosing the best approach to a project can be challenging because there are many variables to consider, including the nature of the undertaking, its goals, the available resources, etc. Study and research of various methods are needed to make comparison on various type of methodologies to select the best development methodology for this project. There is no one-size-fits-all solution that is effective in every circumstance. A good outcome may depend significantly on choosing an effective management structure regarding cost, achieving schedules, client happiness, software resilience, or lowering costs on unsuccessful projects. Examples of software development techniques include analysis, planning, creation, testing, execution, and support. There are many SDLC models to be considered such as Agile development, Phased Development Approach and waterfall model.

2.3.1 Waterfall Model

The waterfall model is a conventional strategy for developing software that includes a straight, continuous process with clearly defined stages. The model is predicated on the notion that each stage of development must be finished before proceeding to the next, with little space for revision or adjustments after a stage is finished. Typically, the requirements gathering, design, execution, testing, and maintenance stages of the waterfall model are involved.

The waterfall model offers a straightforward, organized method for software development, complete with well-defined outputs and benchmarks.

This can aid in making sure the project remains on course and is finished on schedule and within the price. The model, however, has come under fire for being too strict and unyielding because it forbids adjustments or input after a period is finished. If problems or mistakes are found later in the process, this could lead to expensive and time-consuming revisions.

Generally, the waterfall model can be a valuable strategy for software development initiatives with precise needs that are unlikely to alter. However, more contemporary and incremental methods, like Agile, may be more appropriate for projects that must be more adaptable and receptive to shifting needs and input.

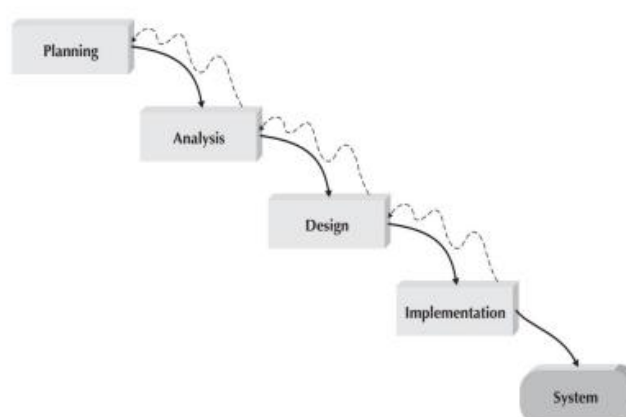


Figure 2.14: Waterfall Development Approach.

Source: (Dennis, Haley Wixom and Tegarden, 2015)

2.3.2 Agile Development Methodology

In recent years, iterative SDLC models have emerged, frequently referred to as Agile models. Agile methods have different kinds, just like traditional methodologies. Examples of popular methodologies include Feature Driven Development (FDD), Scrum, Extreme Programming (XP), and Rational Unified Process (RUP) (Maria Delos Santos, 2018). With the main objective of delivering applications rapidly and frequently, agile models are designed to react to change effectively. They are founded on the idea of gradual and incremental development. Each iteration's output will be tested, given, and assessed by clients and the development team as a whole to satisfy clients.

This ensures the procedures are repeated until the customer is delighted with the final result.

In short, Agile development is an iterative and collaborative approach to software development that emphasizes flexibility, adaptability, and customer satisfaction. It is based on the Agile Manifesto and its 12 principles, which prioritize working software, customer collaboration, and responding to change. The Agile development process involves breaking a project down into smaller increments called sprints, each of which focuses on delivering a working software feature or set of features. Agile development promotes continuous improvement and encourages teams to regularly review and adjust their processes based on feedback. One of the key benefits of Agile development is that it allows for a high degree of responsiveness to changing requirements and priorities. This approach also fosters greater collaboration and communication among team members, which can lead to a more productive and effective development process. Overall, Agile development is a popular and effective approach for developing software in a rapidly changing environment.

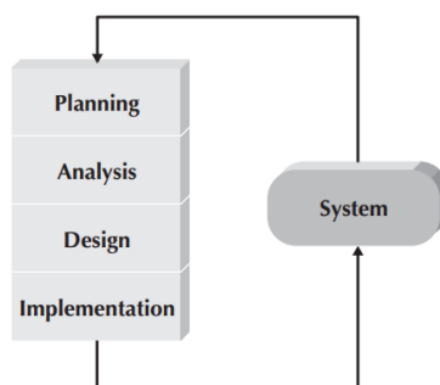


Figure 2.15: Agile Development Methodology.

Source: (Dennis, Haley Wixom and Tegarden, 2015)

2.3.3 Phased Development Methodology

The phased development-based approach is a type of rapid application development (RAD) in which the entire system is divided into several variants and developed in stages. The entire system, project team, customers, and system supporters will first be identified during the analysis. After that, the specifications will be split into several variants. Only the most crucial and fundamental needs will be present in the initial iteration. Additionally, splitting the application into smaller pieces makes it simpler to reconstruct and remake it if the requirement changes. This approach enables changes to be made at any time in reaction to customer concerns or requirements that are raised (Dennis, Haley Wixom and Tegarden, 2015).

According to (Dennis, Haley Wixom and Tegarden, 2015), this methodology's benefit is comparable to RAD's in that it expedites the delivery of an usable system to consumers. There are seven crucial factors to consider when choosing the best methodology: ambiguous user specifications, intricacy, new technology, dependability, timetable clarity, and limited time frame. It is decided to use the phased development method after analyzing each factor (Dennis, Haley Wixom and Tegarden, 2015). In a staged development approach, prioritising essential features ensures that the first version of the software is helpful to users and enables them to propose additional requirements for later versions. Nevertheless, there are drawbacks to this approach, including the fact that customers will start utilising an imperfect system. For this reason, it's essential to choose the most important criteria for each iteration, particularly the first one.

In summary, the phased development methodology is an approach to software development that involves dividing a project into distinct phases, each with its own set of objectives and deliverables. This approach is often used for large-scale projects where the requirements are complex and may evolve over time. By breaking the project down into smaller, more manageable pieces, the phased development methodology can help teams to stay on track and ensure that each phase is completed successfully before moving on to the next one. One of the benefits of this approach is that it allows for early feedback from stakeholders, which can help to identify and address issues before they become major problems. Overall, the phased development

methodology is a useful approach for managing complex software projects and ensuring that they are completed on time and within budget.

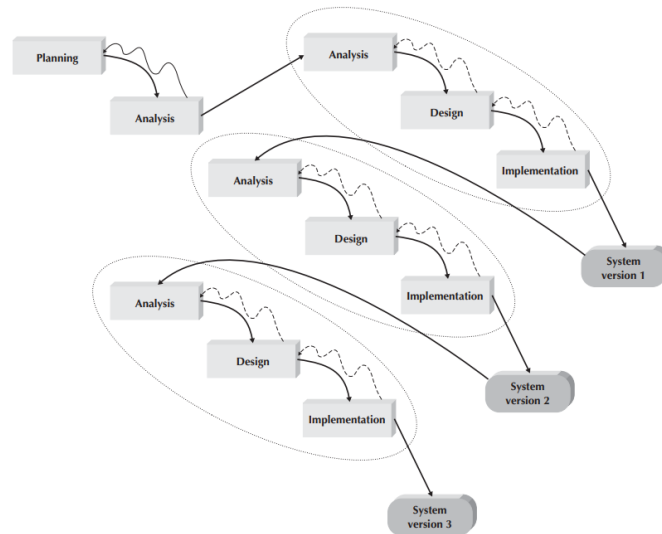


Figure 2.16: Phased Development Methodology.

Source: (Dennis, Haley Wixom and Tegarden, 2015)

2.3.4 Choosing an Methodology

A formulation process model must supervise every step of the software development process to guarantee quality control. A software project will be successful if the approach is appropriate and the processes are clearly outlined. Every approach paradigm has advantages and disadvantages. Some model features require a lot of effort or money to implement in the usage process.

Table 2.2: Table of comparison between various software methodologies.

Source: own findings

	Agile	Phased Development	Waterfall
Requirements flexibility	Yes	Yes	No
Approach	Iterative, collaborative approach	Hybrid approach	Linear, sequential approach
Suitable Project Size	Large	Large, complex project	Large
Risk Analysis	Effective	Effective	Not effective
User Involvement	Frequent	Not Frequent	Not Frequent
Project Cost	Expensive	Expensive	Not Expensive
Delivery	Delivers working software in frequent, smaller iterations	Delivers each product in each phase	Delivers in the end of development process

From the table above, Agile, waterfall and phased development are all software development methodologies with distinct approaches, advantages, and disadvantages.

In the view of the perspective of requirements flexibility, Agile is well-suited for projects with evolving or unclear requirements, as it prioritizes working software and customer collaboration (Casteren, 2017). The waterfall is best suited for projects with stable and well-defined requirements, as it follows a rigid, predetermined sequence of phases. Phased development can be effective for projects with changing requirements that require a structured approach. Agile is highly flexible and adaptable, allowing for changes and feedback throughout development. Waterfall is less flexible and allows for changes only in the planning phase. Phased development is more flexible than a waterfall but less flexible than an Agile.

Besides, Agile is an iterative, collaborative approach emphasizing flexibility and adaptability. Waterfall is a linear, sequential approach emphasizing planning and execution in a fixed order. Phased development is a hybrid approach that breaks a project down into minor phases, each with its own objectives and deliverables.

Additionally, the phased development methodology can be suitable for varying-size projects. Still, it is generally best suited for larger, more complex projects where the requirements must still be fully understood or may evolve. By breaking the project down into minor phases, each with its own set of objectives and deliverables, the methodology can help manage the complexity and reduce the risks associated with larger projects. Agile methodologies are well-suited for smaller projects with changing or unclear requirements, as they prioritize flexibility and adaptability. The waterfall model can be more effective for larger projects with well-defined and stable requirements, as it follows a more structured and sequential approach (Kodmelwar et al., 2022).

Regarding risk analysis, Agile and phased development methodologies are more effective than the waterfall model. Agile and phased development methodologies involve regular monitoring and adjustment, which can help identify and address risks early in the development process. The agile methodology also involves constant feedback and iteration, which can help teams respond to changes and adapt to evolving project requirements. In contrast, the waterfall model involves a sequential development process with limited opportunities for feedback and iteration, making it more challenging to identify and address risks early in the development process. This can lead to higher costs and delays if issues are not identified until later stages of development.

In terms of user involvement, Agile and phased development methodologies prioritize customer collaboration and feedback. This means that customers and end-users are involved in the development process and directly influence the final product. This can help ensure that the final product meets user needs and expectations and can improve customer satisfaction. In contrast, the waterfall model typically involves less customer involvement, as the

product is developed according to pre-defined plans and requirements, with limited opportunities for feedback and iteration.

Regarding project cost, Agile and phased development methodologies can be more cost-effective than the waterfall model. This is because Agile and phased development involves shorter development cycles and constant feedback and iteration, which allows for quick identification and resolution of issues, resulting in less rework and lower costs overall. In addition, Agile and phased development methodologies prioritize delivering value to the customer, which can help ensure that resources are allocated to the essential features and functions.

Moreover, Agile delivers working software in frequent, smaller iterations. Waterfall delivers the entire product at the end of the development process. Phased development delivers the product in minor phases, each with its objectives and deliverables.

In summary, the Phased Development methodology was chosen for this project instead of agile and waterfall models because the Phased Development methodology allows for incremental progress and flexibility, which is beneficial in a dynamic project environment. The Phased Development methodology was considered the most suitable approach for this project by considering its incremental nature, prioritization of critical needs, and focus on thorough testing and refinement.

2.4 Development Framework of Web Application

In this section, development frameworks have been investigated. There are numerous ways to create a web application. However, there isn't a single solution that can address every issue, so it's critical to research the best development framework for this undertaking.

2.4.1 Database to be use for Development

In order to learn more about and comprehend various databases, a study of various databases has been done. A database management system provides management teams with an efficient way to manage large amounts of data of various kinds. Determining whether to use a relational (SQL) or non-relational (NoSQL) data structure is one of the most crucial factors to take into account when choosing a contemporary database. SQL databases include those created with PostgreSQL, Oracle, MySQL, and other programmes. Examples of NoSQL databases include Redis, BigTable, and MongoDB. Real-time databases are another common option that programmers are now using in their systems. A real-time database is a type of database system that manages dynamic tasks by processing data in real-time. Examples of real-time systems include Firebase and Supabase.

Relational databases are managed using the coding language SQL (Structured Query Language), which is also used to perform different operations on the data stored. Document, key-value, columnar, and graph formats are just a few examples of the various types of data structures that can be handled by the NoSQL database administration method. The comparison findings are displayed in Table below.

Table 2.3: Table of comparison between databses.

Source: own findings

Features	SQL Databases	NoSQL Databases
Data Model	Relational model	Non-relational model
Schema	Schema-based	Schema-less
Query Language	Structured Query Language (SQL)	Query language specific to the database
Scalability	Vertical scaling (scaling up)	Horizontal scaling (scaling out)
ACID Compliance	ACID-compliant (Atomicity, Consistency, Isolation,	Not always ACID-compliant

	Durability)	
Data Consistency	Strong data consistency	Eventual consistency or weaker consistency models
Performance	Best for complex queries	Best for high volume, simple read/write operations
Data Integrity	Strong data integrity	Flexible data integrity
Flexibility	Limited flexibility	High flexibility
Examples	MySQL, PostgreSQL, Oracle	MongoDB, Cassandra, Couchbase

SQL databases use a relational data model, where data is stored in tables with rows and columns. These tables are related to each other via keys or foreign keys, which allow for complex queries and joins. SQL databases are schema-based, meaning that the structure of the data is defined beforehand and enforced by the database. SQL databases are ACID-compliant, meaning that they provide strong data consistency and reliability. ACID stands for Atomicity, Consistency, Isolation, and Durability. Atomicity ensures that all parts of a transaction are treated as a single, indivisible unit. Consistency ensures that the database remains in a consistent state after a transaction. Durability ensures that once a transaction is committed, it is permanently stored and cannot be lost. Examples of SQL databases include MySQL, PostgreSQL, and Oracle.

NoSQL databases, on the other hand, use a non-relational data model. There are various types of NoSQL databases, including document-oriented, key-value, and graph databases. NoSQL databases are schema-less, meaning that the structure of the data is flexible and can be changed on-the-fly. This allows for more scalability and adaptability, as the data model can be modified without having to change the schema. NoSQL databases are not always ACID-

compliant, and instead use weaker consistency models, such as eventual consistency. Eventual consistency means that the database will eventually become consistent, but there may be a temporary period where different parts of the database have different values. NoSQL databases are highly scalable, as they can be easily scaled horizontally by adding more nodes to a cluster. This allows for high performance and the ability to handle high volume, simple read/write operations (Li and Manoharan, 2015). Examples of NoSQL databases include MongoDB, Cassandra, and Couchbase.

In summary, SQL databases are best suited for complex querying, strong data consistency, and data integrity. NoSQL databases are best suited for high scalability, flexibility, and high-performance data storage and retrieval. Through the findings, MySQL can be considered to be used for developing this project. It is because MySQL is one of the most popular open-source relational database management systems available today. As a result, it has a large and active community of developers who constantly work to improve the platform, fix bugs, and provide support. MySQL is compatible with a wide range of operating systems, programming languages, and frameworks. It is supported by most web hosting providers, making it easy to deploy and integrate with web applications.

2.4.2 Back-end Frameworks

Back-end frameworks are software frameworks that enable developers to build the server-side of web applications, APIs, and other software systems. These frameworks provide a structure for developing the back-end of a web application, allowing developers to focus on implementing business logic rather than low-level programming details. The comparison findings between Laravel and CodeIgniter are displayed in Table below.

Table 2.4: Table of comparison between back-end frameworks.

Source: own findings

Feature	Laravel	CodeIgniter
Framework type	Full-featured framework	Lightweight framework
PHP version required	PHP 7.3+	PHP 5.6+
Learning curve	Steep learning curve due to many features	Easy to learn, good for beginners
MVC architecture	Uses MVC architecture out-of-the-box	Uses MVC architecture out-of-the-box
Routing	Provides a powerful routing system	Provides a basic routing system
Templating	Blade templating engine	Uses PHP for templating
ORM	Eloquent ORM	Uses Active Record for database access
Database migrations	Built-in support for database migrations	No built-in support for database migrations
Authentication	Provides built-in authentication system	Provides basic authentication system
Testing	Provides built-in testing support	Provides basic testing support
Package management	Uses Composer for package management	Uses third-party package managers
Community support	Large and active community	Smaller community compared to Laravel

Basically, Laravel and CodeIgniter are both popular PHP frameworks used for web development. However, Laravel is a more modern and full-featured framework than CodeIgniter. Laravel is a modern PHP framework

that includes many advanced features out-of-the-box. These features, such as Eloquent ORM, Blade templating engine, and a powerful routing system, allow developers to build complex web applications quickly and efficiently (Das and Prasad Saikia, 2016). Laravel also comes with built-in tools for authentication, testing, and database migrations, which makes it easy to develop robust and scalable applications, while CodeIgniter relies on third-party libraries for many of these features.

In addition to its rich feature set, Laravel has a large and active community than CodeIgniter that provides extensive documentation, tutorials, and third-party packages. This community support makes it easier to learn and use Laravel, as well as to troubleshoot any issues that arise during development (Widodo Purbo, 2021). Laravel has comprehensive and up-to-date documentation, which makes it easier to learn and use than CodeIgniter. Laravel is constantly updated and improved, which means you can be confident that your application will be supported in the future. CodeIgniter, on the other hand, has had a slower development pace and is not as actively maintained. CodeIgniter, on the other hand, is a more lightweight PHP framework that is known for its simplicity and ease of use. CodeIgniter includes a basic MVC architecture, a simple routing system, and an Active Record database access library. While it may not have as many advanced features as Laravel, CodeIgniter is still a capable framework that can be used to build smaller applications quickly.

In conclusion, Laravel is a more modern, feature-rich, and comprehensive PHP framework than CodeIgniter. It includes many advanced features out-of-the-box, has a larger and more active community, comes with built-in tools for common tasks, has comprehensive documentation, and is constantly updated and improved. These benefits make Laravel a popular choice for developers who are looking to build complex web applications quickly and efficiently. Through the findings, Laravel can be considered as Back-end frameworks to be used for developing this project.

2.4.3 Real-time API

A real-time API (Application Programming Interface) is an interface that allows applications to receive and send data in real-time. This type of API is commonly used in applications that require constant updates, such as messaging apps, stock market trackers, and real-time dashboards. The comparison findings of real-time API between Pusher API and Firebase Realtime database are displayed in Table below.

Table 2.5: Table of comparison between real-time APIs.

Source: own findings

Feature	Pusher API	Firestore Database
Integration with existing infrastructure	No specific dependencies, can be used with any backend	Native integration with Firebase platform and services
Scalability and reliability	Designed for high scalability and reliability, supports message queuing and automatic reconnection	Provides real-time data synchronization and automatic data fetching, but may not be as scalable as Pusher API
Developer experience	Provides an easy-to-use API and SDKs for a variety of programming languages	Provides an easy-to-use API and SDKs, with additional tools like real-time analytics and crash reporting

Pusher API is a standalone real-time API that can be integrated with any backend or programming language. It provides SDKs for a variety of programming languages including JavaScript, PHP, Python, and Ruby, making it easy to integrate into existing applications. Firebase Realtime Database, on the other hand, is a part of the Firebase platform and provides native integration with other Firebase services like Authentication, Cloud Functions, and Cloud Storage.

In term of scalability and reliability, Pusher API is designed for high scalability and reliability, with features like message queuing and automatic reconnection to ensure that messages are delivered efficiently and reliably. It also provides built-in support for load balancing and distributed architectures, making it suitable for large-scale applications. Firebase Realtime Database provides real-time data synchronization and automatic data fetching, but may not be as scalable as Pusher API. While Firebase provides automatic scaling for most applications, it may not be suitable for applications that require very high levels of scalability.

Both Pusher API and Firebase Realtime Database provide easy-to-use APIs and SDKs that make it simple to integrate real-time data synchronization into the web application. Pusher API provides SDKs for a variety of programming languages, making it easy to integrate with any development environment. Firebase Realtime Database provides an easy-to-use API and SDKs, with additional tools like real-time analytics and crash reporting to help developers identify and fix issues quickly.

In conclusion, in order to have a high scalability and reliability real-time API, Pusher API is chosen to be the real-time API in this project.

2.5 Conclusion

In conclusion, this literature review discusses the comparative project review containing three similar online application for party decoration stores. Findings on the examined shop's features, significance, and constraints were done as part of this review.

Additionally, research was conducted on software development approaches such as the waterfall model, RAD, and agile approaches. The phased development-based methodology was found to be the most appropriate development methodology for the project after further research on phased development. Phased development methodologies are chosen as the project approach because it can effectively manage risk. It involves breaking a project down into more minor phases, each with its objectives and deliverables. This allows for more focused risk analysis and management, as risks can be identified and addressed phase-by-phase.

CHAPTER 3

METHODOLOGY AND WORK PLAN

3.1 Introduction

The project's methodology and work strategy were covered in this chapter. The development methodology chosen was a phased development-based methodology with three phases, each of which was described in depth in this chapter. In addition, the work breakdown structure, also known as a WBS, and the Gantt chart were created in order to schedule projects. Finally, the development tools were chosen and discussed.

3.2 Phased Development Methodology

For this project, the phased development process was used. The planning and analysis phase, design phase, development and testing phases, and closure phase were the four primary stages of this technique. Every stage began only after the preceding phase had concluded. Yet, the system's development and testing phases were carried out iteratively until they were finished. In general, the features with the greatest importance and the CRUD were developed first because their implementation took longer than those of other features. Once the prior phase had concluded with various system versions, the following phase began. After the third phase, the entire system was finished, and the closing phase was completed for project documentation. Figure 3.1 depicted the whole stage development technique.

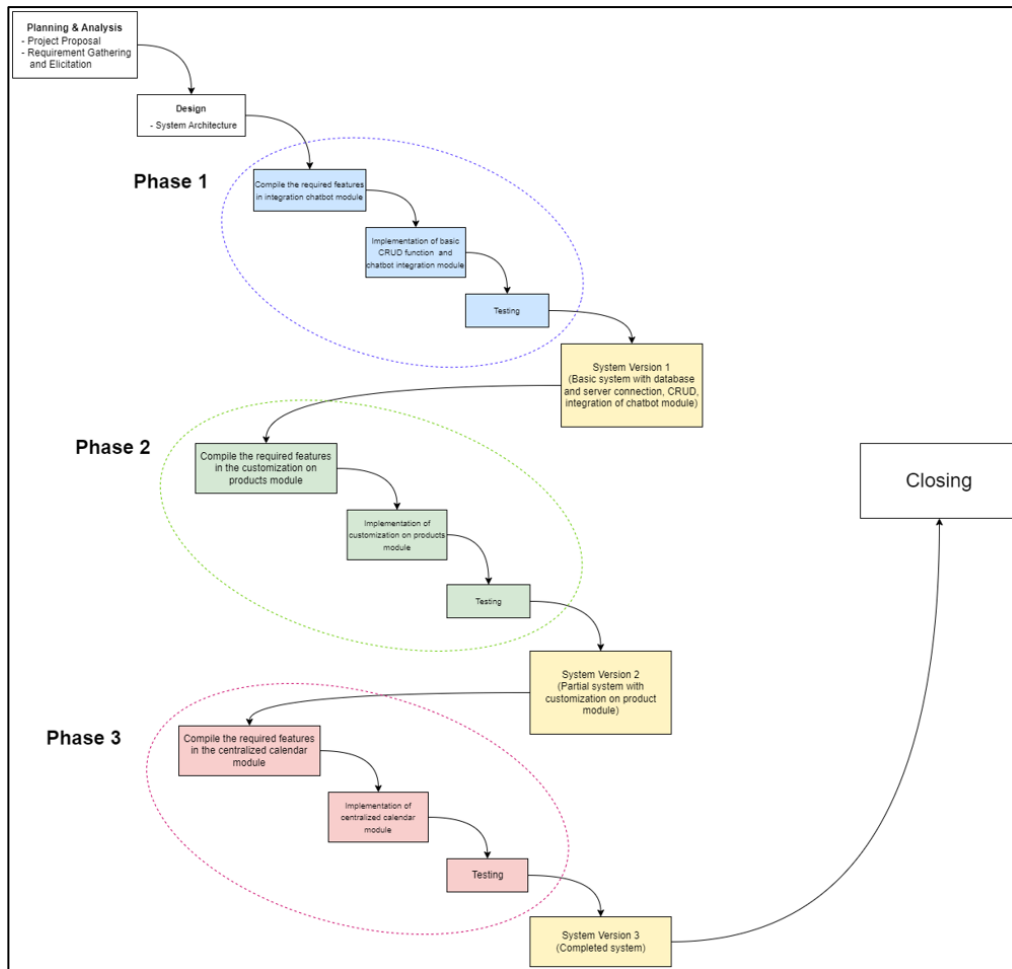


Figure 3.1: Phased Development Methodology of AI-Infused Web Décor Shop.

3.2.1 Planning and Analysis

This project begins with the planning phase and continues with the analysis phase. Planning involved determining the difficulties, goals, and scope, while analysis involved gathering requirements, reviewing similar projects, and choosing the best development tools and methodology. After thoroughly grasping the issues, goals, and project scope, the planning process involved developing WBS, which is the main output for project timing.

3.2.1.1 Project Proposal

The first mission of this project was to spot the problems that the traditional retail party decoration store was currently facing and to determine the goals for addressing them. The project's goals served as a roadmap for guidance throughout development to keep it on track. Once the goals were established, the next job was to propose a project solution. In order to give a comprehensive understanding of the final deliverable, this activity provided a system overview. The project approach was then decided upon during the preparation stage. The appropriate development technique was selected to guarantee that the development process was carried out effectively and efficiently. The project plan was then defined to specify the project's limitations. The project scope included elements like system scope, user scope, and module scope. The ultimate product of this portion of the planning process was a finalized and delivered project proposal.

3.2.1.2 Requirement Gathering and Elicitation

After the proposal was accepted, the project then went on to the requirement collecting and elicitation step. Two different sets of questions were prepared. The first set questioned the store proprietor about the current issues and characteristics already present in the physical party decoration store. The second set consisted of surveys that were given to the intended users to gather their thoughts and experiences. The data collected from the questionnaire returns were used to prepare the user's needs during this planning process step. By contrasting some comparable current applications, information was collected regarding the crucial features of the application. All of the gathered data was examined after the requirements engineering process, and the requirements were then finalized.

3.2.1.2.1 Review on Existing System

In Chapter 2 of this project, a thorough examination and comparison of three comparable systems were conducted, and their characteristics were thoroughly enumerated. Supporting images were also included to provide a comprehensive understanding of these systems. This comparison aimed to identify the key components and essential features that were common among

the three systems. Based on the comparison, this project incorporated most of these key components and essential features into its design. This approach ensured that the final system is based on proven and effective elements from comparable systems. Comparing and contrasting these systems allowed for a comprehensive understanding of their strengths and weaknesses, which helped identify areas where improvements could be made.

Overall, this project will be using a systematic and thorough approach to examine and analyze comparable systems. By incorporating the best practices and essential features from these systems, the resulting system is expected to perform effectively and meet the needs of its users.

3.2.1.2.2 Questionnaire

The use of online survey questionnaires was chosen because it allowed for the faster collection of more data. Targeted users were asked questions based on their prior experience buying party decoration kits from brick-and-mortar retailers using Google Forms. Three distinct parts make up the surveys, each with a distinctive emphasis. The demography part was the first, and it was used to examine some fundamental data from the intended audience. The queries in the second part were intended to help better grasp the intended user's problems. The characteristics of the application were the focus of the third part. The surveys were also sent to the intended recipients via email, social media, and other channels. The intended user surveys got 20 replies ranging in age from 18 to 60.

3.2.1.2.3 Interview

Interviews are another method that can be an effective part of the requirement-gathering and elicitation process. An interview section were conducted with the shop owner to gather information from the shop owner of the party decoration shop about their needs and expectations for the project. This can include understanding what problems they are trying to solve, what goals they want to achieve, and what constraints they are facing. Interviews can also be used to explore alternative solutions to a problem. For example, if stakeholders

are unsure about the best way to solve a particular problem, an interview can be used to discuss different options and their pros and cons. Besides, this can make it easier to work together during the project and lead to better outcomes.

3.2.1.2.4 Observation

Observation might be a useful strategy for a physical retail party decoration store that wants to become an online store. An analyst can learn what aspects of the in-person shopping experience, such as product selection, store layout, and customer service, are significant to customers by watching how they interact with the actual business. The online store's design of this project may be influenced by this information to ensure that it fits client demands and offers a satisfying buying experience. Observation of the current physical store may also determine which goods are more in demand and which often run out of stock. Using this data, inventory levels can be optimized, and popular goods may always be guaranteed to be accessible on the online store. Moreover, observation may be used to monitor consumer behavior, such as the things they are most drawn to and how they move about a physical store. This data may be utilized to build the online store in a way that makes it simple for customers to discover the items they want and offers a smooth buying experience.

3.2.1.2.5 Project Scheduling

One of the main outputs of the planning process was project timing. A top-down strategy was used to create a work breakdown structure (WBS), allowing high-level tasks to be recognized first and then broken down into smaller subtasks. Information like the task's duration and reliance was included in the WBS. Constraints were identified when one task could not begin or another had not yet been finished. Generally, the WBS depicted all of the minor milestones the project had to reach.

In this project, Gantt charts were created to graph the WBS responsibilities. The Gantt chart also split the duties of development and testing into three stages because this project was created using a phased

development strategy. The timetable of the project tasks was better represented by the Gantt chart, making it easier to determine whether a job was on time or behind plan. Each job's start and finish dates were enumerated to estimate the project's duration. Gantt charts were used to monitor project progress and ensure that the complete development process kept pace with the usual timetable. Any delay in completing the job could have cost the business more money or effort. The WBS and Gantt plan for the project served as the strict rules that had to be adhered to.

3.2.2 Design

Following the completion of the scope analysis, the design process began with selecting the software architecture, as depicted in Figure 3.2. Since this project consisted of three distinct parts, each capable of performing a variety of actions, a use case diagram was developed to describe the system's behavior and determine the relationships between the system and its actors. Use case diagrams and use case descriptions were further discussed in Chapter 4. To support the setup of the database in the execution phase, an entity-relationship model was also included in the design phase to demonstrate connections between system entities.

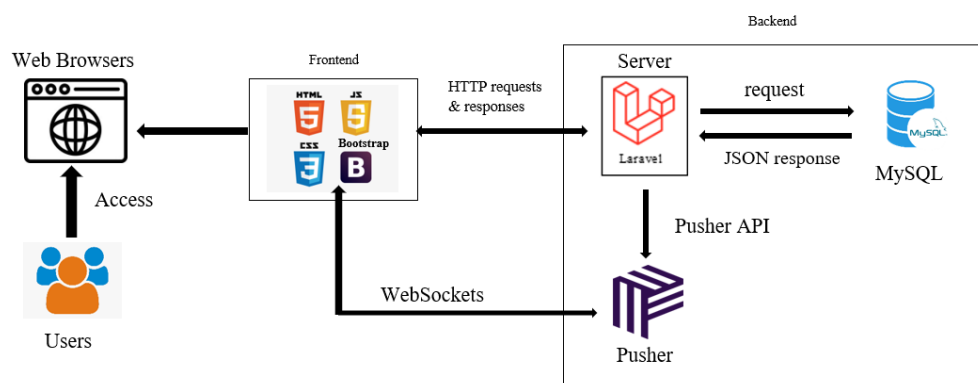


Figure 3.2: System Architecture Overview.

Besides, a prototype was also created to show how the web-based party decoration shop's user interface would likely look. The required data sections were better visualized as the prototype's wireframes were developed. Additionally, the created wireframe aided in creating and improving the use

case explanations. The wireframes would serve as a guide during the actual system implementation. The prototypes focused solely on the layout and straightforward browsing of the different sections. The produced prototype acted as a guide for the finished application, but changes and enhancements were made along the way. In Chapter 4, each page of the interactive prototypes and the UI flow schematics will be displayed.

3.2.3 Development and Testing

When the design phase was finished, the development phase began. With the assistance of the architecture provided in the design phase, the development team constructed the web-based party decoration shop in this phase. Unit testing evaluated the produced features after the development process was complete. This project had three stages, each of which included a development and testing process and contributed to a particular aspect of the system. After completing the first three stages, the final construction was put through a series of tests to ensure its quality.

3.2.3.1 Phase 1

Phase one started with the compilation of the required features to be included in the system and the integration of the chatbot module. After that, the setup of all development and testing tools was done. The versions of each tool used in this project were documented afterwards. It was crucial to initially set up the server and database connection before creating, as most system features needed a database to conduct CRUD operations. Additionally, a database was set up, in which all tables were established, and dummy data was added to each row to simplify testing later in the development process. This allowed testing to be carried out without any issues by the developer. Setting up the server and database connection in the midst of the development process would have been cumbersome and time-consuming. In this phase, all CRUD operations were completed. The initial project goal for this web-based party decoration shop was to create a module that would enable the shop owner to manage a high number of messages with the integration of a chatbot function. Unit testing was performed, followed by integration testing to ensure that each module communicated appropriately with the others.

3.2.3.2 Phase 2

Before implementing the customization on products module, the requirements specification was finalized to ensure that the module would meet the needs and expectations of the shop owner. The established criteria served as a base for creating the module. The process of gathering requirements encouraged interaction and cooperation between the shop owner and developers. In this phase, the customization features on items or events with the integration of AI, depending on client wants, were developed, which was the most powerful module of the system and aligned with the second project goals. Once the fundamental elements specified in phase 1 were finished and tested, this phase incorporated those features. The features built in this phase underwent unit and system integration testing to ensure they functioned correctly and were compatible with the features built-in in phase 1.

3.2.3.3 Phase 3

As both of the modules were completed in the previous phase, phase 3 focused on finalizing the establishment of a centralized calendar for the users. The requirements for the centralized calendar module were collected and documented before implementation, ensuring a precise description of the functionality and characteristics it needed to include. Gathering requirements before development started helped identify potential problems and conflicts, preventing the need for rework or redesign later on. This centralized calendar module proved to be useful for shop owners who wanted to keep track of their professional schedules in one place. Before proceeding to the closure phase, unit testing and system integration testing were completed to ensure the proper functioning and compatibility of the module.

3.2.4 Closing

A user acceptability test (UAT) was carried out to assess and verify both apps after the development and testing of the system. The testers who were targeted and the features that needed to be tested were specified in this phase. Subsequently, appropriate testers were invited to participate in the user acceptability testing. After the UAT, a list of user comments was compiled. The documentation provided a comprehensive explanation of the created system, including system descriptions, images of the final product, test scenarios, and other relevant information. Once the documentation was completed, presentation slides were created to illustrate the project's development and results.

3.3 Development Tools

This section lists every development tool needed to create the implemented system, including the IDE tool Visual Studio Code, the prototype tool Axure RP 9, the backend framework Laravel, and the data storage tool MySQL database.

3.3.1 Tools and IDEs

Tools and IDEs (Integrated Development Environments) are software applications that provide developers with a set of tools and features to write, test, and debug code more efficiently. In this section, there are some tools and IDEs will be using in the development of AI-Infused web décor shop.

3.3.1.1 Visual Studio Code IDE

The primary coding tool used for this project was Visual Studio Code. It provided the benefit of tool extensibility, allowing developers to install snippets to facilitate coding. With the installation of the programming language CLI, VS Code was able to edit various programming languages such as HTML, CSS, JavaScript, etc. Additionally, the inclusion of Laravel extensions in VS Code enabled syntax highlighting capabilities which helped in detecting syntax errors more quickly.

3.3.1.2 Axure RP 9

Axure RP 9 was chosen as the tool for designing the high-fidelity prototype of the AI-Infused web décor shop. This choice was made because Axure RP 9 offers features such as interaction events, conditional logic, working forms, and multistate containers, which are essential for creating a dynamic and interactive prototype. Additionally, Axure RP is known for its user-friendly interface, as it allows for easy creation of wireframes through a simple drag-and-drop process.

3.3.1.3 Enterprise Architect

Enterprise Architect (EA) is a powerful and versatile UML analysis tool that provides a comprehensive set of features and capabilities for software modeling, design, and analysis. It is widely used in a variety of industries, including software development, engineering, and architecture. EA was used in this project to produce the use case diagrams of each function that was available in the AI-Infused web décor shop. The reason for drawing use case diagrams was to help in identifying the functional requirements of the system by providing a clear understanding of the system's behavior from the perspective of users.

3.3.2 Languages

In that section, several programming languages were used to develop a web-based party decoration shop.

3.3.2.1 HTML, CSS, Javascript

A traditional web application typically consists of three core technologies: HTML, CSS, and JavaScript. Each technology has a specific role in creating and rendering web pages in a browser. HTML provides the structure and content of a web page, CSS provides the visual appearance, and JavaScript adds interactivity and functionality to the page. By using these technologies in combination into this project, developer can create a wide range of web applications, from simple static pages to complex, dynamic web applications. Besides, they can be used to create a fully functional AI-Infused web décor shop that replicates the experience of a physical retail store.

3.3.2.2 PHP

PHP is widely used in web development, particularly for building dynamic websites, e-commerce platforms, and content management systems (CMS). PHP code can be embedded within HTML files, allowing for dynamic web content and easy integration with other web technologies like JavaScript and CSS. Since the project used the mentioned three languages, PHP was also another helpful language in the development process. Additionally, the programming language used to create Laravel is PHP. The Laravel web application framework provided developers of PHP-based web applications with a framework and a collection of tools. To identify which controller should handle a request submitted to a Laravel application, PHP examined the request and made use of Laravel's routing mechanism. The controller then interacted with the application's data using Laravel's models and database layer. Furthermore, Laravel came with a templating engine that created HTML replies for the client using PHP's native syntax.

3.3.2.3 SQL

SQL stands for Structured Query Language. It is a programming language used for managing and manipulating data in relational databases. SQL was used to create, modify, and query databases and played a significant role in the project of developing the AI-Infused web décor shop. Developers were able to construct SQL queries in a more understandable and expressive manner due to Laravel's query builder. The query builder in Laravel allowed for easy and convenient execution of database operations without the need to write raw SQL code. This feature enhanced the overall efficiency and productivity of the development process.

3.3.3 Software Frameworks

Software frameworks are pre-written and reusable libraries of code that provide a structure and set of tools for building software applications. They are designed to simplify and speed up the development process by providing a foundation of pre-written code that can be used to build applications quickly and efficiently. This section outlines all software frameworks that required in developing.

3.3.3.1 Laravel

Laravel was chosen as the backend framework for the AI-Infused web décor shop due to its robust features and its ability to handle complex applications. The decision to use a PHP framework over a JavaScript backend was primarily based on the nature of the system which required extensive data retrieval and manipulation. PHP, being a server-side scripting language, is particularly well-suited to handle database operations to make it an ideal choice for this type of project. The features and capabilities of Laravel further supported the development of a scalable and efficient web application for the party decoration shop.

3.3.3.2 Bootstrap

A well-liked front-end framework for creating responsive web apps is called Bootstrap. Laravel and Bootstrap may be simply used to improve the user experience and visual appeal of Laravel web projects. A variety of customization options in Bootstrap make it possible to alter both its appearance and functionality to meet the unique requirements of the Laravel project. In addition, Blade serves as the template engine for Laravel. By including the required files in the head and body portions of the Blade templates, it can add Bootstrap styles and scripts to the Blade templates. As such, employing Bootstrap in the Laravel project can aid in producing aesthetically pleasing and user-friendly AI-Infused web décor shop.

3.3.4 Database

A database is a collection of structured data that is organized and stored in a way that allows for efficient retrieval, updating, and management. In this section, MySQL database will be outlined as it will be used to develop the AI-Infused web décor shop.

3.3.4.1 MySQL

MySQL is a widely used open-source relational database management system (RDBMS) in web development. It provides a range of benefits and features, such as scalability, performance, security, compatibility, and flexibility. MySQL can handle large and complex databases. Also, it is optimized for performance and can easily handle high-volume transactions which suitable for the project. It offers a range of security features that compatible with various platforms, programming languages and web development frameworks, and supports multiple storage engines.

3.4 Project Plan

The WBS and Gantt chart are complementary tools that can be used together to plan and manage projects. The WBS provides a comprehensive breakdown of all the tasks and activities required to complete a project, while the Gantt chart provides a visual representation of the project schedule. In that section, by combining these two tools, it was possible to create a detailed project plan, track progress against the plan, and make adjustments as necessary to keep the project on track.

3.4.1 Work Breakdown Structure

A Work Breakdown Structure (WBS) is a hierarchical decomposition of a project into smaller, more manageable components called work packages. These work packages represent the deliverables of the project and are organized in a way that reflects the structure of the project. The WBS of this project is listed as follows:

0.0 Application Development for AI-Infused Web Décor Shop

1.0 Planning and Analysis

1.1 Register Project Title

1.2 Identify Problems

1.2.1 Study background of problem

1.2.2 Formulate problem statements

1.3 Specify project objectives

1.3.1 Outline project purposes

- 1.3.2 Revise project objectives with SMART criteria
- 1.4 Propose project solution
 - 1.4.1 Formulate system layout
- 1.5 Propose project approaches
 - 1.5.1 Propose Research Approach
 - 1.5.2 Propose Development Approach
- 1.6 Propose project scope
 - 1.6.1 Identify target users
 - 1.6.1.1 Determine user roles
 - 1.6.1.2 Determine user responsibilities
 - 1.6.2 Clarify system scope
 - 1.6.2.1 Define integration of chatbot scope
 - 1.6.2.2 Define customization on products scope
 - 1.6.2.3 Define centralized calendar scope
 - 1.6.3 Identify limitation of scope
- 1.7 Literature Review
 - 1.7.1 Review similar web application
 - 1.7.1.1 Review correspondent web-based party decoration shop
 - 1.7.1.2 Itemize feature evolution in each web application
 - 1.7.1.3 Evaluate comparable web applications
 - 1.7.1.4 Identify limitation in each review web application
 - 1.7.2 Identify features to be included in the project
 - 1.7.3 Explore software development approaches
 - 1.7.3.1 Analyze software development methodologies
 - 1.7.3.1.1 Define waterfall model
 - 1.7.3.1.2 Define agile development model
 - 1.7.3.1.3 Define phased development methodology
 - 1.7.3.2 Perform contrast of methodologies

1.7.3.2.1 Identify differences between the methodologies

1.7.3.2.2 Choosing a suitable methodology for the project

1.7.4 Review on development frameworks on web application

1.7.4.1 Compare and contrast on database used

1.7.4.2 Compare and contrast on back-end framework used

1.7.4.3 Compare and contrast on real-time API used

1.7.4.4 Choosing the development framework for the project

1.8 Requirement gathering and elicitation

1.8.1 Facts-finding

1.8.1.1 Perform observation on the flow of traditional retail store

1.8.1.2 Analyze and interpret data collected

1.8.2 Interview

1.8.2.1 Interview shop owner

1.8.2.2 Analyze and interpret data collected

1.8.3 Questionnaires

1.8.3.1 Plan questionnaire items

1.8.3.2 Distribute to target user through Google Forms

1.8.3.3 Assemble responses

1.8.3.4 Analyze and interpret data collected

1.8.4 Formulate system requirements specification

1.8.4.1 Draft Functional Requirements and Non-Functional Requirements

1.8.4.2 Review Requirements and Non-Functional Requirements

1.8.4.3 Refine Requirements and Non-Functional Requirements

1.9 Project planning

1.9.1 Project Scheduling

1.9.1.1 Create Work Breakdown Structure (WBS)

1.9.1.1.1 Identify the main activities

1.9.1.1.2 Breakdown the main activities into sub task

1.9.1.2 Create Gantt Chart

1.9.1.2.1 Identify task relationships

1.9.1.2.2 Forecast project duration

1.9.1.2.3 Construct project timetable

1.9.1.2.4 Evaluate project timeline

1.9.1.2.5 Formalize project schedule

1.10 Finalize the suitable development tools

2.0 Design

2.1 Build system framework

2.1.1 Identify the system flow

2.1.2 Finalize the system flow

2.2 Design use case scenarios

2.2.1 Identify actors and use cases

2.2.2 Define relationships between actors and use cases

2.2.3 Create use case diagrams using appropriate notation

2.3 Compose use case descriptions

2.3.1 Write detailed descriptions for each use case

2.3.2 Specify inputs, outputs, and exceptions

2.3.3 Identify preconditions and postconditions

2.4 Illustrate the interface flow diagram

2.5 Construct entity-relationship diagram

2.5.1 Define entities and their relationships

2.5.2 Specify attributes for each entity

2.5.3 Create ERD diagrams using appropriate notation

2.6 Design high-fidelity prototyping

2.6.1 Develop design prototypes

2.6.2 Develop wireframes and mockups

2.6.3 Define user interaction and navigation

3.0 Development and Testing Phase 1

3.1 Setup project connection

3.1.1 Create project workspace

3.1.2 Configure MySQL database

3.1.3 Populate tables with test data

3.1.4 Integrate application with database

3.2 Verify connection functionality

3.2.1 Check connectivity between web application, server, and database

3.2.2 Confirm successful communication

3.3 Develop Web Application

3.3.1 Develop the frontend user interface (UI)

3.3.2 Develop the backend server and database functionality

3.3.3 Implement security measures such as authentication and authorization

3.3.4 Create registration module

3.3.4.1 Design the user registration form

3.3.4.2 Develop the code for registering new users

3.3.4.3 Implement validation rules for user registration inputs

3.3.4.4 Test the registration functionality

3.3.5 Create login module

3.3.5.1 Develop the code for user authentication

3.3.5.2 Implement password encryption and secure storage

3.3.5.3 Test the login functionality

3.3.5.4 Develop the UI for user login and logout

3.3.6 Create Product Module

3.3.6.1 Design the product catalog and layout

3.3.6.2 Develop the code to add, remove, and update products

3.3.6.3 Implement product search and filter functionality

3.3.6.4 Test the product functionality

3.3.6.5 Develop the UI for viewing and managing products

3.3.6.6 Implement Pusher API

3.3.7 Create Search Module

3.3.7.1 Develop the code for searching the product catalog

3.3.7.2 Implement filtering and sorting functionality

3.3.7.3 Test the search functionality

3.3.7.4 Develop the UI for searching and filtering products

3.3.8 Create shopping cart module

3.3.8.1 Develop the code for adding and removing items from the cart

3.3.8.2 Implement quantity selection and pricing calculations

3.3.8.3 Test the shopping cart functionality

3.3.8.4 Develop the UI for managing the shopping cart

3.3.9 Create order module

3.3.9.1 Develop the code for placing orders

3.3.9.2 Implement payment processing

3.3.9.3 Test the order functionality

3.3.9.4 Develop the UI for reviewing and placing orders

3.3.10 Create manage profile module

3.3.10.1 Develop the code for updating user information

3.3.10.2 Implement profile picture upload and editing

3.3.10.3 Test the profile functionality

3.3.10.4 Develop the UI for managing user profiles

3.4 Develop integration of chatbot module

3.4.1 Compile the requirement specification of the module

3.4.2 Choose a suitable chatbot framework or API

3.4.3 Configure the chatbot to communicate with the appropriate APIs or databases

3.4.4 Develop an intuitive chatbot user interface (UI)

3.4.5 Test the chatbot's functionality and performance

3.4.6 Optimize the chatbot's performance and accuracy

3.5 Perform testing

3.5.1 Unit testing

3.5.2 Integration testing

4.0 Development and Testing Phase 2

4.1 Develop customization features on items or events module

4.1.1 Identify the types of customization features that are needed

4.1.2 Determine the best approach for implementing each customization feature

4.1.3 Design the user interface (UI) for the customization features

4.1.4 Develop the code to implement each customization feature

4.1.5 Test each customization feature to ensure it functions as expected

4.2 Perform testing

4.2.1 Unit testing

4.2.2 Integration testing

5.0 Development and Testing Phase 3

5.1 Develop centralized calendar module

5.1.1 Compile the requirement specification of the module

5.1.2 Design the user interface for the calendar module

5.1.3 Develop the code for creating and editing events in the calendar

5.1.4 Implement the functionality for sharing events and calendars with other users

5.1.5 Test the calendar module's functionality and performance

5.1.6 Develop the code for integrating the calendar module with other parts

5.1.7 Optimize the calendar module for performance and scalability

5.2 Perform testing

5.2.1 Unit testing

5.2.2 Integration testing

6.0 Closing

6.1 Produce an informational poster

6.2 Conduct user acceptance testing (UAT)

6.2.1 Create UAT test plan

6.2.2 Identify test scenarios

6.2.3 Create UAT test cases

6.2.4 Prepare test data

6.2.5 Execute UAT test cases and record results

6.2.6 Collect and analyze UAT test results and report defects

6.2.7 Document UAT results and recommendations for future improvements

6.3 Identify SUS score

6.3.1 Distribute SUS questionnaires to web-based party decoration shop's user who tested the system

6.3.2 Calculate each user's SUS score

6.3.3 Analyze the SUS score

6.3.4 Interpret the SUS results

6.4 Finalize a project report

6.4.1 Provide an overview of any issues or challenges encountered

6.4.2 Conclude with future recommendations

6.5 Prepare the presentation slides

3.4.2 Gantt Chart

3.4.2.1 Planning and Analysis

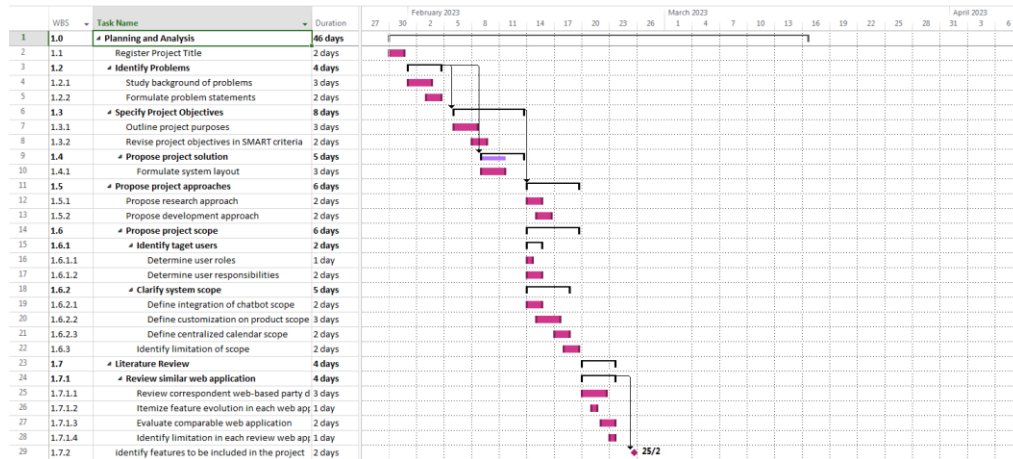


Figure 3.3: Planning and analysis phase timeline – Part 1.

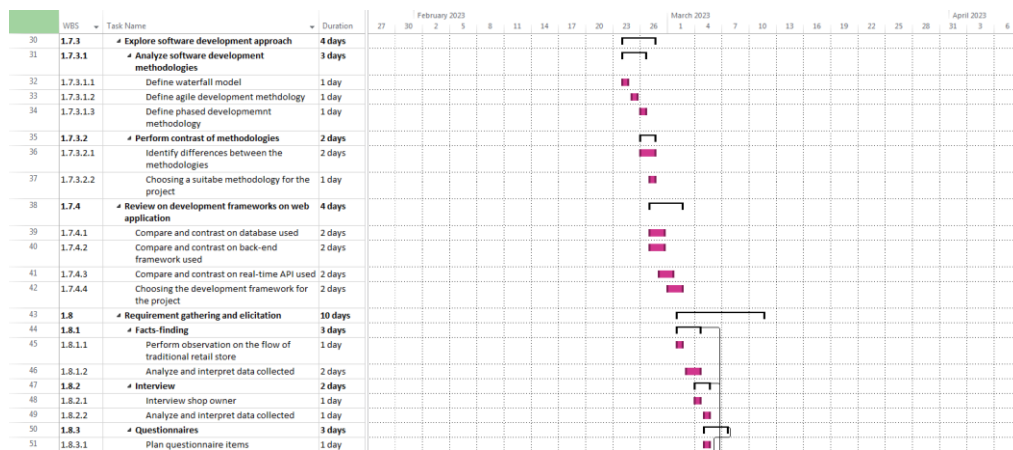


Figure 3.4: Planning and analysis phase timeline – Part 2.

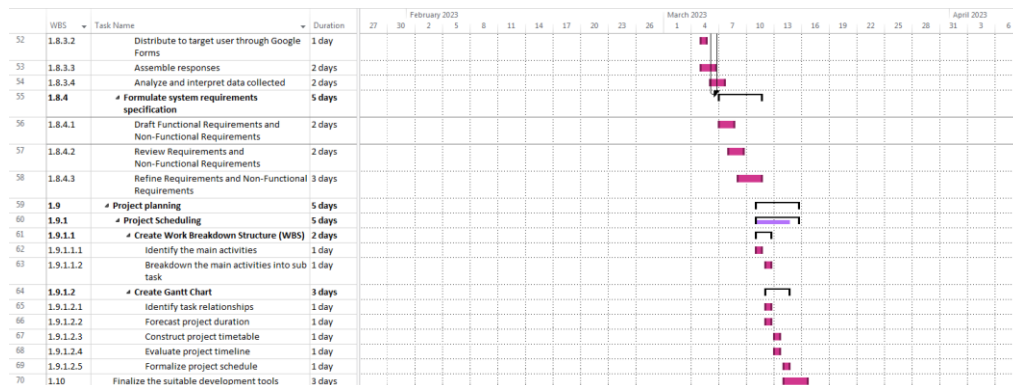


Figure 3.5: Planning and analysis phase timeline – Part 3.

3.4.2.2 Design

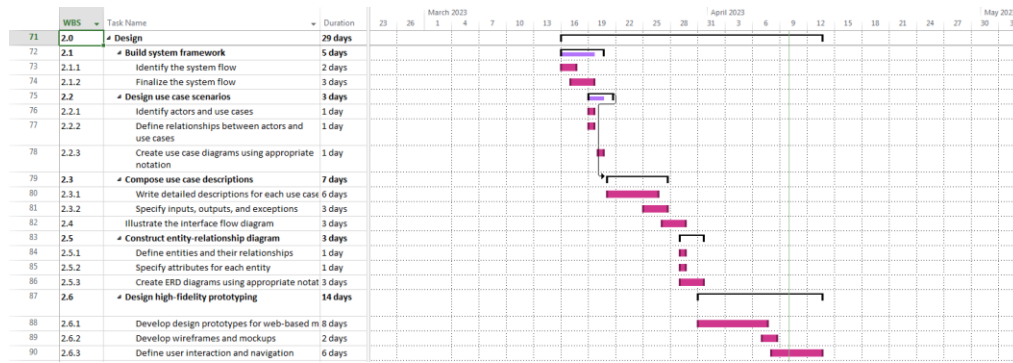


Figure 3.6: Design phase timeline.

3.4.2.3 Development and Testing Phase 1

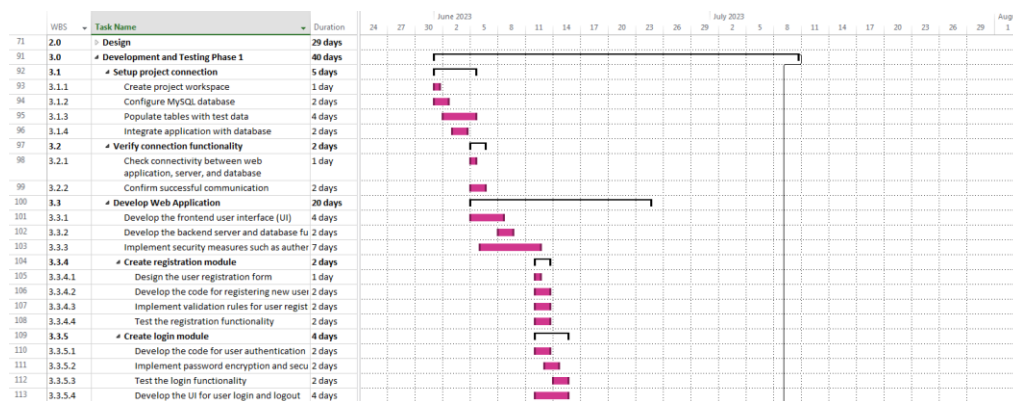


Figure 3.7: Development and testing phase 1 timeline - Part 1.

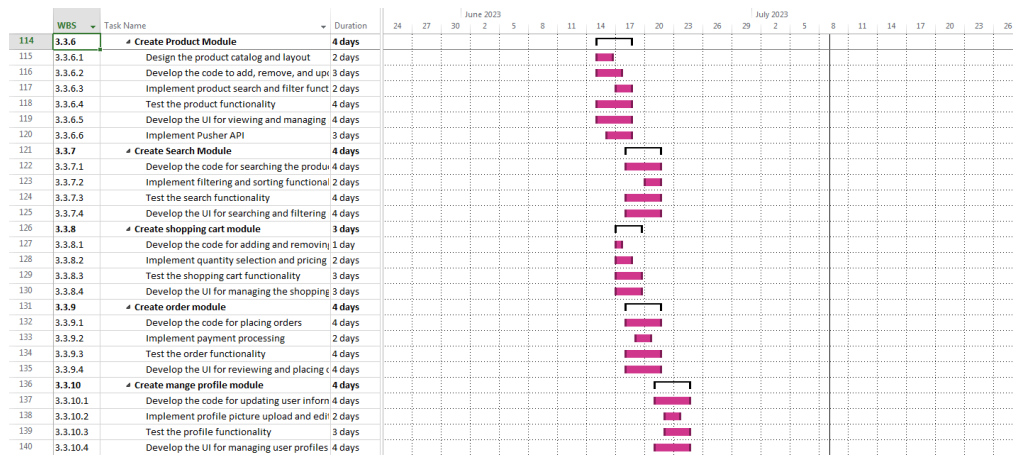


Figure 3.8: Development and testing phase 1 timeline - Part 2.

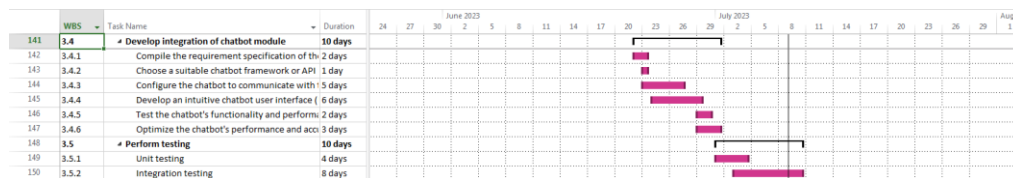


Figure 3.9: Development and testing phase 1 timeline - Part 3.

3.4.2.4 Development and Testing Phase 2

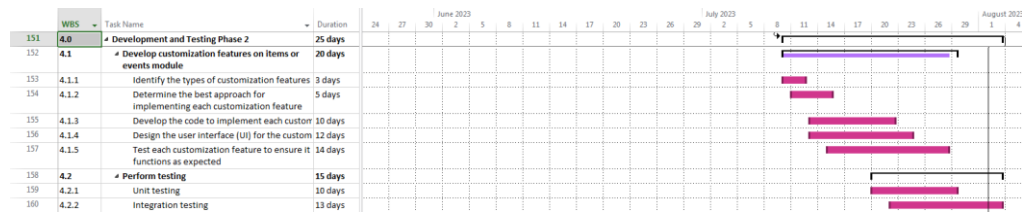


Figure 3.10: Development and testing phase 2 timeline.

3.4.2.5 Development and Testing Phase 3

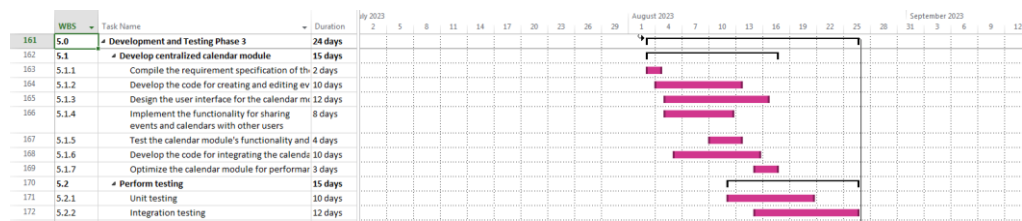


Figure 3.11: Development and testing phase 3 timeline.

3.4.2.6 Closing

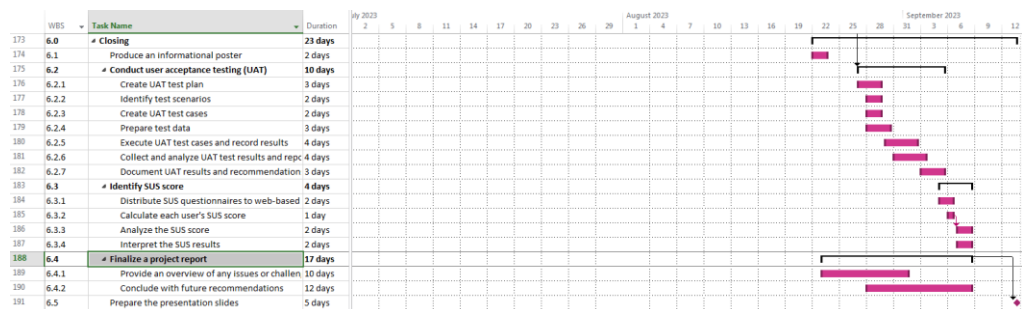


Figure 3.12: Closing phase timeline.

3.5 Summary

In summary, the phased development methodology was selected for this project's software development technique. The four main stages of this technique were described, along with the steps and tasks associated with each level. A work breakdown structure (WBS) and Gantt chart were constructed in this part to show the project's overall schedule. Additionally, a total of six development tools, including the database, IDE, and software framework, were identified and selected as the project's leading development tools. Below were the resource summary table of the project used:

Table 3.1: Summary of Resources used including Tools and Cost.

	Resources to be Use	Cost / Fees (Approximate)
Tools and IDEs used	Visual Studio Code IDE	RM 0 [free and open-source code editor]
	Axure RP 9	RM 110 [Licensing Price]
	Enterprise Architect	RM 1316 [Licensing Price]
Languages used	HTML, CSS, JavaScript, PHP, SQL	-
Software Frameworks used	Laravel	RM 0 [open-source PHP web application framework]
Database used	MySQL	-
Transportation Fees for Observation	Petrol	RM20
Project duration	7 to 8 months	
Total Estimated Cost	RM 1446	

Generally, the summary provided is a list of resources and estimated costs for a project with a duration of 8 to 9 months. The resources used include Visual Studio Code IDE, Axure RP 9, Enterprise Architect, HTML, CSS, JavaScript, PHP, SQL, Laravel framework, and MySQL database. The estimated cost for Visual Studio Code IDE is RM 0 as it is a free and open-source code editor, while Axure RP 9 has a licensing cost of RM 110, and Enterprise Architect has a licensing cost of RM 1316. Laravel is an open-source PHP web application framework that has no cost. The database to be used is MySQL. Additionally, transportation fees for observation will cost RM20. The total estimated cost for the project is RM 1446.

CHAPTER 4

PROJECT SPECIFICATION

4.1 Introduction

Generally, this chapter establishes the project specification following requirement elicitation and collection. The first step is fact-finding, which identifies and understands requirements using an online survey questionnaire, observation, and by interviewing the shop owner to know about the existing current workflow. Then, a use case diagram and use case description were created to show how actors interact with the AI-Infused Web Décor Shop. An entity-relationship diagram (ERD) also created to display the connections between the system's entities. Finally, a prototype was created to sketch out the system's user interfaces and provide a better understanding of its functionalities and designs.

4.2 Facts Finding

In this section, data will be gathered using observation, questionnaires and interview in order to undertake fact-finding. In some circumstances, using a questionnaire and observation as data-gathering techniques for fact-finding can be beneficial. As a result, online surveys were developed and disseminated to gather data from the intended users to understand the system's requirements better. Also, actual workflow in the current traditional party decoration retail business was observed. Besides, interviewed the shop owner to get an accurate flow and the challenges that faced by the shop owner also be identified.

The goal of data collection is to gather information while ensuring that it contains enough information to carry out the project and system that will be implemented. For the purpose of this project, the kind of data gathering includes both quantitative and qualitative data collection, which led to the development of the essential components of the proposed system.

4.2.1 Observation

Date Conducted: 12 March 2023

Time: 1pm to 5pm

Location: 90's Balloon House, Melaka

Since it gives a clear, up-close, and personal perspective of what is occurring in the shop, observation is a crucial technique for understanding the present flow of business in a typical retail setting. As an observer, I observed what was working well and what needed improvement by studying consumer behavior, employee interactions, and product placements throughout the field visit to 90's Balloon House Melaka.

During the field visit to 90's Balloon House Melaka, it was found that observation was important when transforming a traditional retail store into a web-based party decoration shop. While the retail environment changed, the need to understand customer behavior, preferences, and pain points remained the same. By observing customer behavior in the physical store, insights into the design and functionality of the online store could be gained. For example, observing which products were popular in-store ensured that those products were prominently displayed on the web-based party decoration shop. Additionally, by observing how customers interacted with staff, opportunities to improve customer service on the website such as offering live chat or responsive customer support were identified.

When it came to customizing products, observation was particularly important as it allowed us to gain insight into how customers interacted with the product customization process. By observing how customers personalized products in-store, pain points or areas where the process could be streamlined to create a more seamless online experience were identified. Through the observation, I was able to identify which products were popular for customization and what types of customization customers were looking for. This collected information helped inform the product selection for the online store and guided the design of the customization interface when developing in this project.

Furthermore, it was possible to discover the problematic areas and bottlenecks in the operations of a typical retail shop by monitoring the flow of business currently being conducted. For instance, there were frequently large

lineups for clients who wanted to reserve party supplies or book events. This might have been a sign that there was a great demand for reservation services and that the web-based store would benefit from adding a centralized calendar feature. Also, through the observation, the 90's Balloon House customers always complained that they had to wait for a certain time for the shop owner to reply and check on their reservation slot.

In summary, observation was critical in transforming a traditional retail store into a web-based party decoration shop. By observing the current flow of business, areas for improvement were identified, customers' preferences were understood, and informed decisions were made to optimize the web-based store to meet the needs.

4.2.2 Responses of Questionnaire

A total of 20 responses was collected from the intended users. This questionnaire questions were split into three sections. Section A was used to collect demographic information, while Sections B and C were used to collect users' opinions and experiences on the party decoration shop.

4.2.2.1 Section A – Demographic Information

In this section, demographic information like age and gender are collected.

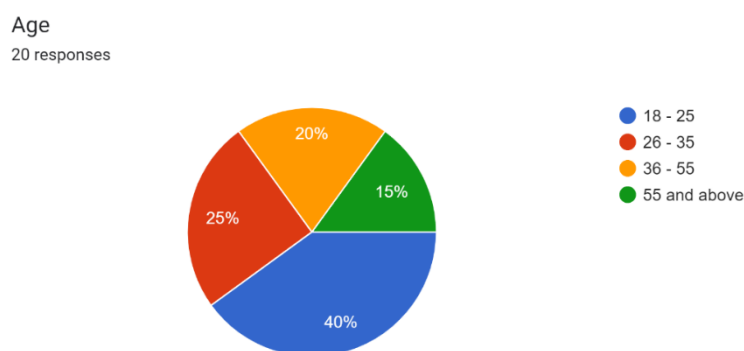


Figure 4.1: Age of Respondents.

The questionnaire's first question asks about the respondents' ages in general. Figure 4.1 above reveals that the majority of the respondents are between the ages of 18 and 25, which contributes to 40% of the total

respondents, followed by the range of 26 to 45 years old, which covers 25% of total respondents. The remaining 7 respondents out of 20 respondents fall within the range of 36 to 55 and above years old. This question has demonstrated that everyone above the age of 18 has completed the questionnaire, and that varied viewpoints from various age groups can be gathered for this survey.

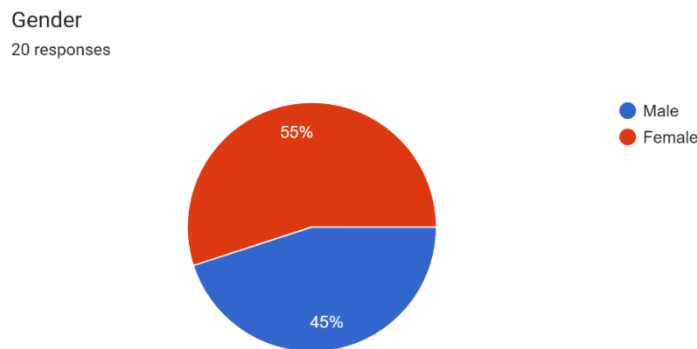


Figure 4.2: Gender of Respondents.

The purpose of the next question is to investigate the respondents' gender. Eleven respondents are classified as female and the remaining nine as male based on the data gathered in Figure 4.2.

4.2.2.2 Section B – General Information

The second section of the questionnaire aims to collect some general information regarding the experience in the past of the respondents.

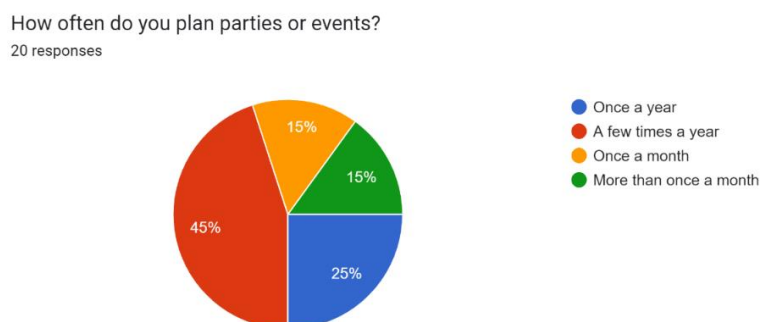


Figure 4.3: Statistic of respondents on frequency of parties or events planned.

This question asks about the frequency of parties of events plan by the respondent. Figure 4.3 shows that majority of the respondent, which contributes to 45% of the total respondents plan parties or event a few times a year. Followed by 5 respondents plan a party or event once a year. Both respondents that plan parties or events once a month and more than once a month contributes to 15% of the total respondents, respectively. The potential reason for the individuals plans events with different frequencies would be those who plan events once a year may be doing for special occasion such as birthday or weddings, while those who plan events more frequently may be doing so for social or networking purposes.

What type of parties or events do you usually plan?
20 responses

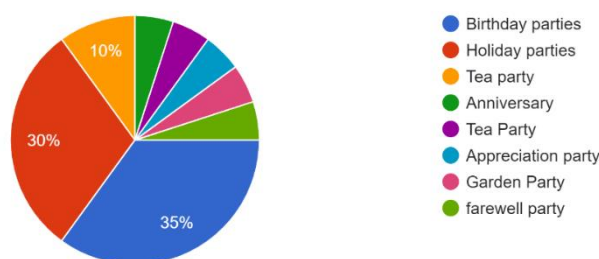


Figure 4.4: Statistic of respondents on types of parties or events planned.

Based on Figure 4.4, it can be observed that there is a diverse range of parties planned by respondents. The most common parties planned is a birthday party, with 35% of respondents indicating that they have planned this type of party. The second most common parties planned is a holiday parties, with 30% of respondents indicating that they have planned this type of party. Other parties or events that were planned by respondents include tea party (10%), anniversaries (5%), appreciation party (5%), garden party (5%), and farewell party (5%). This suggests that individuals have a variety of event planning needs and interests, and that event planning services should be able to accommodate this diversity.

How do you prefer to pay for your purchases?
20 responses

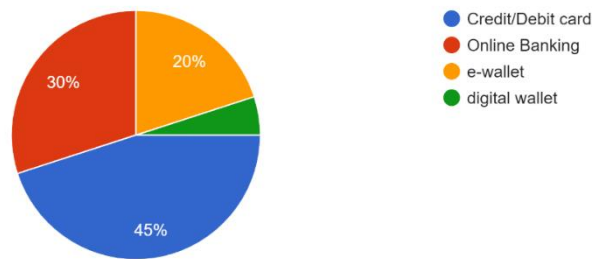


Figure 4.5: Statistic of respondents on payment method.

This question asks about the preferred payment method of respondents. Figure 4.5 shows that the most preferred payment among respondents is credit/debit card, with 45% of respondents indicating that they prefer to use this payment method. Followed by 30% of respondents prefer to use online banking. E-wallets were the preferred payment method for 20% of respondents, while digital wallets were preferred by only 5% of respondents. This suggests that traditional payment methods such as credit/debit cards and online banking are still the preferred options for a majority of respondents, although there is a growing interest in alternative payment methods such as e-wallets.

What are some of the challenges you face when shopping for party decorations?
20 responses

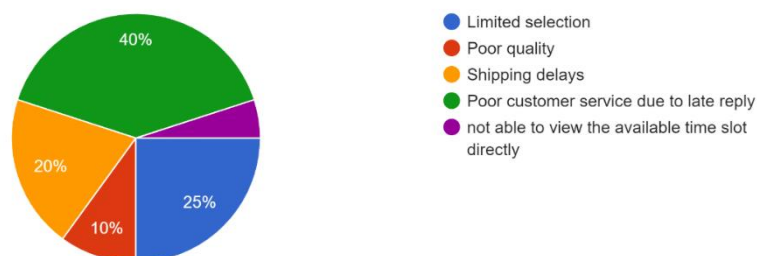


Figure 4.6: Statistic of respondents of challenges faced.

The next question is about the challenges faced by the respondents when shopping for party decorations. Figure 4.6 shows that the most significant challenge faced by respondents when shopping for party

decorations is poor customer service due to late replies, with 40% of respondents indicating that they have met this issue. With the huge amount of responses which indicates that they are always getting a late reply, it is ensuring that this challenge has caused frustration as a customer. Besides, the limited selection was identified as a challenge by 25% of respondents, while 20% of respondents identified shipping delays as a challenge. Only 10% of respondents identified poor quality as a challenge, and 1 respondent identified not being able to view the available time slots directly as a challenge.

4.2.2.3 Section C – Opinions Query

The third section of the questionnaire aims to collect some opinions regarding the features to be included from the respondents.

If you had the opportunity to explore a web application that includes a chatbot feature, how you want it to assist you?

20 responses

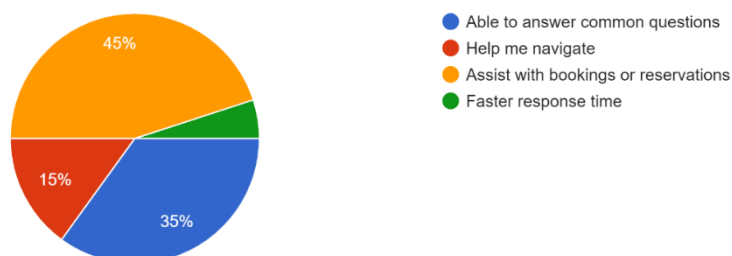


Figure 4.7: Statistic of respondents on chatbot feature.

This question asks about the opinions of respondents on chatbot feature. Based on Figure 4.7, it can be observed that respondents have different opinions on potential uses of a chatbot feature. The most popular use for a chatbot, according to 45% of respondents, is to assist with bookings or reservations while 35% of respondents indicated that a chatbot would be useful for answering common questions. Followed by 15% of respondents indicated that a chatbot could be helpful for navigating websites or apps, which is useful for improving user experience and helping users find the information or services they need. Lastly, 5% of respondents indicated that a chatbot could provide a faster response time. By providing these features,

businesses could improve customer satisfaction, reduce workload for human employees and improve overall efficiency.

Do you prefer pre-made party decoration sets or do you like to customize your own set?

20 responses

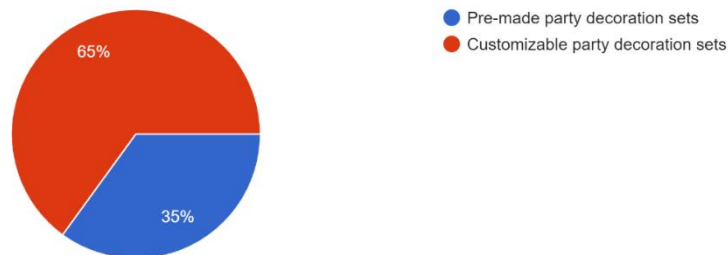


Figure 4.8: Statistic of respondents of decoration sets selection.

This question asks about the selection of the respondents on the decoration sets. Based on Figure 4.8, it can be observed that there is a preference for pre-made party decoration sets, with 65% of respondents indicating a preference for these types of sets. This suggests that many individuals prefer the convenience and ease of pre-made sets, as they require less time and effort to select and purchase. However, 35% of respondents indicated a preference for customizable party decoration sets. These respondents may be looking for unique and personalized options that are not available in pre-made sets.

If you have a chance to customize your product, what type of customization options would you like to see on our website the most?

20 responses

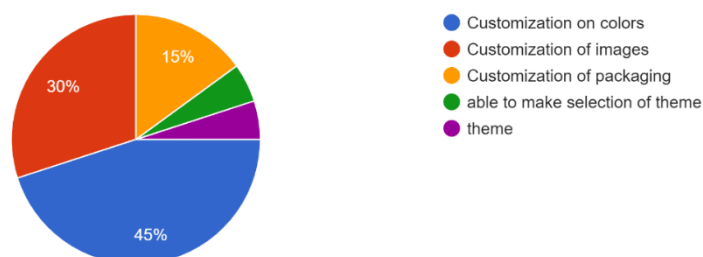


Figure 4.9: Statistic of respondents on preferred customization option.

This question asks about the preferences of customer on the customization option of the product. Based on Figure 4.8, it can be observed that customers have different preferences when it comes to customization options for products. The most popular option, according to 45% of respondents, is customization on colors while 30% of respondents indicated a preference for customization on images, this may be particularly important for products that are intended as gifts or have sentimental value. Followed by 15% of respondents indicated a preference for customization on packaging. The remaining respondents expressed a preference for customization on themes, with one respondent able to make a selection of theme and one respondent indicating a specific theme.

4.2.3 Interview

Throughout the interview process, the shop owner discussed their company and the party decorating segment of the industry. The shop owner mentioned that buyers frequently inquired about the price, shipping choices, discounts, personalization, store hours, and policies about returns and exchanges. Moreover, party supplies, including balloons, banners, dinnerware, decorations, and favors are frequently of interest to customers.

Besides, the shop offers a range of goods for sale, including party supplies, dinnerware, balloons, flags, and banners. Customers may either choose from pre-designed alternatives to personalize their orders or work with the business to develop a unique design based on their preferred color scheme, theme, and wording.

The shop owner also spoke about the difficulties that conventional brick-and-mortar merchants face, such as high overhead expenses, competition from internet retailers, and trouble luring and keeping consumers. Regarding tracking orders and, the shop owner mentioned that they use physical planners or paper-based systems to keep track of their orders and bookings. Hence, sometimes they might miss some of the order or booking, which lead to frustration for its customers.

Overall, the interview gave useful information on the party decorating market and good business procedures. The tactics used by the store owner to handle problems and offer customized services. Lastly, the shop owner

mentioned that the manual paper-based tracking system might need to be improved to avoid missed orders and ensure customer satisfaction.

4.2.4 Summary of Observation, Survey and Interview

Based on the observation, survey and interview responses, several important points on the requirements of the web-based party decoration shop were obtained. Firstly, it is proven that most of the respondents are facing the issue of getting late reply by the shop owner. Hence, an integration of chatbot features must be included in the system to solve the current problem. Secondly, respondents are more likely to have a customization feature compare to the pre made set by the shop. This is because people nowadays are more concern about the uniqueness. Thirdly, from the response from both respondents and shop owner, it is proven that the lack of centralized calendar features can lead to a big trouble for them especially when doing reservation or as the shop owner to perform tracking.

Based on the responses, it can be concluded that the current system flow of the enquiry of customer and the reservation process are illustrate as:

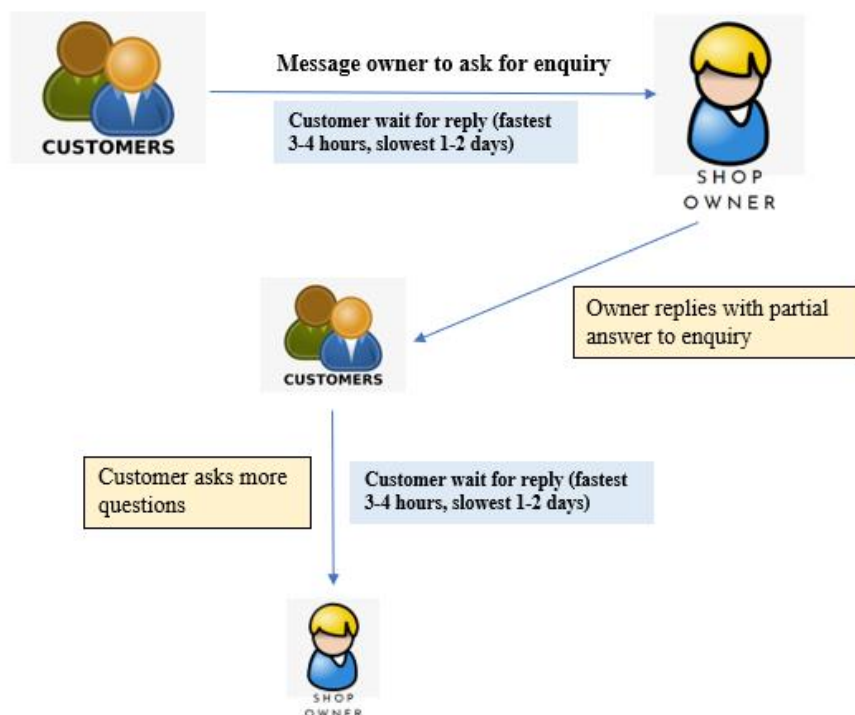


Figure 4.10: Current flow about customer's enquiry.

As stated from the figure above, the process starts with the customer sending an enquiry to the message owner via WhatsApp. The message owner then responds within the given time frame of 3-4 hours to 1-2 days. The owner's reply may not be a complete answer, prompting the customer to ask more questions. The process then loops, with the customer waiting for another reply from the owner, and so on.

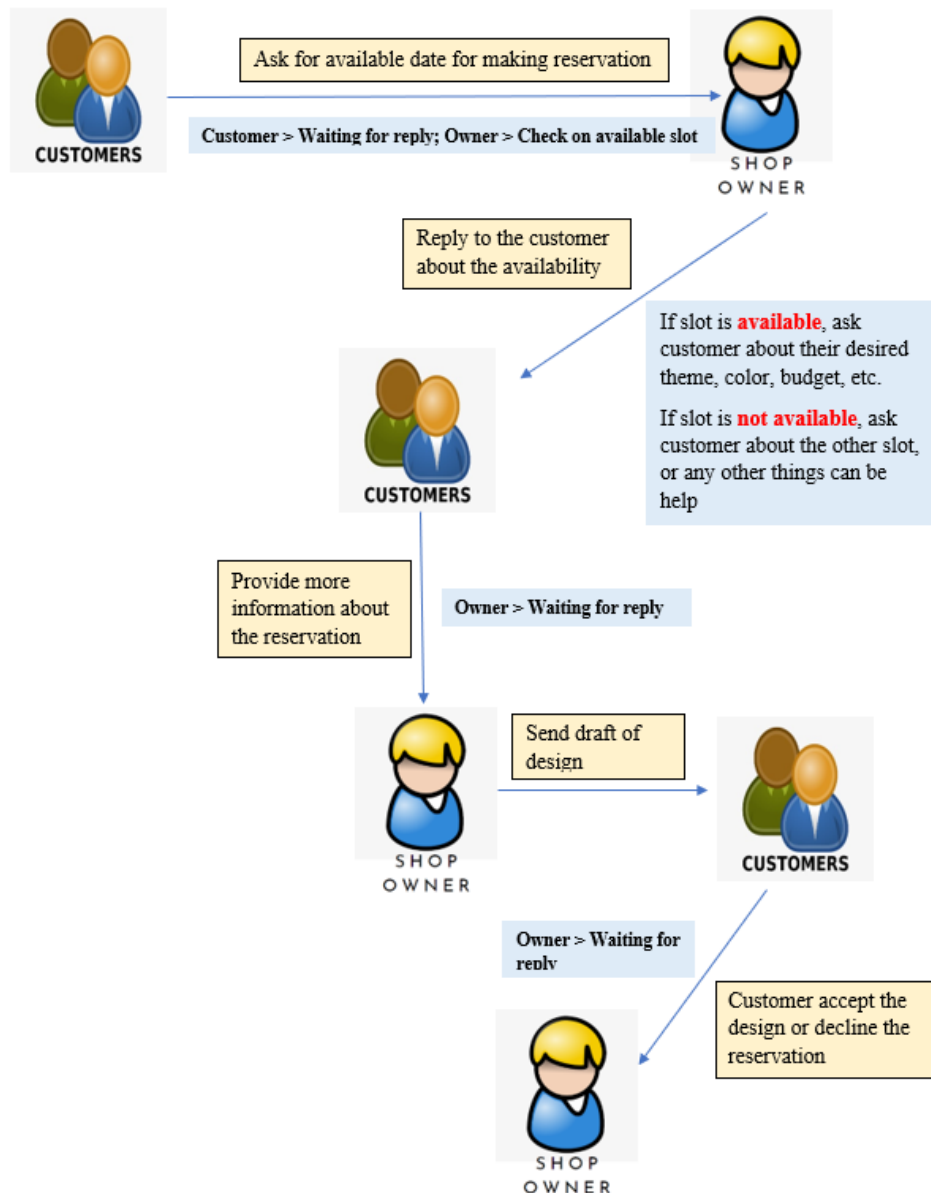


Figure 4.11: Current flow of reservation process.

The figure above shows the steps involved in communicating between the customer and the owner in arranging an event decoration reservation. Initially, the customer sends a message to the owner through WhatsApp to inquire about an available date. The owner then checks for available slots, and if the slot is available, the shop owner will ask the customer about the theme, budget, and other relevant details. If the owner is unable to find a suitable time slot, they will offer other options. Afterwards, the owner waits for the customer to provide more information, such as the venue and time. Once the necessary details have been confirmed, the owner sends a draft design to the customer. The customer then reviews the design and either confirm or requests design changes or declines the offer.

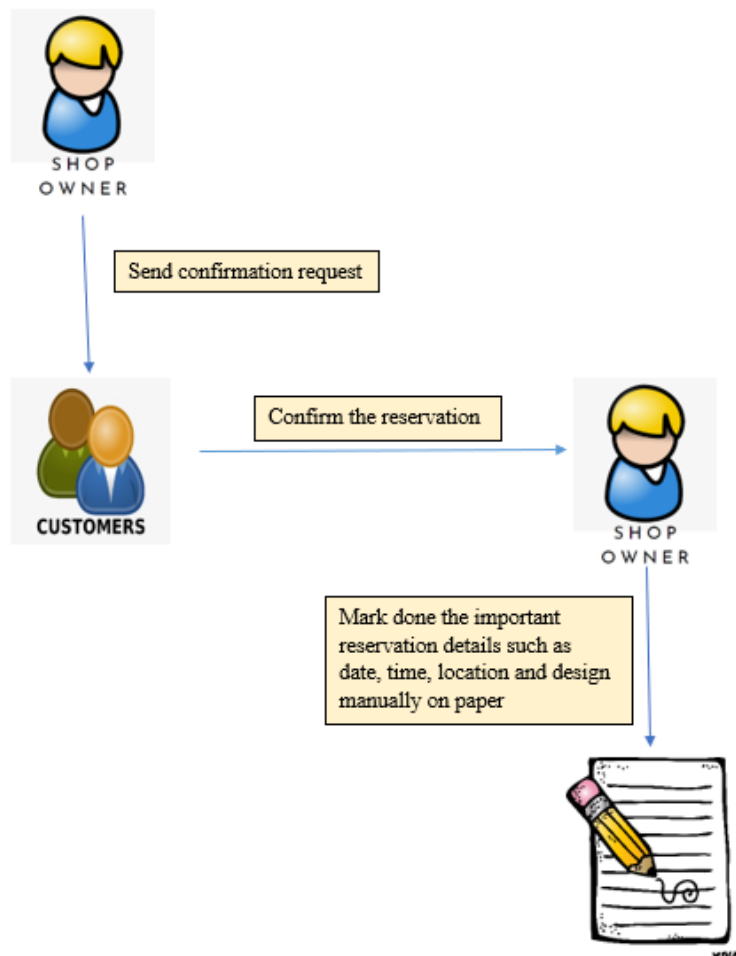


Figure 4.12: Current flow of mark down reservation by shop owner/staff.

The figure above shows the current flow of mark down reservation by shop owner/staff. In this process, the shop owner/ staff requests a confirmation for an event booking reservation from the customer. Once the shop owner/staff has confirmed the reservation, they mark down the reservation details on paper and communicate the confirmation to the customer. The shop owner/staff manually marks down the important reservation details on paper, including the date, time, location, and design. Hence, the shop owner or staff mentioned that manual note-taking may lead to missing or incomplete details, which could potentially cause problems with the event booking reservation.

4.3 Requirement Specification

This section provides a representation of the system requirement specification, which may be broken down into the two primary categories of "functional requirements" and "non-functional requirements." Each need was connected to the Chapter 1 project scope components.

4.3.1 Functional Requirement

In order to satisfy the demands of the end user, a system must comply with the documented functional requirements. According to the contract, the system must include each of these properties. The system's necessary input, the action executed, and the intended outcome are shown or described as these. In contrast to nonfunctional requirements, system functional requirements are basically the users' stated requirements that are visible in the final product (Zhou, 2004). The functional requirements for this project were gathered from the responses to the requirements elicitation questionnaire in Section 4.2, the literature reviews of related projects, and the observation. As illustrated in Table 4.1, the functional needs are broken down into two distinct roles: customers and management team (Admin, Staff and Shop Owner).

Table 4.1: Functional requirements by roles.

Role	ID	Module	Functional Requirements
Customer	SRS001	Registration	The system shall allow customers to register an account.
	SRS002	Login	The system shall allow customers to log in using email and password.
	SRS003	Manage Profile	The system shall allow customers to edit their profile information such as name, phone number, address and password.
	SRS004	Products / Events (Occasions)	The system shall display a list of products / events according to the category.
	SRS005		The system shall allow customers to search for party decoration products / events using keywords.
	SRS006		The system shall allow customers to view all the details of a specific party decoration product or event.
	SRS007		The system shall allow customers to add a product into the shopping cart.
	SRS008	Order	The system shall allow customers to place an order based on the items in the shopping cart.
	SRS009		The system shall allow customers to select the payment method for each of the order

		placed.
SRS010		The system shall allow customers to specify the delivery address for each of the order placed.
SRS011		The system shall allow the customers to trace the status of all their placed orders.
SRS012	Shopping Cart / Wishlist	The system shall allow customers to remove a selected product from the shopping cart.
SRS013		The system shall allow customers to view the details of the items added in the shopping cart or wishlist.
SRS014		The system shall allow customers to change the product quantity in the cart.
SRS015	Chatbot	The system shall allow customers to ask fundamental questions or when having enquiries.
SRS016	Enquiry (Contact Us)	The system shall allow customers to send an enquiry if the chatbot does not provide the accurate answer.
SRS017	Customization	The system shall allow customers to perform customization on party decoration kits or event booking.
SRS018	Reservation	The system shall allow customers to book an reservation for a party decoration setup.

