

E-COMMERCE FOR ONLINE MEDICINE SHOPPING

By

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A REPORT

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#### SUBMISSION OF FINAL YEAR PROJECT

It is hereby certified that TEOH ZI QIAN ( ID No: 19ACB06463 ) has completed this final year project entitled “ E-COMMERCE FOR ONLINE MEDICINE SHOPPING ” under the supervision of Cik Nor Fatiha Binti Subri (Supervisor) from the Department of Information Systems Faculty of Information and Communication Technology.

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## **ABSTRACT**

The project's main purpose is to develop an E-Commerce For Online Medicine Shopping and this project is for academic purposes. Students will get expertise and understanding in front and back-end website development and technology-related E-Commerce information.

The increasing availability of internet connectivity and the development of e-commerce platforms have revolutionized the way people shop. In recent years, there has been a significant increase in the number of online shoppers globally. The healthcare industry has not been left behind in this digital transformation, and there is a growing need for convenient access to medicines online. As such, this proposal aims to develop an e-commerce platform for online medicine shopping that will allow users to purchase their medications online.

One of the primary advantages of this e-commerce platform is its capability to display different categories of products from various pharma companies in one place. The platform will provide a broad range of products, allowing users to choose from multiple options and easily locate the medicines they require. The platform will provide users with a comprehensive catalogue of medicines, allowing them to compare the prices and products from different pharmacies. Additionally, the platform will provide users with access to information about the products, including their composition, dosage, side effects, and other important information. The proposed e-commerce platform will be designed to offer a seamless shopping experience, from product search to checkout. The platform will be optimized for speed and convenience, providing users with an easy and trouble-free shopping experience.

On the flip side, the prototyping model has been selected as the final methodology for this project to accomplish the intended outcome. The prototyping model is a Software Development Life Cycle (SDLC) model that involves creating, evaluating, and refining prototypes until the desired results are attained. Eventually, the proposed system will be subjected to testing by individuals who are willing to provide feedback and constructive criticism on the system's characteristics, user interfaces, and other relevant areas that necessitate further development. If any technical difficulties are discovered, the system will be rectified.

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# **CHAPTER 1: PROJECT BACKGROUND**

This chapter will focus on the project's context, problem statement, drive, and contributions of E-Commerce For Online Medicine Shopping. E-Commerce For Online Medicine Shopping is a web-oriented system that enables users to view and purchase medicine through an E-Commerce platform. The system will be designed to offer various functionalities to two types of users: normal users and administrators. Moreover, users will be able to manage databases utilizing the system. Finally, the system will be developed and implemented, catering to the needs of its users.

## **1.1 Introduction**

In today's digital age, online shopping has become a popular and convenient way of purchasing products and services. Online shopping has become increasingly popular in Malaysia, especially in recent years with the COVID-19 pandemic due to the Movement Control Order implemented by Malaysia Government. The healthcare industry is not exempt from this trend, and there is a growing need for convenient access to medicines online. Therefore, this proposal aims to develop an e-commerce platform for online medicine shopping, allowing users to purchase their medications from the comfort of their homes.

In Malaysia, people can purchase medicine physically in a pharmacy or online through the E-Commerce platform. However, nowadays most people still prefer to purchase medicine physically in a pharmacy because they think getting a consultant and feeling secure is easier. Sometimes, they need to drive far away from home to the nearest pharmacy to get medicine and get a consultant, it is worse in some rural areas which have fewer pharmacies, which is quite inconvenient for them. Other than that, we found that the medicine price from the physical pharmacy may be slightly higher than the online E-Commerce pharmacy, this is due to online E-Commerce pharmacies do not have too many operating costs like utilities and rental fees, so their price can be slightly cheaper. As a result, the customers have to exhaust wasting time and transport expenses to get medicine physically at a slightly higher price.

We aim to develop an e-commerce platform for online medicine shopping in Malaysia. The platform will allow users to view the details of medicines and purchase them without having to leave their homes. The system will provide accurate costs and descriptions of the products, making it easier for users to compare and make informed purchasing decisions. Furthermore, the platform will be flexible and easy to use, making it a convenient alternative to traditional shopping. Besides, the system will also be having a Live Chat feature for customers to have

consultant sessions with pharmacists. One of the strengths of this e-commerce platform is the ability to view different categories of products from various pharmaceutical companies in a single place, it provides options for the customer to choose from either buy medicine physically or online. The platform will offer a wide range of products, enabling users to select from a variety of options and find the medicines they need quickly and easily. Additionally, the platform will provide users with access to information about the products, including their composition, dosage, side effects, and other important information[1].

In conclusion, the proposed e-commerce platform for online medicine shopping will enhance the accessibility and convenience of purchasing medicines online in Malaysia. This project will provide users with a comprehensive catalogue of medicines, enabling them to find the products they need quickly and easily. The platform will also provide accurate costs and descriptions of the products, making it easier for users to compare and make informed purchasing decisions. Ultimately, the e-commerce platform will provide users with a convenient and hassle-free shopping experience, making it a valuable addition to the healthcare industry.

## 1.2 Problem Statement

Online medicine shopping has provided a solution to these challenges by allowing users to view medicine details, accurate costs, and complete product descriptions without leaving their homes. However, the current online medicine shopping landscape in Malaysia is not without its challenges.

First is the lack of personal touch. In traditional pharmacy settings, customers can interact with pharmacists or other healthcare professionals, who can provide them with personalized advice on their medication, potential side effects, and other related concerns. However, in online medicine shopping, users may not have the opportunity to speak with a healthcare professional or pharmacist, leading to a lack of personal touch and potentially reducing user confidence in the products, consultants sessions will fill knowledge gaps and help create and implement effective methods to improve the chance of a medication's success[2]. Besides, users may not have the opportunity to physically examine the products before making a purchase. This can lead to a lack of trust in the product's authenticity or quality, which can deter users from using online platforms for medicine shopping. To address the lack of personal touch in online medicine shopping, e-commerce platforms can provide user-friendly interfaces that enable users to interact with healthcare professionals or pharmacists online. This can be achieved through features such as live chat or video calls, where users can ask questions or receive personalized advice.

Second is the prescription requirements, it is “access” which refers to the requirement to ensure that patients of all demographics can get the medical treatment that is most suited to their health and medical conditions[3]. Some medicines require a prescription from a licensed medical professional, which can be a challenge for users who may not have easy access to medical care. The process of obtaining a prescription can be time-consuming and costly for consumers, as they may need to make an appointment with a healthcare provider and pay a consultation fee. Additionally, there is a risk of fraudulent prescriptions being used to obtain a medication, which can be dangerous for the consumer. This is why online pharmacies need to have a system in place to verify the authenticity of prescriptions and ensure that they are being used for legitimate purposes. If the online medicine e-commerce platforms are able to partner with the licensed healthcare provider to offer online consultations and prescription services. With telemedicine, consumers can consult with healthcare providers online or over the phone,

eliminating the need for an in-person appointment to obtain a prescription. Licensed healthcare providers are able to verify the authenticity of prescriptions and ensure that they are being used for legitimate purposes.

Third is a lack of awareness and education about online medicine shopping. Many consumers in Malaysia may not be aware of the benefits and safety measures of purchasing medicine online, and may not know how to identify legitimate online pharmacies. This can lead to a lack of trust and confidence in online medicine shopping and may prevent consumers from taking advantage of the convenience and cost savings that e-commerce platforms can offer. If online medicine e-commerce platforms can require pharmacies to prove that their medicine and products with certificates, for example, getting the certificate of MDA (Malaysia Device Authority) from the Ministry of Health Malaysia. In short, offering high-quality and authorised items, as well as essential certificates from appropriate authorities and professional advice before and after the sale of medications, may improve customer trust in E-commerce online medicine shopping [4].

## **1.3 Project Scope and Direction**

This system will be developed and implemented to offer various functionalities to three types of users: normal users, normal administrators and super administrators. There are several main functions which are purchasing products, searching and viewing product descriptions, updating personal information and customer services. Besides, the system also will develop and provide users with various features, such as navigating to physical store locations and live chat customer service.

### **Searching and Viewing Product Descriptions**

1. This system will allow users to type in the search bar
2. This system will show the result based on the keywords
3. This system will allow users to scroll the products and click it
4. This system will allow users to view the description of the product in text, images or videos

### **Purchasing Products**

1. This system will allow users to select the quantity of the product
2. This system will allow users to select the range or quantity of the product
3. This system will ask users to type in the delivery information
4. This system will ask users to confirm the order and personal details
5. This system will allow users to make payments through different payment methods

### **Customer Services**

1. This system will allow users (customer) to click customer service icon
2. This system will allow users (customer) to type enquiries in chatbox
3. This system will ask users (customer) to provide information and enquiries type
4. This system will link user (customer) to another user (admin)

### **Update Personal Information**

1. This system will show original personal information
2. This system will allow users to update their personal information
3. This system will allow users to view the updated personal information

## **1.4 Project Objectives**

### **1) To develop a web-based medicine e-commerce online shopping system.**

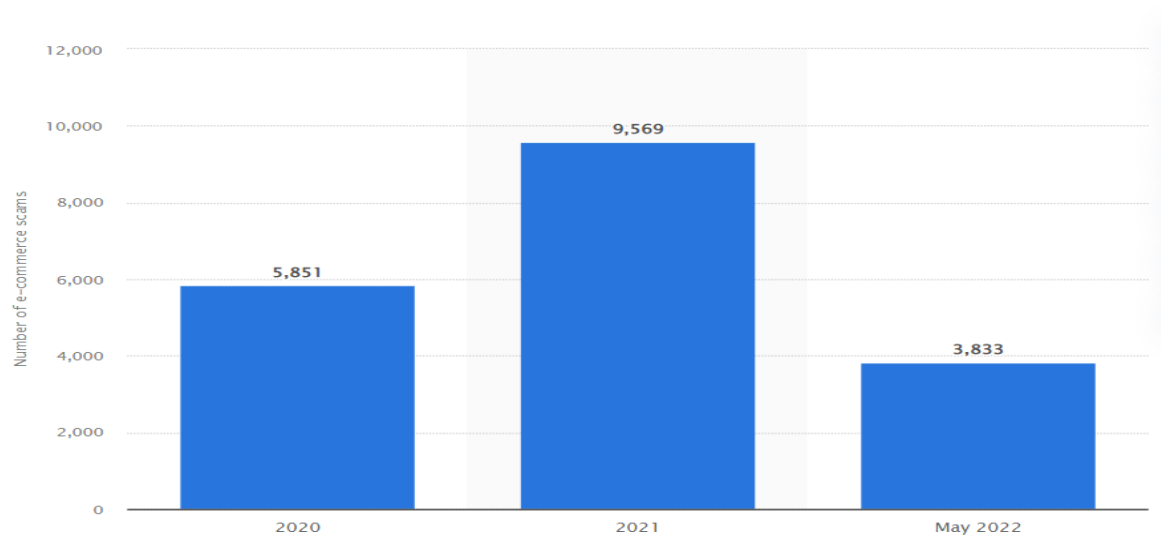
In this project, a web-based medicine e-commerce online shopping system will be developed and implemented for customers and administrators. The proposed project will evaluate and analyse similar systems in order to deliver a thorough and improved function that will meet and exceed consumer expectations for the online shopping system. This system will be allowed the customer to search and view medicine descriptions through the online system. Other than that, this project aims to provide the customer to purchase a product at any time and anywhere, so customers can just make orders at home with the e-commerce system without queueing up to purchase at the physical pharmacy, what customers need is just a smart device and internet connection. Besides, the web-based medicine e-commerce online shopping system also allows administrators to make changes or edit to the website.

### **2) To provide a customer live chat and video chat services on the web-based medicine e-commerce online shopping system**

A customer live chat service provides customers with a quick and easy method to get their concerns and inquiries answered in real-time. Customers may contact directly with a customer service professional or a medical expert via the live chat service, who can give them accurate and helpful information about the products they are interested in. This can help customers make more smart purchasing decisions while also increasing trust and loyalty to the e-commerce platform. The live chat service can also support the prompt resolution of consumer issues and complaints. The e-commerce platform may improve customer satisfaction and avoid negative reviews and feedback by providing a platform for customers to voice their problems and have them resolved. Moreover, the video chat and live chat service can be used for medical consultations as well, a video chat session provide a visualize customer services and medical consultation, for example, a patient can show his symptoms to medical staff to get advice through video chat. A value-added service can be offered to clients through the e-commerce platform by having medical professionals or pharmacists available to address their concerns and queries. Overall, a customer live chat service feature would enhance customer satisfaction through make customers feel to be valued and important to the organisation while also providing benefits [5].

### 3) To develop reliable and trusted web-based medicine e-commerce online shopping system for customers

#### Number of e-commerce scams in Malaysia from 2020 to May 2022



*Figure 1.1 Number of e-commerce scams in Malaysia*

Based on Figure 1.1 from Statista Research Development, the number of e-commerce scams in Malaysia is keep increasing, especially during the Movement Control Order lockdown period due to the Covid-19 disease [6]. Besides, according to the article from New Straits Times about the online scam (e-commerce scam is included), there were 13,703 scam cases reported involving losses of RM539 million in 2019, 17,227 cases with RM511.2 million in losses recorded in 2020, and 20,701 scam cases registered with losses amounting to RM560.8 million in 2021 [7]. Through these statistics and data, we can know that online scams is keeping increasing year by year which means that the risks of online shopping getting higher, this may lead to lesser people would shopping online and affect online business. So, the aim of developing the web-based medicine e-commerce online shopping system must be trusted and reliable for the customer, every product and transaction in the system must be authentic and secure and the privacy of customers also must be protected.

## **1.5 Contribution**

The online pharmacy platform that is being considered will make several important contributions to Malaysia's healthcare sector. First of all, the platform will offer a user-friendly interface that enables users to view the details of the medications they need without having to physically visit a pharmacy. This feature is particularly helpful for people who live in remote areas or have mobility issues because it eliminates the need to travel great distances or waste time in line at a pharmacy. This platform also allows administrators to have administrators view for them to customize, edit, or add and drop products from the website.

Second, consumers will benefit from transparency and simplicity because of the platform's precise pricing and product descriptions. The ability for consumers to consider the needs of various products will allow them to make educated decisions and avoid mistakes in buying the wrong items. Also, users get access to the full product descriptions, which give them in-depth details that might aid in their understanding of the medication and its applicability.

Third, the e-commerce platform's usability and e-shopping flexibility will give users with a smooth online purchasing experience. The website will be simple to use, for example, users will be able to purchase medications with a few clicks of the mouse. The platform's simplicity will allow customers who are not tech-savvy to effortlessly purchase their needed medications.

Lastly, for the convenience of consumers, the e-commerce platform will give a selection of delivery options, including same-day delivery with a high delivery rate (in certain areas only) and normal delivery with a normal rate. This will be particularly beneficial for those who require urgent medication and have hectic schedules that prevent them from visiting physical pharmacies during regular business hours. To eliminate confusion and ensure that consumers can make wise decisions when placing their purchases, the platform will give clear and transparent information on delivery rates, delivery timeframes, and delivery areas.

In conclusion, the e-commerce platform for online medication shopping will improve consumers' access to healthcare and medicine while also delivering a convenient and cost-effective shopping experience.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Literature Review**

Chapter 2 will focus on literature that will be conducted on the existing E-commerce for medicine shopping. Various helpful features and functions of the current system, including searching, viewing, purchasing products, registering accounts, tracking orders and cancelling orders have been uncovered throughout the literature research.

Besides, the various functions and features of these related systems were identified and define the differences. Furthermore, the system of Big Pharmacy, HTM Pharmacy, Alpro Pharmacy and Caring Pharmacy's e-commerce website will be evaluated, analyzed and reviewed. The purpose of this literature review is to look at the e-commerce platforms for online medication shopping in Malaysia, with an emphasis on the functions and features of the websites of Big Pharmacy, HTM Pharmacy, Alpro Pharmacy, and Caring Pharmacy. The review will evaluate the platforms' strengths and weaknesses, as well as their influence on the healthcare industry and user experience. The functional gaps in each similar system are revealed by the literature study, which enables this project to provide more comprehensive functions for the system.

Based on the analytical findings of the literature review, the findings will be used as references to assist enhance the features and functions of the proposed system, this literature review focuses on providing insights into the strength and weaknesses of similar e-commerce platforms. As a result, this can help the proposed project collect user requirements and expectations to better satisfy those needs and expectations when users access the system's functions.

## 2.2 Critical Remarks of Similar Systems

### 2.2.1 Big Pharmacy

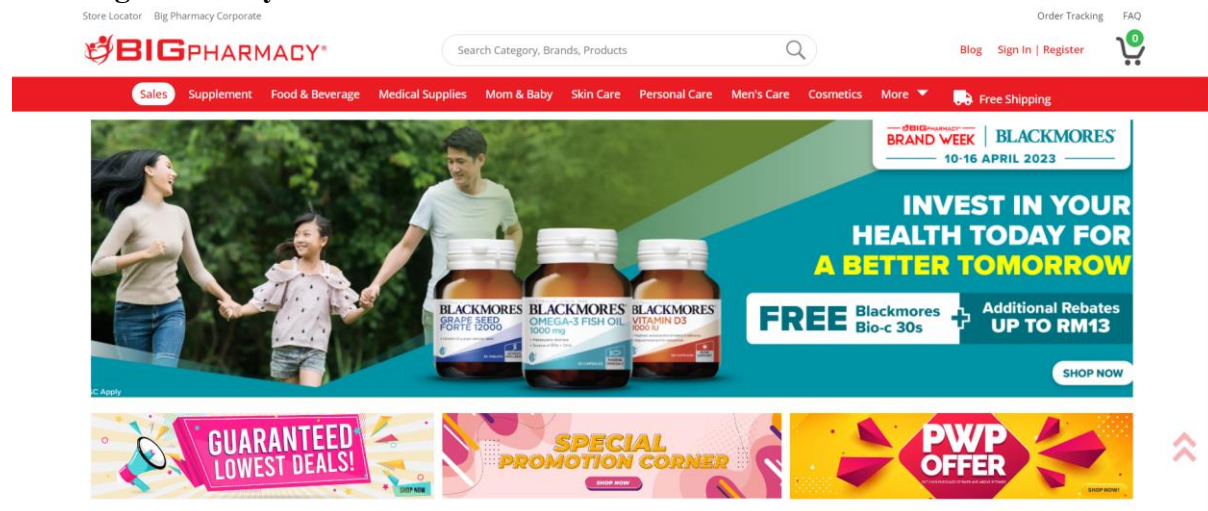


Figure 2.1 Big Pharmacy

Big Pharmacy [8] is a well-known Malaysian online pharmacy that provides a variety of healthcare goods and services. The company was established in 2006 and has since expanded to over 80 retail stores and an e-commerce platform. Big Pharmacy's online store includes a user-friendly layout that makes it simple for customers to browse and buy products. The website provides several categories, including those for over-the-counter pharmaceuticals, prescription medications, personal care items, and medical supplies. The teleconsultation service corporate with DOC2US offered by Big Pharmacy, which enables clients to consult with a qualified pharmacist from the comfort of their own homes, is one of the store's distinctive features. Customers who might not be able to visit a pharmacy or meet with a health professional in person may consider this service to be an enhanced convenience.



*Figure 2.2 Collaboration Big Pharmacy & Doc2us*

### **Big Pharmacy Functions**

1. Provide users to Browse product information and purchase products
2. Provide users to use the shopping cart and checkout system
3. Provide users to use the search function to find certain products, brands or categories
4. Provide users to manage and track orders online
5. Provide users to navigate to the physical store with GPS
6. Provide users to join the loyalty program
7. Provide users with the to choose the delivery courier
8. Provide users to have customer service
9. Provide users to rate and view the product reviews
10. Provide users to access to health-related articles and information
11. Provide users to cancel orders with terms and conditions

### **Big Pharmacy Features**

1. Allow users to have an online consultation with licensed pharmacists or doctors
2. Provide a secure payment gateway while making transactions
3. Provide users with multiple payment options including credit/debit cards, online banking, and e-wallets
4. Allow users to update personal information in the registered account
5. Having a “Store Locator” feature for users to look for the nearest store
6. Provide the FAQ section to answer general questions from users
7. Provide social media integration for promotions and customer engagement
8. Provide users hearing screener self-test and Hearing Aids appointment
9. Provide Dietitian & Nutritionist Appointments for users
10. Allow users to “return and refund” based on the policy

### **Big Pharmacy Strengths**

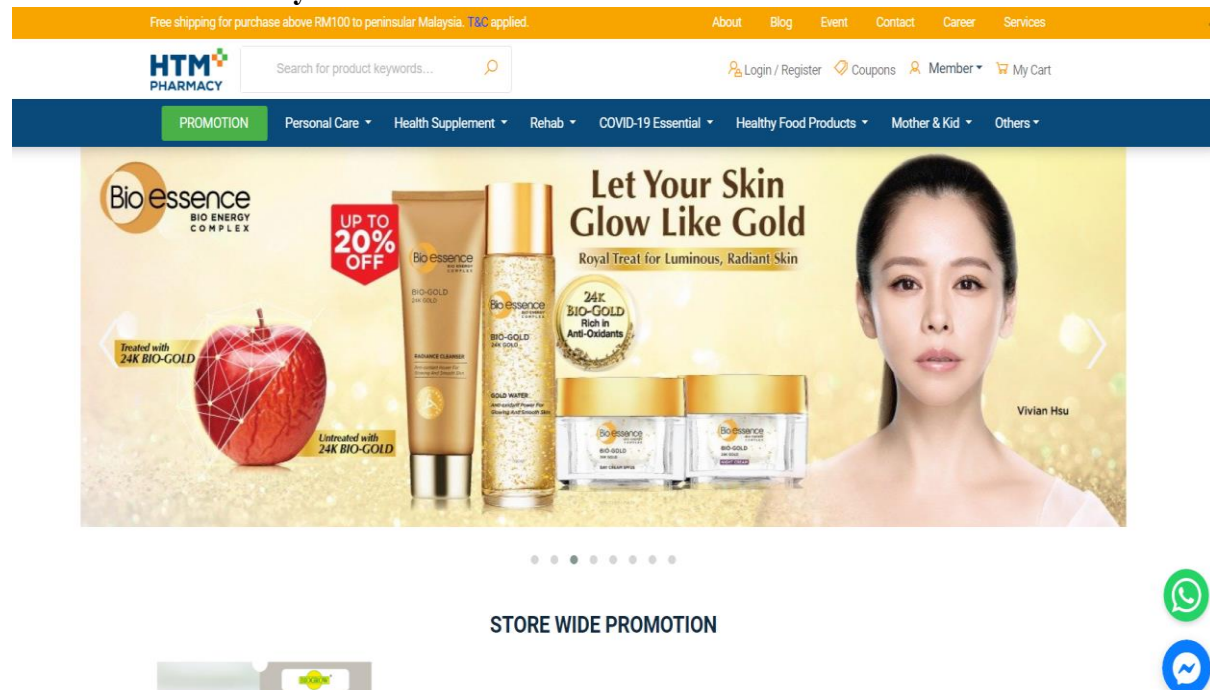
1. The system is having a loyalty program that allows customers to earn points to redeem discounts.
2. The system is having a wide range of products, including prescription medications, over-the-counter medicines, supplements, personal care products, and more
3. Cooperate with DOC2US to provide professional teleconsultation service
4. The system accepts multiple payment options, such as credit cards, online banking, and e-wallets.

5. The system provides contact details for every store on the website.
6. The system links every store's location with Google Maps.
7. This system provides a product filter function for customers.
8. The search bar will show suggested products or brands when users type specific words.
9. The e-commerce website is easy to navigate and use.
10. This system is having a strong dedication to customer service, delivering timely and reliable help to customers via several channels such as email, phone, and live chat.

**Big Pharmacy Weaknesses**

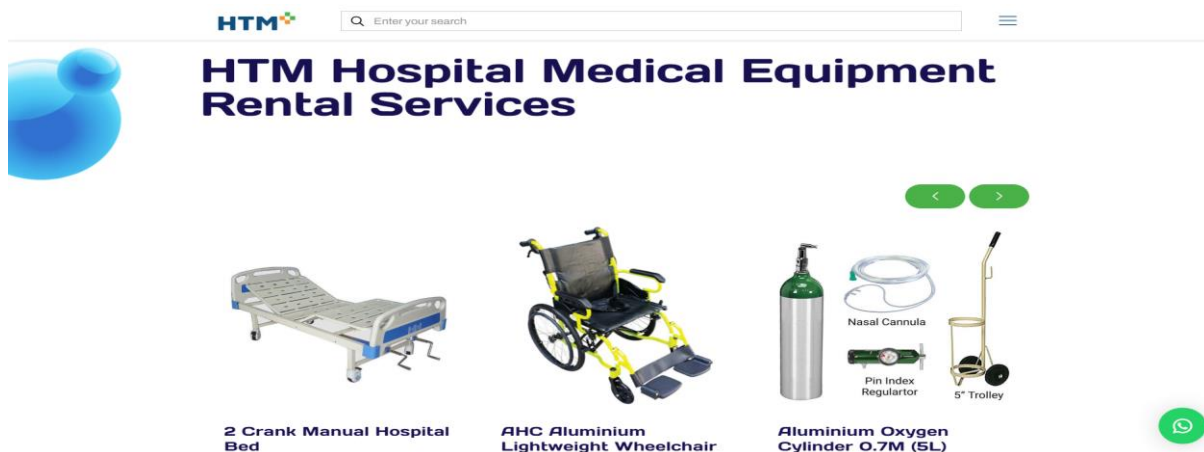
1. The website does not support multiple languages, which can limit its accessibility and is not user-friendly to non-English speakers.
2. Live chat feature is linked with Facebook Messenger, which is not user-friendly for people who do not have a Facebook account.
3. People who have not purchased a product before can rate the product, this could lead to fake ratings and may confuse other customers.
4. Some of the products do not list the expiration date in the descriptions.

### 2.2.2 HTM Pharmacy



*Figure 2.3 HTM Pharmacy*

HTM Pharmacy [9] is a Health & Wellness Pharmacy that was established in 2006 to provide the general public with professional and personalized healthcare solutions. HTM Pharmacy has more than 30 stores around the country. The pharmacy chain provides prescription and over-the-counter medications, supplements, medical equipment, and personal care items. HTM Pharmacy also provides hospital medical equipment rental services for customers to rent equipment such as wheelchairs, hospital beds, oxygen tanks and more. Besides, The HTM Pharmacy organized events to provide free healthcare services such as blood testing, health screening and others through roadshows for the community. The HTM Pharmacy employs a group of licenced and professional pharmacists who offer health management guidance, medication consultation, and assistance on healthcare items.



*Figure 2.4 HTM Pharmacy medical equipment rental services*

### **HTM Pharmacy Functions**

1. Provide users to Browse product information and purchase products
2. Provide users to use the shopping cart and checkout system
3. Provide users to use the search function to find certain products, brands or categories
4. Provide users to manage and track orders online
5. Provide users to join the loyalty program
6. Provide users to follow updates on different social media
7. Provide users to have customer service
8. Provide users to rate and view the product reviews
9. Provide users to access to health-related articles and information
10. Provide users to cancel order with terms and conditions

### **HTM Pharmacy Features**

1. Allow users to have an online consultation with licensed pharmacists or doctors
2. Provide a secure payment gateway while making transactions
3. Provide users with multiple payment options including credit/debit cards, online banking, and e-wallets
4. Allow users to update personal information in the registered account
5. Having Blogs to promote events organized
6. Provide the FAQ section to answer general questions from users
7. Provide social media integration for promotions and customer engagement
8. Provide hospital medical equipment rental services for customers to rent equipment
9. Allow users to “return and refund” based on the policy

### **HTM Pharmacy Strengths**

1. The system is having a loyalty program that allows customers to earn points to redeem discounts and member privileges.
2. The system is having a wide range of products, including prescription medications, over-the-counter medicines, supplements, personal care products, and more
3. Provide free health services for the community through roadshows.
4. The system accepts multiple payment options, such as credit cards, online banking, and e-wallets.
5. The system provides contact details for every store on the website.
6. The system provides a range of online health education resources, such as articles and videos.
7. The search bar will show suggested products or brands when users type specific words.
8. The system provides a HALAL certificate on the website.
9. This system is having a strong dedication to customer service, delivering timely and reliable help to customers via several channels such as email, phone, and live chat (link to WhatsApp and Messenger).

### ***HTM Pharmacy Weaknesses***

1. The website does not support multiple languages, which can limit its accessibility and is not user-friendly to non-English speakers.
2. There is only one photo displayed for the description of every product on the website.
3. The website does not support store navigation which links to Google Maps or Waze.
4. HTM Pharmacy stores are mainly located in Perak state, there are 27 out of 31 stores are in Perak state, which is not nationwide enough which will lead to a lack of confidence purchase for users from other states.
5. Unable to choose preferred delivery courier for the order.
6. The system does not have filter products features

### 2.2.3 Alpro Pharmacy

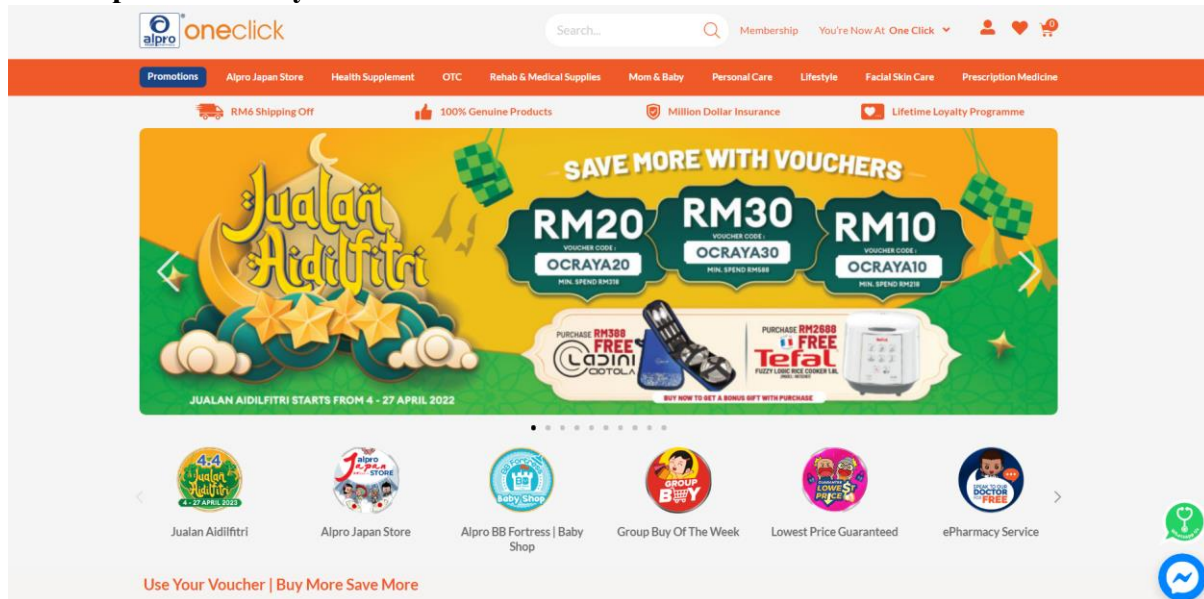


Figure 2.5 Alpro Pharmacy

Alpro Pharmacy [10] is a Malaysian retail pharmacy business that was founded in 2002. It is renowned for offering a wide range of healthcare goods and services, including prescription and over-the-counter medicines, medical equipment, nutritional supplements, beauty products, and skincare products. Alpro Pharmacy has more than 200 stores around the nation and provides several services, such as MamaB, Medication Disposal Service, MediCheck and more. Alpro Pharmacy also has business partners that are responsible for different sectors, including MiCare, Doc2Us, GDEX, TrustGate and Alpro Clinic.



Figure 2.6 Alpro Pharmacy's business partners

### **Alpro Pharmacy Functions**

1. Provide users to Browse product information and purchase products
2. Provide users to use the shopping cart and checkout system
3. Provide users to use the search function to find certain products, brands or categories
4. Provide users to manage and track orders online
5. Provide users to check for product availability on the website
6. Provide users to join the loyalty program
7. Provide users to follow updates on different social media
8. Provide users to have customer service
9. Provide users to rate and view the product reviews
10. Provide users to access to health-related articles and information
11. Provide users to cancel orders with terms and conditions

### **Alpro Pharmacy Features**

1. Allow users to have an online consultation in “ePharmacy” using WhastApp.
2. Provide a secure payment gateway while making transactions
3. Provide users with multiple payment options including credit/debit cards, online banking, and e-wallets
4. Allow users to update personal information in the registered account
5. Provide the FAQ section to answer general questions from users
6. Provide social media integration for promotions and customer engagement
7. Provide hospital medical equipment rental services for customers to rent equipment
8. Allow users to “return and refund” based on the policy
9. Provide users to navigate to the nearest store using GPS.
10. Allow users to choose a delivery method from courier delivery and self pick-up

### **Alpro Pharmacy Strengths**

1. The system is having a loyalty program that allows customers to earn points to redeem discounts and member privileges.
2. The system is having a wide range of products, including prescription medications, over-the-counter medicines, supplements, personal care products, and more
3. The system supports multiple payment options, such as credit cards, online banking, and e-wallets.
4. The system provides contact details for every store on the website.

5. The system provides a range of online health education resources, such as articles and news.
6. This system provides a product filter function for customers.
7. The search bar will show suggested products or brands when users type specific words.
8. Alpro Pharmacy organize free healthcare services events and campaigns for the community.
9. This system is having a strong dedication to customer service, delivering timely and reliable help to customers via several channels such as email, phone, and live chat (link to WhatsApp and Messenger).