Management Team (Admin / Staff / Shop Owner)	SRS019	Login	The system shall allow the admin/staff/shop owner to login their account.
	SRS020	Orders	The system shall display a list of customer's orders.
	SRS021		The system shall allow the staff to view all the customer's orders associated with the details of the order.
	SRS022	Delivery	The system shall allow the staff to update the status for an order.
	SRS023	Search	The system shall allow the staff to search for a product / event record.
	SRS024	Products /Events (Occasions)	The system shall display a list of party decoration products / events according to its category.
	SRS025		The system shall allow the staff to create a new product / event.
	SRS026		The system shall allow the staff to update product's / event's detail.
	SRS027		The system shall allow the staff to delete a product / event.
	SRS028	Enquiry	The system shall allow the staff to view enquiry sent by customers.
	SRS029		The system shall allow the staff to update enquiry status.
	SRS030	Dashboard	The system shall allow only the shop owner to view the annual sales report.

	SRS031	Category / Event Category	The system shall display a list of categories or event categories to the admin.
	SRS032		The system shall allow the admin to create a new category / event category.
	SRS033		The system shall allow the staff to update category's / event category's detail.
	SRS034		The system shall allow the staff to delete a category / event category.
	SRS035	Reservation	The system shall display a list of customer's reservations.
	SRS036		The system shall allow admin to update the reservation status.
	SRS037		The system shall allow the admin to update the final design and extra info of the reservation.
	SRS039	Centralized Calendar	The system shall show the staff a calendar with the reservation status of "confirmed".
	SRS039		The system shall allow the staff to view the reservation details after the id being pressed.
	SRS040	Home Page	The system shall display a list of sliders to the admin.
	SRS041		The system shall allow the admin to add new slider to home page.
	SRS042		The system shall allow the admin to edit the slider or update the slider details.
	SRS043		The system shall allow the admin

			to delete a selected slider.
	SRS044		The system shall allow the admin to update the sales timer in the home page.
	SRS045	Coupon	The system shall display a list of coupons to the admin.
	SRS046		The system shall allow the admin to add new coupon.
	SRS047		The system shall allow the admin to update coupon details.
	SRS048		The system shall allow the admin to delete a coupon.

4.3.2 Non-Functional Requirement

A system performance feature is described by the non-functional requirement. It includes all specifications that extend beyond the scope of functional requirements. Rather of specifying particular behaviors, they define criteria that characterize a system's functionality (Chung et al., 2000). 13 non-functional requirements that must be included in a software requirements document are listed in IEEE-Std 830 – 1993 (Anon., 1998):

1. Performance requirements
2. Interface requirements
3. Operational requirements
4. Resource requirements
5. Verification requirements
6. Acceptance requirements
7. Documentation requirements
8. Security requirements
9. Portability requirements
10. Quality requirements
11. Reliability requirements
12. Maintainability requirements
13. Safety requirements

In this project, it will be focus on four main non-functional requirements, which are performance (usability) requirement, security requirements and reliability requirements.

4.3.2.1 Performance (usability) requirements

1. The system shall always request confirmation before attempting a destructive operation.

4.3.2.2 Security requirements

1. The web application shall authenticate users with a valid email address and password prior to login.
2. The web application shall restrict access to its features to its authorized users exclusively.
3. The system shall safeguard user credentials, and passwords need to be encrypted.

4.3.2.3 Reliability requirements

1. The web application must enable responsive views, in which the user interface's content and elements automatically adjust to fit the size of the screen.

4.4 System Use Case

Use cases are a set of actions that describe how users—such as event planners, youngsters, staff members, and business owners—interact with implemented systems. System use cases provided precise steps that were taken inside the actual system to accomplish users' objectives. It is used in the analysis phase to locate, specify, and make clear the functional requirements from the viewpoint of the end users, as well as the interdependencies across use cases. A use case diagram and description will be included in this section.

4.4.1 Use Case Diagram

The use case diagram of the web-based party decoration shop are showed in below:

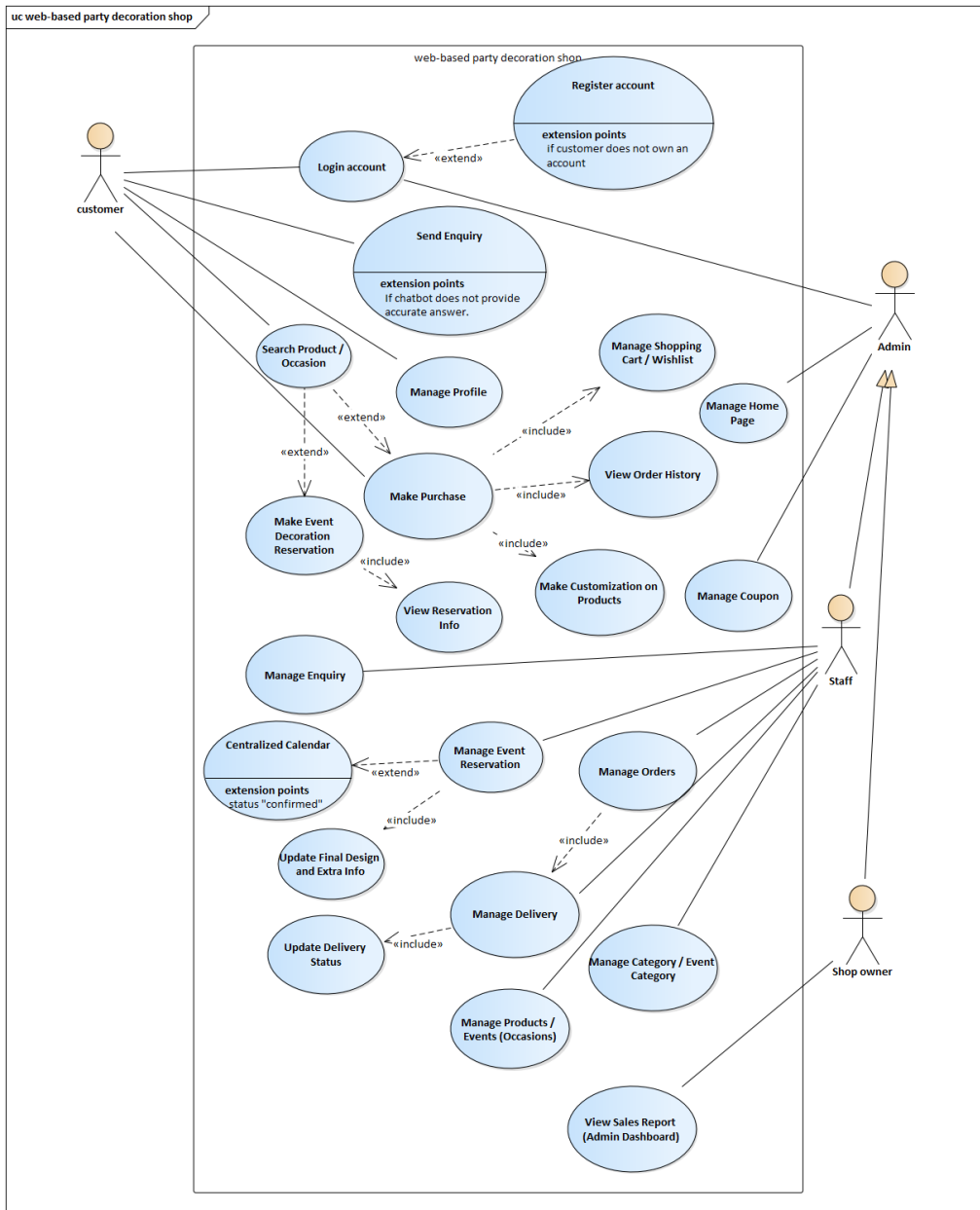


Figure 4.13: Use case diagram of AI-Infused Web Décor Shop.

4.4.2 Use Case Description

Table 4.2: Use case description of login account.

Use Case Name: Login account	ID: UC001	Importance High	Level:
Primary Actor: Customer, Admin	Use Case Type: Detail, Essential		
Stakeholders and Interests: Admin: wants to login their account and access into the admin interface. Customer: wants to login their account and access into the customer interface.			
Brief Description: This use case describes how users log into their account.			
Trigger: The user wants to log in to the system.			
Relationships: Association : Customer, Admin Include : N/A Extend : UC002 Sign up account Generalization : N/A			
Normal Flow of Events: <ol style="list-style-type: none"> 1. The admin or customer launches the websites. 2. The admin or customer logins their account with email and password. 3. The system verifies the email and password. <ol style="list-style-type: none"> 3.1 If the email and password inserted are wrong, sub-flows S-1, S-2 are performed. 3.2 If the email and password are correct, sub-flow S-3 is performed. 4. The admin or customer logins into the system and gets into the admin main menu and customer main menu. 			
Sub-flows: S-1. The system prompts an error message. S-2. The admin or customer can continue entering the email and password. (Normal flow:2) S-3. The admin or customer successfully login to the system and access into the admin or customer interface.			
Alternate/Exceptional Flows: 2a. The customer does not have an account, performed UC002 2a.1 The customer registers a new account by setting up mandatory fields like username, name, phone number, email and password. 3a. If the email and password entered are not matched, the system prompts the user to reenter username and password.			

Table 4.3: Use case description of Sign Up Account.

Use Case Name: Sign Up Account	ID: UC002	Importance High	Level:
Primary Actor: Customer	Use Case Type: Detail, Essential		
Stakeholders and Interests: Customer - wants to sign up account			
Brief Description: This use case describes how a customer signs up for an account.			
Trigger: Customer does not have an account and wants to sign up for an account.			
Relationships: Association : Customer Include : N/A Extend : N/A Generalization : N/A			
Normal Flow of Events: <ol style="list-style-type: none"> 1. The customer launches the websites. 2. The customer chooses to sign up an account. 3. The system prompts the customer to enter new account details consisting username, name, phone number, email and password. 4. The system assigns the customer id to the customer. 5. The system records the details entered by the customer and jumps to the customer menu page. 			
Sub-flows: -			
Alternate/Exceptional Flows: 3a. If invalid details are entered by the customer, the system prompts the customer to enter again.			

Table 4.4: Use case description of Send Enquiry (Chatbot not providing accurate answer).

Use Case Name: Send Enquiry (Chatbot not providing accurate answer)	ID: UC003	Importance Level: High
Primary Actor: Customer	Use Case Type: Detail, Essential	
Stakeholders and Interests: Customer - wants to ask for enquiry.		
Brief Description: This use case describes how a customer send an enquiry when chatbot not able to provide accurate answer.		
Trigger: Customer interacts with the chatbot and asks a question that the chatbot cannot answer accurately.		
Relationships: Association : Customer Include : N/A Extend : N/A Generalization : N/A		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The customer interacts with the chatbot and asks a question or choose from option list. 2. Chatbot attempts to provide an accurate answer to the question. 3. Chatbot determines that it cannot provide an accurate answer to the question. 4. Chatbot informs the customer that it cannot provide an accurate answer to the question. 5. Chatbot provides the customer with the option to send an enquiry to a support team. 6. Customer selects the option to send an enquiry. 7. Customer provide the brief description of their enquiry and their contact information. 8. Customer pressed the submit button. 		
Sub-flows: -		
Alternate/Exceptional Flows: 6a. Customer decides not to send an enquiry and instead ends the chat with the chatbot.		

Table 4.5: Use case description of Manage Profile.

Use Case Name: Manage Profile	ID: UC004	Importance High	Level:
Primary Actor: Customer	Use Case Type: Detail, Essential		
Stakeholders and Interests: Customer - wants to update their profile details.			
Brief Description: This use case describes how a customer update their profile details.			
Trigger: Customer logs in and navigates to the profile page and wish to change their profile details.			
Relationships: Association : Customer Include : N/A Extend : N/A Generalization : N/A			
Normal Flow of Events: <ol style="list-style-type: none"> 1. Customer authenticates using their credentials (email and password). 2. Customer navigates to the profile page. 3. Customer views their personal information and account settings. 4. Customer decides to edit their profile information. 5. Customer updates their profile information, such as name, phone number, address and profile picture. <ol style="list-style-type: none"> 5.1 If the details inserted are in wrong format, sub-flows S-1, S-2 are performed. 5.2 If the details inserted are correct, sub-flow S-3 is performed. 6. Customer saves the changes to their profile. 			
Sub-flows: S-1. The system prompts an error message. S-2. The customer can continue entering the details to be update. (Normal flow: 5) S-3. The customer successfully update the details and access back to the profile page.			
Alternate/Exceptional Flows: 1a. Customer enters invalid login credentials and cannot authenticate. 1a.1 If the email and password entered are not matched, the system prompts the user to reenter email and password. 5a. Customer encounters an error while editing their profile information (such as invalid email format or exceeding maximum character limit). 6a. Customer decides not to save their changes and exits the editing process without saving.			

Table 4.6: Use case description of Search Products.

Use Case Name: Search Products / Occasions	ID: UC005	Importance Level: High
Primary Actor: Customer	Use Case Type: Detail, Essential	
Stakeholders and Interests: Customer – wants to look for specific party decoration products or occasions in a faster way.		
Brief Description: This use case describes the actions needed to be performed by the customer to search for specific party decoration product or occasions.		
Trigger: The customer who wants to look for a specific party decoration product or occasions.		
Relationships: Association : Customer Include : N/A Extend : UC006 Make Purchase, UC011 Make Event Decoration Reservation Generalization : N/A		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The customer enters the search query in the search bar. 2. The system displays the search results page with the relevant party decoration products or occasions matching the search query. 3. The customer reviews the search results and selects the product they want to purchase or occasions they want to book. 4. The system redirects the customer to the product page or occasions page. 5. If customer wants to make purchase, perform UC06 Make Purchase. 6. If customer wants to make reservation, perform UC011 Make Event Decoration Reservation. 		
Sub-flows: -		
Alternate/Exceptional Flows: 2a. If there are no search results matching the search query, the system displays a message to the customer that no products or occasions were found. 2a.1 . If the product is out of stock, the system displays a message to the customer that the product is currently unavailable.		

Table 4.7: Use case description of Make Purchase.

Use Case Name: Make Purchase	ID: UC006	Importance Level: High
Primary Actor: Customer	Use Case Type: Detail, Essential	
Stakeholders and Interests: Customer – interested to make purchase of specific party decoration products.		
Brief Description: This use case describes the actions needed to be performed by the customer to purchase the selected product.		
Trigger: The customer who wants to purchase specific party decoration products.		
Precondition: 1. The customer has logged in into his/her account. 2. The customer has selected at least one item in the shopping cart.		
Relationships: Association : Customer Include : UC007 Manage Shopping Cart, UC009 View Order History, UC010 Make Customization on Products Extend : N/A Generalization : N/A		
Normal Flow of Events: 1. The customer navigates to their shopping cart and reviews the items in it. 2. The customer selects the items to be purchased. 3. The customer proceeds to checkout and enters their shipping and payment information. 4. The system verifies the information and places the order. 5. The system confirms the order and provides the customer with an order confirmation number.		
Sub-flows: -		
Alternate/Exceptional Flows: 2a. If the customer has not logged in, the system prompts them to log in or create an account. 2b. If the customer has not provided all required information, the system displays a message asking them to complete the required fields. 2c. If the customer has entered invalid information, such as an incorrect address, the system displays a message asking them to correct the information. 3a. If the payment information is invalid or the transaction cannot be completed, the system displays an error message to the customer and prompts them to try again.		

Table 4.8: Use case description of Manage Shopping Cart.

Use Case Name: Manage Shopping Cart	ID: UC007	Importance High	Level:
Primary Actor: Customer	Use Case Type: Detail, Essential		
Stakeholders and Interests: Customer - wants to modify items in the cart.			
Brief Description: This use case describes the actions needed to be performed by the customer to view his/her cart, remove items from the cart, edit the quantities or empty his/her shopping cart.			
Trigger: The customer who has added item into his/her cart and wants to view, edit or delete the item.			
Relationships: Association : Customer Include : N/A Extend : N/A Generalization : N/A			
Normal Flow of Events: <ol style="list-style-type: none"> 1. The customer navigates to their shopping cart and reviews the items in it. 2. The system displays the My Cart screen with all the previously added items. 3. The customer can increase or decrease the quantity of each item in the cart, perform sub flow S-1. 4. The customer can remove items from the cart, perform sub flow S-2. 5. The system updates the cart and displays the total price. 			
Sub-flows: S-1: Edit items in cart <ol style="list-style-type: none"> 1. In order to add the quantity of an item in the cart, the customer clicks the plus button (+) placed at right to the quantity field of that item. 2. Once the button is clicked, the system will adjust and update the quantity field, price field and the subtotal field simultaneously. 3. In order to reduce the quantity of an item in the cart, customer clicks the minus button (-) placed at left to the quantity field of that item. 4. Once the button is clicked, the system will adjust and update the quantity field, price field and the subtotal field simultaneously. S-2: Delete items from cart <ol style="list-style-type: none"> 1. The customer clicks the “x” button. 2. The system will display a message to get confirmation from the customer to delete the item from the cart. 3. The customer clicks the “Yes” button from the dialog box to confirm deleting the item from the cart. 4. The system will remove the item from the cart and adjust the 			

subtotal due.
<p>Alternate/Exceptional Flows:</p> <p>3a. If the customer tries to increase the quantity of an item beyond the available stock, the system displays a message informing them of the current stock and prompts them to update the quantity accordingly.</p> <p>4a. If the customer removes all items from the cart, the system displays a message that the cart is empty and prompts the customer to continue shopping.</p>

Table 4.9: Use case description of Manage Wishlist.

Use Case Name: Manage Wishlist	ID: UC008	Importance High	Level:
Primary Actor: Customer	Use Case Type: Detail, Essential		
Stakeholders and Interests: Customer - wants to modify items in the wishlist.			
Brief Description: This use case describes the actions needed to be performed by the customer to view his/her wishlist, remove items from the wishlist.			
Trigger: The customer who has added item into his/her wishlist and wants to view, or delete the item.			
Relationships: Association : Customer Include : N/A Extend : N/A Generalization : N/A			
Normal Flow of Events: <ol style="list-style-type: none"> 1. The customer navigates to their wishlist and reviews the items in it. 2. The system displays the My Wishlist screen with all the previously added items. 3. The customer can remove the item in the wishlist, perform sub flow S-1. 4. The system updates the wishlist. 			
Sub-flows: S-1: Delete items from wishlist <ol style="list-style-type: none"> 1. The customer clicks the “heart” button. 2. The system will display a message to get confirmation from the customer to unfavourite the item from the wishlist. 3. The customer clicks the “Yes” button from the dialog box to confirm unfavourite the item from the cart. 4. The system will remove the item from the wishlist. 			
Alternate/Exceptional Flows:			

Table 4.10: Use case description of View Order History.

Use Case Name: View Order History	ID: UC009	Importance High	Level:
Primary Actor: Customer	Use Case Type: Detail, Essential		
Stakeholders and Interests: Customer – who wants to view his/her purchase history.			
Brief Description: This use case describes the actions needed to be performed by the customer to view the history of purchased.			
Trigger: The customer who wants to check back on their order.			
Relationships: Association : Customer Include : N/A Extend : N/A Generalization : N/A			
Normal Flow of Events: <ol style="list-style-type: none"> 1. The customer navigates to the "My Order" section. 2. The system displays a list of the customer's previous orders, including order numbers and dates. 3. The customer selects an order to view the details. 4. The system displays the order details, including the items purchased, the order date, the shipping address, and the total price. 			
Sub-flows: -			
Alternate/Exceptional Flows: -			

Table 4.11: Use case description of Make Customization on Products.

Use Case Name: Make Customization on Products	ID: UC010	Importance Level: High
Primary Actor: Customer	Use Case Type: Detail, Essential	
Stakeholders and Interests: Customer – who wants to customize product based on their preferences.		
Brief Description: This use case involves customers customizing products before making a purchase, such as choosing colors, adding text or images, or selecting other options to personalize the product to their preferences.		
Trigger: The customer who wants customize a product based on their own preferences.		
Relationships: Association : Customer Include : N/A Extend : N/A Generalization : N/A		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The customer selects a customizable product from the shop and adds it to their cart. 2. The customer selects the customization options, such as color, text, or image, for the product. 3. The customer proceeds to checkout and enters their shipping and payment information. 4. The system verifies the information and places the order for the customized product. 5. The system confirms the order and provides the customer with an order confirmation number. 		
Sub-flows: -		
Alternate/Exceptional Flows: 2a. If the customer has not selected all required customization options, the system displays a message asking them to complete the required fields. 3a. If the customized product does not meet the customer's expectations, the customer can modify the customization options and preview the customized product again. 5a. If the payment information is invalid or the transaction cannot be completed, the system displays an error message to the customer and prompts them to try again.		

Table 4.12: Use case description of Make Event Decoration Reservation.

Use Case Name: Make Event Decoration Reservation	ID: UC011	Importance Level: High
Primary Actor: Customer	Use Case Type: Detail, Essential	
Stakeholders and Interests: Customer – who wants to make event decoration reservation for specific events.		
Brief Description: This use case involves customers making event decoration reservation based on the available time slots.		
Trigger: The customer who wants makes and event decoration reservation based on their own preferences.		
Relationships: Association : Customer Include : UC012 View Reservation Info Extend : N/A Generalization : N/A		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The customer selects an available time slot from the calendar list. 2. The customer specific the theme, colors, etc. in the chosen booking slots. 3. The customer proceeds to enters their details such as address information. 4. The system verifies the information and places the reservation for the specific slot. 5. The system confirms the reservation and provides the customer with an reservation confirmation number. 		
Sub-flows: -		
Alternate/Exceptional Flows: 2a. If the customer has not fill up all required options, the system displays a message asking them to complete the required fields.		

Table 4.13: Use case description of View Reservation Info.

Use Case Name: View Reservation Info	ID: UC012	Importance High	Level:
Primary Actor: Customer	Use Case Type: Detail, Essential		
Stakeholders and Interests: Customer – who wants to view his/her reservation history.			
Brief Description: This use case describes the actions needed to be performed by the customer to view the history of reservation.			
Trigger: The customer who wants to check back on their reservation.			
Relationships: Association : Customer Include : N/A Extend : N/A Generalization : N/A			
Normal Flow of Events: <ol style="list-style-type: none"> 1. The customer navigates to the "My Reservation " section. 2. The system displays a list of the customer's previous reservations, including reservation numbers, dates and details. 3. The customer selects an reservation to view the details. 4. The system displays the reservation details, including the event decoration setup booked, the reservation date, the location, and the final design. 			
Sub-flows: -			
Alternate/Exceptional Flows: -			

Table 4.14: Use case description of Manage Enquiry.

Use Case Name: Manage Enquiry	ID: UC013	Importance High	Level:
Primary Actor: Party Decoration Shop Staff Member	Use Case Type: Detail, Essential		
Stakeholders and Interests: Party Decoration Shop Staff Member - who wants to give response back to the customer.			
Brief Description: This use case involves staff members managing customer enquiries and responding to customer questions and concerns.			
Trigger: The system receives an enquiry from customer and response is needed from the staff member.			
Relationships: Association : Party Decoration Shop Staff Member Include : N/A Extend : N/A Generalization : N/A			
Normal Flow of Events: <ol style="list-style-type: none"> 1. Customer submits an enquiry or support request through an enquiry form. 2. The system records the enquiry and assigns it to a staff member. 3. The staff member reviews the enquiry and determines the appropriate response. 4. The staff member responds to the customer's enquiry with a solution or information. 5. The staff updates the status of the enquiry to "Resolved" or "Pending," depending on the outcome. 			
Sub-flows: -			
Alternate/Exceptional Flows: 4a. If the customer is dissatisfied with the response or solution provided by the staff member, the customer may request further.			

Table 4.15: Use case description of Manage Order.

Use Case Name: Manage Order	ID: UC014	Importance High	Level:
Primary Actor: Party Decoration Shop Administrator	Use Case Type: Detail, Essential		
Stakeholders and Interests: Party Decoration Shop Administrator – who wants to manage the customers' order.			
Brief Description: This use case involves the actions needed to be performed by the staff of the party decoration shop to view customers' order.			
Trigger: The party decoration shop's staff who wants to check the customer' orders and its associated information.			
Relationships: Association : Party Decoration Shop Administrator Include : UC016 Manage Delivery, UC017 Update Delivery Status Extend : N/A Generalization : N/A			
Normal Flow of Events: <ol style="list-style-type: none"> 1. The admin navigates to the "All Orders" page from the drop down menu. 2. The system displays a list of customer orders and its associated information. 3. The admin selects a customer' order to be viewed. 4. The system will display all the information associated with the selected order. 			
Sub-flows: -			
Alternate/Exceptional Flows: -			

Table 4.16: Use case description of Manage Event Decoration Reservation.

Use Case Name: Manage Event Decoration Reservation	ID: UC015	Importance Level: High
Primary Actor: Party Decoration Shop Administrator, Staff	Use Case Type: Detail, Essential	
Stakeholders and Interests: Party Decoration Shop Administrator and Staff Member – who wants to manage the customers' reservation.		
Brief Description: This use case describes the functionality of the web-based party decoration shop system to allow admin and staff to view and manage customer event decoration reservations, including venue, time, and theme.		
Trigger: The party decoration shop's admin who wants to view a customer's event decoration reservation and for staff to do earlier preparation.		
Relationships: Association : Party Decoration Shop Administrator and Staff Include : UC019 Update Final Design Extend : UC016 View of Centralized Calendar Generalization : N/A		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The staff member clicks on the "Manage Reservation" button from the drop down menu. 2. The system displays a list of reservations made by customer. 3. The system displays a centralized calendar view of all event decoration reservations under the reservation with a status of 'confirmed', UC020 View of Centralized Calendar. 4. The staff member selects an event decoration reservation from the calendar. 5. The system displays the customer's booking information, including venue, time, and theme, along with their account information. 		
Sub-flows: -		
Alternate/Exceptional Flows: -		

Table 4.17: Use case description of View of Centralized Calendar.

Use Case Name: View of Centralized Calendar	ID: UC016	Importance Level: High
Primary Actor: Party Decoration Shop Staff Member	Use Case Type: Detail, Essential	
Stakeholders and Interests: Party Decoration Shop Staff Member – who wants to view the reservation associate with the status “confirmed” in order to do earlier preparation for the setup stuff.		
Brief Description: This use case involves the actions needed to be performed by the staff of the party decoration shop to do earlier preparation.		
Trigger: The party decoration shop’s staff who wants view the detailed information of reservation.		
Relationships: Association : Party Decoration Shop Staff Member Include : N/A Extend : N/A Generalization : N/A		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The staff navigates to the “All Reservation” page from the drop down menu. 2. The system displays a list of reservations and its associated information. 3. The staff pressed on the “Calendar” button located beside the reservation status “Confirmed”. 4. The system will display a calendar for the staff associate with the reservation ID. 5. The staff can view the details of reservation by pressing on the ID. 		
Sub-flows: -		
Alternate/Exceptional Flows: -		

Table 4.18: Use case description of Manage Delivery.

Use Case Name: Manage Delivery	ID: UC017	Importance Level: High
Primary Actor: Party Decoration Shop Staff Member	Use Case Type: Detail, Essential	
Stakeholders and Interests: Party Decoration Shop Staff Member – who wants to manage the order placed by the customers.		
Brief Description: This use case involves the actions needed to be performed by the staff of the party decoration shop to view a order.		
Trigger: The party decoration shop’s staff who wants view the detailed information of an order made by customer to perform delivery.		
Relationships: Association : Party Decoration Shop Staff Member Include : UC017 Update delivery status Extend : N/A Generalization : N/A		
Normal Flow of Events: 6. The staff navigates to the “All Order” page from the drop down menu. 7. The system displays a list of orders and its associated information. 8. The staff selects a order to be viewed and clicks on the view button. 9. The system will display all the information associated with the selected order to perform delivery.		
Sub-flows: -		
Alternate/Exceptional Flows: -		

Table 4.19: Use case description of Update Delivery Status.

Use Case Name: Update Delivery Status	ID: UC018	Importance Level: High
Primary Actor: Party Decoration Shop Staff Member	Use Case Type: Detail, Essential	
Stakeholders and Interests: Party Decoration Shop Staff Member – who wants to manage the deliveries status.		
Brief Description: This use case involves the actions needed to be performed by the staff of the party decoration shop to update the status of the delivery order.		
Trigger: The party decoration shop's staff who wants deliveries' status information up-to-date.		
Relationships: Association : Party Decoration Shop Staff Member Include : N/A Extend : N/A Generalization : N/A		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The staff navigates to the "Order" page from the drop down menu. 2. The system displays a list of orders and its associated information. 3. The staff selects a order to be updated and clicks on the edit status button. 4. The system will display all the information associated with the selected delivery order. 5. The staff updates the status of the delivery order by selecting its latest delivery status. 6. Once the button is clicked, the system will display an updated message to the staff to the list of orders page with all the information updated. 		
Sub-flows: -		
Alternate/Exceptional Flows: -		

Table 4.20: Use case description of Manage Category / Event Category.

Use Case Name: Manage Category / Event Category	ID: UC019	Importance Level: High
Primary Actor: Party Decoration Shop Staff Member	Use Case Type: Detail, Essential	
Stakeholders and Interests: Party Decoration Shop Staff Member – who wants to manage the category or event category.		
Brief Description: This use case involves the actions needed to be performed by the staff of party decoration shop to add or remove the category or event category or edit the details of the category or event.		
Trigger: The party decoration shop’s staff who wants to add or edit the category or event category details.		
Relationships: Association : Party Decoration Shop Staff Member Include : N/A Extend : N/A Generalization : N/A		
Normal Flow of Events: 1. The staff navigates to the “Category” or “Event Category” page from the drop down menu. 2. The system displays a list of categories. 3. To add a new category or event category , S-1: Add New Category / Event Category sub-flow is performed. 4. To edit the details of the category ot event category, S-2: Update Category / Event Category sub-flow is performed. 5. To delete the category or event category, S-3: Delete Category / Event Category sub-flow is performed.		
Sub-flows: S-1: Add New Category / Event Category 1. The staff clicks the “Add New Category / Event Category” button. 2. The system will display an form. 3. The staff enters all the details of the new category or event category in the respective fields provided. 4. The staff clicks the “Add” button located to confirm adding the new category or event category . 5. Once the “Add” button is clicked, the system will redirect the staff to the list of categories page with the new added category or event category. S-3: Update Category / Event Category 1. The staff selects a category or event ategory to be updated and clicks on the edit button. 2. The system will display an Edit product form. 3. The staff enters all the details of the category or event category in		

<p>the respective fields provided.</p> <ol style="list-style-type: none"> The staff clicks the “Update” button to confirm updating all the details of the category or event category. Once the “Update” button is clicked, the system will redirect the staff to the list of categories or event categories page with all the information updated. <p>S-4: Delete Category / Event Category</p> <ol style="list-style-type: none"> The staff chooses one category or event category to be deleted from the list and clicks the remove button (represented with a x icon). Once the button is clicked, the system will display a message to get confirmation from the staff on deleting. The staff clicks the “Yes” button from the dialog box to confirm the delete process. The system will redirect the staff to the list of categories or event categories page with a new list of categories or event categories.
<p>Alternate/Exceptional Flows:</p> <ol style="list-style-type: none"> 2.1 The staff clicks on the “Cancel” button at bottom right of the form. The system will redirect the staff to the list of categories page without making any changes.

Table 4.21: Use case description of Manage Products.

Use Case Name: Manage Products	ID: UC020	Importance High	Level: High
Primary Actor: Party Decoration Shop Staff Member	Use Case Type: Detail, Essential		
Stakeholders and Interests: Party Decoration Shop Staff Member – who wants to manage the products and its associated information.			
Brief Description: This use case involves the actions needed to be performed by the staff of party decoration shop to add or remove the products, edit the details of the products as well as update the quantities of the selling products.			
Trigger: The party decoration shop’s staff who wants to keep the products’ information up-to-date.			
Relationships: Association : Party Decoration Shop Staff Member Include : N/A Extend : N/A Generalization : N/A			
Normal Flow of Events: <ol style="list-style-type: none"> The staff navigates to the “All Products” page from the drop down menu. The system displays a list of products associates with the product 			

info.

3. To add a new product, S-1: Add New Product sub-flow is performed.
4. To view a product and its associated information, S-2: View Product sub-flow is performed.
5. To update the status or edit the details of the product, S-3: Update Product sub-flow is performed.
6. To delete the product, S-4: Delete Product sub-flow is performed.

Sub-flows:

S-1: Add New Product

1. The staff clicks the “Add New Product” button.
2. The system will display an add new product form.
3. The staff enters all the details of the new product in the respective fields provided.
4. The staff clicks the “Add” button located to confirm adding the new product.
5. Once the “Add” button is clicked, the system will redirect the staff to the list of products page with the new added product.

S-2: View Product Details

1. The staff selects a product to be viewed
2. The system will display all the information associated with the selected product.

S-3: Update Product Details

1. The staff selects a product to be updated and clicks on the edit button.
2. The system will display an edit product form.
3. The staff enters all the details of the product in the respective fields provided.
4. The staff clicks the “Update” button to confirm updating all the details of the product.
5. Once the “Update” button is clicked, the system will redirect the staff to the list of products page with all the information updated.

S-4: Delete Product

1. The staff chooses one product to be deleted from the list and clicks the remove button (represented with a x icon).
2. Once the button is clicked, the system will display a message to get confirmation from the staff on deleting.
3. The staff clicks the “Yes” button from the dialog box to confirm the delete process.
4. The system will redirect the staff to the list of products page with a new list of products.

Alternate/Exceptional Flows:

- 3.1 The staff clicks on the “Cancel” button at bottom right of the form. The system will redirect the staff to the list of products page without making any changes.

Table 4.22: Use case description of Manage Events (Occasions).

Use Case Name: Manage Events (Occasions)	ID: UC021	Importance Level: High
Primary Actor: Party Decoration Shop Staff Member	Use Case Type: Detail, Essential	
Stakeholders and Interests: Party Decoration Shop Staff Member – who wants to manage the events and its associated information.		
Brief Description: This use case involves the actions needed to be performed by the staff of party decoration shop to add or remove the events, edit the details of the events.		
Trigger: The party decoration shop’s staff who wants to keep the events’ information up-to-date.		
Relationships: Association : Party Decoration Shop Staff Member Include : N/A Extend : N/A Generalization : N/A		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The staff navigates to the “All Events” page from the drop down menu. 2. The system displays a list of events associates with the event info. 3. To add a new product, S-1: Add New Event sub-flow is performed. 4. To view a product and its associated information, S-2: View Event sub-flow is performed. 5. To update the status or edit the details of the event, S-3: Update Event sub-flow is performed. 6. To delete the event, S-4: Delete Event sub-flow is performed. 		
Sub-flows: S-1: Add New Event <ol style="list-style-type: none"> 1. The staff clicks the “Add New Event” button. 2. The system will display an add new event form. 3. The staff enters all the details of the new event in the respective fields provided. 4. The staff clicks the “Add” button located to confirm adding the new event. 5. Once the “Add” button is clicked, the system will redirect the staff to the list of events page with the new added event. S-2: View Event Details <ol style="list-style-type: none"> 1. The staff selects a event to be viewed 2. The system will display all the information associated with the selected event. 		

<p>S-3: Update Event Details</p> <ol style="list-style-type: none"> 1. The staff selects a event to be updated and clicks on the edit button. 2. The system will display an edit event form. 3. The staff enters all the details of the event in the respective fields provided. 4. The staff clicks the “Update” button to confirm updating all the details of the event. 5. Once the “Update” button is clicked, the system will redirect the staff to the list of events page with all the information updated. <p>S-4: Delete Event</p> <ol style="list-style-type: none"> 1. The staff chooses one product to be deleted from the list and clicks the remove button (represented with a x icon). 2. Once the button is clicked, the system will display a message to get confirmation from the staff on deleting. 3. The staff clicks the “Yes” button from the dialog box to confirm the delete process. 4. The system will redirect the staff to the list of products page with a new list of products. <p>Alternate/Exceptional Flows:</p> <ol style="list-style-type: none"> 4.1 The staff clicks on the “Cancel” button at bottom right of the form. The system will redirect the staff to the list of events page without making any changes.
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Table 4.23: Use case description of View sales report.

Use Case Name: View sales report (Admin Dashboard)	ID: UC022	Importance Level: High
Primary Actor: Party Decoration Shop’s shop owner	Use Case Type: Detail, Essential	
Stakeholders and Interests: Party Decoration Shop’s shop owner – who wants to view sales reports of the online shop.		
Brief Description: This use case involves the actions how the shop owner view sales reports of the online shop.		
Trigger: The party decoration shop’s shop owner who wants to view sales reports of the online shop.		
Relationships: Association : Party Decoration Shop Staff Member Include : N/A Extend : N/A Generalization : N/A		

<p>Normal Flow of Events:</p> <ol style="list-style-type: none"> 1. The shop owner enters the admin dashboard page. 2. The shop owner clicks the “Admin Dashboard” label on the drop down menu list. 3. System displays the detailed information of the sales report such as the progress of annual sales target and the comparison between total sales and today sales.
Sub-flows: -
Alternate/Exceptional Flows: -

Table 4.24: Use case description of Manage Home Page.

Use Case Name: Manage Home Page	ID: UC023	Importance Level: High
Primary Actor: Party Decoration Shop Administrator	Use Case Type: Detail, Essential	
Stakeholders and Interests: Party Decoration Shop Administrator – who wants to manage the home page of the system.		
Brief Description: This use case involves the actions needed to be performed by the admin of party decoration shop to add or remove the home slider and sales setting.		
Trigger: The party decoration shop’s staff who wants to make the sales info up-to-date.		
Relationships: Association : Party Decoration Shop Administrator Include : N/A Extend : N/A Generalization : N/A		
<p>Normal Flow of Events:</p> <ol style="list-style-type: none"> 1. The admin navigates to the “Manage Home Slider” page from the drop down menu. 2. The system displays a list of sliders. 3. To add a new slider, S-1: Add New Slider sub-flow is performed. 4. To edit the details of the slider, S-2: Update Slider Details sub-flow is performed. 5. To delete the slider, S-3: Delete Slider sub-flow is performed. 6. The admin navigates to the “Sales Setting” page from the drop down menu. 7. The system display the curret sales info. 8. To update the sales info, S-4: Update Sales Setting sub-flow is performed. 		

Sub-flows:**S-2: Add New Slider**

1. The admin clicks the “Add New Slider” button.
2. The system will display an Add new slider form.
3. The admin enters all the details of the new slider in the respective fields provided.
4. The admin clicks the “Add” button located to confirm adding the new slider.
5. Once the “Add” button is clicked, the system will redirect the admin to the list of sliders page with the new added slider.

S-2: Update Slider Details

1. The admin selects a slider to be updated and clicks on the edit button.
2. The system will display an edit slider form.
3. The admin enters all the details of the slider in the respective fields provided.
4. The admin clicks the “Update” button to confirm updating all the details of the slider.
5. Once the “Update” button is clicked, the system will redirect the admin to the list of sliders page with all the information updated.

S-3: Delete Slider

1. The admin chooses one slider to be deleted from the list and clicks the remove button (represented with a x icon).
2. Once the button is clicked, the system will display a message to get confirmation from the admin on deleting.
3. The admin clicks the “Yes” button from the dialog box to confirm the delete process.
4. The system will redirect the admin to the list of sliders page with a new list of products.

S-4: Update Sales Setting

1. The admin press on the “Sales Setting” from the drop down menu.
2. The admin update the sales details, status and set the date of sales.
3. The admin press on the “update” button.
5. Once the button is clicked, the system will display a message to get confirmation from the admin on updating.
4. The admin clicks the “yes” button from the dialog box to confirm the update process.

Alternate/Exceptional Flows:

- 5.1 The admin clicks on the “Cancel” button at bottom right of the form. The system will redirect the admin back to the page without making any changes.

Table 4.25: Use case description of Manage Events (Occasions).

Use Case Name: Manage Coupons	ID: UC024	Importance Level: High
Primary Actor: Party Decoration Shop Administrator	Use Case Type: Detail, Essential	
Stakeholders and Interests: Party Decoration Shop Administrator – who wants to manage the coupons and its associated information.		
Brief Description: This use case involves the actions needed to be performed by the admin of party decoration shop to add or remove the coupons, edit the details of the coupons.		
Trigger: The party decoration shop’s admin who wants to keep the coupons’ information up-to-date.		
Relationships: Association : Party Decoration Shop Administrator Include : N/A Extend : N/A Generalization : N/A		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The admin navigates to the “All Coupons” page from the drop down menu. 2. The system displays a list of coupons associates with the discount info. 3. To add a new coupon, S-1: Add New Coupon sub-flow is performed. 4. To update the status or edit the details of the coupon, S-3: Update Coupon Details sub-flow is performed. 5. To delete the coupon, S-4: Delete Coupon sub-flow is performed. 		
Sub-flows: S-1: Add New Coupon <ol style="list-style-type: none"> 1. The admin clicks the “Add New Coupon” button. 2. The system will display an add new coupon form. 3. The admin enters all the details of the new coupon in the respective fields provided. 4. The admin clicks the “Add” button located to confirm adding the new coupon. 5. Once the “Add” button is clicked, the system will redirect the admin to the list of coupons page with the new added coupon. S-3: Update Coupon Details <ol style="list-style-type: none"> 1. The admin selects a coupon to be updated and clicks on the edit button. 2. The system will display an edit coupon form. 3. The admin enters all the details of the coupon in the respective fields provided. 4. The admin clicks the “Update” button to confirm updating all the 		

details of the coupon.

5. Once the “Update” button is clicked, the system will redirect the admin to the list of coupons page with all the information updated.

S-4: Delete Coupon

1. The admin chooses one coupon to be deleted from the list and clicks the remove button (represented with a x icon).
2. Once the button is clicked, the system will display a message to get confirmation from the admin on deleting.
3. The admin clicks the “Yes” button from the dialog box to confirm the delete process.
4. The system will redirect the admin to the list of coupons page with a new list of coupons.

Alternate/Exceptional Flows:

- 4.1 The admin clicks on the “Cancel” button at bottom right of the form. The system will redirect the admin to the list of coupons page without making any changes.

4.5 Interface Flow Diagram

The flow of web application for both admin and customer are shown in the interface flow diagrams.

4.5.1 Interface Flow Diagram of Customer

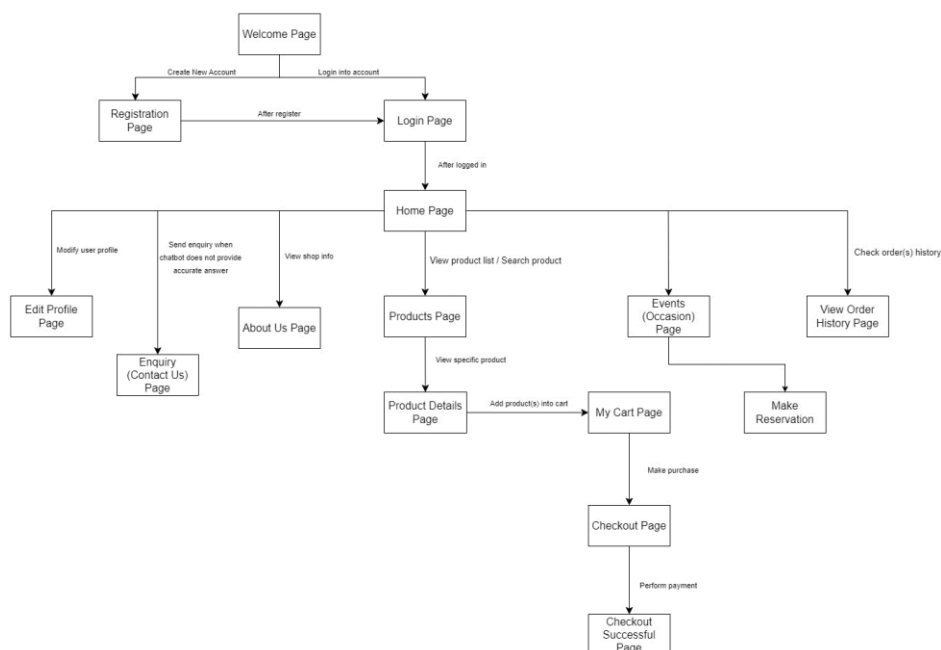


Figure 4.14: Interface Flow Diagram of customer in AI-Infused Web Décor Shop

4.5.2 Interface Flow Diagram of Admin

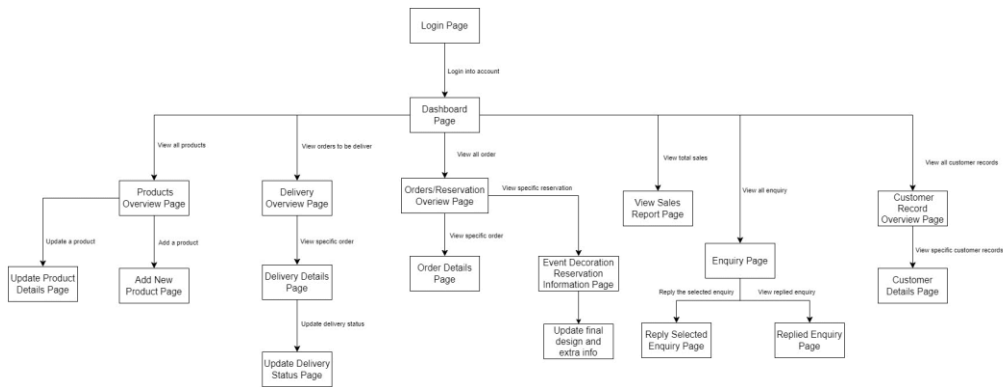


Figure 4.15: Interface Flow Diagram of admin in AI-Infused Web Décor Shop

4.6 Entity Relationship Diagram (ERD)

Entity Relationship Diagram (ERD) illustrates all entities needed for the implemented system and how each entity is related to each other. Figure 4.15 shows the initial ERD diagram of the implementation of AI-Infused web décor shop. A revised version will be place in Chapter 5.

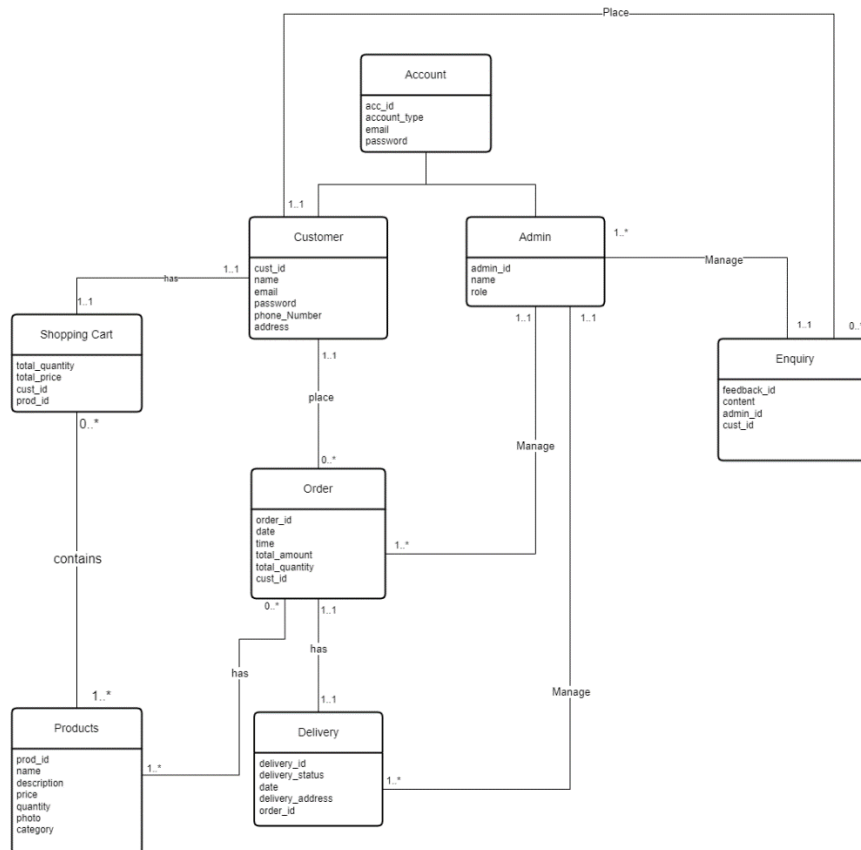


Figure 4.16: ERD diagram


4.6.1 Table Description of ERD

Table 4.26: Table Description of ERD.

Table Name	Description
Account	Contains the accounts details of every user which includes email address, password and account type.
Customer	Contains the customers details of every customer.
Admin	Contains the administrators details of every administrator.
Enquiry	Contains the information of feedback for every enquiry
Order	Contains the information for every order made by customer.
Delivery	Contains the information of delivery method/status for every order.
Products	Contains the information of every product.
Shopping Cart	Contains the information of quantity and price of product added by customer.

4.7 Prototypes

In this section, the user interface (UI) is drafted using the axure RP. The user interface design is present by screen prototyping which provide a blueprint for the upcoming development stage. Figures below shows the prototyping of web-based party decoration shop for both admin and customer that reflects the interface flow diagram.

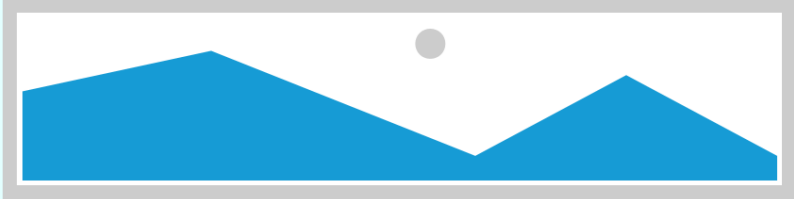


90's Balloon House


BALLOONS
GIFTS
BUNDLES
OCCASION

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Shop Now




Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean euismod bibendum laoreet. Proin gravida dolor sit amet lacus accumsan et viverra justo commodo. Proin sodales pulvinar sic tempor. Sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Nam fermentum, nulla luctus pharetra vulputate, felis tellus mollis orci, sed rhoncus pronin sapien nunc accuan eget.

Book Now



Location



No. 17-2 Jalan AKP 1, Taman Ayer Keroh Permai, 75450 Melaka, Malacca City, Malaysia


Quick Links

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[Contact Us](#)
[FAQ](#)



Reach Out to Us

f
@
📧

Figure 4.17: Customer - Home Page.




90's Balloon House

[BALLOONS](#) [GIFTS](#) [BUNDLES](#) [OCCASION](#)  

Login / Register

EMAIL ADDRESS:

PASSWORD:


 

REMEMBER ME [FORGET PASSWORD?](#)

[Login as Admin](#)

Dont have an account? [Register Here](#)

Location



No.17-2 Jalan AKP 1, Taman Ayer
Keroh Permai, 75450 Melaka,
Malacca City, Malaysia

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Figure 4.18: Customer - Login Page.




90's Balloon House

[BALLOONS](#) [GIFTS](#) [BUNDLES](#) [OCCASION](#)  


Login as Admin

EMAIL ADDRESS:

PASSWORD:

Location



No 17-2 Jalan AKP 1, Taman Ayer
Keroh Permai 75450 Melaka,
Malacca City, Malaysia

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Figure 4.19: Admin - Login Page.



90's Balloon House

[BALLOONS](#) [GIFTS](#) [BUNDLES](#) [OCCASION](#)  

Register An Account

Name

Email

Phone Number

Password

Confirm Password

[Sign Up](#)

Location



No. 17-2 Jalan AKP 1, Taman Ayer
Keroh Permai, 75450 Melaka,
Malacca City, Malaysia


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Figure 4.20: Customer – Sign Up Page.


90's Balloon House

BALLOONS
GIFTS
BUNDLES
OCCASION

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👤
🛒

My Profile



Name : Cindy Wee

Email : cindywee@gmail.com

Phone No: 0166549695

Edit Details

**Upcoming Event
Decoration
Reservation / My
Purchases**

Enquiry Feedback


**Order / Reservation
History**

Upcoming
Enquiry
History


Wedding Proposal

3 May 2023

View



Location



No. 17-2 Jalan AKP 1, Taman Ayer
Keroh Permai, 75450 Melaka,
Malacca City, Malaysia

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Figure 4.21: Customer – Profile Page.


90's Balloon House

BALLOONS
GIFTS
BUNDLES
OCCASION

🔍
👤
🛒

Edit your Profile




Name :

Email :


Phone No :

OldPassword :

NewPassword :



Location



No. 17-2 Jalan AKP 1, Taman Ayer Keroh Permai, 75450 Melaka, Malacca City, Malaysia

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Figure 4.22: Customer – Edit Profile Page.



90's Balloon House

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BUNDLES
OCCASION

Q
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🛒

Booking Details

Reservation ID: 6

Reservation Details:


Event Location: 25, Jln PJ7, Taman Pertam Jaya. 75100, Melaka.

Booking Details:

Date : 2 March 2023
Time : 7pm
Theme :Dinosaur
Theme Color : Green

Balloon Required:
 1 pcs x 23" L Size Bubble Balloon
 4pcs x Mini Balloon tied to below the Bubble Balloon
 2 bunches of 5pcs 12" Round Balloon + 3pcs x 5" Mini Round Balloon

Location



No.17-2 Jalan AKP 1, Taman Ayer Keroh Permai, 75450 Melaka, Malacca City, Malaysia

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Figure 4.23: Customer – View Upcoming Booking Details Page.




90's Balloon House

[BALLOONS](#) [GIFTS](#) [BUNDLES](#) [OCCASION](#)  


Product Categories

- Alphabets Balloon
- Helium Balloon


Show entries Default sorting




Description
Price



Description
Price




Description
Price



Description
Price

Location



No. 17-2 Jalan AKP 1, Taman Ayer
Keroh Permai, 75450 Melaka,
Malacca City, Malaysia

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Figure 4.24: Customer – Products Listing Page.




90's Balloon House

BALLOONS
GIFTS
BUNDLES
OCCASION

search...



Metallic Heart Balloon – Purple & Pink

RM158.00 – RM190.00

This package consists of:

- 1 pcs x 23" L Size Bubble Balloon (includes 10's mini & tassel)
- 4pcs x Mini Balloon tied to below the Bubble Balloon
- 2 bunches of 5pcs 12" Round Balloon + 3pcs x 5" Mini Round Balloon

Note:

1. Bubble Balloon can float for 1 week but is best to be used within 48 hours.
2. 12" Round balloon floats for 8hours/40 hours (Please choose your option)

Your Balloon Text

Change Shape?

Heart

Star

Choose / Change Color? max 2

peach blush	pastel blue	bubblegum pink	yellow	pastel lilac
orange	tiffany blue	lime green	fuchsia	crystal clear


-

1

+

Add to Cart

Location



No 17-2 Jalan AKP 1, Taman Ayer Keroh Permai 75450 Melaka, Malacca City, Malaysia

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Figure 4.25: Customer – Products Description Page.


90's Balloon House

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GIFTS
BUNDLES
OCCASION

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🛒

Your Shopping Cart

Products	Name	Price	Quantity	Subtotal	Remove
	Balloon	RM158	1 ▾	RM158	🗑️


[Continue Shopping](#)

Cart Totals

Cart Subtotal **RM158**

[Proceed to CheckOut](#)

Location



No. 17-2 Jalan AKP 1, Taman Ayer Keroh Permai, 75450 Melaka, Malacca City, Malaysia

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Figure 4.26: Customer – My Shopping Cart Page.



90's Balloon House

BALLOONS
GIFTS
BUNDLES
OCCASION


search...

CheckOut Page

Billing Address

Additional Info

Products	Name	Subtotal
	Balloon x1	RM158

Subtotal	RM 158
Shipping	Free Shipping

Total:
RM158


Payment

PayPal

Credit Card / Debit Card

Place an Order

Location



No. 17-2 Jalan AKP 1, Taman Ayer
Keroh Permai, 75450 Melaka,
Malacca City, Malaysia

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Figure 4.27: Customer – Check Out Page.




90's Balloon House

[BALLOONS](#) [GIFTS](#) [BUNDLES](#) [OCCASION](#)  


Show entries

Occasions


Wedding Proposal
Birthday Party



Ultimate Elegance
Backdrop Decoration
Setup




Wedding Decoration Balloon
Set (50pc, incl. Helium) for
Walk-in, March-in



"Please Say Yes"
Surprise Engagement
Decoration Set

Location



No 17-2 Jalan AKP 1, Taman Ayer
Keroh Permai 75450 Melaka,
Malacca City, Malaysia

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Figure 4.28: Customer – Event Decoration Reservation Listing Page.



90's Balloon House

BALLOONS
GIFTS
BUNDLES
OCCASION

🔍
👤
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On-location setup provided by us

Select a Date & Time

August 2019

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

🌐 Central Time - US & Canada (3:08pm) ▼

Thursday, August 22

6:10am

6:20am

6:30am

6:40am

6:50am

7:00am

2:30pm

2:40pm

Reservation Details:


Name:

Address:

Description:

BOOK

Location



No. 17-2, Jalan AKP 1, Taman Ayer Keroh Permai, 75450 Melaka, Malacca City, Malaysia

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Figure 4.29: Customer – Event Decoration Reservation Booking Page.

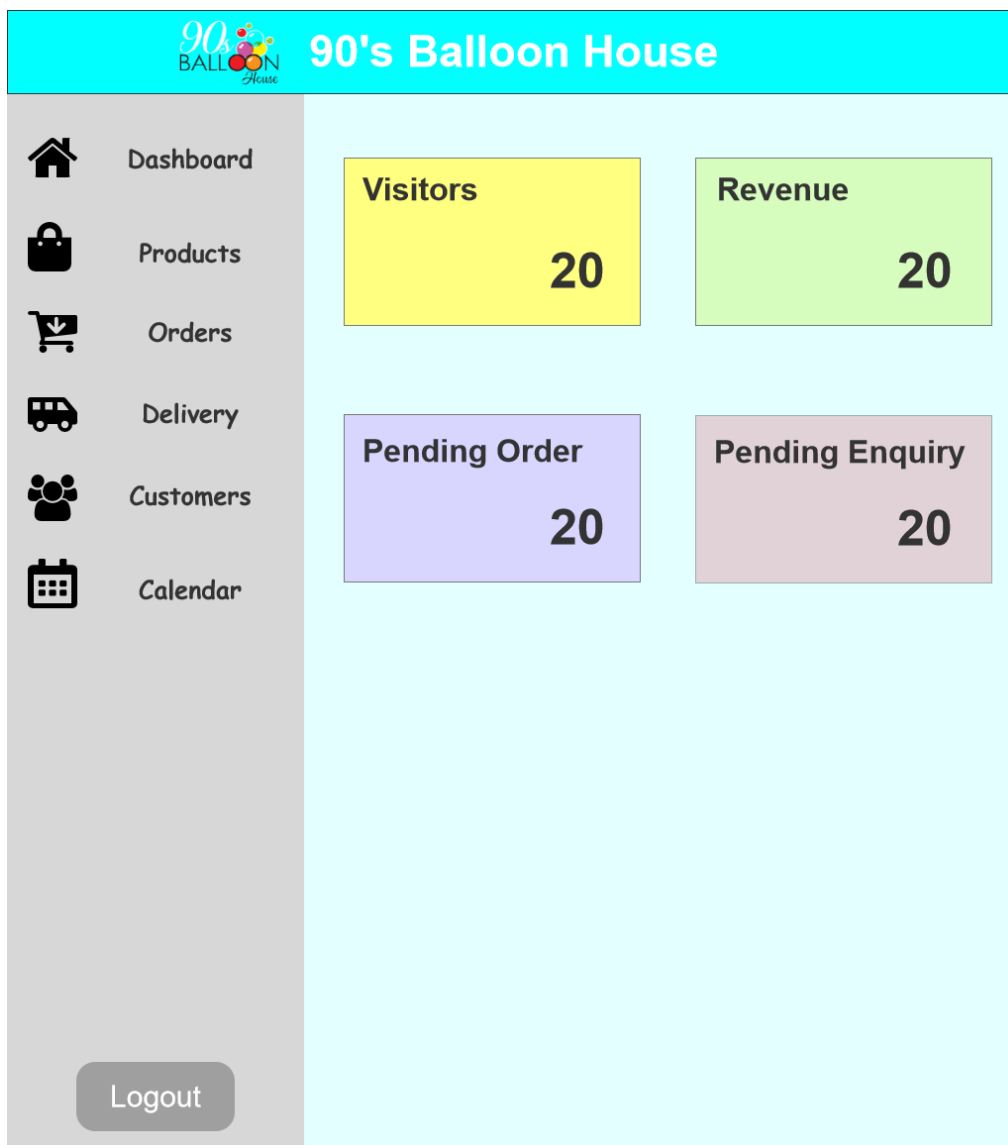












Figure 4.30: Admin – Home Page.



90's Balloon House

-  Dashboard
-  Products
-  Orders
-  Delivery
-  Customers
-  Calendar


All Products







Product	Decription	Price	Action
	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean euismod bibendum laoreet. Proin gravida dolor sit amet lacus accumsan et viverra or. Sociis natoque penatibus et magnis dis parturient m	20	 

[Add New Product](#)

[Logout](#)

Figure 4.31: Admin – Products Listing Page.

 **90's Balloon House**

-  Dashboard
-  Products
-  Orders
-  Delivery
-  Customers
-  Calendar

Logout

Edit Product Details



Name

Description

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean euismod bibendum laoreet. Proin gravida dolor sit amet lacus accumsan et viverra justo commodo. Proin sodales pulvinar sic tempor. Sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Nam fermentum, nulla luctus pharetra vulputate, felis tellus mollis orci, sed rhoncus pronin sapien nunc accuan eget.


Price

Product Image









Update

Figure 4.32: Admin – Edit Product Details Page.



90's Balloon House

-  Dashboard
-  Products
-  Orders
-  Delivery
-  Customers
-  Calendar



Add New Product

Name

Description

Price


Product Image









Add

Logout

Figure 4.33: Admin – Add New Product Page.



90's Balloon House

-  Dashboard
-  Products
-  Orders
-  Delivery
-  Customers
-  Calendar

Logout

Order Overview









Date order	Order ID	Contact	Action
May 3, 2023	2	0123456789	
May 3, 2023	2	0123456789	
May 3, 2023	2	0123456789	
May 3, 2023	2	0123456789	
May 3, 2023	2	0123456789	


Figure 4.34: Admin – View All Orders Page.



90's Balloon House

 Dashboard

 Products

 Orders

 Delivery

 Customers

 Calendar

Logout

Order Overview













Date order	Order ID	Contact	Action
May 3, 2023	Order ID: 2		 
May 3, 2023	Date Order: May 3,2023		
May 3, 2023	Contact Number: 012673764376		
May 3, 2023	Name: CW		
May 3, 2023	Address: CJSH, Melaka		
Order Details			
1. Balloon		RM 20	
2. Balloon		RM 20	
3. Balloon		RM 20	
4. Balloon		RM 20	
5. Balloon		RM 20	
Total Amount:		RM100	

Figure 4.35: Admin – View Order Details Page.



90's Balloon House

-  Dashboard
-  Products
-  Orders
-  Delivery
-  Customers
-  Calendar

Logout

Delivery Overview










Date order	Order ID	Contact	Status	Action
May 3, 2023	2	0123456789	Out of Delivery	
May 3, 2023	2	0123456789	Delivered	
May 3, 2023	2	0123456789	Preparing	
May 3, 2023	2	0123456789	Preparing	
May 3, 2023	2	0123456789	Delivered	


Figure 4.36: Admin – Manage Delivery Page.



90's Balloon House


 Dashboard

 Products

 Orders

 Delivery

 Customers

 Calendar

Logout

Delivery Overview










Date order	Order ID	Contact	Status	Action
May 3, 2023	Order ID: 2		✘	
May 3, 2023	Date Ordered: 2 May 2023		●	
May 3, 2023	Contact Number: 0123456789		●	
May 3, 2023	Address: 25, Jalan PJ7, Taman Pertam Jaya, 75100 Melaka		●	
May 3, 2023	Orders: 1. Blue Balloon 2. Red Balloon		●	
<input type="radio"/> Preparing <input type="radio"/> Out of delivery <input type="radio"/> Delivered				


Figure 4.37: Admin – Update Delivery Status Page.


 **90's Balloon House**


 Dashboard

 Products

 Orders

 Delivery

 Customers

 Calendar

[Logout](#)

Customers List






Last Purchase	Account ID	Contact	Action
May 3, 2023	A123456	0123456789	
May 3, 2023	A123456	0123456789	
May 3, 2023	A123456	0123456789	
May 3, 2023	A123456	0123456789	
May 3, 2023	A123456	0123456789	


Figure 4.38: Admin – Manage Customer Page.




90's Balloon House


Dashboard


Products


Orders


Delivery


Customers


Calendar

Logout

Customers List

Last Purchase	Account ID	Contact	Action
May 3, 2023			9 
May 3, 2023	Account ID: A12345		9 
May 3, 2023	<u>Account Details:</u>		9 
May 3, 2023	Name: Cindy Wee		9 
May 3, 2023	Contact No: 0123456789		9 

Account ID: A12345 ✕

Account Details:

Name: Cindy Wee

Contact No: 0123456789

Email: cw@gmail.com

Address: 25, Jalan PJ7, Taman Pertam Jaya, 75100 Melaka

Purchase History

Date	Reference ID
2 April 2023	B12345
6 April 2023	C12345

Figure 4.39: Admin – View Customer Purchase History Page.

The screenshot displays the admin interface for '90's Balloon House'. The top navigation bar is cyan and contains the logo and the text '90's Balloon House'. A grey sidebar on the left lists navigation options: Dashboard, Products, Orders, Delivery, Customers, and Calendar, each with a corresponding icon. A 'Logout' button is located at the bottom of the sidebar. The main content area features a calendar for the month of March. The calendar grid shows days from Sunday to Saturday. A reservation with ID: 6 is highlighted in green on Wednesday, March 2nd.

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27	28	1	2 ID: 6	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2


Figure 4.40: Admin – Manage Event Decoration Reservation Page.

The screenshot displays the admin interface for '90's Balloon House'. The top header is cyan with the logo and name. A grey sidebar on the left contains navigation icons and labels: Dashboard (home), Products (shopping bag), Orders (shopping cart), Delivery (truck), Customers (group of people), and Calendar (calendar). A 'Logout' button is at the bottom of the sidebar. The main content area is light blue and titled 'Booking Details'. It shows the following information:



- ID:** 6
- Customer Details:**
 - Name:** Cindy Wee
 - Contact Number:** 0123456789
 - Event Location:** 25, Jln PJ7, Taman Pertam Jaya. 75100, Melaka.
- Booking Details:**
 - Date:** : 2 March 2023
 - Time:** : 7pm
 - Theme:** :Dinosaur
 - Theme Color:** : Green
 - Balloon Required:**
 - 1 pcs x 23" L Size Bubble Balloon
 - 4pcs x Mini Balloon tied to below the Bubble Balloon
 - 2 bunches of 5pcs 12" Round Balloon + 3pcs x 5" Mini Round Balloon

A red 'Close' button is located at the bottom right of the booking details box.

Figure 4.41: Admin – View Event Decoration Reservation Detail Page.



90's Balloon House

[BALLOONS](#) [GIFTS](#) [BUNDLES](#) [OCCASION](#)  

Contact Us

Office Number:
06-2321123

Email:
90ballon@gmail.com

Contact Administrator

Name:


Email:

Type of Enquiry:

General Enquiry Complaints Feedback

Subject:

Location



No. 17-2 Jalan AKP 1, Taman Ayer
Keroh Permai, 75450 Melaka,
Malacca City, Malaysia

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Figure 4.42: Customer – Send Enquiry Page.

90's Balloon House

Manage Enquiry

User Enquiry: [Status: Unread]

ID	Name	Email	Subject	Status	Action
A123	Cindy Wee	cw85@gmail.com	Price for Bundle	Unread	VIEW

User Enquiry: [Status: Read & Replied]

ID	Name	Email	Subject	Status
----	------	-------	---------	--------

Logout

Figure 4.43: Admin – Manage Enquiry Page.

90's Balloon House

Manage Enquiry

Name:
Cindy Wee

Email:
cw85@gmail.com

Type of Enquiry:
 General Enquiry

Subject:
bundle price for xyz

Reply:
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean euismod bibendum laoreet. Proin gravida dolor sit amet lacus accumsan et viverra justo commodo. Proin sodales pulvinar sic tempor. Sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Nam fermentum, nulla luctus pharetra vulputate, felis tellus mollis orci, sed rhoncus pronin sapien nunc accuan eget.

Logout

Send

Figure 4.44: Admin – Reply Enquiry Page.

4.8 Summary

In general, this chapter discussed the analysis for questionnaires, interview and observation result. It also included the functional and non-functional requirements. Besides, use case diagram and use case diagram description to visualise the interaction between admin and the customers. Interface flow diagram were also included to provide an overview of the systems. An ERD diagram was designed to show the relationship of entities. Lastly, screenshots of the developed of prototype were also included.

CHAPTER 5

SYSTEM DESIGN

5.1 Introduction

In this chapter, it provides an overview of the system's design, including an example of system architecture that demonstrates the system's structure as well as various diagrams. A Data Flow Diagram (DFD) maps out the movement of information or data through the system. The activity diagram depicts the system's functioning by illustrating a sequence of activities and processes in the system. The operations in the data flow diagram are based on the use cases discussed in previous chapters (Figure 4.13). There is also a context diagram, level-0 DFD and level-1 DFD. Also, the design principles that used to design this system will be discussed too. Finally, screenshots of the user interface design of the developed web-based system are shown. All screenshots are also organized by use case for better reading and comprehension.

5.2 System Architecture Design

As depicted in Figure 5.1, the project's system architecture is composed of three tiers. The presentation, application, and data layers are the three main layers of this design. Each layer in the system performs a particular purpose. The interaction with users is handled through the user interface's presentation layer. It allows users to enter commands and retrieve information while also giving a visual depiction of the system. Web pages and graphical user interfaces are a few examples of the presentation layer. Data processing happens at the application layer. It takes in requests from the presentation layer, processes them, and then produces the necessary responses. The business logic and system functionality are contained in this layer. The system's data is stored and managed at the data layer. It includes file systems, databases, and other types of data storage. As requested by the application layer, this layer is in charge of storing and retrieving data. The three-tier architecture's key benefit is that each layer utilizes its infrastructure. This enables each layer to function using the server platform and operating system

that best meets its unique requirements. For instance, the presentation, application, and data layers can run on different types of servers, such as web servers, application servers, and database servers. Each layer can be updated and developed simultaneously without affecting the others according to their independence. This architecture encourages quicker development as well as increased scalability and reliability. Any layer can be independently modified and updated as needed without impairing the functionality of other layers. Due to the ability of the other layers to function, it also lessens the possibility of a performance impact brought on by an outage in one layer. The three-tier architecture also improves security. Potential malicious vulnerabilities are prevented since the presentation layer and data layer are unable to communicate directly. This division provides an extra layer of security and protects the system against illegal access or data breaches.

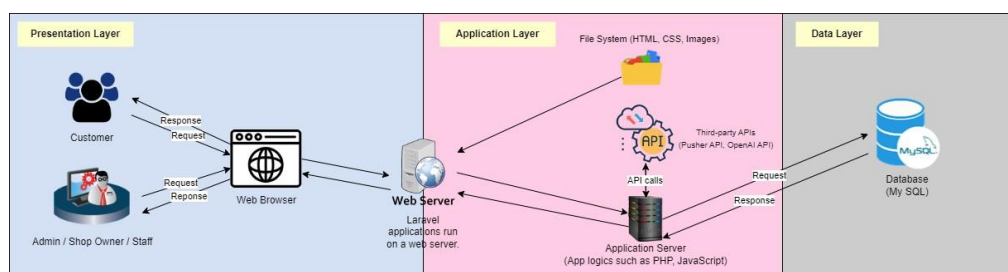


Figure 5.1: Architecture Design of the System

The presentation layer represents the highest level of the application and serves as the system's user interface (UI). In simpler terms, it's responsible for visualizing the system and handling user interactions. Users directly engage with the system through this layer, which displays all relevant system information and collects user input. For this project, the online presentation layer, powered by Livewire, will cater to employees, the shop owner, and customers of the party decoration shop. Livewire seamlessly integrates server-side logic with responsive frontend components, ensuring a dynamic and interactive user experience.

Within the application layer, which acts as the intermediary between the presentation layer and the data layer, lies a sophisticated network of components. The information gathered in the presentation layer and data layer

is then processed using business logic in the application layer, sometimes referred to as the middle layer or logic layer. It manages the system's fundamental operations by carrying out minute processing. Data interaction between the display layer (enhanced by Livewire) and the data layer is facilitated by business logic. These components include the file system and an adept application server, which seamlessly integrates with the web server to ensure smooth user interactions. Livewire components play a pivotal role in orchestrating real-time interactions, offering a user experience that is both responsive and intelligent. Additionally, Livewire components may send requests to the application layer to fetch or update data from the database located in the data layer. However, the true power of the application server becomes evident as it orchestrates a dance of communication with external APIs. As these external APIs become integral members of the application server's toolkit, they work hand in hand with the file system and the web server, all in service of the ultimate goal: to process user inputs, retrieve and manipulate data from the database located in the data layer, and present the outcomes back to the users. This intricate interplay exemplifies the sophistication of modern application architecture, where the synergy between in-house components and external APIs crafts a user experience that is both responsive and intelligent. Also, the presentation layer sends HTTP GET or POST requests to the business layer's programs, which in turn control how they act, how database data is utilized, and what they can and cannot do within the system as a whole.

Lastly, the data layer serves as the backbone of the entire system, where the intricate handling and storage of data take place. This layer acts as the bridge between the application layer (enhanced by Livewire), where business logic and external API integrations are executed, and the physical database where the data is stored and retrieved. It forms the foundational framework upon which the entire system operates. One key component of the data layer is the choice of database management software. In my project, MySQL is the engine that drives data storage and retrieval, working in harmony with Livewire to ensure efficient data management. MySQL provides a robust and reliable platform for managing structured data, offering the ability

to create, modify, and query databases, making it an ideal choice for my website that requires organized data storage and efficient retrieval mechanisms.

In conclusion, this project's three-tier architecture provides several advantages. It is feasible to have independent development, scalability, reliability, and improved security. The architecture divides the system into several levels, each with its infrastructure enabling efficient and effective system design.

5.3 System Design Models

This section contains a conceptual data model illustration that explains the ordered perspective of database concepts and their connections. Also included in this part are activity diagrams, which graphically depict all system operations, and data flow diagrams, which demonstrate how information or data moves through a process or system.

5.3.1 Conceptual Data Modelling

The conceptual data model depicted below presents a structured perspective of the database design (Ali et al., 2023). It outlines the necessary data to uphold business processes by defining entities, their characteristics, and the connections between them.

Note: I have revised the initial ERD (Figure 4.16) from the proposal to create a more detailed and comprehensive version.

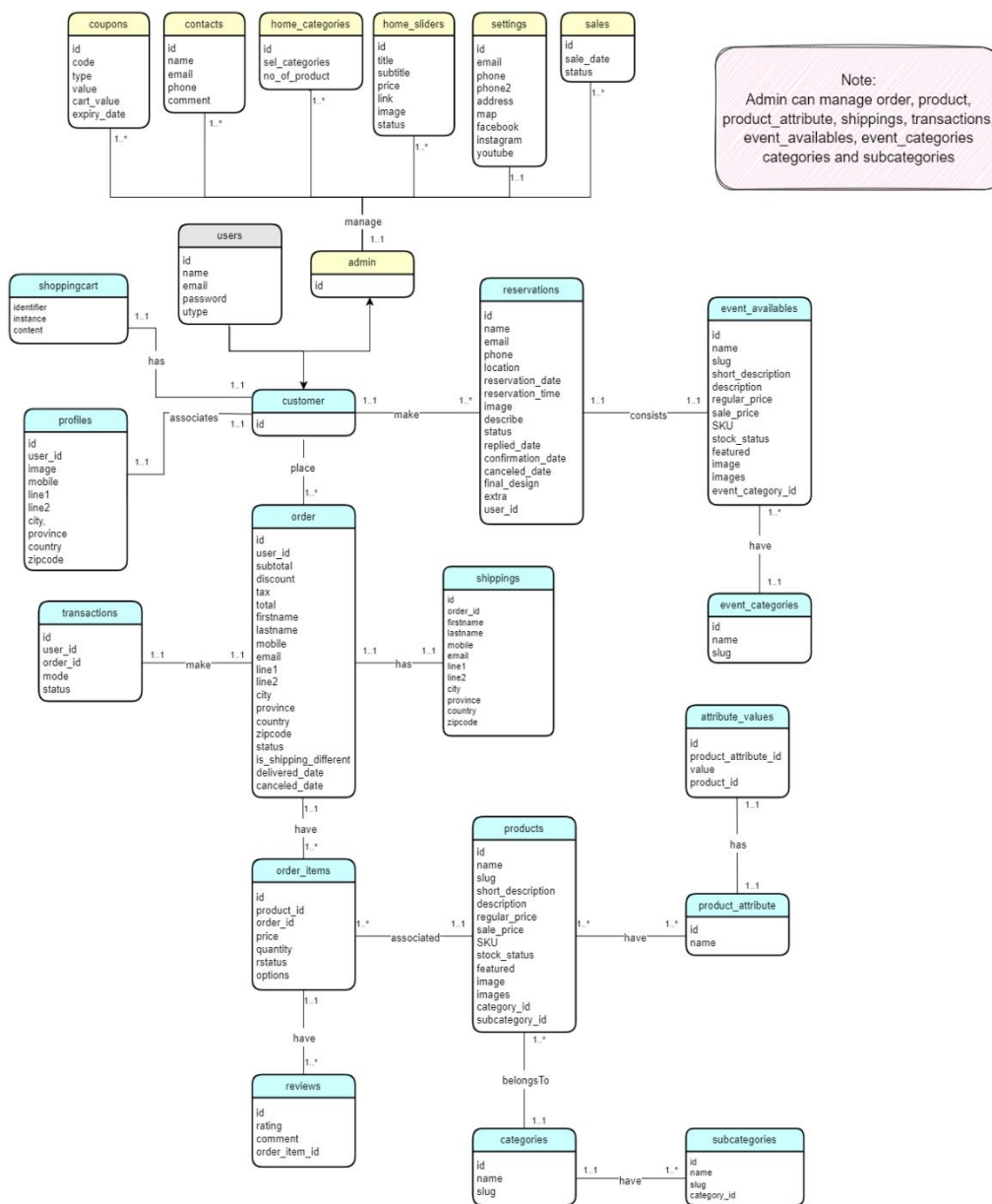


Figure 5.2: Conceptual Data Model

5.3.2 Data Flow Diagram (DFD)

A data flow diagram (DFD) maps the flow of data across the implemented system - AI-Infused web decor shop. It illustrates how data moves within the system, highlighting the processes, data sources, data destinations, and data transformations.

5.3.2.1 Context Diagram

The context diagram is the basic overview of the data flow across the entire system as shown in Figure 5.3.

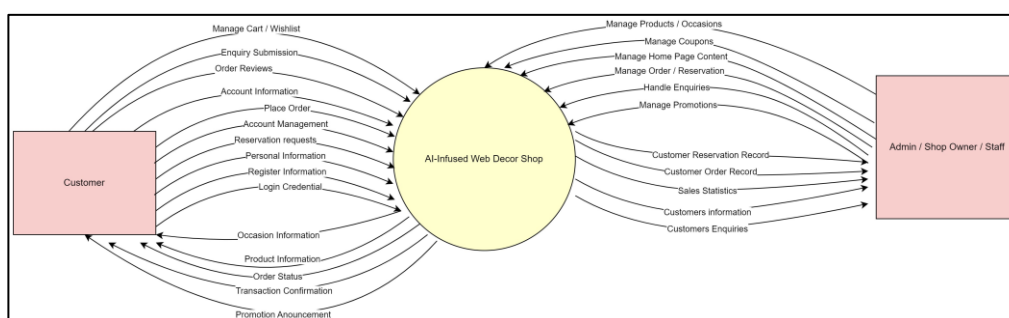


Figure 5.3: Context Diagram

5.3.2.2 Data Flow Diagram Level – 0

The Level-0 Data Flow Diagram (DFD) provides a more detailed view compared to the context diagram. It highlights all the primary system processes and also displays the data stores. Figure 5.4 shows the DFD level-0 of the implemented system in which the data flow between actors, processes and data stores are shown.

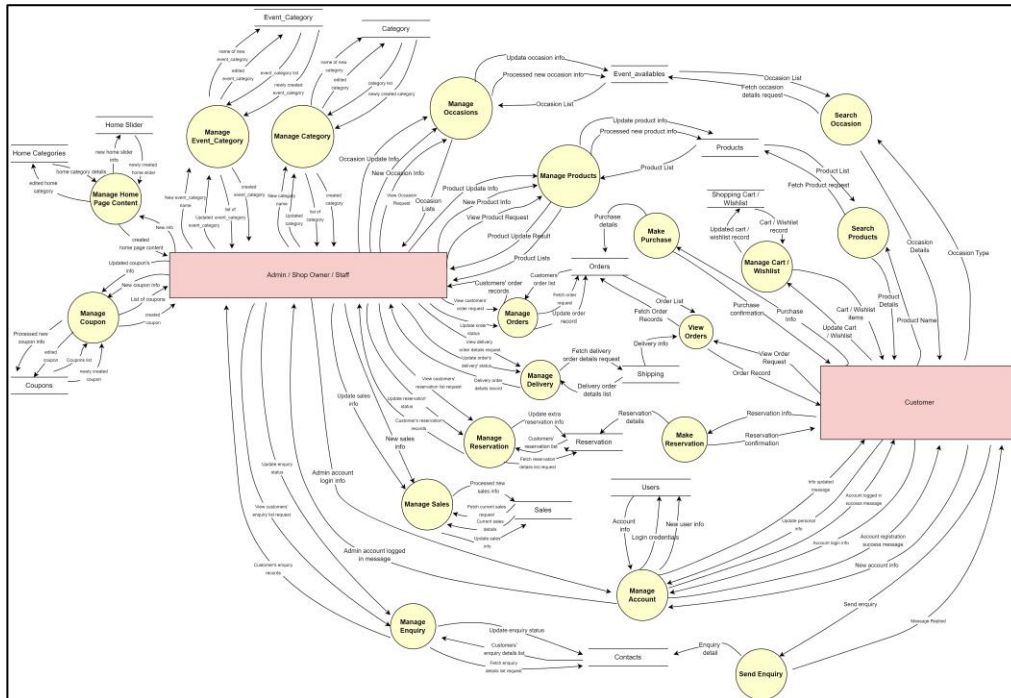


Figure 5.4: Data Flow Diagram Level – 0

5.3.2.3 Data Flow Diagram Level – 1

The Level-1 Data Flow Diagram (DFD) delves deeper into the processes depicted in the Level-0 DFD. It reveals the subprocesses within the processes outlined in the Level-0 DFD that require further elaboration and detail.

5.3.2.3.1 Data Flow Diagram Level-1 [Customer Side]

The Level-1 DFD for the customer side offers a more granular view of how data flows between these processes and how customers engage with the website's features and functionalities. It helps in understanding the customer journey on the web decor shop.

5.3.2.3.1.1 Search Product / Occasion

Figure 5.5 shows the DFD level-1 of the search product or occasion process from DFD level-0.

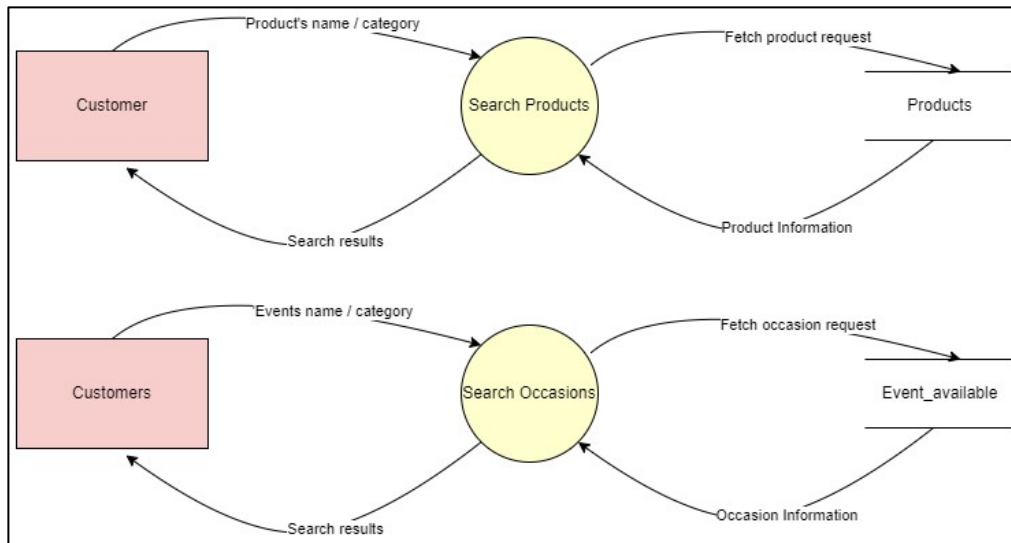


Figure 5.5: Data flow diagram level-1 for Search Product / Occasion

5.3.2.3.1.2 Manage Shopping Cart / Wishlist

Figure 5.6 shows the DFD level-1 of the manage shopping cart or wishlist process from DFD level-0.

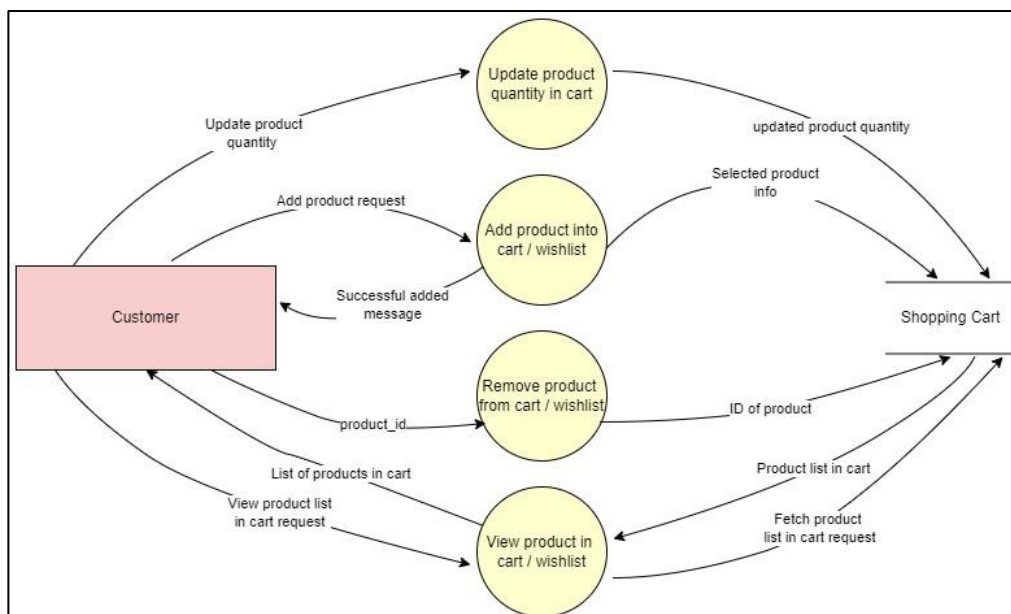


Figure 5.6: Data flow diagram level-1 for Manage Shopping Cart / Wishlist

5.3.2.3.1.3 Make Purchase

Figure 5.7 shows the DFD level-1 of the making purchase process from DFD level-0.

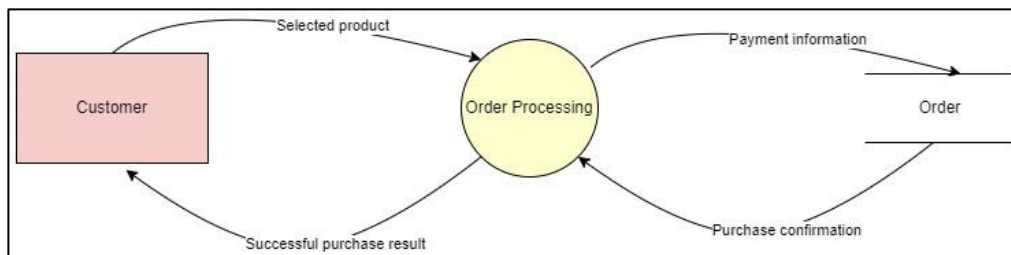


Figure 5.7: Data flow diagram level-1 for Make Purchase

5.3.2.3.1.4 Make Reservation

Figure 5.8 shows the DFD level-1 of the making reservation for an occasion process from DFD level-0.

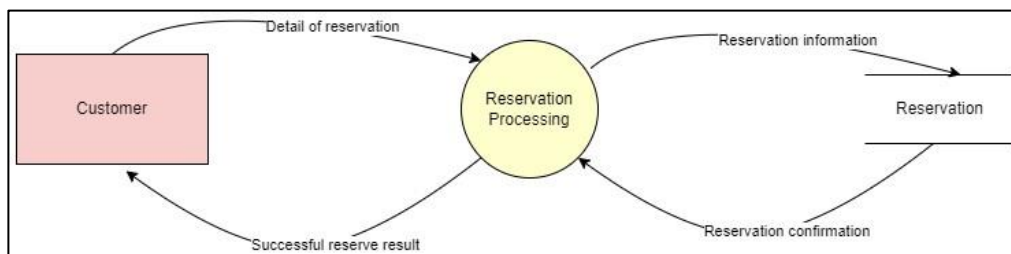


Figure 5.8: Data flow diagram level-1 for Make Reservation

5.3.2.3.1.5 Send Enquiry

Figure 5.9 shows the DFD level-1 of the sending enquiry process from DFD level-0.

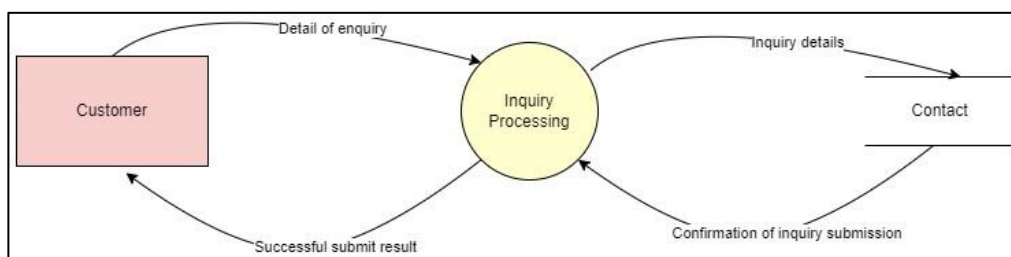


Figure 5.9: Data flow diagram level-1 for Send Enquiry

5.3.2.3.1.6 Manage Account Details

Figure 5.10 shows the DFD level-1 of the managing account details process from DFD level-0.