#### **Alpro Pharmacy Weaknesses**

1. The website does not support multiple languages, which can limit its accessibility and is not user-friendly to non-English speakers.
2. Unable to choose preferred delivery courier for the order.
3. Some of the products do not list the expiration date in the descriptions.
4. Store Locator” is on another official page

## 2.2.4 Caring Pharmacy

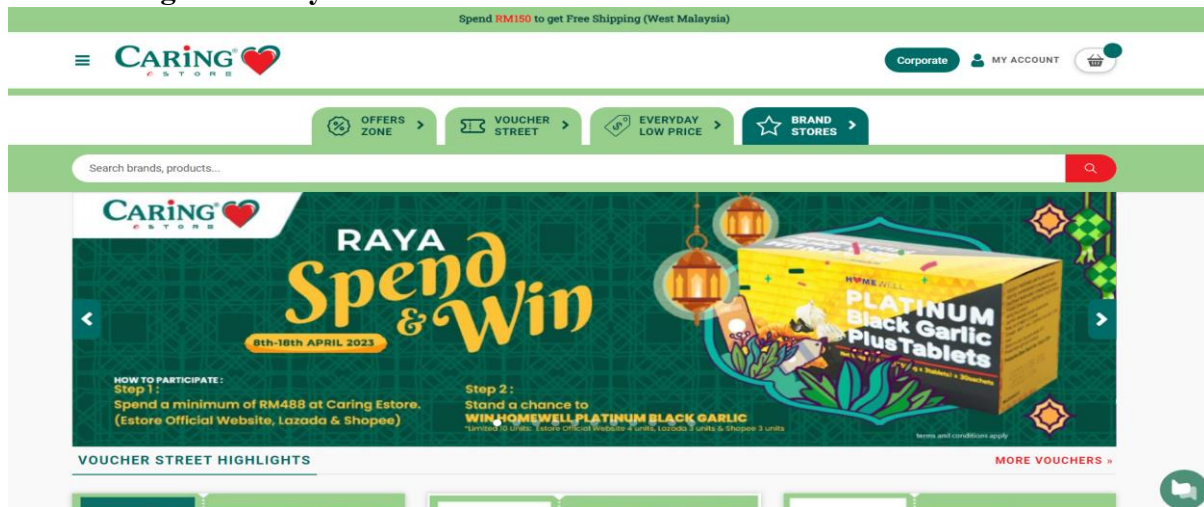
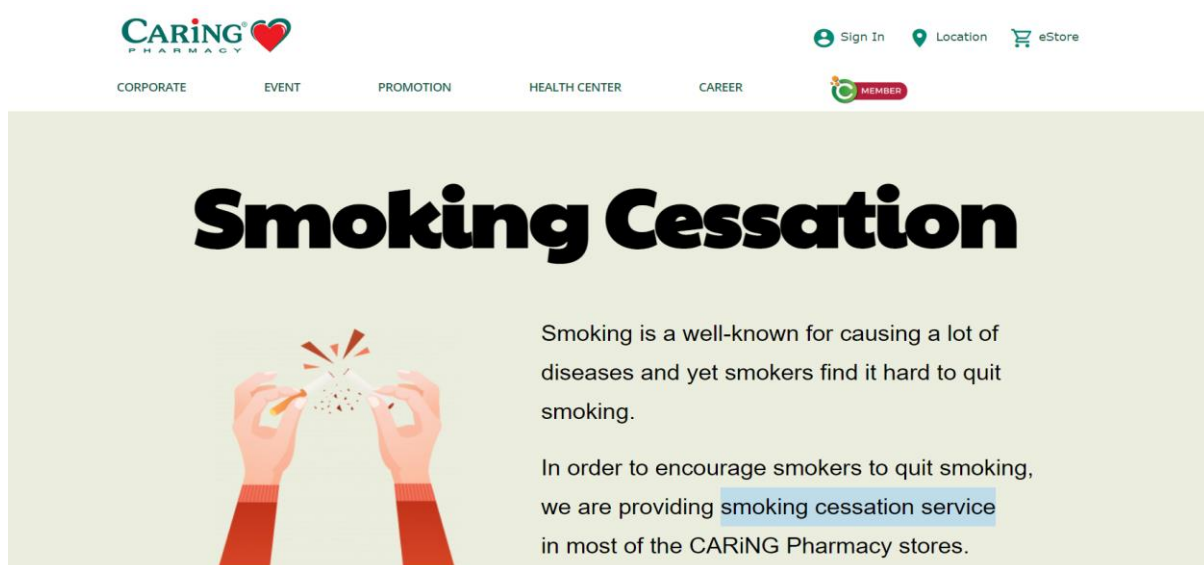


Figure 2.7 Caring Pharmacy

Caring Pharmacy [11] is one of the leading retail pharmacy companies in Malaysia, having over 170 stores around the country. It was founded in 1994 and has since become a trusted brand for healthcare and wellness supplies. Caring Pharmacy improves its brand engagement with the community with several campaigns and services, such as Jom Kurang Manis collaboration with Pantai Hospital, Cari Doctor service that provide professional medical counsel and prescriptions for specific medical need, smoking cessation service to reduce smoker in Malaysia, more than 20,000 die due to smoking every year [12]. Overall, Caring Pharmacy aims to “caring” everyone just like the name of the company.



*Figure 2.8 Caring Pharmacy's service - smoking cessation service*

### **Caring Pharmacy Functions**

1. Provide users to Browse product information and purchase products
2. Provide users to use the shopping cart and checkout system
3. Provide users to use the search function to find certain products, brands or categories
4. Provide users to manage and track orders online
5. Provide users to join the loyalty program
6. Provide users to follow updates on different social media
7. Provide users to have customer service
8. Provide users to rate and view the product reviews
9. Provide users to access to health-related articles and information
10. Provide users to buy the urgent product through WhatsApp to get it within 24 hours
11. Provide users to cancel order with terms and conditions

### **Caring Pharmacy Features**

1. Allow users to have an online consultation in live chat and social media platforms.
2. Provide a secure payment gateway while making transactions
3. Provide users with multiple payment options including credit/debit cards, online banking, and e-wallets
4. Allow users to update personal information in the registered account
5. Provide the FAQ section to answer general questions from users
6. Provide social media integration for promotions and customer engagement
7. Allow users to “return and refund” based on the policy
8. Provide users to navigate to the nearest store using GPS
9. Allow users to choose a delivery method from courier delivery and self pick-up

### **Caring Pharmacy Strengths**

1. The system is having a loyalty program that allows customers to earn points to redeem discounts and member privileges.
2. The system is having a wide range of products, including prescription medications, over-the-counter medicines, supplements, personal care products, and more
3. The system supports multiple payment options, such as credit cards, online banking, and e-wallets.
4. The system provides contact details for every store on the website.

5. The system provides a range of online health education resources, such as articles and news.
6. The search bar will show suggested products or brands when users type specific words.
7. This system is having a strong dedication to customer service, delivering timely and reliable help to customers via several channels such as email, phone, and live.

**Caring Pharmacy Weaknesses**

1. The website does not support multiple languages, which can limit its accessibility and is not user-friendly to non-English speakers.
2. Unable to choose preferred delivery courier for the order.
3. Some of the products do not list the expiration date in the descriptions.
4. “Store Locator” is on another official page

### 2.3 Recommendations to improve the similar system

| Similar System  | Ways to Resolve the Weakness                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Big Pharmacy    | <ol style="list-style-type: none"> <li>1. Develop a multiple languages website to make it user-friendly for users</li> <li>2. Provide WhatsApp which is common use by most people for live chat features or make it build-in into the website.</li> <li>3. Open rating system only for the users who purchased specific products</li> <li>4. Display the expiration date in the descriptions for all products</li> </ol>             |
| HTM Pharmacy    | <ol style="list-style-type: none"> <li>1. Develop a multiple languages website to make it user-friendly for users</li> <li>2. Display more photos of details of the products</li> <li>3. Provide the API for the store location in the system</li> <li>4. Expand more stores in more states</li> <li>5. Provide users to choose the delivery courier preferred</li> <li>6. Provide filter products features in the system</li> </ol> |
| ALPRO Pharmacy  | <ol style="list-style-type: none"> <li>1. Develop a multiple languages website to make it user-friendly for users</li> <li>2. Provide users to choose the delivery courier preferred</li> <li>3. Display the expiration date in the descriptions for all products</li> <li>4. Provide the “Store Locator” on the E-commerce website, not the official website.</li> </ol>                                                            |
| Caring Pharmacy | <ol style="list-style-type: none"> <li>1. Develop a multiple languages website to make it user-friendly for users</li> <li>2. Provide users to choose the delivery courier preferred</li> <li>3. Display the expiration date in descriptions for all products</li> <li>4. Provide the “Store Locator” on the E-commerce website, not the official website.</li> </ol>                                                                |

*Table 2.1 Proposed Solutions*

## 2.4 Comparison Between Similar Systems

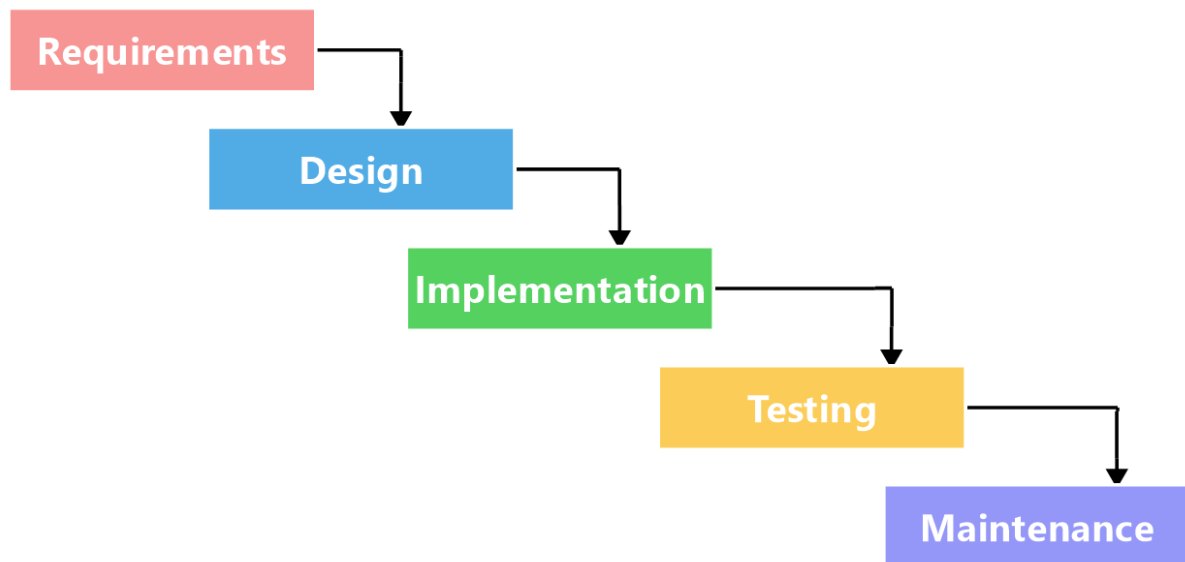
| Function                                                                                   | Big Pharmacy | HTM Pharmacy | Alpro Pharmacy | Caring Pharmacy | Proposed project |
|--------------------------------------------------------------------------------------------|--------------|--------------|----------------|-----------------|------------------|
| 1. Provide users to browse product information and purchase products                       | ✓            | ✓            | ✓              | ✓               | ✓                |
| 2. Provide users to use the shopping cart and checkout system                              | ✓            | ✓            | ✓              | ✓               | ✓                |
| 3. Provide users to use the search function to find certain products, brands or categories | ✓            | ✓            | ✓              | ✓               | ✓                |
| 4. Provide users customer services live chat                                               | ✗            | ✓            | ✓              | ✗               | ✓                |
| 5. Provide users with multiple payment options                                             | ✓            | ✓            | ✓              | ✓               | ✓                |
| 6. Provide users to edit profile information                                               | ✓            | ✓            | ✓              | ✓               | ✓                |
| 7. Provide users to view the order status                                                  | ✓            | ✓            | ✓              | ✓               | ✓                |
| 8. Provide users to reset password if forgotten                                            | ✓            | ✓            | ✓              | ✓               | ✓                |
| 9. Provide users to navigate to physical stores using GPS                                  | ✓            | ✗            | ✓              | ✓               | ✓                |

|                                                                               |   |   |   |   |   |
|-------------------------------------------------------------------------------|---|---|---|---|---|
| <b>10. Provide the FAQ section to answer general questions from users</b>     | ✓ | ✓ | ✓ | ✓ | ✓ |
| <b>11. Provide users to track orders</b>                                      | ✓ | ✓ | ✓ | ✓ | ✓ |
| <b>12. Provide users to access to health-related articles and information</b> | ✗ | ✓ | ✓ | ✓ | ✓ |
| <b>13. Provide users to cancel orders with terms and conditions</b>           | ✓ | ✓ | ✓ | ✓ | ✓ |
| <b>14. Provide users to have video call with specialized</b>                  | ✗ | ✗ | ✗ | ✗ | ✓ |

*Table 2.2 Comparison Between Similar Systems*

## CHAPTER 3: PROPOSED METHOD / APPROACH

### 3.1 Methodology



*Figure 3.1 Methodology – Waterfall method*

Chapter 4 will focus on the Methodology of the project. The waterfall methodology will be the methodology used in this project. The waterfall methodology [13] is a technique of software development that follows a sequence of steps from conception to delivery. It is a well-known and extensively utilised approach that has been shown to be effective in delivering successful projects. The waterfall methodology's steps are requirements, design, implementation, testing and maintenance. Waterfall methodology proceeds in a sequence which means a project move methodically from one to the next step, a step is finished before the next one begins, the key deliverables for each phase are very long and the stages are possible to go backwards but extremely difficult.

In requirements gathering phase, it includes gathering exact needs from project stakeholders. requirements gathering process are used to explain each step of the project, including the costs, assumptions, risks, dependencies, success metrics, and completion timeframes, and are often contained in a single document. This involves determining the key features that the website should have, such as accurate pricing and system description, and a flexible online shopping experience. Additional requirements may include the ability to securely and efficiently manage online payments (risk) and an efficient search function to enable consumers with finding the medicines they need.

In the design phase, the team studies the requirements and creates the system architecture at this level. Identifying the technologies and frameworks that will be utilised to develop the website, as well as designing the database schema and user interface, are all part of this process. A software programmer has to design technological solutions to challenges defined by product requirements, such as scenarios, layouts, and data models. For example, the design might incorporate user-friendly navigation menus, simple search filters, and a website-responsive style that works well on the browser.

The implementation phase is the phase in which the website is developed according to the design specifications. Writing code and testing the system to ensure it meets the requirements are all part of the process. This is possibly the shortest stage of the Waterfall process. During this phase, programmers write applications based on project requirements and specifications, with some testing and implementation thrown in for good measure. If considerable modifications are required during this stage, it may be necessary to return to the design phase.

In the testing phase, the website is thoroughly tested at this phase to verify that it works as planned and fulfils all standards. Testing is required to ensure that the product is error-free and that all requirements have been fulfilled, resulting in a positive user experience with the programme. Functional testing, usability testing, security testing, and performance testing are all included. For example, the team might apply automated testing tools to ensure the website's functionality and user surveys to gather feedback on the user experience.

In the maintenance phase, regular maintenance is necessary to ensure that it continues to perform effectively and serves the evolving needs of the company and its consumers after a website is deployed. This involves regularly conducting security upgrades, monitoring system performance and availability, and responding to user comments and problem complaints. The maintenance phase is crucial to the e-commerce platform's long-term performance because it guarantees that the system remains secure, reliable, and responsive to user needs.

In conclusion, the waterfall methodology is an extremely effective strategy for creating an e-commerce website for online medicine purchasing. Businesses may ensure that their website fulfils their goals and objectives, performs effectively, and fulfils the needs of the customers by using a sequential and systematic approach. Businesses may increase their chances of delivering a successful project that fulfils their business needs and helps them reach their goals by using the waterfall methodology.

## 3.2 Technologies Involved

### 3.2.1 Hardware Requirement

This system will be developed and implemented by using a laptop with Intel Kaby Lake Core i5-8300HQ CPU @ 2.30GHz 2.30 GHz processor and 12GB memory. Furthermore, the laptop will use NVIDIA GeForce GTX 1050 (4 GB GDDR5 memory) to present graphical content and interface. Lastly, to control the input data will use by the mouse and keyboard.

| Hardware         | Specifications                 |
|------------------|--------------------------------|
| Model            | Acer Nitro AN515-52            |
| Processor        | Intel Kaby Lake Core i5-8300HQ |
| Operating System | Window 11                      |
| Graphic          | NVIDIA GeForce GTX 1050        |
| Memory           | 12GB                           |
| Storage          | 256GB SSD and 1TB SSD          |

*Table 3.1 Hardware Requirement*

### 3.2.2 Software Requirement

The operating system used by a laptop is Windows 11 and use to implement website programs. In addition, the web browser is used to display the system output by Microsoft Edge. This project will use Visual Studio Code 2019 and HTML, CSS, Bootstrap, JavaScript and PHP to develop the system. Lastly, this project will also use MySQL to store the data about the system.

| Software           | Specifications                           | Description                       |
|--------------------|------------------------------------------|-----------------------------------|
| Operating System   | Window 11                                | Use to provide service for laptop |
| Web Browser        | Microsoft Edge                           | Use to display system output      |
| Visual Studio Code | Version 2019                             | Use to develop the system         |
| Front - End        | HTML, CSS, Bootstrap, JavaScript and PHP | Use to develop user interface     |
| Database           | MySQL                                    | Use to store data                 |

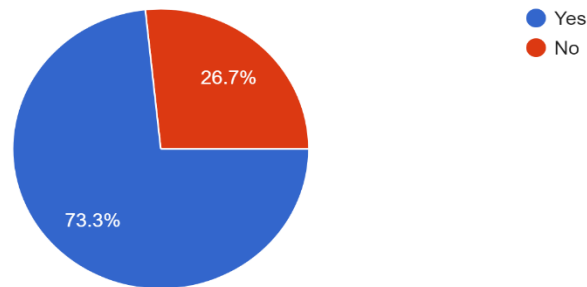
*Table 3.2 Software Requirement*

### 3.3 User Requirement

#### 3.3.1 User Requirement – Customer Perspective

Have you ever used an online pharmacy E-Commerce platform before? (eg Watson, Guardian, Caring, Big Pharmacy or other pharmacies)

30 responses

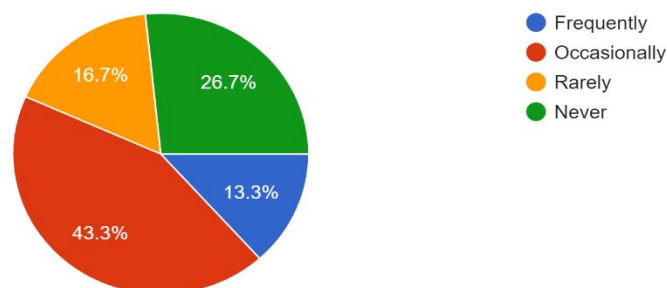


*Figure 3.2 User Requirement – Questionnaire 1*

Based on the responses from 30 participants, it is evident that a significant majority, 73.3%, have used an online pharmacy E-Commerce platform before. This indicates that online pharmacies are increasingly popular and have become a convenient choice for purchasing medications and healthcare products. On the other hand, 26.7% of respondents have not used online pharmacy E-Commerce platforms, suggesting that there is still a portion of the population that may prefer traditional methods of obtaining medications or might not be aware of the benefits and convenience offered by online pharmacies.

How often do you use online pharmacy E-Commerce platform?

30 responses



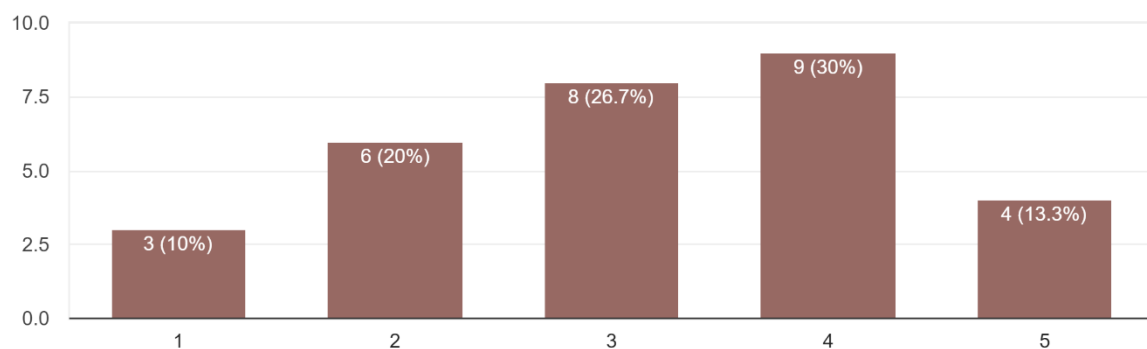
*Figure 3.3 User Requirement – Questionnaire 2*

Based on the responses from 30 participants, the results indicate that people use these platforms with varying frequencies. Approximately 13.3% of respondents reported using online

pharmacy platforms frequently, relying on them as their primary source for medications and healthcare products. Around 43.3% of participants use them occasionally, indicating that they turn to online pharmacies when needed, but not as their exclusive option. Approximately 16.7% of respondents use these platforms rarely. The remaining 26.7% reported never using online pharmacy E-Commerce platforms, indicating a reliance on traditional offline pharmacies for their healthcare needs.

How important are online pharmacy platforms for you?

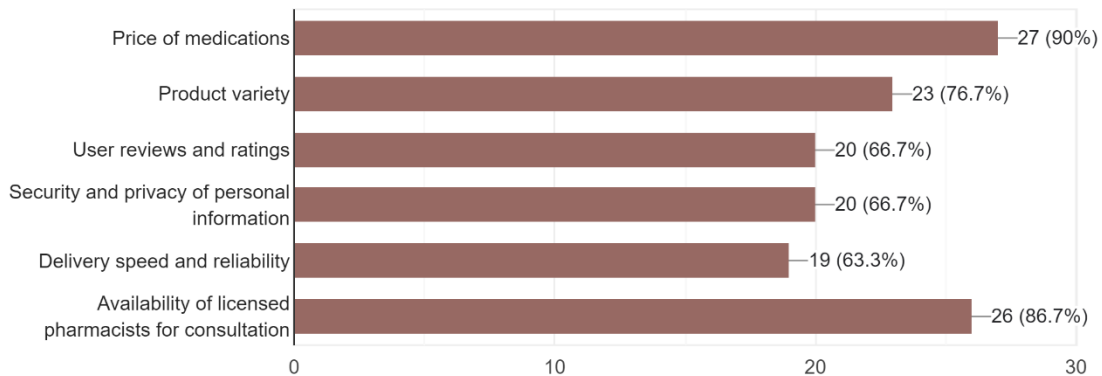
30 responses



*Figure 3.4 User Requirement – Questionnaire 3*

The questionnaire assessed the importance of online pharmacy platforms based on responses from 30 participants. The results showed diverse opinions among the respondents. Approximately 10% considered these platforms to be of lower significance (rating 1 to 3), while 20% attributed a moderate level of importance (rating 2). About 26.7% found some significance in using online pharmacy platforms (rating 3), and 30% expressed high importance (rating 4). Interestingly, 13.3% regarded online pharmacies as crucial (rating 5) in managing their healthcare needs. The findings highlight the increasing relevance of online pharmacy platforms but also reveal a range of perceptions among users.

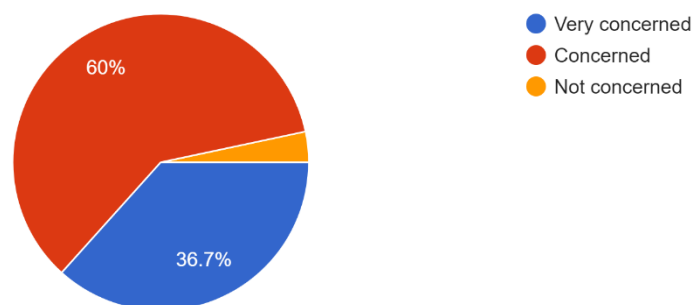
What factors do you consider before choosing an online pharmacy platform? (Select all that apply)  
30 responses



*Figure 3.5 User Requirement – Questionnaire 4*

The questionnaire revealed key factors influencing the choice of an online pharmacy platform for 30 respondents. The results show that affordability of medications (90%), product variety (76.7%), and the availability of licensed pharmacists for consultation (86.7%) are highly valued. Additionally, user reviews and ratings (66.7%), security and privacy of personal information (66.7%), and delivery speed and reliability (63.3%) are also significant considerations. These findings emphasize the importance of cost-effectiveness, product selection, user feedback, data security, timely delivery, and professional guidance in the decision-making process. Understanding and addressing these factors will be vital for online pharmacies to meet customer expectations and enhance their services.

How concerned are you about the authenticity and quality of medications sold on online pharmacy platforms?  
30 responses

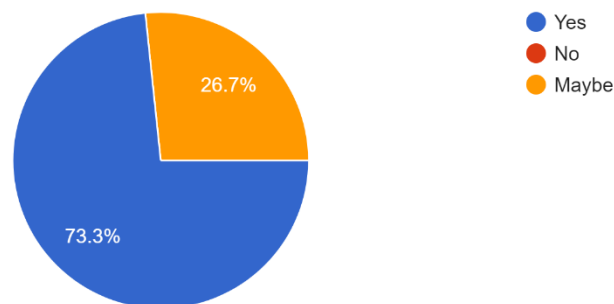


*Figure 3.6 User Requirement – Questionnaire 5*

The questionnaire collected responses from 30 participants regarding their level of concern about the authenticity and quality of medications sold on online pharmacy platforms. The results indicate that a significant majority of respondents, 60%, expressed concern about the authenticity and quality of medications. Furthermore, 36.7% reported being very concerned, demonstrating a heightened level of worry. Only 3.3% of participants expressed not being concerned about this issue. These findings highlight the importance of addressing and ensuring the authenticity and quality of medications sold on online pharmacy platforms. Maintaining high standards, implementing rigorous verification processes, and providing transparent information about products can help alleviate concerns and build trust among users. Online pharmacies must prioritize safety and quality to reassure their customers and promote a secure and reliable healthcare shopping experience.

Do you think a Live Chat feature is necessary for online pharmacy platforms?

30 responses



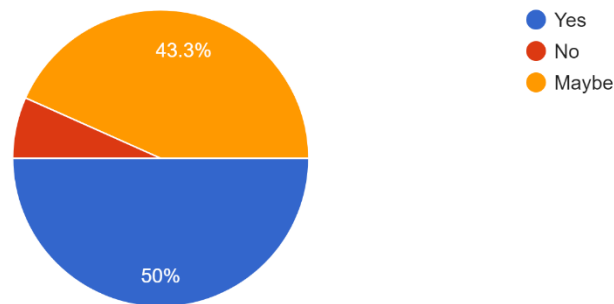
*Figure 3.7 User Requirement – Questionnaire 6*

The questionnaire collected feedback from 30 participants regarding the necessity of a Live Chat feature for online pharmacy platforms. The results are overwhelmingly in favor of having such a feature, with 73.3% of respondents stating that it is necessary. Surprisingly, no one responded with a "No." However, 26.7% of participants expressed uncertainty, indicating a possibility for a Live Chat feature to be beneficial but not universally agreed upon. These findings emphasize the significance of providing a Live Chat option on online pharmacy platforms to enhance customer support and improve user experience. Live Chat can offer real-time assistance, answer queries promptly, and provide personalized guidance, making it a

valuable tool for addressing customer concerns and ensuring a positive shopping experience. By implementing this feature, online pharmacies can foster better communication, build trust, and further establish themselves as reliable sources of healthcare products and services.

Are you comfortable sharing your health information with the platform to receive personalized product recommendations or health advice?

30 responses



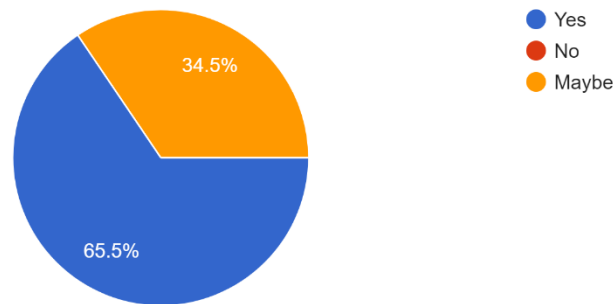
*Figure 3.8 User Requirement – Questionnaire 7*

The questionnaire results indicate a varied range of opinions among participants regarding their comfort level with sharing health information on online pharmacy platforms to receive personalized product recommendations or health advice. About 30% of respondents expressed comfort in sharing such information, displaying openness to receiving tailored recommendations and advice. In contrast, a small percentage, 6.7%, stated they were not comfortable with sharing their health data, indicating concerns over privacy and data security. Interestingly, 43.3% remained undecided or expressed hesitation (Maybe), suggesting some reservations or a need for more reassurance about data protection measures.

These findings underscore the importance of online pharmacy platforms to strike a delicate balance between offering personalized services and respecting users' privacy concerns. Transparency and clear communication about data protection measures are crucial to alleviate fears and encourage more users to feel at ease sharing their health information. Implementing robust data security protocols and ensuring compliance with relevant regulations can further enhance users' trust in sharing their health data on these platforms.

Do you wish to have a QR code that stores medication information (product descriptions, instructions) for you to scan to get information directly in online pharmacy platforms?

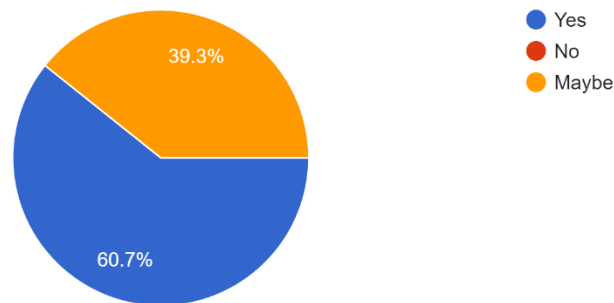
29 responses



*Figure 3.9 User Requirement – Questionnaire 8*

The questionnaire aimed to gauge participants' interest in having a QR code that stores medication information, such as product descriptions and instructions, for direct scanning in online pharmacy platforms. The results clearly show strong enthusiasm for this feature, with 60.7% of respondents expressing a desire to have QR codes. Surprisingly, no one responded with a "No," indicating unanimous agreement in favor of the idea. Additionally, 39.3% of participants expressed uncertainty or hesitation (Maybe) about this feature, leaving room for potential implementation concerns or further clarification. Overall, the findings highlight a significant interest in QR codes as a convenient and efficient way to access crucial medication details on online pharmacy platforms. Considering the overwhelmingly positive response, incorporating QR codes into these platforms may enhance user experience and streamline information retrieval.

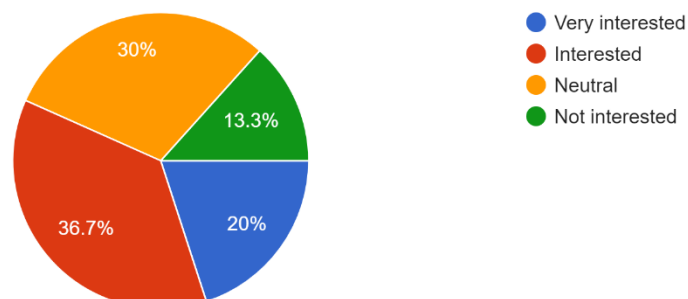
Do you think "Same Day Delivery" features are important in online pharmacy platforms?  
28 responses



*Figure 3.10 User Requirement – Questionnaire 9*

The questionnaire collected responses regarding the importance of "Same Day Delivery" features in online pharmacy platforms. The results clearly indicate a strong interest in such a service, with 60.7% of respondents affirming its importance. Interestingly, no one responded with a "No," indicating unanimous agreement on the significance of same-day delivery. Additionally, 39.3% of participants expressed a level of uncertainty or neutrality (Maybe) on the matter, possibly considering other factors or delivery options. Overall, the findings emphasize that "Same Day Delivery" is highly valued by a majority of users and can significantly enhance the appeal and convenience of online pharmacy platforms for those customers who need urgent medications. Implementing this feature can attract more customers and elevate the platforms' competitiveness in the market, meeting the growing demand for efficient and prompt services in the healthcare sector.