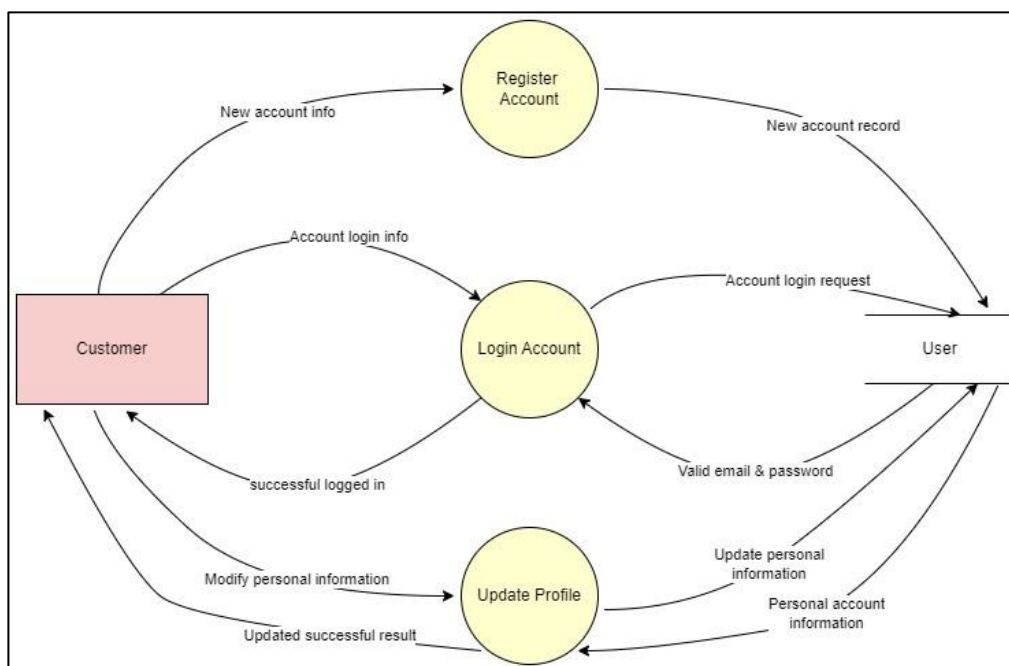


Figure 5.10: Data flow diagram level-1 for Manage Account Details

5.3.2.3.2 Data Flow Diagram Level-1 [Admin / Shop Owner / Staff Side]

The Level-1 DFD for the Admin/Shop Owner/Staff Side provides an in-depth view of how data flows between these subprocesses and data stores, offering valuable insights into the inner workings of the administrative functions of the web decor shop. It helps optimize administrative processes and ensures the efficient management of the online store from the admin and staff perspective.

5.3.2.3.2.1 Manage Product / Occasion

Figure 5.11 shows the DFD level-1 of the managing product or occasion process from DFD level-0.



Figure 5.11: Data flow diagram level-1 for Manage Product / Occasion

5.3.2.3.2.2 Manage Category / Event Category

Figure 5.12 shows the DFD level-1 of the managing category or event category process from DFD level-0.



Figure 5.12: Data flow diagram level-1 for Manage Category / Event Category

5.3.2.3.2.3 Manage Order / Reservation

Figure 5.13 shows the DFD level-1 of the managing order or reservation process from DFD level-0.

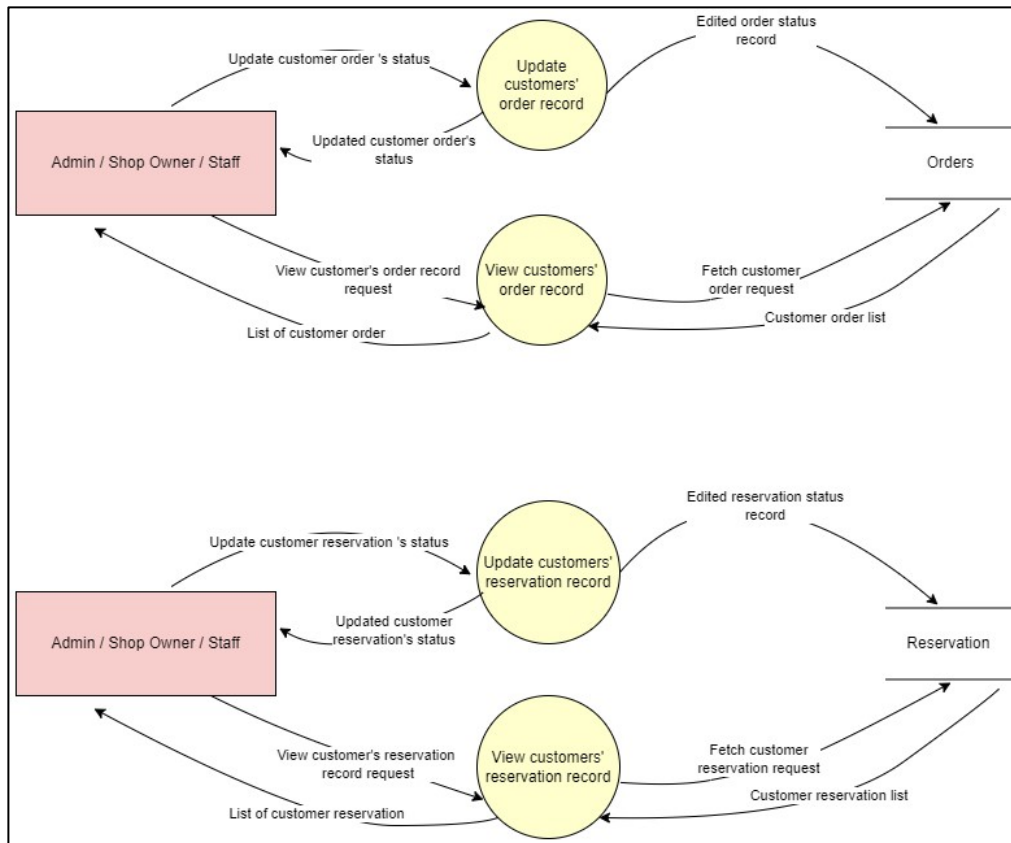


Figure 5.13: Data flow diagram level-1for Manage Order / Reservation

5.3.2.3.2.4 Manage Delivery Status

Figure 5.14 shows the DFD level-1 of the managing delivery status process from DFD level-0.

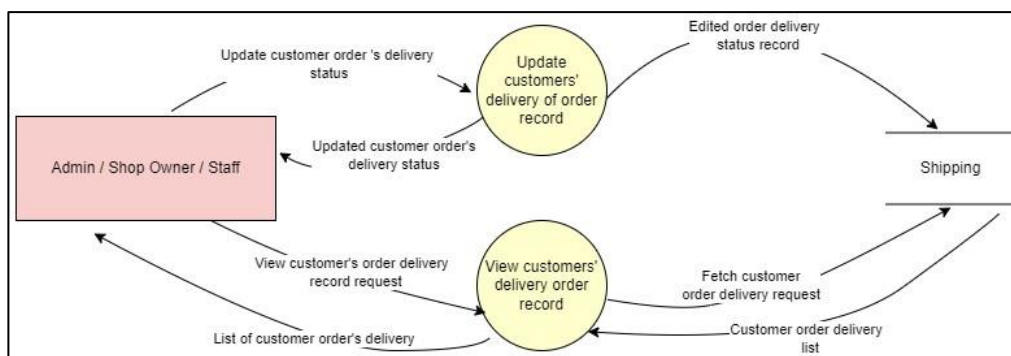


Figure 5.14: Data flow diagram level-1for Manage Delivery Status

5.3.2.3.2.5 Manage Sales

Figure 5.15 shows the DFD level-1 of the managing sales process from DFD level-0.

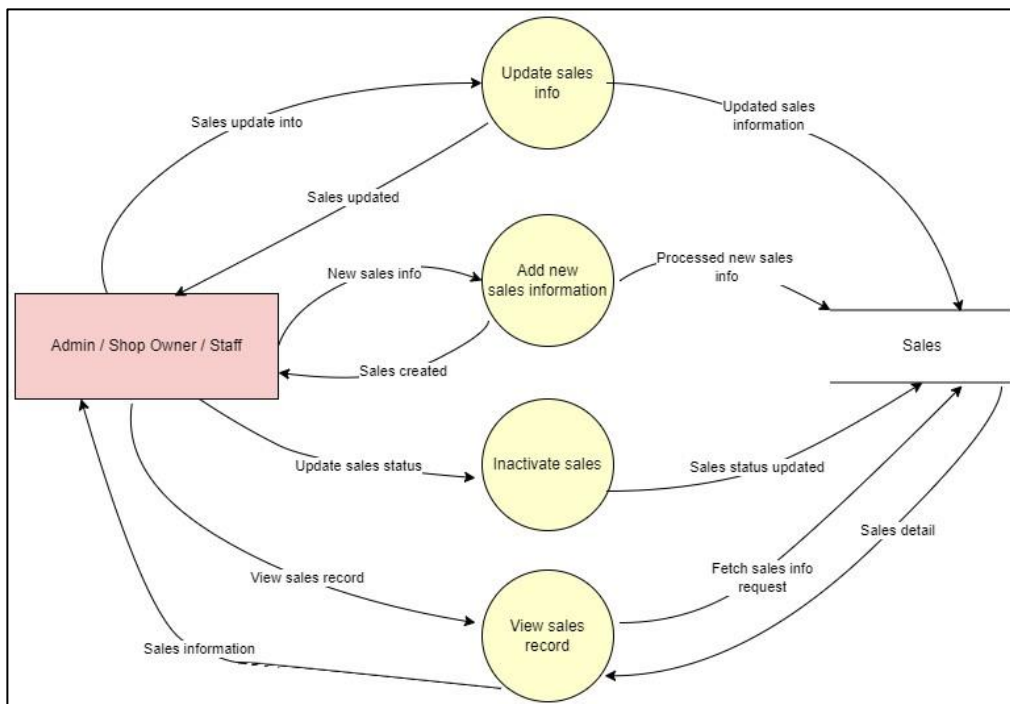


Figure 5.15: Data flow diagram level-1for Manage Sales

5.3.2.3.2.6 Manage Coupon

Figure 5.16 shows the DFD level-1 of the managing coupon process from DFD level-0.

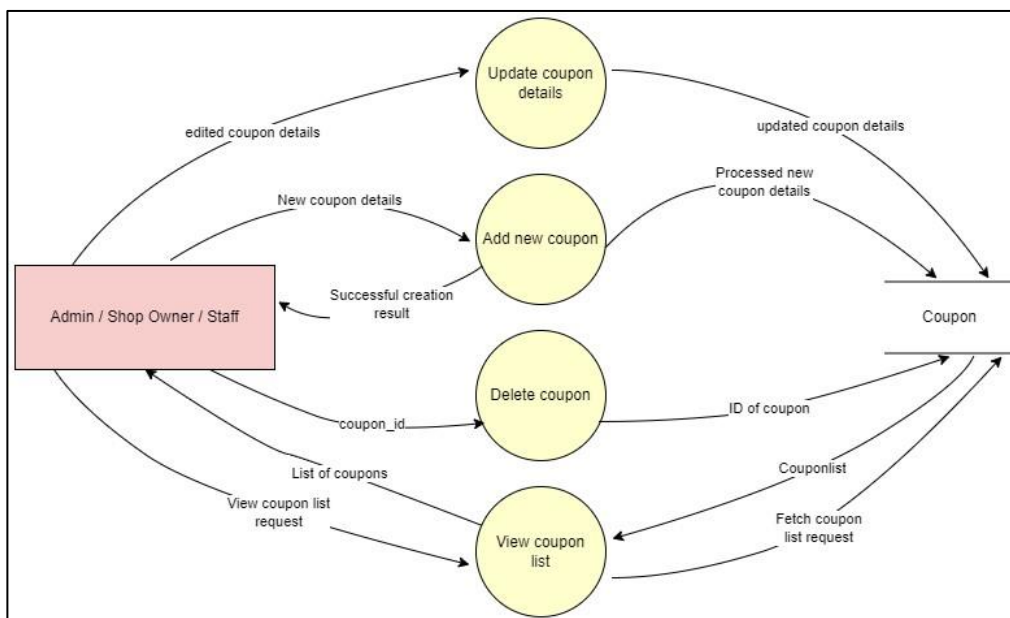


Figure 5.16: Data flow diagram level-1for Manage Coupon

5.3.2.3.2.7 Manage Home Page

Figure 5.17 shows the DFD level-1 of the managing home page process from DFD level-0.

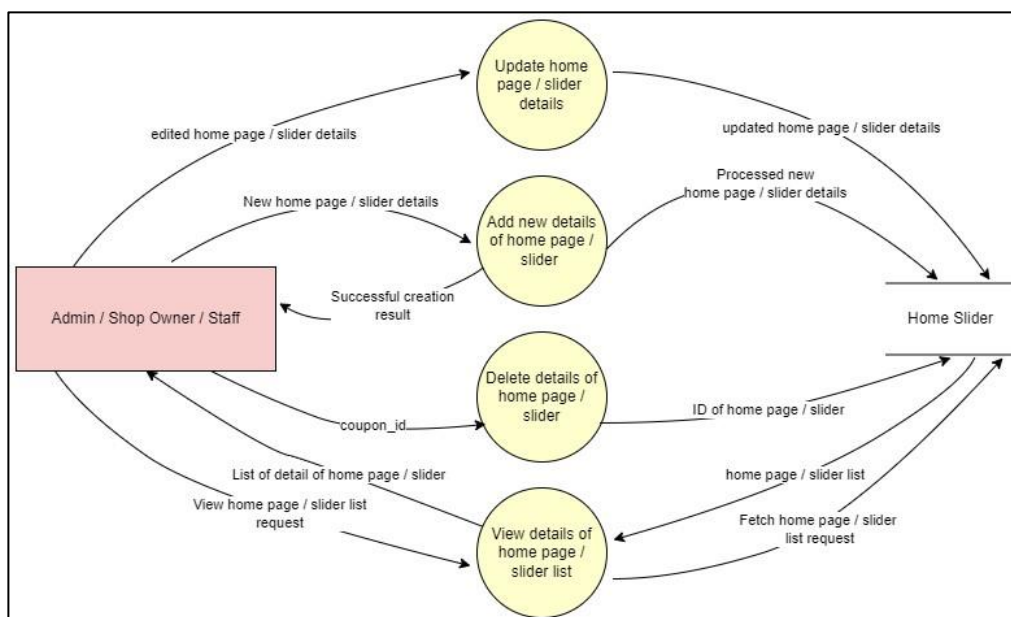


Figure 5.17: Data flow diagram level-1for Manage Home Page

5.3.2.3.2.8 Manage Enquiry

Figure 5.18 shows the DFD level-1 of the managing enquiry process from DFD level-0.

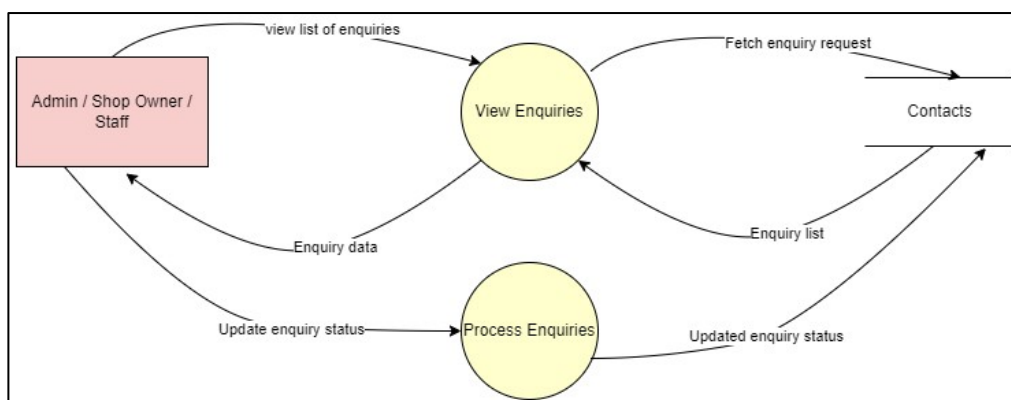


Figure 5.18: Data flow diagram level-1for Manage Enquiry

5.3.3 Activity Diagram

An activity diagram is a visual representation used in software engineering and business process modeling to show the sequence of actions and decision points within a system or process (Al-Fedaghi, 2021).

5.3.3.1 Activity Diagram for Web Décor Shop [Customer Side]

An Activity Diagram for a Web Décor Shop on the Customer Side is a visual representation that outlines the step-by-step interactions and processes involved when a customer uses the website to browse, select, purchase decor items, make event decor reservation and others. The figures below depict the activity diagram that customers utilize to carry out various actions.

5.3.3.1.1 Register Account

Figure 5.19 shows the activity diagram of the register account process.

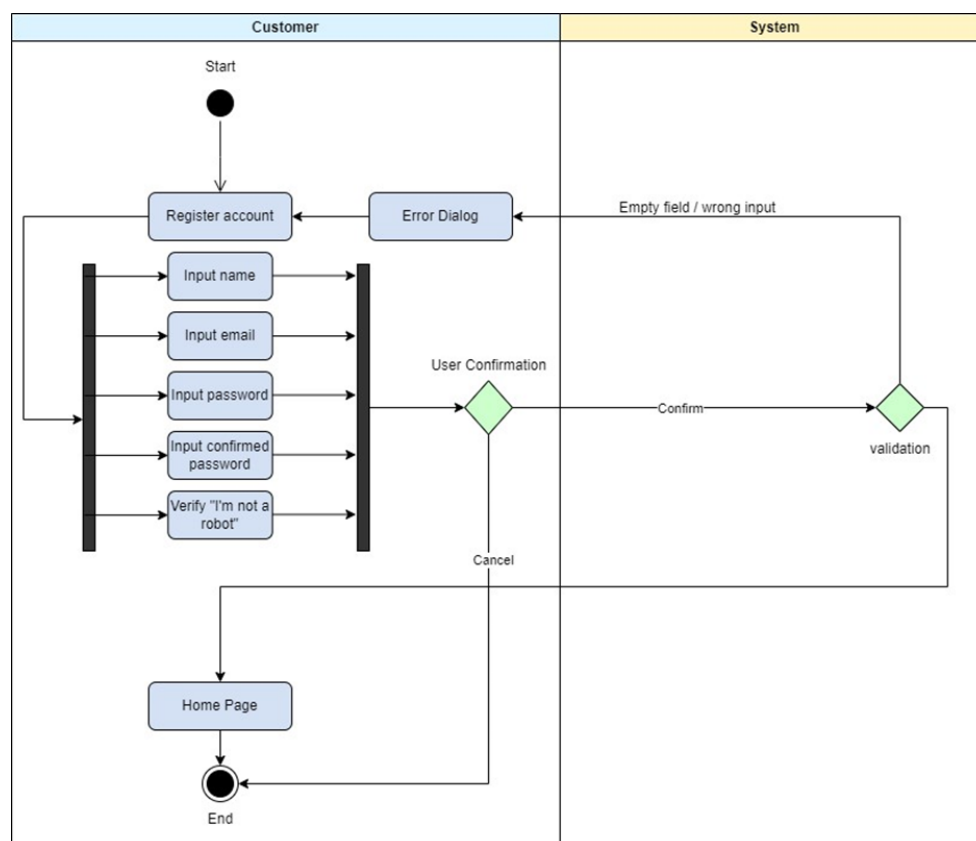


Figure 5.19: Activity Diagram for Register Account.

5.3.3.1.2 Login Account

Figure 5.20 shows the activity diagram of the login account process.

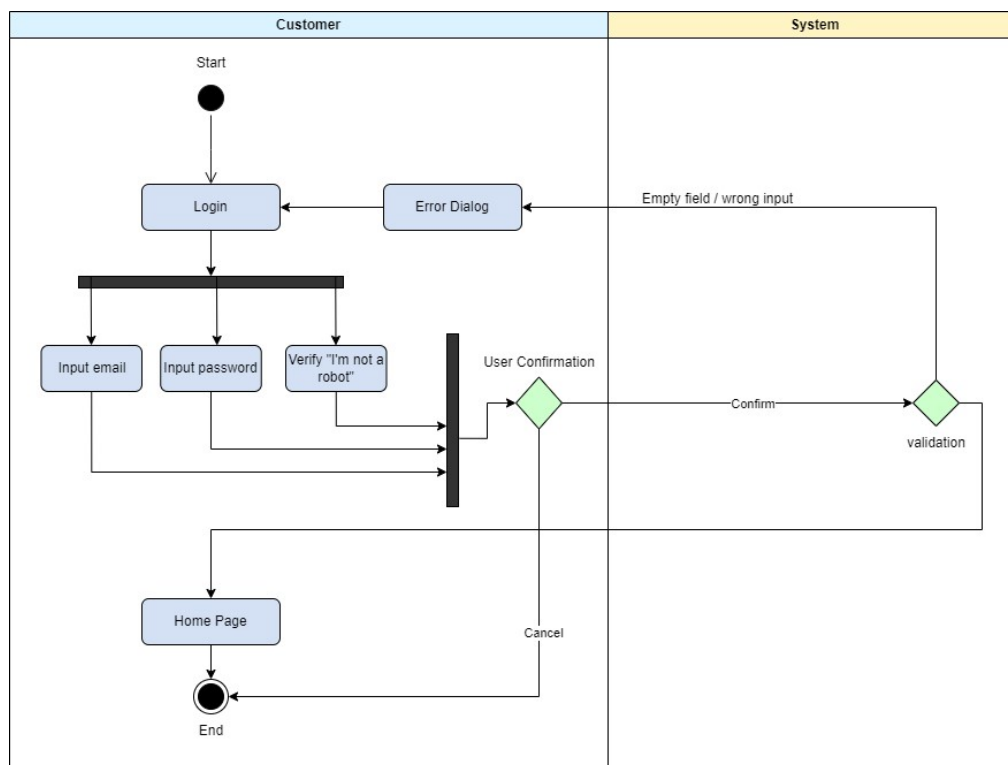


Figure 5.20: Activity Diagram for Login Account.

5.3.3.1.3 Search Product / Occasion

Figure 5.21 shows the activity diagram of the searching product/occasion process.

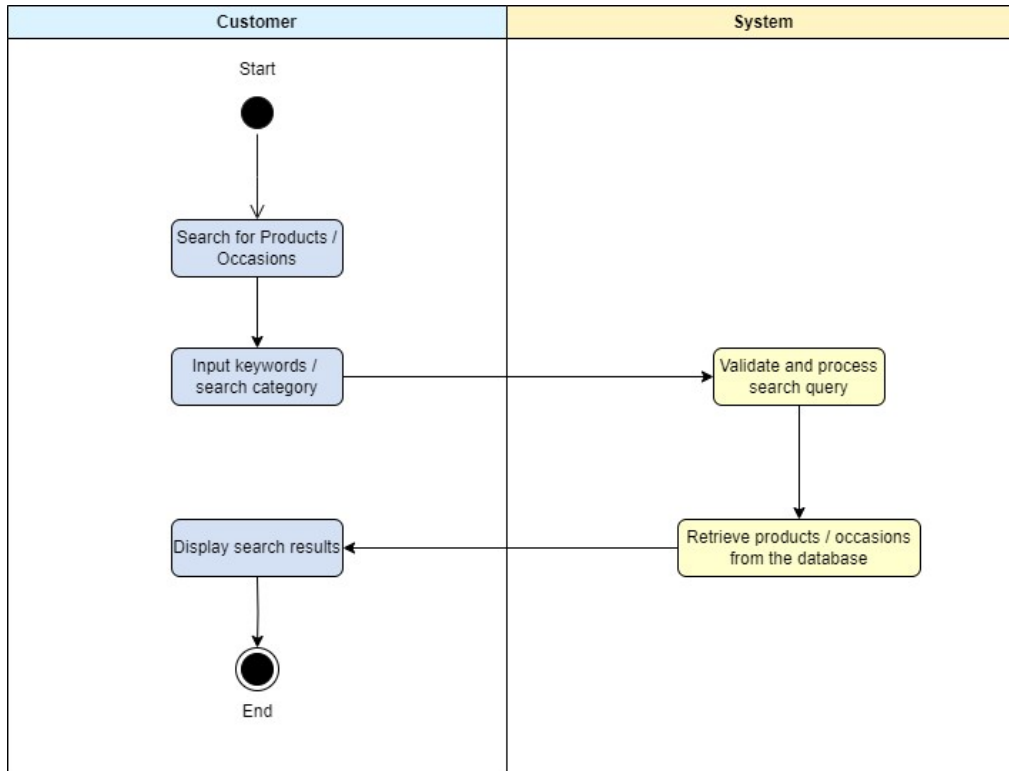


Figure 5.21: Activity Diagram for Search Products / Occasions.

5.3.3.1.4 Mange Profile

Figure 5.22 shows the activity diagram of the manage profile process.

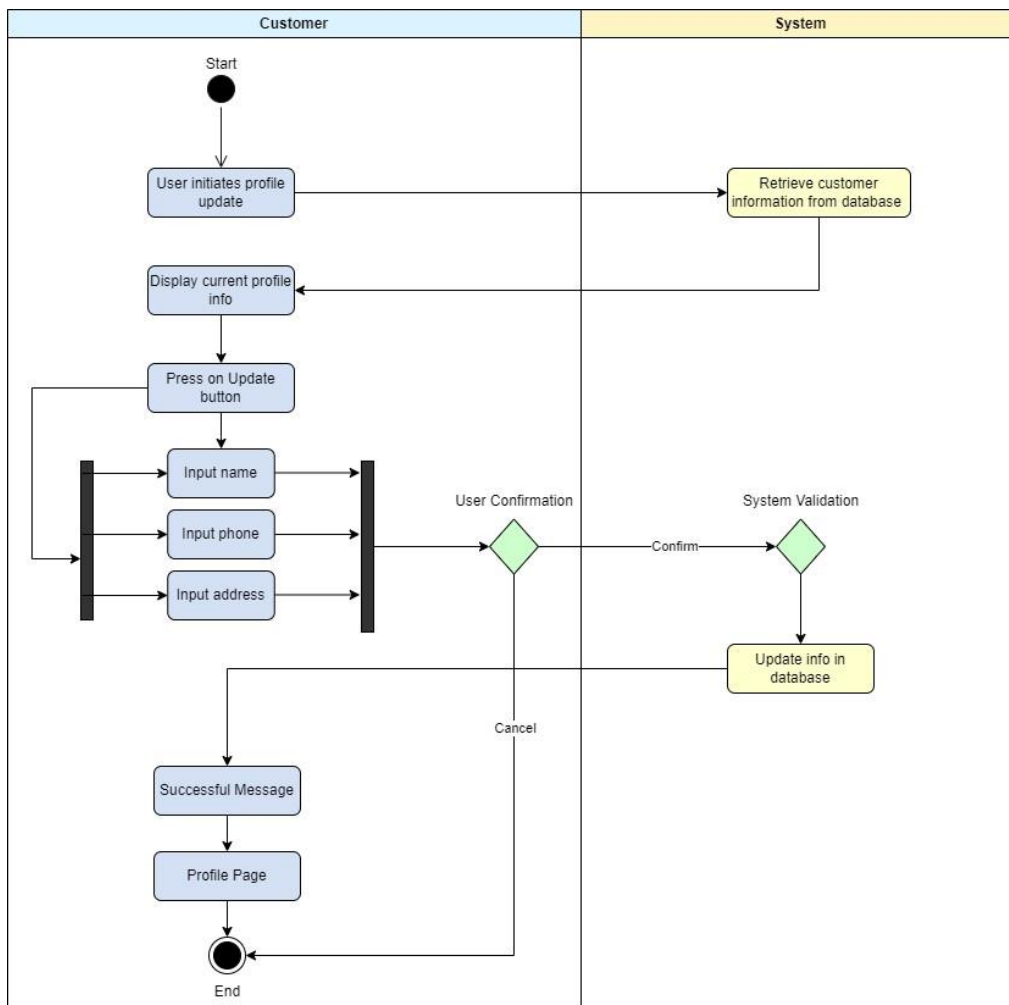


Figure 5.22: Activity Diagram for Manage Profile.

5.3.3.1.5 Add Product(s) into Shopping Cart

Figure 5.23 shows the activity diagram of the adding product(s) into shopping cart process.

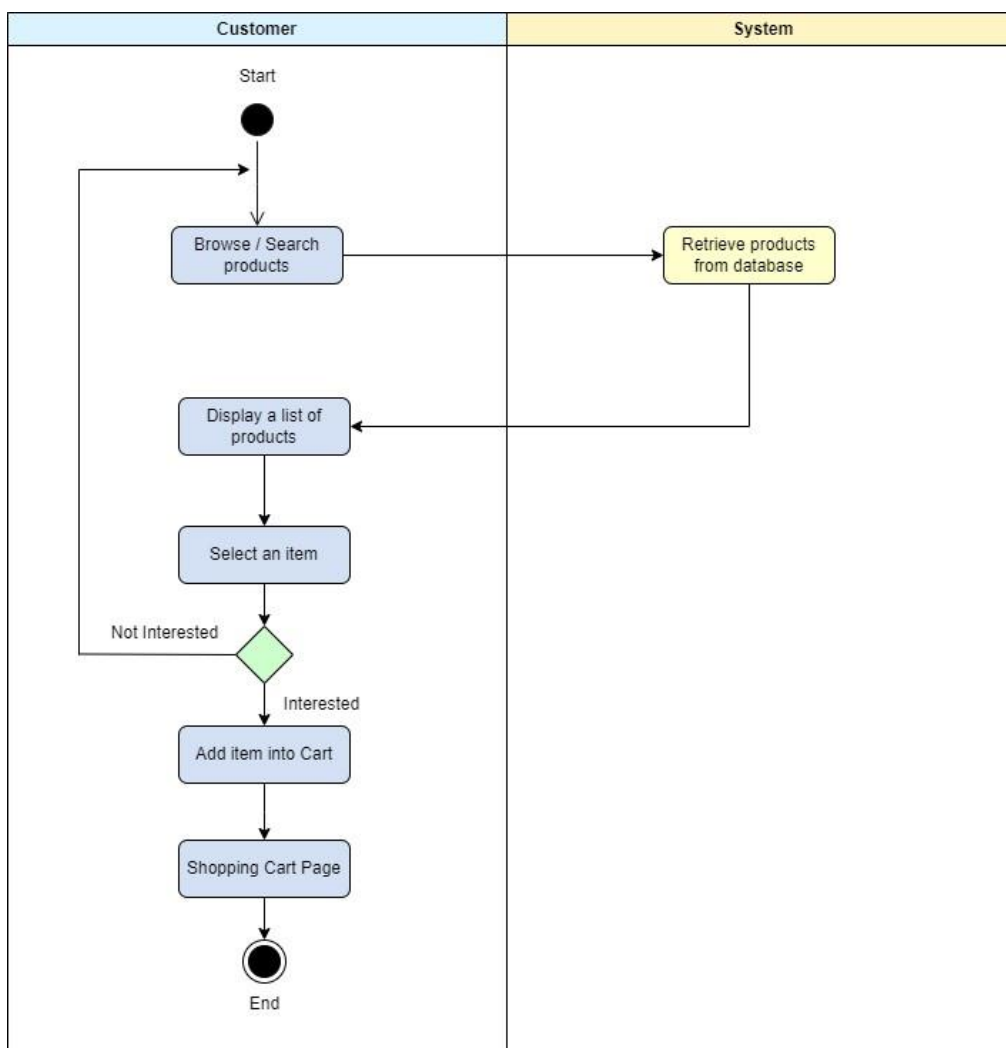


Figure 5.23: Activity Diagram for Add Product(s) into Shopping Cart.

5.3.3.1.6 Add Product(s) into Wishlist

Figure 5.24 shows the activity diagram of the adding products into wishlist process.

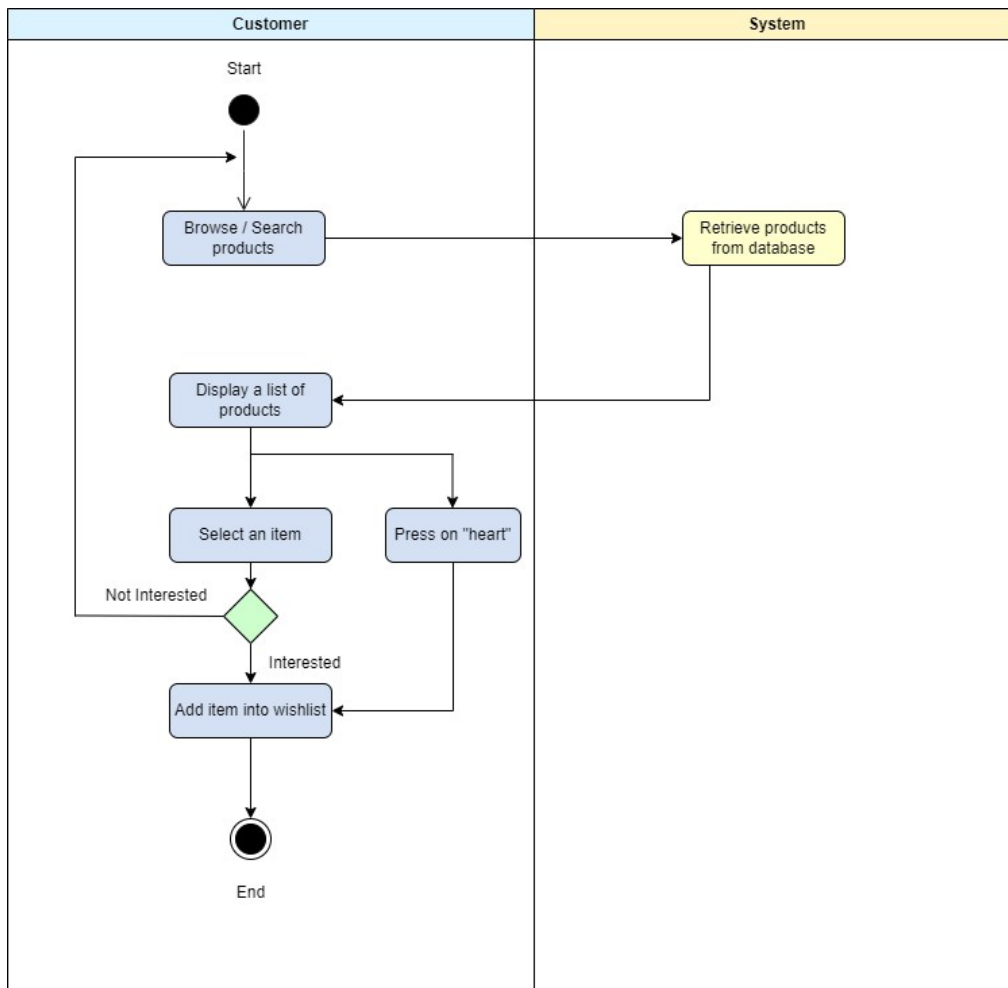


Figure 5.24: Activity Diagram for Add Product(s) into Wishlist.

5.3.3.1.7 Check/View Order(s) Details

Figure 5.25 shows the activity diagram of the check or view orders process.

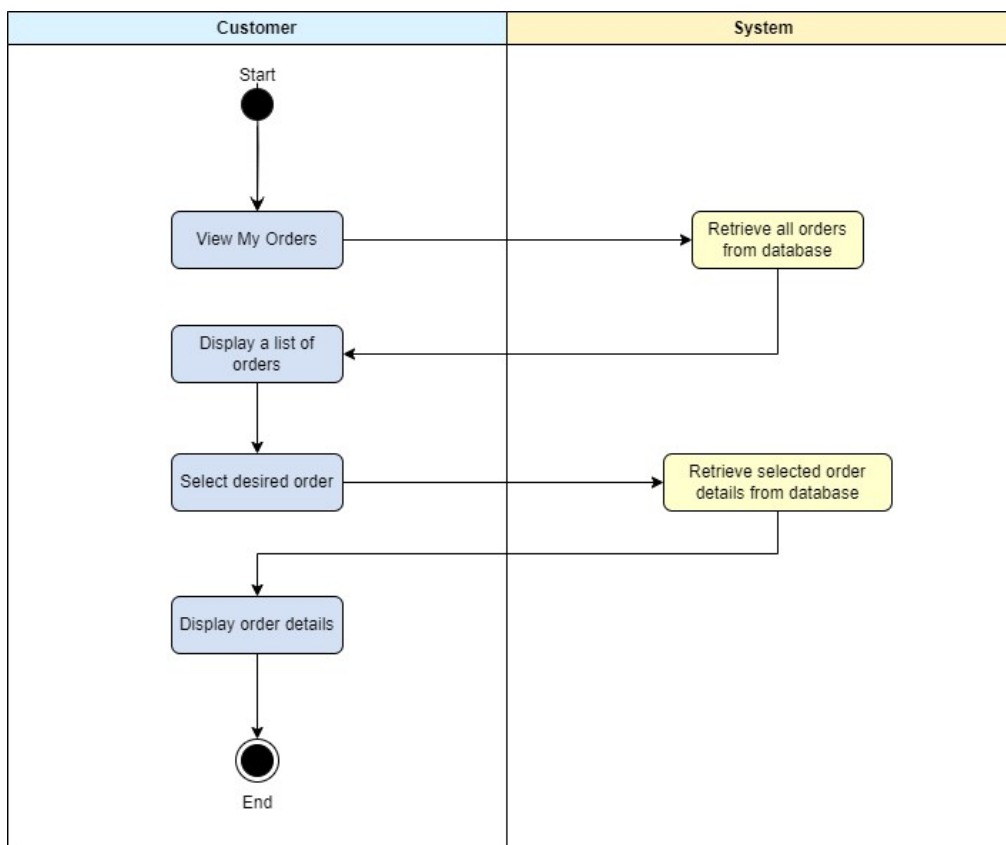


Figure 5.25: Activity Diagram for Check/View Order(s) Details.

5.3.3.1.8 Check / View Reservation Status

Figure 5.26 shows the activity diagram of the check or view process.

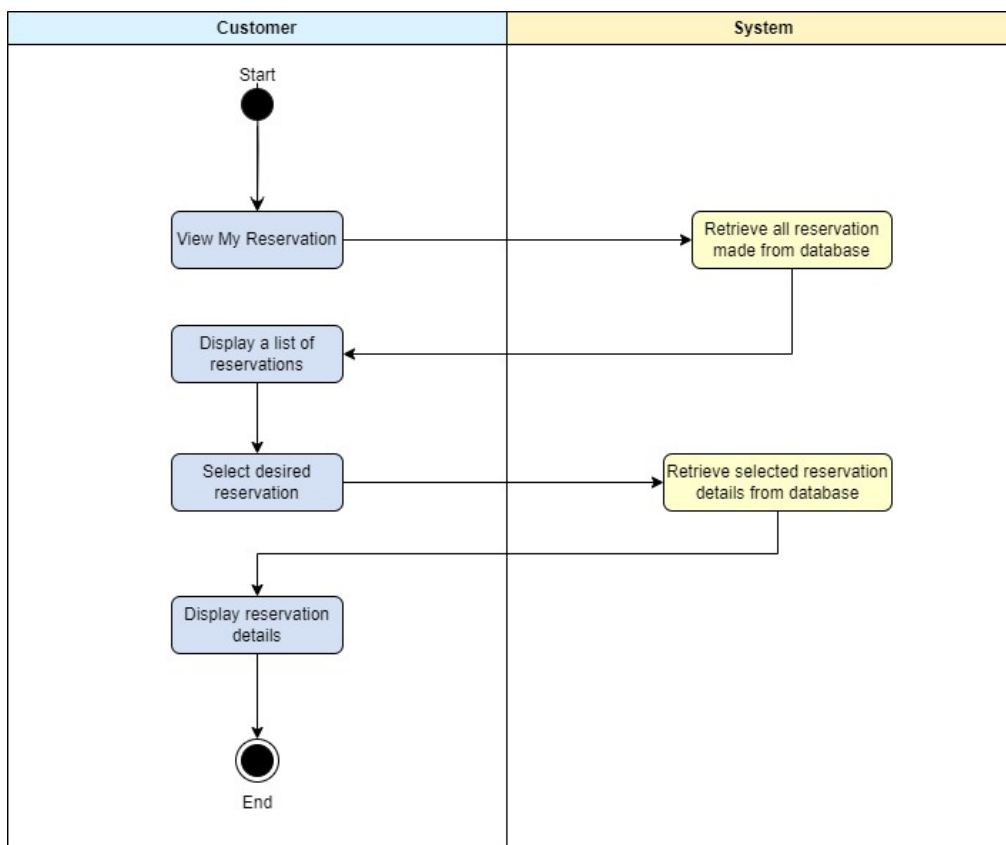


Figure 5.26: Activity Diagram for Check/View Reservation Status.

5.3.3.1.9 Make Purchase

Figure 5.27 shows the activity diagram of the making purchase process.

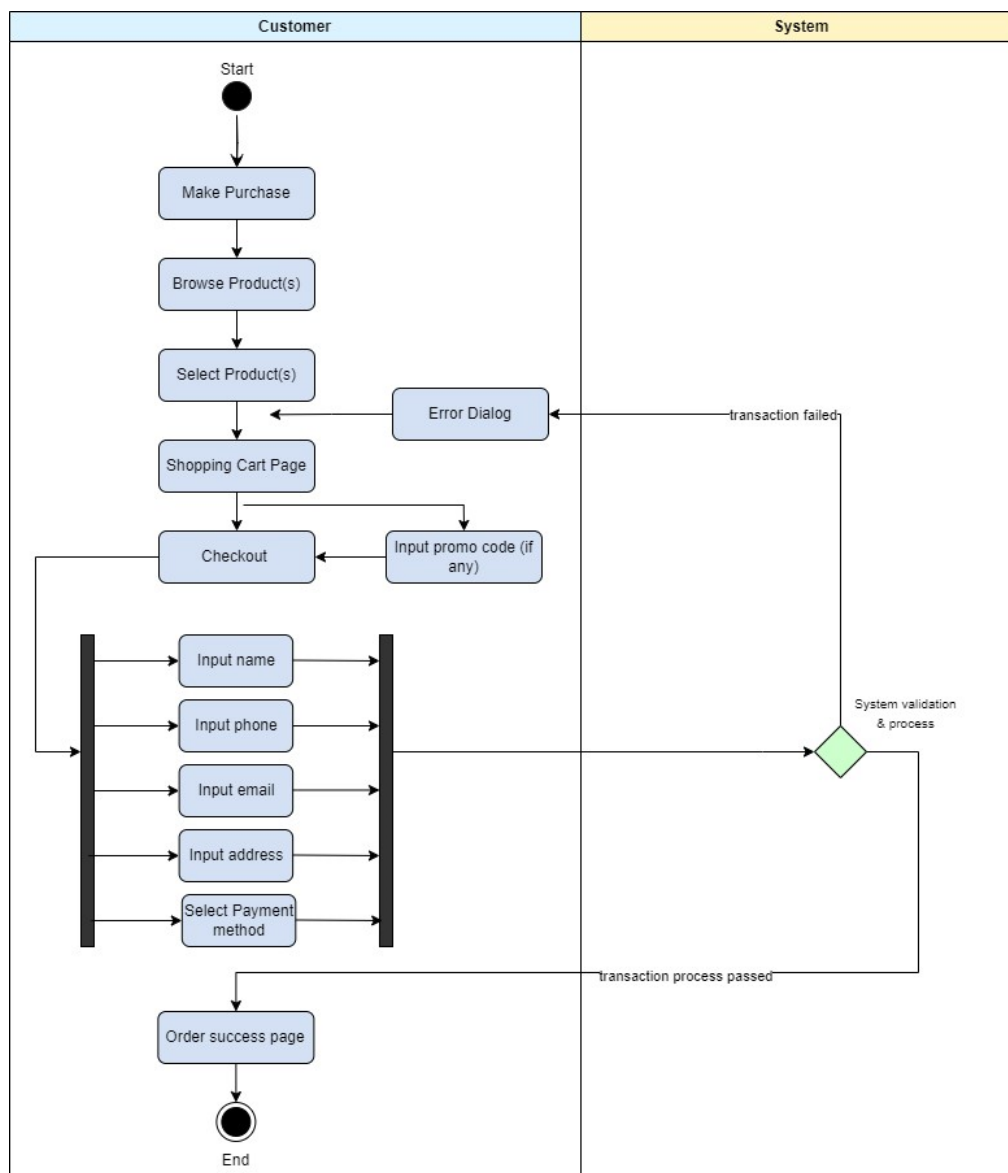


Figure 5.27: Activity Diagram for Make Purchase.

5.3.3.1.10 Make Reservation

Figure 5.28 shows the activity diagram of the making reservation process.

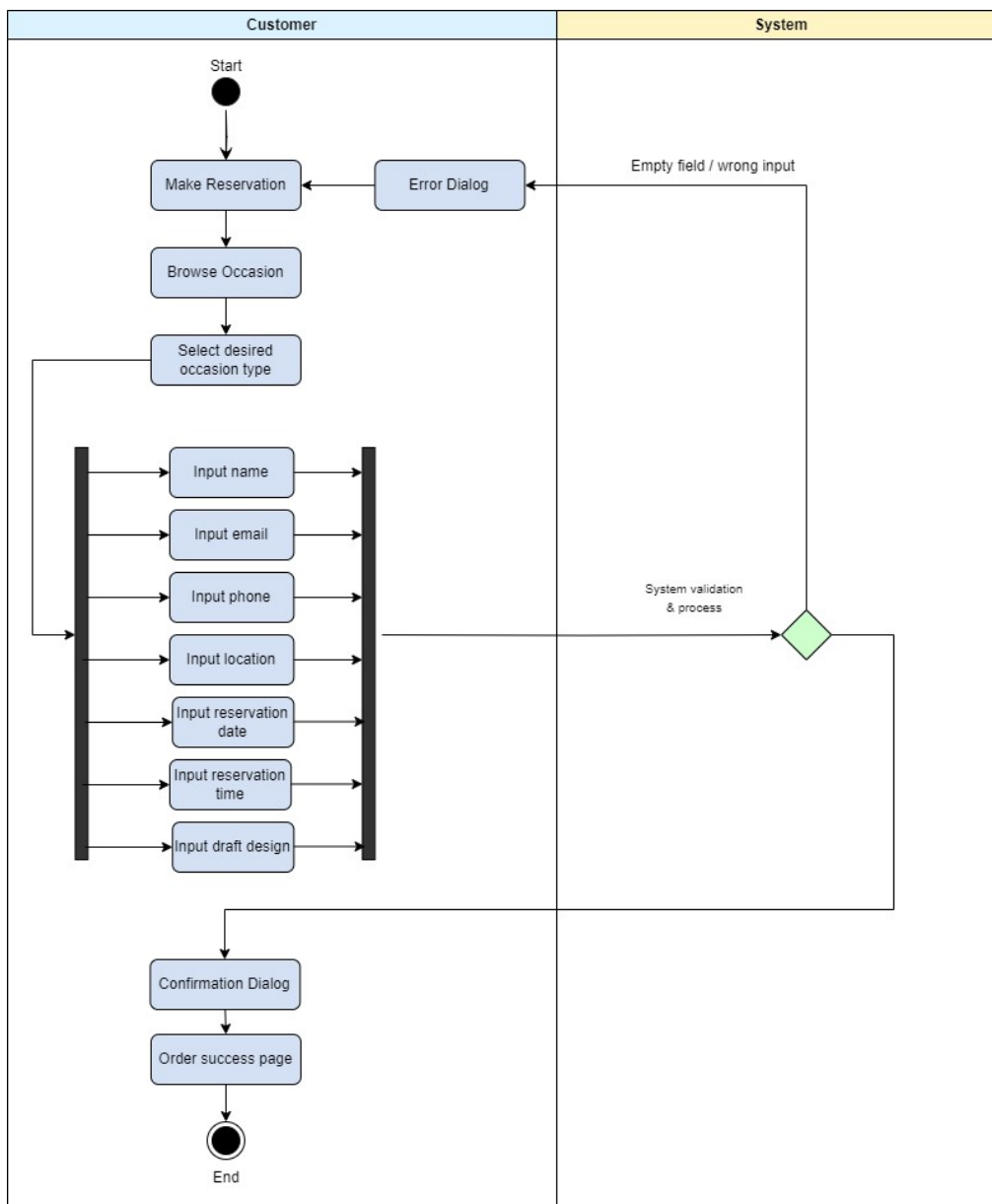


Figure 5.28: Activity Diagram for Make Reservation.

5.3.3.1.11 Contact Us

Figure 5.29 shows the activity diagram of the contact us process.

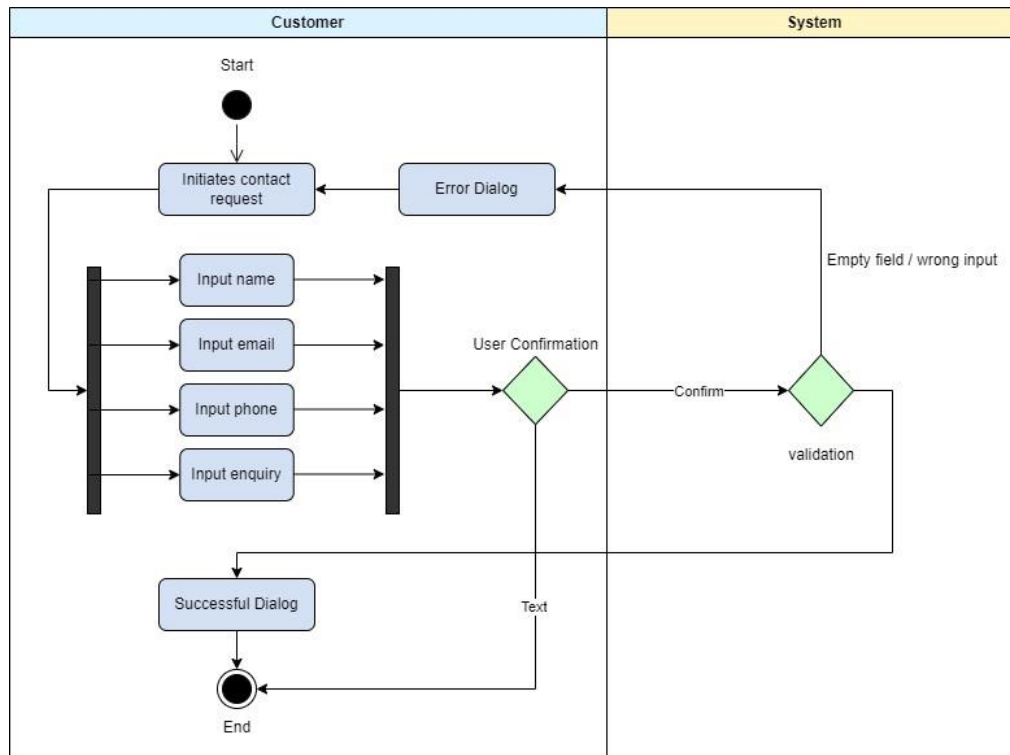


Figure 5.29: Activity Diagram for Contact Us.

5.3.3.2 Activity Diagram for Web Décor Shop [Admin / Shop Owner / Staff Side]

An Activity Diagram for a Web Décor Shop on the Admin Side is a visual representation that outlines the step-by-step interactions and processes involved when an administrator or staff member manages and oversees the operations of the online decor shop. The figures below depict the activity diagram that admin, staff and shop owner utilize to carry out various actions.

5.3.3.2.1 Login Account

Figure 5.30 shows the activity diagram of the login process.

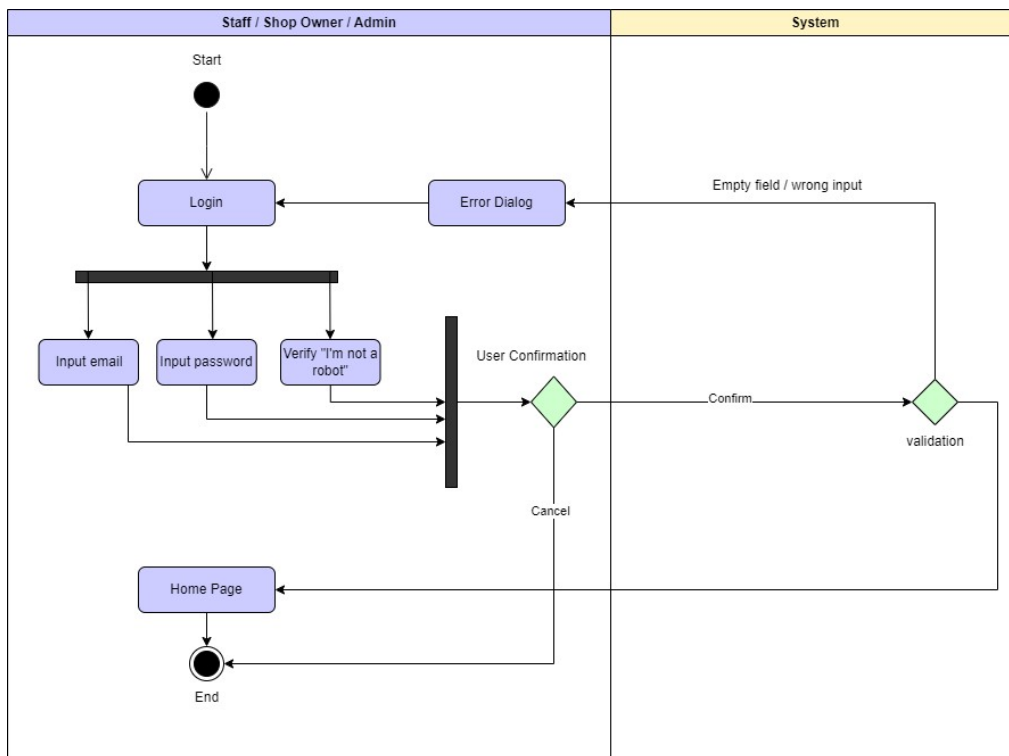


Figure 5.30: Activity Diagram for Login Account.

5.3.3.2.2 Show All Category / Event Category

Figure 5.15 shows the activity diagram of the showing categories or event categories process.

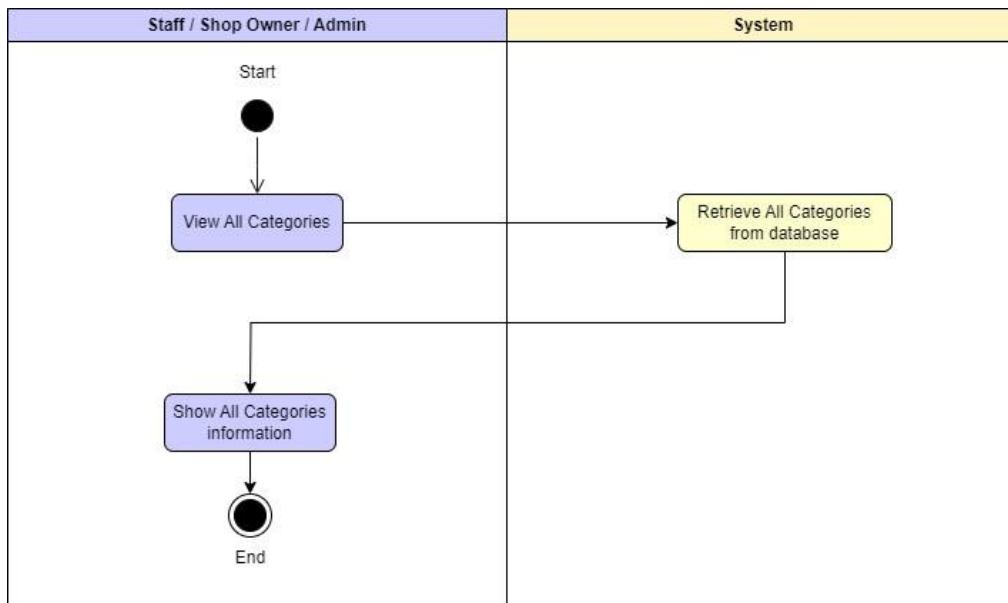


Figure 5.31: Activity Diagram for Show All Category / Event Category.

5.3.2.2.3 Manage Category / Event Category - Add New Category / Event Category

Figure 5.32 shows the activity diagram of the adding new category process.

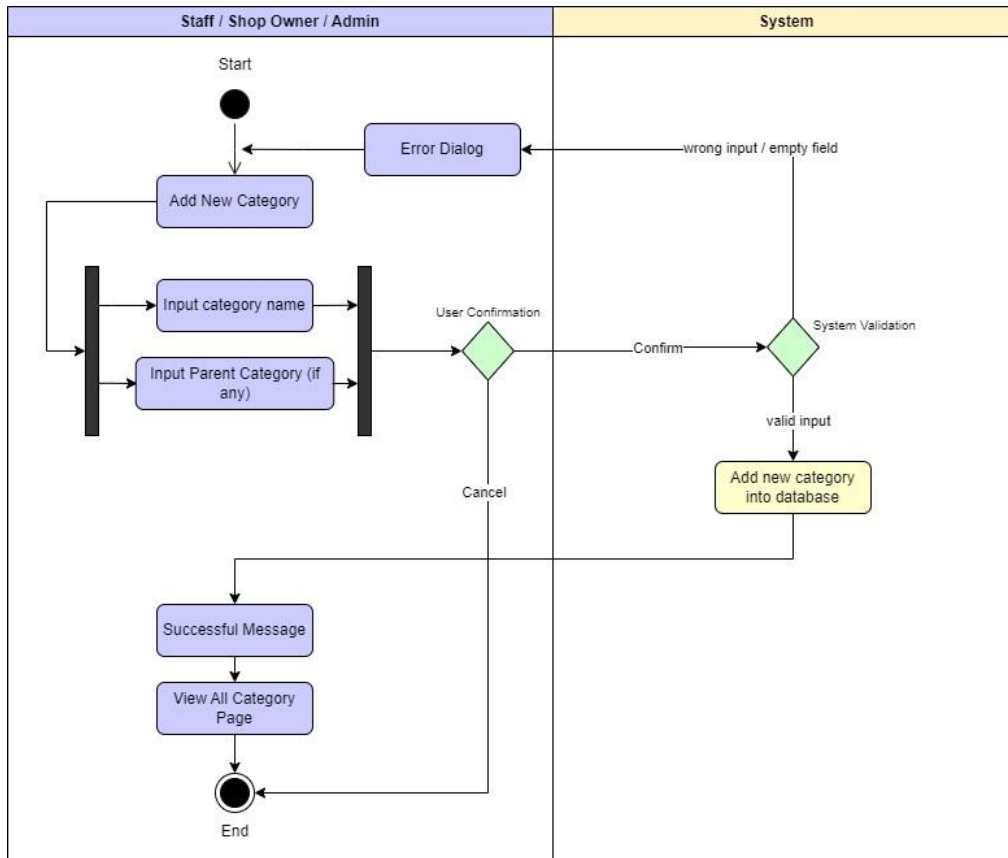


Figure 5.32: Activity Diagram for Manage Category / Event Category - Add New Category / Event Category.

5.3.2.2.4 Manage Category / Event Category - Edit Category / Event Category

Figure 5.33 shows the activity diagram of the editing category or event category process.

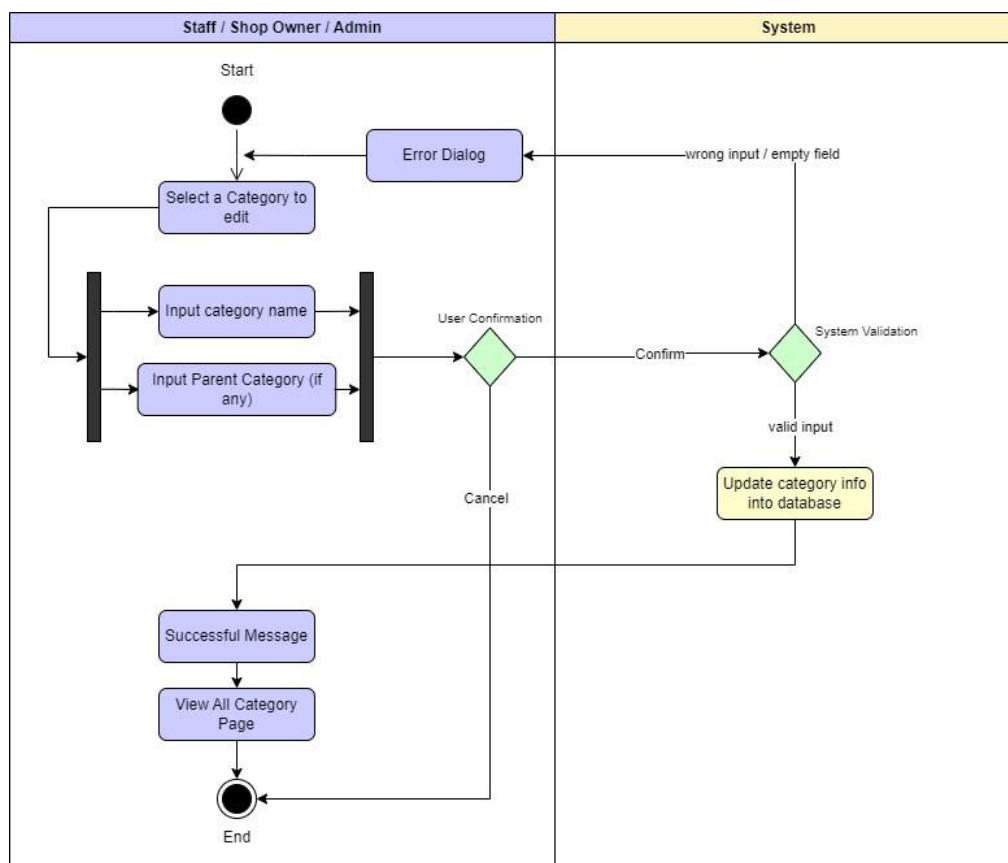


Figure 5.33: Activity Diagram for Manage Category / Event Category - Edit Category / Event Category.

5.3.2.2.5 Manage Category / Event Category - Delete Category / Event Category

Figure 5.34 shows the activity diagram of the deleting category or event category process.

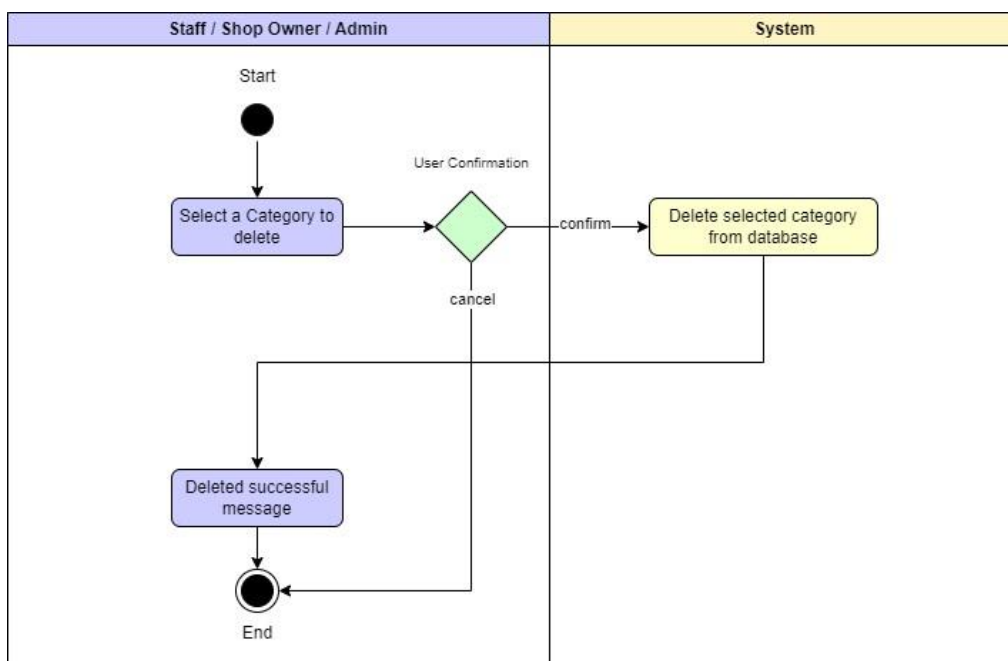


Figure 5.34: Activity Diagram for Manage Category / Event Category - Delete Category / Event Category.

5.3.2.2.6 View All Products / Occasions

Figure 5.35 shows the activity diagram of the viewing all products or occasions process.

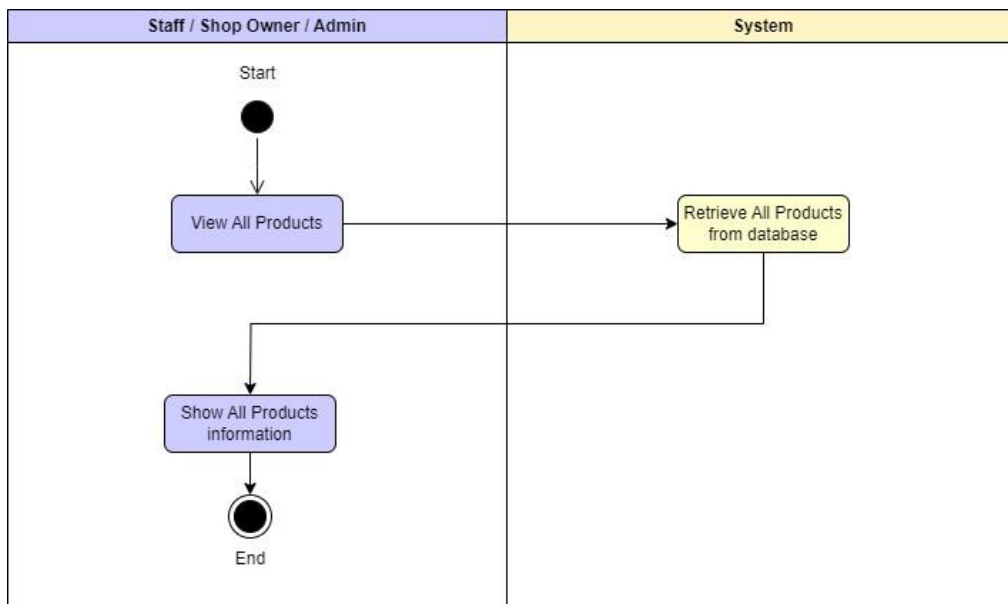


Figure 5.35: Activity Diagram for View All Products / Occasions.

5.3.2.2.7 Manage Product - Add New Product

Figure 5.36 shows the activity diagram of the adding new product process.

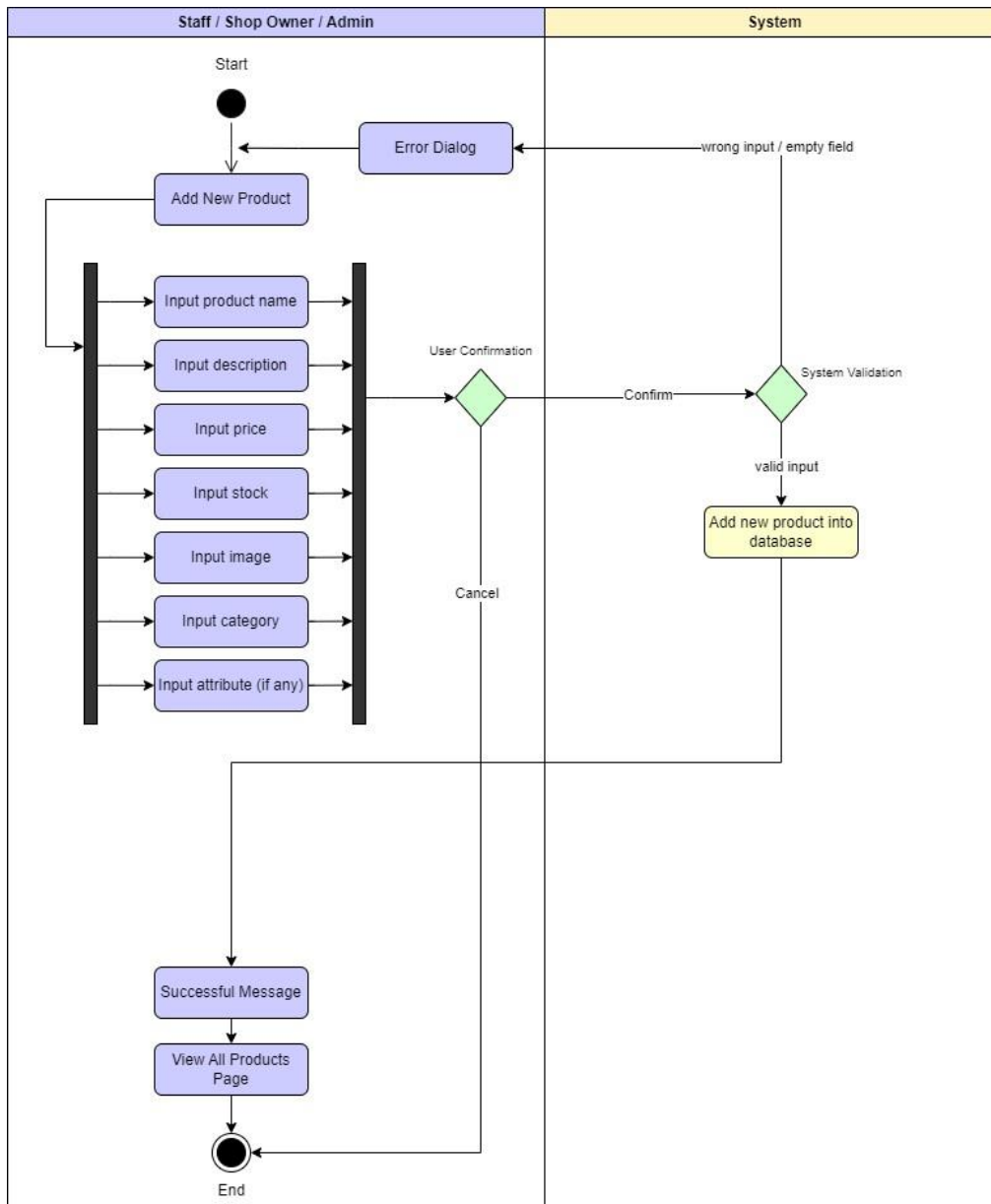


Figure 5.36: Activity Diagram for Manage Product - Add New Product.

5.3.2.2.8 Manage Occasion - Add New Occasions

Figure 5.37 shows the activity diagram of the adding new occasion process.

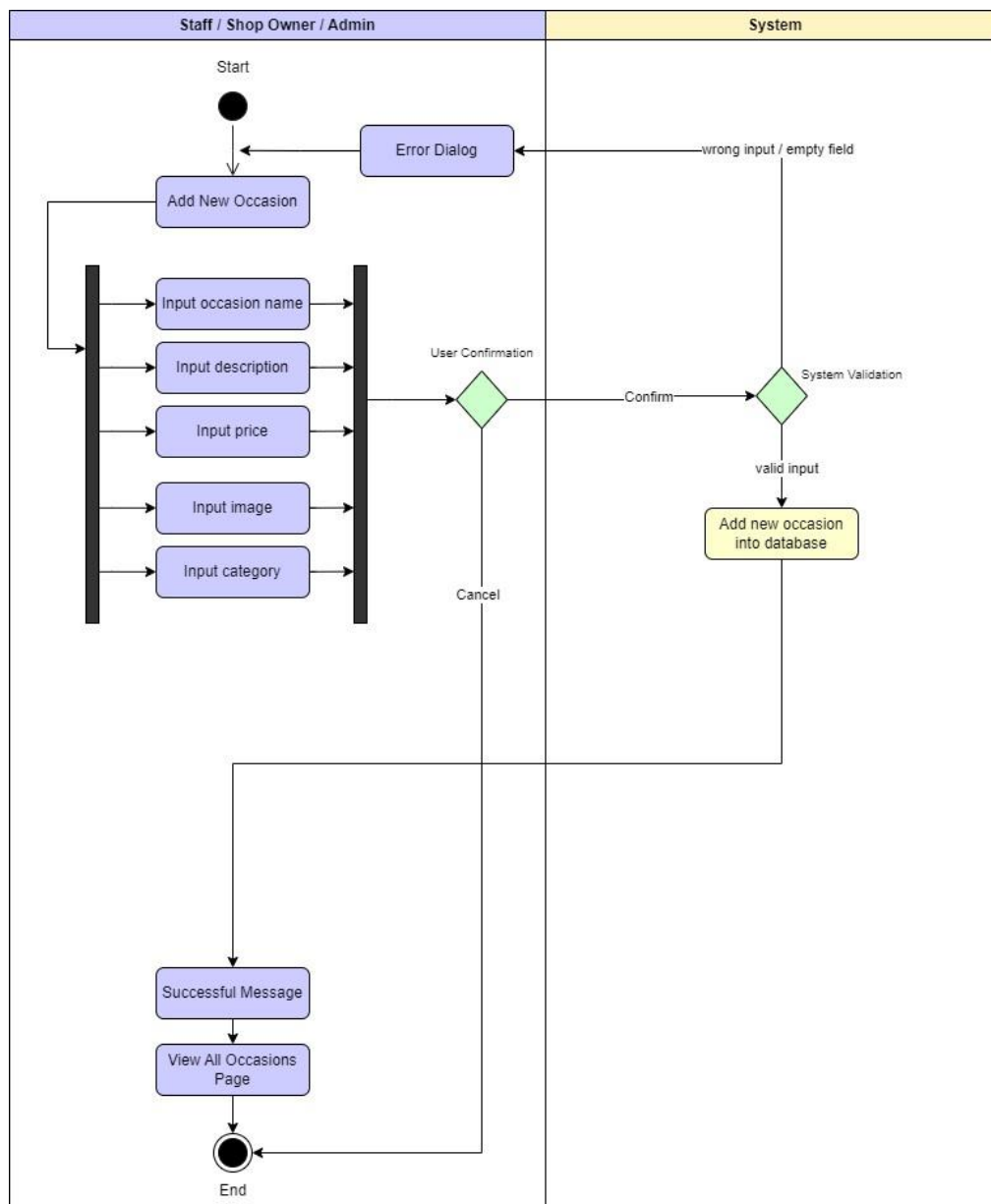


Figure 5.37: Activity Diagram for Manage Occasion - Add New Occasion.

5.3.2.2.9 Manage Product / Occasion - Edit Product / Occasion

Figure 5.38 shows the activity diagram of the editing product or occasion details process.

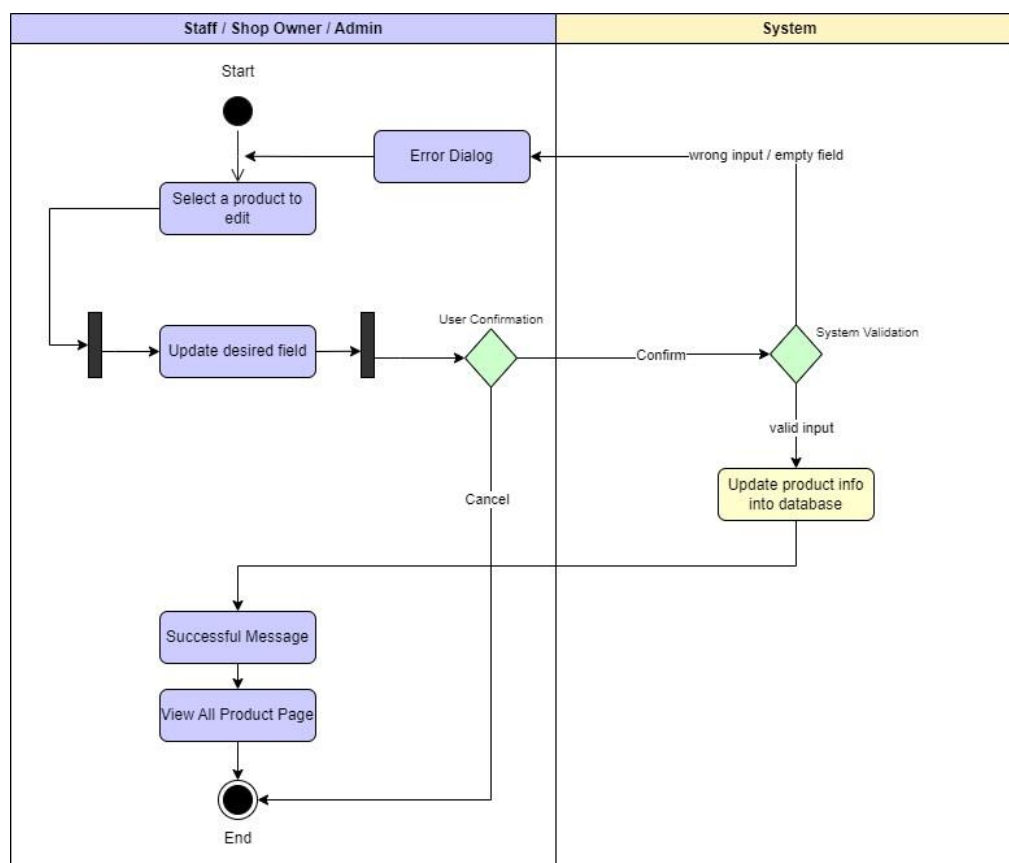


Figure 5.38: Activity Diagram for Manage Product / Occasion - Edit Product / Occasion.

5.3.2.2.10 Manage Product / Occasion - Delete Product / Occasion

Figure 5.39 shows the activity diagram of the deleting selected product or occasion process.

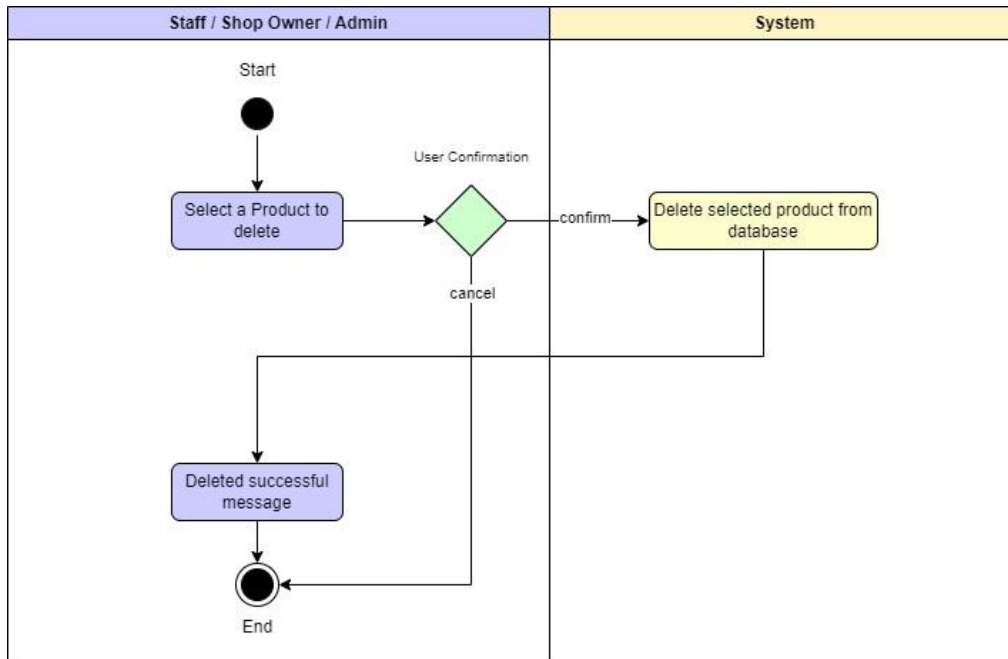


Figure 5.39: Activity Diagram for Manage Product / Occasion - Delete Product / Occasion.

5.3.2.2.11 Manage Home Page – Add New Home Slider

Figure 5.24 shows the activity diagram of the adding home slider process.

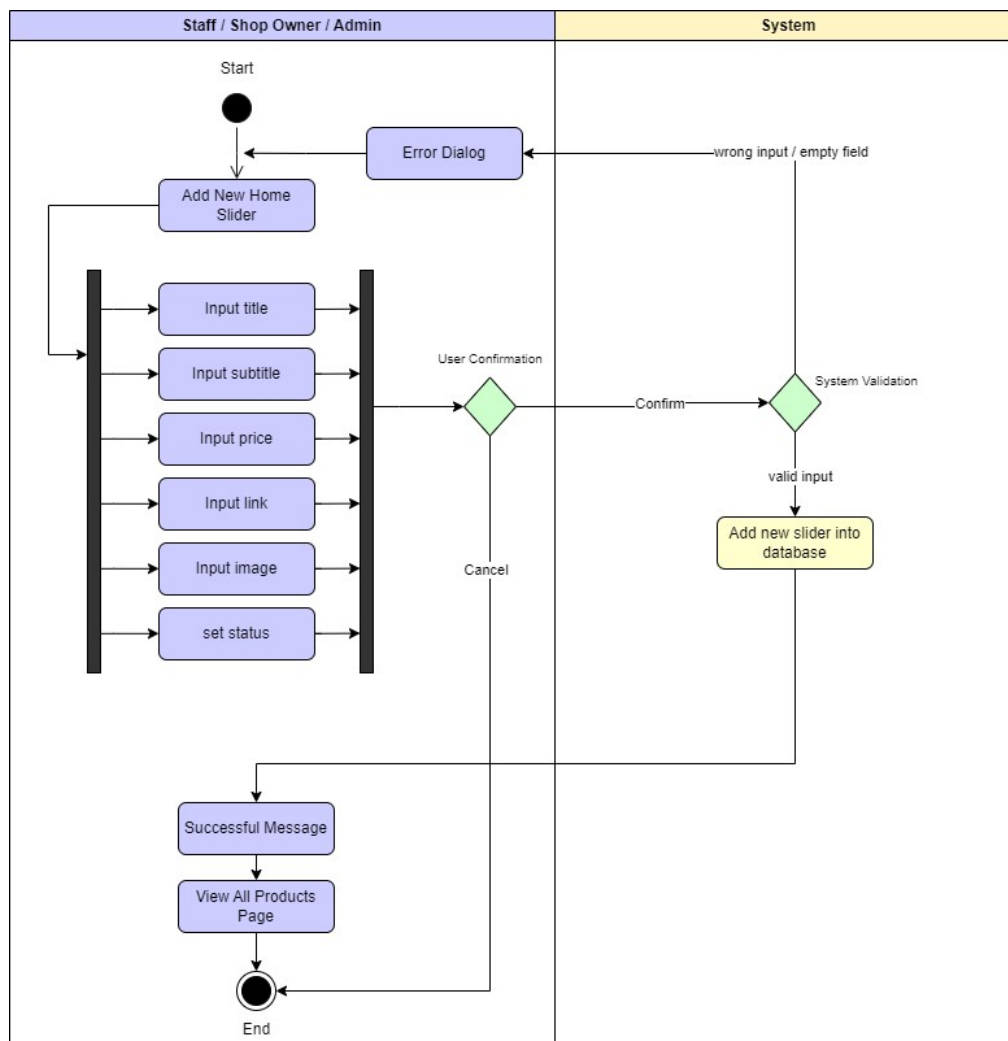


Figure 5.40: Activity Diagram for Manage Home Page – Add New Home Slider.

5.3.2.2.12 Manage Home Page – Edit Home Slider

Figure 5.41 shows the activity diagram of the editing home slider process.

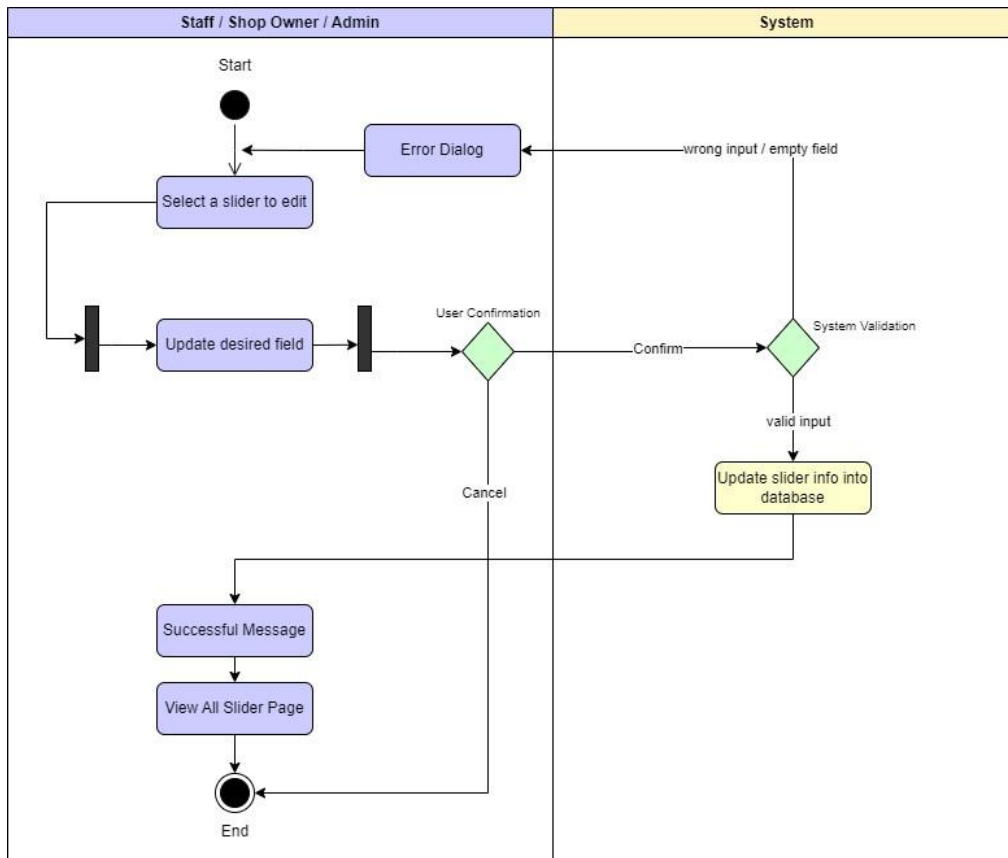


Figure 5.41: Activity Diagram for Manage Home Page – Edit Home Slider.

5.3.2.2.13 Manage Sales – Add New Sales

Figure 5.42 shows the activity diagram of the adding new sales process.

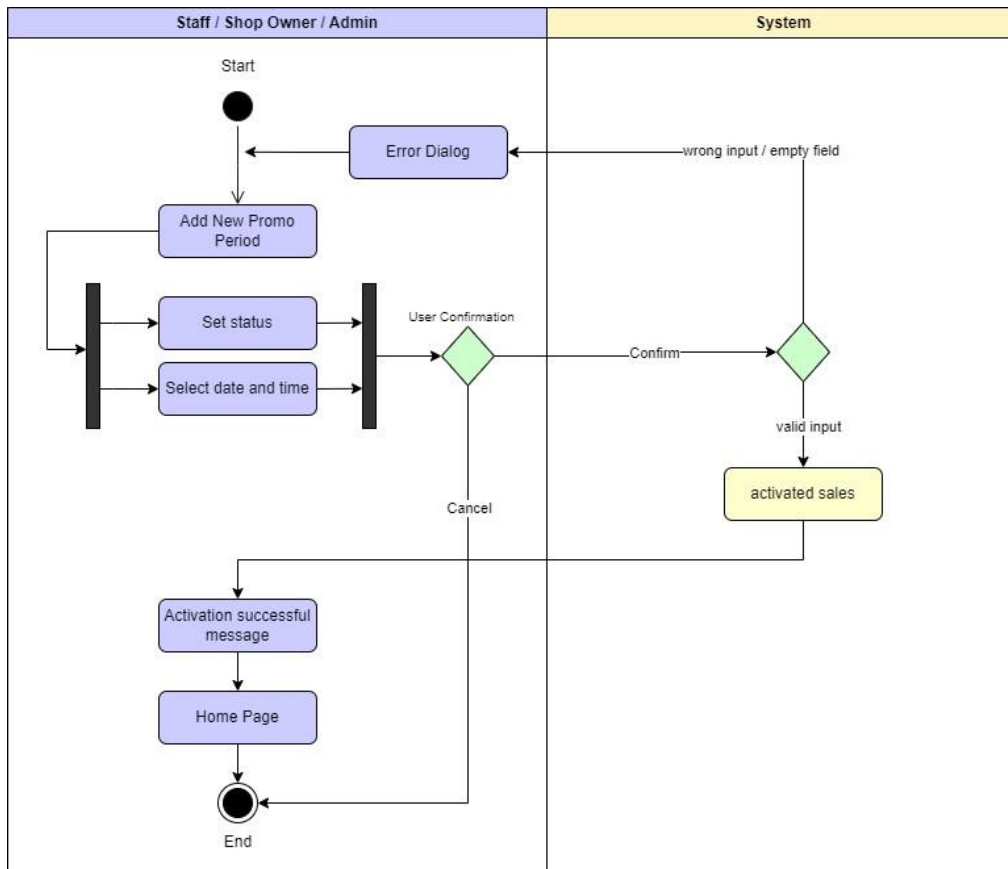


Figure 5.42: Activity Diagram for Manage Sales – Add New Sales.

5.3.2.2.14 View All Coupons

Figure 5.27 shows the activity diagram of the view all coupons process.

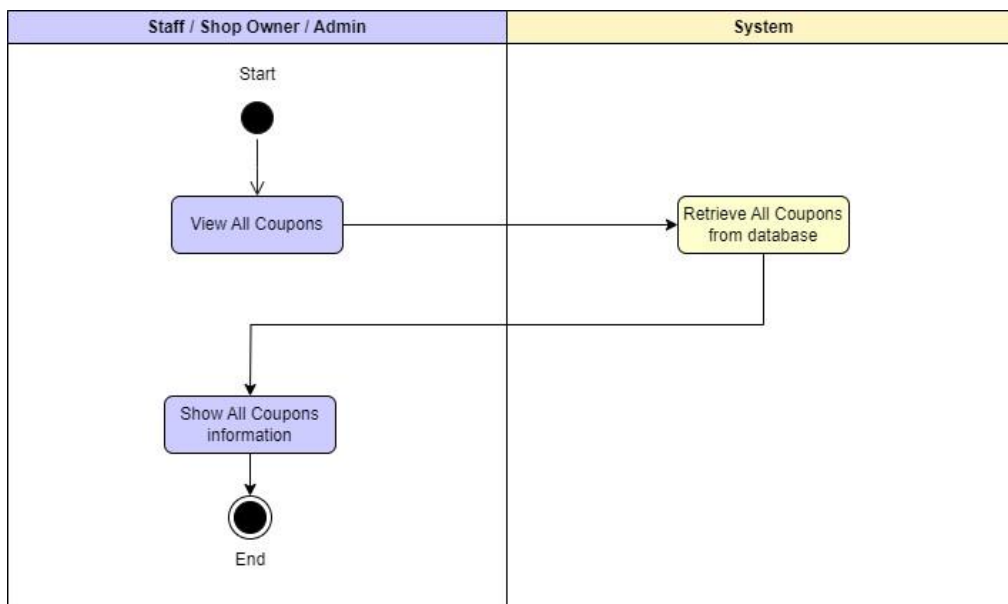


Figure 5.43: Activity Diagram for View All Coupons.

5.3.2.2.15 Manage Coupon – Add New Coupon

Figure 5.44 shows the activity diagram of the adding new coupon process.