How interested are you in accessing educational content on the platform, such as articles or videos about health conditions and medication usage?  
30 responses



*Figure 3.11 User Requirement – Questionnaire 10*

The questionnaire gathered feedback from 30 participants regarding their interest in accessing educational content, such as articles or videos about health conditions and medication usage, on the platform. The results show a diverse range of opinions. Approximately 20% of respondents expressed being very interested, indicating a strong desire for educational materials. Furthermore, 36.7% of participants reported being interested in accessing such content, showcasing a significant level of curiosity. About 30% remained neutral on the matter, possibly suggesting a need for further information or evaluation of the available content. Conversely, 13.3% of respondents stated they were not interested in accessing educational materials, possibly preferring other types of information. These findings underscore the importance of providing educational content on online pharmacy platforms to cater to the various preferences of users. By offering valuable and informative materials, platforms can empower users to make informed decisions about their health and medications

### 3.3.2 Functional Requirement

#### 3.3.2.1 Functional Requirement – Customer Perspective

| Functional Requirement                                           | Descriptions                                                                                                         |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Able to browse and purchase products                             | Allow users to browse products and its informations or descriptions and purchase products.                           |
| Able to rate the purchased products                              | Allow users to provide reviews of the products.                                                                      |
| Able to contact admin and medical specialized                    | Allow users to have real-time customer service and get consultants from specialized.                                 |
| Able to update personal information                              | Allow users to edit and update their personal information in their profile.                                          |
| Able to login and register account, reset password if forgotten. | Allow users to login and register for an account, then provide them to reset password if they forget their password. |
| Able to view the purchase records                                | Allow users to view the purchase record in the system.                                                               |
| Able to cancel the order purchased                               | Allow users to cancel the purchased order easily.                                                                    |

*Table 3.3 - Functional Requirement – Customer Perspective*

#### 3.3.2.2 Functional Requirement – Admin Perspective

| Functional Requirement                            | Descriptions                                                                                    |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Able to add, drop or edit products in the system. | Allow admin to add, delete or make changes to the products in the system.                       |
| Able to chat with customers                       | Allow admin to have a real-time chat with the customer to provide advice and customer services. |
| Able to review customer feedback                  | Allow admin to review the customer feedback on the products in the system.                      |

|                                                          |                                                                                                     |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Able to add QR codes to the product pages                | Allow admin to add QR codes that contain product information and descriptions to the product pages. |
| Able to know and manage the order information and status | Allow admin to view and manage customer order information and status.                               |

*Table 3.4 - Functional Requirement –Admin Perspective*

### 3.3.2.2 Functional Requirement – Super Admin Perspective

| Functional Requirement                                           | Descriptions                                                                        |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Able to register account and delete account for an admin.</b> | Allow super admin to register an account for new admin and delete an admin account. |
| <b>Able to view sale dashboard.</b>                              | Allow super admin to view and analyse on the sales and order dashboard.             |

*Table 3.5 - Functional Requirement – Super Admin Perspective*

### 3.3.3 Non-Functional Requirement

| Non-Functional Requirement | Descriptions                                                                                                                                                        |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accessibility              | The system should allow users to conveniently access it at any time.                                                                                                |
| User Friendly              | The system's user interface should be user-friendly and straightforward, making it easy for users to understand its functions and navigate through it effortlessly. |
| Real-time                  | The system should be capable of receiving user input and providing real-time responses to users.                                                                    |

*Table 3.6 - Non-Functional Requirement*

### 3.4 Timeline

#### 3.4.1 Timeline - FYP1

| Task                                                                                                                                                                                                                    | W1 | W2 | W3 | W4 | W5 | W6 | W7 | W8 | W9 | W10 | W11 | W12 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|
| <b>Chapter 1 – Project Background</b><br>Introduction<br>Problem Statement and Motivation<br>Project Scope and Direction<br>Research Objective<br>Contribution                                                          |    |    |    |    |    |    |    |    |    |     |     |     |
| <b>Chapter 2 – Literature Review</b><br>Literature Review<br>Critical Remark of Similar System<br>Recommendation Improve Similar System<br>Comparison Between Similar Systems                                           |    |    |    |    |    |    |    |    |    |     |     |     |
| <b>Chapter 3 – Proposed Method/Approach</b><br>Methodology<br>Technology Involved<br>User Requirement<br>System Design Overview<br>System Architecture<br>Prototype<br>Implementation Issues and Challenges<br>Timeline |    |    |    |    |    |    |    |    |    |     |     |     |
| <b>Chapter 4 – Preliminary Work</b><br>Prototyping Testing<br>Design Poster<br>User Testing                                                                                                                             |    |    |    |    |    |    |    |    |    |     |     |     |
| <b>Chapter Chapter 5 – Conclusion</b><br>Conclusion<br>Finalise FYP 1 Report<br>FYP 1 Report Submission<br>FYP 1 Demonstration                                                                                          |    |    |    |    |    |    |    |    |    |     |     |     |

*Table 3.7 – FYP1 Timeline*

### 3.4.2 Timeline – FYP2

| Task                                                                                                                                                                                                                                     | W1 | W2 | W3 | W4 | W5 | W6 | W7 | W8 | W9 | W10 | W11 | W12 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|
| <b>Chapter 1 – Project Background</b><br>Introduction<br>Problem Statement and Motivation<br>Project Scope and Direction<br>Research Objective<br>Contribution                                                                           |    |    |    |    |    |    |    |    |    |     |     |     |
| <b>Chapter 2 – Literature Review</b><br>Literature Review<br>Critical Remark of Similar System<br>Recommendation Improve Similar System<br>Comparison Between Similar Systems                                                            |    |    |    |    |    |    |    |    |    |     |     |     |
| <b>Chapter 3 – Proposed Method/Approach</b><br>Methodology<br>Technology Involved<br>User Requirement<br>Timeline                                                                                                                        |    |    |    |    |    |    |    |    |    |     |     |     |
| <b>Chapter 4 – Preliminary Work</b><br>ERD Diagram<br>Use Case Diagram<br>Activity Diagram<br>Sequence Diagram<br>System Design Overview<br>System Architecture Diagram<br>Prototype<br>Algorithm Design<br>Integrate Third Parties APIs |    |    |    |    |    |    |    |    |    |     |     |     |
| <b>Chapter 5 – System Implementation</b><br>Hardware Setup<br>Software Setup<br>Setting and Configuration<br>Screenshot of the system implementation<br>Implementation Issue and Challenge                                               |    |    |    |    |    |    |    |    |    |     |     |     |
| <b>Chapter 6 – System Evaluation &amp; Discussion</b><br>Black Box Testing<br>System Review<br>Objective Evaluation                                                                                                                      |    |    |    |    |    |    |    |    |    |     |     |     |
| <b>Chapter 7 – Conclusion</b><br>System Recommendation<br>Conclusion<br>Finalise FYP 2 Report<br>FYP 2 Report Submission<br>FYP 2 Demonstration                                                                                          |    |    |    |    |    |    |    |    |    |     |     |     |

Table 3.8 – FYP2 Timeline

# CHAPTER 4: SYSTEM DESIGN

## 4.1 System Architecture

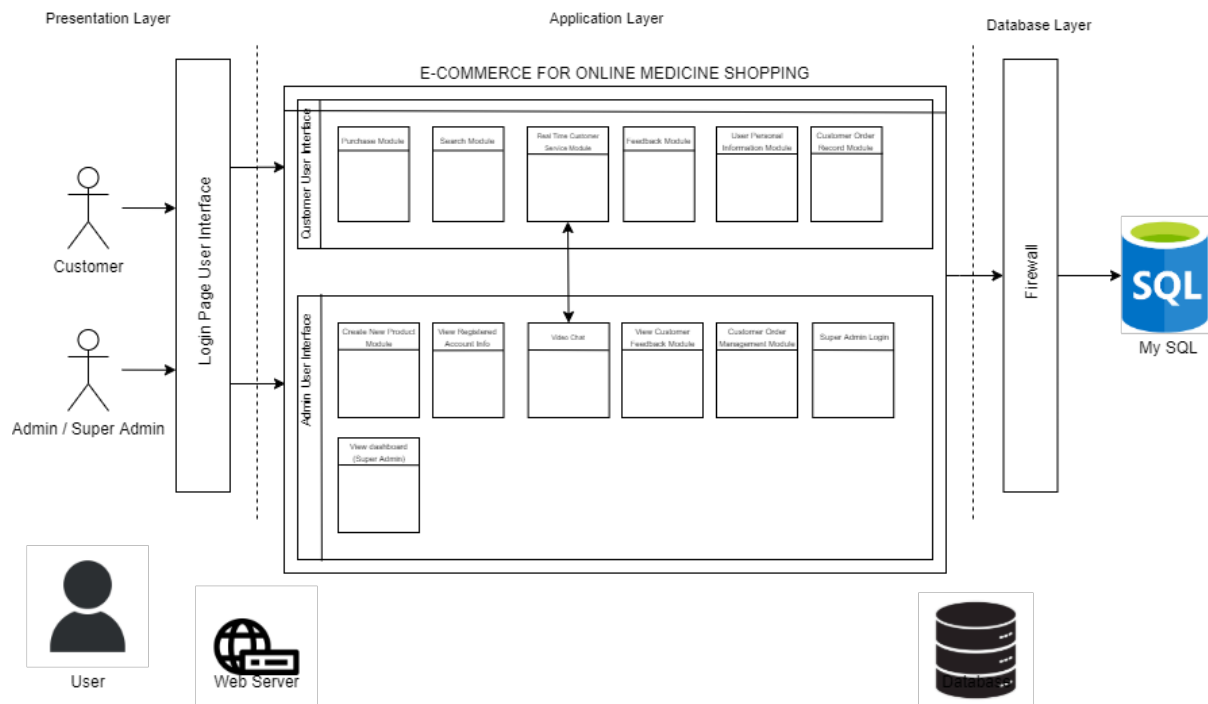


Figure 4.1 System Architecture

## 4.2 Entity Relationship Diagram

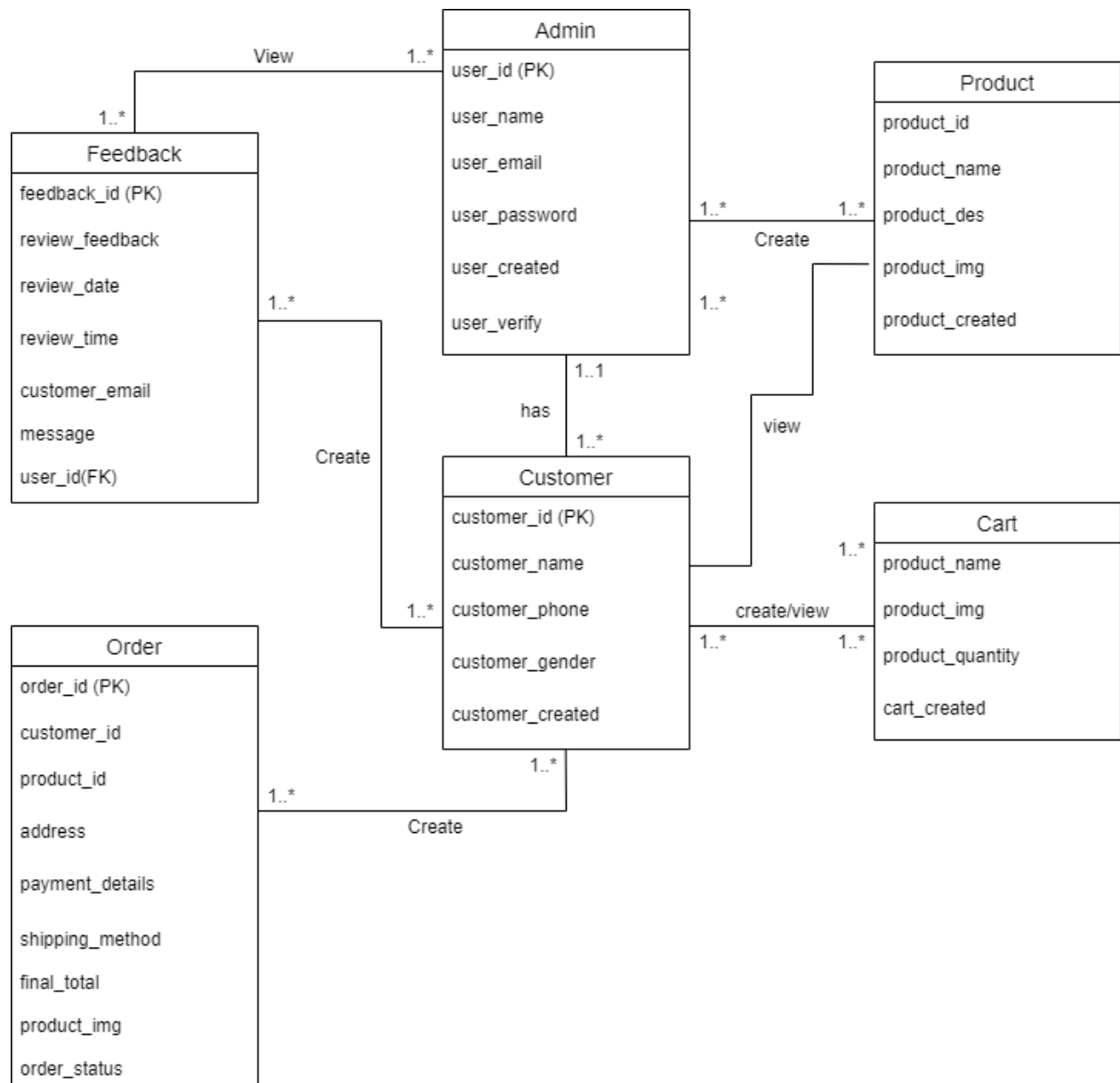


Figure 4.2 ERD

## 4.3 Use Case

### 4.3.1 Use Case Diagram

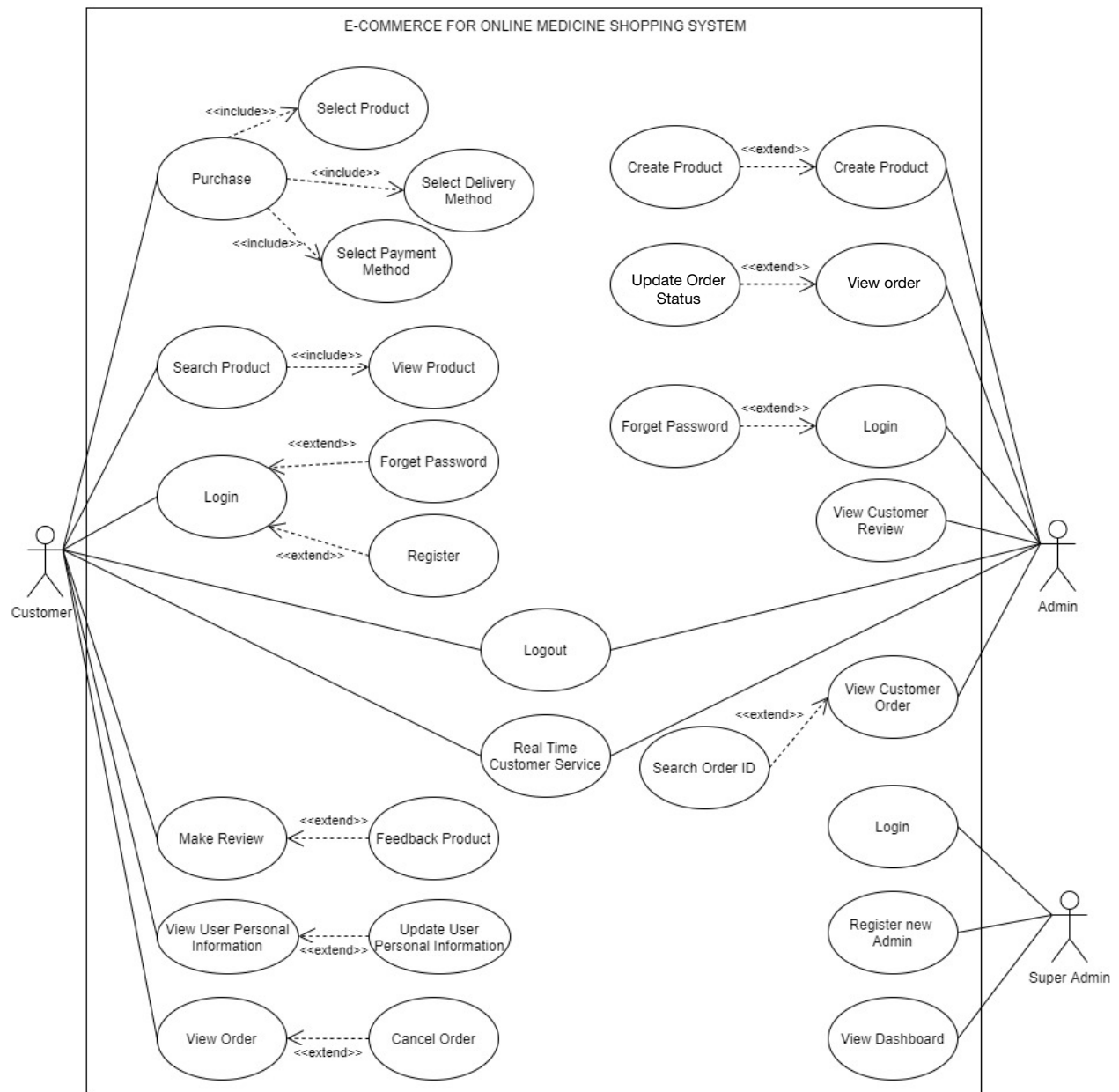


Figure 4.3 Use Case Diagram

### 4.3.2 Use Case Description

#### 4.3.2.1 Make Order – Customer Perspective

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Name: Make Order                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Brief Description: Allow customer to purchase product                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Actors: Customer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Relationship:<br>Association:<br>Include: Select product, Select payment method, Select delivery method<br>Extends:<br>Generalization:                                                                                                                                                                                                                                                                                                                                                                  |
| Preconditions:<br>1. User needs to login to the account first                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Basic Flow:<br>1. Users click the “Shop” on the navigation header or click the product directly on the homepage<br>2. System will appear product information and descriptions for the user to read                                                                                                                                                                                                                                                                                                      |
| Alternate Flow:<br>When user click the “Add to cart” button<br>1. User can view cart then proceed to next<br><br>When user click the “Proceed to delivery” button<br>1. System will appear a form for user to fill<br>2. User can fill in the address and then choose a delivery method<br><br>When the user keeps continuing to “Payment”<br>1. User allow to select the payment method<br><br>After the user fill in all the input and information<br>1. User allow to click the “Place Order” button |
| Exception Flow: Incorrect user input                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Post Conditions:<br>1. Order detail will store in the database<br>2. System will display a successful order-made message                                                                                                                                                                                                                                                                                                                                                                                |

*Table 4.1 – Make Order Use Case Description*

#### 4.3.2.2 Login– Customer Perspective

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Name: Login                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Brief Description: Allow customer login and register account                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Actors: Customer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Relationship:<br>Association:<br>Include:<br>Extends: Forget Password, Register<br>Generalization:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Preconditions:<br>1. User needs to register the account first                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Basic Flow:<br>1. User enters the username and password<br>2. System will receive the user input<br>3. System will validate the username and password<br>4. System will redirect the user to the main page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Alternate Flow:<br>When the user clicks the “Forget Password” button<br>1. System will display forget password form<br>2. System will ask the user to enter the email<br>3. User is allowed to fill in the email input field<br>4. User allows clicking the submit button<br>5. System will send the reset password link to the user’s email<br>6. User can click the reset password link in the email and reset the password<br>7. System will update the reset password to the database<br><br>When the user clicks the “Sign up” link<br>1. System will display the register form<br>2. User is allowed to fill in the input field provided by the register form<br>3. User allows to click the submit button<br>4. System will receive the user input and validate the user input<br>5. System will store user input in the database<br>6. System will display a successful message and redirect to the login page |
| Exception Flow:<br>1. Incorrect user input<br>2. Invalid email                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Post Conditions:<br>1. Users allow to log in to their account<br>2. System will update the new password in the database<br>3. System will store the user input in the database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

*Table 4.2– Login Use Case Description*

#### 4.3.2.3 Logout– Customer Perspective

|                                                                                                     |
|-----------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                |
| Name: Logout                                                                                        |
| Brief Description: Allow customer to logout their account                                           |
| Actors: Customer, Admin                                                                             |
| Relationship:<br>Association:<br>Include:<br>Extends:<br>Generalization:                            |
| Preconditions:<br>1. User needs to log in to the account first                                      |
| Basic Flow:<br>1. User click the logout button<br>2. System will redirect the user to the main page |
| Alternate Flow:                                                                                     |
| Exception Flow:                                                                                     |
| Post Conditions:<br>1. System will redirect the user to the home page                               |

*Table 4.3 – Logout Use Case Description*

#### 4.3.2.4 Real Time Customer Service – Customer Perspective

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Name: Real-Time Customer Service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Brief Description: Able customer direct chat with the admin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Actors: Customer, Admin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Relationship:<br>Association:<br>Include:<br>Extends:<br>Generalization:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Preconditions:<br>1. User needs to login to the account first                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Basic Flow:<br>1. Customer clicks the “Live Chat” on the navigation header<br>2. System will display a chat box<br>3. Customer is allowed to type ask inquiries or have a consultant in the chat box<br>4. Customer press “send”<br>5. System will transfer the user input to the admin dashboard<br>6. Admin will receive the customer message<br>7. Admin also can type any message in the chat box to answer inquiries or consultation<br>8. Admin press “send”<br>9. System will transfer the user input to the customer chat box<br>10. Customer will receive the admin message |
| Alternate Flow:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Exception Flow:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Post Conditions:<br>1. Customer and Admin allow to send and receive messages in real-time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

*Table 4.4 – Real Time Customer Service Use Case Description*

#### 4.3.2.5 Feedback Review – Customer Perspective

|                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                                                                                                                         |
| Name: Feedback Review                                                                                                                                                                                                                                        |
| Brief Description: Able customer to provide or send feedback and product review to admin                                                                                                                                                                     |
| Actors: Customer                                                                                                                                                                                                                                             |
| Relationship:<br>Association:<br>Include:<br>Extends: Make Review<br>Generalization:                                                                                                                                                                         |
| Preconditions:<br>1. User has to log in to the account first                                                                                                                                                                                                 |
| Basic Flow:<br>1. User click the “Feedback” on the navigation header<br>2. System will display to the page with a feedback form                                                                                                                              |
| Alternate Flow:<br>1. System will provide a form and some input column<br>2. System will request user to fill the input field<br>3. User fill in the input field<br>4. System will receive the user input<br>5. System will store the user input to database |
| Exception Flow:<br>1. Incorrect or empty user input                                                                                                                                                                                                          |
| Post Conditions:<br>1. System will prompt out successfully feedback sent                                                                                                                                                                                     |

*Table 4.5 – Feedback review Use Case Description*

#### 4.3.2.6 View User Personal Information – Customer Perspective

|                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                                                                                                                                                                           |
| Name: View User Personal Information                                                                                                                                                                                                                                                                           |
| Brief Description: Allow customer to view their personal information and updating                                                                                                                                                                                                                              |
| Actors: Customer                                                                                                                                                                                                                                                                                               |
| Relationship:<br>Association:<br>Include:<br>Extends: Update User Personal Information<br>Generalization:                                                                                                                                                                                                      |
| Preconditions:<br>1. User has to login account first                                                                                                                                                                                                                                                           |
| Basic Flow:<br>1. User click the “Account” on the navigation bar<br>2. System will display user personal information with a table format                                                                                                                                                                       |
| Alternate Flow:<br>When user perform to update<br>1. User click the edit button<br>2. System will change the input field to editable<br>3. User typing the input field<br>4. User click the submit button<br>5. System will receive the new user input<br>6. System will update the user input to the database |
| Exception Flow:<br>1. Incorrect and empty user input                                                                                                                                                                                                                                                           |
| Post Conditions:<br>1. System will update the user input to database<br>2. System will display an update successfully message                                                                                                                                                                                  |

*Table 4.6 – View User Personal Information Use Case Description*

#### 4.3.2.7 Search Module – Customer Perspective

|                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                     |
| Name: Search Module                                                                                                                                      |
| Brief Description: Allow customer search product by type the keyword                                                                                     |
| Actors: Customer                                                                                                                                         |
| Relationship:<br>Association:<br>Include:<br>Extends:<br>Generalization:                                                                                 |
| Preconditions:<br>1. The product searched must be in the product list                                                                                    |
| Basic Flow:<br>1. User click the Search Icon on the Shop page<br>2. Type the keyword of the product name<br>3. System will list out the relevant product |
| Alternate Flow:                                                                                                                                          |
| Exception Flow:                                                                                                                                          |
| Post Conditions:<br>1. System will display products that relevant to the keyword type                                                                    |

*Table 4.7 – Search Module Use Case Description*

#### 4.3.2.8 Video Chat Module – Customer Perspective

|                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                                                |
| Name: Video Chat Module                                                                                                                                                             |
| Brief Description: Allow customer to seek for customer service using video chat                                                                                                     |
| Actors: Customer                                                                                                                                                                    |
| Relationship:<br>Association:<br>Include:<br>Extends:<br>Generalization:                                                                                                            |
| Preconditions:<br>1. Admin must be online                                                                                                                                           |
| Basic Flow:<br>1. User click the Chat icon at bottom left corner<br>2. Type the personal information<br>3. Get invitation link from Admin<br>3. System connect customer to an admin |
| Alternate Flow:                                                                                                                                                                     |
| Exception Flow:<br>Admin not online                                                                                                                                                 |
| Post Conditions:<br>1. Live chat section will be end by admin                                                                                                                       |

*Table 4.8 – Video Chat Module Use Case Description*

#### 4.3.2.9 Customer Cancel Order Record – Customer Perspective

|                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                                                         |
| Name: Customer Cancel Order Record                                                                                                                                                           |
| Brief Description: Allow customer to view their order record and perform cancel                                                                                                              |
| Actors: Customer                                                                                                                                                                             |
| Relationship:<br>Association:<br>Include:<br>Extends: Cancel Order<br>Generalization:                                                                                                        |
| Preconditions:<br>1. User need to login account first<br>2. User had already made the order                                                                                                  |
| Basic Flow:<br>1. User click the “Orders” on the navigation bar<br>2. System will list out the order record with purchased items                                                             |
| Alternate Flow:<br>When user click the cancel button<br>1. System will prompt out a confirm message<br>2. If user click yes button<br>3. System will delete the order record on the database |
| Exception Flow:                                                                                                                                                                              |
| Post Conditions:<br>1. System will display a cancel order successfully message                                                                                                               |

*Table 4.9 – Customer Cancel Order Use Case Description*

#### 4.3.2.10 Add New and Edit Product– Admin Perspective

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Name: Add New Product                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Brief Description: Allow admin to add product                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Actors: Admin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Relationship:<br>Association:<br>Include:<br>Extends: Update product<br>Generalization:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Preconditions:<br>1. Admin needs to login account first                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Basic Flow:<br>1. Admin click the Add Product link beside the navigation<br>2. System will list out the product list                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Alternate Flow:<br>When admin click the “add product detail” button<br><br>1. System will prompt out an input field<br>2. Admin allow to fill in the input field<br>3. Admin allow to click the submit button<br>4. System will receive the user input<br>5. System will store the user input to database<br><br>When admin click the “edit” button<br>6. Admin allow to fill in the new input<br>7. Admin allow to click the submit button<br>8. System will receive the new user input<br>9. System will update the new user input<br><br>When admin click the “delete” button<br>10. System will prompt out a confirm message<br>11. Admin allow to click the delete button<br>12. System will delete the user input in the database |
| Exception Flow:<br>1. Incorrect user input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Post Conditions:<br>1. System will display the successfully message of add, edit and delete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

*Table 4.10 – Add New Product Use Case Description*

#### 4.3.2.11 View Customer Review – Admin Perspective

|                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                               |
| Name: View Customer Review                                                                                         |
| Brief Description: Able admin to view the customer review                                                          |
| Actors: Admin                                                                                                      |
| Relationship:<br>Association:<br>Include:<br>Extends:<br>Generalization:                                           |
| Preconditions:<br>1. Admin need to login account first                                                             |
| Basic Flow:<br>1. Admin click the “Feedback” on the navigation<br>2. System will list out the customer review list |
| Alternate Flow:                                                                                                    |
| Exception Flow:                                                                                                    |
| Post Conditions:                                                                                                   |

*Table 4.11 – View Customer Review Use Case Description*

#### 4.3.2.12 Update Customer Order Status– Admin Perspective

|                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                                                     |
| Name: Track Customer Order                                                                                                                                                               |
| Brief Description: Allow admin to tracking and view customer order                                                                                                                       |
| Actors: Admin                                                                                                                                                                            |
| Relationship:<br>Association:<br>Include:<br>Extends:<br>Generalization:                                                                                                                 |
| Preconditions:<br>1. Admin need to login account first                                                                                                                                   |
| Basic Flow:<br>1. Admin click the “Order” on the navigation bar<br>2. System will prompt out a search box                                                                                |
| Alternate Flow:<br>1. Admin allow to view order record<br>2. Admin allow to click the edit button<br>3. System will show a order information<br>4. Admin is allow to update order status |
| Exception Flow:<br>1. Incorrect user input                                                                                                                                               |
| Post Conditions:                                                                                                                                                                         |

*Table 4.12 – Track Customer Order Use Case Description*

#### 4.3.2.13 Video Chat– Admin Perspective

|                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                                     |
| Name: Track Customer Order                                                                                                                                               |
| Brief Description: Allow admin video chat with customer                                                                                                                  |
| Actors: Admin                                                                                                                                                            |
| Relationship:<br>Association:<br>Include: Search Order ID<br>Extends:<br>Generalization:                                                                                 |
| Preconditions:<br>1. Admin need to login account first                                                                                                                   |
| Basic Flow:<br>1. Admin click the “Video Chat” on the navigation bar<br>2. System will prompt out a start meeting button<br>3. Admin invite customer to join the meeting |
| Alternate Flow:<br>1. Admin allow to fill in the meeting host name                                                                                                       |
| Exception Flow:                                                                                                                                                          |
| Post Conditions:                                                                                                                                                         |

*Table 4.13 – Admin Video Chat Use Case Description*

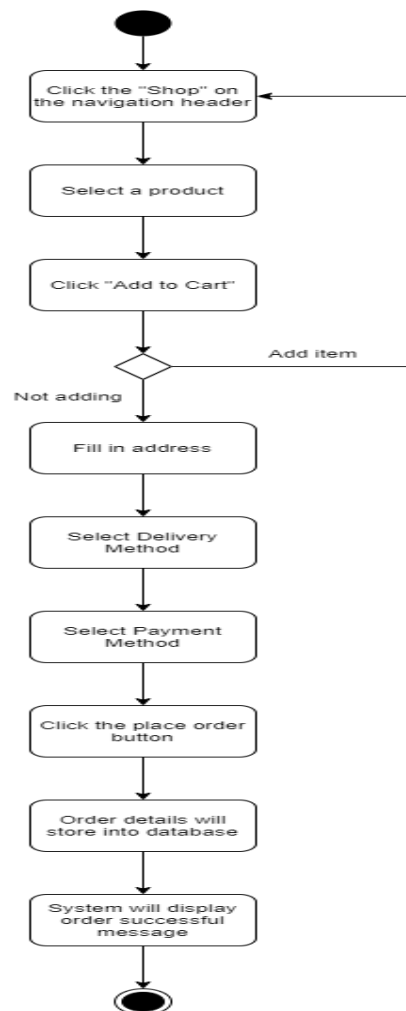
#### 4.3.2.14 Live Chat– Admin Perspective

|                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use Case Description                                                                                                                                                             |
| Name: Track Customer Order                                                                                                                                                       |
| Brief Description: Allow admin to has live chat with customer                                                                                                                    |
| Actors: Admin                                                                                                                                                                    |
| Relationship:<br>Association:<br>Include: Search Order ID<br>Extends:<br>Generalization:                                                                                         |
| Preconditions:<br>1. Admin need to login account first                                                                                                                           |
| Basic Flow:<br>1. Admin click the login into Tawk.to website<br>2. System will pop-up message if receive message from customer<br>3. Admin provide customer services to customer |
| Alternate Flow:                                                                                                                                                                  |
| Exception Flow:                                                                                                                                                                  |
| Post Conditions:                                                                                                                                                                 |

*Table 3.19 – Admin Live Chat Use Case Description*

## 4.4 Activity Diagram

### 4.4.1 Make Order – Customer Perspective



*Figure 4.4 Activity Diagram – Make Order- Customer Perspective*

The diagram shows the Make Order activity diagram from a Customer Perspective. To make an order, the customer first clicks on the "Shop" button on the navigation header. This takes them to the product catalog, where they can select the products they want to buy. Once they have selected the products, they click on the "Add to Cart" button to add the products to their cart. The customer then fills in their shipping address, selects a delivery method, and selects a payment method. Finally, they click on the "Place Order" button to submit their order. The order details are then stored in the database and the system displays an order successful message.