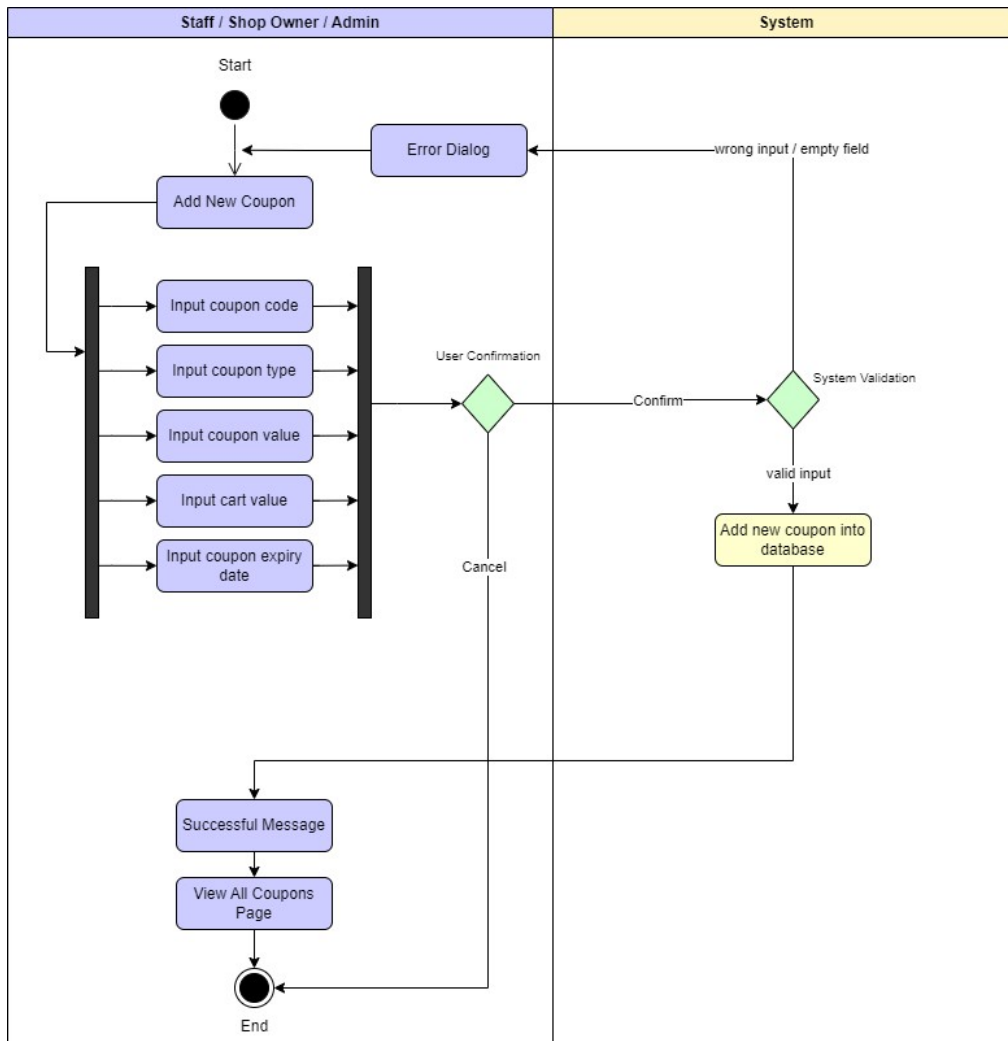


Figure 5.44: Activity Diagram for Manage Coupon – Add New Coupon.

5.3.2.2.16 Manage Coupon – Edit Coupon Details

Figure 5.45 shows the activity diagram of the editing coupon details process.

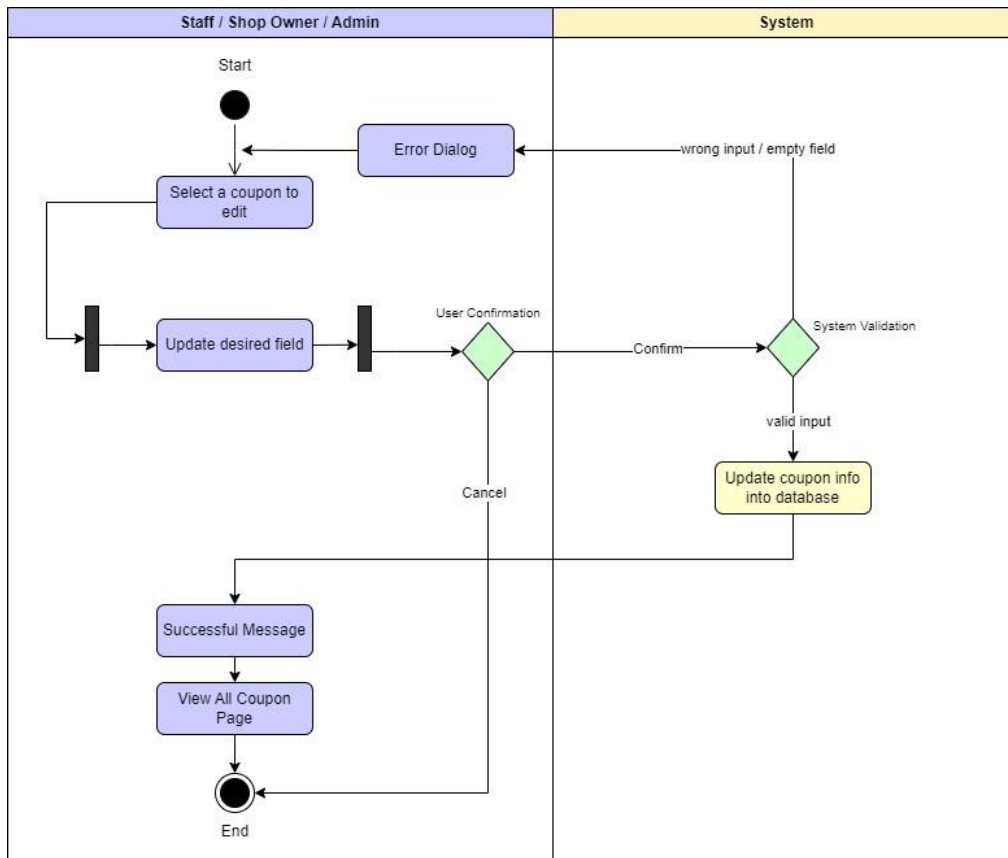


Figure 5.45: Activity Diagram for Manage Coupon – Edit Coupon Details.

5.3.2.2.17 Manage Coupon – Delete Coupon

Figure 5.46 shows the activity diagram of the deleting selected coupon process.

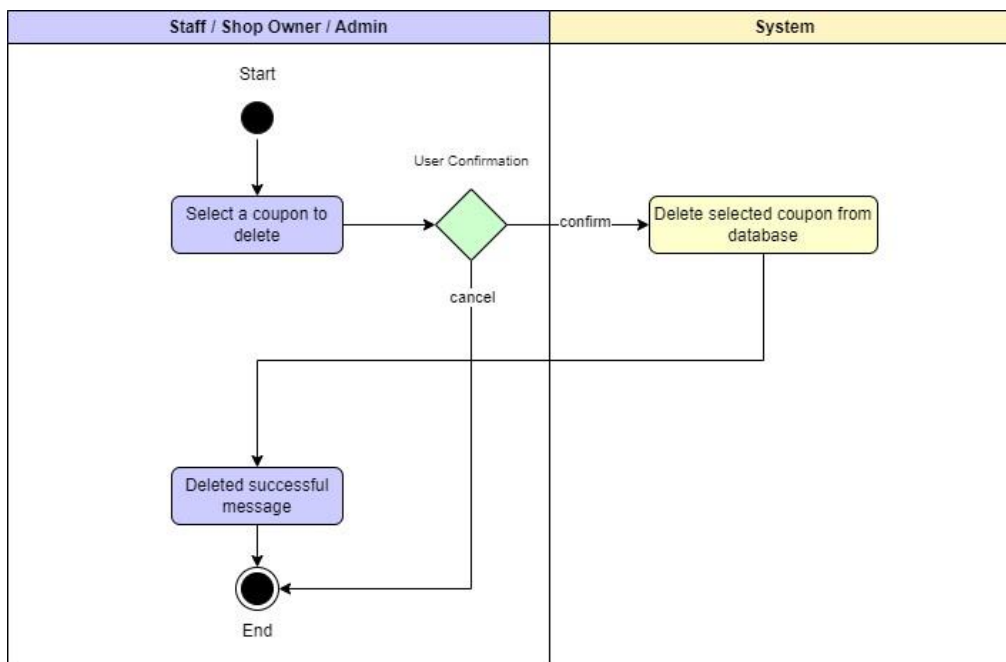


Figure 5.46: Activity Diagram for Manage Coupon – Delete Coupon.

5.3.2.2.18 View All Orders

Figure 5.47 shows the activity diagram of the viewing all orders process.

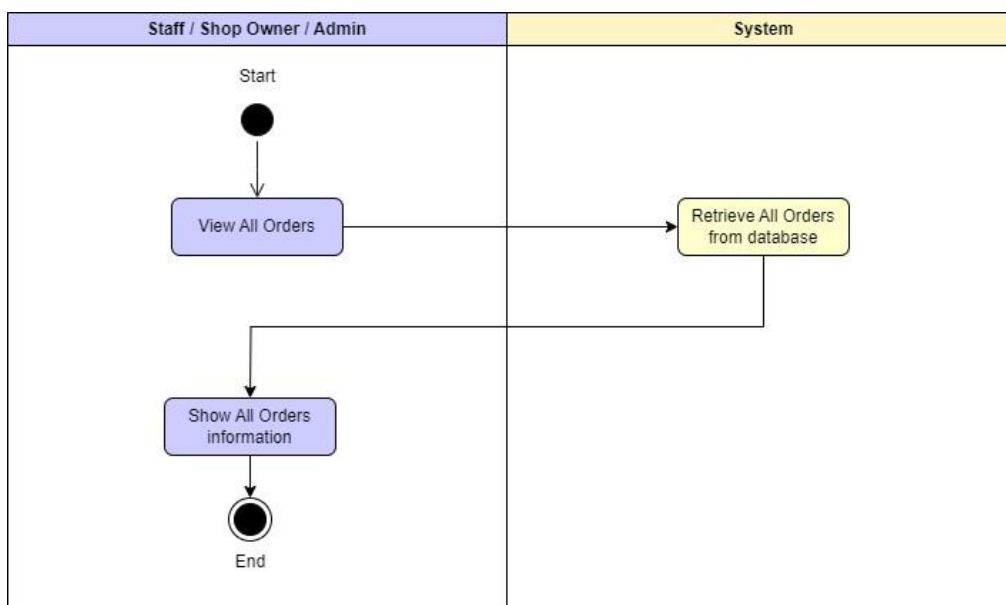


Figure 5.47: Activity Diagram for View All Orders.

5.3.2.2.19 View an Order Details

Figure 5.48 shows the activity diagram of the viewing an order details process.

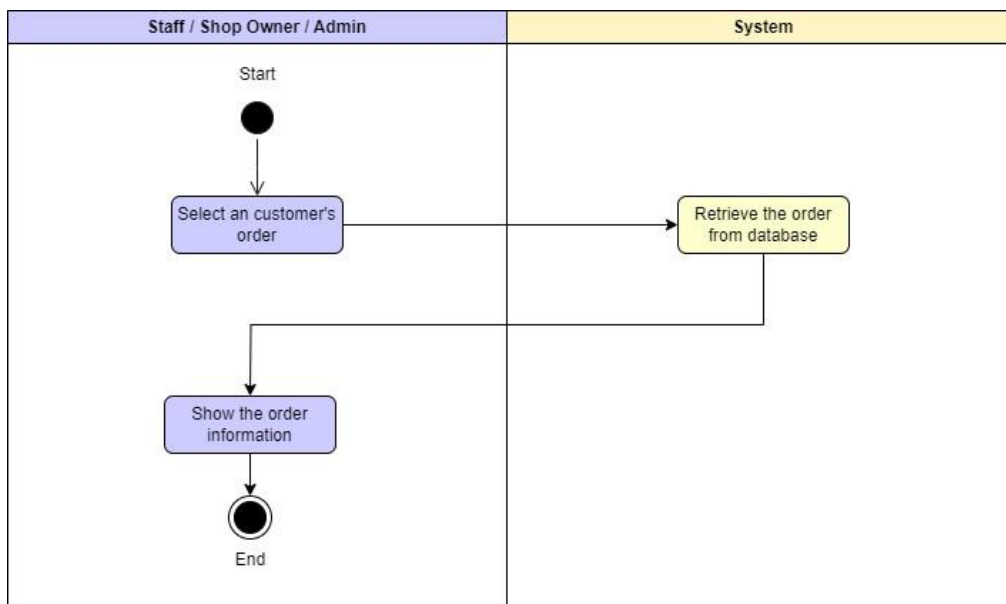


Figure 5.48: Activity Diagram for View an Order Details.

5.3.2.2.20 Manage Order – Update Order / Delivery Status

Figure 5.49 shows the activity diagram of the updating order status process.

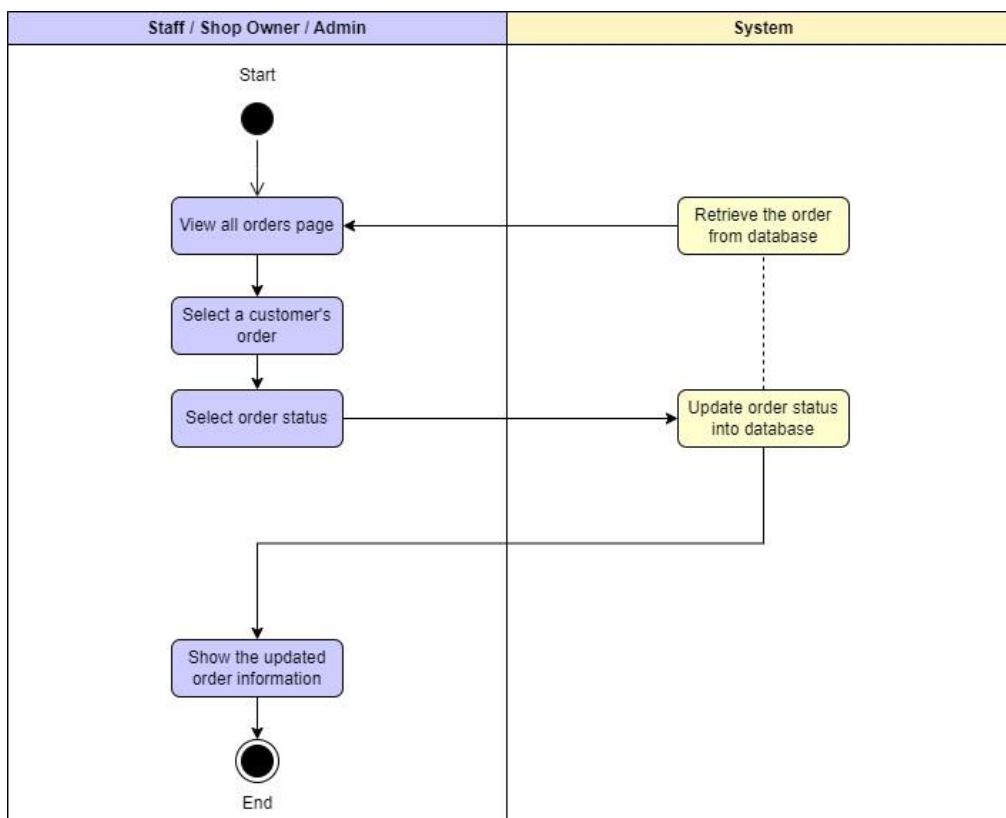


Figure 5.49: Activity Diagram for Manage Order – Update Order Status.

5.3.2.2.21 View All Reservations

Figure 5.50 shows the activity diagram of the viewing all reservations process.

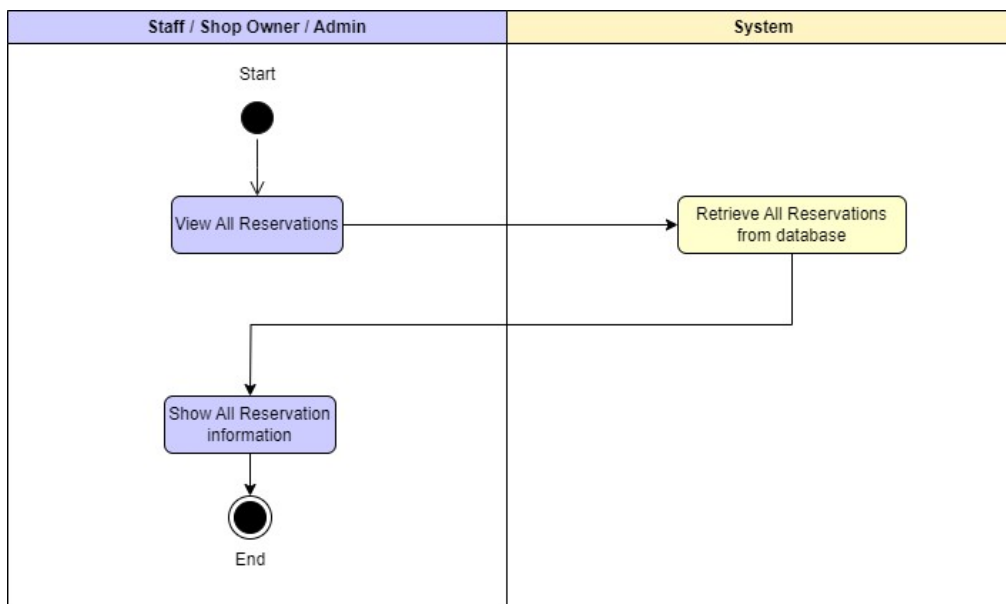


Figure 5.50: Activity Diagram for View All Reservations.

5.3.2.2.22 View an Reservation Details

Figure 5.51 shows the activity diagram of the viewing selected reservation details process.

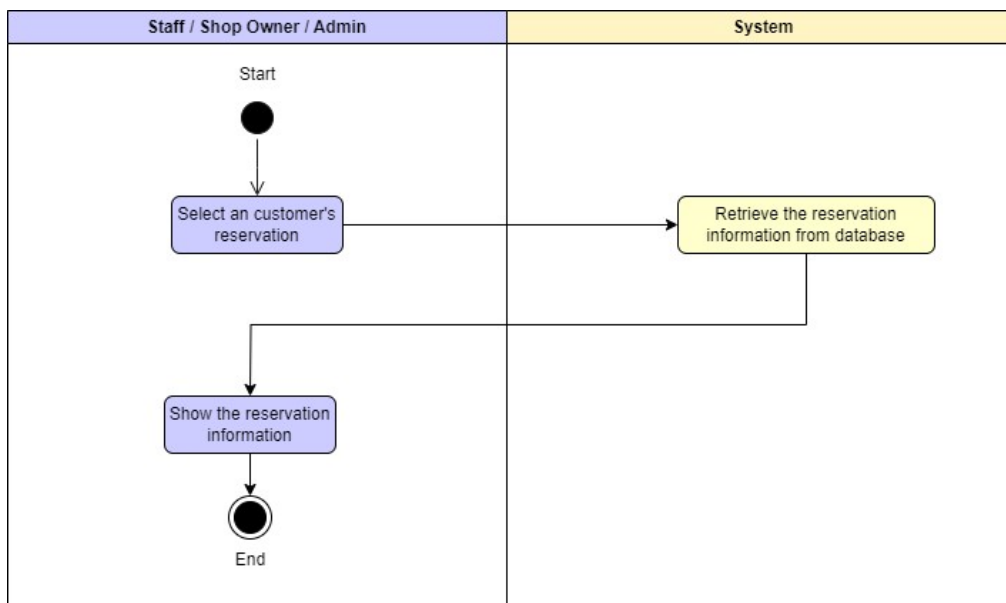


Figure 5.51: Activity Diagram for View an Reservation Details.

5.3.2.2.23 Manage Reservation – Update Reservation Status

Figure 5.52 shows the activity diagram of the updating selected reservation status process.

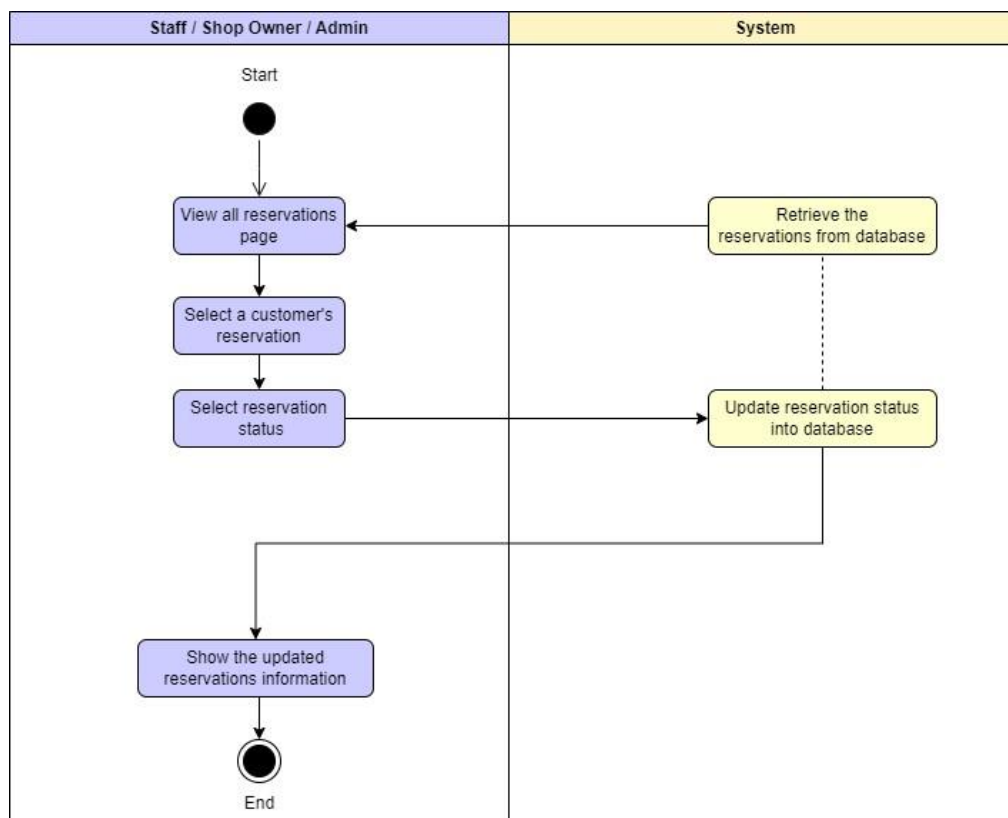


Figure 5.52: Activity Diagram for Manage Reservation – Update Reservation Status.

5.3.2.2.24 Manage Reservation – Update Final Design & Extra Info

Figure 5.53 shows the activity diagram of the updating final design and extra info of selected reservation process.

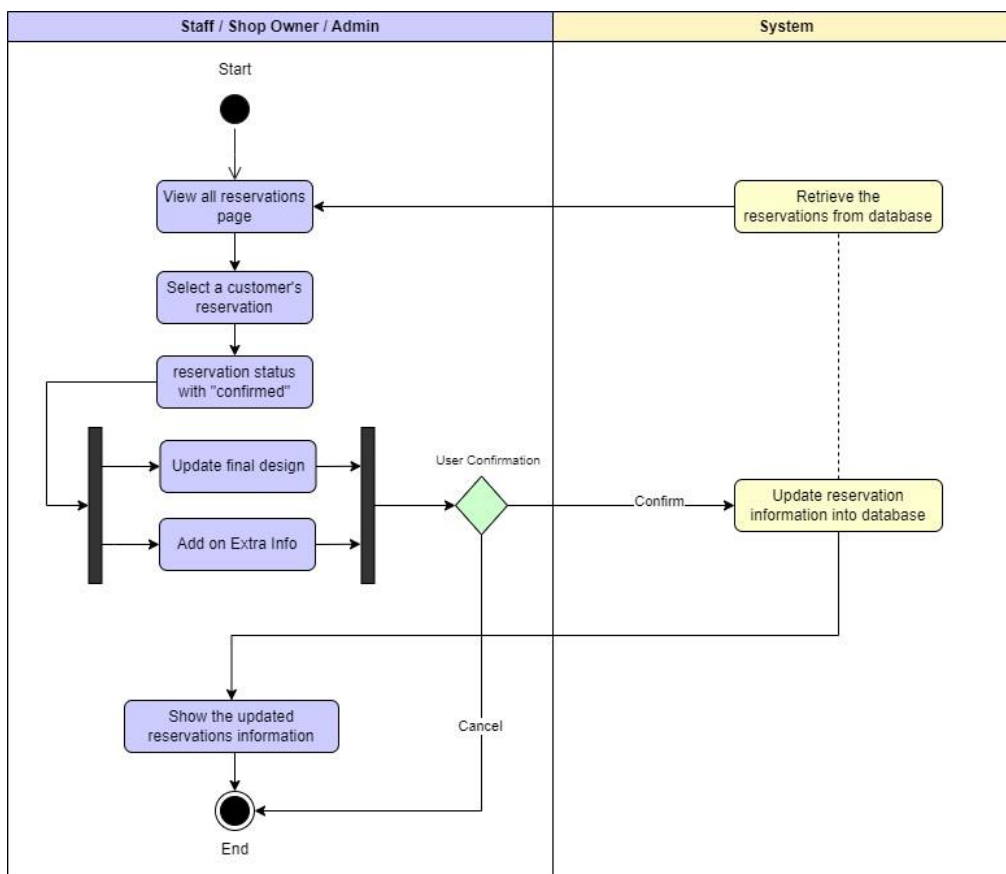


Figure 5.53: Activity Diagram for Manage Reservation – Update Final Design & Extra Info.

5.4 Web Design Principles

Successful websites must adhere to certain web design standards. By focusing on enhancing usability, aesthetic appeal, and clear communication, it can aim to improve the user experience. These guidelines help developer to develop user-friendly interfaces that are simple to read, browse, and interact with. Clarity in language aids consumers in understanding the goal of the website, while consistency in design aspects improves brand identification. Design principles also aid with scaling, flexibility, and conversion optimization (Wong, 2016). In this project, web design principle - Shneiderman's Eight Golden Rules were used.

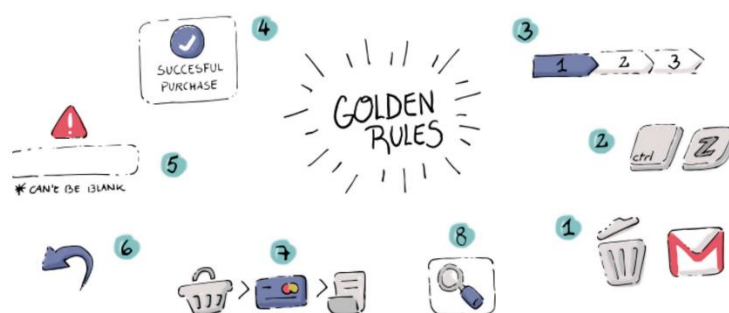


Figure 5.54: Shneiderman's Eight Golden Rules

Source: (Tripti Rajput, 2020)

Shneiderman's Eight Golden Rules are a set of design principles proposed by Ben Shneiderman, a renowned computer scientist and human-computer interaction expert (Anon., 2023). Shneiderman's eight golden rules are meant to assist designers in solving challenges, and he provides great assistance in this regard with his eight heuristics. An interface must be well designed to be "user-friendly" in order to improve usability and performance. The eight golden rules are:

i. Strive for consistency

By applying the strive for consistency rule, the web-based party decoration shop ensures that users experience a cohesive design and navigation system across all pages, leading to familiarity and ease of use. Consistency in the layout, design, and navigation system of the website ensures that users can easily understand and predict where to find different elements. This includes maintaining consistent placement of menus, buttons, and search bars, as well as using consistent visual styling and color schemes throughout the website.

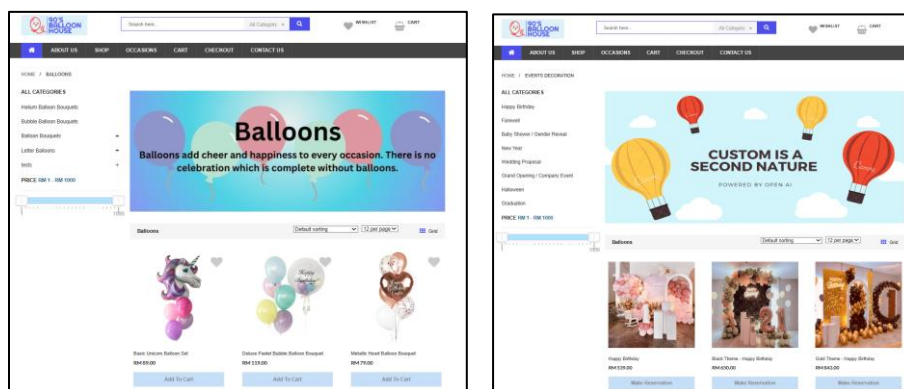


Figure 5.55: Layout Consistency on Product Page and Occasion Page.

ii. Enable frequent users to use shortcuts

By implementing the enable frequent users to use shortcuts rule, it allows experienced customers to quickly navigate the website at the same time saving time and effort in finding their desired party decorations. This can include a search bar prominently displayed on every page, allowing users to quickly search for specific items without having to navigate through various categories.

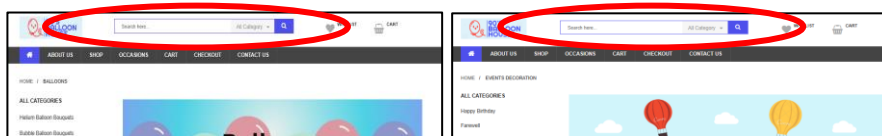


Figure 5.56: Search Bar on Every Page.

iii. Offer informative feedback

By following the offer informative feedback rule, the party decoration shop provides customers with clear and reassuring messages. When users perform actions such as adding items to their shopping cart or submitting an order, the website implemented provide clear and informative feedback to confirm that their actions were successful. This can be achieved through messages or notifications that acknowledge and confirm the user's action, giving them assurance that their request has been processed.

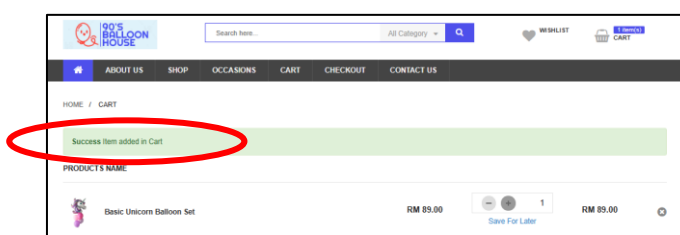


Figure 5.57: Clear and Informative Feedback for every Action.

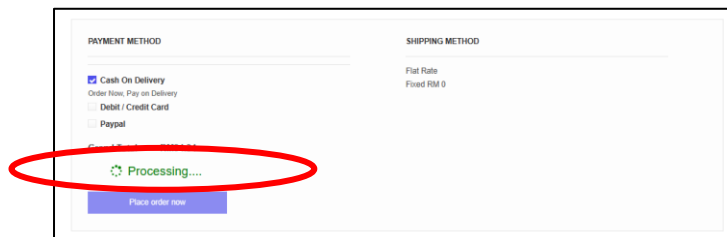


Figure 5.58: Immediate Visual Feedback to Customer when the page is loading.

iv. Design dialogues to yield closure

The design dialogues to yield closure rule ensures that the implemented website guides users step-by-step through the process of placing an order. Also, it enabling them to understand their progress and reach completion smoothly. The website's interaction flow designed in a way that guides users towards completion. This involves breaking down the ordering process into clear steps and providing progress indicators, such as a step-by-step checkout process by allowing users to understand their current position and anticipate the next steps required to finalize their order.

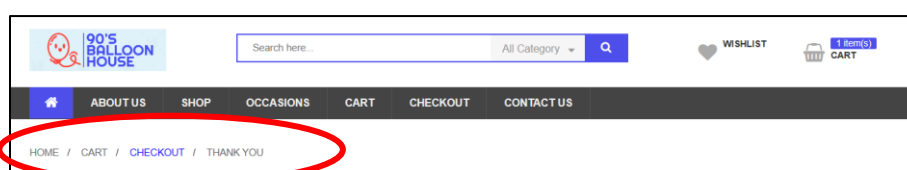


Figure 5.59: Informative Feedback at the Completion of Placing an Order.

v. Error prevention and handling

When users encounter errors, the implemented website provide helpful error messages that explain the issue and suggest possible solutions. For example, if user enter the wrong email format, the error message clearly state the reason for the failure (e.g., invalid email format) and provide guidance on how to rectify the issue.

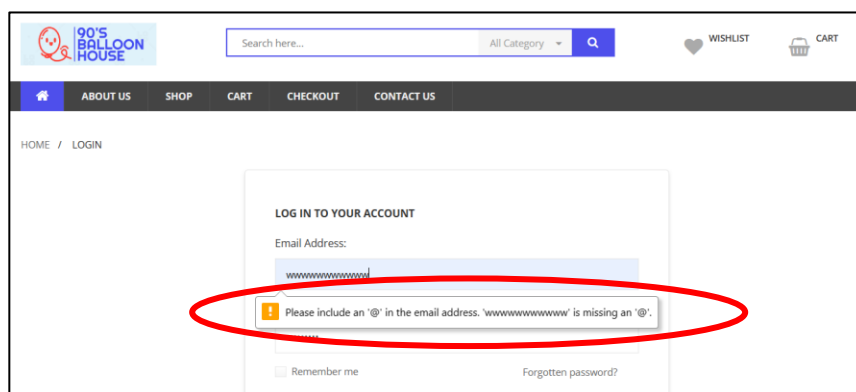


Figure 5.60: Informative Error Message that not only pinpoint the nature of the issue.

vi. Permit easy reversal of actions

By permitting easy reversal of actions, the web-based shop allows customers to make changes to their order or remove items from the shopping cart effortlessly. Users are able to easily undo or reverse their actions without encountering difficulties. For instance, if a user accidentally adds an item to their shopping cart, they are also able to remove it effortlessly by providing a visible and accessible "Remove" button or option in the shopping cart interface.

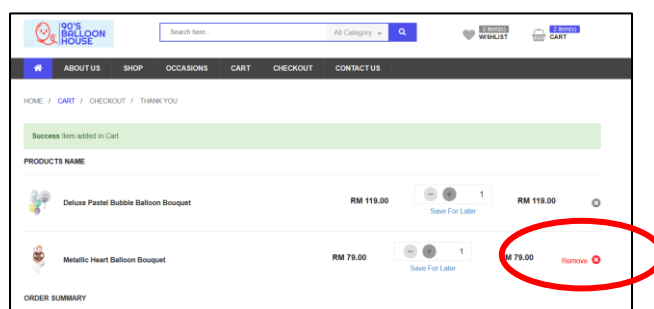


Figure 5.61: "Remove" button or option in the shopping cart interface when user accidentally added unwanted product.

vii. Support internal locus of control

The implemented website empowers users by keeping them in control of their actions. This can be achieved by providing clear and visible buttons or options for adding or removing items from the shopping cart and allow users to manage their selections easily. In the implemented system, customers have the control over their shopping experience and can make changes as per their preferences. For example, it allows users to view and adjust the quantities of items in their cart before proceeding to checkout.

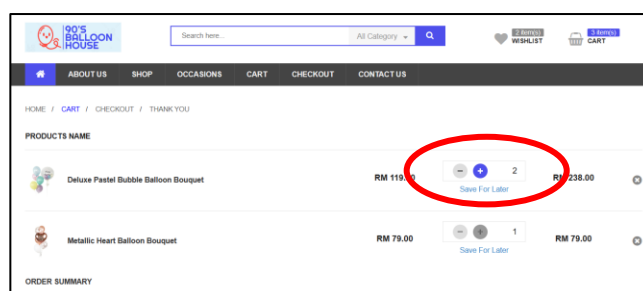


Figure 5.62: Modify quantities of products in their cart before checkout.

viii. Reduce short-term memory load

To prevent overwhelming users with excessive information, the implemented system presents the most relevant details about each product in a concise and easily scannable format. This includes displaying essential information such as price, description, availability, and any special features or promotions. Also, it was designed to avoid clutter and focus on key details helps users make informed decisions without taxing their short-term memory.

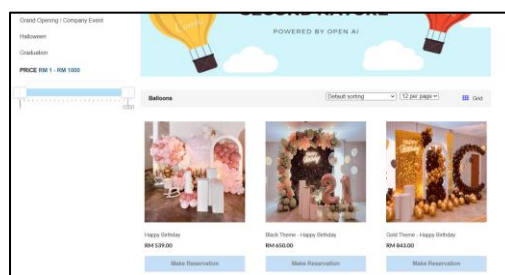


Figure 5.63: Present key details in a clear, easy-to-remember format to lighten the cognitive load on the customer's short-term memory.

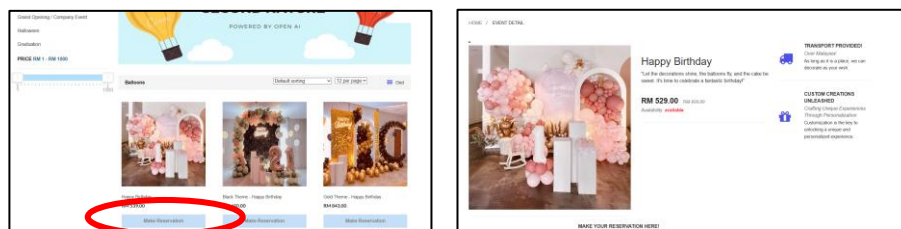


Figure 5.64: Price and Description will be shown again after Customer press on “Make Reservation” button.

In conclusion, by thoroughly applying these principles to the web-based party decoration shop, it ensures a consistent, efficient, and user-friendly experience. Customers will find it easier to navigate, understand the process of placing an order, receive helpful feedback, and have control over their shopping decisions, ultimately leading to increased customer satisfaction and engagement with the website.

5.5 User Interface Design

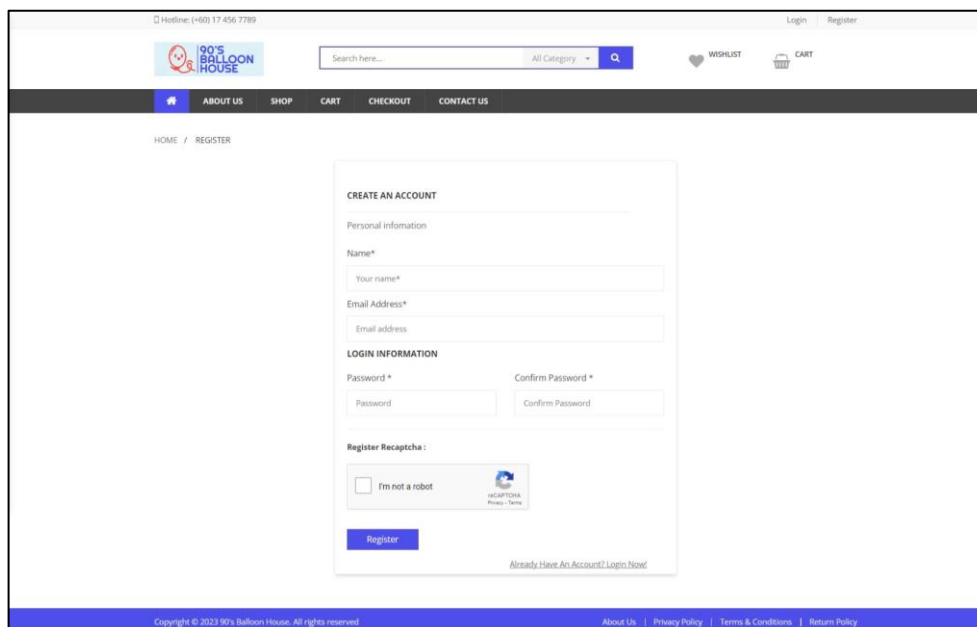
This section shows all user interface designs implemented in the system and is divided into subsections based on user roles: customer and staff / admin / shop owner side.

5.5.1 Customer Side

User interface (UI) design from the customer's perspective focuses on creating an intuitive, visually appealing, and user-friendly digital experience. It aims to ensure that users can interact with a product or website effortlessly, resulting in a positive and satisfying interaction.

5.5.1.1 Register Account

The Figure 5.65 shows the user interface design for the register an account page.



The screenshot displays the 'CREATE AN ACCOUNT' registration form on the 'GO'S BALLOON HOUSE' website. The form is titled 'CREATE AN ACCOUNT' and is divided into two main sections: 'Personal information' and 'LOGIN INFORMATION'. The 'Personal information' section includes fields for 'Name*' (with a sub-label 'Your name*') and 'Email Address*' (with a sub-label 'Email address'). The 'LOGIN INFORMATION' section includes fields for 'Password*' and 'Confirm Password*'. Below these fields is a 'Register Recaptcha' section with a checkbox labeled 'I'm not a robot' and a reCAPTCHA logo. A blue 'Register' button is located at the bottom of the form. A link 'Already Have An Account? Login Now!' is positioned at the bottom right of the form. The website header includes the logo, a search bar, and navigation links for 'ABOUT US', 'SHOP', 'CART', 'CHECKOUT', and 'CONTACT US'. The footer contains copyright information and links for 'About Us', 'Privacy Policy', 'Terms & Conditions', and 'Return Policy'.

Figure 5.65: User interface design for Register an Account Page.

5.5.1.2 Login Account

The Figure 5.66 shows the user interface design for the login page.

The image shows a web browser window displaying the login page for '90's Balloon House'. The page has a white background with a blue header and footer. The header includes the company logo, a search bar, and navigation links for 'WISHLIST' and 'CART'. The main content area features a central login form titled 'LOG IN TO YOUR ACCOUNT'. The form contains fields for 'Email Address' and 'Password', a 'Remember me' checkbox, a 'Forgotten password?' link, and a 'Login Recaptcha' section with an 'I'm not a robot' checkbox and a 'HCAPTCHA' logo. A blue 'Login' button is positioned below the form. At the bottom of the form, there is a link that says 'No Account yet? Register Now!'. The footer contains copyright information and links for 'About Us', 'Privacy Policy', 'Terms & Conditions', and 'Return Policy'.

Figure 5.66: User interface design for Login Page.

5.5.1.3 Home Page

The Figure 5.67 shows the user interface design for the home page.



Figure 5.67: User interface design for Home Page.

5.5.1.4 Shop Page – All Products Page

The Figure 5.68 shows the user interface design for the shop page.

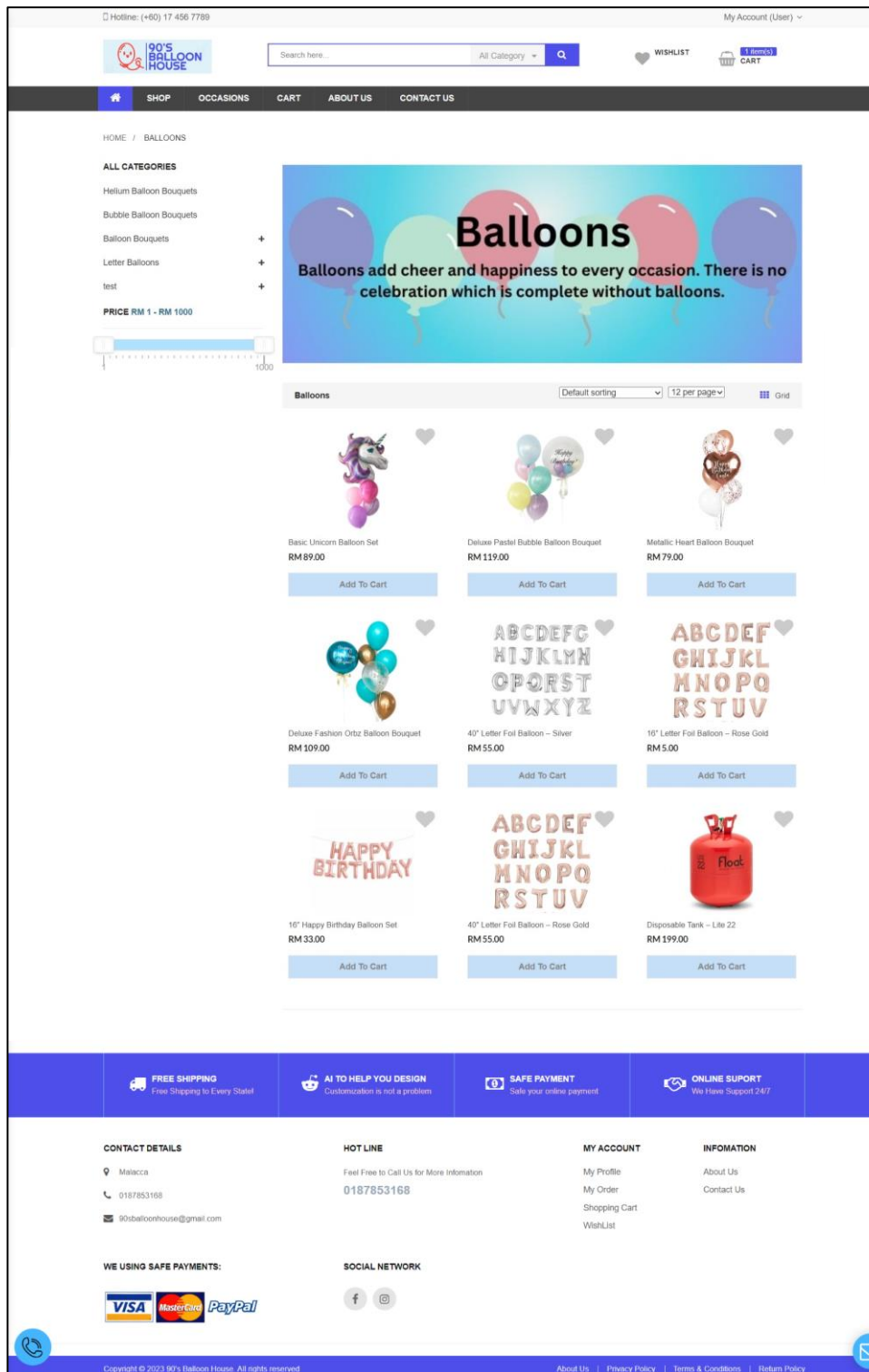


Figure 5.68: User interface design for Products Page.

5.5.1.5 Occasion Page – All Occasions Page

The Figure 5.69 shows the user interface design for the occasion page.

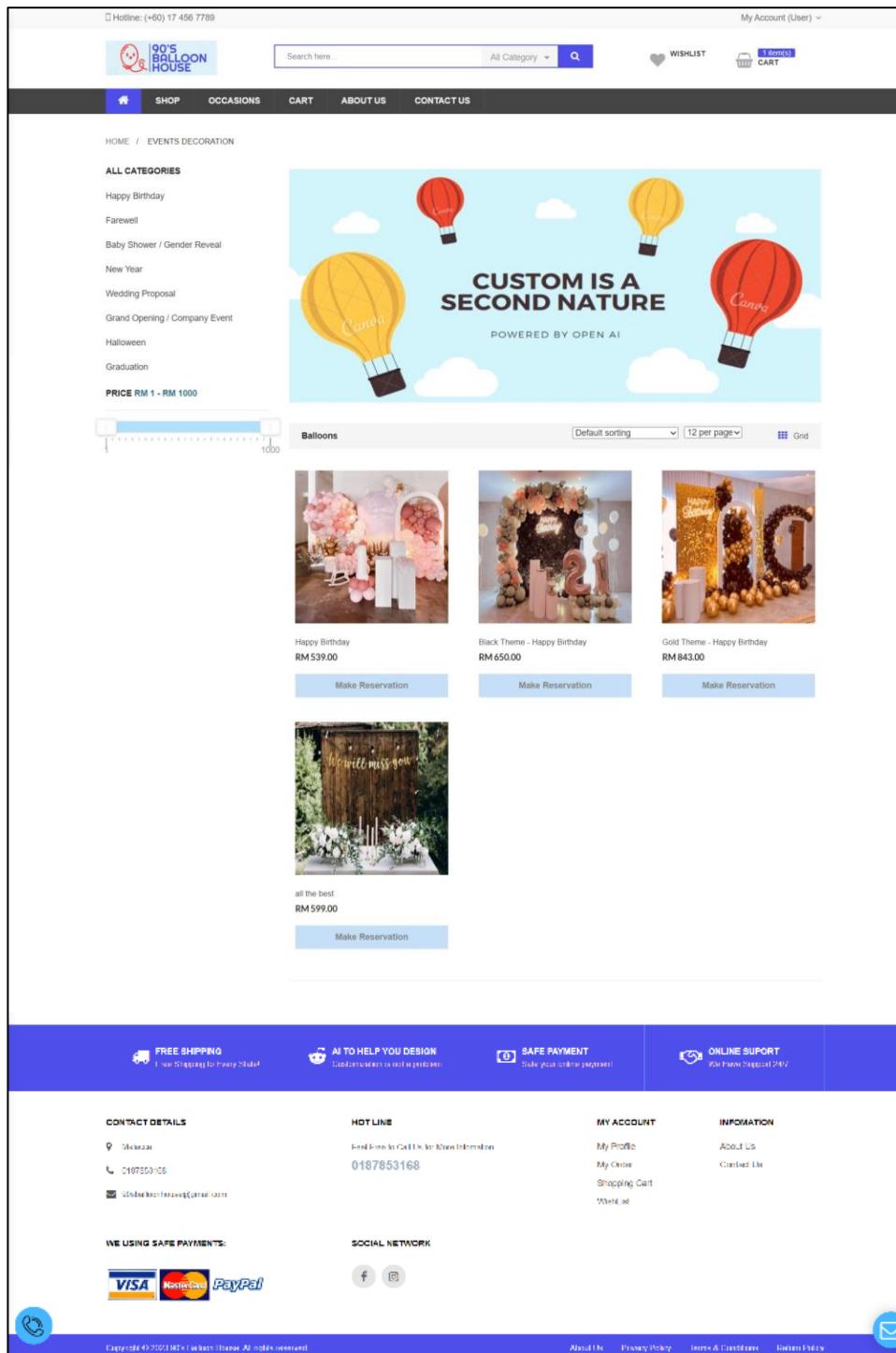


Figure 5.69: User interface design for Occasions Page.

5.5.1.6 Product Details Page

The Figure 5.70 shows the user interface design for the product details page.

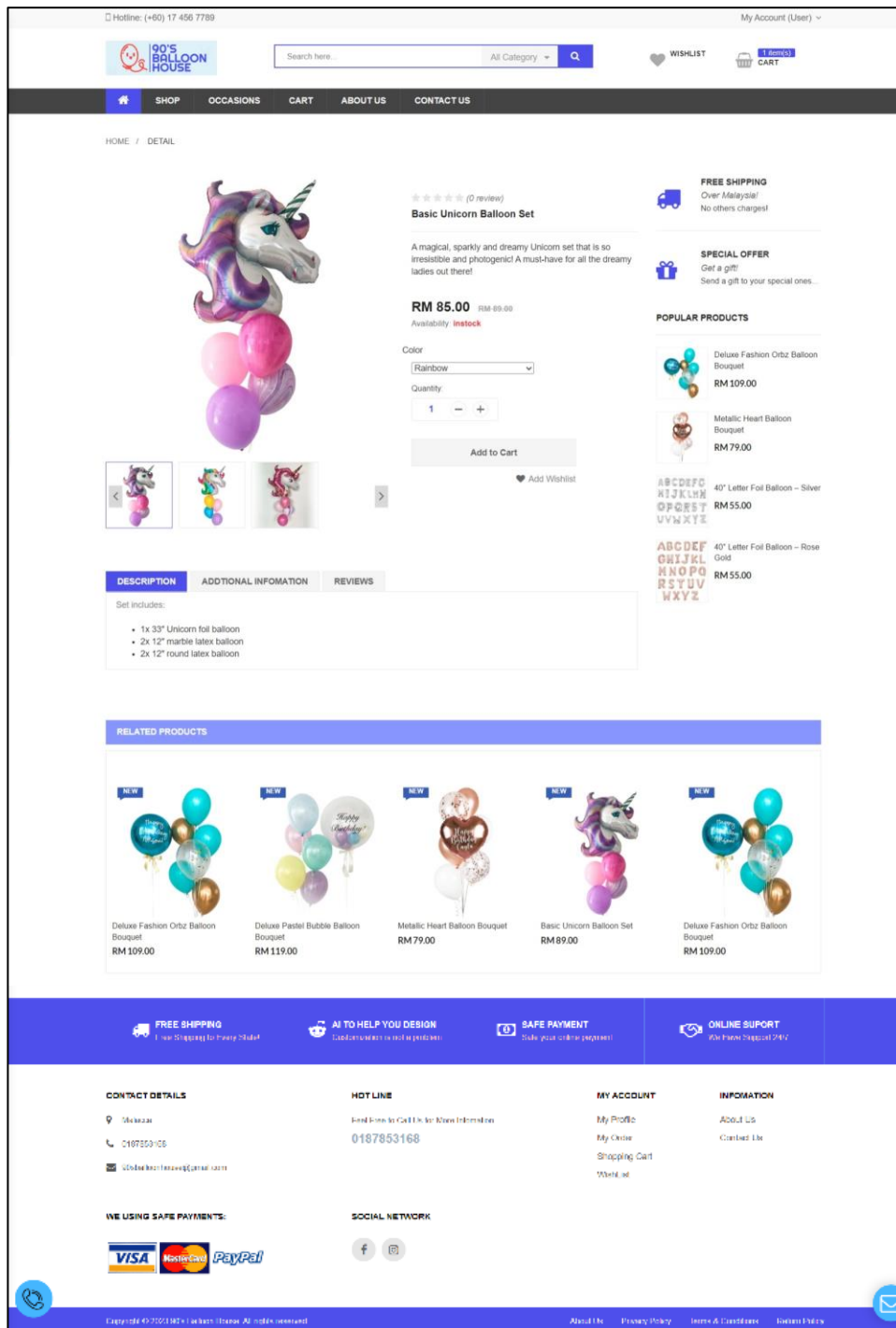


Figure 5.70: User interface design for Product Details Page.

5.5.1.7 Occasion Details Page

The Figure 5.71 shows the user interface design for the occasion details page.

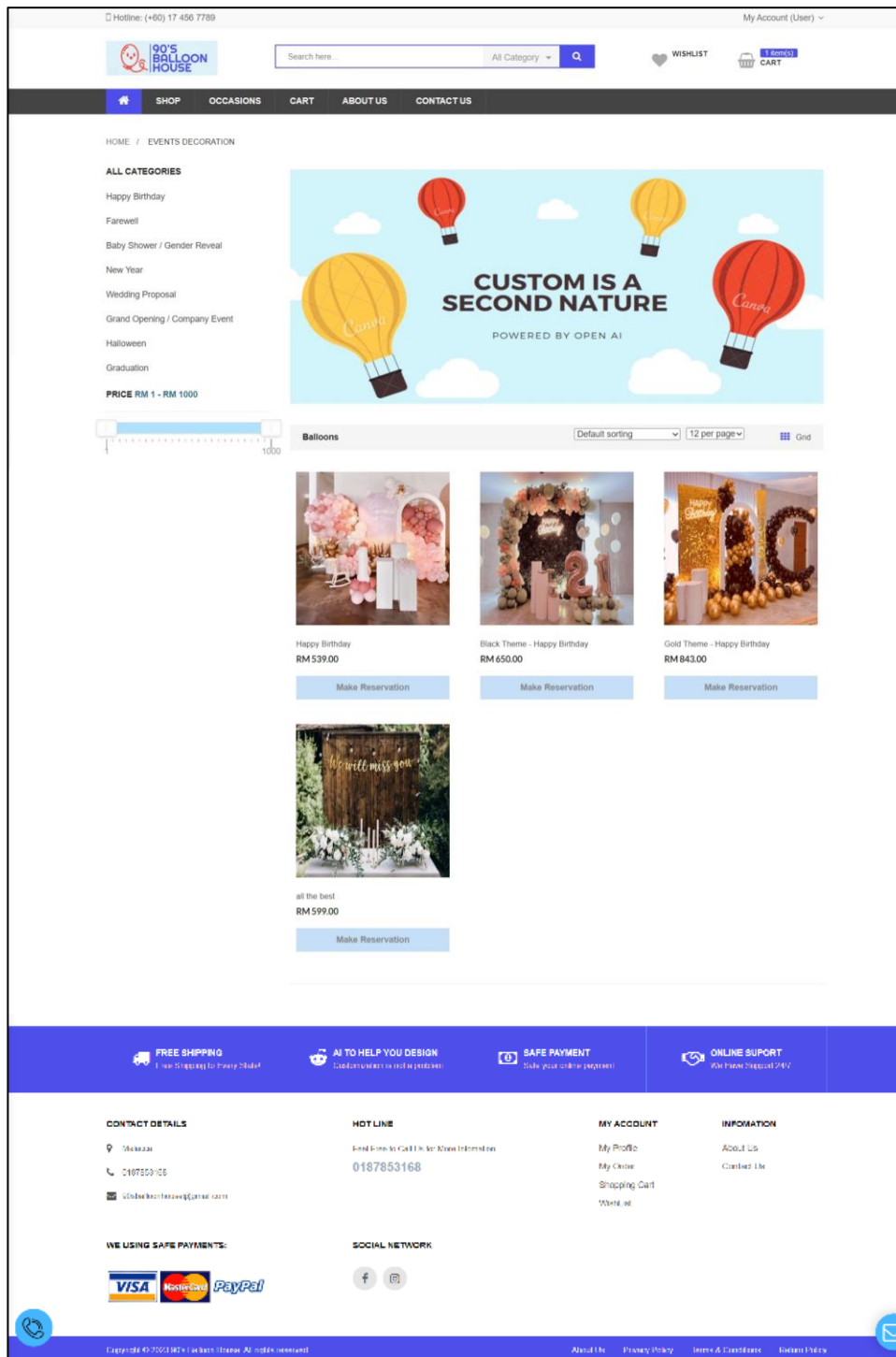


Figure 5.71: User interface design for Occasion Details Page.

5.5.1.8 Make Reservation Page

The Figure 5.72 shows the user interface design for the making reservation page.

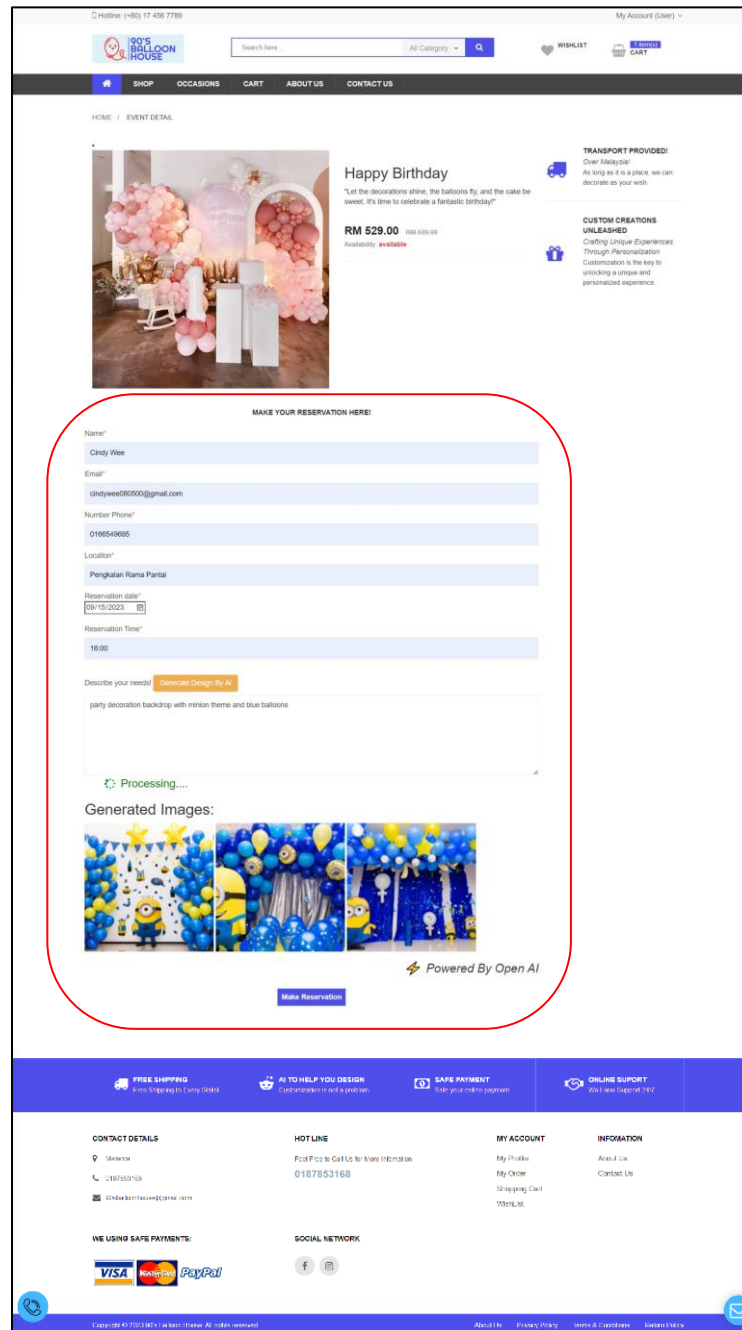


Figure 5.72: User interface design for Make Reservation Page.

5.5.1.9 My Shopping Cart Page

The Figure 5.73 shows the user interface design for the shopping cart page.

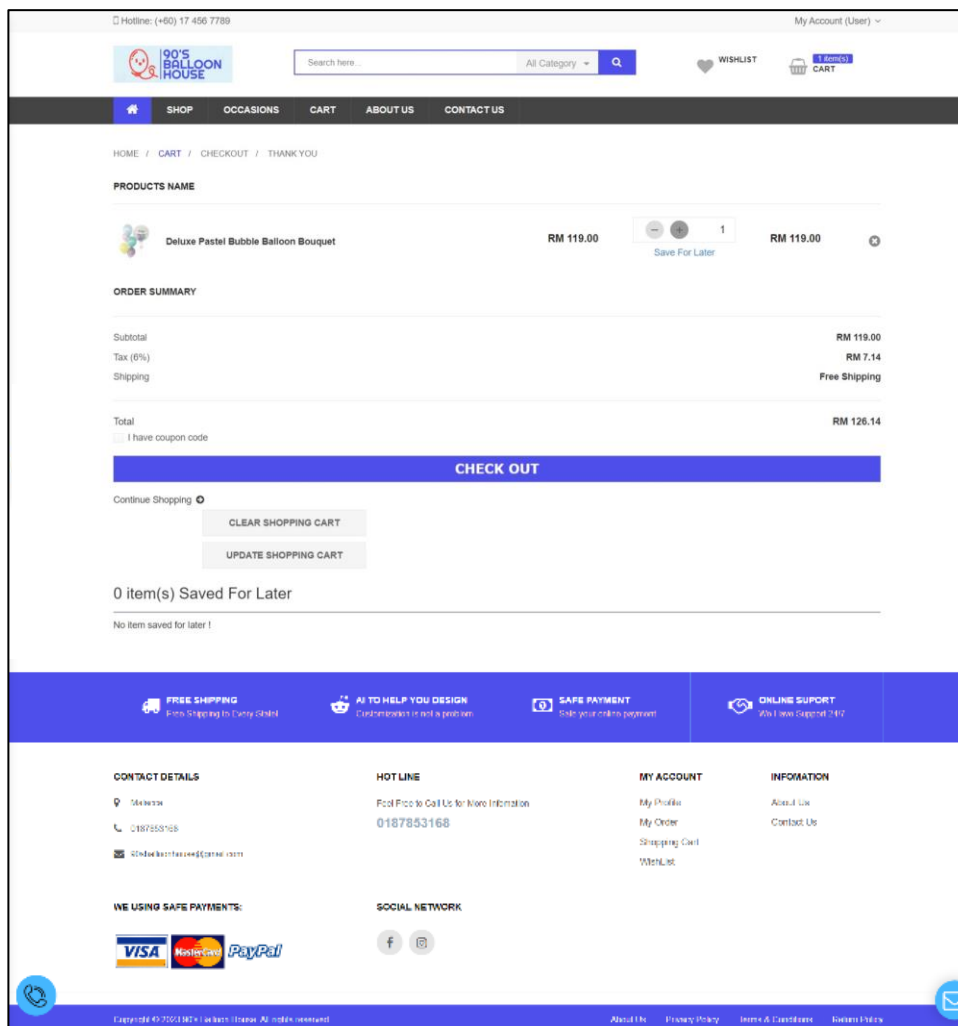


Figure 5.73: User interface design for My Shopping Cart Page.

5.5.1.10 Wishlist Page

The Figure 5.74 shows the user interface design for the wishlist page.

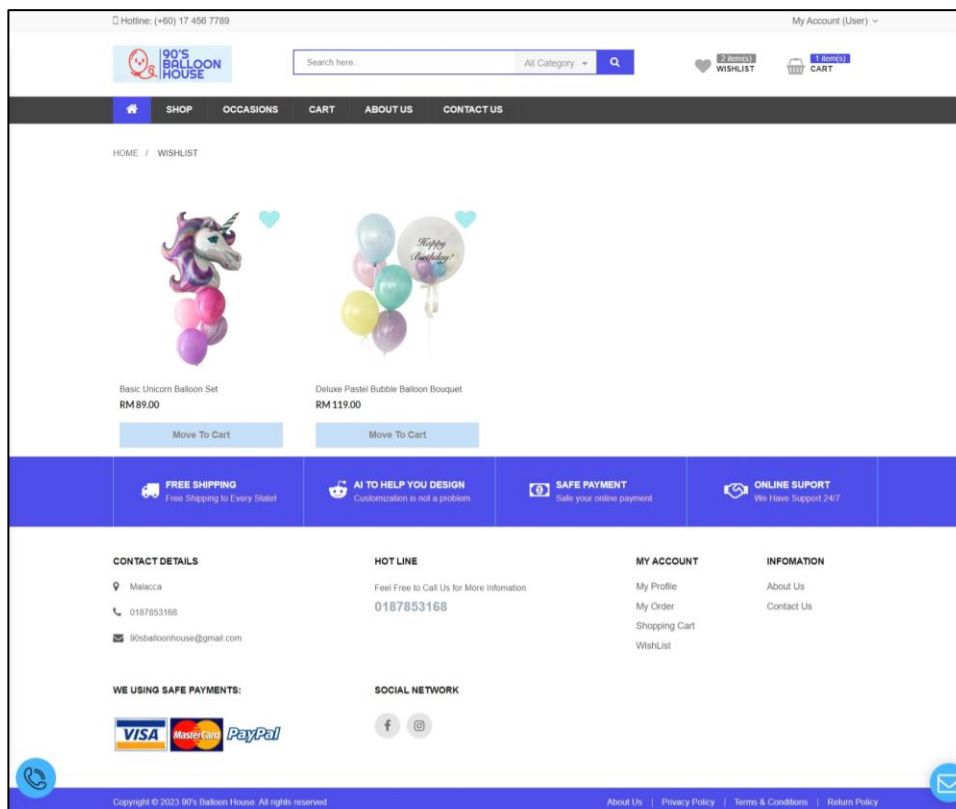


Figure 5.74: User interface design for Wishlist Page.

5.5.1.11 Check Out Page

The Figure 5.75 shows the user interface design for the checkout page.

The image shows a web browser window displaying the checkout page for 'BOO'S BALLOON HOUSE'. The page layout includes a header with a search bar, navigation menu, and account links. The main content area is titled 'CHECKOUT / THANK YOU' and contains a 'BILLING ADDRESS' form with fields for first and last name, email, phone number, and two lines of address. Below the address form are sections for 'PAYMENT METHOD' (with options for Cash On Delivery, Debit / Credit Card, and Paypal) and 'SHIPPING METHOD' (with Flat Rate and Fixed RM 0 options). A 'Grand Total' of RM126.14 is displayed, followed by a 'Place order now' button. The footer features a blue banner with service highlights: FREE SHIPPING, AI TO HELP YOU DESIGN, SAFE PAYMENT, and ONLINE SUPPORT. Below this are sections for CONTACT DETAILS, HOT LINE, MY ACCOUNT, INFORMATION, WE USING SAFE PAYMENTS (with logos for VISA, MasterCard, and PayPal), and SOCIAL NETWORK (with Facebook and Instagram icons).

Figure 5.75: User interface design for Check Out Page.

5.5.1.12 About Us Page

The Figure 5.76 shows the user interface design for the about us page.

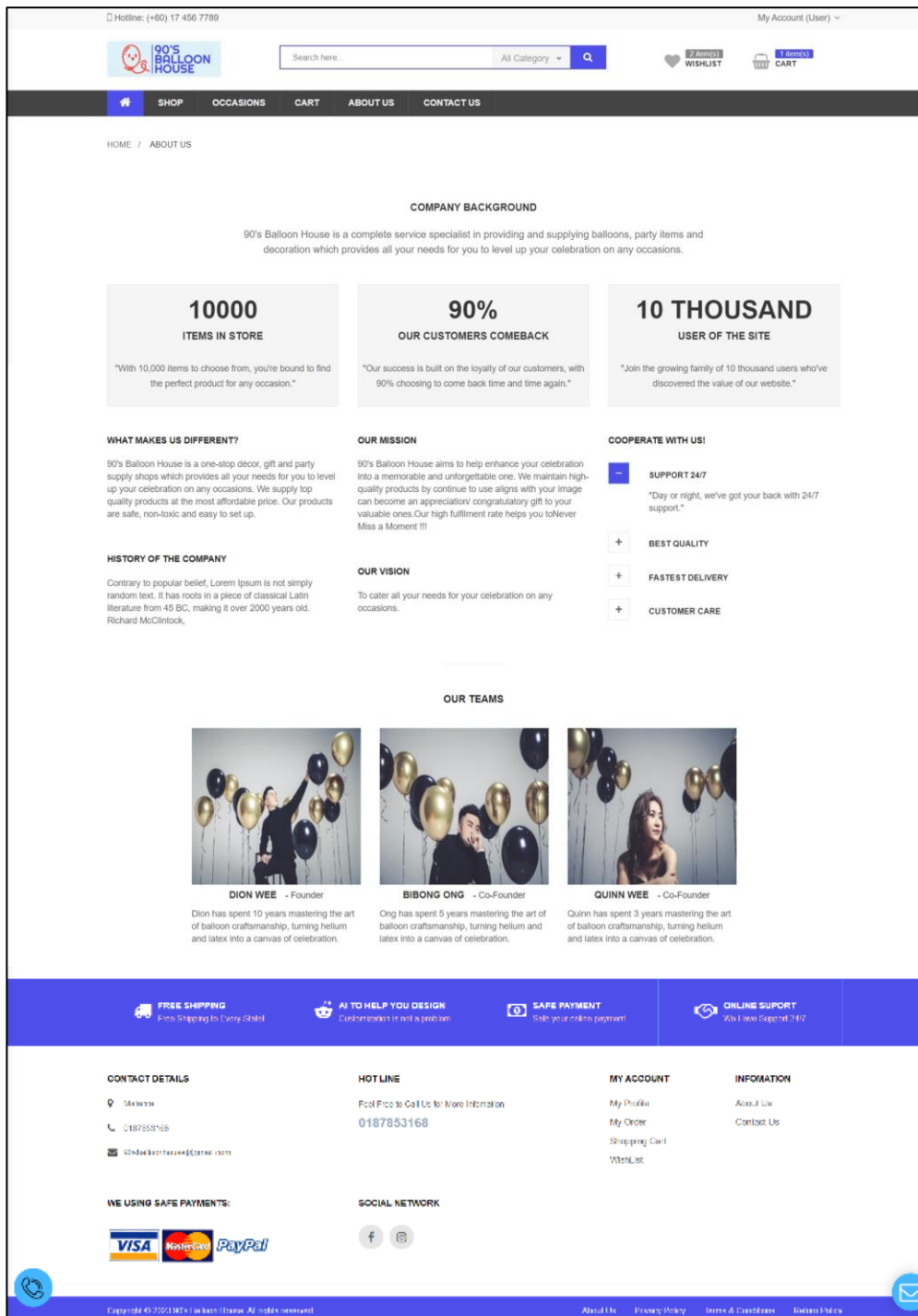


Figure 5.76: User interface design for About Us Page.

5.5.1.13 Contact Us Page

The Figure 5.77 shows the user interface design for the contact us page.

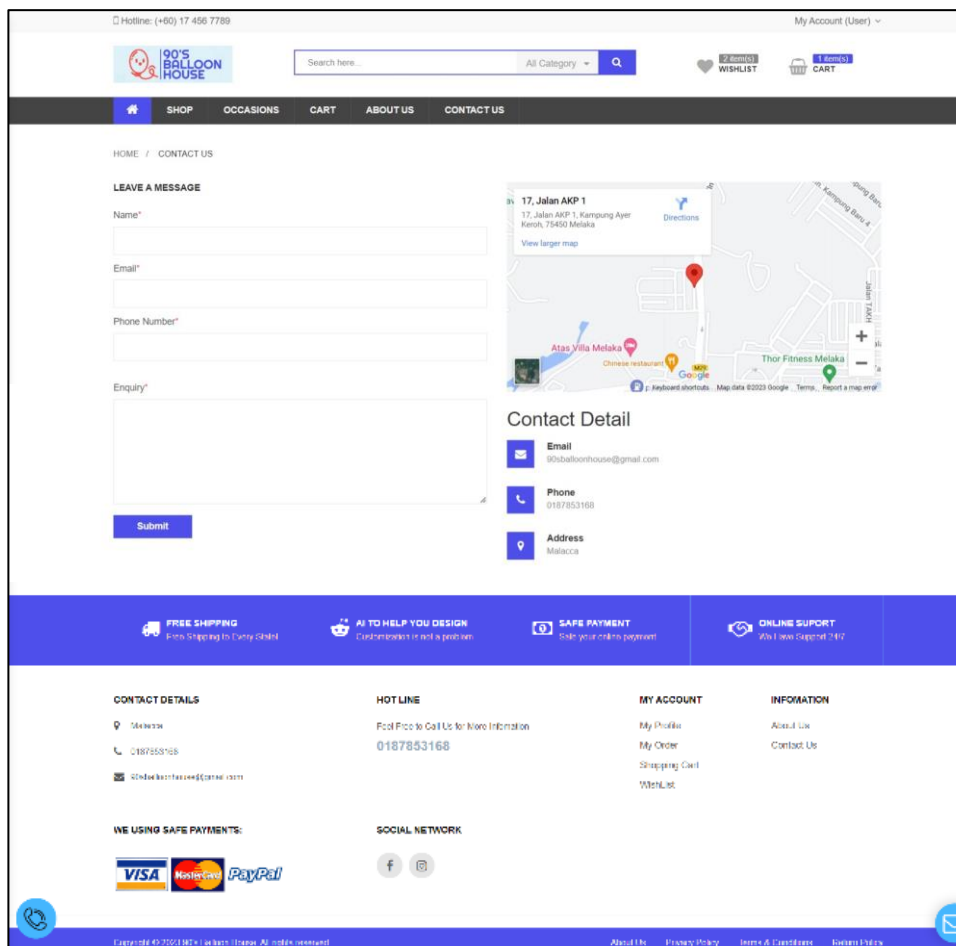


Figure 5.77: User interface design for Contact Us Page.

5.5.1.14 My Profile Page

The Figure 5.78 shows the user interface design for the profile page.

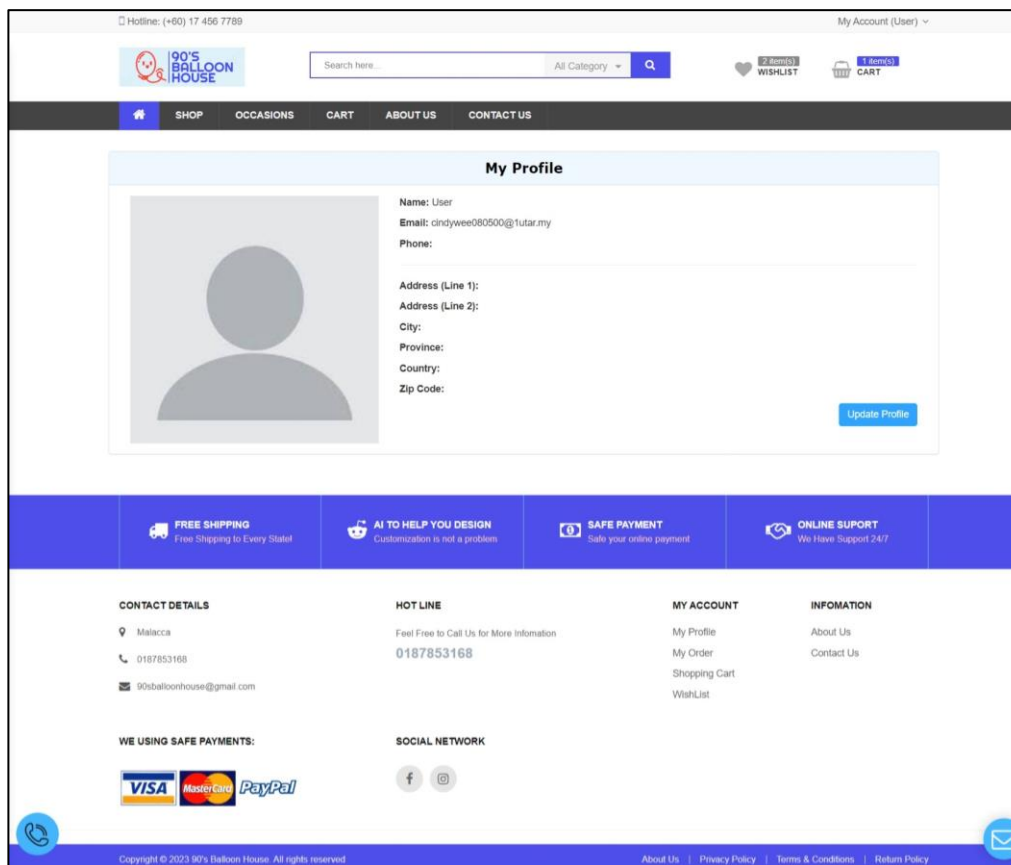


Figure 5.78: User interface design for My Profile Page.

5.5.1.15 Update Profile Page

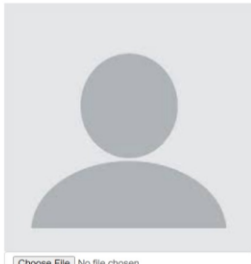
The Figure 5.79 shows the user interface design for the update profile page.

Hotline: (+60) 17 456 7789 My Account (User) ▾

90'S BALLOON HOUSE All Category 2 Item(s) WISHLIST 1 Item(s) CART

SHOP OCCASIONS CART ABOUT US CONTACT US

Update Profile



No file chosen

Name:

Email:

Phone:

Address (Line 1):

Address (Line 2):

City:

Province:


Country:

Zip Code:


Free Shipping In Every State!
 Custom made is not a problem
 Safe your online payment!
 We'll have support 24/7

<p>CONTACT DETAILS</p> <p><input type="button" value="WhatsApp"/></p> <p><input type="button" value="0187853168"/></p> <p><input type="button" value="WhatsApp: 0187853168@tutar.com"/></p>	<p>HOTLINE</p> <p>Feel Free to Call Us for More Information</p> <p>0187853168</p>	<p>MY ACCOUNT</p> <p><input type="button" value="My Profile"/></p> <p><input type="button" value="My Order"/></p> <p><input type="button" value="Shopping Cart"/></p> <p><input type="button" value="Wishlist"/></p>	<p>INFORMATION</p> <p><input type="button" value="About Us"/></p> <p><input type="button" value="Contact Us"/></p>
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WE USING SAFE PAYMENTS:



SOCIAL NETWORK



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[About Us](#) | [Privacy Policy](#) | [Terms & Conditions](#) | [Contact Us](#)

Figure 5.79: User interface design for Update Profile Page.

5.5.1.16 Update Password Page

The Figure 5.80 shows the user interface design for the update password page.

Hotline: (+60) 17 456 7789 My Account (User) ▾

90'S BALLOON HOUSE All Category 2 Item(s) WISHLIST 1 Item(s) CART

SHOP OCCASIONS CART ABOUT US CONTACT US

Change Password

Current Password

New Password

Confirm Password

FREE SHIPPING
Free Shipping to Every State!

AI TO HELP YOU DESIGN
Customization is not a problem

SAFE PAYMENT
Safe your online payment

ONLINE SUPPORT
We Have Support 24/7

CONTACT DETAILS
Malacca
0187853168
90sballoonhouse@gmail.com

HOT LINE
Feel Free to Call Us for More Information
0187853168

MY ACCOUNT
My Profile
My Order
Shopping Cart
WishList

INFORMATION
About Us
Contact Us

WE USING SAFE PAYMENTS:
VISA MasterCard PayPal

SOCIAL NETWORK
f @

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Figure 5.80: User interface design for Update Password Page.

5.5.1.17 User Dashboard Page

The Figure 5.81 shows the user interface design for the user dashboard page.

Hotline: (+60) 17 456 7789 My Account (User)

90'S BALLOON HOUSE Search here All Category WISHLIST (2 items) CART (2 items)

SHOP OCCASIONS CART ABOUT US CONTACT US

My Dashboard

Ordered Delivered Cancelled

Order ID	Subtotal	Discount	Tax	Total	First Name	Last Name	Mobile	Email	Zipcode	Status	Order Date	Action
209	RM238.00	RM0.00	RM14.28	RM252.28	Cindy	Wee	0166549695	cindywee080500@gmail.com	13131	delivered	2023-09-07 13:01:03	Details
208	RM119.00	RM0.00	RM7.14	RM126.14	Cindy	Wee	0166549695	cindywee080500@gmail.com	13131	ordered	2023-09-07 11:37:44	Details
207	RM308.00	RM0.00	RM18.48	RM326.48	Cindy	Wee	0166549695	cindywee080500@gmail.com	13131	cancelled	2023-09-07 02:48:30	Details

FREE SHIPPING Free Shipping to Every State

AI TO HELP YOU DESIGN Customer orders is not a problem

SAFE PAYMENT Safe your online payment

ONLINE SUPPORT We'll have support 24/7

CONTACT DETAILS
 1436304
 0187853168
 90sdad@balloonhouse.com

HOT LINE
 Feel Free to Call Us for More Information
 0187853168

MY ACCOUNT
 My Profile
 My Order
 Shopping Cart
 WishList

INFORMATION
 About Us
 Contact Us

WE USING SAFE PAYMENTS:
 VISA MasterCard PayPal

SOCIAL NETWORK
 f

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Figure 5.81: User interface design for User Dashboard Page.

5.5.1.18 View My Orders Page

The Figure 5.82 shows the user interface design for the viewing all orders page.

Hotline: (+60) 17 456 7789 My Account (User)

90'S BALLOON HOUSE

Search here... All Category

2 Item(s) WISHLIST 2 Item(s) CART

SHOP OCCASIONS CART ABOUT US CONTACT US

Status of My Order(s)

1 Ordered 1 Delivered 1 Canceled

All Orders

Ordered

Order ID	Subtotal	Discount	Tax	Total	First Name	Last Name	Mobile	Email	Zipcode	Status	Order Date	Action
208	RM119.00	RM0.00	RM7.14	RM126.14	Cindy	Wee	0166549695	cindywee080500@gmail.com	13131	ordered	2023-09-07 11:37:44	Details

Delivered

Order ID	Subtotal	Discount	Tax	Total	First Name	Last Name	Mobile	Email	Zipcode	Status	Order Date	Details
209	RM238.00	RM0.00	RM14.28	RM252.28	Cindy	Wee	0166549695	cindywee080500@gmail.com	13131	delivered	2023-09-07 13:01:03	Details

Cancelled

Order ID	Subtotal	Discount	Tax	Total	First Name	Last Name	Mobile	Email	Zipcode	Status	Order Date	Details
207	RM308.00	RM0.00	RM18.48	RM326.48	Cindy	Wee	0166549695	cindywee080500@gmail.com	13131	cancelled	2023-09-07 02:48:30	Details

FREE SHIPPING Free Shipping to Lumut, Shahjahan

AI TO HELP YOU DESIGN Customization is not a problem

SAFE PAYMENT Make your orders payment

ONLINE SUPPORT 24/7 Live Support 24/7

CONTACT DETAILS: 4090034, 0187353168, 90sballoonhouse@gmail.com

HOTLINE: Feel Free to Call Us for More Information, 0187853168

MY ACCOUNT: My Profile, My Order, Shopping Cart, Wishlist

INFORMATION: About Us, Contact Us

WE USING SAFE PAYMENTS: VISA, MasterCard, PayPal

SOCIAL NETWORK: Facebook, Instagram

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Figure 5.82: User interface design for View My Orders Page.

5.5.1.19 Order Details Page

The Figure 5.83 shows the user interface design for the order details page.

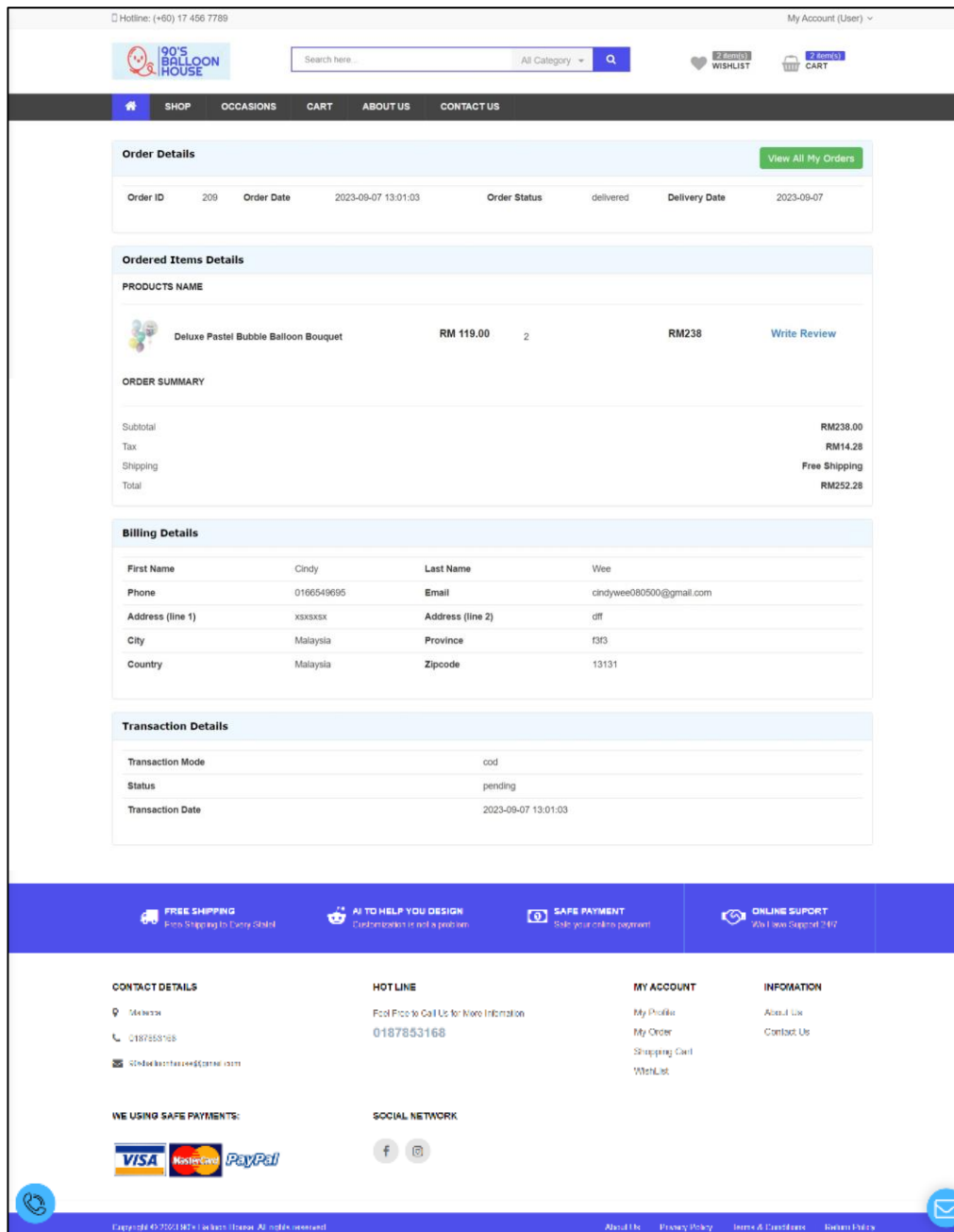


Figure 5.83: User interface design for Order Details Page.

5.5.1.20 Write A Review Page

The Figure 5.84 shows the user interface design for the writing review page.

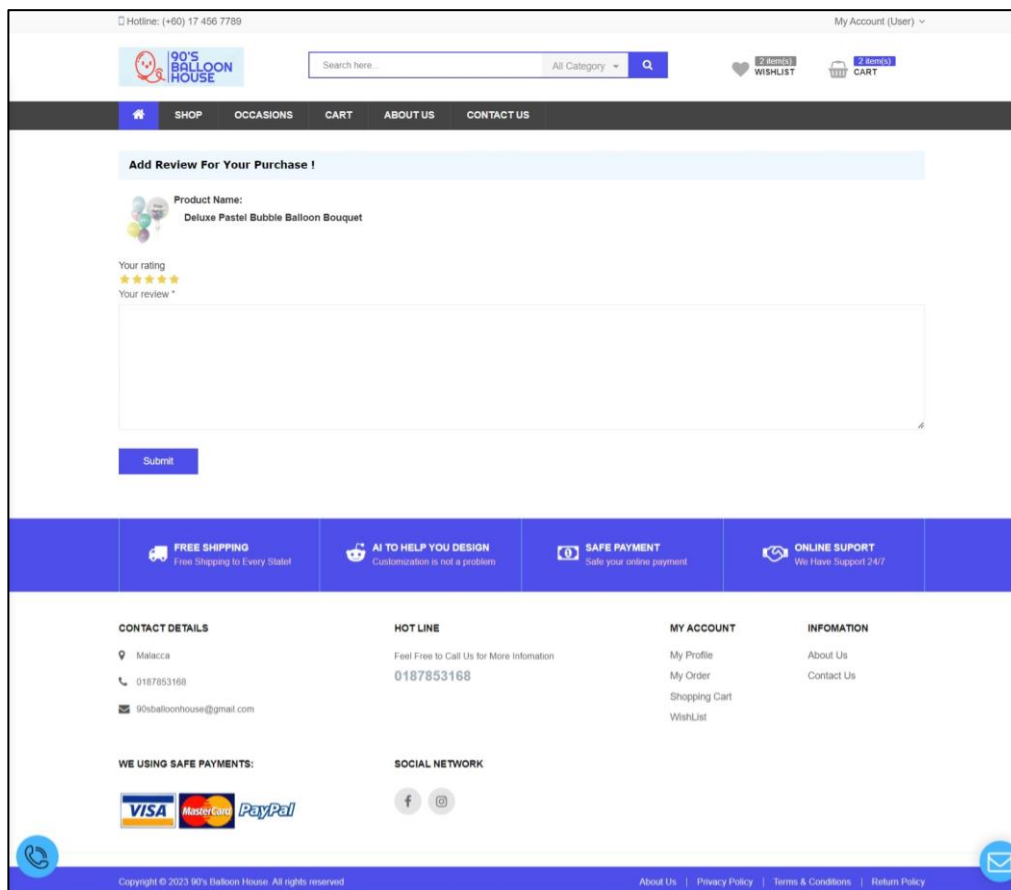


Figure 5.84: User interface design for Write A Review Page.