#### 4.4.2 Login Register– Customer Perspective

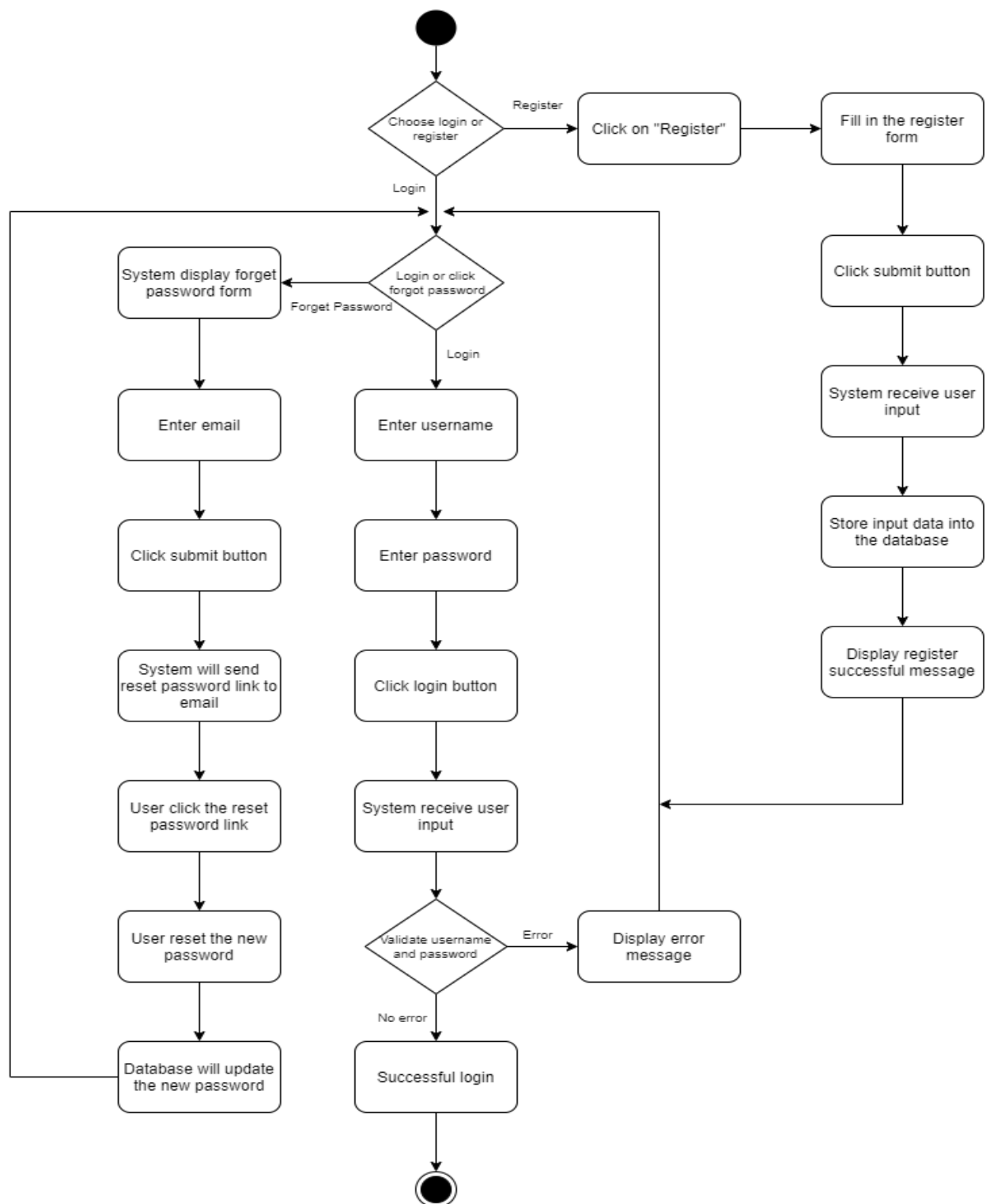


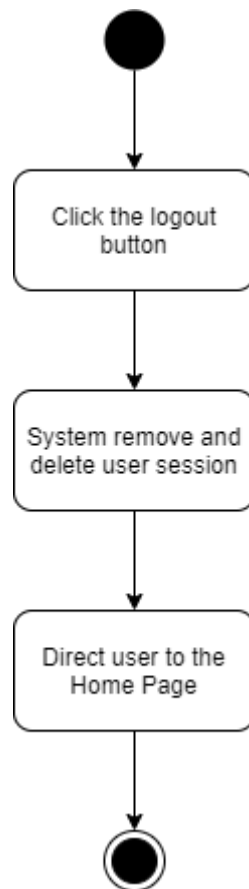
Figure 4.5 Activity Diagram – Login Register- Customer Perspective

The diagram shows the Login and Register activity diagram from a Customer Perspective. To begin, users click on the login button, which directs them to the login page. On this page, if users already possess an account, they simply need to enter their username and password. When they click the login button, the system validates the provided credentials. If the username and password are correct, a success message is displayed; otherwise, an error message is shown.

Additionally, if users forget their password, they can select the "forgot password" link, leading to a password recovery form. Users are required to enter their email and click the submit button. Upon submission, the system sends a password reset link to the provided email. Users must then open the link and input a new password. Once the new password is entered, it is updated in the system's database.

Furthermore, for users who do not have an account, they can click the "sign up" link on the login page. Selecting this link takes them to the sign-up page, where they can fill out the registration form. After completing the form, users need to click the sign-up button. When this button is clicked, the system collects the user's input and stores it in the database. Following the successful registration, a confirmation message is displayed, and users are returned to the login page.

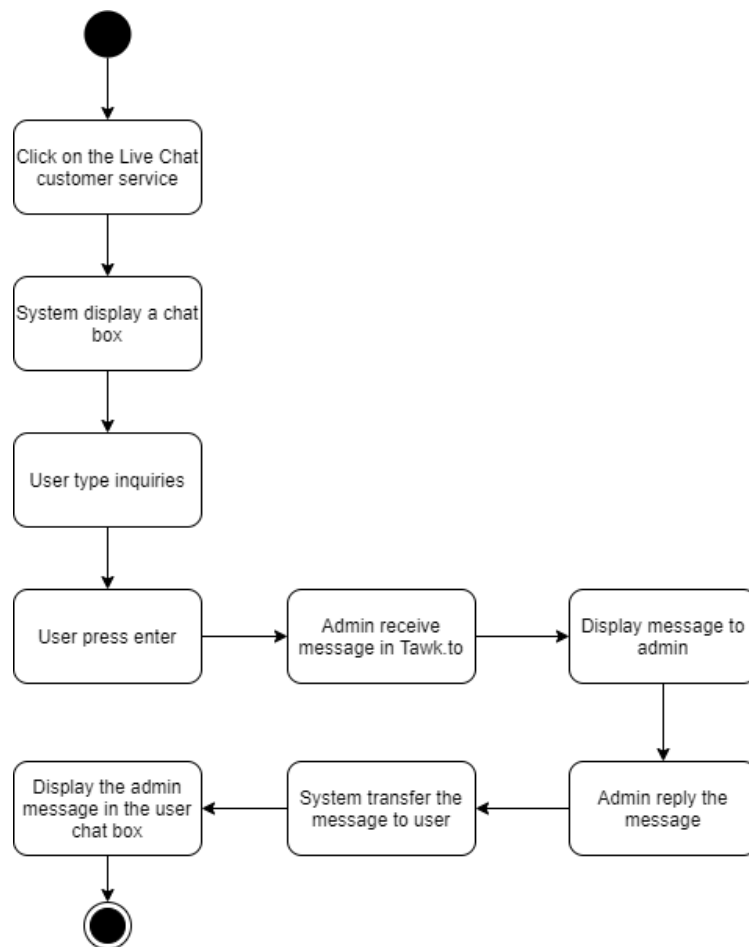
#### 4.4.3 Logout – Customer Perspective



*Figure 4.6 Activity Diagram – Logout - Customer Perspective*

The diagram shows a Logout activity diagram from a Customer Perspective. To logout, the customer clicks on the "Logout" button. This button is typically located in the top navigation bar or in the user menu. Once the customer clicks on the "Logout" button, the system will remove and delete their user session. This means that the customer will no longer be able to access the website or application. The system will also redirect the customer to the home page.

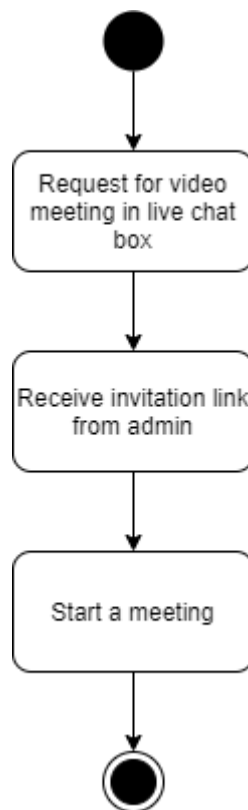
#### 4.4.4 Live Chat Customer Service – Customer Perspective



*Figure 4.7 Activity Diagram – Live Chat- Customer Perspective*

The diagram shows a Live Chat activity diagram from a Customer Perspective. As a customer, if you want to get in touch with customer service to ask a question or get help. You can click the "Live Chat" button on the website and click on it. This takes you to a chat box where you can type in your inquiry. Once you press enter, the system will display the customer's enquiry in the admin site. The admin will then receive your message and respond to it. You can continue to chat with the admin until your issue is resolved.

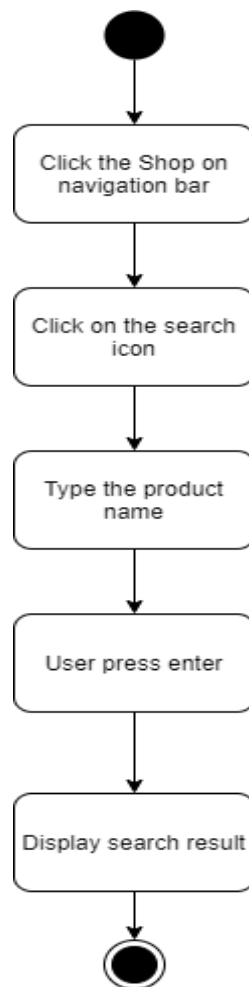
#### 4.4.5 Video Chat Customer Service – Customer Perspective



*Figure 4.8 Activity Diagram – Video Chat- Customer Perspective*

The flowchart depicts initiating a video meeting through a live chat. It begins with a request for a video meeting made in the chat box. Next, an admin sends an invitation link. Finally, clicking the link starts the meeting.

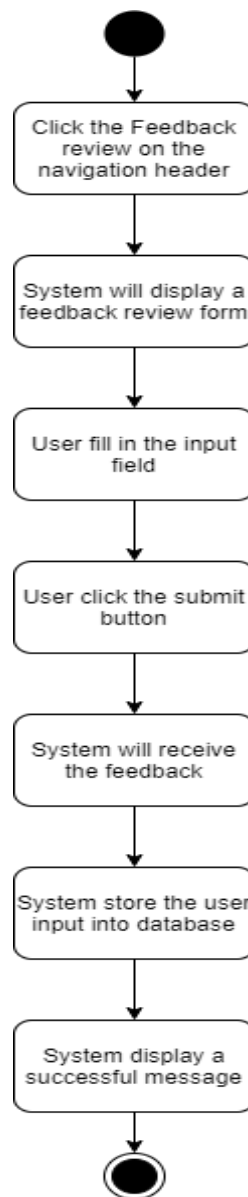
#### 4.4.6 Search Product – Customer Perspective



*Figure 4.9 Activity Diagram – Search Product- Customer Perspective*

The flowchart you sent illustrates the steps involved in searching for a product on a website. It starts with the user clicking on the "Shop on" navigation bar, presumably leading to a shopping page. Then, the user clicks on a search icon to indicate their intent to find a product. After that, the user types the name of the product they're looking for. Finally, upon pressing enter, the search results for the product are displayed.

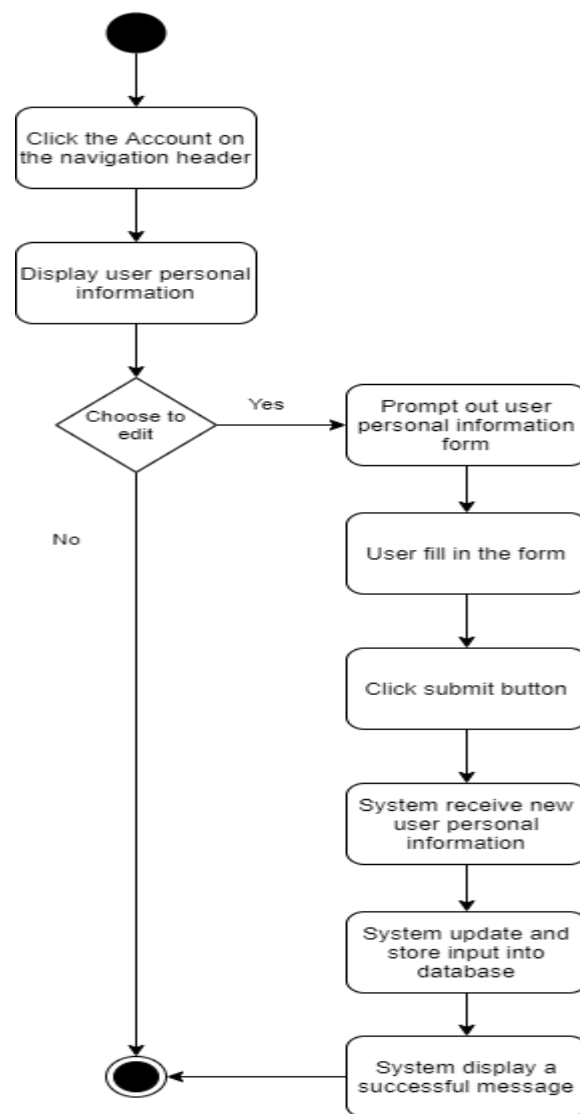
#### 4.4.7 Write Feedback Review – Customer Perspective



*Figure 4.10 Activity Diagram – Feedback- Customer Perspective*

The diagram shows a Write Feedback activity diagram from a Customer Perspective. To submit feedback, the customer clicks on the "Feedback" button on the navigation header. This takes them to a feedback form. The form asks for the customer's name, email address, phone number, order ID and feedback. The customer should fill in the form as completely and accurately as possible. Once the customer has filled in the form, they click on the "Submit" button. The system then receives the feedback and stores it in the database then shows a successful message.

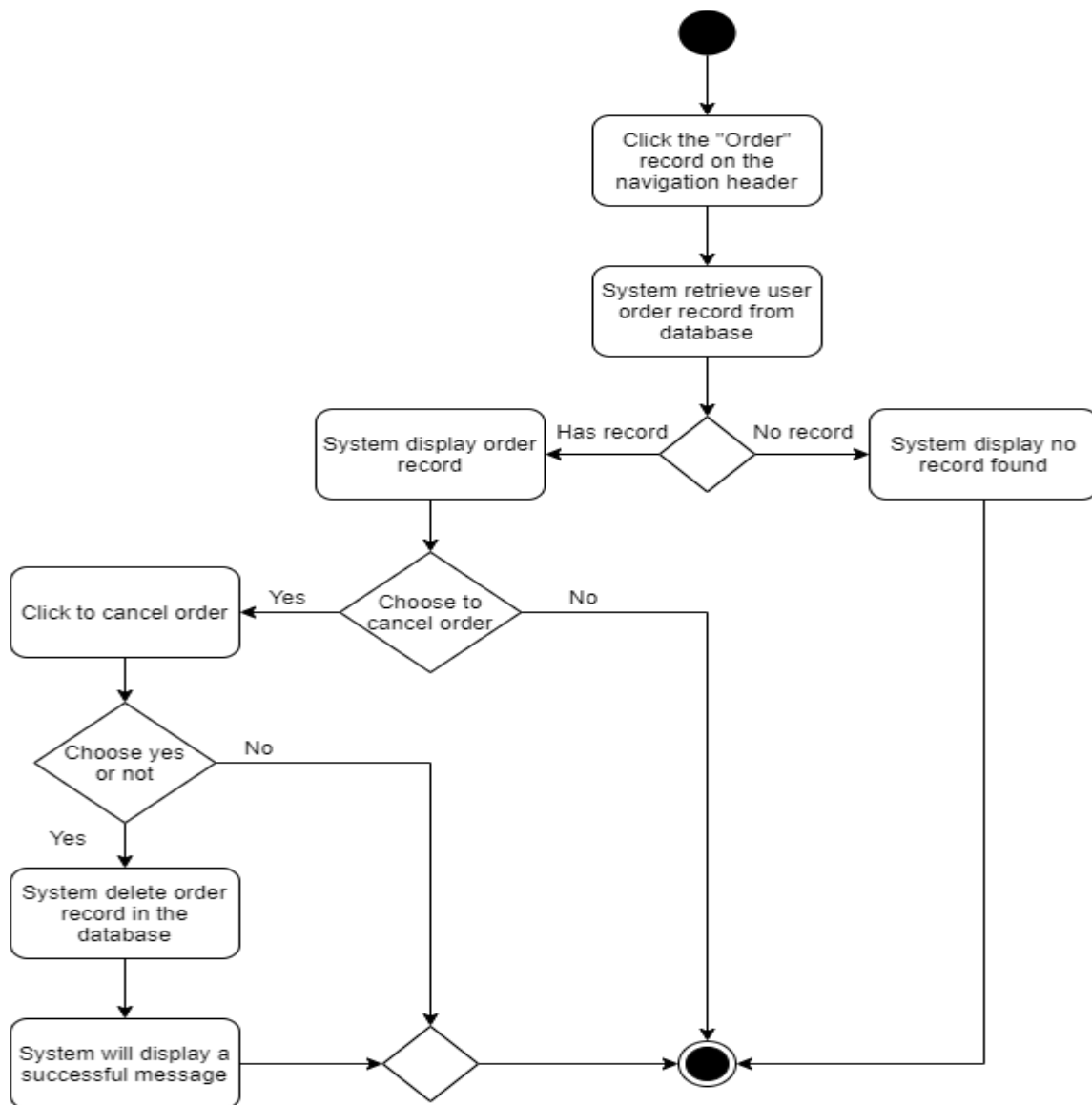
#### 4.4.8 View and Edit Personal Information – Customer Perspective



*Figure 4.11 Activity Diagram – View and Edit Personal Information- Customer Perspective*

The diagram shows a View and Edit Personal Information activity diagram from a Customer Perspective. To view and edit personal information, the customer clicks on the "Account" button on the navigation header. This takes them to their account page, where they can see their personal information, such as their name, email address, and phone number. If the customer wants to edit their personal information, they can click on the "Edit" button next to the information they want to change. This will take them to a form where they can update their personal information. Once they have filled out the form, they click on the "Submit" button to save their changes. The system will then update and store their personal information into the database.