5.5.1.21 View My Reservations Page

The Figure 5.85 shows the user interface design for the view reservations page.

Hotline: (+60) 17 456 7789 My Account (User) ▾

OO'S BALLOON HOUSE Search here All Category WISHLIST CART

SHOP OCCASIONS CART ABOUT US CONTACT US

Status of My Reservation(s)

1 Pending 2 Confirmed 0 Canceled

All Reservation

Pending

Reservation ID	Name	Email	Phone	Location	Draft Design	Describe	Status	Booking Date	Action
17	cw	cindywee080500@gmail.com	0166549695	Pengkalan Rama Pantai		party decoration backdrop with snoopy theme	pending	2023-08-03 11:07:03	Details

Confirmed

Reservation ID	Name	Email	Phone	Location	Draft Design	Describe	Status	Booking Date	Action
15	cw	cindywee080500@gmail.com	0166549695	Pengkalan Rama Pantai		party decoration backdrop with doctor and nurse	confirmed	2023-08-29 16:57:35	Details
16	Cindy Wee	cindywee080500@gmail.com	0166549695	Pengkalan Rama Pantai		party decoration backdrop with snoopy and frog theme	confirmed	2023-09-01 08:00:19	Details

FREE SHIPPING Free Shipping to Curia Only AI TO HELP YOU DESIGN Customization is not a problem SAFE PAYMENT Safe your money payment ONLINE SUPPORT Via Live Support 7x24

CONTACT DETAILS 16444444 01887653168 4040404040404040@gmail.com

HOT LINE Free Call to Call Us for More Information 0187853168

MY ACCOUNT My Profile My Order Shipping Card WishList

INFORMATION About Us Contact Us

WE USING SAFE PAYMENTS: VISA MasterCard PayPal

SOCIAL NETWORK f

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Figure 5.85: User interface design for View My Reservations Page.

5.5.1.22 Reservation Details Page

The Figure 5.86 shows the user interface design for the viewing reservation details page.

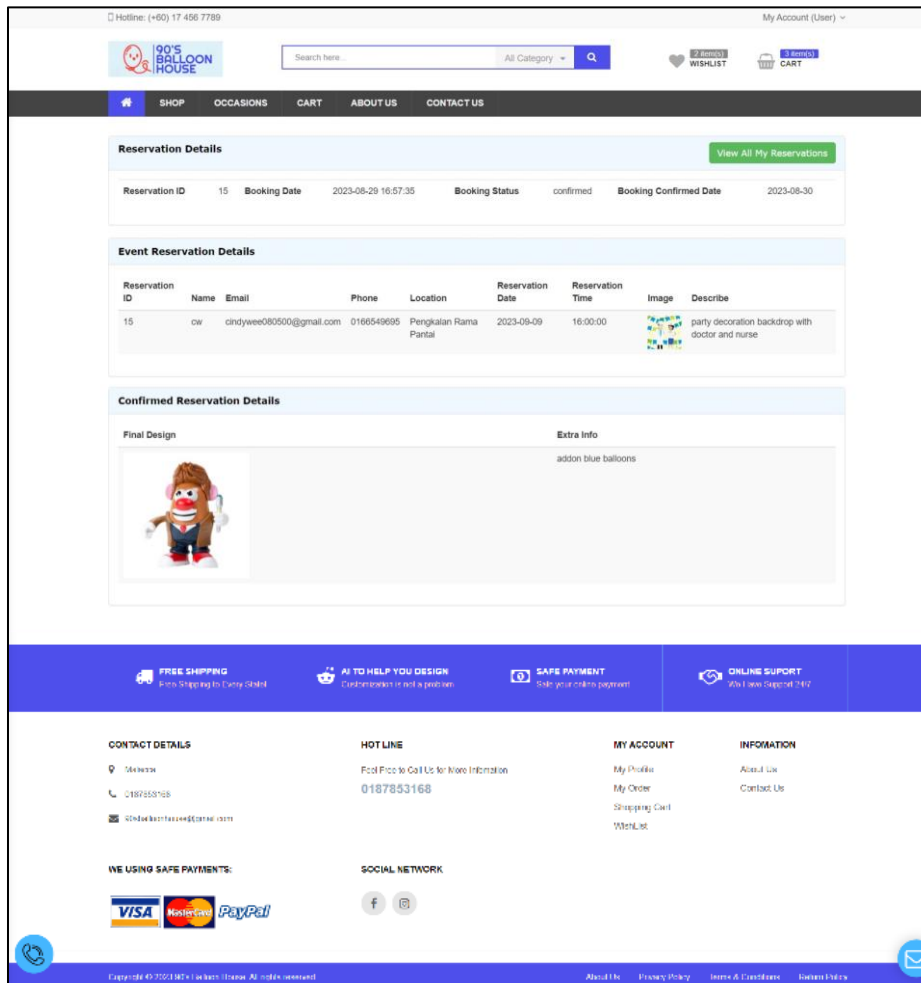


Figure 5.86: User interface design for Reservation Details Page.

5.5.1.23 Chatbot Feature

The Figure 5.87 shows the user interface design for the botman features which available in every page.

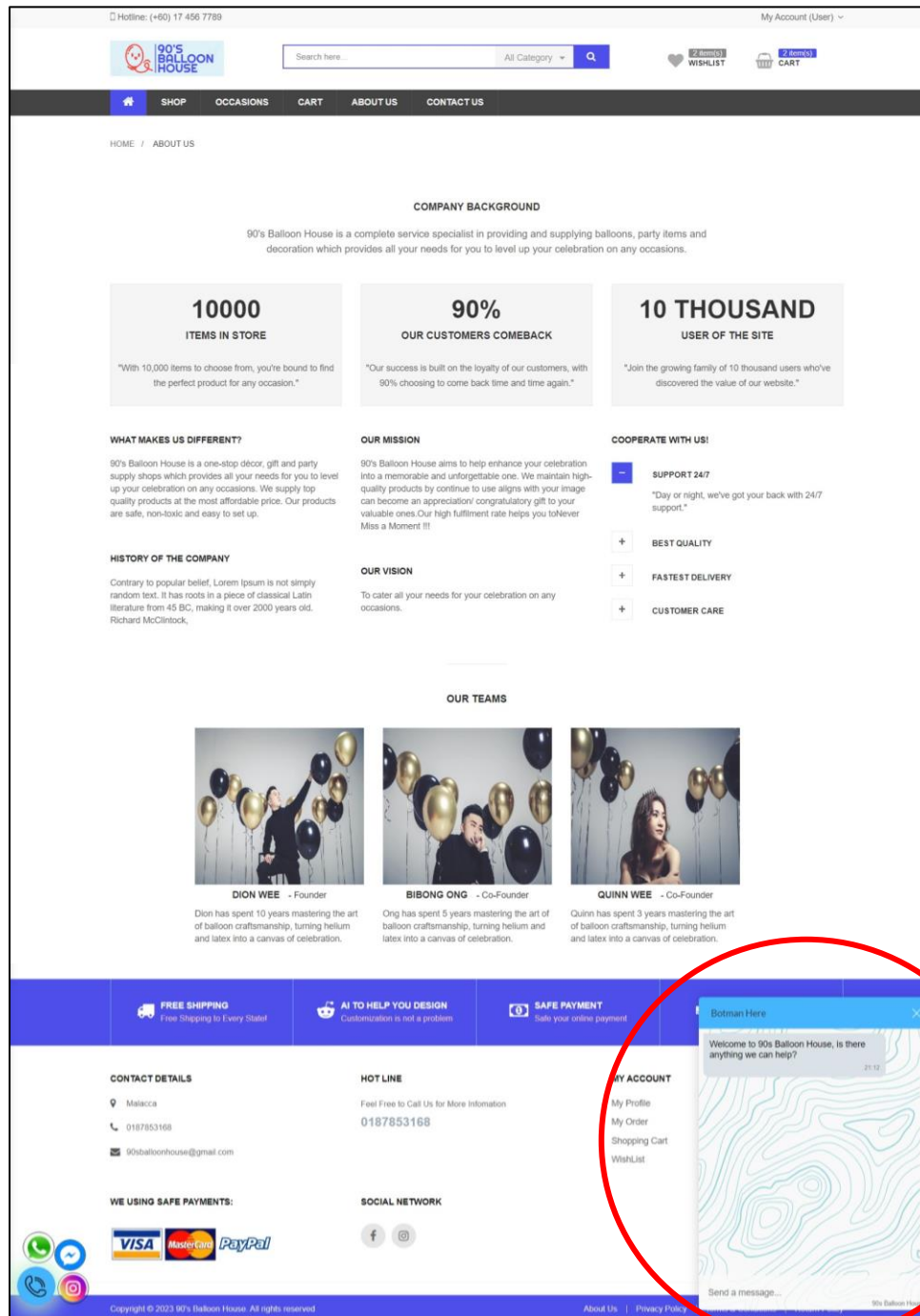


Figure 5.87 User interface design for Chatbot Feature.

5.5.2 Admin / Shop owner / Staff Side

In the implemented system, user interface (UI) design for admins, staff, and shop owner is dedicated to crafting distinct digital experiences that cater to their unique roles. It emphasizes intuitive navigation, visually engaging interfaces, and user-friendliness, ensuring that admins have comprehensive control, staff can efficiently manage tasks, and owners can oversee operations with ease.

5.5.2.1 Admin Dashboard Page

The Figure 5.88 shows the user interface design for the admin dashboard page.

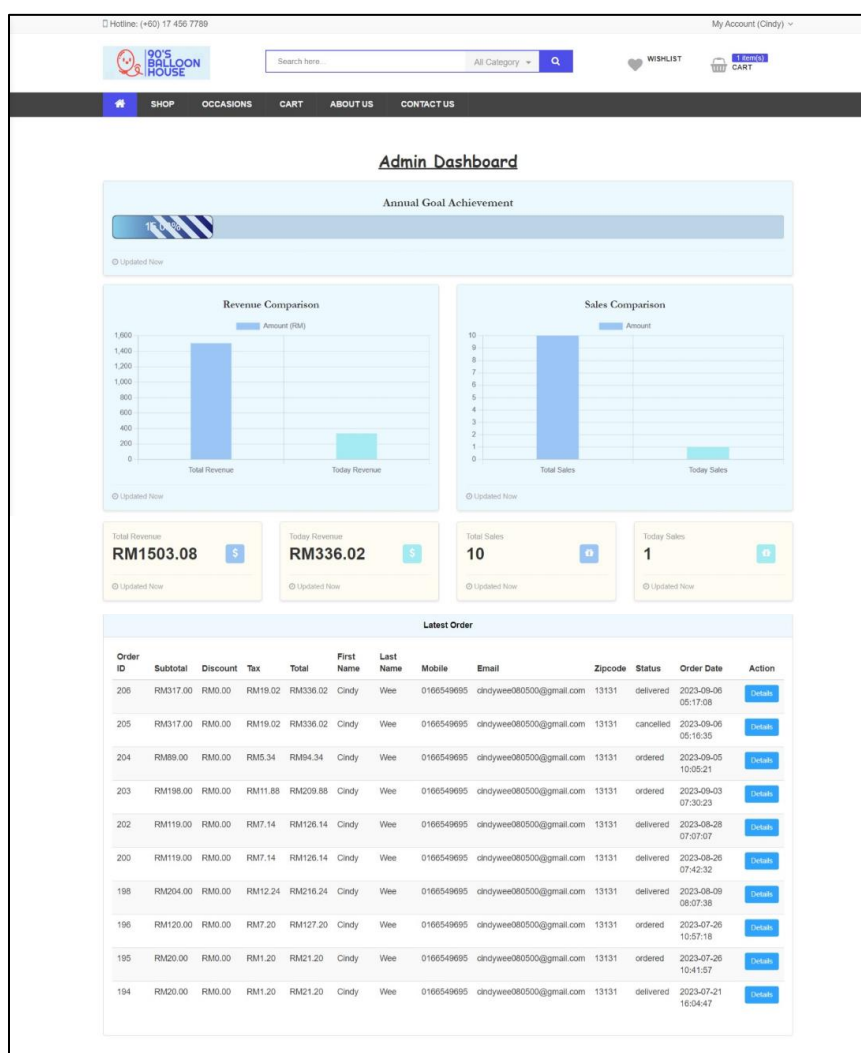


Figure 5.88: User interface design for Admin Dashboard Page.

5.5.2.2 Manage Category

Figure 5.89 shows the admin interface design for the manage category page and the Figure 5.90 shows the add new category page that shows up after the admin clicked on the “Add” button on the manage category page. Figure 5.91 is the update category page displayed if the admin clicked on the “Edit” button for one of the categories displayed on the manage category page, and the Figure 5.92 shows the confirmation modal of the category deletion.

5.5.2.2.1 Manage Category Page

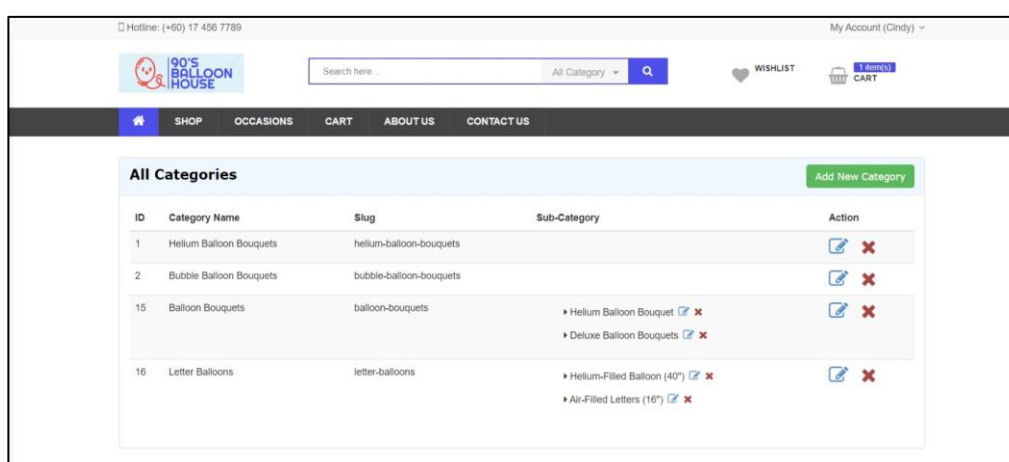


Figure 5.89: User interface design for Manage Category Page.

5.5.2.2.2 Add Category Page

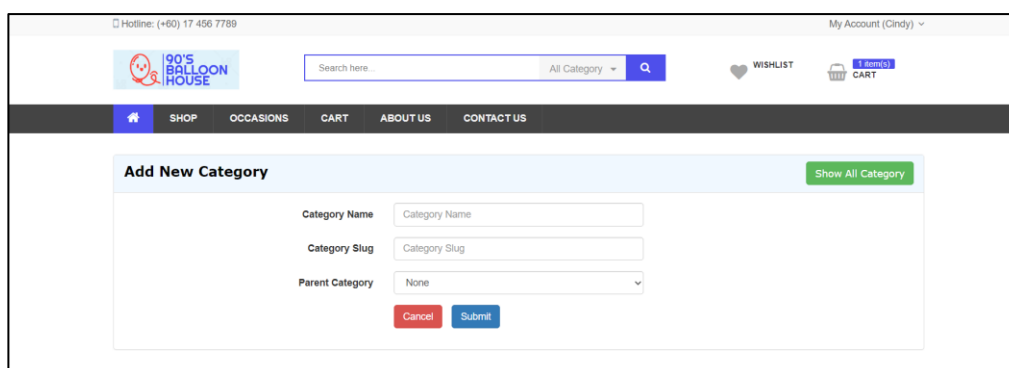


Figure 5.90: User interface design for Add Category Page.

5.5.2.2.3 Edit/Update Category Page

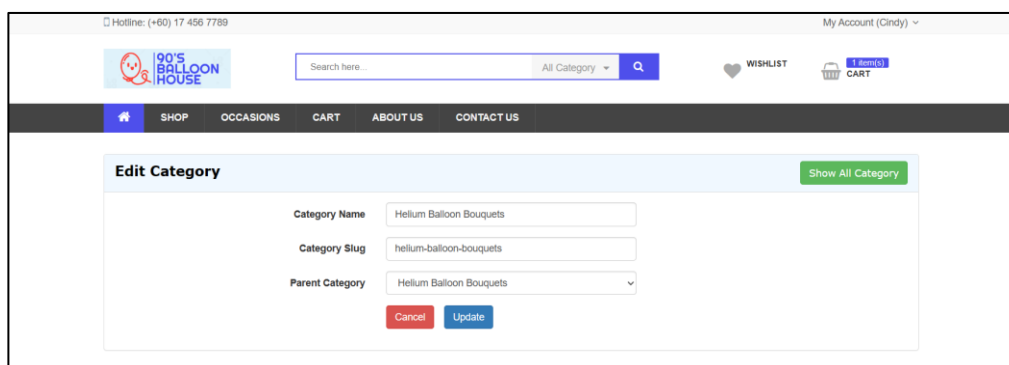


Figure 5.91: User interface design for Edit/Update Category Page.

5.5.2.2.4 Delete Category

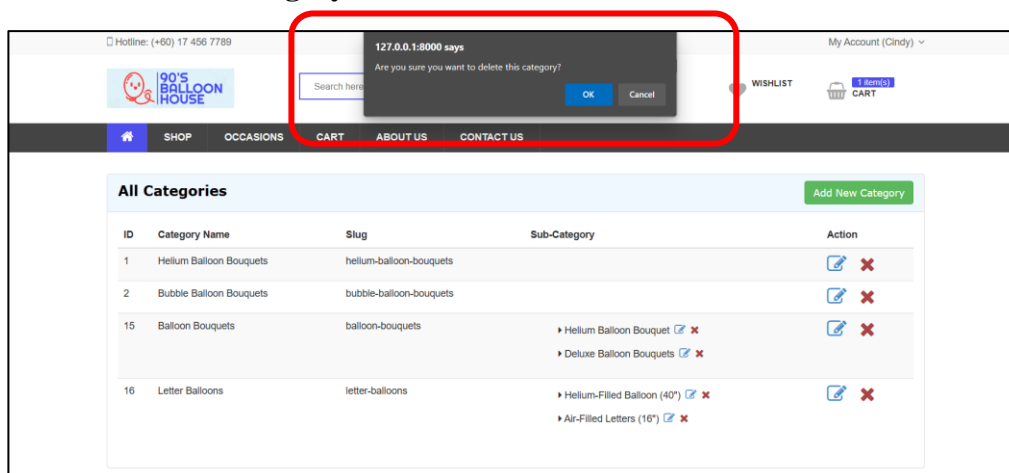


Figure 5.92: User interface design for Delete Category.

5.5.2.3 Manage Event (Occasion) Category

Figure 5.93 shows the admin interface design for the manage event category page and the Figure 5.95 shows the add new event category page that shows up after the admin clicked on the “Add” button on the manage category page. Figure 5.95 is the update event category page displayed if the admin clicked on the “Edit” button for one of the categories displayed on the manage category page, and the Figure 5.96 shows the confirmation modal of the event category deletion.

5.5.2.3.1 Manage Event Category Page

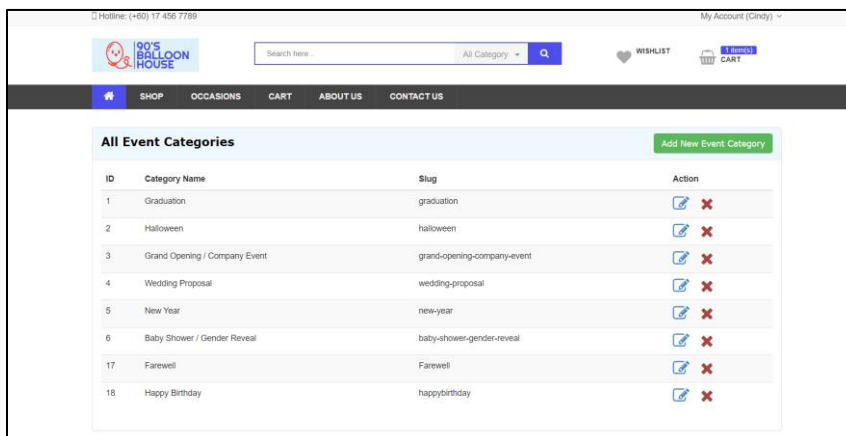


Figure 5.93: User interface design for Manage Event (Occasion) Category Page.

5.5.2.3.2 Add Event Category Page

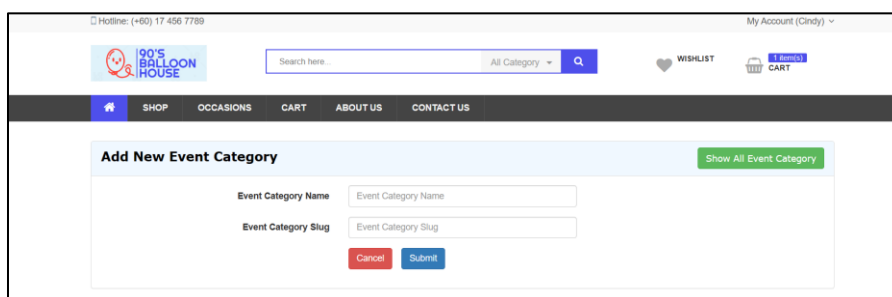


Figure 5.94: User interface design for Add Category Page.

5.5.2.3.3 Edit/Update Event Category Page

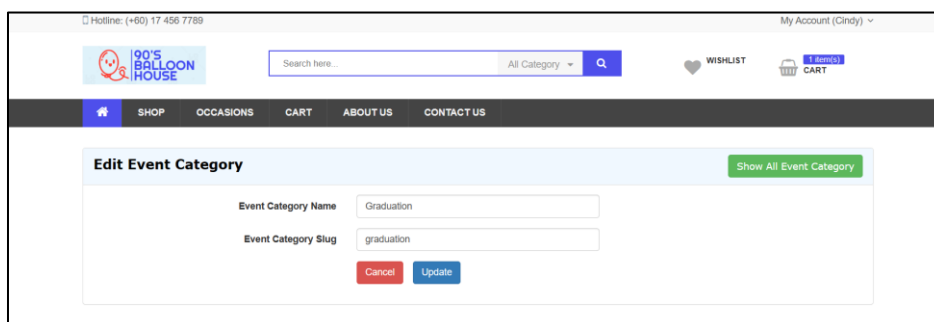


Figure 5.95: User interface design for Edit/Update Event Category Page.

5.5.2.3.4 Delete Event Category

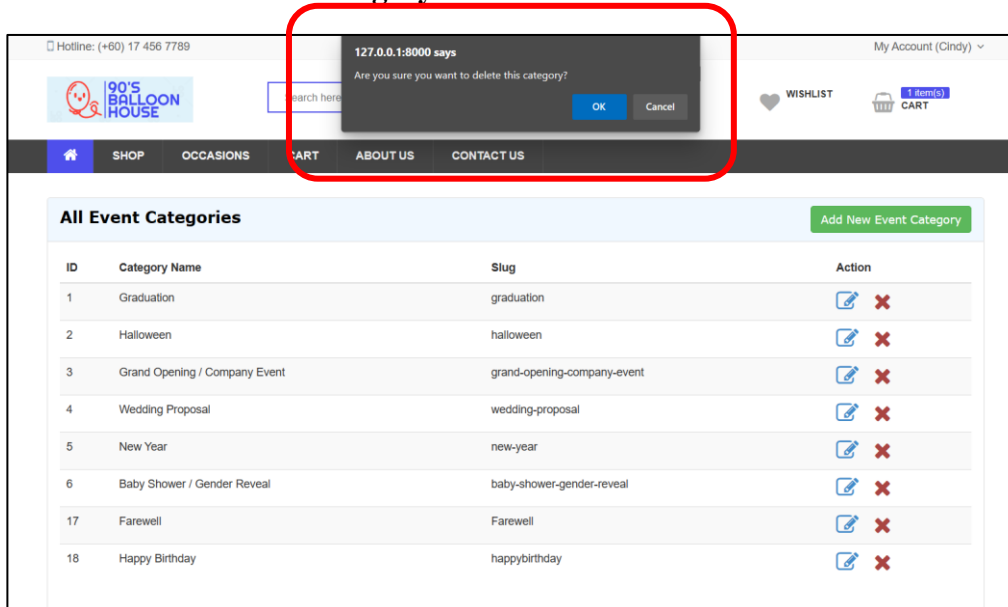


Figure 5.96: User interface design for Delete Event Category.

5.5.2.4 Manage Product Attributes

Figure 5.97 shows the admin interface design for the manage product attribute page and the Figure 5.98 shows the add new product attribute page that shows up after the admin clicked on the “Add” button on the manage product attribute page. Figure 5.99 is the update product attribute page displayed if the user clicked on the “Edit” button for one of the product attributes displayed on the manage product attribute page, and the Figure 5.100 shows the confirmation modal of the product attribute deletion.

5.5.2.4.1 Manage Product Attributes Page

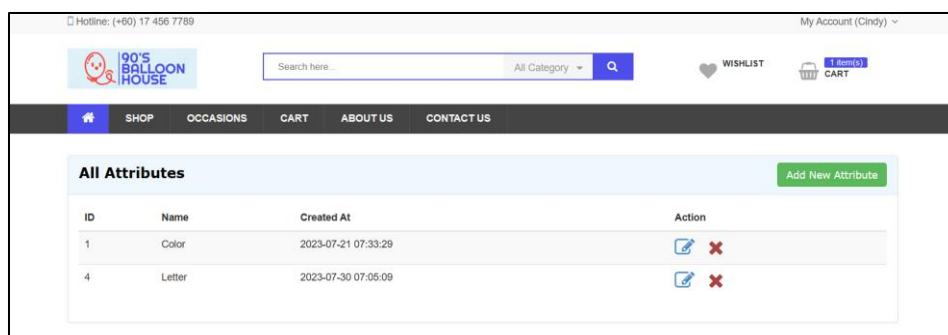


Figure 5.97: User interface design for Manage Product Attributes Page.

5.5.2.4.2 Add Product Attributes Page

Hotline: (+60) 17 456 7789 My Account (Cindy) ▾

90'S BALLOON HOUSE Search here... All Category Q WISHLIST CART 1 item(s)

SHOP OCCASIONS CART ABOUT US CONTACT US

Add New Attribute Show All Attributes

Attribute Name Attribute Name

Submit

Figure 5.98: User interface design for Add Product Attributes Page.

5.5.2.4.3 Edit/Update Product Attributes Page

Hotline: (+60) 17 456 7789 My Account (Cindy) ▾

90'S BALLOON HOUSE Search here... All Category Q WISHLIST CART 1 item(s)

SHOP OCCASIONS CART ABOUT US CONTACT US

Edit Attribute Show All Attributes

Attribute Name Color

Cancel Update

Figure 5.99: User interface design for Edit/Update Product Attributes Page.

5.5.2.4.4 Delete Product Attribute

Hotline: (+60) 17 456 7789 My Account (Cindy) ▾

90'S BALLOON HOUSE Search here... All Category Q WISHLIST CART 1 item(s)

SHOP OCCASIONS CART ABOUT US CONTACT US

All Attributes Add New Attribute

ID	Name	Created At	Action
1	Color	2023-07-21 07:33:29	
4	Letter	2023-07-30 07:05:09	

Figure 5.100: User interface design for Delete Product Attributes.

5.5.2.5 Manage Product

Figure 5.101 shows the admin interface design for the manage product page and the Figure 5.102 shows the add new product page that shows up after the admin clicked on the “Add” button on the manage product page. Figure 5.103 is the update product page displayed if the admin clicked on the “Edit” button for one of the products displayed on the manage product page, and the Figure 5.104 shows the confirmation modal of the product deletion.

5.5.2.5.1 Manage Product Page

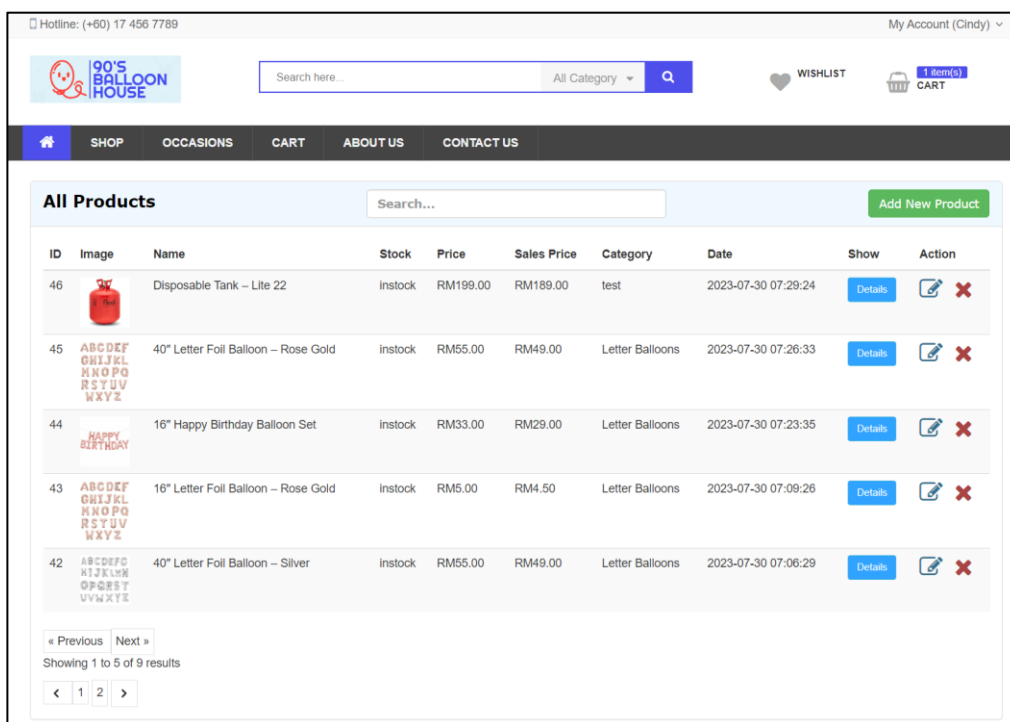


Figure 5.101: User interface design for Manage Product Page.

5.5.2.5.2 Add Product Page

The screenshot shows the 'Add New Product' page for '90'S SALOON HOUSE'. The page includes a header with contact information, a search bar, and navigation links. The main content area contains the following form fields:

- Product Name:** Text input field.
- Product Slug:** Text input field.
- Product Short Description:** Rich text editor with a toolbar (File, Edit, View, Insert, Format) and a 'Paragraph' dropdown.
- Product Description:** Rich text editor with a toolbar (File, Edit, View, Insert, Format) and a 'Paragraph' dropdown.
- Regular Price:** Text input field.
- Sales Price:** Text input field.
- SKU:** Text input field.
- Stock:** Dropdown menu with 'InStock' selected.
- Featured:** Dropdown menu with 'No' selected.
- Quantity:** Text input field.
- Product Image:** File upload button labeled 'Choose File' with 'No file chosen' text.
- Product Gallery:** File upload button labeled 'Choose Files' with 'No file chosen' text.
- Category:** Dropdown menu with 'Select Category' text.
- Sub-Category:** Dropdown menu with 'Select Sub-category' text.
- Product Attributes:** Dropdown menu with 'Select Attribute' text and an 'Add' button.

At the bottom of the form, there are 'Cancel' and 'Submit' buttons. A 'Show All Products' button is located in the top right corner of the form area.

Figure 5.102: User interface design for Add Product Page.

5.5.2.5.3 Edit/Update Product Page

Hotline: (+60) 17 456 7789 My Account (Cindy) ▾

90'S BALLOON HOUSE All Category WISHLIST CART

SHOP OCCASIONS CART ABOUT US CONTACT US

Edit Product Show All Products

Product Name

Product Slug

Product Short Description

File Edit View Insert Format

← → Paragraph ▾ ⋮

Combine our massive letters and numbers to build your own words or even sentences.

Ⓜ tiny

Product Description

File Edit View Insert Format

← → Bold ▾ ⋮

Floating Times

Our 40\" letter balloons would float for around 4-5 days or longer. We've seen them float for more than 2 weeks, but it depends on the handling and weather conditions.

Ⓜ strong tiny

Regular Price

Sales Price

SKU

Stock

Featured

Quantity

Product Image No file chosen

ABCDEF
GHIJKL
MNOPO
RSTUV
WXYZ

Product Gallery No file chosen

HOW TO INFLATE

Category

Sub-Category

Product Attributes

Letter

Figure 5.103: User interface design for Edit/Update Product Page.

5.5.2.5.4 Delete Product

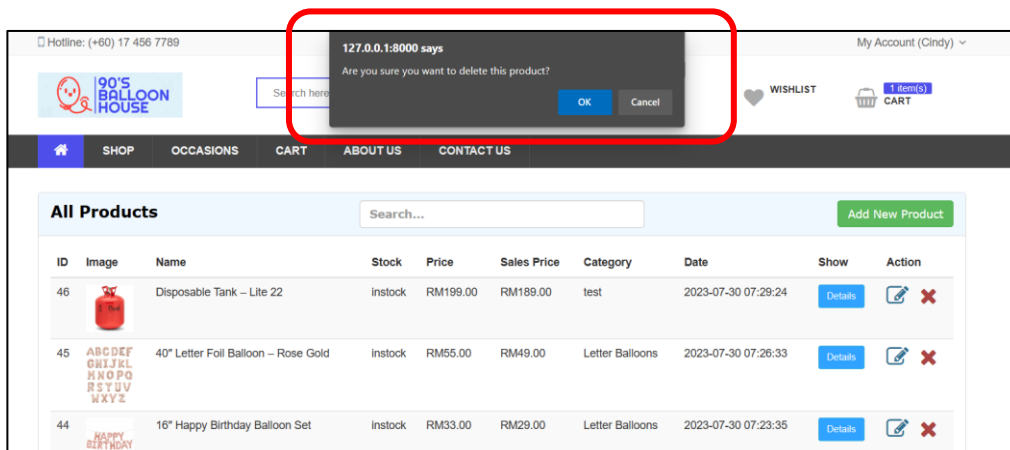


Figure 5.104: User interface design for Delete Product.

5.5.2.6 Manage Event (Occasion)

Figure 5.105 shows the admin interface design for the manage event page and the Figure 5.106 shows the add new event page that shows up after the admin clicked on the “Add” button on the manage event page. Figure 5.107 is the update event page displayed if the admin clicked on the “Edit” button for one of the events displayed on the manage event page, and the Figure 5.108 shows the confirmation modal of the event deletion.

5.5.2.6.1 Manage Event (Occasion) Page

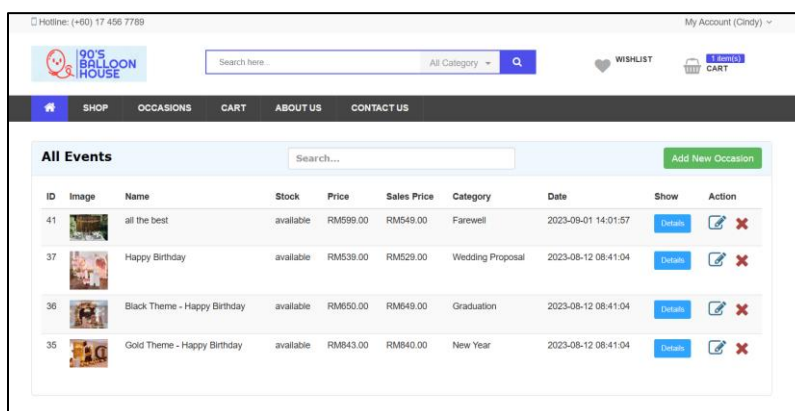


Figure 5.105: User interface design for Manage Event (Occasion) Page.

5.5.2.6.2 Add Event Page

Hotline: (+60) 17 456 7789 My Account (Gndy) ▾

90'S BALLOON HOUSE Search here. All Category Q WISHLIST CART

SHOP OCCASIONS CART ABOUT US CONTACT US

Add New Event Show All Events

Event Name

Event Slug

Event Short Description

File Edit View Insert Format
← → Paragraph ...

Event Short Description

p tiny

Event Description

File Edit View Insert Format
← → Paragraph ...

Event Description

p tiny

Regular Price

Sales Price

SKU

Stock

Featured

Event Image No file chosen

Event Gallery No file chosen

Category

Figure 5.106: User interface design for Add Event Page.

5.5.2.6.3 Edit / Update Event Details Page

The screenshot displays the 'Edit Occasions' page for 'OO'S BALLOON HOUSE'. The page includes a header with the company logo, a search bar, and navigation links for 'SHOP', 'OCCASIONS', 'CART', 'ABOUT US', and 'CONTACT US'. A 'My Account (Only)' dropdown is visible in the top right corner. The main content area is titled 'Edit Occasions' and contains the following fields:

- Event Name:** all the best
- Event Slug:** all-the-best
- Event Short Description:** A rich text editor containing the text: "They must often change, who would be constant in happiness or wisdom."
- Event Description:** A rich text editor containing the text: "This package consists of: 1 pcs x 23" L Size Bubble Balloon (includes 10's mini & tassel) 4pcs x Mini Balloon tied to below the Bubble Balloon"
- Regular Price:** 599.00
- Sales Price:** 549.00
- SKU:** EA0001
- Stock:** Available
- Featured:** No
- Event Image:** Choose File | No file chosen (with a thumbnail image)
- Event Gallery:** Choose Files | No file chosen (with a gallery image)
- Category:** Farewell

At the bottom of the form, there are 'Cancel' and 'Update' buttons. A 'Show All Occasions' button is located in the top right corner of the main content area.

Figure 5.107: User interface design for Edit / Update Event Page.

5.5.2.6.4 Delete Event

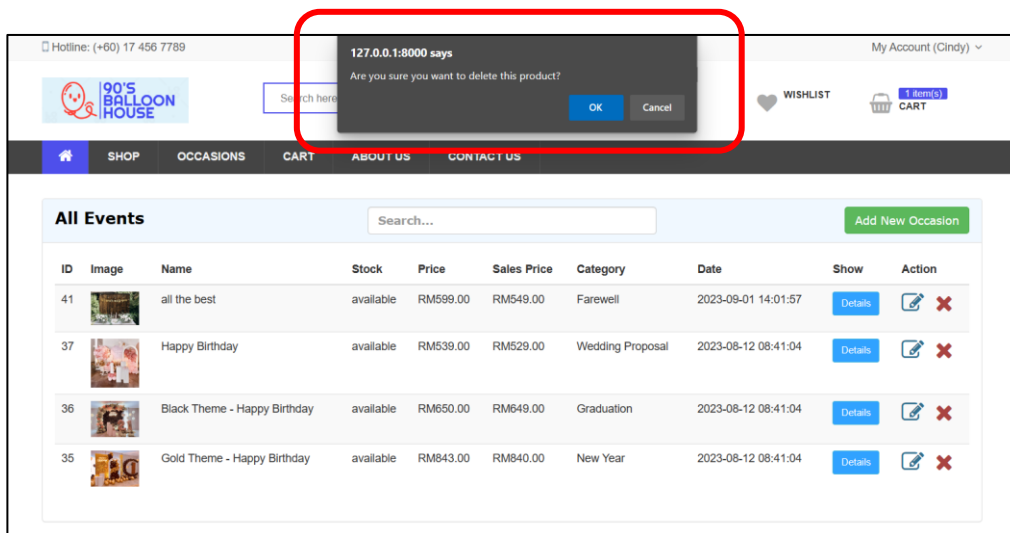


Figure 5.108: User interface design for Delete Event.

5.5.2.7 Manage Home Page Slider

Figure 5.109 shows the admin interface design for the manage home page slider page and the Figure 5.110 shows the add new home page slider page that shows up after the admin clicked on the “Add” button on the manage home page slider page. Figure 5.111 is the update home page slider page displayed if the admin clicked on the “Edit” button for one of the home page sliders displayed on the manage home page slider page, and the Figure 5.112 shows the confirmation modal of the home page slider deletion.

5.5.2.7.1 Manage Home Page Slider Page

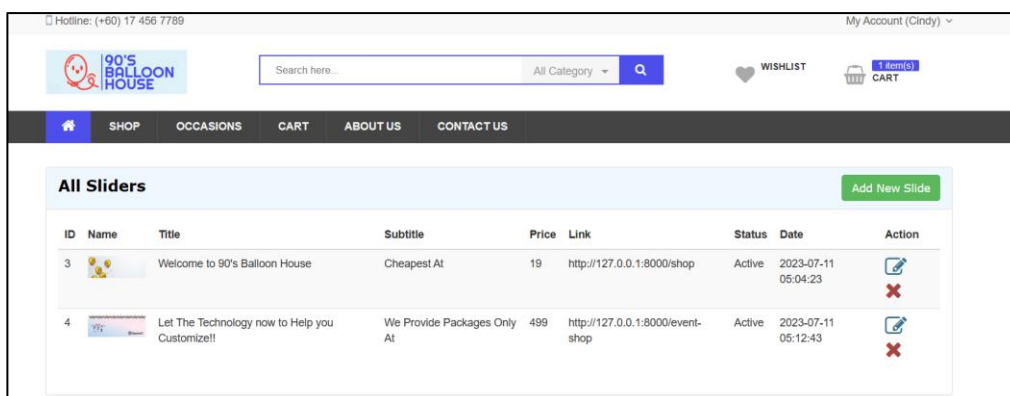


Figure 5.109: User interface design for Manage Home Page Slider Page) Page.

5.5.2.7.2 Add Home Page Slider Page

The screenshot shows the 'Add New Slide' form within the 90's Balloon House website. The form is titled 'Add New Slide' and includes a green 'All Slides' button in the top right corner. The form fields are as follows:

- Title:** A text input field with the placeholder text 'Title'.
- Subtitle:** A text input field with the placeholder text 'Subtitle'.
- Price:** A text input field with the placeholder text 'Price'.
- Link:** A text input field with the placeholder text 'Link'.
- Image:** A file selection area with a 'Choose File' button and the text 'No file chosen'.
- Status:** A dropdown menu currently set to 'Inactive'.

At the bottom of the form are two buttons: a red 'Cancel' button and a blue 'Submit' button.

Figure 5.110: User interface design for Add Home Page Slider Page.

5.5.2.7.3 Edit / Update Home Page Slider Page

The screenshot shows the 'Edit Slide' form within the 90's Balloon House website. The form is titled 'Edit Slide' and includes a green 'All Slides' button in the top right corner. The form fields are as follows:

- Title:** A text input field containing the text 'Welcome to 90's Balloon House'.
- Subtitle:** A text input field containing the text 'Cheapest At'.
- Price:** A text input field containing the text '19'.
- Link:** A text input field containing the text 'http://127.0.0.1:8000/shop'.
- Image:** A file selection area with a 'Choose File' button, the text 'No file chosen', and a small thumbnail image of balloons.
- Status:** A dropdown menu currently set to 'Active'.

At the bottom of the form are two buttons: a red 'Cancel' button and a blue 'Update' button.

Figure 5.111: User interface design for Edit / Update Home Page Slider Page.

5.5.2.7.4 Delete Home Page Slider

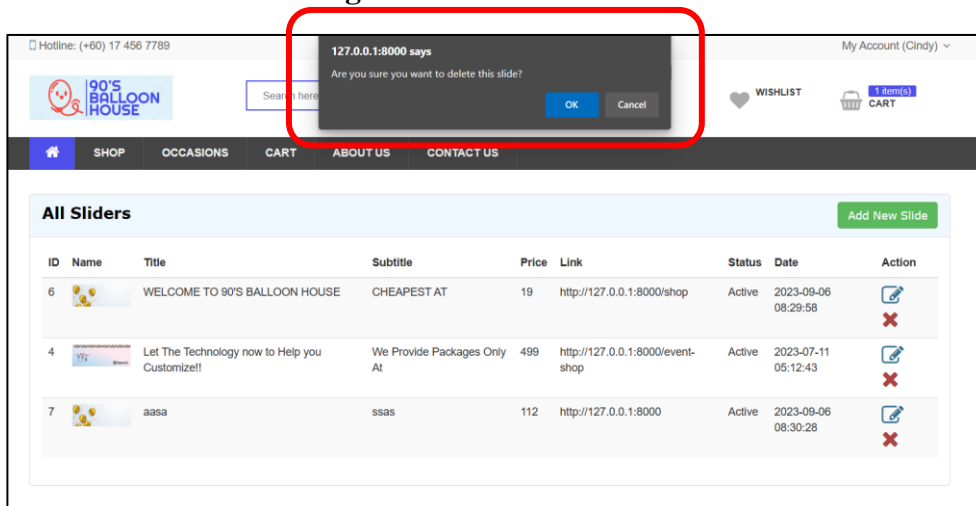


Figure 5.112: User interface design for Delete Home Page Slider.

5.5.2.8 Manage Sales Timer Page

The Figure 5.113 shows the user interface design for the manage sales timer page.

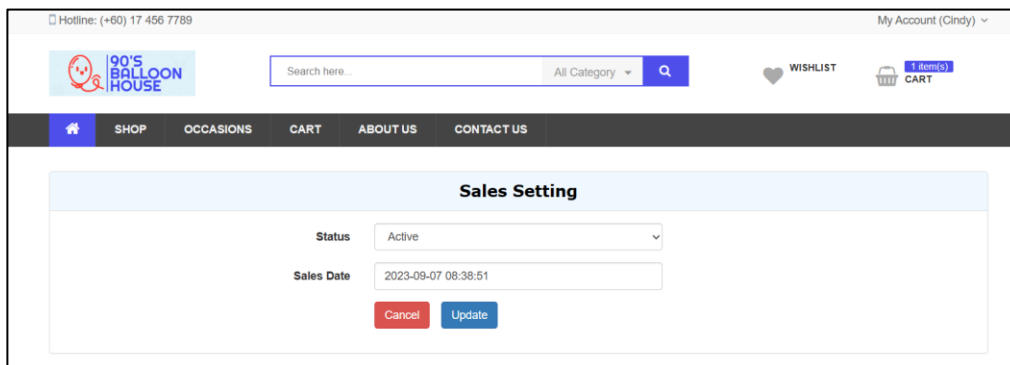


Figure 5.113: User interface design for Manage Sales Timer Page.

5.5.2.9 Manage Coupon

Figure 5.114 shows the admin interface design for the manage coupon page and the Figure 5.115 shows the add new coupon page that shows up after the admin clicked on the “Add” button on the manage coupon page. Figure 5.116 is the update coupon page displayed if the admin clicked on the “Edit” button for one of the coupons displayed on the manage coupon page, and the Figure 5.117 shows the confirmation modal of the coupon deletion.

5.5.2.9.1 Manage Coupon Page

The screenshot shows the 'Manage Coupon Page' for '90'S BALLOON HOUSE'. The page header includes a hotline number (+60) 17 456 7789, a search bar, and navigation links for SHOP, OCCASIONS, CART, ABOUT US, and CONTACT US. The main content area is titled 'All Coupons' and features a table with the following data:

ID	Coupon Code	Coupon Type	Coupon Value	Cart Value	Expiry Date	Action
1	OFF5	percent	5.00 %	500.00	2023-07-13	Edit Delete
3	OFF144	fixed	RM 14.00	1230.00	2023-07-12	Edit Delete
4	OFF20P	percent	20.00 %	1200.00	2023-07-15	Edit Delete
5	OFF100	fixed	RM 100.00	25.00	2023-09-02	Edit Delete

An 'Add New Coupon' button is located in the top right corner of the coupon list area.

Figure 5.114: User interface design for Manage Coupon Page.

5.5.2.9.2 Add New Coupon Page

The screenshot shows the 'Add New Coupon Page' for '90'S BALLOON HOUSE'. The page header is identical to the previous screenshot. The main content area is titled 'Add New Coupon' and contains a form with the following fields:

- Coupon Code:
- Coupon Type:
- Coupon Value:
- Cart Value:
- Expiry Date:

At the bottom of the form are 'Cancel' and 'Submit' buttons. A 'Show All Coupons' button is located in the top right corner of the form area.

Figure 5.115: User interface design for Add New Coupon Page.

5.5.2.9.3 Edit / Update Coupon Page

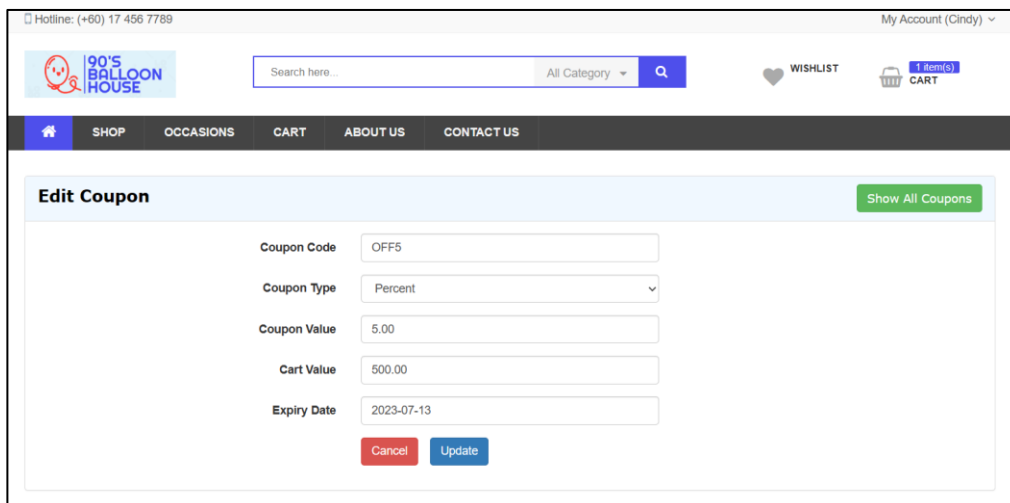


Figure 5.116: User interface design for Edit / Update Coupon Page.

5.5.2.9.4 Delete Coupon

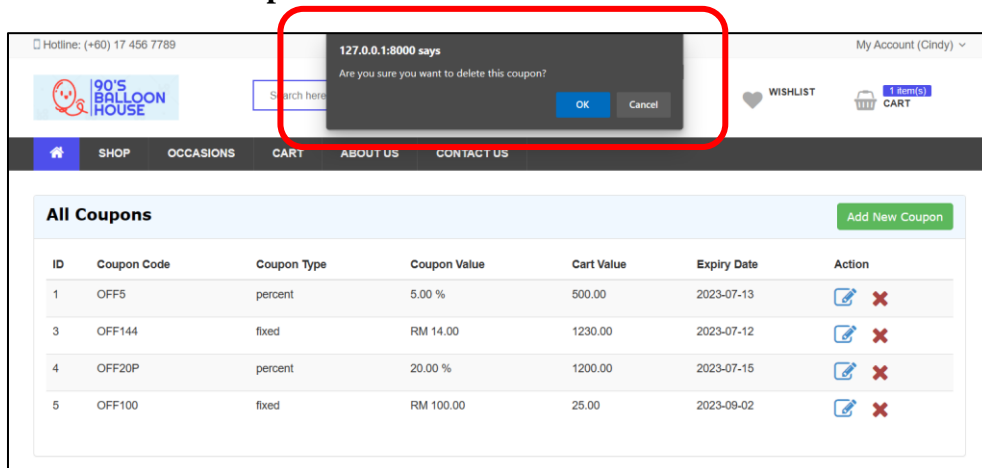


Figure 5.117: User interface design for Delete Coupon.

5.5.2.10 Manage Order

Figure 5.118 shows the admin interface design for the manage order page and the Figure 5.119 shows the order details page that shows up after the admin clicked on the “Details” button on the manage order page. Figure 5.120 is the update order status option if the admin clicked on the “Status” button for one of the orders displayed on the manage order page.

5.5.2.10.1 Manage Order Page

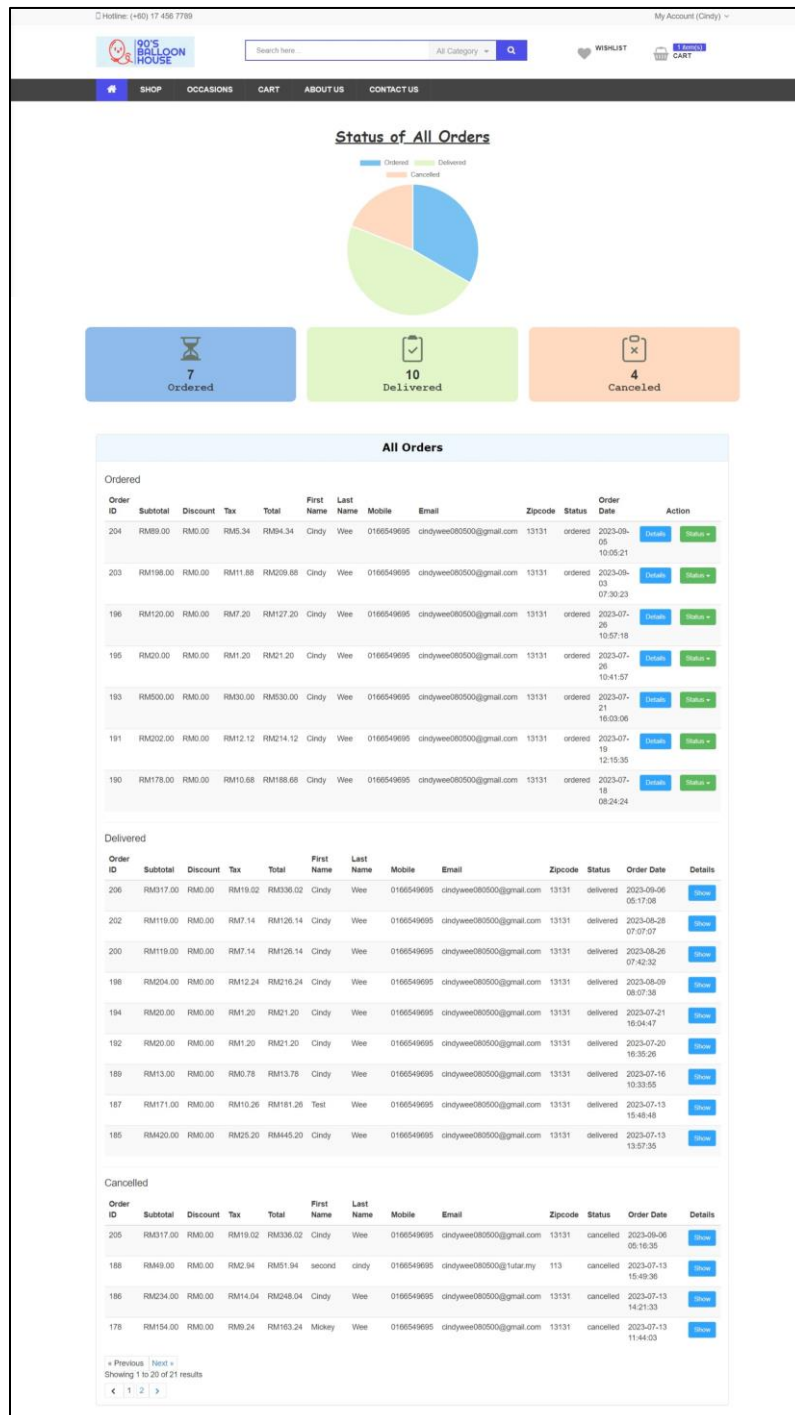


Figure 5.118: User interface design for Manage Orders Page.

5.5.2.10.2 Show Selected Order Details Page

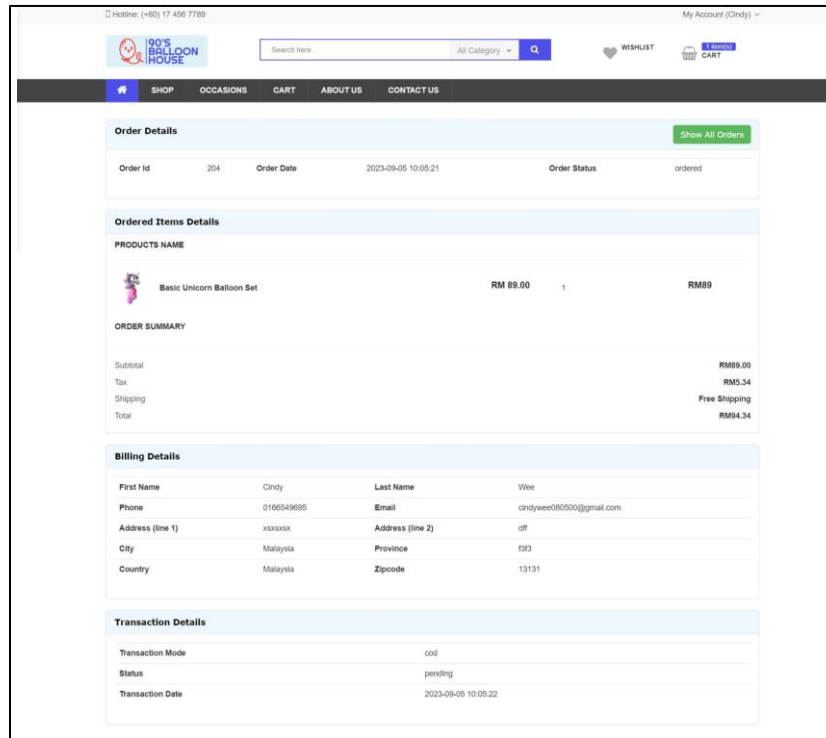


Figure 5.119: User interface design for View Order Details Page.

5.5.2.10.3 Update Order/Delivery Status

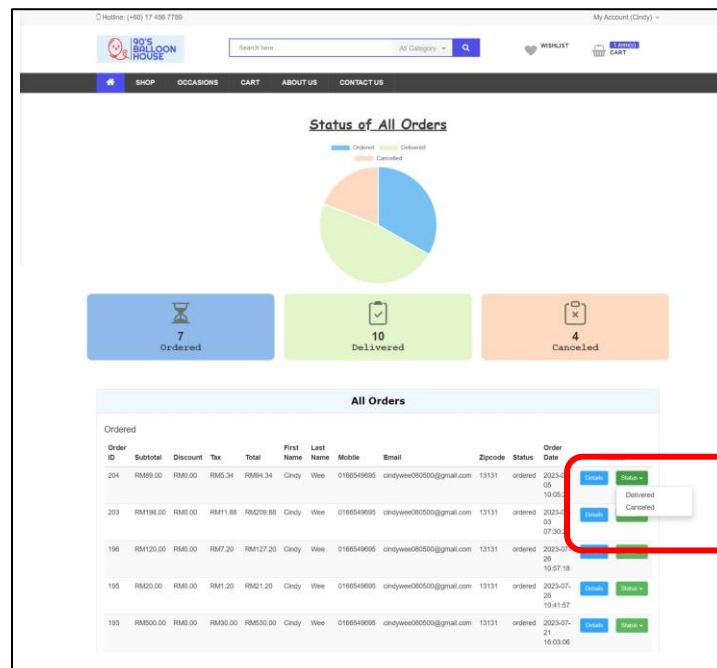


Figure 5.120: User interface design for Update Order/Delivery Status.

5.5.2.11 Manage Enquiry

Figure 5.121 shows the admin interface design for the manage enquiry page. Figure 5.122 is the update enquiry status option if the admin clicked on the “Status” button for one of the enquiries displayed on the manage order page.

5.5.2.11.1 Manage Enquiry Page

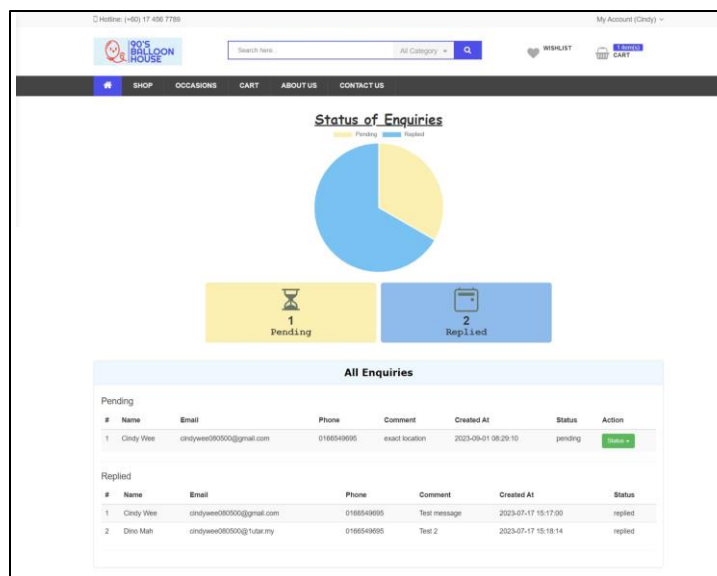


Figure 5.121: User interface design for Manage Enquiry Page.

5.5.2.11.2 Update Enquiry Status

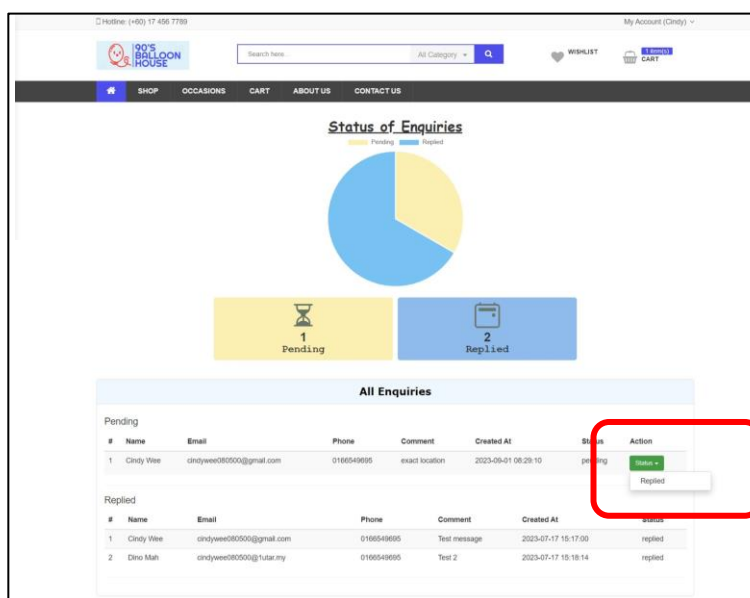


Figure 5.122: User interface design for Update Enquiry Status.

5.5.2.12 Manage Reservation

Figure 5.123 shows the admin interface design for the manage reservation page and the Figure 5.124 shows the reservation details page that shows up after the admin clicked on the “Details” button on the manage reservation page. Figure 5.125 is the update reservation status option if the admin clicked on the “Status” button for one of the reservations displayed on the manage reservation page. Also, on the reservation status – confirmed, admin can update the final design and extra info for selected reservation by pressing the “Update” button and the update page will be shown up (Figure 5.126). Lastly, admin/staff can view the centralized calendar (Figure 5.127) which shows all the reservation that is confirmed so that it can help to increased productivity and efficiency such as prepare the things needed earlier.

5.5.2.12.1 Manage Reservation Page

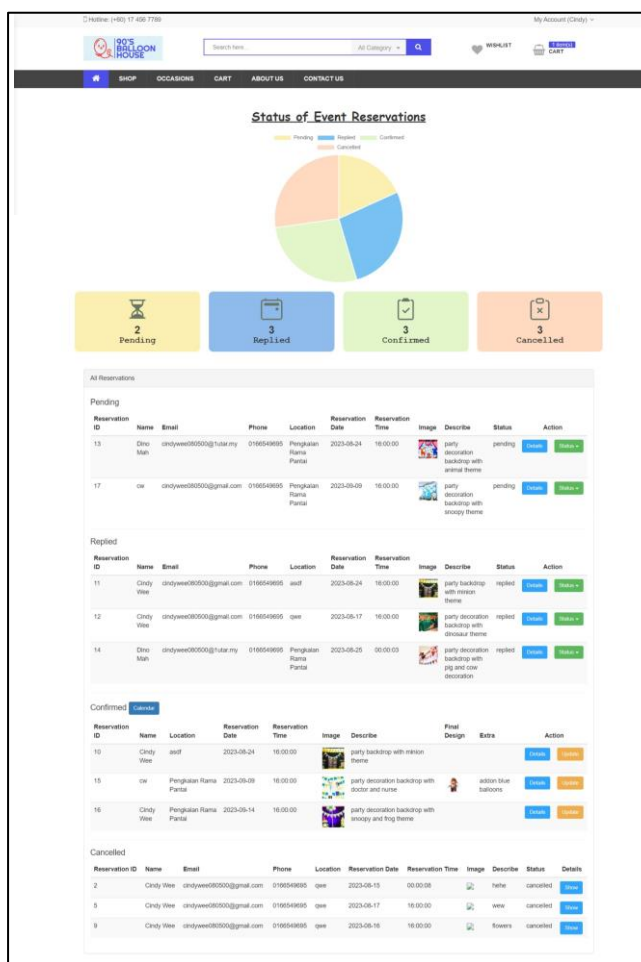


Figure 5.123: User interface design for Manage Reservation Page.

5.5.2.12.2 Reservation Details Page

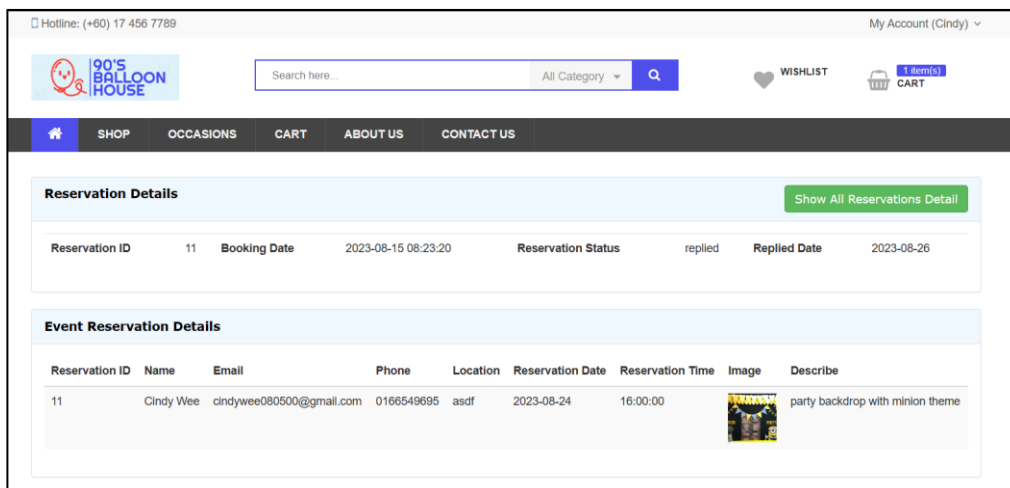


Figure 5.124: User interface design for Reservation Details Page.

5.5.2.12.3 Update Reservation Status

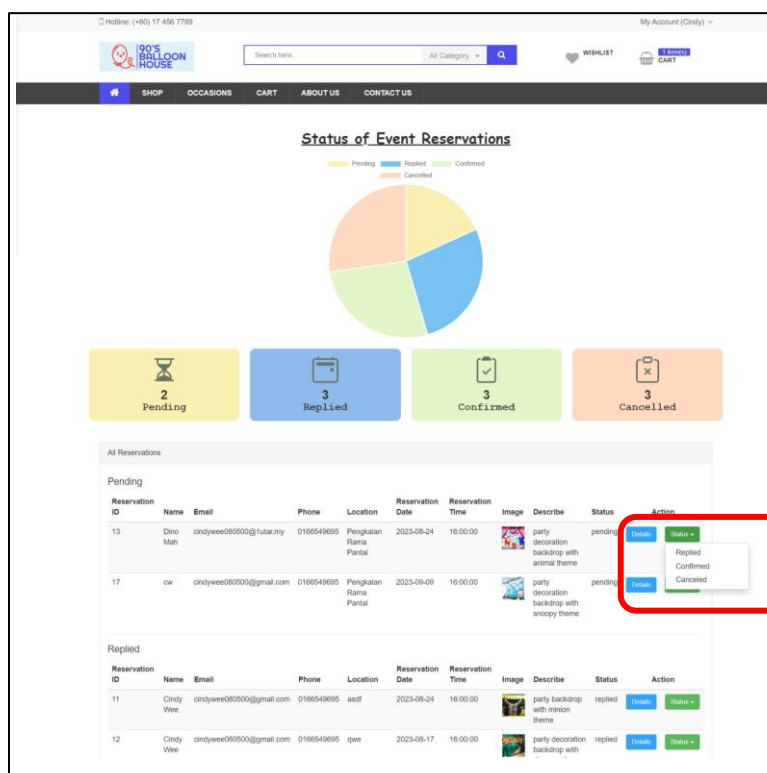


Figure 5.125: User interface design for Update Reservation Status

5.5.2.12.4 Update Final Design and Extra Info Page

Hotline: (+60) 17 456 7789 My Account (Cindy) ▾

90'S BALLOON HOUSE Search here... All Category 🔍 WISHLIST CART 1 item(s)

SHOP OCCASIONS CART ABOUT US CONTACT US

Update Reservation Details Show All Reservation

Final Design Choose Files No file chosen

Extra Info Extra Information

Cancel Update

Figure 5.126: User interface design for Update Final Design and Extra Info Page.

5.5.2.12.5 Centralized Calendar Page

Hotline: (+60) 17 456 7789 My Account (Cindy) ▾

90'S BALLOON HOUSE Search here... All Category 🔍 WISHLIST CART 1 item(s)

SHOP OCCASIONS CART ABOUT US CONTACT US

Admin Calendar Show All Reservations Detail

September 2023 today < >

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
1	2	3	4	5	6	7

Figure 5.127: User interface design for Centralized Calendar Page.

5.6 Summary

In short, this chapter discussed the system architecture diagram, which lays the foundation for our online decor store. Besides, data flow diagram that highlights the data pathways, followed by activity diagram to illustrate the various processes and interactions within the system. Emphasizing the importance of user experience, web design principles integrated into the platform, ensuring a visually appealing, user-friendly, and responsive interface are also discussed. This comprehensive approach to system development promises a seamless and engaging online shopping experience for the users.

CHAPTER 6

SYSTEM IMPLEMENTATION

6.1 Introduction

This chapter offers a comprehensive insight into the implementation of the entire system, encompassing various modules developed to meet the specific use cases and functional requirements outlined in the previous chapter. Within, a detailed breakdown of each module, thoroughly exploring its unique set of features and functionalities to ensure a complete understanding of the system's architecture and capabilities are discussed in this chapter. Also, Livewire plays a central role as the backend framework in the system's architecture. It seamlessly integrates server-side logic, allowing for real-time interactions and responsive frontend components, which significantly enhance the user experience.

Livewire allows to create interactive web components using PHP, and these components are rendered and updated on the server. When user interactions occur, Livewire sends requests to the server, processes the data and updates the component state, and then sends back the updated HTML to refresh the view. This server-side approach distinguishes Livewire from traditional frontend JavaScript frameworks which handle most of the logic and rendering on the client-side.

6.2 System Modules

Table 6.1 presented below provides a comprehensive list of the modules utilized across the entirety of this project. Consequently, in order to gain a better understanding of the modules integrated into each system, all modules are classified based on their intended users, as outlined below.

Table 6.1: System Modules

Target User	Module
Customer	Login / Register
	Products
	Order
	Events (Occasions)
	Reservation (Customization)
	Profile
	Shopping Cart / Wishlist
	Chatbot
	Send Enquiry (Contact Us)
Staff / Shop Owner / Admin	Products Management
	Events (Occasions) Management
	Category / Event Category Management
	Orders Management
	Reservations Management
	Centralized Calendar
	Home Page Management
	Coupons Management
	Admin Dashboard
	Manage Enquiry

6.2.1 Customer

In the implemented system, the "Customer" side module encompasses a range of features designed to enhance the user experience and facilitate interactions within the system. It is tailored to meet the needs of individuals who engage with the system as customers.

6.2.1.1 Login / Register Module

In the implemented system, an advanced login and registration system was used. As to prioritize the online security, the system integrated cutting-edge technologies to ensure a secure and seamless experience for the customer. The system implemented the integration of Laravel Fortify, a robust authentication system in Laravel in order to bring customer a smooth and efficient login and registration process. Besides, the system has integrated reCAPTCHA, a state-of-the-art technology by Google to fortify the security further. This ensures that only real humans can access to account at the same time keeping the data safe from automated attacks.



```
1 <fieldset class="wrap-input">
2   <hr>
3   <strong>Login Recaptcha :</strong><br><br>
4     {!! NoCaptcha::renderJs() !!}
5     {!! NoCaptcha::display() !!}
6 </fieldset>
```

```
1 <fieldset class="wrap-input">
2   <hr>
3   <strong>Register Recaptcha :</strong><br><br>
4     {!! NoCaptcha::renderJs() !!}
5     {!! NoCaptcha::display() !!}
6 </fieldset>
```

Figure 6.1: Code Segment for Login and Register Function with the use of reCAPTCHA.

With reCAPTCHA, customer can say bypass to annoying spam and unwanted login attempts. It's a simple yet effective way to keep their account secure while ensuring a smooth and hassle-free login process. The system has ensured that all these security measures don't make your life complicated.

In the backend, this PHP code interacts with Google's reCAPTCHA service, specifically the "no-captcha" version, to ensure that the website's forms and interactions are being performed by real human users rather than malicious scripts.

```

1 public function renderJs($lang = null, $callback = false, $onLoadClass = 'onloadCallBack')
2 {
3     return '<script src="'. $this->getJsLink($lang, $callback, $onLoadClass).'" async defer></script>'. "\n";
4 }
5
6 /**
7  * Verify no-captcha response.
8  *
9  * @param string $response
10 * @param string $clientId
11 *
12 * @return bool
13 */
14 public function verifyResponse($response, $clientId = null)
15 {
16     if (empty($response)) {
17         return false;
18     }
19
20     // Return true if response already verified before.
21     if (in_array($response, $this->verifiedResponses)) {
22         return true;
23     }
24
25     $verifyResponse = $this->sendRequestVerify([
26         'secret' => $this->secret,
27         'response' => $response,
28         'remoteip' => $clientId,
29     ]);
30
31     if (isset($verifyResponse['success']) && $verifyResponse['success'] === true) {
32         // A response can only be verified once from google, so we need to
33         // cache it to make it work in case we want to verify it multiple times.
34         $this->verifiedResponses[] = $response;
35         return true;
36     } else {
37         return false;
38     }
39 }
40
41 /**
42  * Verify no-captcha response by Symfony Request.
43  *
44  * @param Request $request
45  *
46  * @return bool
47  */
48 public function verifyRequest(Request $request)
49 {
50     return $this->verifyResponse(
51         $request->get('g-recaptcha-response'),
52         $request->getClientIp()
53     );
54 }

```

Figure 6.2: Code Segment for reCAPTCHA Integration.

The `renderJs` function generated HTML code to include the reCAPTCHA JavaScript on the web pages asynchronously. This ensures that the reCAPTCHA widget is loaded smoothly and doesn't block the page's rendering.

The `verifyResponse` function plays a crucial role in validating user responses. It checks if the user's reCAPTCHA response is empty and if the response has been verified before, caching it to minimize unnecessary verifications. If the response hasn't been verified, it sends a verification request

to Google with the user's response and their IP address, and if Google confirms the response as legitimate, it caches it for future use.

The `verifyRequest` function simplifies the verification process by taking a Symfony Request object as input and extracting the necessary information to verify the reCAPTCHA response. This integration ensures that only genuine users interact with the web decor shop, enhancing security and protecting the website from automated spam or malicious activities.

Besides, the system has implemented a two-step verification process to enhance security and confirm the legitimacy of customer accounts. The second step of this verification process involves confirming the customer's email address.

A screenshot of a code editor showing a PHP function. The code is as follows:

```
1 public function __invoke(Request $request)
2 {
3     return $request->user()->hasVerifiedEmail()
4         ? redirect()->intended(Fortify::redirects('email-verification'))
5         : app(VerifyEmailViewResponse::class);
6 }
```

Figure 6.3: Code Segment for Verify Email process.

This code checks if a user's email is verified. If it's verified, it sends them to a specific page; if it's not verified, it shows them a page to verify it. One of the primary goals of email verification is to control user access to specific features or areas of the application until their email address is confirmed. By doing so, the application ensures that customers can't access sensitive or restricted functionality until they have proven the legitimacy of their email, enhancing security and data protection.

In summary, all the reCAPTCHA-related operations, including loading the JavaScript widget and verifying user responses, happen on the server side (backend) to ensure the security and integrity of the web decor shop's interactions with customers. The code interacts with Google's reCAPTCHA service through server-to-server communication to validate customer responses. Also, the two-step verification process - email verification also a critical part of the flow in Laravel applications. It manages user access

based on whether their email is verified, maintaining security and controlling user privileges within the system.

Figure 6.4 consists of two screenshots of a 'CREATE AN ACCOUNT' form. Screenshot (a) shows the form with a red box highlighting the reCAPTCHA section, which includes an 'I'm not a robot' checkbox and the reCAPTCHA logo. Screenshot (b) shows the same form with red boxes highlighting the 'Email Address' field and the 'Register Recaptcha' section. A tooltip with a yellow warning icon and the text 'Please fill out this field.' is visible over the 'Email Address' field.

Figure 6.4: (a) reCAPTCHA in Register an Account Page. (b) Input Validation for every fields.

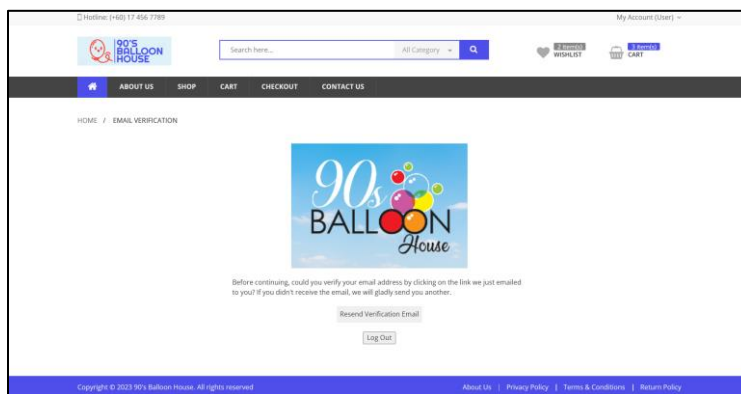


Figure 6.5: Email Verification Message to inform Customer for Account Verification.

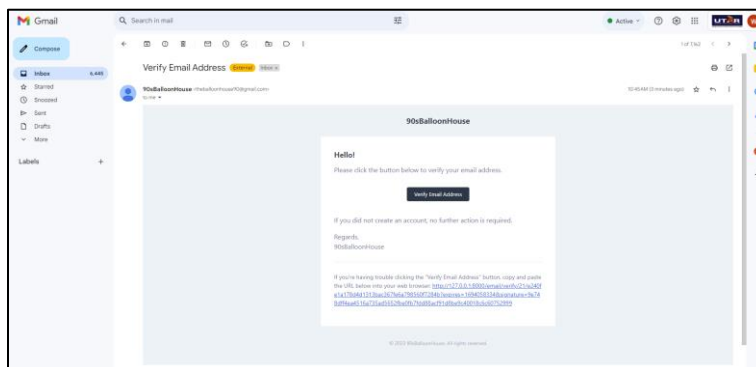


Figure 6.6: Email that received from the registered Gmail.

6.2.1.2 Products Module

The Products module within the implemented web decor store serves to present customers with a curated list of balloon products, categorized based on their respective types. The objective is to facilitate an easier and more convenient search experience for customers looking for specific items. In addition to categorizing products, this module also offers a search feature. This functionality enables customers to locate a particular product by entering its name in the search bar. When customers input keywords into the search bar, the search function queries the database for products whose names match or contain the entered keywords. The search function dynamically filters the products each time the customer modifies the search input, presenting the matching products accordingly.

```

1 $this->product_cat = 'All Category';
2 $this->fill(request()->only('search', 'product_cat', 'product_cat_id'));

```

Figure 6.7: Code Segment for Search Function.

The code segment above first assigns the string 'All Category' to the product_cat property of the current object. Then, it filters and retrieves specific request parameters ('search', 'product_cat', and 'product_cat_id') from the current HTTP request and uses them to update or populate properties within the object, likely for handling search or filtering functionality in the

implemented system and display the available products for customer based on their search.

```

1  @push('scripts')
2  <script>
3    var slider = document.getElementById('slider');
4    noUiSlider.create(slider, {
5      start : [1,1000],
6      connect: true,
7      range :{
8        'min' : 1,
9        'max' : 1000
10     },
11     pips:{
12       mode: 'steps',
13       stepped: true,
14       density: 4
15     }
16   });
17
18   slider.noUiSlider.on('update', function(value){
19     @this.set('min_price', value[0]);
20     @this.set('max_price', value[1]);
21   });
22 </script>
23 @endpush

```

Figure 6.8: Code Segment for Price Filter on the Side.

The code segment in Figure 6.7 is the JavaScript code that sets up a price range slider using the noUiSlider library. This code creates a price range slider on the client-side using the noUiSlider library and, when the slider values are updated, it communicates those values to the server-side code using Livewire to update the minimum and maximum price filter parameters, which can be used to filter and display products accordingly on the web page based on the adjustment of customer.

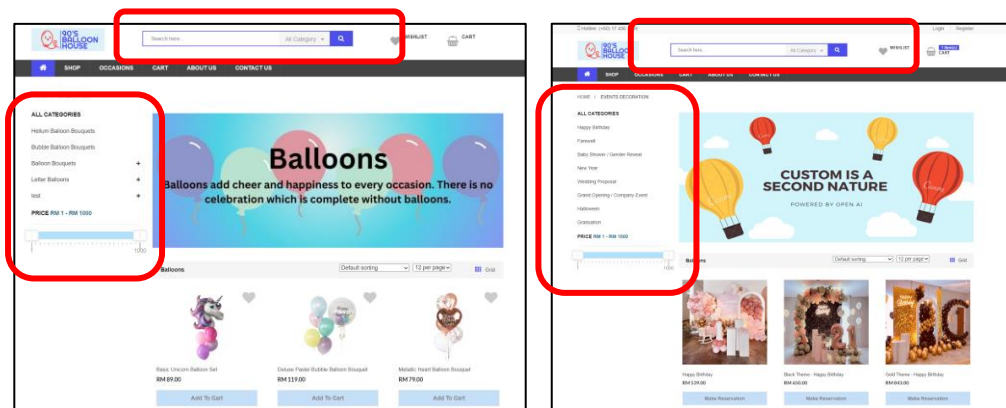


Figure 6.9: View of Search bar and Price Filter Features in the Implemented System.

Next, in order to access comprehensive details about a chosen product, customers can simply click on the product, leading them to a dedicated product details page where all pertinent information regarding that specific item is presented. Furthermore, if a customer expresses interest in a particular product, they will find an "ADD TO CART" button positioned either at the side of the product details page or directly on the product page itself. By clicking this button, customers can effortlessly include the product in their shopping cart. Upon clicking, a notification message will promptly appear, confirming the successful addition of the product to the shopping cart.

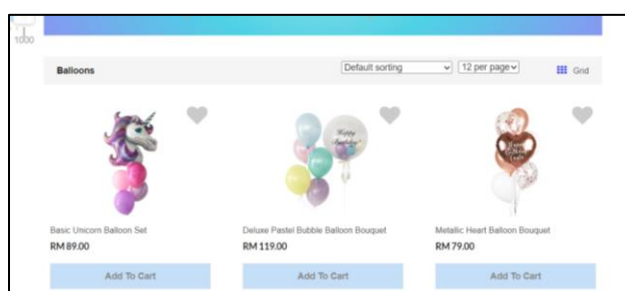


Figure 6.10: Products Page together with the “Add To Cart” button.

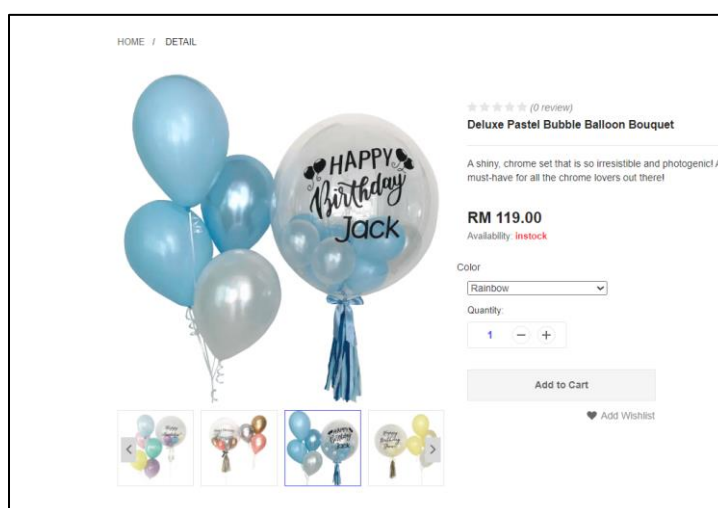


Figure 6.11: Product Details Page together with the “Add To Cart” button.

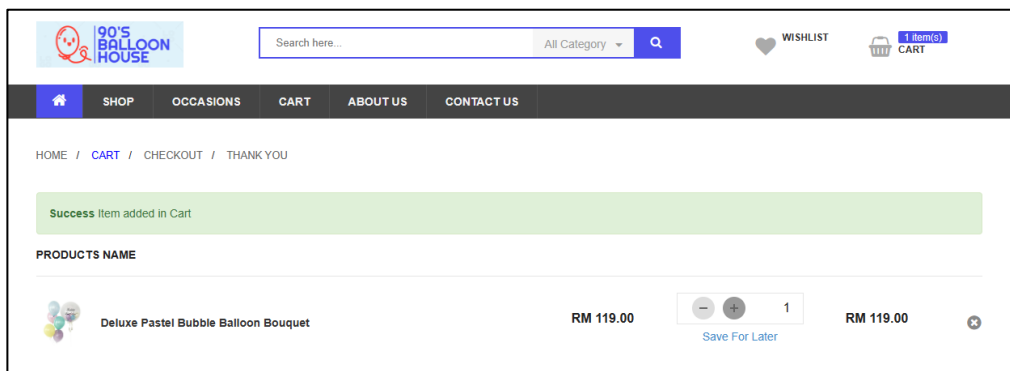


Figure 6.12: Product successfully added into shopping cart.

6.2.1.3 Order Module

The order functionality empowers customers to complete their purchase for the items they've placed in the shopping cart. To initiate the ordering process, customer can simply click on the "Checkout" button conveniently positioned at the bottom of the shopping cart page. Upon clicking this button, the system seamlessly redirects the customer to the checkout page. However, if the shopping cart happens to be empty, the system promptly communicates this to the customer by displaying a message stating "Your Cart is Empty." On the cart page, customer will have a comprehensive view of all the products they are about to order. Additionally, there is a dedicated area for customers to enter any promo codes they may have, allowing them to apply discounts or special offers to their order.

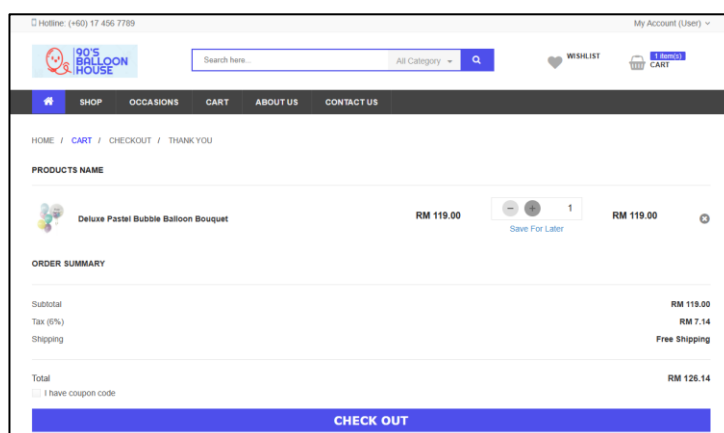



Figure 6.13: View of Shopping Cart with Checkout Button.

HOME / CART / CHECKOUT / THANK YOU

PRODUCTS NAME

 Deluxe Pastel Bubble Balloon Bouquet	RM 119.00	1	RM 119.00
--	-----------	---	-----------

ORDER SUMMARY

Subtotal	RM 119.00
Tax (6%)	RM 7.14
Shipping	Free Shipping
Total	RM 126.14

I have coupon code

COUPON CODE

Enter your coupon code:

Apply

Figure 6.14: View for apply coupon during Checkout Process.

90'S BALLOON HOUSE

Search here... All Category

WISHLIST CART

SHOP OCCASIONS CART ABOUT US CONTACT US

HOME / CART / CHECKOUT / THANK YOU

Your cart is empty !

Add items to it now!

Shop Now

0 Item(s) Saved For Later

No item saved for later !

Figure 6.15: Message display if Cart is empty.

To proceed with the ordering procedure, customer have to press on the “checkout” button. Customers must initially input their delivery address into the provided field. In addition to the delivery address, customer is also required to select a payment method for their order.

90'S BALLOON HOUSE

Search here... All Category

WISHLIST CART

SHOP OCCASIONS CART ABOUT US CONTACT US

HOME / CART / CHECKOUT / THANK YOU

BILLING ADDRESS

First Name*
Your name

Last Name*
Your last name

Email Address*
Type your email

Phone Number*
10 digit format

Address (Line 1)
Street or apartment number

Address (Line 2)
Street or apartment number

Country*
United States

Province*
Province

State / City*
City name

Postcode / ZIP*
Your postal code

Ship to a different address?

PAYMENT METHOD

Cash On Delivery
Debit / Credit Card
Paypal

SHIPPING METHOD

Flat Rate
Fixed RM 0

Grand Total RM126.14

Place order now

Figure 6.16: View of Checkout Page.

PAYMENT METHOD		SHIPPING METHOD
Card Number: <input type="text" value="Card Number"/>	Expiry Month: <input type="text" value="MM"/>	Flat Rate Fixed RM 0
Expiry Year: <input type="text" value="YYYY"/>	CVC: <input type="text" value="CVC"/>	
<input type="checkbox"/> Cash On Delivery		
<input checked="" type="checkbox"/> Debit / Credit Card <small>Any type of card is accepted!</small>		
<input type="checkbox"/> Paypal		
Grand Total	RM126.14	
<input type="button" value="Place order now"/>		

Figure 6.17: View of Select Payment Method.

The implemented system utilizes the "Stripe" payment system. Stripe is a secure and widely trusted online payment processing platform that allows customers to make payments for their orders seamlessly and securely. With Stripe, customers can choose from various payment methods, including credit cards, debit cards, and other online payment options, providing them with flexibility and convenience during the checkout process. Stripe ensures the confidentiality of sensitive financial information and offers a reliable and efficient payment gateway for safe and efficient transactions within the system.

```

1 ($this->paymentmode == 'card')
2 {
3     $stripe = Stripe::setApiKey(env('STRIPE_SECRET'));
4     // $stripe = Stripe::make(env('STRIPE_KEY'));
5
6     try{
7         $token = $stripe->tokens()->create([
8             'card' => [
9                 'number' => $this->card_no,
10                'exp_month' => $this->exp_month,
11                'exp_year' => $this->exp_year,
12                'cvc' => $this->cvc
13            ]
14        ]);
15
16        if(!isset($token['id']))
17        {
18            session()->flash('stripe_error', 'The stripe token was not generate correctly!');
19            $this->thankyou = false;
20        }
21
22        $customer = $stripe->customer()->create([
23            'name' => $this->firstname . ' ' . $this->lastname,
24            'email' => $this->email,
25            'phone' => $this->mobile,
26            'address' => [
27                'line1' => $this->line1,
28                'postal_code' => $this->zipcode,
29                'city' => $this->city,
30                'state' => $this->province,
31                'country' => $this->country,
32            ],
33            'shipping' => [
34                'name' => $this->firstname . ' ' . $this->lastname,
35                'address' => [
36                    'line1' => $this->line1,
37                    'postal_code' => $this->zipcode,
38                    'city' => $this->city,
39                    'state' => $this->province,
40                    'country' => $this->country,
41                ],
42            ],
43            'source' => $token['id']
44        ]);
45
46        $charge = $stripe->charges()->create([
47            'customer' => $customer['id'],
48            'currency' => 'USD',
49            'amount' => session()->get('checkout')['total'],
50            'description' => 'Payment for order no ' . $order->id
51        ]);
52
53        if($charge['status'] == 'succeeded')
54        {
55            $this->makeTransaction($order->id, 'approved');
56            $this->resetCart();
57        }
58        else
59        {
60            session()->flash('stripe_error', 'Error in Transaction!');
61            $this->thankyou = false;
62        }
63        } catch (Exception $e) {
64            session()->flash('stripe_error', $e->getMessage());
65            $this->thankyou = false;
66        }
67    }
68
69    $this->sendOrderConfirmationMail($order);
70
71 }
72

```

Figure 6.18: Code Segment for Stripe Integration.

This code segment facilitates credit card payments using the Stripe payment gateway. When the payment mode is 'card', it starts by creating a secure payment token based on the customer's card information. It then creates a customer profile in Stripe, associating it with the payment token, and attempts to charge the customer's card with the order total. If the charge is successful, it updates the order status to 'approved' and clears the shopping cart. In case of any errors during this process, such as invalid card details or transaction issues, appropriate error messages are displayed to the user. Finally, regardless of the payment outcome, I utilize Laravel's Mail feature to efficiently send an order confirmation email to customers.

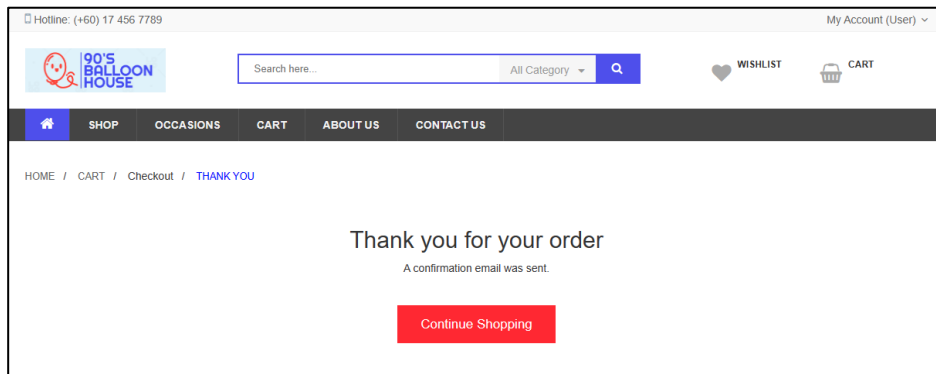


Figure 6.19: View of Order Success Page.



Figure 6.20: View of Order Confirmation Email.

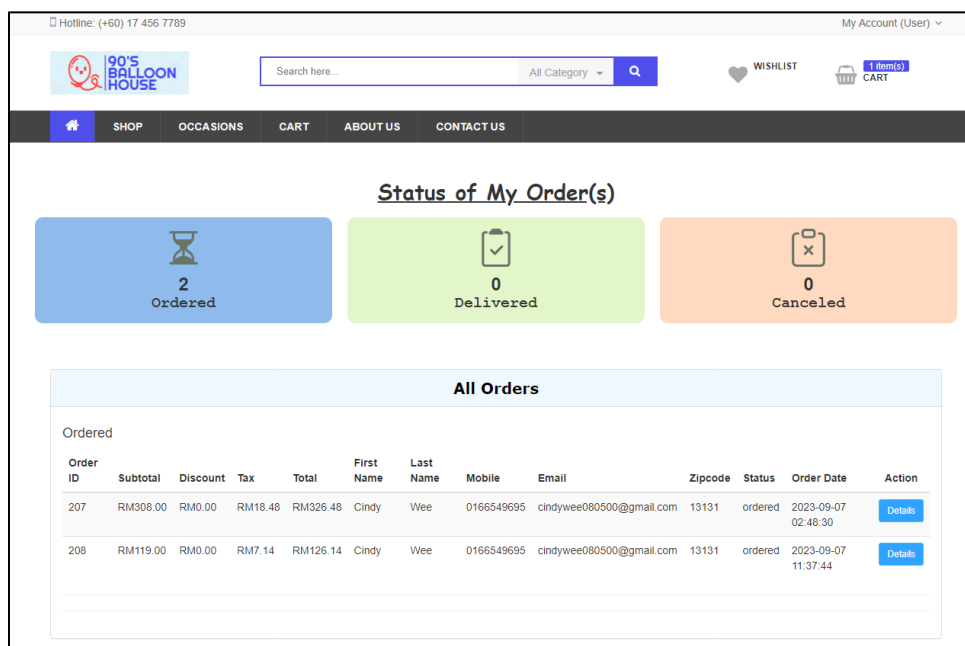


Figure 6.21: View of My Order for Customer to view for their Order(s).

6.2.1.4 Events (Occasions) Module

As for the Events (Occasions) module, it designed exactly same like the Products module. The Events (Occasions) module within the implemented web decor store serves to present customers with a curated list of occasions, categorized based on their respective types. It also includes the search feature and price range slider.

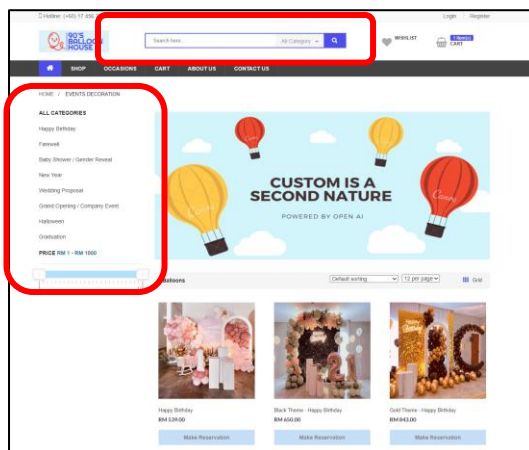


Figure 6.22: View of Search bar and Price Filter Features in the Implemented System.

Next, in order to access comprehensive details about a chosen occasion, customers can simply click on the occasion, leading them to a dedicated occasion details page where all pertinent information regarding that specific item is presented. Furthermore, if a customer is interested in booking for an event decoration setup, they can simply press on the “Make Reservation” button. Also, customer can straight book for a reservation when they are in the details page.

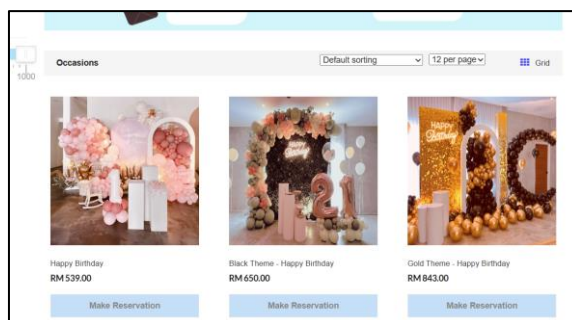


Figure 6.23: Occasions List Page together with the “Make Reservation” button.

The screenshot shows a web page for a 'Happy Birthday' event. The page includes a title 'Happy Birthday', a price of 'RM 529.00', and a 'MAKE YOUR RESERVATION HERE!' section. The reservation form is highlighted with a red border and contains the following fields: Name, Email, Number Phone, Location, Reservation date (set to 2025/09/01), Reservation Time, and a text area for 'Describe your needs' with a 'Generate Design By AI' button. A 'Make Reservation' button is located at the bottom of the form. The page also features a 'WARRANTY PROVIDED' section and a 'CUSTOMER CREATIONS UNLOADED' section.

Figure 6.24: Selected Occasion Details Page together with the make reservation form.

6.2.1.5 Reservation Module

A Reservation Module in the implemented system is one of the important modules stated in project scope. It allows customers to make reservations or bookings for events, specifically related to decoration setup. Customers are prompted to fill out a reservation form where they can specify their requirements, preferences, and ideas for the event's decoration setup with the help of AI. This module typically includes features such as date and time selection, venue details, the type of event, specific decoration preferences, and any additional requests or notes. Customer can customize based in their needs. Once the customer submits the form, the system processes the reservation request, admin will contact the customer and discuss for the final design based on their preferences, and confirm the reservation. This module streamlines the booking process for event decoration services, making it convenient for customers to plan and customize their events.

HOME / EVENT DETAIL

Happy Birthday
 Let the decorations speak for themselves, and the cake be silent. It's time to celebrate a fantastic birthday!

RM 529.00 (RM 529.00)
 Primary package

TRANSPORT PROVIDED!
 Our transport is as long as it is a piece, we can arrange on our side.

CUSTOM CREATIONS UNLEASHED!
 Creating unique experiences through personalization. Customization is the key to creating a unique and personalized experience.

MAKE YOUR RESERVATION HERE!

Name*
 City/Zip
 Email*
 Number/Phone*
 Location*
 Reservation date*
 Reservation Time*

Describe your needs [Generate Design \(AI\)](#)

party decoration backdrop with neon theme and blue balloons

Processing...

Generated Images:

Powered By Open AI

[Make Reservation](#)

Figure 6.25: View of Reservation Form.

Within the reservation form, customers are provided with a dedicated column or text input field where they can describe their envisioned event decoration design in text form. This description can encompass details about themes, color schemes, specific decoration items, layouts, or any other creative ideas they have in mind. As customers input their textual description, the system uses OpenAI's text-to-image capabilities to generate a live preview or visual representation of the described design. This can include dynamically generating images or visual sketches that align with the customer's textual input. Customers can view the generated images in real-time as they continue to refine their design description. This immediate visual feedback allows them to fine-tune and adjust their design based on what they see. The integration of text-to-image technology bridges the gap between customers and the event decoration service provider by enabling a more visual and intuitive means of conveying design ideas. Customers can more accurately communicate their vision, reducing the potential for misinterpretation.


```
1 class ImageGeneratorService
2 {
3   public function generateImage($description, $size)
4   {
5     $open_ai_key = getenv('OPENAI_API_KEY');
6     $open_ai = new OpenAi($open_ai_key);
7
8     $complete = $open_ai->image([
9       "prompt" => $description,
10      "n" => 3,
11      "size" => $size,
12      "response_format" => "url",
13    ]);
14
15    $var = json_decode($complete, TRUE);
16
17    $image1 = $var['data'][0]['url'];
18    $image2 = $var['data'][1]['url'];
19    $image3 = $var['data'][2]['url'];
20
21
22    return compact('image1', 'image2', 'image3', 'description');
23  }
24 }
```

Figure 6.26: Code Segment for OpenAI Text-to-Image Image Generator.

To assist customers in visualizing their ideas, an innovative feature has been integrated into the form. This feature utilizes the OpenAI platform, specifically the ImageGeneratorService class, to dynamically generate images based on the textual descriptions provided by customers. When a customer submits their design description, the generateImage method of the ImageGeneratorService class is invoked. This method takes two parameters: \$description (the customer's textual input describing the design) and \$size (the desired size of the generated images). Behind the scenes, the code initializes an instance of the OpenAi class using an API key obtained from the environment variable OPENAI_API_KEY. It then sends a request to OpenAI's text-to-image API, providing the customer's description as a prompt and specifying the desired image size. OpenAI responds with a set of image URLs in JSON format. The code extracts these image URLs from the response and returns them in an array, along with the original description. These generated images can be presented to the customer in real-time, enabling them to fine-tune their design concept visually before finalizing their reservation.



Figure 6.27: View of description and Image Generated by OpenAI.

Once customers are satisfied with the generated visual representation and have completed their design description, they can submit the reservation form with the design details included. This submitted information serves as a comprehensive guide for the service provider to execute the decoration setup as per the customer's vision or have a further discuss for the final design ideas.

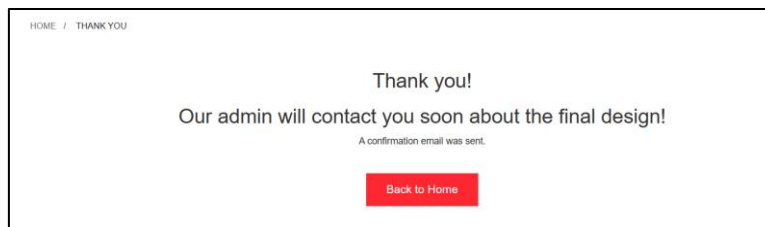


Figure 6.28: View of Submitted Reservation Form.

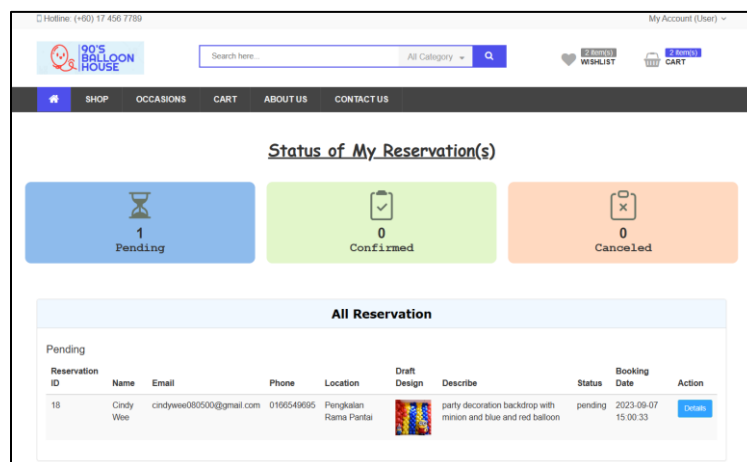


Figure 6.29: View of My Reservation for Customer to view for their Reservation(s) Status.

In summary, incorporating OpenAI's text-to-image feature in this manner not only streamlines the design submission process but also empowers customers to articulate and visualize their event decoration ideas more effectively, resulting in a more personalized and tailored experience for their events.

6.2.1.6 Profile Module

The Profile module in the implemented system enables customers to modify their registered account details, encompassing their mobile number, email address, physical address, and password. Within this module, customer-input credentials undergo validation using Laravel's built-in rules provided by the Validator class. This validation process checks if the entered data adheres to specified patterns, and if any input falls short of these criteria, the system promptly issues an error message. Upon completing the editing of account credentials, customers can utilize the "UPDATE" button positioned at the bottom of the Edit Profile page to submit the form and effectuate the profile information update. Upon a successful profile update, the system conveys a success message to inform the customer of the completed action.

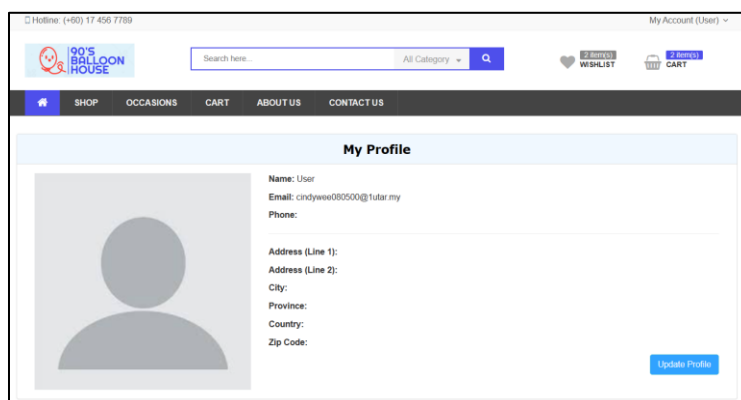


Figure 6.30: View of Profile Page.

Figure 6.31: View of Edit Profile Page.

Figure 6.32: View of Successful Edited Profile Page Message.

```

1 use Illuminate\Support\Facades\Validator;
2
3 public $rules = [
4     'name' => 'required|string|max:255',
5     'email' => 'required|email|unique:users,email,' . Auth::user()->id,
6     'mobile' => 'required|string|max:20',
7     'newimage' => 'nullable|image|mimes:jpeg,png,jpg,gif|max:2048', // Adjust the image validation rules as needed
8     'line1' => 'nullable|string|max:255',
9     'line2' => 'nullable|string|max:255',
10    'city' => 'nullable|string|max:255',
11    'province' => 'nullable|string|max:255',
12    'country' => 'nullable|string|max:255',
13    'zipcode' => 'nullable|string|max:20',
14 ];
15
16 public function updateProfile()
17 {
18     $this->validate();
19
20     $user = User::find(Auth::user()->id);
21 }

```

Figure 6.33: Code Segment for Form Validation.

6.2.1.7 Shopping Cart / Wishlist Module

The shopping cart module in the implemented system encompass all the items that the customer has placed in their cart. On the shopping cart page, customers will find a list of products along with concise product details. Consequently, customers can select a product to access more comprehensive information about it, and the system will promptly navigate them to the product's detailed description page. To remove an item from the shopping cart, customers simply need to click on the "X" icon situated on the right side of the product price. The system will then seek confirmation before removing the item from the list of products.

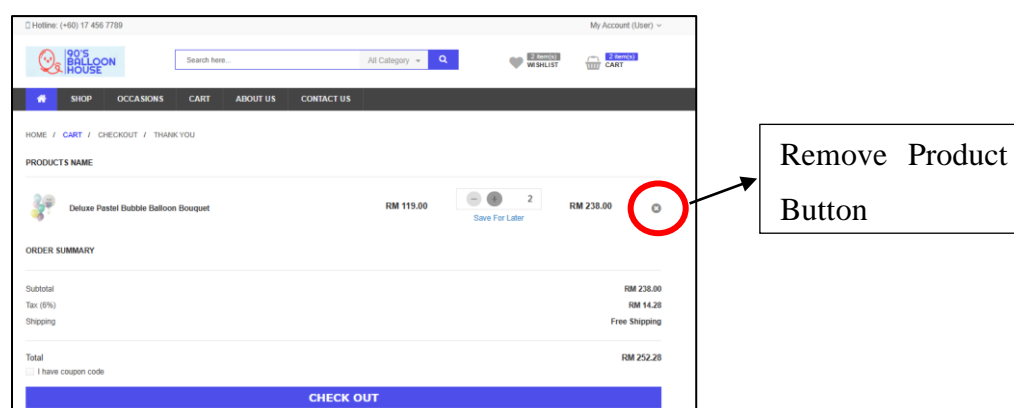


Figure 6.34: View of Shopping Cart Page.

Besides, within the Wishlist Module, customers have the convenience of adding products they're interested in but not yet ready to purchase. To streamline the shopping experience, the implemented system included a 'Move to Cart' button next to each wishlist item. When a customer suddenly decides to make a purchase, simply click this button, and the item will be seamlessly transferred to the shopping cart for immediate checkout. This feature allows customers to curate their wishlist while offering the flexibility to quickly act on their preferences.

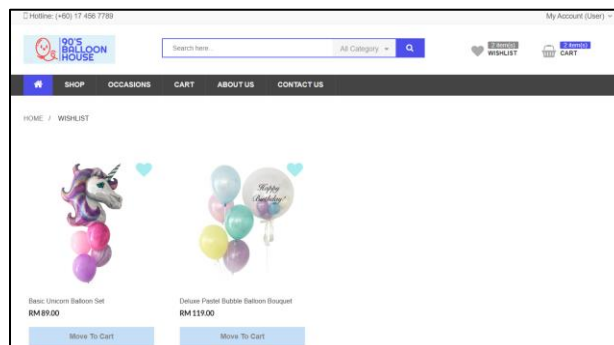


Figure 6.35: View of Wishlist Page.

```

1  if(Auth::check())
2  {
3      Cart::instance('cart')->store(Auth::user()->email);
4      Cart::instance('wishlist')->store(Auth::user()->email);
5  }

```

Figure 6.36: Code Segment for Manage Cart and Wishlist.

This code snippet above is written in the context of a Laravel application and is used for managing a shopping cart with the help of the "gloudemans/shoppingcart" package. In order to highlight in the shopping cart and wishlist module, when a customer who is logged in (authenticated) interacts with the shopping cart / wishlist by adding or modifying items, this code ensures that their cart's content is saved and associated with their email address. This is typically done to maintain the user's shopping cart even if they log out and return to the site later. It provides a seamless shopping experience for registered customers.

6.2.1.8 Chatbot Module

The Chatbot Module is a valuable component integrated into the implemented system to enhance customer support and provide quick answers to frequently asked questions (FAQs). It is one of the important scopes stated in the project. The Chatbot Module leverages the Botman framework, a popular PHP-based chatbot library, to facilitate automated interactions with customers. When customers visit the system's website or interface and have questions or inquiries, they can engage with the chatbot. The primary purpose of the

chatbot is to address frequently asked questions effectively. It's equipped with a database of common queries and their corresponding responses. When a customer asks a question, the chatbot processes the text input, identifies the most relevant answer from its database, and promptly provides a response.

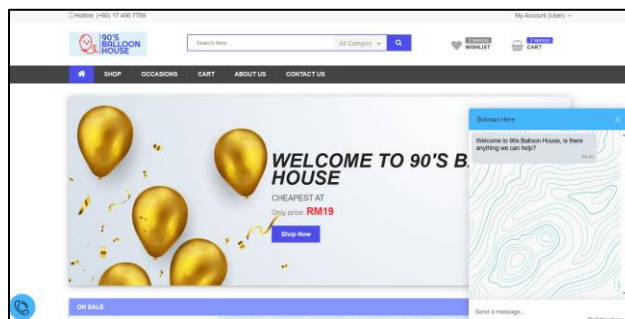


Figure 6.37: View of Chatbot is being prompt.

The chatbot is highly scalable, capable of handling multiple customer queries simultaneously without delay. This scalability ensures that even during peak traffic times, customers receive quick responses. By automating FAQ handling, the Chatbot Module significantly reduces the workload on customer support teams. This frees up human agents to focus on more complex or unique customer inquiries, improving overall support efficiency.

```

1 public function askForOption()
2 {
3     $mainOptions = [
4         'option1' => 'Shipping Info',
5         'option2' => 'Forgot to key in the discount code',
6         'option3' => 'T&C for Reservation',
7         'bye' => 'Goodbye!',
8     ];
9
10    $question = Question::create("Anything you are interested?");
11    ->addButtons(array_map(function ($label, $value) {
12        return Button::create($label)->value($value);
13    }, $mainOptions, array_keys($mainOptions)));
14
15    $this->ask($question, function (Answer $answer) use ($mainOptions) {
16        $selectedOption = $answer->getValue();
17        $this->selectedOptions[] = $selectedOption;
18
19        // Check if it's a top-level option or a nested option
20        if (array_key_exists($selectedOption, $this->options)) {
21            if ($selectedOption === 'option1') {
22                // If it's the 'option1', show the top-level option
23                // $this->say("You have selected {$mainOptions[$selectedOption]}.");
24                $this->say("You have selected {$mainOptions[$selectedOption]}. We provide free shipping over malaysia!");
25            } else if ($selectedOption === 'option2') {
26                $this->say("You have selected {$mainOptions[$selectedOption]}. Unfortunately, once your order is
27                processed, we cannot apply any discounts. Please ensure that you use the codes you want before placing your order");
28            } else if ($selectedOption === 'option3') {
29                $this->say("You have selected {$mainOptions[$selectedOption]}. Reservation must made 3 days in advance.");
30            } else {
31                // If it's any other top-level option, show the nested options
32                $this->say("You selected {$mainOptions[$selectedOption]}.");
33            }
34            $this->askNestedOption($selectedOption);
35        } elseif ($selectedOption === 'bye') {
36            $this->say("Goodbye! Anything more, you can <a href='http://127.0.0.1:8000/contact-us'>contact us here</a>
37            if we can't answer your question.");
38        } else {
39            $this->say("Invalid option selected.");
40            $this->askForOption();
41        }
42    });
43 }

```

Figure 6.38: Code Segment for Botman Chatbot.

This PHP code above defines a conversation class named MyConversation using the BotMan framework. The conversation begins by asking the customer for their name and responds with a greeting. It then presents a series of options to the user using clickable buttons, such as "Shipping Info," "Forgot to key in the discount code," and "T&C for Reservation." The customer can select one of these options. When an option is selected, it provides a specific response based on the chosen option. For example, if "Shipping Info" is selected, it informs the user about free shipping. If "Forgot to key in the discount code" is chosen, it provides an explanation about discount code usage. Additionally, there is an option to exit the conversation with a "Goodbye" message, which also includes a clickable link to "contact us." Customer s can also navigate between different options and receive responses for nested options. The conversation is initiated by asking for the customer's name and can handle various user interactions based on the selected options.

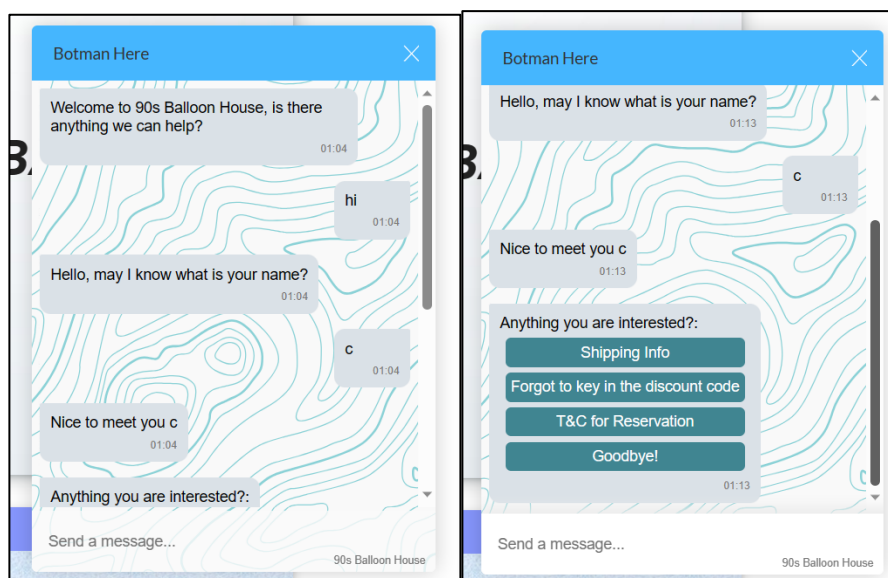


Figure 6.39: View of how Chatbot works based on customer query.

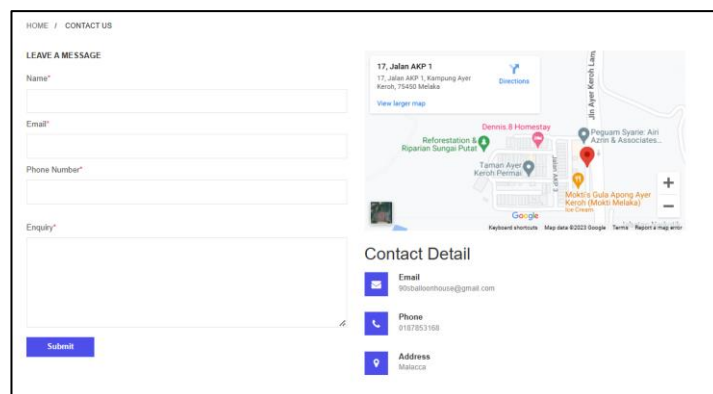
In conclusion, the integration of the Chatbot Module, powered by Botman, enhances the system's customer support capabilities by offering quick and efficient responses to frequently asked questions. It operates around the

clock, reduces the workload on human agents, and provides a user-friendly interface for customers to get the information they need effortlessly.

6.2.1.9 Send Enquiry (Contact Us) Module

The "Send Enquiry" or "Contact Us" Module serves as a valuable fallback mechanism when the Chatbot cannot provide an accurate or satisfactory answer to customer queries. In situations where customers encounter questions or issues that require human intervention or personalized assistance, this module steps in to bridge the gap between automated responses and real-time support.

Within this module, users can initiate contact with the support team or administrators by submitting their inquiries or concerns through a dedicated interface. Typically, this interface includes fields for customers to input their contact information, such as name and email address, and a text box to articulate their questions or describe their issues in detail.



The screenshot displays a web interface for a 'Contact Us' page. On the left, there is a 'LEAVE A MESSAGE' section with four input fields: 'Name*', 'Email*', 'Phone Number*', and 'Enquiry*'. A blue 'Submit' button is located at the bottom of this section. On the right, there is a Google Maps view showing a location in Keroh, Melaka. The map includes a 'Contact Detail' section with the following information:

- Email:** stocasthouse@gmail.com
- Phone:** 0187853168
- Address:** Melaka

The map also shows several nearby points of interest, including '17, Jalan AKP 1', 'Dennis B Homestay', 'Reforestation & Riparian Sungai Putat', 'Taman Ayer Keroh Permas', 'Pegaram Syarie Aini Azlin & Associates...', and 'Maklis Gula Ayer Keroh (Makli Melaka)'. A 'View larger map' link is provided above the map.

Figure 6.40: View of Contact Us Page.

LEAVE A MESSAGE

Name*

The name field is required.

Email*

The email field is required.

Phone Number*

The phone field is required.

Enquiry*

The comment field is required.

Submit

17, Jalan AKP 1
17, Jalan AKP 1, Kampung Ayer Keroh, 75450 Melaka
View larger map

Dennis 8 Homestay
Riparian Sungai Putar
Taman Ayer Keroh Permai
Pegum Syarie: Al Azrin & Associate
Mokti's Gula Apo Keroh (Mokti Mel Ice Cream)

Google
Keyboard shortcuts Map data ©2023 Google Terms Report a map error

Contact Detail

Email
90sballoonhouse@gmail.com

Phone
0187853168

Address
Malacca

Figure 6.41: Empty field validation.

6.2.2 Management Team (Staff / Shop Owner / Admin)

In the implemented system, the "Staff / Shop Owner / Admin" side module represents a crucial component with a diverse set of functionalities aimed at significantly improving the overall management and administration of the system. It serves as the backbone of the system's operational efficiency and effectiveness. This module empowers individuals in authoritative roles within the system, such as staff members, shop owners, and administrators, to efficiently oversee and control various aspects of the system's operations.

6.2.2.1 Products Management Module

The Products module within the implemented web-based management system provides administrators with a convenient overview of all listed products. On the Products Overview page, each row corresponds to a product record, while each column contains essential product information, such as the creation date (indicating when the record was created), product name, stock status, price, and sales price. Additionally, there is a dedicated column that allows administrators to access detailed product information before taking any action. The rightmost column, labeled "Actions," offers a range of actions that administrators can perform on each product record. These actions include the ability to edit, represented by a "pen" icon, and delete, indicated by an "x" icon. Located at the top of the table, there is a user-friendly search bar that empowers administrators to quickly locate specific products, eliminating the

need for manual scrolling. Furthermore, in the top-right corner of the products list, there is a prominent "Add New Product" button, providing administrators with a streamlined process for adding new product records.

ID	Image	Name	Stock	Price	Sales Price	Category	Date	Show	Action
46		Chaparral Tank - Lila 22	10000	\$24999.00	\$24999.00	Tank	2023-07-01 07:23:24	<input type="checkbox"/>	View Edit Delete
45		10" Letter First Station - Rose Gold	10000	\$1853.00	\$1853.00	Letter Station	2023-07-01 07:23:23	<input type="checkbox"/>	View Edit Delete
44		10" Happy Birthday Station Set	10000	\$1853.00	\$1853.00	Letter Station	2023-07-01 07:23:23	<input type="checkbox"/>	View Edit Delete
43		10" Letter First Station - Rose Gold	10000	\$1853.00	\$1853.00	Letter Station	2023-07-01 07:23:23	<input type="checkbox"/>	View Edit Delete
42		10" Letter First Station - Silver	10000	\$1853.00	\$1853.00	Letter Station	2023-07-01 07:08:29	<input type="checkbox"/>	View Edit Delete

Figure 6.42: Products Overview Page.

6.2.2.1.1 Add New Product

To initiate the addition of a new product record, administrators must first click the "Add New Product" button on the Products Overview page. This action will redirect them to the product addition page. Here, administrators are obliged to input all the required information for the new product into the corresponding input fields, and they also have the option to upload an image of the product. Once administrators have completed filling in all the necessary details, a "Submit" button, located at the bottom of the form, enables them to finalize the submission. Adjacent to the "Submit" button, there is a "Cancel" button that allows administrators to abort the addition operation. Selecting the "Cancel" button triggers a confirmation prompt, and upon confirmation, the system redirects administrators back to the Products Overview page. It's important to note that all input fields within the addition form are mandatory, meaning that if administrators leave any field empty, an error message will appear after attempting to submit the form. Furthermore, the system performs validation checks to ensure that the entered information adheres to the specified formats. If any input doesn't meet the required format, an error message will promptly inform administrators of the correct format. Additionally, the system checks for potential duplicates of the new product record within the database based on its unique identifier (slug). If a duplicate record is found, the system prevents the addition of the new product and

notifies the administrator. However, if no errors are encountered, the new record is successfully created upon submission, and the system displays a confirmation message, informing the user that the product has been added successfully.

The screenshot shows the 'Add New Product' form with the following fields and components:

- Product Name:** Text input field.
- Product Slug:** Text input field.
- Product Short Description:** TinyMCE rich text editor.
- Product Description:** TinyMCE rich text editor.
- Regular Price:** Text input field.
- Sales Price:** Text input field.
- SKU:** Text input field.
- Stock:** Dropdown menu with 'In Stock' selected.
- Featured:** Dropdown menu with 'No' selected.
- Quantity:** Text input field.
- Buttons:** 'Show All Products' (green) and a submit button (partially visible).

Figure 6.43: View of Add Product Page.

The screenshot shows the 'Add New Product' form with validation errors for empty fields:

- Product Name:** Error message: "The name field is required."
- Product Slug:** Error message: "The slug field is required."

Figure 6.44: Empty Field Validation.

The screenshot shows the 'Add New Product' form with validation errors for non-numeric input in price fields:

- Regular Price:** Input: "we", Error message: "The regular price must be a number."
- Sales Price:** Input: "sa", Error message: "The sale price must be a number."

Figure 6.45: Input Format Validation.

The screenshot shows the 'Add New Product' form after a successful submission:

- Confirmation Message:** "Product has been created successfully!" (green banner).
- Product Name:** "Balloon"
- Product Slug:** "balloon"
- Product Short Description:** "<p>Variety of Colors</p><p>blue, green, red, etc.</p>"

Figure 6.46: Product Added Successfully.

Besides, in the short description and description input field, TinyMCE editors is used. TinyMCE is a popular WYSIWYG (What You See Is What You Get) editor that allows users to input and format text content similar to a word processor.

```
1 @push('scripts')
2 <script>
3     $(function(){
4         tinyMCE.init({
5             selector: '#short_description',
6             setup: function(editor){
7                 editor.on('Change', function(e){
8                     tinyMCE.triggerSave();
9                     var sd_data = $('#short_description').val();
10                    @this.set('short_description', sd_data);
11                });
12            });
13        });
14
15        tinyMCE.init({
16            selector: '#description',
17            setup: function(editor){
18                editor.on('Change', function(e){
19                    tinyMCE.triggerSave();
20                    var d_data = $('#description').val();
21                    @this.set('description', d_data);
22                });
23            });
24        });
25    });
26 </script>
27 @endpush
```

Figure 6.47: Code Segment for Integration of TinyMCE.

The code initializes two separate instances of the TinyMCE editor, one for each input field. Each initialization specifies a selector that indicates the HTML element where the TinyMCE editor should be applied. In this case, `#short_description` and `#description` are the ID selectors for the input fields. Within each TinyMCE initialization, there is a setup function that configures the editor and sets up an event listener for the 'Change' event. The 'Change' event is triggered whenever the content in the TinyMCE editor is modified. Inside the 'Change' event listener, the code calls `tinyMCE.triggerSave()`. This step is crucial because TinyMCE editors often operate within iframes, and calling `triggerSave()` ensures that the content in the editor is saved back to the associated HTML input field. In other words, it synchronizes the content in the TinyMCE editor with the actual value of the input field. After triggering the save, the code retrieves the content of the TinyMCE editor using jQuery. Finally, after obtaining the content from the TinyMCE editor, the code uses `@this.set('short_description', sd_data);` or `@this.set('description', d_data);` to

update the corresponding property or variable in the Laravel Livewire component.

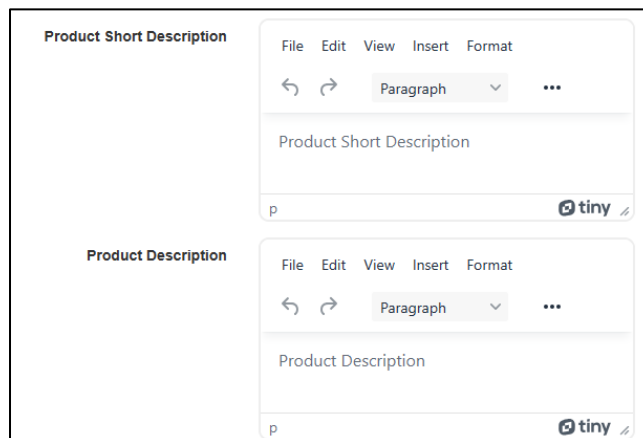


Figure 6.48: View of using TinyMCE editor in short description and description field.

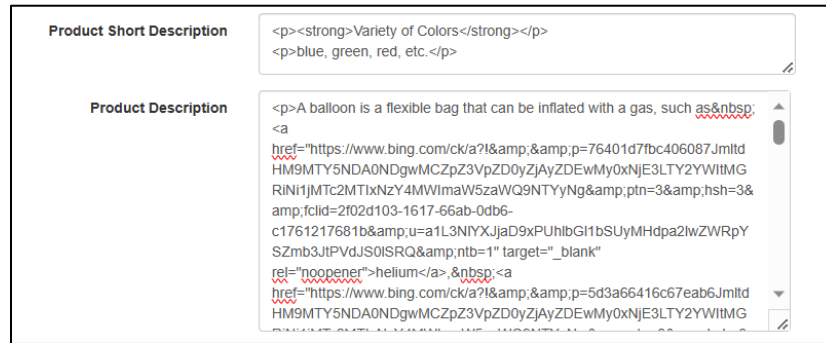


Figure 6.49: TinyMCE editor automatically convert the text format into the html form.

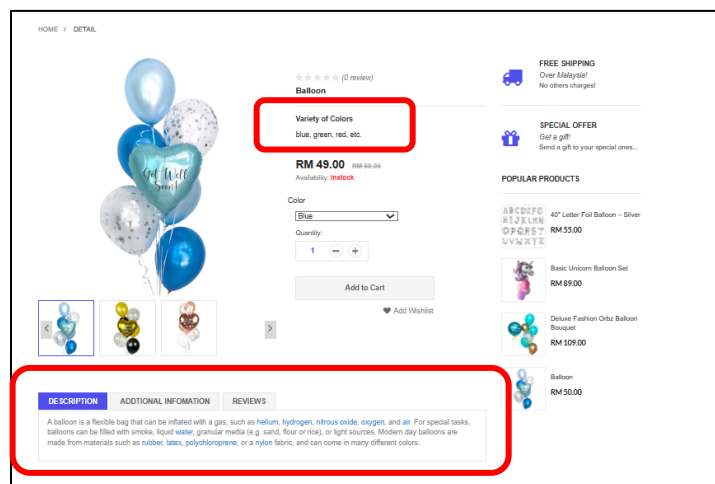
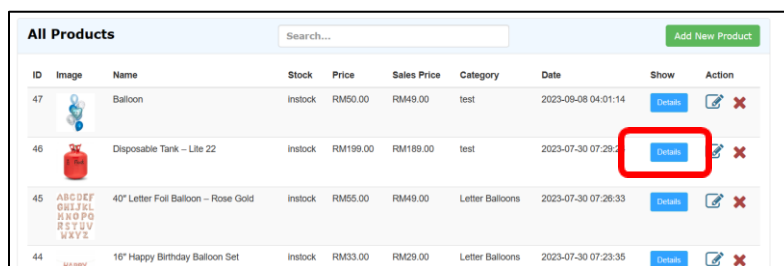


Figure 6.50: View of Description and Short Description in Product Details Page.

6.2.2.1.2 View Selected Product

To access detailed information about a specific product, the administrator must click the "details" button associated with that particular product in the "Show" column of the products list. Upon clicking the "details" button for the selected product, the system will promptly redirect the administrator to a dedicated details page, presenting comprehensive information specific to that product.















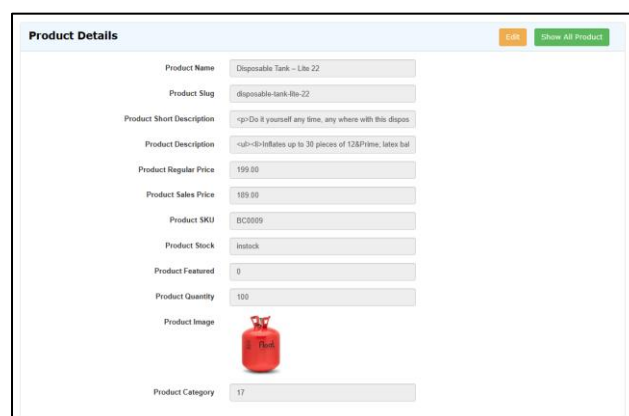
ID	Image	Name	Stock	Price	Sales Price	Category	Date	Show	Action
47		Balloon	Instock	RM50.00	RM49.00	test	2023-08-08 04:01:14	Details	 
46		Disposable Tank - Lite 22	Instock	RM199.00	RM189.00	test	2023-07-30 07:28:5	Details	 
45		40" Letter Foil Balloon - Rose Gold	Instock	RM55.00	RM49.00	Letter Balloons	2023-07-30 07:26:33	Details	 
44		16" Happy Birthday Balloon Set	Instock	RM33.00	RM29.00	Letter Balloons	2023-07-30 07:23:35	Details	 

Figure 6.51: "Details" button in Product Overview Page.




Product Details	
Product Name	Disposable Tank - Lite 22
Product Slug	disposable-tank-lite-22
Product Short Description	<p>Do it yourself any time, any where with this dispos
Product Description	Inflates up to 30 pieces of 12″ latex bal
Product Regular Price	199.00
Product Sales Price	189.00
Product SKU	BC0009
Product Stock	Instock
Product Featured	0
Product Quantity	100
Product Image	
Product Category	17

Figure 6.52: View of Product Info Page.

6.2.2.1.3 Edit Selected Product Details

To modify the details of a specific product record, administrators must initiate the process by clicking the "pen" icon situated within the Actions column of the product list. This action will seamlessly guide administrators to the product editing page. On this editing page, all input fields are thoughtfully pre-populated with their respective current values, simplifying the editing process for administrators. To update the product's information, administrators need only make changes to the relevant fields. Upon completing the desired edits in the input fields, administrators can confirm the changes by clicking the "Update" button positioned at the bottom of the form. Adjacent to the "Update" button, a "Cancel" button provides administrators with the option to abort the editing operation. If administrators opt to cancel by clicking the "Cancel" button, the system will request confirmation before redirecting them back to the products overview page. Following the submission of the form, the system rigorously validates all inputs provided by the administrator. In the

absence of errors, the selected product record undergoes an update process, and a notification message promptly informs the administrator that the selected product record has been successfully updated.





All Products									
ID	Image	Name	Stock	Price	Sales Price	Category	Date	Show	Action
47		Balloon	Instock	RM50.00	RM49.00	test	2023-09-08 04:01:14	Details	Edit Delete
46		Disposable Tank - Lite 22	Instock	RM199.00	RM189.00	test	2023-07-30 07:29:24	Details	Edit Delete
45		40" Letter Foil Balloon - Rose Gold	Instock	RM55.00	RM49.00	Letter Balloons	2023-07-30 07:26:33	Details	Edit Delete
44		16" Happy Birthday Balloon Set	Instock	RM33.00	RM29.00	Letter Balloons	2023-07-30 07:23:35	Details	Edit Delete

Figure 6.53: "Pen" Icon in Product Lists Page.

Edit Product Show All Products

Product Name:

Product Slug:

Product Short Description:
 File Edit View Insert Format
 Paragraph
 Variety of Colors
 blue, green, red, etc.

Product Description:
 File Edit View Insert Format
 Paragraph
 A balloon is a flexible bag that can be inflated with a gas, such as helium, hydrogen, nitrous oxide, oxygen, and air. For special tanks, balloons can be filled with smoke, liquid water, granular media (e.g. sand, flour or rice), or light sources. Modern day balloons are made from materials such as rubber, latex, polyethylene, or a nylon fabric, and can come in many different colors.

Regular Price:

Sales Price:

SKU:

Stock:

Featured:

Quantity:

Product Image: No file chosen

Product Gallery: No file chosen

Category:

Sub-Category:

Product Attributes:

Color:

Figure 6.54: View of Edit Product Page.

Edit Product Show All Products

Product has been updated successfully!

Product Name: Balloon

Product Slug: balloon

Product Short Description: <p>Variety of Colors</p><p>blue, green, red, etc.</p>

Product Description: A balloon is a flexible bag that can be inflated

Figure 6.55: Product Details Updated Successfully.

6.2.2.1.4 Delete Selected Product

To eliminate a specific product record, the administrator must initiate the deletion process by clicking the "x" icon situated within the Actions column of the product list. Upon clicking the "x" icon, the system will promptly request confirmation before proceeding with the removal of the selected product record from the database. Subsequently, the products list will undergo an update to reflect the deletion. Following the successful deletion, the system will display an alert message to inform the administrator that the selected record has been successfully removed.

ID	Image	Name	Stock	Price	Sales Price	Category	Date	Show	Action
47		Balloon	Instock	RM50.00	RM49.00	test	2023-08-08 04:01:14	Details	✕
46		Disposable Tank – Lite 22	Instock	RM199.00	RM189.00	test	2023-07-30 07:29:24	Details	✕
45		40" Letter Foil Balloon – Rose Gold	Instock	RM55.00	RM49.00	Letter Balloons	2023-07-30 07:26:33	Details	✕
44		16" Happy Birthday Balloon Set	Instock	RM33.00	RM29.00	Letter Balloons	2023-07-30 07:23:35	Details	✕

Figure 6.56: "X" Icon in Product List.

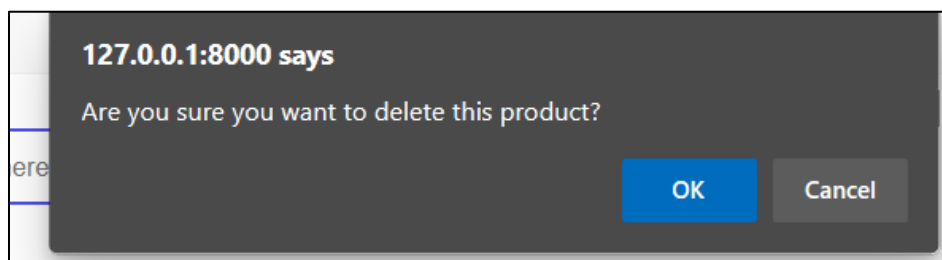


Figure 6.57: Confirmation Modal for Deletion.

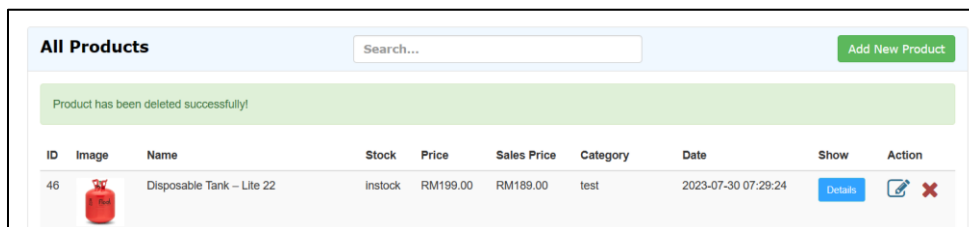


Figure 6.58: Product Deleted Successfully.

6.2.2.2 Events (Occasions) Management Module

The Events Management Module serves as a dedicated platform for managing and overseeing various events and occasions. Functionally, it aligns closely with the Products Management Module, with the primary goal of enabling administrators to handle events' details efficiently. Core functionalities include the ability to add new events, edit existing event details, delete events when necessary, and access comprehensive event-specific information. Maintaining a consistent user interface and user experience is paramount. The intentional replication of similar actions, icons, and button placements from the Products Management Module to the Events Management Module is aimed at ensuring familiarity and ease of use. Admins transitioning between modules will find a consistent and intuitive interface, minimizing the learning curve. The Events Management Module was implemented with a focus on reusability and code efficiency. Components and code structures from the Products Management Module were strategically reused and extended to expedite development while maintaining code quality.

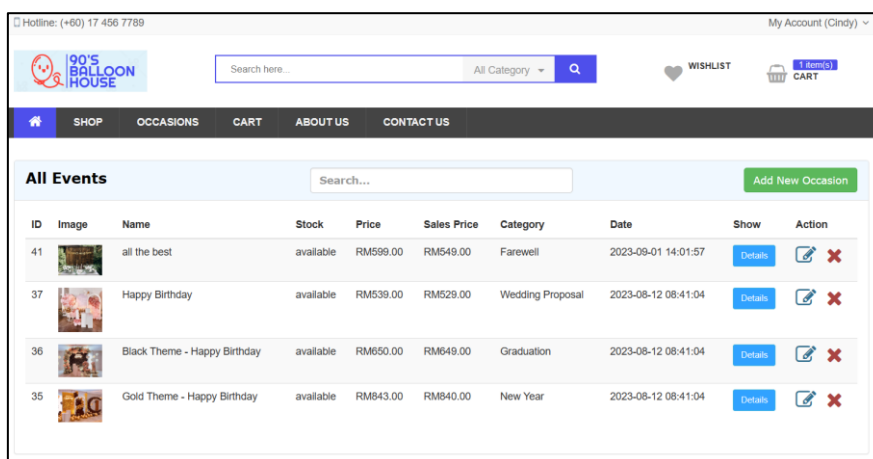
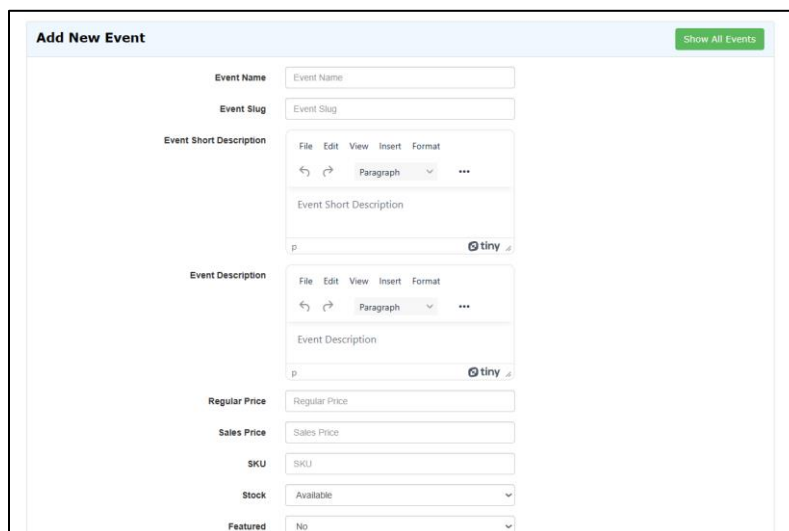


Figure 6.59: Lists of Events Overview Page.

6.2.2.2.1 Add New Event

Administrators can initiate the addition of new events by utilizing the "Add New Event" button. This action directs administrators to an event creation page, similar to the product creation page in the Products Module.



The screenshot shows the 'Add New Event' form with the following fields and components:

- Event Name:** Text input field.
- Event Slug:** Text input field.
- Event Short Description:** Rich text editor with a toolbar (File, Edit, View, Insert, Format) and a 'Paragraph' dropdown menu.
- Event Description:** Rich text editor with a toolbar (File, Edit, View, Insert, Format) and a 'Paragraph' dropdown menu.
- Regular Price:** Text input field.
- Sales Price:** Text input field.
- SKU:** Text input field.
- Stock:** Dropdown menu with 'Available' selected.
- Featured:** Dropdown menu with 'No' selected.
- Show All Events:** Green button in the top right corner.

Figure 6.60: View of Add Event Page.



The screenshot shows the 'Add New Event' form with the following fields and validation messages:

- Event Name:** Text input field with a red error message below it: "The name field is required."
- Event Slug:** Text input field with a red error message below it: "The slug field is required."
- Show All Events:** Green button in the top right corner.

Figure 6.61: Empty Field Validation.

6.2.2.2.2 View Selected Event

For a more comprehensive understanding of a specific event details, administrators can click on the "Details" button. This action directs administrators to a dedicated event details page, which provides in-depth information about the event info.

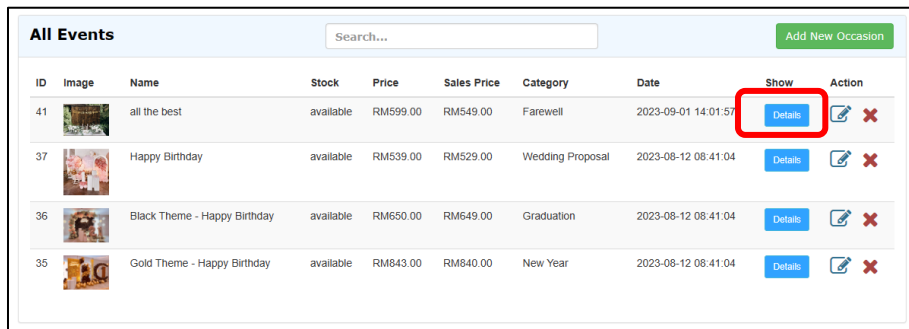


Figure 6.62: “Details” button in Event Overview Page.

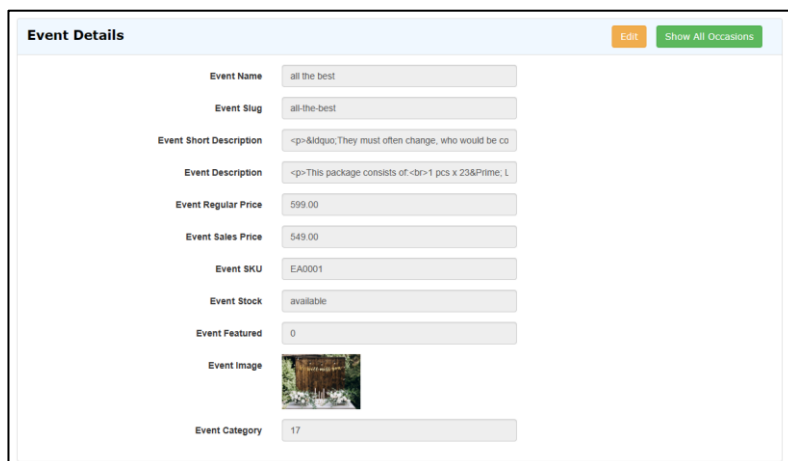


Figure 6.63: View of Event Info Page.

6.2.2.2.3 Edit Selected Event Details

To modify event details, administrators can click the "Edit" button associated with a specific event. This action seamlessly redirects administrators to an editing page where pre-existing event information is readily available for adjustment, ensuring an efficient editing process.

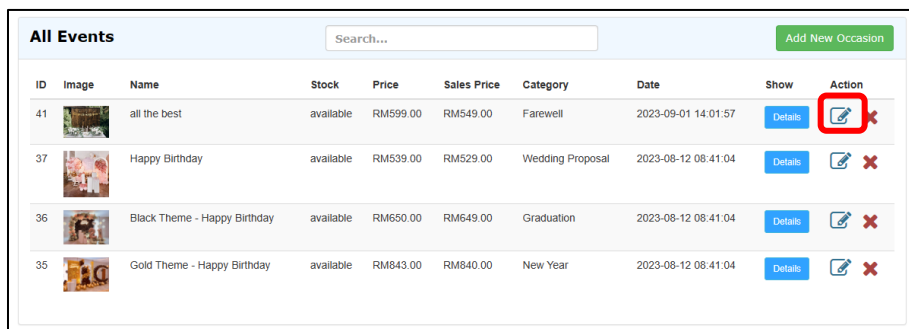


Figure 6.64: “Pen” Icon in Events List Page.

The screenshot shows the 'Edit Occasions' page with the following fields and content:

- Event Name:** all the best
- Event Slug:** all-the-best
- Event Short Description:** "They must often change, who would be constant in happiness or wisdom."
- Event Description:** This package consists of: 1 pcs x 23" L Size Bubble Balloon (includes 10's mini & tassel) 4pcs x Mini Balloon tied to below the Bubble Balloon
- Regular Price:** 599.00
- Sales Price:** 549.00
- SKU:** EA0001
- Stock:** Available
- Featured:** No
- Event Image:** Choose File | No file chosen
- Event Gallery:** Choose Files | No file chosen
- Category:** Farewell

Buttons at the bottom: Cancel, Update, Show All Occasions.

Figure 6.65: View of Edit Event Page.

The screenshot shows the 'Edit Occasions' page with a success message and updated event details:

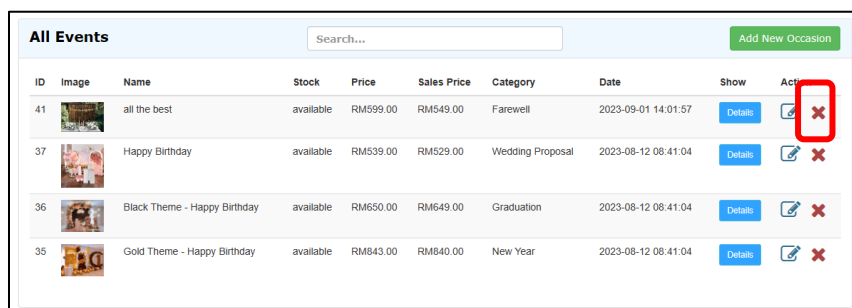
- Event Name:** all the best
- Event Slug:** all-the-best

Buttons at the bottom: Cancel, Update, Show All Occasions.

Figure 6.66: Event Details Updated Successfully.

6.2.2.2.4 Delete Selected Event

Deleting events is a straightforward process. By clicking the "Delete" button associated with an event, administrators trigger a confirmation prompt, preventing accidental deletions. Upon confirmation, the selected event record is removed from the database, and the Events list is updated accordingly.



ID	Image	Name	Stock	Price	Sales Price	Category	Date	Show	Action
41		all the best	available	RM599.00	RM549.00	Farewell	2023-09-01 14:01:57	Details	
37		Happy Birthday	available	RM539.00	RM529.00	Wedding Proposal	2023-08-12 08:41:04	Details	
36		Black Theme - Happy Birthday	available	RM650.00	RM649.00	Graduation	2023-08-12 08:41:04	Details	
35		Gold Theme - Happy Birthday	available	RM843.00	RM840.00	New Year	2023-08-12 08:41:04	Details	

Figure 6.67: “X” Icon in Event List.

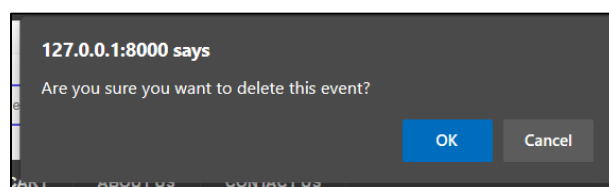
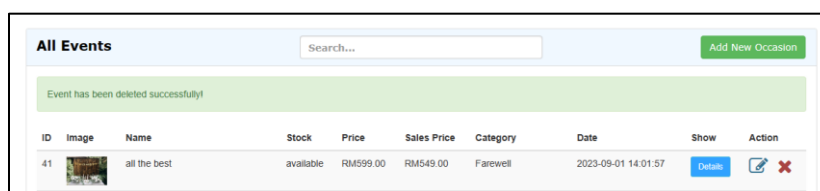


Figure 6.68: Confirmation Modal for Deletion.



ID	Image	Name	Stock	Price	Sales Price	Category	Date	Show	Action
41		all the best	available	RM599.00	RM549.00	Farewell	2023-09-01 14:01:57	Details	

Figure 6.69: Event Deleted Successfully.

6.2.2.3 Category / Event (Occasion) Category Management

The Category or Event Category Management Module represents a vital component of the implemented web-based application, focusing on the effective organization and management of categories or event categories. An essential aspect to note is that the structure and functionality of this module bear a strong resemblance to our previously implemented Product Management Module. This deliberate parallelism was implemented to maintain consistency, streamline user experience, and simplify development efforts. Similar to the Product Management Module, the Category or Event Category Management Module has been designed with a focus on code efficiency and reusability. This approach not only conserves valuable development time but also upholds coding conventions and ensures software reliability.

ID	Category Name	Slug	Sub-Category	Action
1	Helium Balloon Bouquets	helium-balloon-bouquets		✎ ✖
2	Bubble Balloon Bouquets	bubble-balloon-bouquets		✎ ✖
15	Balloon Bouquets	balloon-bouquets	<ul style="list-style-type: none"> ▶ Helium Balloon Bouquet ✎ ✖ ▶ Deluxe Balloon Bouquets ✎ ✖ 	✎ ✖
16	Letter Balloons	letter-balloons	<ul style="list-style-type: none"> ▶ Helium-Filled Balloon (40") ✎ ✖ ▶ Air-Filled Letters (16") ✎ ✖ 	✎ ✖
17	test	test	▶ test2 ✎ ✖	✎ ✖

Figure 6.70: Categories List Overview Page.

ID	Category Name	Slug	Action
1	Graduation	graduation	✎ ✖
2	Halloween	halloween	✎ ✖
3	Grand Opening / Company Event	grand-opening-company-event	✎ ✖
4	Wedding Proposal	wedding-proposal	✎ ✖
5	New Year	new-year	✎ ✖
6	Baby Shower / Gender Reveal	baby-shower-gender-reveal	✎ ✖
17	Farewell	farewell	✎ ✖
18	Happy Birthday	happybirthday	✎ ✖

Figure 6.71: Event Categories List Overview Page.

6.2.2.3.1 Add New Category / Event Category

The "Add New Category" button, akin to the "Add New Product" button in the Products Module, initiates the process of creating a new category or event category. Admins are directed to a dedicated page to input category details, maintaining a familiar workflow.

Add New Category [Show All Category](#)

Category Name

Category Slug

Parent Category ▼

[Cancel](#) [Submit](#)

Figure 6.72: View of Add Category Page.

Figure 6.73: View of Add Event Category Page.

Figure 6.74: Empty Field Validation.

Figure 6.75: New Category / Event Category Added Successfully.

6.2.2.3.2 Edit Category / Event Category

To modify category details, users can click the "Pen" button associated with a specific category or event category. This action mirrors the approach used in the Products Management Module, guiding users to an editing page where pre-existing category details are readily available for adjustment.

ID	Category Name	Slug	Sub-Category	Actions
1	Helium Balloon Bouquets	helium-balloon-bouquets		
2	Bubble Balloon Bouquets	bubble-balloon-bouquets		
15	Balloon Bouquets	balloon-bouquets	<ul style="list-style-type: none"> ▶ Helium Balloon Bouquet ▶ Deluxe Balloon Bouquets 	
16	Letter Balloons	letter-balloons	<ul style="list-style-type: none"> ▶ Helium-Filled Balloon (40") ▶ Air-Filled Letters (16") 	
17	test	test	▶ test2	

Figure 6.76: "Pen" Icon in Categories List Page.

Figure 6.77: View of Edit Category Page.

Figure 6.78: View of Edit Event Category Page.

Figure 6.79: Category Details Updated Successfully.

Figure 6.80: Event Category Details Updated Successfully.

6.2.2.3.3 Delete Category / Event Category

The deletion process follows a similar structure to the Products Module. Clicking the "x" button associated with a category or event category prompts a confirmation dialogue to prevent unintended deletions. Upon confirmation, the selected category or event category record is seamlessly removed from the database.

ID	Category Name	Slug	Sub-Category	Action
1	Helium Balloon Bouquets	helium-balloon-bouquets		[Details] [X]
2	Bubble Balloon Bouquets	bubble-balloon-bouquets		[Details] [X]
15	Balloon Bouquets	balloon-bouquets	<ul style="list-style-type: none"> Helium Balloon Bouquet [Details] [X] Deluxe Balloon Bouquets [Details] [X] 	[Details] [X]
16	Letter Balloons	letter-balloons	<ul style="list-style-type: none"> Helium-Filled Balloon (40") [Details] [X] Air-Filled Letters (16") [Details] [X] 	[Details] [X]
17	test	test	test2 [Details] [X]	[Details] [X]

Figure 6.81: "X" Icon in Categories List.

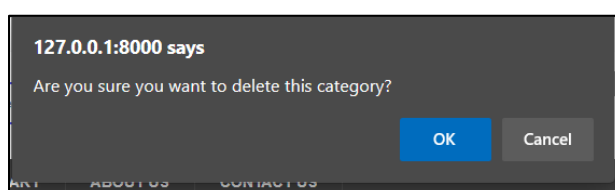


Figure 6.82: Confirmation Modal for Deletion.

ID	Category Name	Slug	Sub-Category	Action
----	---------------	------	--------------	--------

Figure 6.83: Category Deleted Successfully.

6.2.2.4 Orders Management Module

The Orders module within the implemented system provides administrators with a comprehensive view of customer orders through a user-friendly list interface. On the Orders overview page, each row corresponds to a distinct order record, presenting essential order-related information. This information encompasses the date and time of order placement, denoting precisely when each order was initiated. Additionally, a reference ID, serving as a unique identifier for each order, is prominently featured, along with the associated username. The last column in the Orders list is aptly labeled "Actions," offering a range of functionalities for user interaction with each order record. Within the "Actions" column, two primary actions are accessible to administrators. Firstly, the "Details" button allows for comprehensive order viewing, providing administrators with a complete picture of the order's

specifics. Secondly, the "Status" button enables the modification of delivery status, empowering administrators to update and track order progress.



Figure 6.84: View of All Orders Page.

To enhance the overview, administrators are greeted with a pie chart positioned at the outset of the Orders list. This pie chart serves as a visual representation of order statistics, illustrating the distribution of orders among categories such as "Ordered," "Delivered," or "Cancelled." Its primary function lies in providing administrators with an at-a-glance understanding of the order distribution, facilitating quick insights into order management trends and priorities.

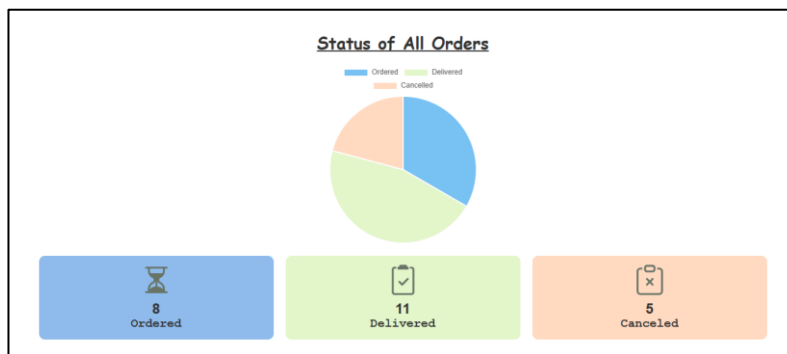


Figure 6.85: View of Pie Chart.

```

1 <script>
2 // Function to generate the pie chart
3 function generatePieChart(ordered, delivered, cancelled) {
4   var ctx = document.getElementById('orderStatusChart').getContext('2d');
5   var myChart = new Chart(ctx, {
6     type: 'pie',
7     data: {
8       labels: ['Ordered', 'Delivered', 'Cancelled'],
9       datasets: [{
10        data: [ordered, delivered, cancelled],
11        backgroundColor: ['#78C1F3', '#E2F6CA', '#FFD9C0'],
12      }]
13    }
14  });
15 }
16
17 // Call the function with the order counts
18 var ordered = {{$orderCounts['ordered']}};
19 var delivered = {{$orderCounts['delivered']}};
20 var cancelled = {{$orderCounts['cancelled']}};
21 generatePieChart(ordered, delivered, cancelled);
22 </script>

```

Figure 6.86: Code Segment for Chart Generate.

This JavaScript code above utilizes the Chart.js library to create a pie chart representing the distribution of order statuses: Ordered, Delivered, and Cancelled. The generatePieChart function takes order counts as input and dynamically renders the chart on an HTML canvas element. The color-coded slices of the pie chart visually depict the proportion of orders in each status category, providing a concise summary of order status distribution.

6.2.2.4.1 View an Order

To access a specific order record, administrators are required to select the "Details / Show" button corresponding to the desired record within the Actions column of the orders list. Clicking this button will trigger a redirection, guiding the administrator to a dedicated order details page, where comprehensive information pertaining to the chosen order is made available.


Order Details				Show All Orders	
Order Id	208	Order Date	2023-09-07 11:37:44	Order Status	ordered
Ordered Items Details					
PRODUCTS NAME					
	Deluxe Pastel Bubble Balloon Bouquet	RM 119.00	1	RM119	
ORDER SUMMARY					
Subtotal				RM119.00	
Tax				RM7.14	
Shipping				Free Shipping	
Total				RM126.14	
Billing Details					
First Name	Cindy	Last Name	Wee		
Phone	0166549695	Email	cindywee080500@gmail.com		
Address (line 1)	x3x3x3x	Address (line 2)	dff		
City	Malaysia	Province	f3f3		
Country	Malaysia	Zipcode	13131		
Transaction Details					
Transaction Mode			cod		
Status			pending		
Transaction Date			2023-09-07 11:37:44		

Figure 6.87: View of Selected Order Details.

6.2.2.4.2 Update Order Status

To modify the status of a specific order, administrators need to select the "status" button within the Actions column of the orders list. This action triggers the display of a dropdown menu, providing administrators with options to update the order's status. Administrators can easily assign a new status by selecting it from the dropdown menu, and upon confirmation, the system will promptly update the order record's status in the database.

The screenshot shows a web application interface titled "All Orders". Below the title is a section labeled "Ordered" containing a table of order details. The table has columns for Order ID, Subtotal, Discount, Tax, Total, First Name, Last Name, Mobile, Email, Zipcode, Status, Order Date, and Action. Three orders are listed: 208, 204, and 203. For order 204, a dropdown menu is open, showing options for "Delivered" and "Cancelled".

Order ID	Subtotal	Discount	Tax	Total	First Name	Last Name	Mobile	Email	Zipcode	Status	Order Date	Action
208	RM1119.00	RM0.00	RM7.14	RM126.14	Cindy	Wee	0166549695	cindywee080500@gmail.com	13131	ordered	2023-09-07 11:37:44	Details Status
204	RM89.00	RM0.00	RM5.34	RM94.34	Cindy	Wee	0166549695	cindywee080500@gmail.com	13131	ordered	2023-09-05 10:05:21	Details Status
203	RM198.00	RM0.00	RM11.88	RM209.88	Cindy	Wee	0166549695	cindywee080500@gmail.com	13131	ordered	2023-09-03 07:30:23	Details Status

Figure 6.88: Status Dropdown List in Orders List.



Figure 6.89: Status Updated Successfully.

6.2.2.5 Reservation Management Module

The Reservation Management Module represents a significant enhancement to the implemented web-based application, aimed at streamlining the process of managing reservations effectively. Notably, this module has been meticulously designed to closely resemble the previously deployed Order Management Module. This design choice serves to maintain a consistent and user-friendly experience for the administrators. Functionally, the Reservation Management Module mirrors the core functionalities of the Order Management Module. It serves as a versatile tool for the creation, modification, and tracking of reservations, just as the Order Management Module does for orders. This alignment ensures that administrators can effortlessly transition between the two modules, capitalizing on their familiarity.

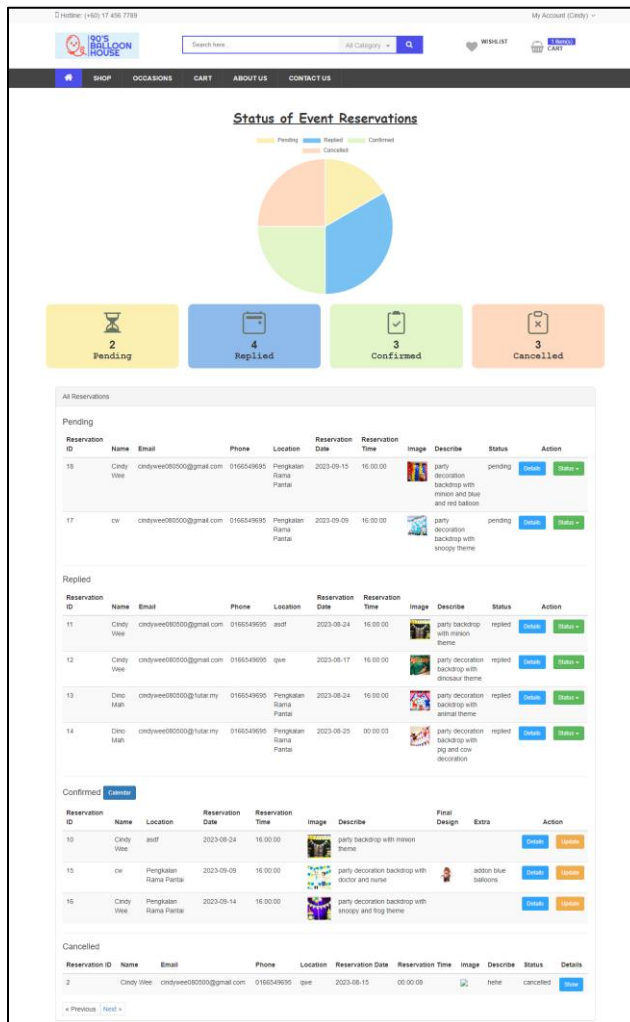


Figure 6.90: View of All Reservations Page.

6.2.2.5.1 View a Reservation

If reservation details require in-depth examination, administrators can access comprehensive information about specific reservations, akin to viewing order details.

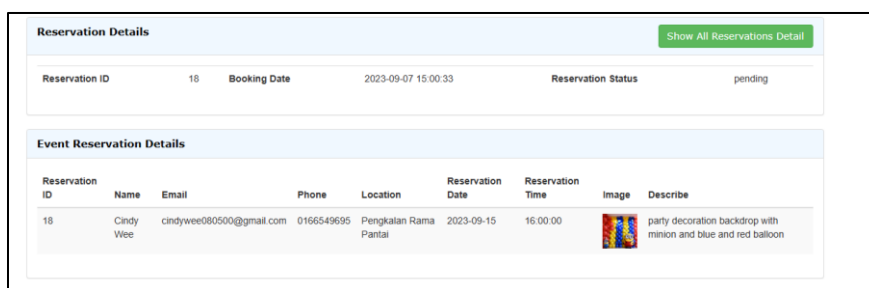


Figure 6.91: View of Selected Reservation Details Page.

6.2.2.5.2 Update Reservation Status

Administrators can efficiently modify reservation statuses, mirroring the status update process from the Order Management Module. This capability empowers administrators to manage reservations efficiently.

All Reservations										
Pending										
Reservation ID	Name	Email	Phone	Location	Reservation Date	Reservation Time	Image	Describe	Status	Action
18	Cindy Wee	cindywee080500@gmail.com	0166549695	Pengkalan Rama Pantai	2023-09-15	16:00:00		party decoration backdrop with minion and blue and red balloon	pending	Details Status ▾ <ul style="list-style-type: none"> Replied Confirmed Canceled
17	cw	cindywee080500@gmail.com	0166549695	Pengkalan Rama Pantai	2023-09-09	16:00:00		party decoration backdrop with snoopy theme	pending	Details Status ▾

Figure 6.92: Status Dropdown List in Reservations List.

6.2.2.5.3 Update Final Design and Extra Info

Following the reservation submission, our administrators engage in discussions with the customer to refine and confirm the design details. This collaborative phase ensures that the design aligns precisely with the customer's requirements and expectations. Upon reaching a consensus with the customer, the final design is officially confirmed. This confirmation is a crucial step to ensure that the design accurately reflects the customer's preferences and needs. After the design is confirmed, administrators promptly update the system with the finalized design details. This update includes incorporating all approved design elements, layouts, and interactions into the system's interface so that the staff can do early preparation for the setup. In cases where extra information or enhancements are identified during the design confirmation process, the administrators also incorporate these details into the system.

[Show All Reservation](#)

Final Design No file chosen

Extra Info

Figure 6.93: View of Update Final Design or Extra Info Page.

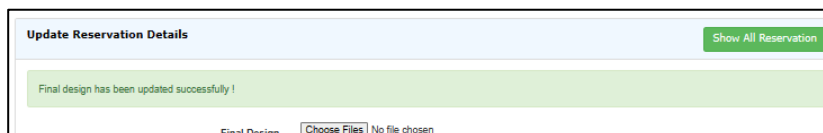


Figure 6.94: View of Update Final Design or Extra Info Page Successful.

6.2.2.6 Centralized Calendar Module

The Centralized Calendar Module stands as a pivotal component of our system, revolutionizing the way administrator and staff manage and visualize reservations. It is also one of the important scope stated in the project. This module plays a crucial role in streamlining scheduling processes and facilitating efficient coordination by automatically adding reservations with a "confirmed" status to the centralized calendar. By providing this consolidated perspective, it significantly enhances user experience, simplifying the process of keeping track of important appointments and ensuring effective resource allocation.

Reservation ID	Name	Location	Reservation Date	Reservation Time	Image	Describe	Final Design	Extra	Action
10	Cindy Wee	asdf	2023-08-24	16:00:00		party backdrop with minion theme			Details Update
15	cw	Pengkalan Rama Pantai	2023-09-09	16:00:00		party decoration backdrop with doctor and nurse		addon blue balloons	Details Update
16	Cindy Wee	Pengkalan Rama Pantai	2023-09-14	16:00:00		party decoration backdrop with snoopy and frog theme			Details Update

Figure 6.95: View of “Calendar” Button.

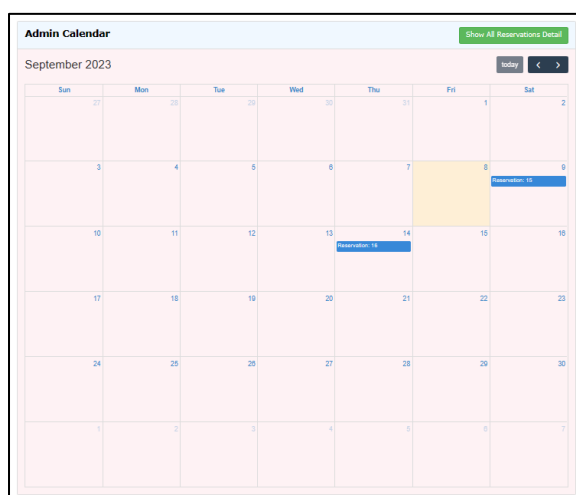


Figure 6.96: View of Admin Calendar.

In the admin calendar, each reservation is conveniently labeled with its unique reservation ID alongside the reservation date. Staff members can effortlessly access reservation details by simply clicking on the reservation ID of their choice. This intuitive action seamlessly redirects staff to the dedicated reservation details page for comprehensive information.

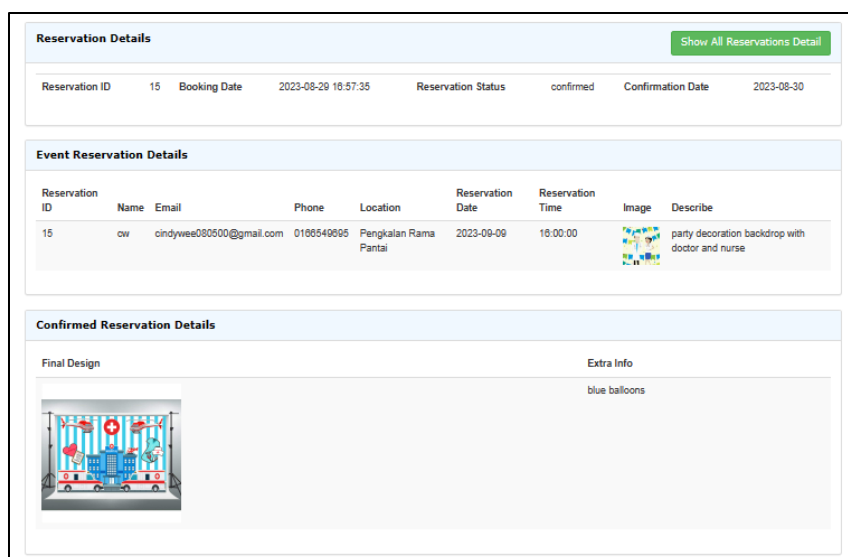


Figure 6.97: View of Reservation Details Page.

```

1 <script>
2 document.addEventListener('DOMContentLoaded', function() {
3   var calendarEl = document.getElementById('calendar');
4   var calendar = new FullCalendar.Calendar(calendarEl, {
5     initialView: 'dayGridMonth', // Choose the initial view
6     events: [
7       @foreach ($reservations as $reservation)
8         @if ($reservation->status === 'confirmed')
9           {
10            title: 'Reservation: {{$reservation->id}}',
11            start: '{{ $reservation->reservation_date }}',
12            url: '{{ route('admin.reservationdetails', $reservation->id) }}'
13          },
14        @endif
15      @endforeach
16    ],
17    eventClick: function(info) {
18      // Show a modal or redirect to the reservation detail page
19      window.location.href = info.event.url;
20    }
21  });
22
23  calendar.render();
24 });
25 </script>

```

Figure 6.98: Code Segment for Calendar.

The code segment above is responsible for rendering an interactive calendar within the administrative interface of the system. The calendar is generated using the FullCalendar library, and its primary purpose is to display reservation events for staff members. The reservations data, retrieved from the server-side and stored in the \$reservations variable, is looped through using a foreach loop. For each reservation, it checks if the status is 'confirmed.' If the reservation is confirmed, it creates an event object with properties such as the event title (displayed as 'Reservation: [reservation_id]'), the reservation start date, and a URL link that leads to the reservation details page for that specific reservation. This implementation streamlines the process of managing and accessing reservation information within the system.

6.2.2.7 Home Page Management Module

The home page serves as the primary entry point for customers accessing our application or website, making it a crucial area for engaging and informing our audience. In the implemented system, a dynamic carousel that plays a pivotal role in presenting key content to the customers. This carousel is designed to effectively showcase a range of items, from featured products to promotional offers, by seamlessly transitioning between visually appealing images. The carousel's purpose is to capture users' attention, provide an enticing visual experience, and encourage them to explore further.

Complementing the carousel is a countdown timer, strategically positioned to create a sense of urgency and importance. This timer counts down to significant events, limited-time offers, or promotions, effectively conveying the message that time is of the essence.

The combined presence of the carousel and countdown timer enhances the overall customer experience on the home page. The dynamic nature and engaging content contribute to increased customer interaction, click-through rates, and conversions. Together, these features captivate customers' attention, guide them toward key offerings, and facilitate their engagement within the platform. They create an immersive and visually appealing environment that aligns with our branding and user expectations.

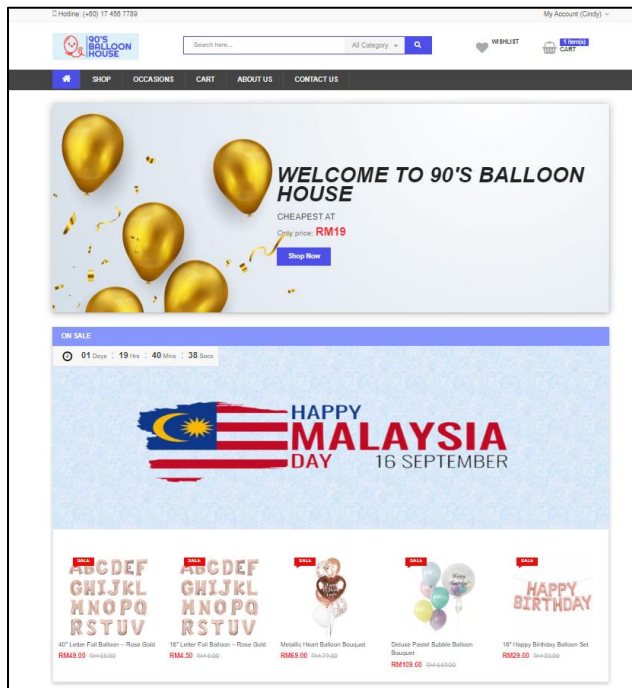


Figure 6.99: View of Home Page.

6.2.2.7.1 Manage Home Slider

The "Manage Home Slider" functionality significantly enhances the visual appeal of the homepage by enabling the addition of engaging visual content and promotional materials. It allows administrators to seamlessly manage and update the homepage slider, akin to the management capabilities provided in the order module. Admin can add, edit or remove the home slider. This feature empowers administrators to capture user attention with timely promotions, announcements, and captivating visuals, ensuring that the homepage remains dynamic and inviting to visitors.







All Sliders									Add New Slide
ID	Name	Title	Subtitle	Price	Link	Status	Date	Action	
6		WELCOME TO 90'S BALLOON HOUSE	CHEAPEST AT	19	http://127.0.0.1:8000/shop	Active	2023-09-06 08:29:58	 	
4		Let The Technology now to Help you Customizell	We Provide Packages Only At	499	http://127.0.0.1:8000/event-shop	Active	2023-07-11 05:12:43	 	

Figure 6.100: View for Manage Home Slider.

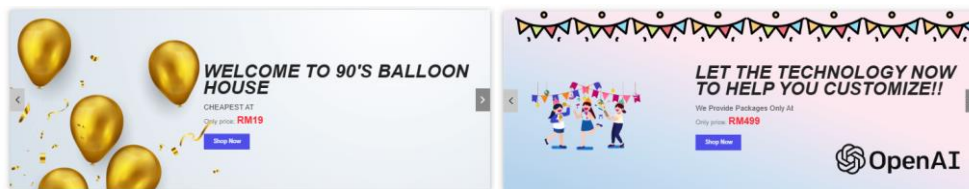


Figure 6.101: View of sliders in Home Page.

```

1 <div class="main-main-slider">
2 <div class="owl-carousel owl-carousel" style="nav: 1; data-items="1" data-loop="1" data-nav="true" data-dots="false" style="box-shadow: rgba(14, 30, 37, 0.12) 0px 2px 4px 0px, rgba(14, 30, 37, 0.32) 0px 2px 10px 0px;">
3   <#foreach($sliders as $slide)>
4     <div class="item-slide">
5       
6       <div class="slide-info slide-1">
7         <h3 class="title">{ $slide-title}</h3>
8         <span class="subtitle">{ $slide-subtitle}</span>
9         <div class="slide-info">only price: <span class="price">{ $slide-price}</span>
10        < a href="{ $slide-link}" class="btn">Shop Now</a>
11       </div>
12     </div>
13   </foreach>
14 </div>
15 </div>

```

Figure 6.102: Code Segment for Home Slider.

The code segment above is used to create a dynamic carousel on the implemented web page. It fetches data from the \$sliders collection to populate individual slides within the carousel. Each slide consists of an image, title, subtitle, price information, and a link for users to "Shop Now." The Owl Carousel library is employed with specified configurations to manage the carousel's behavior and appearance, making it an interactive and engaging component on your web page. Owl Carousel version 2.3.4 is a popular JavaScript library for creating carousels or sliders on web pages. It provides a wide range of options and configurations to customize the appearance and behavior of the carousel.

6.2.2.7.2 Manage Sales Setting

Effective management of sales settings can significantly impact a company's revenue, customer relationships, and overall success.

Figure 6.103: View for Manage Sales Setting.



Figure 6.104: View of Countdown Timer in Home Page.

```

1 <div class="row">
2 <div class="col">
3 <div class="text">
4 <div class="text">
5 <div class="text">
6 <div class="text">
7 <div class="text">
8 </div>
9 </div>
10 </div>
11 </div>
12 </div>
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100 </div>

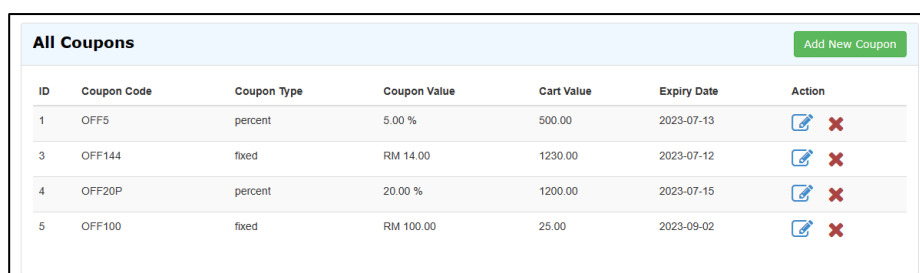
```

Figure 6.105: Code Segment for Countdown Timer.

This code snippet above is responsible for rendering an "On Sale" section on a web page. It starts by checking specific conditions, including the existence of products in a collection, the active status of a sale, and whether the sale's expiration date is in the future. If all conditions are met, the "On Sale" section is displayed. This section features a title, a banner image linked to the sale, and a countdown timer that dynamically calculates and displays the time remaining until the sale's end date and time. Additionally, a product carousel is utilized to showcase products currently on sale, with each product displaying its image, name, sale price, and regular price. Overall, this code segment creates an engaging and time-sensitive promotional section to highlight discounted products, encouraging user engagement and sales.

6.2.2.8 Coupons Management Module

The Coupons Management Module is an integral part of the implemented system, offering a comprehensive solution for the administration and distribution of promotional codes or coupons. This module shares its design and functionality with the Order Management Module, ensuring consistency and ease of use throughout our platform. Admin can add, edit or remove the coupon. Customers can access these promo codes through our shop's social media channels, providing a seamless and engaging customer experience. The integration of social media channels streamlines the process of reaching a wider audience.

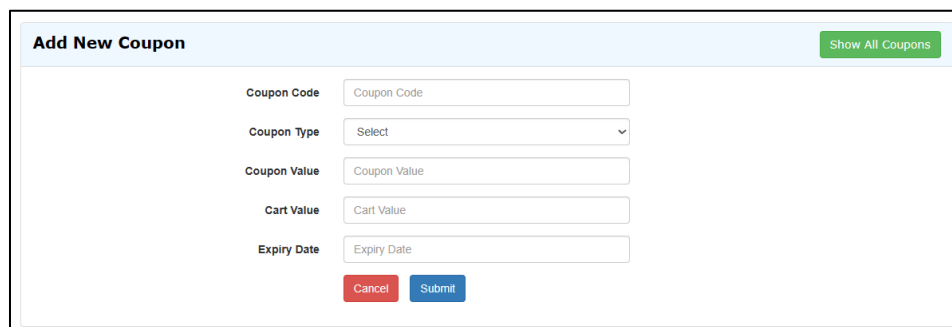


All Coupons Add New Coupon						
ID	Coupon Code	Coupon Type	Coupon Value	Cart Value	Expiry Date	Action
1	OFF5	percent	5.00 %	500.00	2023-07-13	
3	OFF144	fixed	RM 14.00	1230.00	2023-07-12	
4	OFF20P	percent	20.00 %	1200.00	2023-07-15	
5	OFF100	fixed	RM 100.00	25.00	2023-09-02	

Figure 6.106: View of All Coupons List.

6.2.2.8.1 Add New Coupon

Administrators have the capability to create and configure various types of coupons. This includes setting discount percentages, fixed discounts, validity periods, and specific product or category promotions.



Add New Coupon Show All Coupons

Coupon Code

Coupon Type

Coupon Value

Cart Value

Expiry Date

Figure 6.107: View of Add Coupon.

6.2.2.8.2 Update Coupon Details

The "Update Coupon Details" feature allows administrators to modify and fine-tune the properties and attributes of existing coupons. This includes adjusting discount values and changing validity periods.









All Coupons						Add New Coupon
ID	Coupon Code	Coupon Type	Coupon Value	Cart Value	Expiry Date	Action
1	OFF5	percent	5.00 %	500.00	2023-07-13	 
3	OFF144	fixed	RM 14.00	1230.00	2023-07-12	 
4	OFF20P	percent	20.00 %	1200.00	2023-07-15	 
5	OFF100	fixed	RM 100.00	25.00	2023-09-02	 

Figure 6.108: "Pen" Icon for Edit Coupon Details.

Edit Coupon		Show All Coupons
Coupon Code	<input type="text" value="OFF5"/>	
Coupon Type	<input type="text" value="Percent"/>	
Coupon Value	<input type="text" value="5.00"/>	
Cart Value	<input type="text" value="500.00"/>	
Expiry Date	<input type="text" value="2023-07-13"/>	
<input type="button" value="Cancel"/> <input type="button" value="Update"/>		

Figure 6.109: View for Edit Coupon Details.

6.2.2.8.3 Remove Coupon

The "Remove Coupon" feature enables administrators to delete coupons that are no longer needed or have expired. It offers a straightforward way to declutter the system and ensure that only active and relevant coupons are available to customers.









All Coupons						Add New Coupon
ID	Coupon Code	Coupon Type	Coupon Value	Cart Value	Expiry Date	Action
1	OFF5	percent	5.00 %	500.00	2023-07-13	 
3	OFF144	fixed	RM 14.00	1230.00	2023-07-12	 
4	OFF20P	percent	20.00 %	1200.00	2023-07-15	 
5	OFF100	fixed	RM 100.00	25.00	2023-09-02	 

Figure 6.110: "X" Icon for Delete Coupon.

6.2.2.9 Dashboard Management Module

The "Admin Dashboard Management Module" is a core component of our system, providing administrators with a centralized and dynamic platform to oversee and manage various aspects of our application. This module offers a user-friendly and comprehensive dashboard that empowers administrators to monitor real-time data, make informed decisions, and streamline administrative tasks.

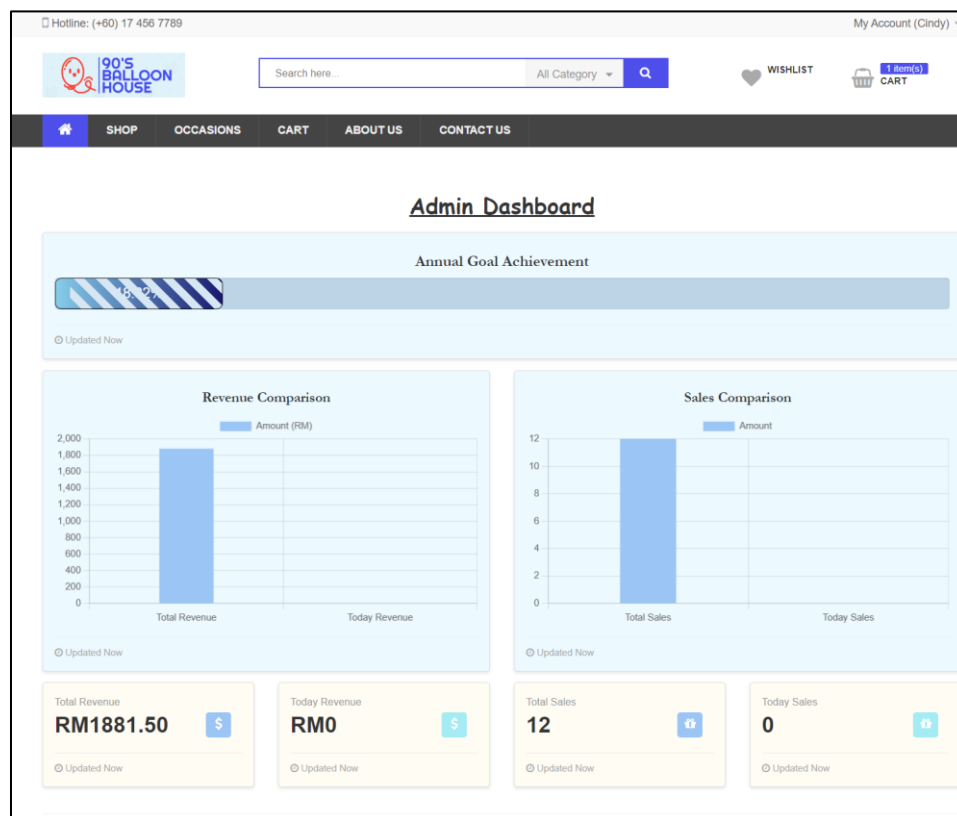


Figure 6.111: View of Admin Dashboard.

The Admin Dashboard Management Module now incorporates an Annual Sales Target Progress Bar, allowing administrators to track the progress toward their set sales targets. This dynamic and visually informative feature provides a clear indication of whether the business is on track to meet its annual sales goals. The progress bar fills in real-time as sales accumulate throughout the year. This feature empowers administrators to monitor and adjust their strategies as needed to achieve their sales objectives, contributing to better-informed decision-making and increased motivation among the team.

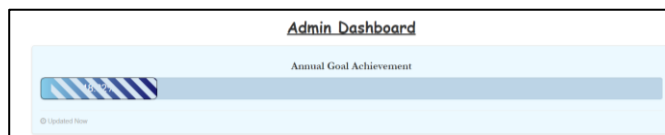


Figure 6.112: View of Progress Bar.

Additionally, the module offers a Bar Chart that facilitates a straightforward comparison between total sales and today's sales. This chart provides administrators with immediate insights into daily sales performance relative to overall sales figures. By visualizing this data, administrators can quickly identify trends, anomalies, or exceptional sales days. This aids in pinpointing successful marketing initiatives, understanding daily sales fluctuations, and making timely adjustments to sales and marketing strategies. Ultimately, the Bar Chart for Sales Comparison enhances data-driven decision-making and empowers administrators to optimize their sales efforts effectively.

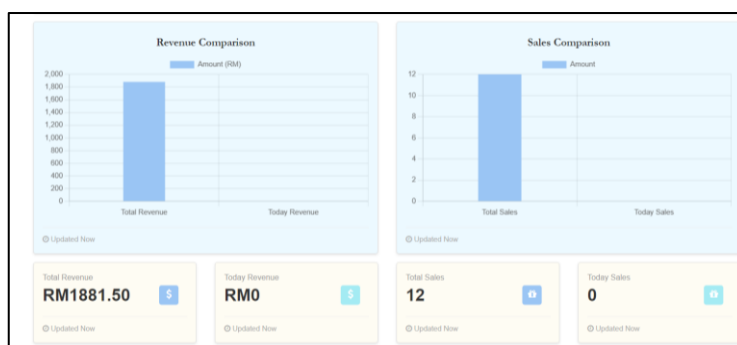


Figure 6.113: View of Sales Chart.

In this module, the Pusher API for live analytics is implemented. It gives a significant enhancement to the system by providing real-time data insights. It provides the administrators with up-to-the-minute insights into critical metrics and user activities. This integration enables us to monitor and analyze user behavior, system performance, and other essential data points as they occur, rather than relying on static reports.

```
1 // Trigger Pusher event with updated analytics data
2 $pusher = new Pusher(
3     config('broadcasting.connections.pusher.key'),
4     config('broadcasting.connections.pusher.secret'),
5     config('broadcasting.connections.pusher.app_id'),
6     config('broadcasting.connections.pusher.options')
7 );
8
9 $data = [
10     'totalSales' => $totalSales,
11     'totalRevenue' => $totalRevenue,
12     'todaySales' => $todaySales,
13     'todayRevenue' => $todayRevenue,
14 ];
15
16 $pusher->trigger('pds', 'update-analytics', $data);
```

Figure 6.114: Code Segment for Pusher API.

This code segment above is responsible for triggering a Pusher event with updated analytics data within the system. It first initializes the Pusher API by providing the necessary credentials and options. Next, it assembles a data array containing various analytics metrics, such as total sales, total revenue, sales for today, and revenue for today. Finally, it uses the Pusher instance to trigger an event named 'update-analytics' within the 'pds' channel, sending the prepared data. This event can then be consumed by connected clients, such as administrators, in real-time to display and respond to the latest analytics information, facilitating data-driven decision-making and real-time insights.

6.2.2.10 Manage Enquiry

The "Manage Enquiry" feature within the implemented system provides a comprehensive solution for administrators to efficiently handle and oversee user inquiries submitted through the "Send Enquiry" (Contact Us) Module. This module serves as a centralized hub where administrators can access, review, and manage all incoming inquiries, ensuring that each customer request receives proper attention and resolution.

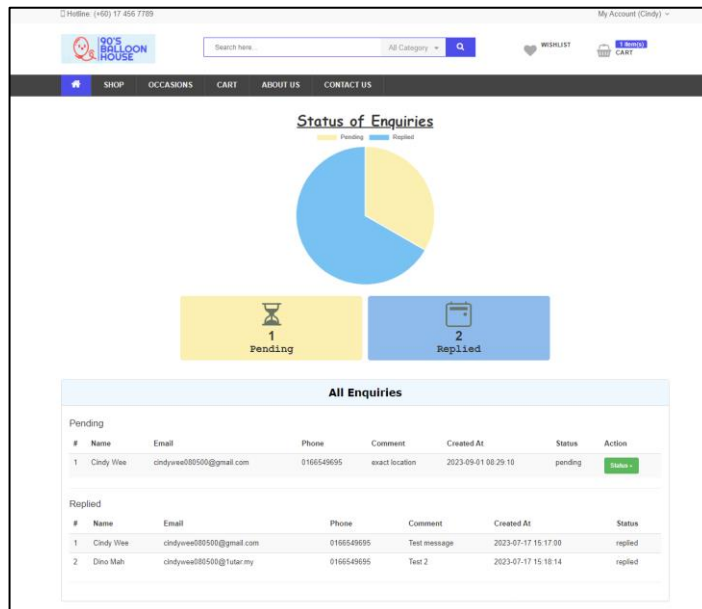


Figure 6.115: View of Manage Enquiry.

6.2.2.10.1 Update Enquiry Status

Administrators can change the status of an enquiry to reflect its current progress or resolution state. It is a sub-feature that enhances the efficiency and accountability of the enquiry management process. It ensures that administrators can easily monitor and adjust the status of inquiries, leading to improved customer support and satisfaction.

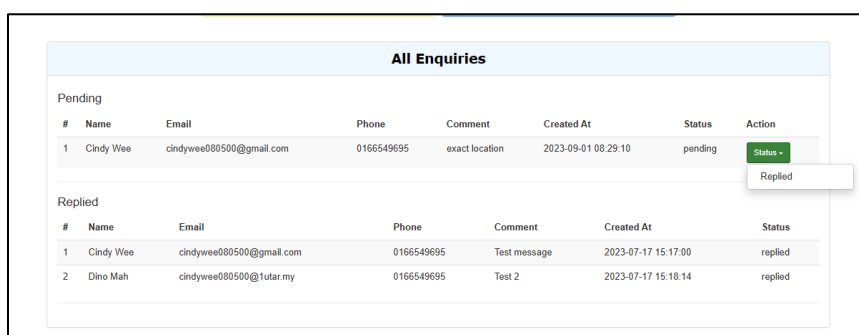


Figure 6.116: Status Dropdown List in Enquiries List.

6.3 Comparison between Existing System and Implemented System

The comparison between the Existing System and the Implemented System, from the customer's perspective are tabulate in table below, reveals notable enhancements and benefits in the Implemented System. Customers using the Implemented System enjoy a more streamlined and user-friendly experience. They can seamlessly navigate the platform, make purchases, and book event decorations all in one place, simplifying their interactions.

Table 6.2: Comparison between existing system and implemented system.

Source Features	D'Special Day Décor Gift Balloon	M Tree Event	Party Wonderland	Implemented System
Payment System	Only can pay using online banking and bank transfer	N/A	Only have certain payment gateway	Offer a variety of payment method
Customer Support	Only can contact through WhatsApp	Only can contact through WhatsApp	Only can contact through WhatsApp	Chatbot to assist user, standby 24/7
Combination of Event Decoration reservation & Item Purchase	Only able to make item purchase	Only able to make reservation on event	Only able to make item purchase	Able to make purchase and book event decoration reservation in one time
Flexibility in customizing	Only on certain products	N/A	Only on certain products	Customization with the help of AI

In terms of the Payment System, the implemented system shines with its versatility. It offers customers the option to pay using online banking and bank transfers, providing flexibility and accommodating various preferences. Furthermore, the implemented system's potential ability to work with multiple payment gateways enhances convenience and choice. This sets it apart from D'Special Day, which has limitations in payment options. Décor Gift Balloon doesn't specify payment methods, which might lead to uncertainty. M Tree Event mentions having certain payment gateways, potentially limiting customer choices.

Regarding Customer Support, all sources, including D'Special Day, Décor Gift Balloon, and M Tree Event, have a common limitation of only being contactable through WhatsApp. In contrast, the implemented system introduces a significant enhancement with a 24/7 standby Chatbot to assist customers. This AI-powered feature ensures continuous support and immediate responses, setting the system apart in providing a superior customer support experience.

In the context of combining Event Decoration Reservation and Item Purchase, D'Special Day allows only item purchases, limiting flexibility for users. Décor Gift Balloon, on the other hand, enables event reservations but not item purchases. M Tree Event, like D'Special Day, only allows item purchases. In contrast, the implemented system offers a remarkable advantage. It empowers users to make both item purchases and event decoration reservations simultaneously, streamlining the process and enhancing user convenience.

Besides, regarding Flexibility in Customization, the implemented system excels with the introduction of AI-driven customization. Customers can tailor their preferences with the assistance of AI, offering a high degree of personalization. In contrast, D'Special Day and M Tree Event only allow customization on certain products or events. Décor Gift Balloon and Party Wonderland are not specified for customization options, potentially limiting personalization. As we can see, the implemented system's advanced customization capability with AI support sets it apart, allowing customers to create tailored experiences.

6.4 Comparing the previous business flow without a proper system to the current state with an implemented system

The transition from the previous business flow, characterized by manual processes and limited automation, to the current state with the fully implemented system, has ushered in a new era of operational excellence. This transformation has been pivotal in reshaping how business conduct and interact with the customers.

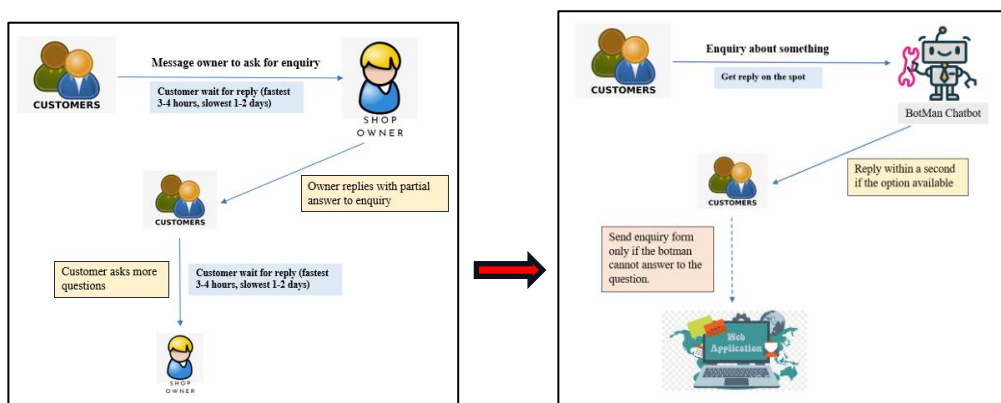


Figure 6.117: Comparison between Previous Flow (Before) and Current Flow (After) of enquiry process.

In the past, addressing customer inquiries presented significant challenges. The manual reply system often resulted in delayed responses and occasional oversight, leading to missed customer messages. It could take several days to provide a resolution or answer to customer queries. However, with the implementation of the advanced system, a paradigm shift has occurred in how we handle customer inquiries. The implemented system now features a sophisticated chatbot that plays a pivotal role in addressing customer concerns promptly and effectively. Customers can engage with the chatbot to obtain quick answers to their questions, request assistance, or seek information on our products and services. The chatbot operates seamlessly, providing instant responses and solutions, significantly improving the overall customer experience. In instances where the chatbot may not have the specific answer or if further assistance is required, customers can easily submit an enquiry form through the system. This streamlined process ensures that their inquiries reach the appropriate department for personalized assistance, ensuring that no

customer concern goes unaddressed. This transition from manual replies to a chatbot-driven system has not only accelerated our response times but also heightened customer satisfaction by providing immediate support and reducing the need for prolonged waiting periods.

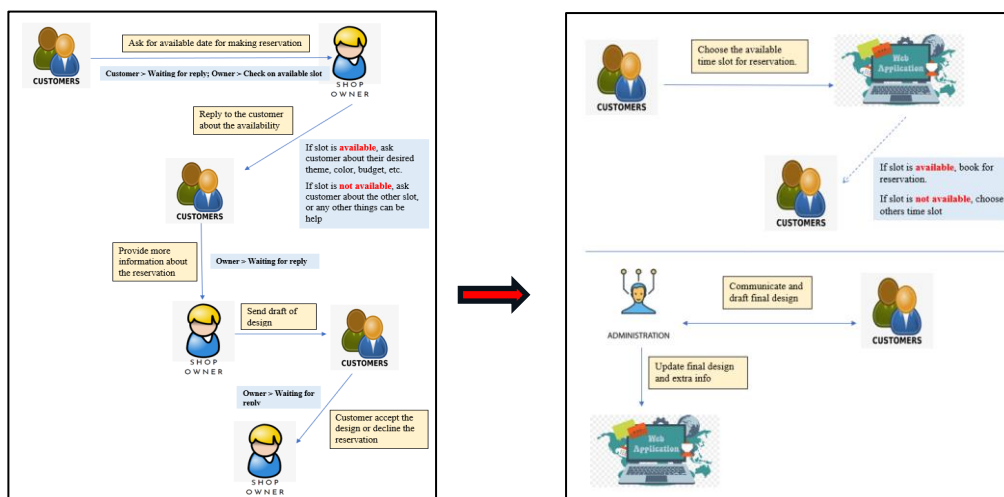


Figure 6.118: Comparison between Previous Flow (Before) and Current Flow (After) of reservation process.

In the previous reservation process, customers were required to initiate a dialogue with our team to inquire about available time slots. This step introduced delays and often involved back-and-forth communication to find a suitable time. Once the time slot was established, customers had to describe their event's design requirements in text form. Admin staff would then manually draft a design based on these textual descriptions. This process was subjective and occasionally led to misunderstandings due to the reliance on written descriptions alone. With the implementation of the advanced system, the reservation process has undergone a transformative evolution. Customers now have real-time access to available time slots through the system, eliminating the need for preliminary enquiries. Furthermore, the system features an innovative AI-powered design assistance tool. When customers begin the reservation process, this AI tool guides them through the design aspect. Customers can interact with the AI to convey their design preferences, and it provides visual suggestions and drafts in real time. The AI-driven approach empowers our admin team to grasp customer preferences more

accurately and offer refined design options promptly. This collaborative and visual method not only enhances the reservation experience but also results in a more precise translation of customer ideas into design concepts.

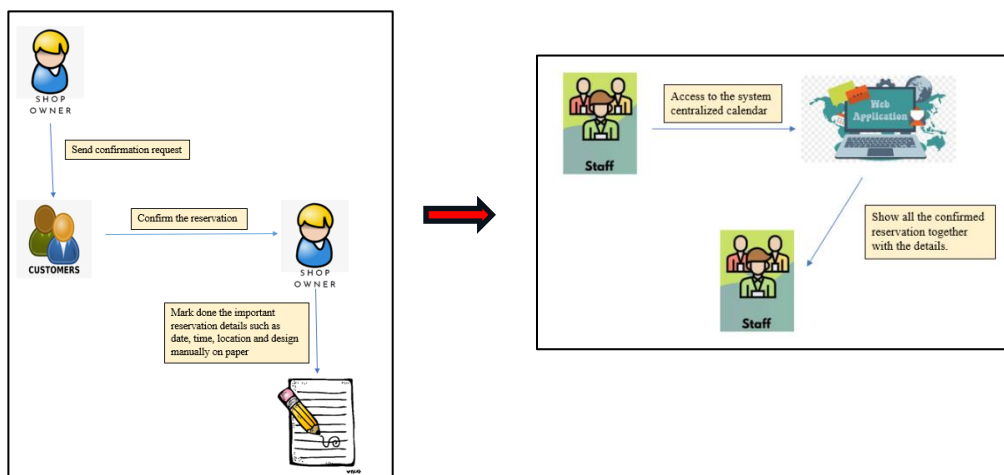


Figure 6.119: Comparison between Previous Flow (Before) and Current Flow (After) of record reservation date process.

In the previous markdown reservation process, shop owners or staff relied on manual methods to record and manage reservations. Once a reservation was confirmed, it would typically be marked down on physical paper calendars or logs. This manual approach often led to challenges in tracking and accessing reservation details. Additionally, the absence of a centralized system made it difficult for shop owners and staff to have a comprehensive view of reservation details, including design specifics. This could result in missed reservations or misunderstandings regarding design preferences, impacting customer satisfaction. Following the implementation of the advanced system, the markdown reservation process has undergone a significant transformation. Shop owners and staff now have access to a centralized calendar within the system, providing a consolidated and easily accessible view of all reservations. When a reservation is confirmed, it is promptly updated in the centralized calendar, eliminating the need for manual paper records. Staff can quickly reference this digital calendar to view reservation details, including design specifications. This real-time visibility ensures that reservation information is accurate, up to date, and readily

available to all authorized personnel. The centralized calendar not only enhances the efficiency of managing reservations but also reduces the likelihood of missing out on bookings or design preferences. Shop owners and staff can now provide a higher level of service by having all relevant reservation details at their fingertips.

6.5 Summary

In summary, this chapter delves into the specifics of implementing the intended system, focusing on both the frontend and backend aspects. The implemented system prioritizes customer convenience, responsiveness, and flexibility, making it a more user-centric platform compared to the existing system. These improvements aim to enhance the overall customer experience, contributing to higher satisfaction and engagement.

CHAPTER 7

SYSTEM TESTING

7.1 Introduction

This chapter places significant emphasis on system testing, aiming to confirm that the system's functional and non-functional aspects align precisely with the user's specifications. It also seeks to validate the system's completeness and its anticipated performance. To achieve these objectives, a comprehensive set of tests is carried out, encompassing unit testing, integration testing, usability assessment, and user acceptance testing. Furthermore, this chapter includes the presentation of a traceability matrix that establishes clear connections between use cases, functional requirements, and corresponding test cases.

7.2 Traceability between Use Cases, Functional Requirements and Test Cases

Software testing is a critical phase during the development of any software application. It acts as a quality assurance mechanism, helping developers ensure that the software behaves as expected. This phase involves executing various test cases, which are scenarios designed to evaluate different aspects of the software, to verify whether the actual outcomes align with what was anticipated. Beyond merely checking if the software works, testing also assesses whether it meets the functional requirements. In complex software projects, it can be challenging to keep track of the relationships between various components, such as functional requirements, test cases, and use cases (scenarios of how the software will be used). Traceability matrices are tools used to establish and maintain these connections systematically. They provide a clear visual representation of how each test case aligns with a specific functional requirement or use case. This not only aids in project management but also helps ensure that every aspect of the software is thoroughly tested, leaving no gaps in the evaluation process.

7.2.1 Use Case Table

A Use Case Table is a structured document or chart used in software development and project management to outline and describe various use cases for a software system. It typically provides a clear and organized representation of how different actors (such as users or systems) interact with the software to achieve specific goals or tasks.

Table 7.1: Use Case Table.

Use Case ID	Use Case Name
UC001	Login Account
UC002	Sign Up Account
UC003	Send Enquiry
UC004	Manage Profile
UC005	Search Products / Occasions
UC006	Make Purchase
UC007	Manage Shopping Cart
UC008	Manage Wishlist
UC009	View Order History
UC010	Make Customization on Products
UC011	Make Event Decoration Reservation
UC012	View Reservation Info
UC013	Manage Enquiry
UC014	Manage Order
UC015	Manage Event Decoration Reservation
UC016	View of Centralized Calendar
UC017	Manage Delivery
UC018	Update Delivery Status
UC019	Manage Category / Event Category
UC020	Manage Products
UC021	Manage Events (Occasions)
UC022	View sales report (Admin Dashboard)
UC023	Manage Home Page
UC024	Manage Coupons

7.2.2 Functional Requirement Table

A Functional Requirement Table is a structured document that outlines the specific functions and features that a software application or system must possess to meet the needs of its users and stakeholders. The functional requirement ID and their corresponding requirement specification statements are presented in Table 7.2.

Table 7.2: Functional Requirements

Functional Requirement ID	Functional Requirements
Customer	
SRS001	The system shall allow customers to register an account.
SRS002	The system shall allow customers to log in using email and password.
SRS003	The system shall allow customers to edit their profile information such as name, phone number, address and password.
SRS004	The system shall display a list of products / events according to the category.
SRS005	The system shall allow customers to search for party decoration products / events using keywords.
SRS006	The system shall allow customers to view all the details of a specific party decoration product or event.
SRS007	The system shall allow customers to add a product into the shopping cart.
SRS008	The system shall allow customers to place an order based on the items in the shopping cart.
SRS009	The system shall allow customers to select the payment method for each of the order placed.
SRS010	The system shall allow customers to specify the delivery address for each of the order placed.
SRS011	The system shall allow the customers to trace the status of all their placed orders.

SRS012	The system shall allow customers to remove a selected product from the shopping cart.
SRS013	The system shall allow customers to view the details of the items added in the shopping cart or wishlist.
SRS014	The system shall allow customers to change the product quantity in the cart.
SRS015	The system shall allow customers to ask the chatbot fundamental questions or when having enquiries.
SRS016	The system shall allow customers to send an enquiry if the chatbot does not provide the accurate answer.
SRS017	The system shall allow customers to perform customization on party decoration kits or event booking with the help of AI.
SRS018	The system shall allow customers to book an reservation for a party decoration setup.
Admin / Staff / Shop Owner	
SRS019	The system shall allow the admin/staff/shop owner to login their account.
SRS020	The system shall display a list of customer's orders.
SRS021	The system shall allow the staff to view all the customer's orders associated with the details of the order.
SRS022	The system shall allow the staff to update the status for an order.
SRS023	The system shall allow the staff to search for a product / event record.
SRS024	The system shall allow the staff to view a list of party decoration products / events according to its category.
SRS025	The system shall allow the staff to create a new product / event.
SRS026	The system shall allow the staff to update product's / event's detail.

SRS027	The system shall allow the staff to delete a product / event.
SRS028	The system shall allow the staff to view enquiry sent by customers.
SRS029	The system shall allow the staff to update enquiry status.
SRS030	The system shall allow only the shop owner to view the annual sales report.
SRS031	The system shall display a list of categories or event categories to the admin.
SRS032	The system shall allow the admin to create a new category / event category.
SRS033	The system shall allow the staff to update category's / event category's detail.
SRS034	The system shall allow the staff to delete a category / event category.
SRS035	The system shall display a list of customer's reservations.
SRS036	The system shall allow admin to update the reservation status.
SRS037	The system shall allow the admin to update the final design and extra info of the reservation.
SRS038	The system shall show the staff a calendar with the reservation status of "confirmed".
SRS039	The system shall allow the staff to view the reservation details after the id being pressed.
SRS040	The system shall display a list of sliders to the admin.
SRS041	The system shall allow the admin to add new slider to home page.
SRS042	The system shall allow the admin to edit the slider or update the slider details.
SRS043	The system shall allow the admin to delete a selected slider.

SRS044	The system shall allow the admin to update the sales timer in the home page.
SRS045	The system shall display a list of coupons to the admin.
SRS046	The system shall allow the admin to add new coupon.
SRS047	The system shall allow the admin to update coupon details.
SRS048	The system shall allow the admin to delete a coupon.

7.2.3 Test Cases Table of Unit Testing

A Test Cases Table for Unit Testing is a systematic document used by software developers and quality assurance teams to plan, execute, and track unit tests for individual components or functions of a software application. One of the tests conducted during the project involved unit testing, where all the components were subjected to manual testing to ensure their proper functioning. The detail of test cases were covered in Appendix D. Table below display the summary list of unit testing with status.

Table 7.3: Summary of unit testing with status

Test Case ID	Test Case Name	Test Case Description	Related FR ID	Status
Customer Side				
UTC001	Test submit registration form with valid input	Examine whether the successful submit message will show after the register button pressed	SRS001	Pass
UTC002	Test duplicate email registration handling test	Examine whether the application correctly handles the scenario when a customer attempts to register with an email that already exists in the system.		Pass
UTC003	Test login with correct credential	Examine whether the system will show login success	SRS002	Pass
UTC004	Test login with incorrect credential	Examine whether the system will show error message		Pass
UTC005	Test modify customer information with valid input	Examine whether the system correctly allows customers to edit	SRS003	Pass

		their profile information		
UTC006	Test modify customer information with invalid input	Examine whether the system information change validation rules when customers attempt to edit their details		Pass
UTC007	Test display products / events by selected category	Examine whether the system correctly displays a list of products/events based on the selected category	SRS004	Pass
UTC008	Test display no results for empty category	Examine whether the system provides appropriate feedback when a customer selects an empty or non-existent category.		Pass
UTC009	Test keyword search for products / events	Examine whether the system allows customers to search for party decoration products/events using keywords and returns relevant results	SRS005	Pass

UTC010	Test viewing details of a selected product / event	Examine whether the system allows customers to view all the details of a specific party decoration product or event	SRS006	Pass
UTC011	Test adding a product to the shopping cart	Examine whether the system allows customers to successfully add a product into the shopping cart	SRS007	Pass
UTC012	Test adding multiple products to the shopping cart	Examine whether the system allows customers to add multiple products to the shopping cart and correctly tracks their quantities		Pass
UTC013	Test placing an order from the shopping cart	Examine whether the system allows customers to successfully place an order based on the items present in the shopping cart	SRS008	Pass
UTC014	Test placing an order with an empty shopping cart	Examine whether the system handles the scenario when customers attempt to place an order		Pass

		with an empty shopping cart.		
UTC015	Test selecting payment method for an order	Examine whether the system allows customers to successfully select a payment method for an order they have placed.	SRS009	Pass
UTC016	Test input validation when place an order with empty payment method	Examine whether the system handles empty or missing input data appropriately		Pass
UTC017	Test specifying a delivery address for an order	Examine whether the system allows customers to successfully specify a delivery address when placing an order	SRS010	Pass
UTC018	Test missing delivery address	Examine whether the system handles the scenario when customers attempt to place an order without specifying a delivery address		Pass
UTC019	Test tracing the status or	Examine whether the system allows	SRS011	Pass

	placed orders	customers to successfully trace the status of their placed orders		
UTC020	Test removing a product from the shopping cart	Examine whether the system allows customers to successfully remove a selected product from the shopping cart	SRS012	Pass
UTC021	Test viewing details of products in the shopping cart	Examine whether the system allows customers to successfully view the details of the items added to the shopping cart	SRS013	Pass
UTC022	Test viewing details of products in the wishlist	Examine whether the system allows customers to successfully view the details of the items added to the wishlist		Pass
UTC023	Test changing product quantity in the cart	Examine whether the system allows customers to successfully change the product quantity in the shopping cart	SRS014	Pass

UTC024	Test asking a fundamental question to the chatbot	Examine whether the chatbot successfully responds to a fundamental question asked by a customer	SRS015	Pass
UTC025	Test sending enquiry through the system	Examine whether the system allows customers to successfully send an enquiry to the admin when the initial response is not accurate	SRS016	Pass
UTC026	Test customizing a party decoration kit	Examine whether the system allows customers to successfully customize a party decoration kit	SRS017	Pass
UTC027	Test customizing an event booking with the help of AI	Examine whether the system allows customers to successfully customize an event booking		Pass
UTC028	Test booking a party decoration setup reservation	Examine whether the system allows customers to successfully book a reservation for a party decoration setup	SRS018	Pass

Admin / Staff / Shop Owner Side				
UTC029	Test admin/staff/shop owner login with correct credential	Examine whether the system allows admin, staff, or shop owners to successfully log in to their accounts	SRS019	Pass
UTC030	Test admin/staff/shop owner login with incorrect credential	Examine whether the system handles the scenario when an admin, staff, or shop owner provides invalid login credentials		
UTC031	Test displaying a list of customer's orders	Examine whether the system successfully displays a list of customer's orders	SRS020	Pass
UTC032	Test staff viewing customer orders details	Examine whether the system allows staff to successfully view a list of customer's orders along with the details of each order	SRS021	Pass
UTC033	Test updating the status of an order	Examine whether the system allows staff to successfully update the status of an order	SRS022	Pass

UTC034	Test staff searching for a product / event detail	Examine whether the system allows staff to successfully search for a product/event record from the search bar	SRS023	Pass
UTC035	Test empty search results	Examine whether the system handles the scenario when staff's search criteria do not yield any matching product/event records.		Pass
UTC036	Test staff viewing party decoration products / events by category	Examine whether the system allows staff to successfully view a list of party decoration products/events organized by category	SRS024	Pass
UTC037	Test staff/admin creating a new product / event with valid input	Examine whether the system allows staff to successfully create a new product/event	SRS025	Pass
UTC038	Test creating a new product / event with missing information	Examine whether the system handles the scenario when staff attempts to create a new		Pass

		product/event but leaves some required information blank		
UTC039	Test staff/admin updating product / event details with valid data	Examine whether the system allows staff to successfully update the details of a product/event	SRS026	Pass
UTC040	Test staff/admin updating product/event details with invalid data	Examine whether the system handles the scenario when staff attempts to update a product's/event's details with invalid or inappropriate data		Pass
UTC041	Test staff/admin deleting a product/event	Examine whether the system allows staff to successfully delete a product/event	SRS027	Pass
UTC042	Test canceling product/event deletion	Examine whether the system allows staff to cancel the deletion of a product/event if they change their mind		Pass
UTC043	Test staff/admin viewing	Examine whether the system allows	SRS028	Pass

	customer enquiries	staff to successfully view enquiries sent by customers		
UTC044	Test handling multiple enquiries	Examine whether the system handles the scenario when there are multiple customer enquiries in the queue		Pass
UTC045	Test staff/admin updating enquiry status	Examine whether the system allows staff to successfully update the status of an enquiry	SRS029	Pass
UTC046	Test shop owner access to annual sales report in admin dashboard	Examine whether the system allows the shop owner to access the annual sales report within the admin dashboard	SRS030	Pass
UTC047	Test retrieving all categories to staff / admin	Examine whether the system successfully displays a list of categories or event categories to the staff/admin	SRS031	Pass
UTC048	Test admin / staff creating a	Examine whether the system allows	SRS032	Pass

	new category / event category	the admin to successfully create a new category/event category		
UTC049	Test admin / staff creating a new category / event category with missing information	Examine whether the system handles the scenario when the admin attempts to create a new category/event category but leaves some required information blank		Pass
UTC050	Test staff / admin updating category / event category details	Examine whether the system allows staff to successfully update the details of a category/event category	SRS033	Pass
UTC051	Test staff / admin updating category / event category details with invalid input	Examine whether the system handles the scenario when staff attempts to update a category's/event category's details with invalid or inappropriate data		Pass
UTC052	Test staff / admin deleting a category / event category	Examine whether the system allows staff to successfully delete a category/event category	SRS034	Pass

UTC053	Test canceling category / event category deletion	Examine whether the system allows staff to cancel the deletion of a category/event category if they change their mind		Pass
UTC054	Test retrieve customer's reservation list	Examine whether the system successfully displays a list of customer's reservations	SRS035	Pass
UTC055	Test admin updating reservation status	Examine whether the system allows the admin to successfully update the status of a reservation	SRS036	Pass
UTC056	Test admin updating reservation's final design and extra info	Examine whether the system allows the admin to successfully update the final design and extra information of a reservation	SRS037	Pass
UTC057	Test staff viewing calendar with confirmed reservations	Examine whether the system successfully displays a calendar to the staff with the reservation status set to "confirmed."	SRS038	Pass

UTC058	Test Calendar display for other reservation statuses	Examine whether the system appropriately filters out reservations with statuses other than "confirmed" in the staff's calendar view		Pass
UTC059	Test staff retrieving reservation details	Examine whether the system allows staff to successfully view reservation details after selecting the reservation ID	SRS039	Pass
UTC060	Test displaying sliders detail to admin	Examine whether the system successfully displays a list of sliders to the admin	SRS040	Pass
UTC061	Test admin adding new slider with valid input	Examine whether the system allows the admin to successfully add a new slider to the home page	SRS041	Pass
UTC062	Test admin adding a slider with missing information	Examine whether the system handles the scenario when the admin attempts to add a new slider		Pass

		with missing information		
UTC063	Test admin edit slider details	Examine whether the system allows the admin to successfully edit or update the details of an existing slider	SRS042	Pass
UTC064	Test update slider with invalid data	Examine whether the system handles the scenario when the admin attempts to update a slider's details with invalid or inappropriate data		Pass
UTC065	Test admin deleting a slider	Examine whether the system allows the admin to successfully delete a selected slider	SRS043	Pass
UTC066	Test admin slider deletion	Examine whether the system allows the admin to cancel the deletion of a slider if they change their mind		Pass
UTC067	Test admin updating sales timer	Examine whether the system allows the admin to successfully update the	SRS044	Pass

		sales timer on the home page		
UTC068	Test retrieving all coupons to admin	Examine whether the system successfully displays a list of coupons to the admin	SRS045	Pass
UTC069	Test admin creating a new coupon	Examine whether the system allows the admin to successfully create a new coupon	SRS046	Pass
UTC070	Test admin creating a coupon with missing information	Examine whether the system handles the scenario when the admin attempts to create a new coupon but leaves some required information blank		Pass
UTC071	Test admin updating coupon details	Examine whether the system allows staff to successfully update the details of a coupon	SRS047	Pass
UTC072	Test admin updating coupon details with invalid input	Examine whether the system handles the scenario when admin attempts to update a coupon's		Pass

		details with invalid or inappropriate data		
UTC073	Test admin deleting a coupon	Examine whether the system allows admin to successfully delete a coupon	SRS048	Pass
UTC074	Test canceling coupon deletion	Examine whether the system allows admin to cancel the deletion of a coupon if they change their mind		Pass

7.2.3.1 Test Results of Unit Testing

The comprehensive evaluation of Unit Testing has yielded highly favorable results. The testing process encompassed a total of 73 meticulously designed unit test cases, and the outcome is particularly promising. Each of these test cases, crucial in assessing the functionality and reliability of the software, has demonstrated remarkable performance by passing successfully. This remarkable achievement underscores the robustness and stability of the system under scrutiny, instilling confidence in its overall quality and readiness for further development and deployment.

7.2.4 Test Cases Table of Integration Testing

A Test Cases Table for Integration Testing is a structured document that outlines various scenarios and conditions under which integrated components or modules of the implemented system are tested. Integration testing aims to ensure that different parts of the system work seamlessly when combined. Manual integration testing is conducted to ensure the accuracy and appropriateness of all displayed data. The detail of test cases were covered in Appendix D. Table below display the summary list of integration testing with status.

Table 7.4: Summary of integration testing with status.

Test Case ID	Test Case Name	Test Case Description	Status
Customer Side			
ITC001	User Authentication and Shopping Cart Integration	Verify that the user authentication system and the shopping cart module integrate correctly and allow authenticated customers to add items to their shopping cart.	Pass
ITC002	Shop Product Page and Product Details Page Integration	Verify the integration between the Shop Product Page and the Product Details Page.	Pass
ITC003	Shop Event Page and Event Details Page Integration	Verify the integration between the Shop Event Page and the Event Details Page.	Pass
ITC004	Cart Management Integration	Verify the integration of the shopping cart module, including adding, updating, and removing items from the cart.	Pass
ITC005	Wishlist Management Integration	Verify the integration of the wishlist module, including adding and removing products from the wishlist.	Pass
ITC006	Purchase and Checkout Integration	Verify the integration between adding items to the cart and completing the checkout process.	Pass
ITC007	Reservation Integration	Verify the integration of the reservation module, including making reservations.	Pass

ITC008	Profile Management Integration	Verify the integration of the profile management module, including updating user information and changing the password.	Pass
ITC009	Orders and Reviews Integration	Verify the integration between viewing orders, order details, and writing reviews	Pass
ITC010	Reservation Details Integration	Verify the integration of viewing reservations and reservation details	Pass
ITC011	Chatbot and Contact Us Integration	Verify the integration of the chatbot feature for contacting customer support.	Pass
Admin / Staff / Shop Owner Side			
ITC012	Login authentication and access admin dashboard Integration	Verify the integration between the login process and accessing the admin dashboard.	Pass
ITC013	Admin Dashboard - View Latest Customer Order Detail Integration	Verify the integration between the admin dashboard and viewing the details of the latest customer order.	Pass
ITC014	Manage Category Integration	Verify the integration of category management, including viewing, adding, updating, and deleting categories.	Pass

ITC015	Manage Event Category Integration	Verify the integration of event category management, including viewing, adding, updating, and deleting event categories.	Pass
ITC016	Manage Product Integration	Verify the integration of product management, including viewing, adding, updating, and deleting products.	Pass
ITC017	Manage Event (Occasion) Integration	Verify the integration of event (occasion) management, including viewing, adding, updating, and deleting events.	Pass
ITC018	Manage Home Page Slider Integration	Verify the integration of home page slider management, including viewing, adding, updating, and deleting slider items.	Pass
ITC019	Manage Sales Timer Integration	Verify the integration for updating the sales timer.	Pass
ITC020	Manage Coupon Integration	Verify the integration of coupon management, including viewing, adding, updating, and deleting coupons.	Pass
ITC021	Manage Order Integration	Verify the integration of order management, including viewing and updating delivery status.	Pass
ITC022	Manage Enquiry Integration	Verify the integration of enquiry management, including viewing and updating enquiry status.	Pass
ITC023	Manage Reservation Integration	Verify the integration of reservation management, including viewing, updating status, updating final design and extra info, and viewing the reservation calendar	Pass

7.2.4.1 Test Results of Integration Testing

The results from our Integration Testing phase have delivered an exceptional outcome. In a meticulous assessment comprising a total of 23 strategically designed test cases, the implemented system has exhibited remarkable performance by successfully passing each of these critical integration tests. This achievement underscores the seamless interaction and harmony among various components of the implemented system, highlighting its robustness and ability to function cohesively as a unified whole. Such a flawless execution during Integration Testing is a strong indicator of the implemented system's resilience and reliability, reassuring us of its readiness for the next stages of development and deployment.

7.2.5 Traceability Matrix

In order to enhance readers' comprehension of the intricate relationship between the executed testing procedures, the functional requirements, and the described use cases, we have thoughtfully provided traceability matrices. These matrices serve as invaluable guides, shedding light on how the testing activities align with the stipulated functional requirements and the envisioned use cases. To facilitate understanding, these matrices in Table 7.5 are meticulously documented, allowing for a comprehensive review of all tests conducted in strict accordance with the functional requirements and use cases outlined within this chapter.

Table 7.5: Traceability Matrix

Test Case ID	Function Requirement ID	Use Case ID
Customer Side		
UTC001, UTC002	SRS001	UC002
UTC003, UTC004	SRS002	UC001
UTC005, UTC006	SRS003	UC004
UTC007, UTC008, UTC009, UTC010	SRS004, SRS005, SRS006	UC005
UTC011, UTC012	SRS007	UC007
UTC013, UTC014, UTC015, UTC016, UTC107, UTC018	SRS008, SRS009, SRS010	UC006
UTC019	SRS011	UC009, UC012
UTC020	SRS012	UC007
UTC021	SRS013	UC007
UTC022	SRS013	UC008
UTC023	SRS014	UC007
UTC024, UTC025	SRS015, SRS016	UC003
UTC026, UTC027	SRS017	UC010
UTC028	SRS018	UC011
Admin / Staff / Shop Owner Side		
UTC029, UTC030	SRS019	UC001
UTC031, UTC032, UTC033	SRS020, SRS021, SRS022	UC014, UC017, UC018
UTC034, UTC035, UTC036, UTC037, UTC038, UTC039, UTC040, UTC041, UTC042	SRS023, SRS024, SRS025, SRS026, SRS027	UC020, UC021
UTC043, UTC044, UTC045	SRS028, SRS029	UC013

UTC046	SRS030	UC022
UTC047, UTC048, UTC049, UTC050, UTC051, UTC052, UTC053	SRS031, SRS032, SRS033, SRS034	UC019
UTC054, UTC055, UTC056, UTC057, UTC058, UTC059	SRS035, SRS036, SRS037, SRS038, SRS039	UC015, UC016
UTC060, UTC061, UTC062, UTC063, UTC064, UTC065, UTC066, UTC067	SRS040, SRS041, SRS042, SRS043, SRS044	UC023
UTC068, UTC069, UTC070, UTC071, UTC072, UTC073, UTC074	SRS045, SRS046, SRS047, SRS048	UC024

7.3 User Acceptance Test (UAT)

User Acceptance Testing (UAT) is the final phase of the software testing process, during which the system is evaluated by end-users to ensure it meets their specific needs and requirements. UAT serves as a critical validation step before a software application or system is released to a wider audience. In the UAT process, selected end-users, who represent the intended user base, engage with the software to assess its functionality, usability, and overall performance.

7.3.1 User Acceptance Test Plan

The management teams which include the staff, admin and shop owner and the customers were the 2 main user group that participated in the user acceptance test.

7.3.1.1 On-Site User-Centered Testing

The user acceptance testing (UAT) for the AI-Infused Web Decor Shop was conducted on-site at 90's Balloon House, involving two primary user groups: the management teams, comprising staff, admin, and the shop owner, as well as customers. Originally, the plan was to utilize think-aloud testing, wherein testers would vocalize their thoughts and interactions with the system while being observed and recorded. This method was chosen to capture users' emotions and acceptance levels during their use of the application. A total of three management team members from 90's Balloon House and five customers were invited to participate in the on-site user acceptance testing. The physical testing environment was chosen to ensure more accurate observation of the testers' responses. On the designated testing day at 90's Balloon House, a laptop was set up for the testers to evaluate the web application. Each tester received a user acceptance test form containing all the test scenarios as described in the appendix D. Testers were instructed to complete all the listed tests by following the provided test steps. Subsequently, testers were asked to provide their feedback on the AI-Infused Web Decor Shop by responding to the final section of the user acceptance form. The following figures illustrate the tangible results obtained during real-user testing of the implemented system.



Figure 7.1: Proof of the shop owner engaging in testing of the implemented system.



Figure 7.2: Proof of the customer engaging in testing of the implemented system.

7.3.2 User Acceptance Test Cases

User Acceptance Test Cases (UAT cases) are specific scenarios and test scripts designed to evaluate whether a software application or system meets the requirements and expectations of its end users. These test cases serve as a critical part of the User Acceptance Testing (UAT) phase and are essential for ensuring the system's readiness for production deployment. The detail of test cases were covered in Appendix D. Table below display the summary list of UAT with status based on the result in Appendix E.

Table 7.6: Summary of UAT with status.

Test Case ID	Test Case Name	Test Description	Pass / Fail	Tested by	Related Functional ID
Customer Side					
UATC001	Register a new account	To verify the registration form is added	Pass	Customer	SRS001
UATC002	Login account	To verify the account is logged in	Pass	Customer	SRS002
UATC003	Logout	To verify the customer is logged out	Pass	Customer	SRS002
UATC004	View all products / events	To verify all products / events are showed	Pass	Customer	SRS004, SRS005

UATC005	View selected product / event details	To verify the selected product / event details is showed	Pass	Customer	SRS006
UATC006	Make Reservation	To verify the customer is able to make a reservation	Pass	Customer	SRS017, SRS018
UATC007	Manage product(s) into shopping cart	To verify the customer is able to add/remove product into/from a shopping cart	Pass	Customer	SRS006, SRS012, SRS013, SRS014
UATC008	Manage product(s) in wishlist	To verify the customer is able to favourite/unfavourite product to/from the wishlist	Pass	Customer	SRS006, SRS012, SRS013, SRS014
UATC009	Make Order	To verify the customer is able to place an order	Pass	Customer	SRS008, SRS009, SRS010, SRS017
UATC010	Send an Enquiry	To verify the customer is able to send an enquiry when the chatbot does not provide answer	Pass	Customer	SRS016

UATC011	Update profile details	To verify the customer is able to edit profile details	Pass	Customer	SRS003
UATC012	View all orders/reservations	To verify the list of orders/reservations made is shown.	Pass	Customer	SRS011
UATC013	Access chatbot feature	To verify the chatbot feature is able to help the customer.	Pass	Customer	SRS015
Admin / Staff / Shop Owner (Management) Side					
UATC016	Login account	To verify the account is logged in	Pass	Management Team	SRS019
UATC017	View sales report in admin dashboard	To verify the sales report is shown	Pass	Management Team	SRS030
UATC018	View list of category / event category	To verify list of category / event category is shown	Pass	Management Team	SRS031
UATC019	Add new category / event category	To verify new category / event category is added	Pass	Management Team	SRS032
UATC020	Update category /	To verify the details is	Pass	Management	SRS033

	event category details	updated after change		Team	
UATC021	Remove category / event category	To verify category / event category is removed	Pass	Management Team	SRS034
UATC022	View list of products	To verify list of products is shown	Pass	Management Team	SRS023, SRS024
UATC023	Add new products	To verify new products is added	Pass	Management Team	SRS025
UATC024	Update products details	To verify the details is updated after change	Pass	Management Team	SRS026
UATC025	Remove products	To verify products is removed	Pass	Management Team	SRS027
UATC026	View list of events (occasion)	To verify list of events (occasion) is shown	Pass	Management Team	SRS023, SRS024
UATC027	Add new events (occasion)	To verify new events (occasion) is added	Pass	Management Team	SRS025
UATC028	Update events (occasion) details	To verify the details is updated after change	Pass	Management Team	SRS026
UATC029	Remove events	To verify events (occasion)	Pass	Management	SRS027

	(occasion)	is removed		Team	
UATC030	View list of sliders	To verify list of sliders is shown	Pass	Management Team	SRS040
UATC031	Add new slider	To verify new slider is added	Pass	Management Team	SRS041
UATC032	Update slider details	To verify the details is updated after change	Pass	Management Team	SRS042
UATC033	Remove slider	To verify slider is removed	Pass	Management Team	SRS043
UATC034	View list of coupons	To verify list of coupons is shown	Pass	Management Team	SRS045
UATC035	Add new coupon	To verify new coupon is added	Pass	Management Team	SRS046
UATC036	Update coupon details	To verify the details is updated after change	Pass	Management Team	SRS047
UATC037	Remove coupon	To verify coupon is removed	Pass	Management Team	SRS048
UATC038	View details of	To verify the details of	Pass	Management	SRS020, SRS021

	specific order	selected order is shown		Team	
UATC039	Update the status of a specific order	To verify the status of the order is successfully updated	Pass	Management Team	SRS022
UATC040	Update the status of a specific enquiry	To verify the status of the enquiry is successfully updated	Pass	Management Team	SRS028, SRS029
UATC041	View details of specific reservation	To verify the details of selected reservation is shown	Pass	Management Team	SRS035
UATC042	Update the status of a specific reservation	To verify the status of the reservation is successfully updated	Pass	Management Team	SRS036
UATC043	Update the reservation final design and extra info	To verify the details of the reservation is successfully updated	Pass	Management Team	SRS037
UATC044	View the calendar and reservation detail	To verify the calendar is shown with reservation	Pass	Management Team	SRS038, SRS039

		status “confirmed” and shows its details when id is pressed			
UATC045	Set sales timer	To verify the sales timer is successfully activated	Pass	Management Team	SRS044

7.3.2.1 Test Results of User Acceptance Test

The outcomes of the User Acceptance Test (UAT) have yielded highly positive results, underscoring the robustness and readiness of the system for deployment. This comprehensive testing phase involved a total of 13 meticulously designed test cases from the customer's perspective, ensuring that the end-users' requirements and expectations were thoroughly evaluated. Furthermore, an additional 30 test cases were executed from the perspective of the Admin, Staff, and Shop Owners (Management), encompassing various administrative and operational scenarios. The fact that all these test cases passed successfully is indicative of the system's versatility and its capability to meet the diverse needs of both customers and internal stakeholders. Such a flawless execution during UAT instills confidence in the system's ability to function seamlessly and provide a satisfying user experience for all parties involved, setting the stage for a successful system deployment.

7.3.3 User Acceptance Test Feedback

User Acceptance Test (UAT) Feedback is a crucial component of the software development and deployment process. It refers to the feedback and insights gathered from end-users, stakeholders, or testing teams during the User Acceptance Testing phase. As shown in Appendix F, the feedback summary of customer and management team side were tabulate in table 7.7 and table 7.8.

7.3.3.1 Customer Side

User Acceptance Test (UAT) Feedback from the customer's perspective involves collecting input and observations from end-users or customers who interact with a software system. This feedback is instrumental in assessing the system's usability, functionality, and overall user satisfaction. It helps ensure that the product aligns with customer expectations and requirements, contributing to a successful product launch and positive user experience.

Table 7.7: UAT Feedback Result Summary from Customer Side.

No.	Question	Average Rating (1-5)
Q1	The AI-Infused Web Decor Shop was easy to navigate and use.	4.2
Q2	I was able to find and purchase products efficiently and effectively on the AI-Infused Web Decor Shop.	4.2
Q3	I encountered issues or errors while using the AI-Infused Web Decor Shop.	4.2
Q4	The AI-driven features of the Web Decor Shop, such as personalized product recommendations, met my expectations and needs.	4.4
Q5	The user interface of the AI-Infused Web Decor Shop was visually appealing and intuitive.	4.4
Q6	I experienced performance issues, such as slow loading times or unresponsiveness, while using the AI-Infused Web Decor Shop.	4.0
Q7	The AI-driven features of the Web Decor Shop enhanced my shopping experience and product discovery.	4.2
Q8	I would feel comfortable using the AI-Infused Web Decor Shop for my future home decor shopping needs.	4.2
Q9	Overall, I am satisfied with the AI-Infused Web Decor Shop's performance and usability.	4.8

According to the table above, all the questions in the user acceptance test scored above 4.0 out of 5.0. The results revealed an impressive overall satisfaction rating of 4.8 out of 5, indicating a highly positive response from the customer panel. The overwhelmingly positive UAT results strongly indicate that the system is well-prepared for successful deployment and will provide an exceptional experience to the user community.

7.3.3.2 Management Side

User Acceptance Test (UAT) Feedback from the management side involves collecting input and assessments from the management team or stakeholders overseeing a software project. This feedback plays a crucial role in evaluating the system's alignment with strategic goals, adherence to business requirements, and readiness for deployment.

Table 7.8: UAT Feedback Result Summary from Management Side.

No.	Question	Average Rating (1-5)
Q1	The AI-Infused Web Decor Shop aligns with the strategic goals and objectives.	4.3
Q2	The AI-driven features enhance the competitive advantage of the online decor store.	4.0
Q3	The AI-Infused Web Decor Shop meets the specific business needs and expectations of the management team.	4.3
Q4	The system's AI-driven recommendations contribute positively to customer engagement and sales.	4.7
Q5	The management team is confident in the system's ability to drive revenue growth.	4.7
Q6	The AI-Infused Web Decor Shop aligns with the long-term technology and innovation strategy.	4.7

Q7	The system's performance and reliability meet the expectations of the management team.	4.3
Q8	Overall, the AI-Infused Web Decor Shop is viewed as a valuable asset by the management team.	4.7

In the recent User Acceptance Testing (UAT) phase, three members of the management team actively participated in evaluating the system's functionality and alignment with strategic goals. An outstanding overall satisfaction score of 4.7 out of 5 reflects a highly positive response from the management stakeholders. During the UAT, the management team provided valuable insights, emphasizing the system's strong alignment with strategic objectives and business requirements. Their high satisfaction rating underscores the effectiveness of the system in supporting organizational goals.

7.4 Usability Test

Usability testing is a pivotal phase in user experience (UX) design and product development. It is a method used to assess the usability and user-friendliness of a product or system by observing real users as they interact with it. This process helps answer critical questions about a product's ease of use, learnability, and user satisfaction. Usability testing involves recruiting a diverse group of representative users, creating realistic scenarios and tasks, setting up a controlled testing environment, and facilitating user interactions while collecting both quantitative and qualitative data. The data is then analyzed to identify usability issues and inform design improvements. Usability testing ensures that products are user-centered, resulting in enhanced user satisfaction, reduced errors, and improved overall usability through iterative design refinements based on real user feedback.

To enhance the usability testing process, the system was brought to a physical shop, where actual customers were invited to test the implemented system. This on-site testing allowed for a more authentic and context-aware evaluation of the product's usability. Over the course of five days, customers

were observed as they navigated the system, completed tasks, and provided invaluable insights into their experiences. This hands-on approach provided a deeper understanding of how users interacted with the product in a real-world setting, enabling the gathering of comprehensive and actionable user data for refinement and enhancement.

7.4.1 System Usability Scale Template

The System Usability Scale (SUS) is a widely used questionnaire for assessing the usability of a product, system, or service. It consists of a series of questions designed to gauge user satisfaction and perception of usability. Testers provide responses on a Likert scale, and the scores are then analyzed to determine the overall usability of the system. The survey comprises 10 questions where participants will assign a rating from 1 to 5 to express their level of agreement with each statement. A rating of 5 indicates strong agreement, whereas a rating of 1 signifies strong disagreement. If a respondent finds it challenging to provide a response for a specific question, they are encouraged to mark the midpoint on the scale. The Figure 7.1 below shows the SUS template based on Thomas (n.d.), which is used for usability testing in this project.

Please enter your participant number: _____

System Usability Scale (SUS)

This is a standard questionnaire that measures the overall usability of a system. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I think I would like to use this tool frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I found the tool unnecessarily complex.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I thought the tool was easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I think that I would need the support of a technical person to be able to use this system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I found the various functions in this tool were well integrated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I thought there was too much inconsistency in this tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would imagine that most people would learn to use this tool very quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I found the tool very cumbersome to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I felt very confident using the tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I needed to learn a lot of things before I could get going with this tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How likely are you to recommend this website to others? (please circle your answer)

Not at all likely 0 1 2 3 4 5 6 7 8 9 10 Extremely likely

Extra:

11. What do you like best about the system?

12. If you were to describe this site to a colleague in a sentence or two, what would you say?

13. Do you have any other final comments or questions?

Figure 7.3: System Usability Scale Template

Source: (Brooke, 1995)

The System Usability Scale (SUS) assessment involved giving the SUS questionnaire to five users and asking them to rate each of the 10 questions on a scale of 1 to 5 based on their level of agreement. The individual SUS scores for each respondent can be found in Appendix G. SUS scores range from 0 to 100, and each question carries a weight of 10 points. It's important to note that while SUS scores can technically be interpreted as a percentage (e.g., a score of 70 out of 100 representing 70% of the maximum possible score), they are more accurately understood as indicating the score's position relative to other scores, or the percentile ranking.

7.4.2 Usability Testing Result

John Brooke introduced the System Usability Scale (SUS) in 1986 as a rapid and straightforward method for assessing the usability of a system (Brooke, 1995). It takes into account and evaluates the amalgamation of a system's effectiveness, user-friendliness, ease of use, and user contentment. A form on the user satisfaction survey was given to the tester after they have performed the user acceptance testing, following the principles outlined in the mathematical model (Nielsen and Landauer, 1993). As shown in Appendix G, the results were summarized in Table 7.9 with the SUS score calculated. The average SUS score is 85.0, which is considered excellent according to the scoring shown in Figure 7.4.

Table 7.9: SUS score collected.

Tester	Score for each item										Total
	1	2	3	4	5	6	7	8	9	10	
Customer Side											
Tester #1	4	2	4	3	5	1	4	2	5	2	80
Tester #2	5	1	5	1	4	1	4	1	4	2	90
Tester #3	4	2	4	3	5	1	4	2	5	2	80
Tester #4	5	2	5	3	5	1	5	1	4	3	85
Tester #5	5	1	5	1	5	1	5	2	5	2	95
Management Teams Side											
Tester #6	5	2	5	3	5	1	5	1	4	3	85
Tester #7	4	2	4	3	5	1	4	2	5	2	80
Tester #8	4	2	4	2	5	1	4	2	5	2	82.5
Average SUS Score											85.0

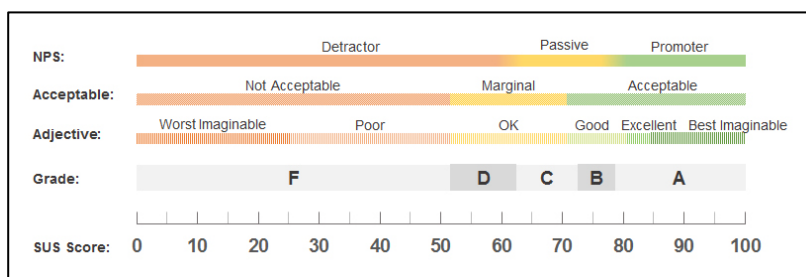


Figure 7.4: System Usability Scale Scoring

Source: (Bangor, Kortum and Miller, 2008)

In addition to the 10 questions used to calculate the SUS score, three open-ended questions were provided to the testers to gather their feedback on the system. The responses have been organized and presented in Table 7.10. It can be summarized that users appreciate the system's simple user interface, but their primary concerns are twofold. First, they are dissatisfied with the system's inability to automatically update the table after each action, necessitating manual page refreshing to see changes. Second, they express frustration with the system's slow data loading. Consequently, these specific issues raised by the testers will be taken into account when making recommendations for future improvements.

Table 7.10: Responses on open-ended questions.

Question	Responses
What do you like best about the system?	Content is well-organized and easy to find
	user interface is incredibly intuitive
	Quick and hassle-free checkout process.
If you were to describe this site to a colleague in a sentence or two, what would you say?	It's an online shopping paradise with a vast selection and easy navigation.
	A one-stop shop for all your needs, offering convenience and affordability.
	The go-to place for finding quality products and seamless shopping.
Do you have any other final comments or questions?	I'd love to see a mobile app version in the future.
	No further comments or questions at this time.
	I'd appreciate more payment options, like digital wallets.

From the table, the system's strengths lie in its well-organized content, intuitive user interface, and seamless checkout process, making it an online shopping paradise with an extensive selection and user-friendly navigation. It serves as a one-stop shop for all your needs, offering convenience and affordability. Looking ahead, the addition of a mobile app version in the future and more payment options, such as digital wallets, would enhance the user experience.

7.5 Summary

In summary, this chapter unveils the findings stemming from a range of testing methods. The affirmative outcomes in both unit and integration tests validate the application's comprehensiveness, functionality, and operational viability. Furthermore, results from usability and user acceptance testing reveal a positive reception, indicating that users are embracing the AI-Infused Web Decor Shop.

CHAPTER 8

CONCLUSION AND RECOMMENDATIONS

8.1 Introduction

Within the realms of academic pursuits and professional undertakings, there exists a journey marked by meticulous planning, unwavering dedication, and an unrelenting pursuit of excellence. Over the past seven months, an endeavor has unfolded, navigating the intricate path from the initial proposal to the realization of a fully functional and impactful system. The genesis of this project was grounded in a vision—a vision aimed at addressing a specific need, solving a pressing problem, or creating a novel solution within the chosen domain. Over the past seven months, this vision evolved into a comprehensive and robust system, shaped by countless hours of research, design, development, and testing.

This journey commenced with the initial planning and analysis phase, wherein extensive research and problem formulation led to the definition of project objectives, the proposed solution, project approach, and scope. This foundational phase was complemented by comprehensive literature reviews, exploring similar projects, and state-of-the-art web development methodologies.

Besides, this project is aligned with the needs of prospective users, an extensive questionnaire was disseminated, serving as the cornerstone for developing both functional and non-functional requirements. A robust project schedule was established and monitored through a Work Breakdown Structure (WBS) and a Gantt chart.

Transitioning into the design phase, the system's architecture was visualized through a suite of informative diagrams. These included use case diagrams, use case descriptions, Entity-Relationship Diagrams (ERD), activity diagram, data flow diagrams, and interface flow diagrams.

Subsequently, the development phase unfolded, divided into three strategic segments, guided by a phased-development methodology. The initial phase concentrated on implementing Create, Read, Update, Delete (CRUD)

operations and integrating a chatbot module. The subsequent phase revolved around customization using AI technologies. Finally, the project culminated with the creation of a centralized calendar feature. Rigorous testing was conducted at each stage to ensure a seamless and error-free progression.

In the closing phase, the project underwent a variety of testing which includes unit test, integration test, usability test and user acceptance test. Notably, a remarkable System Usability Scale (SUS) score of 85.0 was achieved, affirming the system's superior user experience.

In September 2023, the project reached its culmination. This chapter now delves into the attainment of project objectives, the identification of project constraints, and the provision of insights and recommendations for future enhancements.

8.2 Objectives Achievement

Every project inevitably reaches its endpoint, and project finalization marks the concluding phase in the project's life cycle. The overarching aim of this project is to realize the objectives established at its outset. The implemented application has effectively achieved all three objectives specified in the project's list below:

1. To identify the current faced problem by the traditional retail store and understand the present existing flow of business
2. To develop an easy-to-use web-based party decoration shop for users to made order, customization and reservation
3. To evaluate the proposed system through user acceptance test after the completion of whole system

8.2.1 Objective 1

The achievement of Objective 1 is realized through an extensive independent research effort. This research involved conducting interviews, surveys, and in-depth data analysis to gain insights into the specific challenges encountered by traditional retail establishments operating in the party decoration sector. By meticulously documenting these identified issues, a comprehensive understanding of the existing business flow within traditional retail stores was established.

8.2.2 Objective 2

Objective 2 was accomplished through an individualized development process, encompassing the entire application lifecycle. This involved solitary efforts in designing, programming, and implementing the web-based party decoration shop. The result is a user-friendly application characterized by an intuitive interface, straightforward navigation, and clear instructional elements tailored to user needs. Furthermore, the application boasts a diverse range of functionalities, showcasing proficiency in design and technical expertise to facilitate order placement, customization, and reservation processes.

8.2.3 Objective 3

The fulfillment of Objective 3 was achieved through an independent and comprehensive management of the User Acceptance Testing (UAT) phase. This encompassed creating detailed test cases, recruiting test users, and conducting tests without external assistance. The UAT phase culminated successfully, with real users providing valuable feedback. This user feedback was pivotal in validating that the system met their requirements and expectations. Additionally, any issues identified during this phase were promptly addressed, underscoring adept project management and proficient problem-solving capabilities.

8.3 Limitations

While the project successfully achieved its objectives, it is important to acknowledge a limitation in the system's current functionality. Specifically, the system lacks the capability to provide real-time updates on the status and location of delivery orders. In many e-commerce and delivery-related systems, customers have come to expect real-time tracking of their orders from the moment they are placed until they are delivered to their doorstep. This feature allows users to monitor the progress of their orders, estimate delivery times, and make necessary arrangements to receive their items promptly.

The second limitation pertains to the manual methods employed by the management team to update the status of available stocks. While the objectives have been met, this manual approach may introduce inefficiencies and potential inaccuracies into the stock management process. It could result in delays in reflecting real-time stock availability and, in turn, affect order fulfillment and customer satisfaction.

Next, the third limitation is its language support, offering services and content exclusively in English. This limitation can potentially exclude a substantial portion of the global audience who prefer or require services in languages other than English. It may hinder the system's accessibility and international appeal.

In conclusion, while the project has successfully met its primary objectives, it's crucial to acknowledge certain limitations in the system's current functionality. Recognizing these limitations provides an opportunity for future enhancements to further improve the system's functionality and user experience.

8.4 Recommendation for Future Work

The AI-Enhanced Web Decor Shop presents opportunities for significant enhancements, as indicated by the limitations discussed earlier. Consequently, a set of recommendations for future improvements is provided in Table 8.1. These suggestions are not exhaustive, and future developers may explore further enhancements beyond those listed here by delving deeper into the application's functionality and potential areas for refinement.

Table 8.1: Recommendations with description.

Recommendation	Description
Integrate with Delivery Services	Partner with courier or delivery services that offer tracking APIs. This integration can provide real-time updates on order status and location.
Implement an Automated Inventory Management System	Consider integration with an automated inventory management system. This system can continuously track stock levels and update them in real-time as transactions occur. The resulting centralized view of inventory across all locations facilitates monitoring and management of stock levels by the management team.
Multilingual Support Integration	Consider integrating multilingual support capabilities into the system. This enhancement will allow users to access content and services in languages other than English. Prioritize languages that align with your target user demographics or regions of operation. Implementing multilingual support can significantly broaden your user base and enhance accessibility for a more diverse audience.

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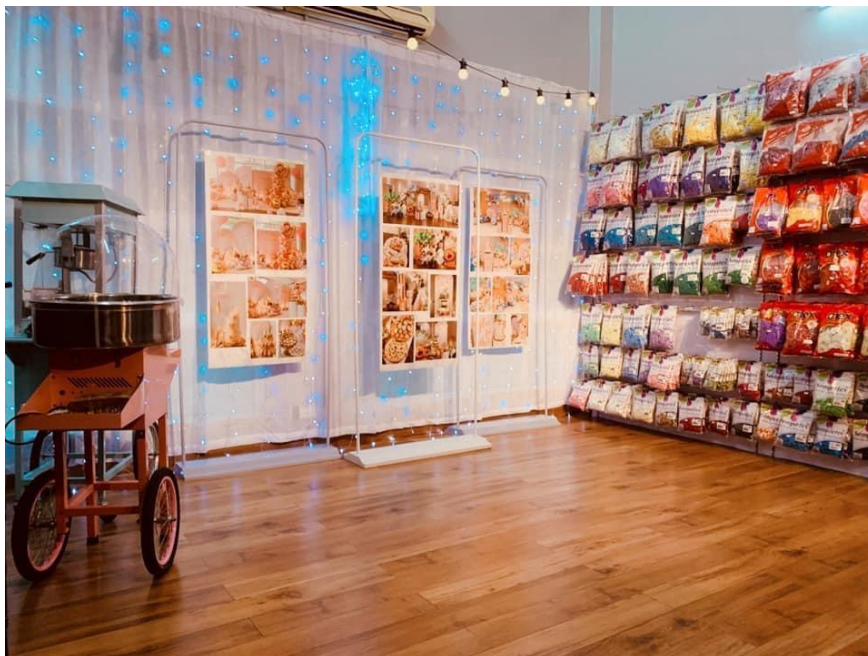
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APPENDICES

Appendix A: Picture Taken During Observation at 90's Balloon House





Appendix B: Questionnaire Form

Web-based Party Decoration Shop

Dear respondents,

My name is Cindy Wee Zi Wei, a year 3 undergraduate student of Bachelor of Science (HONS) Software Engineering from Lee Kong Chian Faculty of Engineering & Science (LKCFES), Universiti Tunku Abdul Rahman (UTAR), Sungai Long Campus.

The aim of this questionnaire is to gather opinions on the customer needs. By asking customers about their preferences and needs, the shop can personalize their recommendations and offer products that are tailored to the customer's requirements. This will contribute to my final year project (FYP), which is to develop a web-based party decoration shop to improve customer experience.

There will be a total of 3 main sections, A, B and C in the followings, and the survey will take approximately 5 minutes to complete. To protect the respondent's privacy, this survey will be conducted anonymously and responses will be kept confidential.

Thank you for your participation.
For any inquiries regarding the survey, kindly reach me via email:
cindywee080500@utar.my

* Indicates required question

1. I have read the information above. By clicking on the "Agree", I am consenting to participate in this survey. *

Mark only one oval.

Agree Skip to question 2

Section A: Demographic Information

2. Age *

Mark only one oval.

- 18 - 25
 26 - 35
 36 - 55
 55 and above

3. Gender *

Mark only one oval.

- Male
 Female

Section B: General Information

4. How often do you plan parties or events? *

Mark only one oval.

- Once a year
 A few times a year
 Once a month
 More than once a month

5. What type of parties or events do you usually plan? *

Mark only one oval.

- Birthday parties
 Holiday parties
 Other: _____

6. How do you prefer to pay for your purchases? *

Mark only one oval.

- Credit/Debit card
 Online Banking
 Other: _____

7. What are some of the challenges you face when shopping for party decorations? *

Mark only one oval.

- Limited selection
 Poor quality
 Shipping delays
 Poor customer service due to late reply
 Other: _____

Section C

8. If you had the opportunity to explore a web application that includes a chatbot feature, how you want it to assist you? *

Mark only one oval.

- Able to answer common questions
 Help me navigate
 Assist with bookings or reservations
 Other: _____

9. Do you prefer pre-made party decoration sets or do you like to customize your own set? *

Mark only one oval.

- Pre-made party decoration sets
 Customizable party decoration sets

10. If you have a chance to customize your product, what type of customization options would you like to see on our website the most? *

Mark only one oval.

- Customization on colors
 Customization of images
 Customization of packaging
 Other: _____

Thank you for your time! ;D

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Google Forms

Appendix C: Interview Question

Question for the interviewer [shop owner]

1. What are the frequently asked questions by the customers?
2. Which products do customers normally interested in?
3. What are the products that you are selling in your store?
4. How did customers make customization on the products based on the idea they desired?
5. What is the current problem you faced in your traditional retail store?
6. Which method did you use in the tracking of your order/booking?

Appendix D: Test Cases

Test Cases of Unit Test:

Test Case ID	UTC001	Test Name	Test submit registration form with valid input	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the successful submit message will show after the register button pressed				
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Customer enters the web and open the registration page. 2. Customer enters name, email, password and confirmed password. 3. Customer verify the reCAPTCHA. 4. Click on the "Submit" or "Register" button to submit the registration form. 				Name: Tan Email: tantw1970@gmail.com Password: 123456789 C. Password: 123456789	
Expected Result				Actual Result	
<ol style="list-style-type: none"> 1. The registration form should accept valid input without errors. 2. The customer should be able to log in using the registered email and password 				Register successful and able to login into the web décor shop.	

Test Case ID	UTC002	Test Name	Test duplicate email registration handling test	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the application correctly handles the scenario when a customer attempts to register with an email that already exists in the system.				
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Customer enters the web and open the registration page. 				Name: Tan Email:	

2. Customer enters name, existing email, password and confirmed password.	tantw1970@gmail.com Password: 123456789
3. Customer verify the reCAPTCHA.	C. Password: 123456789
4. Click on the "Submit" or "Register" button to submit the registration form.	
Expected Result	Actual Result
1. The application should detect the duplicate email address.	The error message will be prompt.
2. An error message should be displayed, informing the user that the email is already registered.	
3. The registration form should not be submitted, or the user should not be redirected until the email issue is resolved.	

Test Case ID	UTC003	Test Name	Test login with correct credential	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system will show login success				
Test Case Scenario				Test Data	
1. Customer enters the web and open the login page.				Email: tantw1970@gmail.com	
2. Enter valid login credentials				Password: 123456789	
3. Click on the "Login" to submit login form					
Expected Result				Actual Result	
The customer should be redirected to home page.				The customer should be redirected to home page.	

Test Case ID	UTC004	Test Name	Test login with incorrect credential	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system will show error message			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Customer enters the web and open the login page. 2. Enter invalid login credentials 3. Click on the "Login" to submit login form 				Email: tantw1970@gmail.com Password: 12345678	
Expected Result				Actual Result	
<ol style="list-style-type: none"> 1. The application should detect the incorrect login credentials. 2. An error message should be displayed, informing the user that the login failed due to incorrect credentials. 3. The login form should not be submitted, or the user should not be redirected until the credential issue is resolved. 				The error message will be prompt.	

Test Case ID	UTC005	Test Name	Test modify customer information with valid input	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system correctly allows customers to edit their profile information			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to the profile editing page, typically accessible from a "Profile". 2. Edit Profile Information 3. Click on the "Save" or "Update" button to save the changes made to the profile information 				Phone: 0123456789	

4. Check whether the system correctly accepts the changes and updates the customer's profile information.	
Expected Result	Actual Result
<ol style="list-style-type: none"> 1. The application should accept the changes made to the customer's profile information. 2. The system should save and update the customer's profile with the modified information. 3. The updated information should be reflected on the customer's profile page or account settings. 	The successful update message will be prompt.

Test Case ID	UTC006	Test Name	Test modify customer information with invalid input	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system information change validation rules when customers attempt to edit their details				
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to the profile editing page, typically accessible from a "Profile". 2. Edit Profile Information with incorrect format 3. Click on the "Save" or "Update" button to save the changes made to the profile information 4. Check whether the system correctly accepts the changes and updates the customer's profile information. 				Phone: 0123456789@	
Expected Result				Actual Result	
1. The application should detect the invalid input in the customer's profile modification attempt.				The error message will be prompt.	

<p>2. Clear and informative error messages should be displayed, indicating the fields with errors and how to correct them.</p> <p>3. The system should prevent the customer from saving changes until the input issues are resolved.</p>	
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Test Case ID	UTC007	Test Name	Test display products / events by selected category	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system correctly displays a list of products/events based on the selected category			
Test Case Scenario			Test Data		
<p>1. Enter shop product / event page</p> <p>2. Choose a specific category from the available options.</p>			-		
Expected Result			Actual Result		
<p>1. the system should display only products or events that belong to the selected category.</p> <p>2. The displayed items should match the chosen category, and their details should be accurate.</p>			<p>Display only products or events that belong to the selected category.</p>		

Test Case ID	UTC008	Test Name	Test display no results for empty category	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system provides appropriate feedback when a customer selects an empty or non-existent category.				
Test Case Scenario				Test Data	
1. Select an Empty Category				-	
Expected Result				Actual Result	
1. When an empty or non-existent category is selected and the filter is applied, the system should display no products or events. 2. A clear and informative message should be shown, indicating that there are no results for the selected category.				The system correctly detected the empty category selection.	

Test Case ID	UTC009	Test Name	Test keyword search for products / events	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows customers to search for party decoration products/events using keywords and returns relevant results				
Test Case Scenario				Test Data	
1. Type a specific keyword or phrase into the search bar. 2. Click on the "Search" button or press "Enter" to initiate the search.				Search bar: Helium Balloon	
Expected Result				Actual Result	
After entering a keyword and initiating the search, the system should display products or events that match the keyword.				The displayed results match the search query and accurately represent	

	products or events containing the keyword.
--	--

Test Case ID	UTC010	Test Name	Test viewing details of a selected product / event	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to view all the details of a specific party decoration product or event			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Click on a specific product or event from the list that the user wishes to view in detail. 2. Examine the displayed information for accuracy and completeness. 				-	
Expected Result				Actual Result	
<ol style="list-style-type: none"> 1. The system should redirect the customer to a dedicated page displaying comprehensive and accurate details. 2. The displayed information should include the product name, description, price, images, and any other relevant details. 				<ol style="list-style-type: none"> 1. The system correctly redirected the customer to a dedicated page. 2. The displayed information included the product name, description, price, images, and other relevant details. 	

Test Case ID	UTC011	Test Name	Test adding a product to the shopping cart	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to successfully add a product into the shopping cart.			

Test Case Scenario	Test Data
<ol style="list-style-type: none"> 1. Navigate to the product detail page 2. Click on the "Add to Cart" button located below the product 3. Go to the shopping cart page or view the cart summary to confirm the addition of the product. 	-
Expected Result	Actual Result
<ol style="list-style-type: none"> 1. After clicking "Add to Cart," the product should be successfully added to the shopping cart. 	The "Add to Cart" button successfully added the product to the shopping cart

Test Case ID	UTC012	Test Name	Test adding multiple products to the shopping cart	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to add multiple products to the shopping cart and correctly tracks their quantities			
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Navigate to the product page 2. Click on the "Add to Cart" button of any 2 products 3. Go to the shopping cart page or view the cart summary to confirm the addition of both products 			-		
Expected Result			Actual Result		
<ol style="list-style-type: none"> 1. After adding both products to the cart, the shopping cart should accurately reflect the selected products 			The "Add to Cart" button successfully added both products to the shopping cart		

Test Case ID	UTC013	Test Name	Test placing an order from the shopping cart	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to successfully place an order based on the items present in the shopping cart			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to the shopping cart page where the customer can review their selected items 2. Verify that the shopping cart displays the correct items, including their names, prices, quantities, and subtotal. 3. Click on the "Proceed to Checkout" to start the checkout process. 				-	
Expected Result				Actual Result	
After completing the checkout process, the system should display an order confirmation message and send an confirmation email.				The system correctly displayed an order confirmation message and receive email.	

Test Case ID	UTC014	Test Name	Test placing an order with an empty shopping cart	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system handles the scenario when customers attempt to place an order with an empty shopping cart.			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to the shopping cart page to review the cart contents. 2. Confirm that the shopping cart is empty, with no items displayed. 				-	

Expected Result	Actual Result
Checkout button does not appear instead of asking customer to go to shop page.	The system correctly displayed an error message indicating that the shopping cart is empty.

Test Case ID	UTC015	Test Name	Test selecting payment method for an order	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows customers to successfully select a payment method for an order they have placed.				
Test Case Scenario	Test Data				
<ol style="list-style-type: none"> 1. The customer has reached the payment method selection step during the checkout process. 2. Verify that the system displays the available payment methods. 3. Click on the desired payment method to select it for the order. 4. Confirm that the selected payment method is selected. 	Select cod option				
Expected Result	Actual Result				
<ol style="list-style-type: none"> 1. After selecting a payment method, the chosen method should be visibly highlighted or marked as selected. 2. The system should proceed to the next step in the checkout process. 	<ol style="list-style-type: none"> 1. The selected payment method was visually highlighted or marked as chosen. 2. The system correctly proceeded to the next step in the checkout process. 				

Test Case ID	UTC016	Test Name	Test input validation when place an order with empty payment method	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system handles empty or missing input data appropriately			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. The customer has reached the payment method selection step during the checkout process. 2. Click on the "Place Order" without selecting any payment method. 3. Check whether the system correctly handles the scenario of attempting to place an order with an empty payment method. 				-	
Expected Result				Actual Result	
Verify that an appropriate error message is displayed, indicating that a payment method must be selected.				The system correctly displayed an error message indicating that a payment method must be chosen before placing an order.	

Test Case ID	UTC017	Test Name	Test specifying a delivery address for an order	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to successfully specify a delivery address when			

	placing an order
Test Case Scenario	Test Data
<ol style="list-style-type: none"> 1. The customer has reached the delivery address specification step during the checkout process. 2. Fill in the required fields with the provided delivery address details. 3. Confirm that the entered delivery address matches the provided test data. 4. Click on the "Continue" or "Place Order" button to proceed with the order. 	Firstname: tw Lastname: tan Address: 25, Jalan PJ7, Taman Pertam Jaya. City: Melaka State: Melaka Zipcode: 75050
Expected Result	Actual Result
The customer should be able to proceed with the order.	The customer was able to proceed with the order.

Test Case ID	UTC018	Test Name	Test missing delivery address	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system handles the scenario when customers attempt to place an order without specifying a delivery address				
Test Case Scenario	Test Data				
<ol style="list-style-type: none"> 1. The customer has reached the delivery address specification step during the checkout process. 2. Click on the "Place Order" without filling in any delivery address details. 	-				
Expected Result	Actual Result				
After attempting to proceed without specifying a delivery address, the system should display an error message indicating that a delivery address is required before placing an order.	The system correctly displayed an error message indicating that a delivery address is required before placing an order.				

Test Case ID	UTC019	Test Name	Test tracing the status or placed orders	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to successfully trace the status of their placed orders			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. The customer is logged in and navigates to the "My Orders". 2. Select specific order, and press on "Details" button. 3. Check whether the system correctly displays the status and details of the tracked order 				-	
Expected Result				Actual Result	
The system should display the current status and details of the tracked order.				The system correctly displayed the status and details of the tracked orders.	

Test Case ID	UTC020	Test Name	Test removing a product from the shopping cart	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to successfully remove a selected product from the shopping cart			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to the shopping cart page where the customer can review the cart contents. 2. Locate and click on the "Remove" or "Delete" button on selected product. 3. Check whether the system correctly removes the selected product from the shopping cart. 					

Expected Result	Actual Result
After clicking the "Remove" or "Delete" button, the system should successfully remove the product from the shopping cart.	The system correctly removed the selected product from the shopping cart.

Test Case ID	UTC021	Test Name	Test viewing details of products in the shopping cart	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to successfully view the details of the items added to the shopping cart			
Test Case Scenario			Test Data		
1. Navigate to the shopping cart page where the customer can review the cart contents. 2. Click on the product name.			-		
Expected Result			Actual Result		
After clicking the product name, the system should successfully redirect the customer to a dedicated page displaying comprehensive and accurate details.			The system correctly redirected the customer to a dedicated page displaying product details.		

Test Case ID	UTC022	Test Name	Test viewing details of products in the wishlist	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to successfully view the details of the items added to the wishlist			
Test Case Scenario			Test Data		
1. Navigate to the wishlist page where the			-		

customer can review the wishlist contents. 2. Click on the product name of a product in the wishlist.	
Expected Result	Actual Result
After clicking the product name, the system should successfully redirect the customer to a dedicated page displaying comprehensive and accurate details.	The system correctly redirected the customer to a dedicated page displaying the selected product's details from the wishlist.

Test Case ID	UTC023	Test Name	Test changing product quantity in the cart	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to successfully change the product quantity in the shopping cart			
Test Case Scenario			Test Data		
1. Navigate to the shopping cart page where the customer can review the cart contents. 2. Confirm that the shopping cart displays the correct item, including its name, price, and the initial quantity of 2. 3. Update the quantity to a new value			Update quantity from 2 to 3		
Expected Result			Actual Result		
After changing the quantity product in the shopping cart from 2 to 3, the system should successfully update the quantity to the new value.			The system correctly updated the quantity of the product in the shopping cart from 2 to 3.		

Test Case ID	UTC024	Test Name	Test asking a fundamental question to the chatbot	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the chatbot successfully responds to a fundamental question asked by a customer				
Test Case Scenario				Test Data	
1. The customer choose a selection question from the list provided by chatbot.				Press on "shipping info"	
Expected Result				Actual Result	
The chatbot should successfully respond to the customer's fundamental question with a correct and relevant answer.				The chatbot provided a clear and accurate answer to the customer's question, demonstrating that it successfully responds to fundamental questions.	

Test Case ID	UTC025	Test Name	Test sending enquiry through the system	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows customers to successfully send an enquiry to the admin when the initial response is not accurate				
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to the "Contact Us" section of the application where customers can submit inquiries via a form. 2. Fill in Inquiry Details 3. Click on the "Submit" or "Send Inquiry" button to submit the inquiry. 				Name: tan Email: tantw1970@gmail.com Phone Number: 0123456789 Enquiry: Availability of others product	

Expected Result	Actual Result
After filling in the inquiry details and clicking "Submit," the system should successfully send the inquiry.	The system successfully sent the inquiry, and a confirmation message was displayed, indicating that the inquiry has been sent.

Test Case ID	UTC026	Test Name	Test customizing a party decoration kit	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to successfully customize a party decoration kit			
Test Case Scenario			Test Data		
1. Navigate to the section of the application where customers can customize party decoration kits. 2. Choose the desired color for the party decoration kit based on test data			Select Helium Balloon Choose Color Press Add to cart		
Expected Result			Actual Result		
After following the customization steps and clicking "Add to cart," the system should successfully customize the party decoration kit based on the selected color scheme			The system successfully customized the party decoration kit based on the selected color scheme		

Test Case ID	UTC027	Test Name	Test customizing an event booking with the help of AI	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows customers to successfully customize an event booking			

Test Case Scenario	Test Data
<ol style="list-style-type: none"> 1. Navigate to the event shop of the application where customers can initiate an event booking. 2. Choose the desired event type. 3. The AI-powered system assists the customer by asking questions and making recommendations to draft design. 	Describe: minion theme
Expected Result	Actual Result
After following the customization steps with AI assistance, the system should successfully generate draft design for event decor styles based on the customer's preferences.	The AI-powered system successfully generated the draft design based on the customer's preferences.

Test Case ID	UTC028	Test Name	Test booking a party decoration setup reservation	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows customers to successfully book a reservation for a party decoration setup				
Test Case Scenario	Test Data				
<ol style="list-style-type: none"> 1. Navigate to the section of the application where customers can initiate an event booking with AI assistance – Make Reservation Page. 2. Choose the desired event type 3. Fill up the reservation form based on test data. 	Name: tan Email: tantw1970@gmail.com Phone Number: 0123456789 Location: Taman Pertam Jaya Reservation date: 9/15/2023 Reservation Time: 16:00				

	Describe: minion and blue balloons Image: select any 1 generate by AI
Expected Result	Actual Result
The customer should be able to confirm the customization and proceed with the event booking based on the AI-generated recommendations.	The customer successfully make an reservation.

Test Case ID	UTC029	Test Name	Test admin/staff/shop owner login with correct credential	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows admin, staff, or shop owners to successfully log in to their accounts				
Test Case Scenario	1. Navigate to the login page 2. Enter the correct email and password in their respective fields. 3. Click on the "Login" button to initiate the login process.			Test Data	Email: admin@gmail.com Password: 123456789
Expected Result	Actual Result				
After entering the correct email and password and clicking "Login," the system should successfully authenticate the admin, staff, or shop owner.	The admin, staff, or shop owner was granted access to the admin or staff dashboard.				

Test Case ID	UTC030	Test Name	Test admin/staff/shop owner login with incorrect credential	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system handles the scenario when an admin, staff, or shop owner provides invalid login credentials			
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Navigate to the login page 2. Enter the incorrect email and password in their respective fields. 3. Click on the "Login" button to initiate the login process. 			Email: admin@gmail.com Password: 12345678		
Expected Result			Actual Result		
After entering the incorrect email and password and clicking "Login," the system should correctly handle the login attempt and display an error message.			The system correctly handled the login attempt with incorrect credentials.		

Test Case ID	UTC031	Test Name	Test displaying a list of customer's orders	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system successfully displays a list of customer's orders			
Test Case Scenario			Test Data		
1. From the admin, staff, or shop owner dashboard, navigate to the section where customer orders can be viewed.			-		
Expected Result			Actual Result		

The system should successfully display a list of customer orders	The system correctly displayed a list of customer orders
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Test Case ID	UTC032	Test Name	Test staff viewing customer orders details	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows staff to successfully view a list of customer's orders along with the details of each order			
Test Case Scenario				Test Data	
1. The staff member logs in and navigates to the "All Orders" Page. 2. The staff member selects a specific customer order from the list of orders they have access to.				-	
Expected Result				Actual Result	
After selecting a specific customer order, the system should successfully display detailed information about the order.				The system correctly displayed detailed information about the selected customer order.	

Test Case ID	UTC033	Test Name	Test updating the status of an order	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows staff to successfully update the status of an order			
Test Case Scenario				Test Data	
1. From the list of orders, the staff member or administrator selects a specific order for which the status needs to be updated. 2. The system should provide an option or field for updating the order status.				Update status to "delivered"	

3. Selecting the new order status	
Expected Result	Actual Result
After updating the order status, the system should successfully update the status of the selected order to the newly chosen status.	The system correctly updated the order status for the selected order, and the updated status was displayed accurately.

Test Case ID	UTC034	Test Name	Test staff searching for a product / event detail	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows staff to successfully search for a product/event record from the search bar				
Test Case Scenario				Test Data	
1. The staff member logs in and navigates to the “All Products” or “All Events” Page. 2. In the search field, the staff member enters relevant keywords as per the test data.				Search bar: helium	
Expected Result				Actual Result	
After initiating the search, the system should successfully provide access to information about the selected product or event.				The system correctly displayed about the selected product or event based on the query.	

Test Case ID	UTC035	Test Name	Test empty search results	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system handles the scenario when staff's search criteria do not yield any matching product/event records				

Test Case Scenario	Test Data
1. In the search field, the staff member enters keywords or criteria that are unlikely to yield any matching product or event records based on the test data.	Search bar: cake
Expected Result	Actual Result
The system should correctly handle the scenario and provide a clear message indicating that no matching product or event records were found based on the entered keywords.	The system correctly displayed a message indicating that no matching product or event records were found based on the search criteria.

Test Case ID	UTC036	Test Name	Test staff viewing party decoration products / events by category	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows staff to successfully view a list of party decoration products/events organized by category			
Test Case Scenario			Test Data		
1. The staff member logs in and navigates to the “All Products” or “All Events” page.			-		
Expected Result			Actual Result		
The system should successfully display a list of party decoration products or events.			The system correctly displayed a list of party decoration products or events.		

Test Case ID	UTC037	Test Name	Test staff/admin creating a new product / event with valid input	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows staff to successfully create a new product/event			
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Navigate to “Manage Products” / “Manage Events” Page. 2. Press “Add New Product” / “Add New Event” 3. Enter the test data 4. Pressed on Add button 			Name: balloon Short description: variety color Description: green. Blue, red, etc Regular price: 50 Sales price: 40 SKU: BC0001 Stock: Instock Featured: No Quantity: 100 Product Image: BC.jpg Category: Helium balloon Product Attributes: Color		
Expected Result			Actual Result		
After entering the valid details and clicking “Add”, the system should successfully create the new product/event and display a confirmation message.			The system correctly created the new product/event with the provided valid input, and a confirmation message was displayed, indicating that the creation was successful.		

Test Case ID	UTC038	Test Name	Test creating a new product / event with missing information	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system handles the scenario when staff attempts to create a new product/event but leaves some required information blank			
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Navigate to “Manage Products” / “Manage Events” Page. 2. Press “Add New Product” / “Add New Event” 3. Enter the test data 4. Pressed on Add button 			Name: balloon Short description: variety color Description: green. Blue, red, etc Regular price: 50 Sales price: 40		
Expected Result			Actual Result		
After attempting to save the new product/event with missing information, the system should correctly handle the scenario and display an error message or notification, informing the staff or admin that creation cannot proceed without providing complete information.			The system correctly handled the scenario and displayed an error message or notification, indicating that the creation cannot proceed without providing complete information.		

Test Case ID	UTC039	Test Name	Test staff/admin updating product / event details with valid data	Result (Pass/Fail)	Pass
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Test Case Description	Examine whether the system allows staff to successfully update the details of a product/event	
Test Case Scenario	Test Data	
1. Navigate to “Manage Products” / “Manage Events” Page. 2. Press on “Pen” icon 3. Update info based on test data 4. Press Update button	Regular price: 60	
Expected Result	Actual Result	
After entering the valid updated details and clicking "Save" or "Update," the system should successfully update the product/event details and display a confirmation message.	The system correctly updated the product/event details with the provided valid data, and a confirmation message was displayed, indicating that the update was successful.	

Test Case ID	UTC040	Test Name	Test staff/admin updating product/event details with invalid data	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system handles the scenario when staff attempts to update a product's/event's details with invalid or inappropriate data				
Test Case Scenario	Test Data				
1. Navigate to “Manage Products” / “Manage Events” Page. 2. Press on “Pen” icon 3. Update info based on test data 4. Press Update button	Regular price: @				

Expected Result	Actual Result
After attempting to save the changes with invalid data, the system should correctly handle the scenario and display an error message or notification, informing the staff or admin that the update cannot proceed with the provided invalid data.	The system correctly handled the scenario and displayed an error message or notification, indicating that the update cannot proceed with the provided invalid data.

Test Case ID	UTC041	Test Name	Test staff/admin deleting a product/event	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows staff to successfully delete a product/event			
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Navigate to “Manage Products” / “Manage Events” Page. 2. Choose on specific product. 3. Press on “x” icon 4. Confirm the deletion 			-		
Expected Result			Actual Result		
After confirming the deletion action, the system should successfully delete the selected product or event and display a confirmation message.			The system correctly deleted the selected product or event and displayed a confirmation message, indicating that the deletion was successful.		

Test Case ID	UTC042	Test Name	Test canceling product/event deletion	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows staff to cancel the deletion of a product/event if they change their mind			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to “Manage Products” / “Manage Events” Page. 2. Choose on specific product. 3. Press on “x” icon 4. Press cancels 					
Expected Result				Actual Result	
After canceling the deletion action, the system should successfully return to the previous state, and the selected product or event should not be deleted.				The system correctly canceled the deletion action, and the selected product or event was not deleted. No confirmation message for deletion was displayed.	

Test Case ID	UTC043	Test Name	Test staff/admin viewing customer enquiries	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows staff to successfully view enquiries sent by customers.			
Test Case Scenario				Test Data	
1. Navigate to “Manage Enquiry” Page				-	
Expected Result				Actual Result	

After accessing the customer inquiry section and selecting a specific inquiry, the system should successfully display detailed information about the inquiry, allowing staff or admin to take appropriate actions if needed.	The system correctly displayed detailed information about the selected customer inquiry, allowing staff or admin to take appropriate actions if needed.
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Test Case ID	UTC044	Test Name	Test handling multiple enquiries	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system handles the scenario when there are multiple customer enquiries in the queue				
Test Case Scenario				Test Data	
1. Navigate to “Manage Enquiry” Page				-	
Expected Result				Actual Result	
The system should effectively handle multiple customer inquiries, allowing staff or admin to manage them simultaneously through bulk actions and individual inquiry management.				The system correctly allowed staff or admin to manage multiple customer inquiries simultaneously through bulk actions and individual inquiry management.	

Test Case ID	UTC045	Test Name	Test staff/admin updating enquiry status	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows staff to successfully update the status of an enquiry				

Test Case Scenario	Test Data
1. Navigate to “Manage Enquiry” Page 2. Update status based on test data	Update status to “Replied”
Expected Result	Actual Result
After selecting the new status, the system should successfully update the status of the selected inquiry and display the updated status in the list of inquiries.	The system correctly updated the status of the selected inquiry, and the updated status was displayed accurately in the list of inquiries.

Test Case ID	UTC046	Test Name	Test shop owner access to annual sales report in admin dashboard	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows the shop owner to access the annual sales report within the admin dashboard				
Test Case Scenario	Test Data				
1. Navigate to “Admin Dashboard” Page	-				
Expected Result	Actual Result				
The system should successfully display the annual sales report for the year, displaying relevant sales data to the shop owner.	The system correctly displays the annual sales report for the year, displaying relevant sales data to the shop owner.				

Test Case ID	UTC047	Test Name	Test retrieving all categories to staff / admin	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system successfully displays a list of categories or event categories to the staff/admin			
Test Case Scenario				Test Data	
1. Navigate to “Manage Category” or “Manage Event Category” Page				-	
Expected Result				Actual Result	
The system should successfully retrieve and display a list of all product/event categories in the system, including category names and any additional details if available.				The system correctly retrieved and displayed a list of all product/event categories in the system, including category names and additional details if available.	

Test Case ID	UTC048	Test Name	Test admin / staff creating a new category / event category	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows the admin to successfully create a new category/event category			
Test Case Scenario				Test Data	
1. Navigate to “Manage Category” or “Manage Event Category” Page 2. Press on “Add New Category” or “Add New Event Category” 3. Enter detail based on test data 4. Press on “Submit” button				Category name: Helium Balloon	

Expected Result	Actual Result
After entering the valid details and clicking "Submit", the system should successfully create the new category and display a confirmation message.	The system correctly created the new category with the provided valid data, and a confirmation message was displayed, indicating that the creation was successful.

Test Case ID	UTC049	Test Name	Test admin / staff creating a new category / event category with missing information	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system handles the scenario when the admin attempts to create a new category/event category but leaves some required information blank			
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Navigate to "Manage Category" or "Manage Event Category" Page 2. Press on "Add New Category" or "Add New Event Category" 3. Press on "Submit" button 			Category Name: -		
Expected Result			Actual Result		
After attempting to save the new category with missing information, the system should correctly handle the scenario and display an error message or notification, informing the admin or staff member that creation cannot proceed without providing			The system correctly handled the scenario and displayed an error message or notification, indicating that the		

complete information.	creation cannot proceed with the provided missing or incomplete information.
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Test Case ID	UTC050	Test Name	Test staff / admin updating category / event category details	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows staff to successfully update the details of a category/event category			
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Navigate to “Manage Category” or “Manage Event Category” Page 2. Press on “pen” icon on selected category 3. Update info based on test data 4. Press on “Update” button 			Category Name: Normal balloon		
Expected Result			Actual Result		
After entering the valid updated details and clicking "Save" or "Update," the system should successfully update the category details and display a confirmation message.			The system correctly updated the category details with the provided valid data, and a confirmation message was displayed, indicating that the update was successful.		

Test Case ID	UTC051	Test Name	Test staff / admin updating category / event category details with invalid input	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system handles the scenario when staff attempts to update a category's/event category's details with invalid or inappropriate data			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to “Manage Category” or “Manage Event Category” Page 2. Press on “pen” icon on selected category 3. Update info based on test data 4. Press on “Update” button 				Category Name: ^&&	
Expected Result				Actual Result	
After attempting to save the changes with invalid input, the system should correctly handle the scenario and display an error message or notification, informing the staff or admin that the update cannot proceed with the provided invalid input.				The system correctly handled the scenario and displayed an error message or notification, indicating that the update cannot proceed with the provided invalid input.	

Test Case ID	UTC052	Test Name	Test staff / admin deleting a category / event category	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows staff to successfully delete a category/event category			

Test Case Scenario	Test Data
<ol style="list-style-type: none"> 1. Navigate to “Manage Category” or “Manage Event Category” Page 2. Press on “x” icon on selected category 3. Confirm the deletion 	-
Expected Result	Actual Result
After confirming the deletion action, the system should successfully delete the selected category or event category and display a confirmation message.	The system correctly deleted the selected category or event category and displayed a confirmation message, indicating that the deletion was successful.

Test Case ID	UTC053	Test Name	Test canceling category / event category deletion	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows staff to cancel the deletion of a category/event category if they change their mind				
Test Case Scenario	Test Data				
<ol style="list-style-type: none"> 1. Navigate to “Manage Category” or “Manage Event Category” Page 2. Press on “x” icon on selected category 3. Press on cancel 	-				
Expected Result	Actual Result				
After canceling the deletion action, the system should successfully return to the previous state, and the selected category or event category should not be deleted.	The system correctly canceled the deletion action, and the selected category or event category was not				

	deleted. No confirmation message for deletion was displayed.
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Test Case ID	UTC054	Test Name	Test retrieve customer's reservation list	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system successfully displays a list of customer's reservations			
Test Case Scenario				Test Data	
1. Navigate to "Manage Reservation" Page				-	
Expected Result				Actual Result	
The system should successfully retrieve and display a list of reservations made by the customer, including relevant reservation details.				The system correctly retrieved and displayed a list of reservations made by the customer, including relevant reservation details.	

Test Case ID	UTC055	Test Name	Test admin updating reservation status	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows the admin to successfully update the status of a reservation			
Test Case Scenario				Test Data	
1. Navigate to "Manage Reservation" Page 2. Update reservation status based on test data				Update status to "replied"	
Expected Result				Actual Result	
After selecting the new status, the system should successfully update the reservation status and display the updated status in the list of reservations.				The system correctly updated the status of the selected reservation, and	

	the updated status was displayed accurately in the list of reservations.
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Test Case ID	UTC056	Test Name	Test admin updating reservation's final design and extra info	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows the admin to successfully update the final design and extra information of a reservation				
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to "Manage Reservation" Page 2. Update final design and extra info based on test data 3. Press Update button 				Final Design: FD.jpg Extra Info: add blue balloon	
Expected Result				Actual Result	
After selecting the new final design, providing additional information, and clicking "Save" or "Update," the system should successfully update the reservation details and display the updated information in the list of reservations.				The system correctly updated the final design and additional information for the selected reservation, and the updated details were displayed accurately in the list of reservations.	

Test Case ID	UTC057	Test Name	Test staff viewing calendar with confirmed reservations	Result (Pass/Fail)	Pass
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Test Case Description	Examine whether the system successfully displays a calendar to the staff with the reservation status set to "confirmed."	
Test Case Scenario	Test Data	
1. Navigate to “Manage Reservation” Page 2. Press on “Calendar” button which located beside the status “confirmed”	-	
Expected Result	Actual Result	
The system should successfully display a calendar view with confirmed reservations marked as "confirmed."	The system correctly displayed a calendar view with confirmed reservations marked as "confirmed," allowing staff members to efficiently manage and track confirmed reservations.	

Test Case ID	UTC058	Test Name	Test Calendar display for other reservation statuses	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system appropriately filters out reservations with statuses other than "confirmed" in the staff's calendar view				
Test Case Scenario	Test Data				
1. Navigate to “Manage Reservation” Page 2. Press on “Calendar” button which located beside the status “confirmed”	-				
Expected Result	Actual Result				
The system should appropriately display only	The system correctly				

reservations with the status “confirmed” on the calendar while filtering out reservations with other statuses.	filters out reservations with status “confirmed” in the calendar view, ensuring that staff members can easily view reservations based on their statuses.
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Test Case ID	UTC059	Test Name	Test staff retrieving reservation details	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows staff to successfully view reservation details after selecting the reservation ID				
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to “Manage Reservation” Page 2. Press on “Calendar” button which located beside the status “confirmed” 3. Press on either reservation id in the calendar. 				-	
Expected Result				Actual Result	
The system should successfully retrieve and display the reservation details, allowing staff members to view all relevant information about the reservation.				The system correctly retrieved and displayed the reservation details after selecting the reservation, allowing staff members to view all relevant information about the reservation.	

Test Case ID	UTC060	Test Name	Test displaying sliders detail to admin	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system successfully displays a list of sliders to the admin			
Test Case Scenario				Test Data	
1. Navigate to “Manage Slider” Page				-	
Expected Result				Actual Result	
The system should successfully retrieve and display the slider's comprehensive details, allowing the admin to view all relevant information about the slider.				The system correctly retrieved and displayed the slider details after selecting the slider, allowing the admin to view all relevant information about the slider, including image, description, status, and associated products or events.	

Test Case ID	UTC061	Test Name	Test admin adding new slider with valid input	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows the admin to successfully add a new slider to the home page			
Test Case Scenario				Test Data	
1. Navigate to “Manage Slider” Page. 2. Press on “Add New Slider” 3. Enter details based on test data 4. Press on Add button				Title: National Day Sales Subtitle: Sales Price: 10 Link:	

	localhost:8000/shop Image: sales.jpg Status: Active
Expected Result	Actual Result
After entering the valid details and clicking "Add", the system should successfully add the new slider and display a confirmation message.	The system correctly added the new slider with the provided valid data, and a confirmation message was displayed, indicating that the creation was successful.

Test Case ID	UTC062	Test Name	Test admin adding a slider with missing information	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system handles the scenario when the admin attempts to add a new slider with missing information				
Test Case Scenario	Test Data				
<ol style="list-style-type: none"> 1. Navigate to "Manage Slider" Page. 2. Press on "Add New Slider" 3. Enter details based on test data 4. Press on Add button 	Title: National Day Sales Subtitle: Sales Price: 10 Link: localhost:8000/shop				
Expected Result	Actual Result				
After attempting to save the new slider with missing information, the system should correctly handle the scenario and display an error message or notification, informing the admin that creation cannot proceed without providing complete information.	The system correctly handled the scenario and displayed an error message or notification, indicating that the creation cannot proceed with the provided				

	missing or incomplete information.
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Test Case ID	UTC063	Test Name	Test admin edit slider details	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows the admin to successfully edit or update the details of an existing slider				
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Navigate to “Manage Slider” Page. 2. Press on “pen” icon 3. Update details based on test data 4. Press on “Update” button 			Title: National Day Promo		
Expected Result			Actual Result		
After making changes to the slider description and clicking "Save" or "Update," the system should successfully update the slider details and display a confirmation message.			The system correctly updated the slider details with the provided data, and a confirmation message was displayed, indicating that the update was successful.		

Test Case ID	UTC064	Test Name	Test update slider with invalid data	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system handles the scenario when the admin attempts to update a slider's details with invalid or inappropriate data				
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Navigate to “Manage Slider” Page. 2. Press on “pen” icon 			Price: %^		

3. Update details based on test data 4. Press on “Update” button	
Expected Result	Actual Result
After making changes to the slider description and clicking "Update," the system should successfully update the slider details and display a confirmation message.	The system correctly updated the slider details with the provided data, and a confirmation message was displayed, indicating that the update was successful.

Test Case ID	UTC065	Test Name	Test admin deleting a slider	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows the admin to successfully delete a selected slider				
Test Case Scenario				Test Data	
1. Navigate to “Manage Slider” Page. 2. Press on “x” icon on selected slider 3. Press on “ok” button				-	
Expected Result				Actual Result	
After confirming the deletion action, the system should successfully delete the selected slider and display a confirmation message.				The system correctly deleted the selected slider and displayed a confirmation message, indicating that the deletion was successful.	

Test Case ID	UTC066	Test Name	Test admin slider deletion	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows the admin to cancel the deletion of a slider if they change their				

	mind
Test Case Scenario	Test Data
<ol style="list-style-type: none"> 1. Navigate to “Manage Slider” Page. 2. Press on “x” icon on selected slider 3. Press on “cancel” button 	-
Expected Result	Actual Result
After canceling the deletion action in the confirmation dialog, the system should successfully return to the previous state, and the selected slider should not be deleted.	The system correctly canceled the deletion action in response to the admin's choice, and the selected slider was not deleted. No confirmation message for deletion was displayed.

Test Case ID	UTC067	Test Name	Test admin updating sales timer	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows the admin to successfully update the sales timer on the home page				
Test Case Scenario	Test Data				
<ol style="list-style-type: none"> 1. Navigate to “Sales Setting” page 2. Update the status based on test data 3. Press on “Update” button 	Date: 25/9/2023 Status: active				
Expected Result	Actual Result				
After making changes to the sales timer details and clicking "Update," the system should successfully update the sales timer on the homepage and display a confirmation message.	The system correctly updated the sales timer details on the homepage with the provided data, and a confirmation				

	message was displayed, indicating that the update was successful.
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Test Case ID	UTC068	Test Name	Test retrieving all coupons to admin	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system successfully displays a list of coupons to the admin			
Test Case Scenario				Test Data	
1. Navigate to “Manage Coupons” page				-	
Expected Result				Actual Result	
the system should successfully display a comprehensive list of all coupons, including their respective details such as coupon codes, discount percentages, expiration dates, and status indicators.				The system correctly displayed a comprehensive list of all coupons, including their respective details, enabling the admin to view and manage coupons effectively.	

Test Case ID	UTC069	Test Name	Test admin creating a new coupon	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows the admin to successfully create a new coupon			
Test Case Scenario				Test Data	
1. Navigate to “Manage Coupons” page 2. Press on “Add New Coupon” 3. Enter data based on the test data 4. Press on “Submit” button				Coupon Code: OFF6 Coupon Type: Fixed Coupon Value: 5 Cart Value: 500 Expiry Date: 10/10/2023	
Expected Result				Actual Result	

After entering the valid details and clicking "Submit", the system should successfully create the new coupon and display a confirmation message.	The system correctly created the new coupon with the provided valid data, and a confirmation message was displayed, indicating that the creation was successful.
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Test Case ID	UTC070	Test Name	Test admin creating a coupon with missing information	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system handles the scenario when the admin attempts to create a new coupon but leaves some required information blank				
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Navigate to "Manage Coupons" page 2. Press on "Add New Coupon" 3. Enter data based on the test data 4. Press on "Submit" button 			Coupon Code: OFF6 Coupon Type: Fixed Coupon Value: 5 Cart Value: 500		
Expected Result			Actual Result		
After attempting to create the new coupon with missing information, the system should correctly handle the scenario and display an error message or notification, informing the admin that creation cannot proceed without providing complete information.			The system correctly handled the scenario and displayed an error message or notification, indicating that the creation cannot proceed with the provided missing or incomplete information.		

Test Case ID	UTC071	Test Name	Test admin updating coupon details	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system allows staff to successfully update the details of a coupon			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to “Manage Coupons” page 2. Press on “pen” icon 3. Update data based on the test data 4. Press on “Update” button 				Cart Value: 200	
Expected Result				Actual Result	
After making changes to the coupon details and clicking "Update," the system should successfully update the coupon details and display a confirmation message.				The system correctly updated the coupon details with the provided data, and a confirmation message was displayed, indicating that the update was successful.	

Test Case ID	UTC072	Test Name	Test admin updating coupon details with invalid input	Result (Pass/Fail)	Pass
Test Case Description		Examine whether the system handles the scenario when admin attempts to update a coupon’s details with invalid or inappropriate data			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Navigate to “Manage Coupons” page 2. Press on “pen” icon 3. Update data based on the test data 4. Press on “Update” button 				Cart Value: ^&%	

Expected Result	Actual Result
After attempting to update the coupon details with invalid input, the system should correctly handle the scenario and display an error message or notification, informing the admin that the update cannot proceed due to invalid input.	The system correctly handled the scenario and displayed an error message or notification, indicating that the update cannot proceed with the provided invalid or incorrect input.

Test Case ID	UTC073	Test Name	Test admin deleting a coupon	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows admin to successfully delete a coupon				
Test Case Scenario	Test Data				
1. Navigate to "Manage Coupons" page 2. Press on "x" icon on selected coupon 3. Press on "Ok" button	-				
Expected Result	Actual Result				
After confirming the deletion action, the system should successfully delete the selected coupon and display a confirmation message.	The system correctly deleted the selected coupon and displayed a confirmation message, indicating that the deletion was successful.				

Test Case ID	UTC074	Test Name	Test canceling coupon deletion	Result (Pass/Fail)	Pass
Test Case Description	Examine whether the system allows admin to				

	cancel the deletion of a coupon if they change their mind
Test Case Scenario	Test Data
<ol style="list-style-type: none"> 1. Navigate to “Manage Coupons” page 2. Press on “x” icon on selected coupon 3. Press on “Cancel” button 	-
Expected Result	Actual Result
After canceling the deletion action in the confirmation dialog, the system should successfully return to the previous state, and the selected coupon should not be deleted.	The system correctly canceled the deletion action in response to the admin's choice, and the selected coupon was not deleted. No confirmation message for deletion was displayed.

Test Cases of Integration Test:

Test Case ID	ITC001	Test Name	User Authentication and Shopping Cart Integration	Result (Pass/Fail)	Pass
Test Case Description	Verify that the user authentication system and the shopping cart module integrate correctly and allow authenticated customers to add items to their shopping cart.				
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Access to the website 2. Click on Login button / Register 3. Access to Home Page 4. Browse the product catalog or search for a specific item. 5. Click on a product to view its details. 6. Click the "Add to Cart" button. 7. Click on the shopping cart icon or navigate to the shopping cart page. 8. Click on the "Logout" or "Sign Out" button. 				-	
Expected Result				Actual Result	
Customer successful logged in. The selected product is added to the shopping cart. The shopping cart displays the added product's information. Customer successfully logged out, and their session is invalidated.				The customer successfully logged in, selected a product, added it to the shopping cart, and viewed the added product's information. After completing their shopping session, the customer successfully	

	logged out, and their session was invalidated.
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Test Case ID	ITC002	Test Name	Shop Product Page and Product Details Page Integration	Result (Pass/Fail)	Pass
Test Case Description		Verify the integration between the Shop Product Page and the Product Details Page.			
Test Case Scenario				Test Data	
1. Access to the website 2. Click on a product from the product listing page.					
Expected Result				Actual Result	
The product's detailed information, including name, description, price, images, and other relevant details, is displayed correctly on the Product Details Page.				The product's detailed information, including name, description, price, images, and other relevant details, is displayed correctly on the Product Details Page.	

Test Case ID	ITC003	Test Name	Shop Event Page and Event Details Page	Result (Pass/Fail)	Pass
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			Integration		
Test Case Description		Verify the integration between the Shop Event Page and the Event Details Page.			
Test Case Scenario			Test Data		
1. Access to the website 2. Navigate to the events listing page. 3. Click on an event.			-		
Expected Result			Actual Result		
The event's detailed information, including name, description, and event-specific details, is displayed correctly on the Event Details Page.			The event's detailed information is displayed correctly on the Event Details Page.		

Test Case ID	ITC004	Test Name	Cart Management Integration	Result (Pass/Fail)	Pass
Test Case Description		Verify the integration of the shopping cart module, including adding, updating, and removing items from the cart.			
Test Case Scenario			Test Data		
1. Access to the website 2. Go to shop page 3. Add multiple items to the cart. 4. Update item quantities in the cart. 5. Remove items from the cart.			-		
Expected Result			Actual Result		
<ul style="list-style-type: none"> - For adding items: The selected items are added to the cart. - For updating quantities: The cart total reflects the correct total price after updates. - - For removing items: The items are 			<ul style="list-style-type: none"> - For adding items: The selected items are successfully added to the cart. - For updating 		

successfully removed from the cart.	<p>quantities: The cart total accurately reflects the updated total price.</p> <p>– For removing items: The items are successfully removed from the cart.</p>
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Test Case ID	ITC005	Test Name	Wishlist Management Integration	Result (Pass/Fail)	Pass	
Test Case Description	Verify the integration of the wishlist module, including adding and removing products from the wishlist.					
Test Case Scenario	<ol style="list-style-type: none"> 1. Access to the website 2. Go to shop page 3. Add products to the wishlist. 4. Remove products from the wishlist. 				Test Data	-
Expected Result	<ul style="list-style-type: none"> – For adding products: The selected products are added to the wishlist. – For removing products: The products are successfully removed from the wishlist. 				Actual Result	<ul style="list-style-type: none"> – For adding products: The selected products are successfully added to the wishlist. – For removing products: The products are successfully removed from the

	wishlist.
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Test Case ID	ITC006	Test Name	Purchase and Checkout Integration	Result (Pass/Fail)	Pass
Test Case Description	Verify the integration between adding items to the cart and completing the checkout process.				
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Access to the website 2. Go to Shop page 3. Add items to the cart. 4. Proceed to the checkout page. 5. Enter shipping and billing information. 6. Select a payment method. 7. Place the order and confirm the order summary. 			-		
Expected Result			Actual Result		
A confirmation page is displayed. An order confirmation email is sent.			A confirmation page is displayed and received an confirmation email.		

Test Case ID	ITC007	Test Name	Reservation Integration	Result (Pass/Fail)	Pass
Test Case Description	Verify the integration of the reservation module, including making reservations.				
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> 1. Access to the website 2. Go to Event page 3. Select an event. 4. Fill up reservation form 			-		
Expected Result			Actual Result		
A confirmation page is displayed.			A confirmation page is displayed.		

Test Case ID	ITC008	Test Name	Profile Management Integration	Result (Pass/Fail)	Pass
Test Case Description	Verify the integration of the profile management module, including updating user information and changing the password.				
Test Case Scenario				Test Data	
Access to the website Go to “My Profile” page Update user information (e.g., name, email, address). Change the user's password.				-	
Expected Result				Actual Result	
Changes to user information are saved and reflected in the user's profile. The password change is successful.				User information changes were saved and reflected in the user's profile. The password change process was successful.	

Test Case ID	ITC009	Test Name	Orders and Reviews Integration	Result (Pass/Fail)	Pass
Test Case Description	Verify the integration between viewing orders, order details, and writing reviews				
Test Case Scenario				Test Data	
1. Access to the website 2. Go to “My Orders” Page 3. Select an order to view its details. 4. Confirm that order details include items, prices, order status, and delivery information. 5. Write a review for a product associated with an				-	

order status of delivered	
Expected Result	Actual Result
<ol style="list-style-type: none"> Order details are displayed accurately, including items, prices, order status, and delivery information. The review is successfully submitted. 	<ol style="list-style-type: none"> Order details are displayed accurately, including items, prices, order status, and delivery information. The review is successfully submitted.

Test Case ID	ITC010	Test Name	Reservation Details Integration	Result (Pass/Fail)	Pass
Test Case Description	Verify the integration of viewing reservations and reservation details				
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> Access to the website Go to “My Reservations” Page Select a reservation to view its details. Confirm that reservation details include event information, date, and contact information. 				-	
Expected Result				Actual Result	
Reservation details are displayed accurately, including event information, date, and contact information.				Reservation details were displayed accurately, including event information, date, and contact information.	

Test Case ID	ITC011	Test Name	Chatbot and Contact Us	Result (Pass/Fail)	Pass
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			Integration		
Test Case Description		Verify the integration of the chatbot feature for contacting customer support.			
Test Case Scenario			Test Data		
1. Access to the website 2. Access the chatbot or contact us feature. 3. Ask a common question or request assistance.			-		
Expected Result			Actual Result		
The chatbot provides helpful responses or provide inquiries form to customer if chatbot cannot provide answer.			The chatbot provided helpful responses and efficiently provide inquiries form to customer if chatbot cannot provide answer.		

Test Case ID	ITC012	Test Name	Login authentication and access admin dashboard Integration	Result (Pass/Fail)	Pass
Test Case Description		Verify the integration between the login process and accessing the admin dashboard.			
Test Case Scenario			Test Data		
1. Open the admin login page. 2. Enter valid admin credentials 3. Click the "Login" button.			-		
Expected Result			Actual Result		
1. The admin is successfully authenticated. 2. After login, the admin is able to access to the admin dashboard.			After logging in, was able to go to admin dashboard page.		

Test Case	ITC013	Test	Admin	Result	Pass
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ID		Name	Dashboard - View Latest Customer Order Detail Integration	(Pass/Fail)	
Test Case Description		Verify the integration between the admin dashboard and viewing the details of the latest customer order.			
Test Case Scenario				Test Data	
1. Log in to the admin dashboard. 2. Access the latest customer order details.				-	
Expected Result				Actual Result	
The admin can access and view the details of the latest customer order accurately.				After logging in to the admin dashboard, the admin can successfully access and view the details of the latest customer order accurately.	

Test Case ID	ITC014	Test Name	Manage Category Integration	Result (Pass/Fail)	Pass
Test Case Description		Verify the integration of category management, including viewing, adding, updating, and deleting categories.			
Test Case Scenario				Test Data	
1. Go to “Manage Category” 2. View existing categories. 3. Add a new category. 4. Update an existing category. 5. Delete an existing category.				-	
Expected Result				Actual Result	

<ol style="list-style-type: none"> Categories are displayed accurately. New categories are successfully added. Existing categories can be updated and deleted. 	<ol style="list-style-type: none"> Existing categories are displayed accurately. New categories can be added successfully. Existing categories can be updated and deleted without issues.
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Test Case ID	ITC015	Test Name	Manage Event Category Integration	Result (Pass/Fail)	Pass
Test Case Description		Verify the integration of event category management, including viewing, adding, updating, and deleting event categories.			
Test Case Scenario			Test Data		
<ol style="list-style-type: none"> Go to “Manage Event Category” View existing event categories. Add a new event category. Update an existing event category. Delete an existing event category. 			-		
Expected Result			Actual Result		
<ol style="list-style-type: none"> Event categories are displayed accurately. New event categories are successfully added. Existing event categories can be updated and deleted. 			<ol style="list-style-type: none"> Existing categories are displayed accurately. New categories can be added successfully. Existing categories 		

	can be updated and deleted without issues.
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Test Case ID	ITC016	Test Name	Manage Product Integration	Result (Pass/Fail)	Pass
Test Case Description		Verify the integration of product management, including viewing, adding, updating, and deleting products.			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Go to “All Products” page 2. View existing products. 3. Add a new product. 4. Update an existing product. 5. Delete an existing product. 				-	
Expected Result				Actual Result	
<ol style="list-style-type: none"> 1. View existing products. 2. Add a new product. 3. Update an existing product. 4. Delete an existing product. 				<ol style="list-style-type: none"> 1. Existing products are displayed accurately. 2. New products can be added successfully. 3. Existing products can be updated and deleted without issues. 	

Test Case ID	ITC017	Test Name	Manage Event (Occasion) Integration	Result (Pass/Fail)	Pass
Test Case Description		Verify the integration of event (occasion) management, including viewing, adding, updating,			

	and deleting events.
Test Case Scenario	Test Data
<ol style="list-style-type: none"> 1. Go to “Manage Events” page 2. View existing products. 3. Add a new product. 4. Update an existing product. 5. Delete an existing product. 	-
Expected Result	Actual Result
<ol style="list-style-type: none"> 1. View existing products. 2. Add a new product. 3. Update an existing product. 4. Delete an existing product. 	<ol style="list-style-type: none"> 1. Existing products are displayed accurately. 2. New products can be added successfully. 3. Existing products can be updated and deleted without issues.

Test Case ID	ITC018	Test Name	Manage Home Page Slider Integration	Result (Pass/Fail)	Pass
Test Case Description	Verify the integration of home page slider management, including viewing, adding, updating, and deleting slider items.				
Test Case Scenario	Test Data				
<ol style="list-style-type: none"> 1. Go to “Manage Home Slider” page 2. View existing slider items. 3. Add a new slider item. 4. Update an existing slider item. 5. Delete an existing slider item. 	-				
Expected Result	Actual Result				

<ol style="list-style-type: none"> 1. View existing slider items. 2. Add a new slider item. 3. Update an existing slider item. 4. Delete an existing slider item. 	<ol style="list-style-type: none"> 1. Existing slider items are displayed accurately. 2. New slider items can be added successfully. 3. Existing slider items can be updated and deleted without issues.
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Test Case ID	ITC019	Test Name	Manage Sales Timer Integration	Result (Pass/Fail)	Pass
Test Case Description		Verify the integration for updating the sales timer.			
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Access the sales timer settings. 2. Update the sales timer. 				-	
Expected Result				Actual Result	
The sales timer can be accessed and updated with the desired settings.				The sales timer can be accessed and updated with the desired settings without any issues.	

Test Case ID	ITC020	Test Name	Manage Coupon Integration	Result (Pass/Fail)	Pass
Test Case Description		Verify the integration of coupon management, including viewing, adding, updating, and deleting coupons.			
Test Case Scenario				Test Data	
1. Go to “Manage Coupon” page				-	

<ol style="list-style-type: none"> 2. View existing coupons. 3. Add a new coupon. 4. Update an existing coupon. 5. Delete an existing coupon. 	
Expected Result	Actual Result
<ol style="list-style-type: none"> 1. Coupons are displayed accurately. 2. New coupons are successfully added. 3. Existing coupons can be updated and deleted. 	<ol style="list-style-type: none"> 1. Existing slider items are displayed accurately. 2. New slider items can be added successfully. 3. Existing slider items can be updated and deleted without issues.

Test Case ID	ITC021	Test Name	Manage Order Integration	Result (Pass/Fail)	Pass
Test Case Description	Verify the integration of order management, including viewing and updating delivery status.				
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Go to “All Orders” Page 2. View a list of orders. 3. Select an order to update its delivery status. 				-	
Expected Result				Actual Result	
<ol style="list-style-type: none"> 1. Orders are displayed accurately. 2. Delivery status can be updated for selected orders. 				<ol style="list-style-type: none"> 1. Orders are displayed accurately. 2. Delivery status can be updated for selected orders without any issues. 	

Test Case ID	ITC022	Test Name	Manage Enquiry Integration	Result (Pass/Fail)	Pass
Test Case Description	Verify the integration of enquiry management, including viewing and updating enquiry status.				
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Go to “Manage Enquiry” page 2. View a list of enquiries. 3. Select an enquiry to update its status. 				-	
Expected Result				Actual Result	
<ol style="list-style-type: none"> 1. View a list of enquiries. 2. Select an enquiry to update its status. 				<ol style="list-style-type: none"> 1. Enquiries are displayed accurately. 2. Enquiry status can be updated for selected enquiries without any issues. 	

Test Case ID	ITC023	Test Name	Manage Reservation Integration	Result (Pass/Fail)	Pass
Test Case Description	Verify the integration of reservation management, including viewing, updating status, updating final design and extra info, and viewing the reservation calendar				
Test Case Scenario				Test Data	
<ol style="list-style-type: none"> 1. Go to “Manage Reservation” page 2. View a list of reservations. 3. Select a reservation to update its status. 4. Update the final design and extra information for a reservation. 5. Access the reservation calendar. 				-	
Expected Result				Actual Result	

<ol style="list-style-type: none">1. Reservations are displayed accurately.2. Reservation status can be updated, and additional information can be modified.3. The reservation calendar is accessible and shows relevant data.	<ol style="list-style-type: none">1. Reservations are displayed accurately.2. Reservation status can be updated, and additional information can be modified without any issues.3. The reservation calendar is accessible and shows relevant data as expected.
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Test Form of User Acceptance Test:

User Acceptance Test Form						
Tester's Name				Testing Start Date / Time		
				Testing End Date / Time		
Test Case ID	Module	Test Case Title	Test Steps	Expected Results	Status (Pass/Fail)	Comments
UATC016	Login	Login account	<ol style="list-style-type: none"> 1. Navigate to the login page. 2. Enter the admin/staff/shop owner's credentials (email and password). 3. Click the "Login" button. 	The admin/staff/shop owner should be successfully logged into their management account.		
UATC017	Admin Dashboard	View sales report in admin dashboard	<ol style="list-style-type: none"> 1. Access the admin dashboard. 2. Navigate to the sales report section. 	The sales report should be displayed, showing relevant		

				sales data and statistics.		
UATC018	Manage Category / Event Category	View list of category / event category	1. Navigate to the category/event category management section.	A list of categories/event categories should be displayed.		
UATC019	Manage Category / Event Category	Add new category / event category	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Click the "Add New Category/Event Category" button. 3. Fill in the required details for the new category/event category. 4. Click the "Save" or "Add" button. 	The new category/event category should be successfully added and it should be visible in the list of categories/event categories.		

UATC020	Manage Category / Event Category	Update category / event category details	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Select a category/event category from the list. 3. Click the "pen" icon 4. Modify the details of the category/event category. 5. Click the "Save" or "Update" button. 	The details of the category/event category should be successfully updated with the changes made.		
UATC021	Manage Category / Event Category	Remove category / event category	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Select a category/event category from the list. 3. Click the "x" option. 4. Click confirmation 	The category/event category should be successfully removed from the list.		

UATC022	Manage Products	View list of products	1. Navigate to “All Products” page	A list of products should be display.		
UATC023	Manage Products	Add new products	1. Navigate to “All Products” page 2. Click "Add New Product" 3. fill in details 4. Click "Save" or "Add."	Successful addition of the new product to the list.		
UATC024	Manage Products	Update products details	1. Navigate to “All Products” page 2. Click on “pen” icon 3. Edit details 4. Click "Save" or "Update."	Successful update of product details.		
UATC025	Manage Products	Remove products	1. Navigate to “All Products” page 2. Select a product 3. Click on “x” icon	Successful removal of the product from the list.		
UATC026	Manage Events	View list of	1. Navigate to “All Events” page	Display a list of		

		events (occasion)		events (occasions).		
UATC027	Manage Events	Add new events (occasion)	<ol style="list-style-type: none"> 1. Navigate to “All Events” page 2. Click "Add New Event (Occasion) 3. Fill in details, and 4. Click "Save" or "Add." 	Successful addition of the new event (occasion) to the list.		
UATC028	Manage Events	Update events (occasion) details	<ol style="list-style-type: none"> 1. Navigate to “All Events” page 2. Click on “pen” icon 3. Edit details 4. Click "Save" or "Update." 	Successful update of event (occasion) details.		
UATC029	Manage Events	Remove events (occasion)	<ol style="list-style-type: none"> 1. Navigate to “All Events” page 2. Select an event 3. Click on “x” icon 	Successful removal of the event (occasion) from the list.		
UATC030	Manage Home	View list of	1. Navigate to the slider	Display a list of		

	Sliders	sliders	management section.	sliders.		
UATC031	Manage Home Sliders	Add new slider	<ol style="list-style-type: none"> 1. Navigate to the slider management section. 2. Click "Add New Slider" 3. Fill in details, and 4. Click "Save" or "Add." 	Successful addition of the new slider to the list.		
UATC032	Manage Home Sliders	Update slider details	<ol style="list-style-type: none"> 1. Navigate to the slider management section. 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update." 	Successful update of slider details.		
UATC033	Manage Home Sliders	Remove slider	<ol style="list-style-type: none"> 1. Navigate to the slider management section. 2. Select a slider 3. Click on "x" icon 	Successful removal of the slider from the list.		
UATC034	Manage Coupon	View list of coupons	<ol style="list-style-type: none"> 1. Navigate to "Manage Coupon" page 	Display a list of coupons.		
UATC035	Manage	Add new coupon	<ol style="list-style-type: none"> 1. Navigate to "Manage 	Successful		

	Coupon		<p>Coupon” page</p> <ol style="list-style-type: none"> 2. Click "Add New Coupon" 3. Fill in details, and 4. Click "Save" or "Add." 	addition of the new coupon to the list.		
UATC036	Manage Coupon	Update coupon details	<ol style="list-style-type: none"> 1. Navigate to “Manage Coupon” page 2. Click on “pen” icon 3. Edit details 4. Click "Save" or "Update." 	Successful update of coupon details.		
UATC037	Manage Coupon	Remove coupon	<ol style="list-style-type: none"> 1. Navigate to “Manage Coupon” page 2. Select a coupon 3. Click on “x” icon 	Successful removal of the coupon from the list.		
UATC038	Manage Orders	View details of specific order	<ol style="list-style-type: none"> 1. Navigate to “All Orders” page 2. select a specific order. 	Display the details of the selected order.		
UATC039	Manage Orders	Update the status of a specific	<ol style="list-style-type: none"> 1. Navigate to “All Orders” page 	Successful update of the		

		order	<ol style="list-style-type: none"> 2. Select a specific order 3. Update the status 	order status.		
UATC040	Manage Orders	Update the status of a specific enquiry	<ol style="list-style-type: none"> 1. Navigate to “All Enquiries” page 2. Select a specific enquiry 3. Update the status 	Successful update of the enquiry status.		
UATC041	Manage Reservations	View details of specific reservation	<ol style="list-style-type: none"> 1. Navigate to “All Reservations” page 2. Select a specific reservation. 	Display the details of the selected reservation.		
UATC042	Manage Reservations	Update the status of a specific reservation	<ol style="list-style-type: none"> 1. Navigate to “All Reservations” page 2. Select a specific reservation. 3. Update the status 	Successful update of the reservation status.		
UATC043	Manage Reservations	Update the reservation final design and extra	<ol style="list-style-type: none"> 1. Navigate to “All Reservations” page 2. Select a specific 	Successful update of reservation		

		info	<p>reservation.</p> <ol style="list-style-type: none"> 3. Update the final design and extra info 4. Save changes 	details.		
UATC044	Manage Reservations	View the calendar and reservation detail	<ol style="list-style-type: none"> 1. Navigate to “All Reservations” page 2. Access the calendar located beside status “confirmed” 3. Press on one of the reservation id. 	Display the calendar with "confirmed" reservations and show details when the ID is pressed.		
UATC045	Manage Sales Setting	Set sales timer	<ol style="list-style-type: none"> 1. Access the sales timer settings. 2. Set the desired sales timer parameters. 3. Activate the sales timer. 	The sales timer should be successfully activated with the specified parameters.		

Appendix E: User Acceptance Testing Results.

Customer side:

User Acceptance Test Form					
Tester's Name		GOM YONG YEE		Testing Start Date / Time	30 / 8 / 2023 10:00 am
				Testing End Date / Time	30 / 8 / 2023 10:30 am
Test Case ID	Test Case Title	Test Steps	Expected Results	Status (Pass/Fail)	Comments
UATC001	Register a new account	<ol style="list-style-type: none"> 1. Navigate to the registration page. 2. Fill in the required registration details (e.g., name, email, password). 3. Click the "Register" button. 	The registration form should be successfully submitted and redirect customer to email verification page.	Pass	
UATC002	Login account	<ol style="list-style-type: none"> 1. Navigate to the login page. 2. Enter the registered email and password. 3. Click the "Login" button. 	The customer should be successfully logged into their account and customer's homepage should be displayed.	Pass	
UATC003	Logout	<ol style="list-style-type: none"> 1. From the customer's drop-down list, find the "Logout" option. 2. Click the "Logout" option. 	The customer should be logged out of their account.	Pass	
UATC004	View all products / events	<ol style="list-style-type: none"> 1. Navigate to the shop product/events page. 	All available products or events should be displayed.	Pass	
UATC005	View selected product / event details	<ol style="list-style-type: none"> 1. Click on a specific product/event from the list. 	The details of the selected product/event should be displayed.	Pass	
UATC006	Make Reservation	<ol style="list-style-type: none"> 1. Navigate to shop event page 2. Select an event type 3. Click on "Make Reservation" 4. Provide required reservation details. 5. Submit reservation form 	A reservation confirmation should be displayed and the reservation should be recorded in the customer's account.	Pass	
UATC007	Manage product(s) into shopping cart	<ol style="list-style-type: none"> 1. Browse products. 2. Add products to the shopping cart. 3. Remove products from the shopping cart. 	Products should be added and removed from the shopping cart as expected.	Pass	
UATC008	Manage product(s) in wishlist	<ol style="list-style-type: none"> 1. Browse products. 2. Add products to the shopping cart. 3. Remove products from the shopping cart. 	Products should be favorited and unfavorited in the wishlist as expected.	Pass	

UATC009	Make Order	<ol style="list-style-type: none"> 1. Add products to the shopping cart. 2. Go to the shopping cart. 3. Proceed to checkout. 4. Provide shipping and payment information. 5. Confirm the order. 	An order confirmation should be displayed and the order should be recorded in the customer's account.	Pass	
UATC010	Send an Enquiry	<ol style="list-style-type: none"> 1. Locate the chatbot feature. 2. Ask a question or send an inquiry when the chatbot does not provide an answer through contact us form. 	The inquiry should be successfully sent and a confirmation or notification of the sent inquiry should be displayed.	Pass	
UATC011	Manage Profile - Update profile details	<ol style="list-style-type: none"> 1. Navigate to the customer's profile or account settings. 2. Edit one or more profile details (e.g., name, address, password). 3. Save the changes. 	The profile details should be updated successfully.	Pass	
UATC012	View all orders/reservations	<ol style="list-style-type: none"> 1. Navigate to the customer's order/reservation history. 	A list of orders and reservations made by the customer should be displayed.	Pass	

UATC013	Access chatbot feature	<ol style="list-style-type: none"> 1. Locate and interact with the chatbot feature. 2. Ask a question or request assistance. 	The chatbot should provide a relevant response or assistance to the customer's query.	Pass	
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User Acceptance Test Form						
Tester's Name		STELLA LOH	Testing Start Date / Time		30.8.23 12:00 pm	
			Testing End Date / Time		30.8.23 12:30 pm	
Test Case ID	Test Case Title	Test Steps		Expected Results	Status (Pass/Fail)	Comments
UATC001	Register a new account	<ol style="list-style-type: none"> 1. Navigate to the registration page. 2. Fill in the required registration details (e.g., name, email, password). 3. Click the "Register" button. 		The registration form should be successfully submitted and redirect customer to email verification page.	PASS	
UATC002	Login account	<ol style="list-style-type: none"> 1. Navigate to the login page. 2. Enter the registered email and password. 3. Click the "Login" button. 		The customer should be successfully logged into their account and customer's homepage should be displayed.	PASS	
UATC003	Logout	<ol style="list-style-type: none"> 1. From the customer's drop-down list, find the "Logout" option. 2. Click the "Logout" option. 		The customer should be logged out of their account.	PASS	

UATC004	View all products / events	1. Navigate to the shop product/events page.	All available products or events should be displayed.	PASS	
UATC005	View selected product / event details	1. Click on a specific product/event from the list.	The details of the selected product/event should be displayed.	PASS	
UATC006	Make Reservation	1. Navigate to shop event page 2. Select an event type 3. Click on "Make Reservation" 4. Provide required reservation details. 5. Submit reservation form	A reservation confirmation should be displayed and the reservation should be recorded in the customer's account.	PASS	
UATC007	Manage product(s) into shopping cart	1. Browse products. 2. Add products to the shopping cart. 3. Remove products from the shopping cart.	Products should be added and removed from the shopping cart as expected.	PASS	
UATC008	Manage product(s) in wishlist	1. Browse products. 2. Add products to the shopping cart. 3. Remove products from the shopping cart.	Products should be favorited and unfavorited in the wishlist as expected.	PASS	

UATC009	Make Order	1. Add products to the shopping cart. 2. Go to the shopping cart. 3. Proceed to checkout. 4. Provide shipping and payment information. 5. Confirm the order.	An order confirmation should be displayed and the order should be recorded in the customer's account.	PASS	
UATC010	Send an Enquiry	1. Locate the chatbot feature. 2. Ask a question or send an inquiry when the chatbot does not provide an answer through contact us form.	The inquiry should be successfully sent and a confirmation or notification of the sent inquiry should be displayed.	PASS	
UATC011	Manage Profile - Update profile details	1. Navigate to the customer's profile or account settings. 2. Edit one or more profile details (e.g., name, address, password). 3. Save the changes.	The profile details should be updated successfully.	PASS	
UATC012	View all orders/reservations	1. Navigate to the customer's order/reservation history.	A list of orders and reservations made by the customer should be displayed.	PASS	

UATC013	Access chatbot feature	1. Locate and interact with the chatbot feature. 2. Ask a question or request assistance.	The chatbot should provide a relevant response or assistance to the customer's query.	PASS	
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User Acceptance Test Form					
Tester's Name		Joawan Tan		Testing Start Date / Time	1/9/23 12pm
				Testing End Date / Time	1/9/23 12.30pm
Test Case ID	Test Case Title	Test Steps	Expected Results	Status (Pass/Fail)	Comments
UATC001	Register a new account	<ol style="list-style-type: none"> 1. Navigate to the registration page. 2. Fill in the required registration details (e.g., name, email, password). 3. Click the "Register" button. 	The registration form should be successfully submitted and redirect customer to email verification page.	P	
UATC002	Login account	<ol style="list-style-type: none"> 1. Navigate to the login page. 2. Enter the registered email and password. 3. Click the "Login" button. 	The customer should be successfully logged into their account and customer's homepage should be displayed.	P	
UATC003	Logout	<ol style="list-style-type: none"> 1. From the customer's drop-down list, find the "Logout" option. 2. Click the "Logout" option. 	The customer should be logged out of their account.	P	
UATC004	View all products / events	<ol style="list-style-type: none"> 1. Navigate to the shop product/events page. 	All available products or events should be displayed.	P	
UATC005	View selected product / event details	<ol style="list-style-type: none"> 1. Click on a specific product/event from the list. 	The details of the selected product/event should be displayed.	P	
UATC006	Make Reservation	<ol style="list-style-type: none"> 1. Navigate to shop event page 2. Select an event type 3. Click on "Make Reservation" 4. Provide required reservation details. 5. Submit reservation form 	A reservation confirmation should be displayed and the reservation should be recorded in the customer's account.	P	
UATC007	Manage product(s) into shopping cart	<ol style="list-style-type: none"> 1. Browse products. 2. Add products to the shopping cart. 3. Remove products from the shopping cart. 	Products should be added and removed from the shopping cart as expected.	P	
UATC008	Manage product(s) in wishlist	<ol style="list-style-type: none"> 1. Browse products. 2. Add products to the shopping cart. 3. Remove products from the shopping cart. 	Products should be favorited and unfavorited in the wishlist as expected.	P	

UATC009	Make Order	<ol style="list-style-type: none"> 1. Add products to the shopping cart. 2. Go to the shopping cart. 3. Proceed to checkout. 4. Provide shipping and payment information. 5. Confirm the order. 	An order confirmation should be displayed and the order should be recorded in the customer's account.	P	
UATC010	Send an Enquiry	<ol style="list-style-type: none"> 1. Locate the chatbot feature. 2. Ask a question or send an inquiry when the chatbot does not provide an answer through contact us form. 	The inquiry should be successfully sent and a confirmation or notification of the sent inquiry should be displayed.	P	
UATC011	Manage Profile - Update profile details	<ol style="list-style-type: none"> 1. Navigate to the customer's profile or account settings. 2. Edit one or more profile details (e.g., name, address, password). 3. Save the changes. 	The profile details should be updated successfully.	P	
UATC012	View all orders/reservations	<ol style="list-style-type: none"> 1. Navigate to the customer's order/reservation history. 	A list of orders and reservations made by the customer should be displayed.	P	

UATC013	Access chatbot feature	<ol style="list-style-type: none"> 1. Locate and interact with the chatbot feature. 2. Ask a question or request assistance. 	The chatbot should provide a relevant response or assistance to the customer's query.	P	
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User Acceptance Test Form					
Tester's Name		SKY		Testing Start Date / Time	1. 9. 2023 / 3pm
				Testing End Date / Time	1. 9. 2023 / 3:30pm
Test Case ID	Test Case Title	Test Steps	Expected Results	Status (Pass/Fail)	Comments
UATC001	Register a new account	<ol style="list-style-type: none"> 1. Navigate to the registration page. 2. Fill in the required registration details (e.g., name, email, password). 3. Click the "Register" button. 	The registration form should be successfully submitted and redirect customer to email verification page.	Pass	
UATC002	Login account	<ol style="list-style-type: none"> 1. Navigate to the login page. 2. Enter the registered email and password. 3. Click the "Login" button. 	The customer should be successfully logged into their account and customer's homepage should be displayed.	Pass	
UATC003	Logout	<ol style="list-style-type: none"> 1. From the customer's drop-down list, find the "Logout" option. 2. Click the "Logout" option. 	The customer should be logged out of their account.	Pass	

UATC004	View all products / events	1. Navigate to the shop product/events page.	All available products or events should be displayed.	Pass	
UATC005	View selected product / event details	1. Click on a specific product/event from the list.	The details of the selected product/event should be displayed.	Pass	
UATC006	Make Reservation	1. Navigate to shop event page 2. Select an event type 3. Click on "Make Reservation" 4. Provide required reservation details. 5. Submit reservation form	A reservation confirmation should be displayed and the reservation should be recorded in the customer's account.	Pass	
UATC007	Manage product(s) into shopping cart	1. Browse products. 2. Add products to the shopping cart. 3. Remove products from the shopping cart.	Products should be added and removed from the shopping cart as expected.	Pass	
UATC008	Manage product(s) in wishlist	1. Browse products. 2. Add products to the shopping cart. 3. Remove products from the shopping cart.	Products should be favorited and unfavorited in the wishlist as expected.	Pass	
UATC009	Make Order	1. Add products to the shopping cart. 2. Go to the shopping cart. 3. Proceed to checkout. 4. Provide shipping and payment information. 5. Confirm the order.	An order confirmation should be displayed and the order should be recorded in the customer's account.	Pass	
UATC010	Send an Enquiry	1. Locate the chatbot feature. 2. Ask a question or send an inquiry when the chatbot does not provide an answer through contact us form.	The inquiry should be successfully sent and a confirmation or notification of the sent inquiry should be displayed.	Pass	
UATC011	Manage Profile - Update profile details	1. Navigate to the customer's profile or account settings. 2. Edit one or more profile details (e.g., name, address, password). 3. Save the changes.	The profile details should be updated successfully.	Pass	
UATC012	View all orders/reservations	1. Navigate to the customer's order/reservation history.	A list of orders and reservations made by the customer should be displayed.	Pass	
UATC013	Access chatbot feature	1. Locate and interact with the chatbot feature. 2. Ask a question or request assistance.	The chatbot should provide a relevant response or assistance to the customer's query.	Pass	

User Acceptance Test Form					
Tester's Name		Joshua Ong		Testing Start Date / Time	30-8-23 4:00 pm
				Testing End Date / Time	30-8-23 4:30 pm
Test Case ID	Test Case Title	Test Steps	Expected Results	Status (Pass/Fail)	Comments
UATC001	Register a new account	<ol style="list-style-type: none"> 1. Navigate to the registration page. 2. Fill in the required registration details (e.g., name, email, password). 3. Click the "Register" button. 	The registration form should be successfully submitted and redirect customer to email verification page.	P	
UATC002	Login account	<ol style="list-style-type: none"> 1. Navigate to the login page. 2. Enter the registered email and password. 3. Click the "Login" button. 	The customer should be successfully logged into their account and customer's homepage should be displayed.	P	
UATC003	Logout	<ol style="list-style-type: none"> 1. From the customer's drop-down list, find the "Logout" option. 2. Click the "Logout" option. 	The customer should be logged out of their account.	P	

UATC004	View all products / events	<ol style="list-style-type: none"> 1. Navigate to the shop product/events page. 	All available products or events should be displayed.	P	
UATC005	View selected product / event details	<ol style="list-style-type: none"> 1. Click on a specific product/event from the list. 	The details of the selected product/event should be displayed.	P	
UATC006	Make Reservation	<ol style="list-style-type: none"> 1. Navigate to shop event page 2. Select an event type 3. Click on "Make Reservation" 4. Provide required reservation details. 5. Submit reservation form 	A reservation confirmation should be displayed and the reservation should be recorded in the customer's account.	P	
UATC007	Manage product(s) into shopping cart	<ol style="list-style-type: none"> 1. Browse products. 2. Add products to the shopping cart. 3. Remove products from the shopping cart. 	Products should be added and removed from the shopping cart as expected.	P	
UATC008	Manage product(s) in wishlist	<ol style="list-style-type: none"> 1. Browse products. 2. Add products to the shopping cart. 3. Remove products from the shopping cart. 	Products should be favorited and unfavorited in the wishlist as expected.	P	

UATC009	Make Order	<ol style="list-style-type: none"> 1. Add products to the shopping cart. 2. Go to the shopping cart. 3. Proceed to checkout. 4. Provide shipping and payment information. 5. Confirm the order. 	An order confirmation should be displayed and the order should be recorded in the customer's account.	P	
UATC010	Send an Enquiry	<ol style="list-style-type: none"> 1. Locate the chatbot feature. 2. Ask a question or send an inquiry when the chatbot does not provide an answer through contact us form. 	The inquiry should be successfully sent and a confirmation or notification of the sent inquiry should be displayed.	P	
UATC011	Manage Profile - Update profile details	<ol style="list-style-type: none"> 1. Navigate to the customer's profile or account settings. 2. Edit one or more profile details (e.g., name, address, password). 3. Save the changes. 	The profile details should be updated successfully.	P	
UATC012	View all orders/reservations	<ol style="list-style-type: none"> 1. Navigate to the customer's order/reservation history. 	A list of orders and reservations made by the customer should be displayed.	P	
UATC013	Access chatbot feature	<ol style="list-style-type: none"> 1. Locate and interact with the chatbot feature. 2. Ask a question or request assistance. 	The chatbot should provide a relevant response or assistance to the customer's query.	P	

Management Team:

User Acceptance Test Form						
Tester's Name		Wee Jun Tai		Testing Start Date / Time		31. 8. 23 10am
				Testing End Date / Time		31. 8. 23 1045 am
Test Case ID	Module	Test Case Title	Test Steps	Expected Results	Status (Pass/Fail)	Comments
UATC016	Login	Login account	<ol style="list-style-type: none"> 1. Navigate to the login page. 2. Enter the admin/staff/shop owner's credentials (email and password). 3. Click the "Login" button. 	The admin/staff/shop owner should be successfully logged into their management account.	P	
UATC017	Admin Dashboard	View sales report in admin dashboard	<ol style="list-style-type: none"> 1. Access the admin dashboard. 2. Navigate to the sales report section. 	The sales report should be displayed, showing relevant sales data and statistics.	P	
UATC018	Manage Category / Event Category	View list of category / event category	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 	A list of categories/event	P	

				categories should be displayed.		
UATC019	Manage Category / Event Category	Add new category / event category	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Click the "Add New Category/Event Category" button. 3. Fill in the required details for the new category/event category. 4. Click the "Save" or "Add" button. 	The new category/event category should be successfully added and it should be visible in the list of categories/event categories.	P	
UATC020	Manage Category / Event Category	Update category / event category details	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Select a category/event category from the list. 3. Click the "pen" icon 4. Modify the details of the category/event category. 	The details of the category/event category should be successfully updated with the changes made.	P	
			5. Click the "Save" or "Update" button.			
UATC021	Manage Category / Event Category	Remove category / event category	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Select a category/event category from the list. 3. Click the "x" option. 4. Click confirmation 	The category/event category should be successfully removed from the list.	P	
UATC022	Manage Products	View list of products	1. Navigate to "All Products" page	A list of products should be display.	P	
UATC023	Manage Products	Add new products	<ol style="list-style-type: none"> 1. Navigate to "All Products" page 2. Click "Add New Product" 3. fill in details 4. Click "Save" or "Add." 	Successful addition of the new product to the list.	P	
UATC024	Manage Products	Update products details	<ol style="list-style-type: none"> 1. Navigate to "All Products" page 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update." 	Successful update of product details.	P	

UATC025	Manage Products	Remove products	1. Navigate to "All Products" page 2. Select a product 3. Click on "x" icon	Successful removal of the product from the list.	P	
UATC026	Manage Events	View list of events (occasion)	1. Navigate to "All Events" page	Display a list of events (occasions).	P	
UATC027	Manage Events	Add new events (occasion)	1. Navigate to "All Events" page 2. Click "Add New Event (Occasion)" 3. Fill in details, and 4. Click "Save" or "Add."	Successful addition of the new event (occasion) to the list.	P	
UATC028	Manage Events	Update events (occasion) details	1. Navigate to "All Events" page 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update."	Successful update of event (occasion) details.	P	
UATC029	Manage Events	Remove events (occasion)	1. Navigate to "All Events" page 2. Select an event	Successful removal of the	P	

			3. Click on "x" icon	event (occasion) from the list.		
UATC030	Manage Home Sliders	View list of sliders	1. Navigate to the slider management section.	Display a list of sliders.	P	
UATC031	Manage Home Sliders	Add new slider	1. Navigate to the slider management section. 2. Click "Add New Slider" 3. Fill in details, and 4. Click "Save" or "Add."	Successful addition of the new slider to the list.	P	
UATC032	Manage Home Sliders	Update slider details	1. Navigate to the slider management section. 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update."	Successful update of slider details.	P	
UATC033	Manage Home Sliders	Remove slider	1. Navigate to the slider management section. 2. Select a slider 3. Click on "x" icon	Successful removal of the slider from the list.	P	
UATC034	Manage Coupon	View list of coupons	1. Navigate to "Manage Coupon" page	Display a list of coupons.	P	

UATC035	Manage Coupon	Add new coupon	<ol style="list-style-type: none"> 1. Navigate to "Manage Coupon" page 2. Click "Add New Coupon" 3. Fill in details, and 4. Click "Save" or "Add." 	Successful addition of the new coupon to the list.	P	
UATC036	Manage Coupon	Update coupon details	<ol style="list-style-type: none"> 1. Navigate to "Manage Coupon" page 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update." 	Successful update of coupon details.	P	
UATC037	Manage Coupon	Remove coupon	<ol style="list-style-type: none"> 1. Navigate to "Manage Coupon" page 2. Select a coupon 3. Click on "x" icon 	Successful removal of the coupon from the list.	P	
UATC038	Manage Orders	View details of specific order	<ol style="list-style-type: none"> 1. Navigate to "All Orders" page 2. select a specific order. 	Display the details of the selected order.	P	
UATC039	Manage Orders	Update the status of a specific order	<ol style="list-style-type: none"> 1. Navigate to "All Orders" page 2. Select a specific order 3. Update the status 	Successful update of the order status.	P	

UATC040	Manage Orders	Update the status of a specific enquiry	<ol style="list-style-type: none"> 1. Navigate to "All Enquiries" page 2. Select a specific enquiry 3. Update the status 	Successful update of the enquiry status.	P	
UATC041	Manage Reservations	View details of specific reservation	<ol style="list-style-type: none"> 1. Navigate to "All Reservations" page 2. Select a specific reservation. 	Display the details of the selected reservation.	P	
UATC042	Manage Reservations	Update the status of a specific reservation	<ol style="list-style-type: none"> 1. Navigate to "All Reservations" page 2. Select a specific reservation. 3. Update the status 	Successful update of the reservation status.	P	
UATC043	Manage Reservations	Update the reservation final design and extra info	<ol style="list-style-type: none"> 1. Navigate to "All Reservations" page 2. Select a specific reservation. 3. Update the final design and extra info 4. Save changes 	Successful update of reservation details.	P	

UATC044	Manage Reservations	View the calendar and reservation detail	<ol style="list-style-type: none"> 1. Navigate to "All Reservations" page 2. Access the calendar located beside status "confirmed" 3. Press on one of the reservation id. 	Display the calendar with "confirmed" reservations and show details when the ID is pressed.	P	
UATC045	Manage Sales Setting	Set sales timer	<ol style="list-style-type: none"> 1. Access the sales timer settings. 2. Set the desired sales timer parameters. 3. Activate the sales timer. 	The sales timer should be successfully activated with the specified parameters.	P	

User Acceptance Test Form						
Tester's Name		Loh LS		Testing Start Date / Time		1/9/23 5pm
				Testing End Date / Time		5:20pm
Test Case ID	Module	Test Case Title	Test Steps	Expected Results	Status (Pass/Fail)	Comments
UATC016	Login	Login account	<ol style="list-style-type: none"> 1. Navigate to the login page. 2. Enter the admin/staff/shop owner's credentials (email and password). 3. Click the "Login" button. 	The admin/staff/shop owner should be successfully logged into their management account.	P	
UATC017	Admin Dashboard	View sales report in admin dashboard	<ol style="list-style-type: none"> 1. Access the admin dashboard. 2. Navigate to the sales report section. 	The sales report should be displayed, showing relevant sales data and statistics.	P	
UATC018	Manage Category / Event Category	View list of category / event category	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 	A list of categories/event	P	

				categories should be displayed.		
UATC019	Manage Category / Event Category	Add new category / event category	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Click the "Add New Category/Event Category" button. 3. Fill in the required details for the new category/event category. 4. Click the "Save" or "Add" button. 	The new category/event category should be successfully added and it should be visible in the list of categories/event categories.	P	
UATC020	Manage Category / Event Category	Update category / event category details	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Select a category/event category from the list. 3. Click the "pen" icon 4. Modify the details of the category/event category. 	The details of the category/event category should be successfully updated with the changes made.	P	

			5. Click the "Save" or "Update" button.			
UATC021	Manage Category / Event Category	Remove category / event category	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Select a category/event category from the list. 3. Click the "x" option. 4. Click confirmation 	The category/event category should be successfully removed from the list.	P	
UATC022	Manage Products	View list of products	<ol style="list-style-type: none"> 1. Navigate to "All Products" page 	A list of products should be display.	P	
UATC023	Manage Products	Add new products	<ol style="list-style-type: none"> 1. Navigate to "All Products" page 2. Click "Add New Product" 3. fill in details 4. Click "Save" or "Add." 	Successful addition of the new product to the list.	P	
UATC024	Manage Products	Update products details	<ol style="list-style-type: none"> 1. Navigate to "All Products" page 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update." 	Successful update of product details.	P	

UATC025	Manage Products	Remove products	<ol style="list-style-type: none"> 1. Navigate to "All Products" page 2. Select a product 3. Click on "x" icon 	Successful removal of the product from the list.	P	
UATC026	Manage Events	View list of events (occasion)	<ol style="list-style-type: none"> 1. Navigate to "All Events" page 	Display a list of events (occasions).	P	
UATC027	Manage Events	Add new events (occasion)	<ol style="list-style-type: none"> 1. Navigate to "All Events" page 2. Click "Add New Event (Occasion)" 3. Fill in details, and 4. Click "Save" or "Add." 	Successful addition of the new event (occasion) to the list.	P	
UATC028	Manage Events	Update events (occasion) details	<ol style="list-style-type: none"> 1. Navigate to "All Events" page 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update." 	Successful update of event (occasion) details.	P	
UATC029	Manage Events	Remove events (occasion)	<ol style="list-style-type: none"> 1. Navigate to "All Events" page 2. Select an event 	Successful removal of the	P	

			3. Click on "x" icon	event (occasion) from the list.		
UATC030	Manage Home Sliders	View list of sliders	1. Navigate to the slider management section.	Display a list of sliders.	P	
UATC031	Manage Home Sliders	Add new slider	1. Navigate to the slider management section. 2. Click "Add New Slider" 3. Fill in details, and 4. Click "Save" or "Add."	Successful addition of the new slider to the list.	P	
UATC032	Manage Home Sliders	Update slider details	1. Navigate to the slider management section. 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update."	Successful update of slider details.	P	
UATC033	Manage Home Sliders	Remove slider	1. Navigate to the slider management section. 2. Select a slider 3. Click on "x" icon	Successful removal of the slider from the list.	P	
UATC034	Manage Coupon	View list of coupons	1. Navigate to "Manage Coupon" page	Display a list of coupons.	P	

UATC035	Manage Coupon	Add new coupon	1. Navigate to "Manage Coupon" page 2. Click "Add New Coupon" 3. Fill in details, and 4. Click "Save" or "Add."	Successful addition of the new coupon to the list.	P	
UATC036	Manage Coupon	Update coupon details	1. Navigate to "Manage Coupon" page 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update."	Successful update of coupon details.	P	
UATC037	Manage Coupon	Remove coupon	1. Navigate to "Manage Coupon" page 2. Select a coupon 3. Click on "x" icon	Successful removal of the coupon from the list.	P	
UATC038	Manage Orders	View details of specific order	1. Navigate to "All Orders" page 2. select a specific order.	Display the details of the selected order.	P	
UATC039	Manage Orders	Update the status of a specific order	1. Navigate to "All Orders" page 2. Select a specific order 3. Update the status	Successful update of the order status.	P	

UATC040	Manage Orders	Update the status of a specific enquiry	1. Navigate to "All Enquiries" page 2. Select a specific enquiry 3. Update the status	Successful update of the enquiry status.	P	
UATC041	Manage Reservations	View details of specific reservation	1. Navigate to "All Reservations" page 2. Select a specific reservation.	Display the details of the selected reservation.	P	
UATC042	Manage Reservations	Update the status of a specific reservation	1. Navigate to "All Reservations" page 2. Select a specific reservation. 3. Update the status	Successful update of the reservation status.	P	
UATC043	Manage Reservations	Update the reservation final design and extra info	1. Navigate to "All Reservations" page 2. Select a specific reservation. 3. Update the final design and extra info 4. Save changes	Successful update of reservation details.	P	

UATC044	Manage Reservations	View the calendar and reservation detail	1. Navigate to "All Reservations" page 2. Access the calendar located beside status "confirmed" 3. Press on one of the reservation id.	Display the calendar with "confirmed" reservations and show details when the ID is pressed.	P	
UATC045	Manage Sales Setting	Set sales timer	1. Access the sales timer settings. 2. Set the desired sales timer parameters. 3. Activate the sales timer.	The sales timer should be successfully activated with the specified parameters.	P	

User Acceptance Test Form						
Tester's Name		Avery Ong 王暄婷		Testing Start Date / Time	2/9/2023 11:00 am	
				Testing End Date / Time	2/9/2023 11:45 am	
Test Case ID	Module	Test Case Title	Test Steps	Expected Results	Status (Pass/Fail)	Comments
UATC016	Login	Login account	1. Navigate to the login page. 2. Enter the admin/staff/shop owner's credentials (email and password). 3. Click the "Login" button.	The admin/staff/shop owner should be successfully logged into their management account.	P	
UATC017	Admin Dashboard	View sales report in admin dashboard	1. Access the admin dashboard. 2. Navigate to the sales report section.	The sales report should be displayed, showing relevant sales data and statistics.	P	
UATC018	Manage Category / Event Category	View list of category / event category	1. Navigate to the category/event management section.	A list of categories/event	P	

				categories should be displayed.	P	
UATC019	Manage Category / Event Category	Add new category / event category	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Click the "Add New Category/Event Category" button. 3. Fill in the required details for the new category/event category. 4. Click the "Save" or "Add" button. 	The new category/event category should be successfully added and it should be visible in the list of categories/event categories.	P	
UATC020	Manage Category / Event Category	Update category / event category details	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Select a category/event category from the list. 3. Click the "pen" icon 4. Modify the details of the category/event category. 	The details of the category/event category should be successfully updated with the changes made.	P	

			<ol style="list-style-type: none"> 5. Click the "Save" or "Update" button. 		P	
UATC021	Manage Category / Event Category	Remove category / event category	<ol style="list-style-type: none"> 1. Navigate to the category/event category management section. 2. Select a category/event category from the list. 3. Click the "x" option. 4. Click confirmation 	The category/event category should be successfully removed from the list.	P	
UATC022	Manage Products	View list of products	<ol style="list-style-type: none"> 1. Navigate to "All Products" page 	A list of products should be display.	P	
UATC023	Manage Products	Add new products	<ol style="list-style-type: none"> 1. Navigate to "All Products" page 2. Click "Add New Product" 3. fill in details 4. Click "Save" or "Add." 	Successful addition of the new product to the list.	P	
UATC024	Manage Products	Update products details	<ol style="list-style-type: none"> 1. Navigate to "All Products" page 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update." 	Successful update of product details.	P	

UATC025	Manage Products	Remove products	1. Navigate to "All Products" page 2. Select a product 3. Click on "x" icon	Successful removal of the product from the list.	P	
UATC026	Manage Events	View list of events (occasion)	1. Navigate to "All Events" page	Display a list of events (occasions).	P	
UATC027	Manage Events	Add new events (occasion)	1. Navigate to "All Events" page 2. Click "Add New Event (Occasion)" 3. Fill in details, and 4. Click "Save" or "Add."	Successful addition of the new event (occasion) to the list.	P	
UATC028	Manage Events	Update events (occasion) details	1. Navigate to "All Events" page 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update."	Successful update of event (occasion) details.	P	
UATC029	Manage Events	Remove events (occasion)	1. Navigate to "All Events" page 2. Select an event	Successful removal of the	P	

			3. Click on "x" icon	event (occasion) from the list.	P	
UATC030	Manage Home Sliders	View list of sliders	1. Navigate to the slider management section.	Display a list of sliders.	P	
UATC031	Manage Home Sliders	Add new slider	1. Navigate to the slider management section. 2. Click "Add New Slider" 3. Fill in details, and 4. Click "Save" or "Add."	Successful addition of the new slider to the list.	P	
UATC032	Manage Home Sliders	Update slider details	1. Navigate to the slider management section. 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update."	Successful update of slider details.	P	
UATC033	Manage Home Sliders	Remove slider	1. Navigate to the slider management section. 2. Select a slider 3. Click on "x" icon	Successful removal of the slider from the list.	P	
UATC034	Manage Coupon	View list of coupons	1. Navigate to "Manage Coupon" page	Display a list of coupons.	P	

UATC035	Manage Coupon	Add new coupon	<ol style="list-style-type: none"> 1. Navigate to "Manage Coupon" page 2. Click "Add New Coupon" 3. Fill in details, and 4. Click "Save" or "Add." 	Successful addition of the new coupon to the list.	P	
UATC036	Manage Coupon	Update coupon details	<ol style="list-style-type: none"> 1. Navigate to "Manage Coupon" page 2. Click on "pen" icon 3. Edit details 4. Click "Save" or "Update." 	Successful update of coupon details.	P	
UATC037	Manage Coupon	Remove coupon	<ol style="list-style-type: none"> 1. Navigate to "Manage Coupon" page 2. Select a coupon 3. Click on "x" icon 	Successful removal of the coupon from the list.	P	
UATC038	Manage Orders	View details of specific order	<ol style="list-style-type: none"> 1. Navigate to "All Orders" page 2. select a specific order. 	Display the details of the selected order.	P	
UATC039	Manage Orders	Update the status of a specific order	<ol style="list-style-type: none"> 1. Navigate to "All Orders" page 2. Select a specific order 3. Update the status 	Successful update of the order status.	P	

UATC040	Manage Orders	Update the status of a specific enquiry	<ol style="list-style-type: none"> 1. Navigate to "All Enquiries" page 2. Select a specific enquiry 3. Update the status 	Successful update of the enquiry status.	P	
UATC041	Manage Reservations	View details of specific reservation	<ol style="list-style-type: none"> 1. Navigate to "All Reservations" page 2. Select a specific reservation. 	Display the details of the selected reservation.	P	
UATC042	Manage Reservations	Update the status of a specific reservation	<ol style="list-style-type: none"> 1. Navigate to "All Reservations" page 2. Select a specific reservation. 3. Update the status 	Successful update of the reservation status.	P	
UATC043	Manage Reservations	Update the reservation final design and extra info	<ol style="list-style-type: none"> 1. Navigate to "All Reservations" page 2. Select a specific reservation. 3. Update the final design and extra info 4. Save changes 	Successful update of reservation details.	P	

UATC044	Manage Reservations	View the calendar and reservation detail	<ol style="list-style-type: none"> 1. Navigate to "All Reservations" page 2. Access the calendar located beside status "confirmed" 3. Press on one of the reservation id. 	Display the calendar with "confirmed" reservations and show details when the ID is pressed.	P	
UATC045	Manage Sales Setting	Set sales timer	<ol style="list-style-type: none"> 1. Access the sales timer settings. 2. Set the desired sales timer parameters. 3. Activate the sales timer. 	The sales timer should be successfully activated with the specified parameters.	P	

Appendix F: User Acceptance Test Feedback.

Customer side:

Please enter your participant number: 1

User Acceptance and Satisfactory Form

The User Acceptance and Satisfactory Form is a document used to collect feedback and insights from end users or stakeholders who have tested a software system or product. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. The AI-Infused Web Decor Shop was easy to navigate and use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. I was able to find and purchase products efficiently and effectively on the AI-Infused Web Decor Shop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. I encountered issues or errors while using the AI-Infused Web Decor Shop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. The AI-driven features of the Web Decor Shop, such as personalized product recommendations, met my expectations and needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. The user interface of the AI-Infused Web Decor Shop was visually appealing and intuitive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. The AI-driven features contribute positively to data-driven decision-making processes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. The AI-driven features of the Web Decor Shop enhanced my shopping experience and product discovery.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. I would feel comfortable using the AI-Infused Web Decor Shop for my future home decor shopping needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Overall, I am satisfied with the AI-Infused Web Decor Shop's performance and usability.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please enter your participant number: 2

User Acceptance and Satisfactory Form

The User Acceptance and Satisfactory Form is a document used to collect feedback and insights from end users or stakeholders who have tested a software system or product. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. The AI-Infused Web Decor Shop was easy to navigate and use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. I was able to find and purchase products efficiently and effectively on the AI-Infused Web Decor Shop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. I encountered issues or errors while using the AI-Infused Web Decor Shop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. The AI-driven features of the Web Decor Shop, such as personalized product recommendations, met my expectations and needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. The user interface of the AI-Infused Web Decor Shop was visually appealing and intuitive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. The AI-driven features contribute positively to data-driven decision-making processes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. The AI-driven features of the Web Decor Shop enhanced my shopping experience and product discovery.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. I would feel comfortable using the AI-Infused Web Decor Shop for my future home decor shopping needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Overall, I am satisfied with the AI-Infused Web Decor Shop's performance and usability.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please enter your participant number: 3

User Acceptance and Satisfactory Form

The User Acceptance and Satisfactory Form is a document used to collect feedback and insights from end users or stakeholders who have tested a software system or product. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. The AI-Infused Web Decor Shop was easy to navigate and use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. I was able to find and purchase products efficiently and effectively on the AI-Infused Web Decor Shop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. I encountered issues or errors while using the AI-Infused Web Decor Shop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. The AI-driven features of the Web Decor Shop, such as personalized product recommendations, met my expectations and needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. The user interface of the AI-Infused Web Decor Shop was visually appealing and intuitive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. The AI-driven features contribute positively to data-driven decision-making processes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. The AI-driven features of the Web Decor Shop enhanced my shopping experience and product discovery.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. I would feel comfortable using the AI-Infused Web Decor Shop for my future home decor shopping needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Overall, I am satisfied with the AI-Infused Web Decor Shop's performance and usability.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please enter your participant number: 4

User Acceptance and Satisfactory Form

The User Acceptance and Satisfactory Form is a document used to collect feedback and insights from end users or stakeholders who have tested a software system or product. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. The AI-Infused Web Decor Shop was easy to navigate and use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. I was able to find and purchase products efficiently and effectively on the AI-Infused Web Decor Shop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. I encountered issues or errors while using the AI-Infused Web Decor Shop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. The AI-driven features of the Web Decor Shop, such as personalized product recommendations, met my expectations and needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. The user interface of the AI-Infused Web Decor Shop was visually appealing and intuitive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. The AI-driven features contribute positively to data-driven decision-making processes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. The AI-driven features of the Web Decor Shop enhanced my shopping experience and product discovery.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. I would feel comfortable using the AI-Infused Web Decor Shop for my future home decor shopping needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Overall, I am satisfied with the AI-Infused Web Decor Shop's performance and usability.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please enter your participant number: 5

User Acceptance and Satisfactory Form

The User Acceptance and Satisfactory Form is a document used to collect feedback and insights from end users or stakeholders who have tested a software system or product. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. The AI-Infused Web Decor Shop was easy to navigate and use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. I was able to find and purchase products efficiently and effectively on the AI-Infused Web Decor Shop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. I encountered issues or errors while using the AI-Infused Web Decor Shop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. The AI-driven features of the Web Decor Shop, such as personalized product recommendations, met my expectations and needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. The user interface of the AI-Infused Web Decor Shop was visually appealing and intuitive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. The AI-driven features contribute positively to data-driven decision-making processes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. The AI-driven features of the Web Decor Shop enhanced my shopping experience and product discovery.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. I would feel comfortable using the AI-Infused Web Decor Shop for my future home decor shopping needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Overall, I am satisfied with the AI-Infused Web Decor Shop's performance and usability.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Management Team:

Please enter your participant number: 1

User Acceptance and Satisfactory Form

The User Acceptance and Satisfactory Form is a document used to collect feedback and insights from end users or stakeholders who have tested a software system or product. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. The AI-Infused Web Decor Shop aligns with the strategic goals and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. The AI-driven features enhance the competitive advantage of the online decor store.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. The AI-Infused Web Decor Shop meets the specific business needs and expectations of the management team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. The system's AI-driven recommendations contribute positively to customer engagement and sales.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. The management team is confident in the system's ability to drive revenue growth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. The AI-Infused Web Decor Shop aligns with the long-term technology and innovation strategy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. The system's performance and reliability meet the expectations of the management team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Overall, the AI-Infused Web Decor Shop is viewed as a valuable asset by the management team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please enter your participant number: 2

User Acceptance and Satisfactory Form

The User Acceptance and Satisfactory Form is a document used to collect feedback and insights from end users or stakeholders who have tested a software system or product. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. The AI-Infused Web Decor Shop aligns with the strategic goals and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. The AI-driven features enhance the competitive advantage of the online decor store.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. The AI-Infused Web Decor Shop meets the specific business needs and expectations of the management team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. The system's AI-driven recommendations contribute positively to customer engagement and sales.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. The management team is confident in the system's ability to drive revenue growth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. The AI-Infused Web Decor Shop aligns with the long-term technology and innovation strategy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. The system's performance and reliability meet the expectations of the management team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Overall, the AI-Infused Web Decor Shop is viewed as a valuable asset by the management team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please enter your participant number: 3

User Acceptance and Satisfactory Form

The User Acceptance and Satisfactory Form is a document used to collect feedback and insights from end users or stakeholders who have tested a software system or product. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. The AI-Infused Web Decor Shop aligns with the strategic goals and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. The AI-driven features enhance the competitive advantage of the online decor store.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. The AI-Infused Web Decor Shop meets the specific business needs and expectations of the management team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. The system's AI-driven recommendations contribute positively to customer engagement and sales.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. The management team is confident in the system's ability to drive revenue growth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. The AI-Infused Web Decor Shop aligns with the long-term technology and innovation strategy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. The system's performance and reliability meet the expectations of the management team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Overall, the AI-Infused Web Decor Shop is viewed as a valuable asset by the management team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix G: SUS Assessment Result by User.

Customer side:

System Usability Scale (SUS)

This is a standard questionnaire that measures the overall usability of a system. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I think I would like to use this tool frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. I found the tool unnecessarily complex.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I thought the tool was easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. I think that I would need the support of a technical person to be able to use this system.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I found the various functions in this tool were well integrated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. I thought there was too much inconsistency in this tool.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would imagine that most people would learn to use this tool very quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. I found the tool very cumbersome to use.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I felt very confident using the tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. I needed to learn a lot of things before I could get going with this tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How likely are you to recommend this website to others? (please circle your answer)

Not at all likely 0 1 2 3 4 5 6 7 8 **9** 10 Extremely likely

Extra:

- What do you like best about the system?
user interface
- If you were to describe this site to a colleague in a sentence or two, what would you say?
convenience & affordability
- Do you have any other final comments or questions?
mobile app?

System Usability Scale (SUS)

This is a standard questionnaire that measures the overall usability of a system. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I think I would like to use this tool frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. I found the tool unnecessarily complex.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I thought the tool was easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. I think that I would need the support of a technical person to be able to use this system.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I found the various functions in this tool were well integrated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. I thought there was too much inconsistency in this tool.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would imagine that most people would learn to use this tool very quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. I found the tool very cumbersome to use.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I felt very confident using the tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. I needed to learn a lot of things before I could get going with this tool.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How likely are you to recommend this website to others? (please circle your answer)

Not at all likely 0 1 2 3 4 5 6 **7** 8 9 10 Extremely likely

Extra:

- What do you like best about the system?
quick checkout process
- If you were to describe this site to a colleague in a sentence or two, what would you say?
seamless shopping
- Do you have any other final comments or questions?
e-wallet

System Usability Scale (SUS)

This is a standard questionnaire that measures the overall usability of a system. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I think I would like to use this tool frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. I found the tool unnecessarily complex.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I thought the tool was easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. I think that I would need the support of a technical person to be able to use this system.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I found the various functions in this tool were well integrated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. I thought there was too much inconsistency in this tool.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would imagine that most people would learn to use this tool very quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. I found the tool very cumbersome to use.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I felt very confident using the tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. I needed to learn a lot of things before I could get going with this tool.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How likely are you to recommend this website to others? (please circle your answer)

Not at all likely 0 1 2 3 4 5 6 7 8 9 10 Extremely likely

Extra:

11. What do you like best about the system?
well-organized website.

12. If you were to describe this site to a colleague in a sentence or two, what would you say?
shopping paradise, variety of selection.

13. Do you have any other final comments or questions?
No.

Please enter your participant number: 4

System Usability Scale (SUS)

This is a standard questionnaire that measures the overall usability of a system. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I think I would like to use this tool frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. I found the tool unnecessarily complex.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I thought the tool was easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. I think that I would need the support of a technical person to be able to use this system.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I found the various functions in this tool were well integrated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. I thought there was too much inconsistency in this tool.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would imagine that most people would learn to use this tool very quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. I found the tool very cumbersome to use.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I felt very confident using the tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. I needed to learn a lot of things before I could get going with this tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How likely are you to recommend this website to others? (please circle your answer)

Not at all likely 0 1 2 3 4 5 6 7 8 9 10 Extremely likely

Extra:

11. What do you like best about the system?

12. If you were to describe this site to a colleague in a sentence or two, what would you say?

13. Do you have any other final comments or questions?

Please enter your participant number: 5

System Usability Scale (SUS)

This is a standard questionnaire that measures the overall usability of a system. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I think I would like to use this tool frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. I found the tool unnecessarily complex.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I thought the tool was easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. I think that I would need the support of a technical person to be able to use this system.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I found the various functions in this tool were well integrated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. I thought there was too much inconsistency in this tool.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would imagine that most people would learn to use this tool very quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. I found the tool very cumbersome to use.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I felt very confident using the tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. I needed to learn a lot of things before I could get going with this tool.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How likely are you to recommend this website to others? (please circle your answer)

Not at all likely 0 1 2 3 4 5 6 7 8 9 10 Extremely likely

Extra:

11. What do you like best about the system?

12. If you were to describe this site to a colleague in a sentence or two, what would you say?

13. Do you have any other final comments or questions?

Management Team:

Please enter your participant number: 1

System Usability Scale (SUS)

This is a standard questionnaire that measures the overall usability of a system. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I think I would like to use this tool frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. I found the tool unnecessarily complex.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I thought the tool was easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. I think that I would need the support of a technical person to be able to use this system.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I found the various functions in this tool were well integrated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. I thought there was too much inconsistency in this tool.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would imagine that most people would learn to use this tool very quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. I found the tool very cumbersome to use.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I felt very confident using the tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. I needed to learn a lot of things before I could get going with this tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please enter your participant number: H2

System Usability Scale (SUS)

This is a standard questionnaire that measures the overall usability of a system. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I think I would like to use this tool frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. I found the tool unnecessarily complex.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I thought the tool was easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. I think that I would need the support of a technical person to be able to use this system.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I found the various functions in this tool were well integrated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. I thought there was too much inconsistency in this tool.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would imagine that most people would learn to use this tool very quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. I found the tool very cumbersome to use.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I felt very confident using the tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. I needed to learn a lot of things before I could get going with this tool.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please enter your participant number: 3

System Usability Scale (SUS)

This is a standard questionnaire that measures the overall usability of a system. Please select the answer that best expresses how you feel about each statement after using the website today.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I think I would like to use this tool frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. I found the tool unnecessarily complex.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I thought the tool was easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. I think that I would need the support of a technical person to be able to use this system.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I found the various functions in this tool were well integrated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. I thought there was too much inconsistency in this tool.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would imagine that most people would learn to use this tool very quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. I found the tool very cumbersome to use.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I felt very confident using the tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. I needed to learn a lot of things before I could get going with this tool.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>