#### 4.4.9 View Order Record – Customer Perspective



*Figure 4.12 Activity Diagram – View Order - Customer Perspective*

The diagram shows a View and Cancel Order activity diagram from a Customer Perspective. To view and cancel an order, the customer clicks on the "Order record" button on the navigation header. This takes them to a page where they can see their order history. The customer can see the order details. If the customer wants to cancel an order, they can click on the "Cancel Order" button next to the order they want to cancel. This will prompt a confirmation message to make sure that the customer wants to cancel the order. If the customer clicks on the "Yes" button, the system will delete the order record from the database and display a successful message.

#### 4.4.10 Create, edit and delete product – Admin Perspective

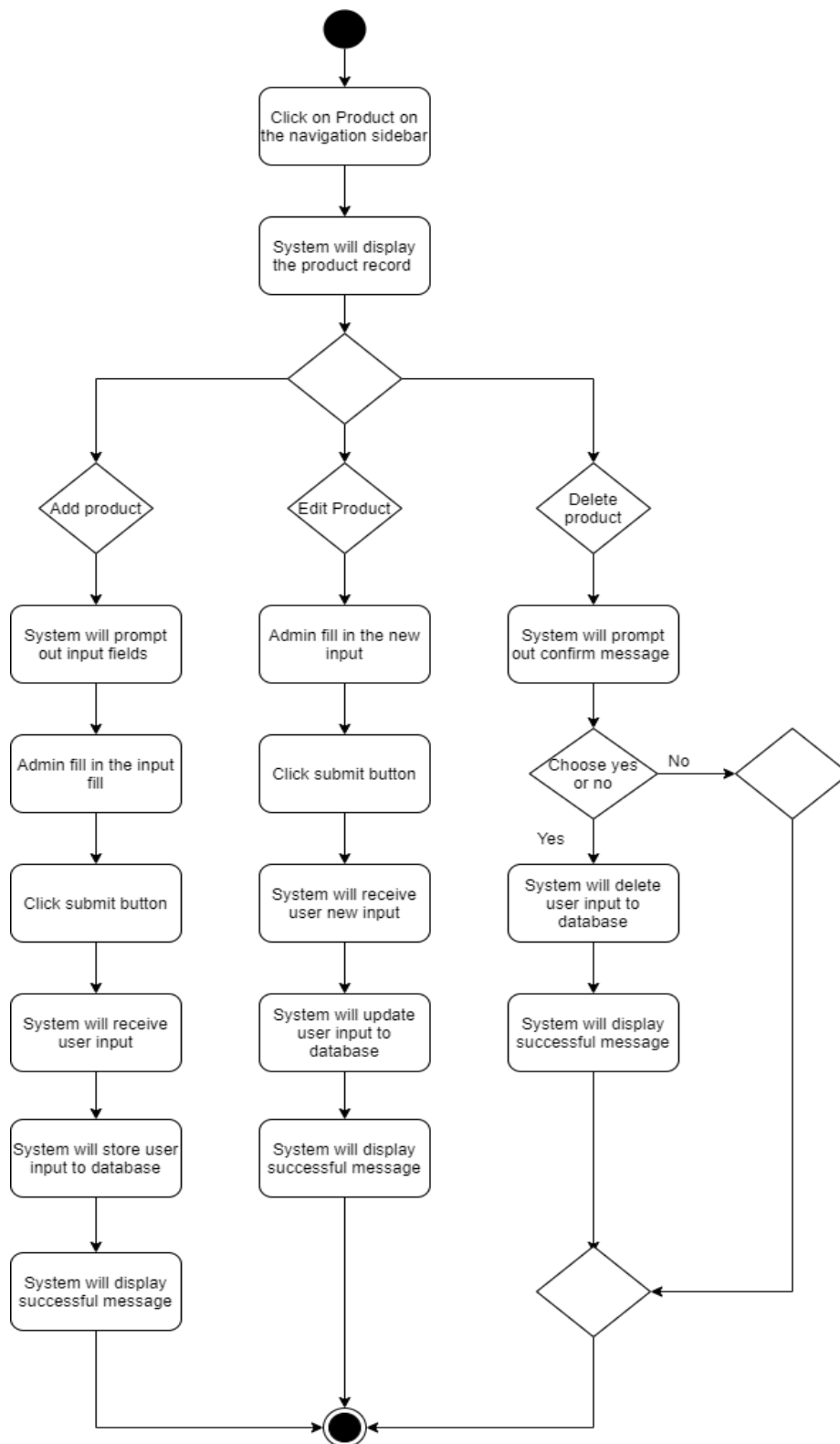


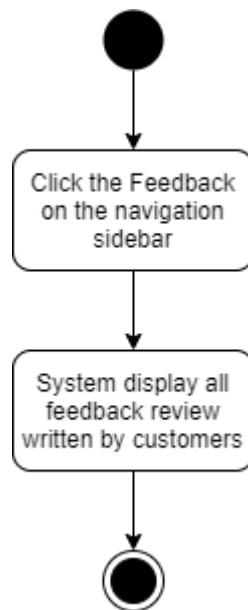
Figure 4.13 Activity Diagram – Create, Edit, Delete Product - Admin Perspective

The diagram shows a Add, Edit and Delete Product activity diagram from a Admin Perspective. To create, edit, or delete a product, the admin clicks on the "Products" button on the navigation header. This takes them to the products page, which lists all the products in the system. To create a product, the admin clicks on the "Create Product" button. This will prompt a product form where the admin can enter the product details, such as the product name, description, price, and stock quantity. Once the admin has filled out the form, they click on the "Create" button to create the product.

To edit a product, the admin clicks on the "Edit" button next to the product they want to edit. This will prompt the product form with the current product details. The admin can then update the product details in the form and click on the "Update" button to save their changes.

To delete a product, the admin clicks on the "Delete" button next to the product they want to delete. This will prompt a confirmation message to make sure that the admin wants to delete the product. If the admin clicks on the "Yes" button, the system will delete the product from the database.

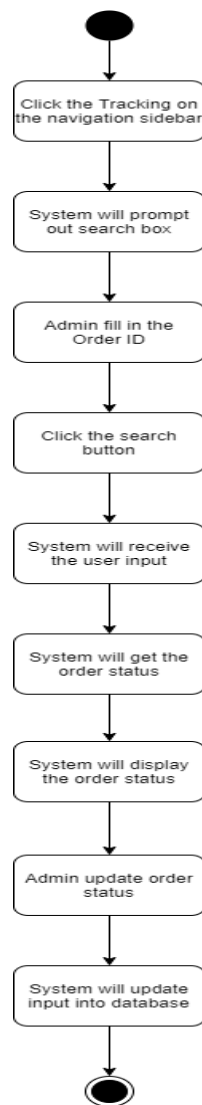
#### 4.4.11 View Customer Review Feedback – Admin Perspective



*Figure 4.14 Activity Diagram – View Customer Feedback - Admin Perspective*

The diagram shows View Customer Review from an Admin Perspective. When the admin clicks the "Feedback" button on the navigation sidebar, the system retrieves all feedback reviews written by customers and then displays all feedback reviews to the user.

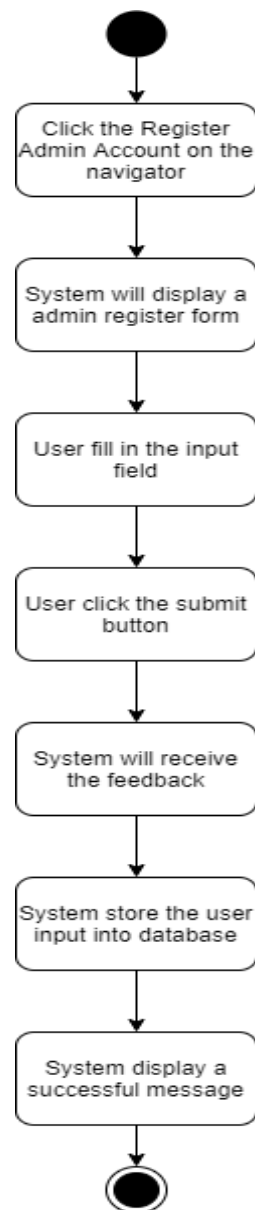
#### 4.4.12 Manage Customer Order – Admin Perspective



*Figure 4.15 Activity Diagram – Track Customer Order - Admin Perspective*

The diagram shows Track Customer Order from an Admin Perspective. To track a customer order, the admin clicks on the "Orders" button on the navigation. This takes them to the orders page, which lists all the orders in the system. The admin enters the order ID in the search box and clicks on the "Track" button. The system will then display the order tracking information, such as the order status, shipping address, and tracking number.

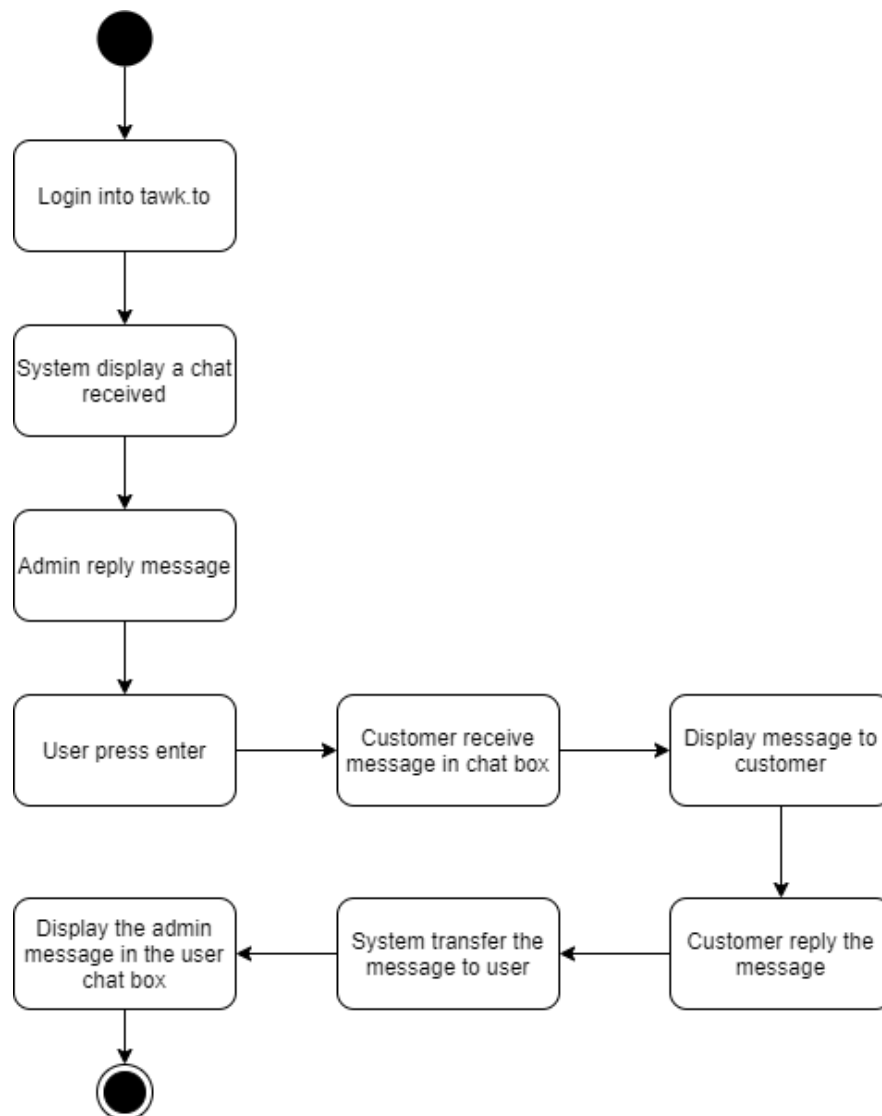
#### 4.4.13 Register Admin Account – Super Admin Perspective



*Figure 4.16 Activity Diagram – Register Admin Account - Admin Perspective*

The diagram shows Register Admin Account from an Admin Perspective. To register an admin account, the admin clicks on the "Register Admin Account" button on the navigation header. This takes them to the register admin account page, which has a registration form. The admin fills in the registration form with their admin details, such as their username, email address, phone number, and password. Once they have filled out the form, they click on the "Register" button. The system will then register the admin account and store it in the database.

#### 4.4.14 Admin Live Chat – Admin Perspective



*Figure 4.17 Activity Diagram – Admin Live Chat - Admin Perspective*

The diagram shows Admin Live Chat from an Admin Perspective. To respond to a customer's live chat message, the admin clicks on the "Live Chat" button on the navigation header. This takes them to the live chat page, which has a chat box. The admin sees the customer's message in the chat box and replies to it. Once the admin has typed their reply, they click on the "Submit" button to send it to the customer.

#### 4.4.15 Manage Registered Account – Admin Perspective

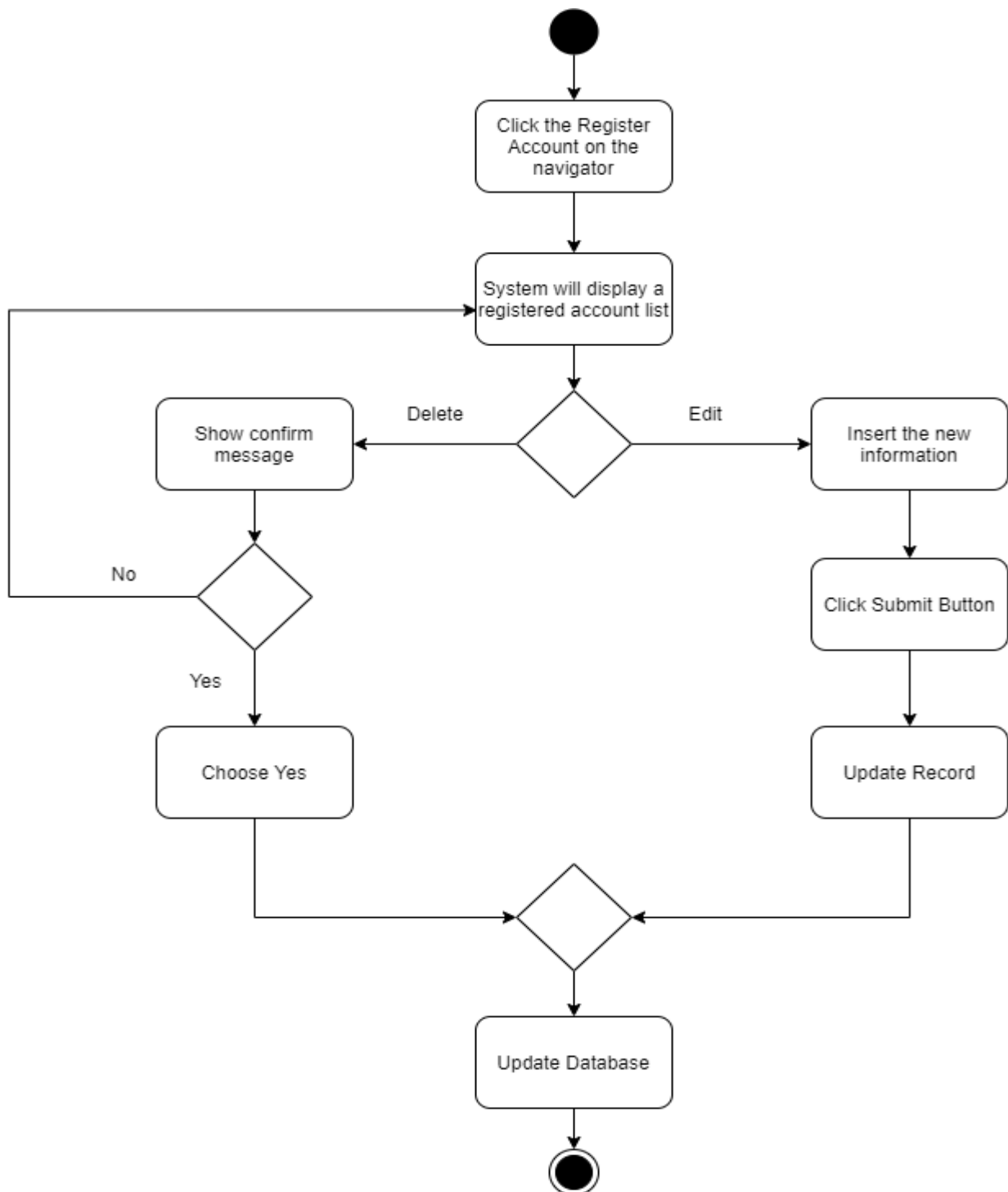


Figure 4.18 Activity Diagram – Manage Registered Account - Admin Perspective

The diagram shows Manage Registered Account from an Admin Perspective. To manage a registered account, the admin clicks on the "Register Account" button on the navigation header.

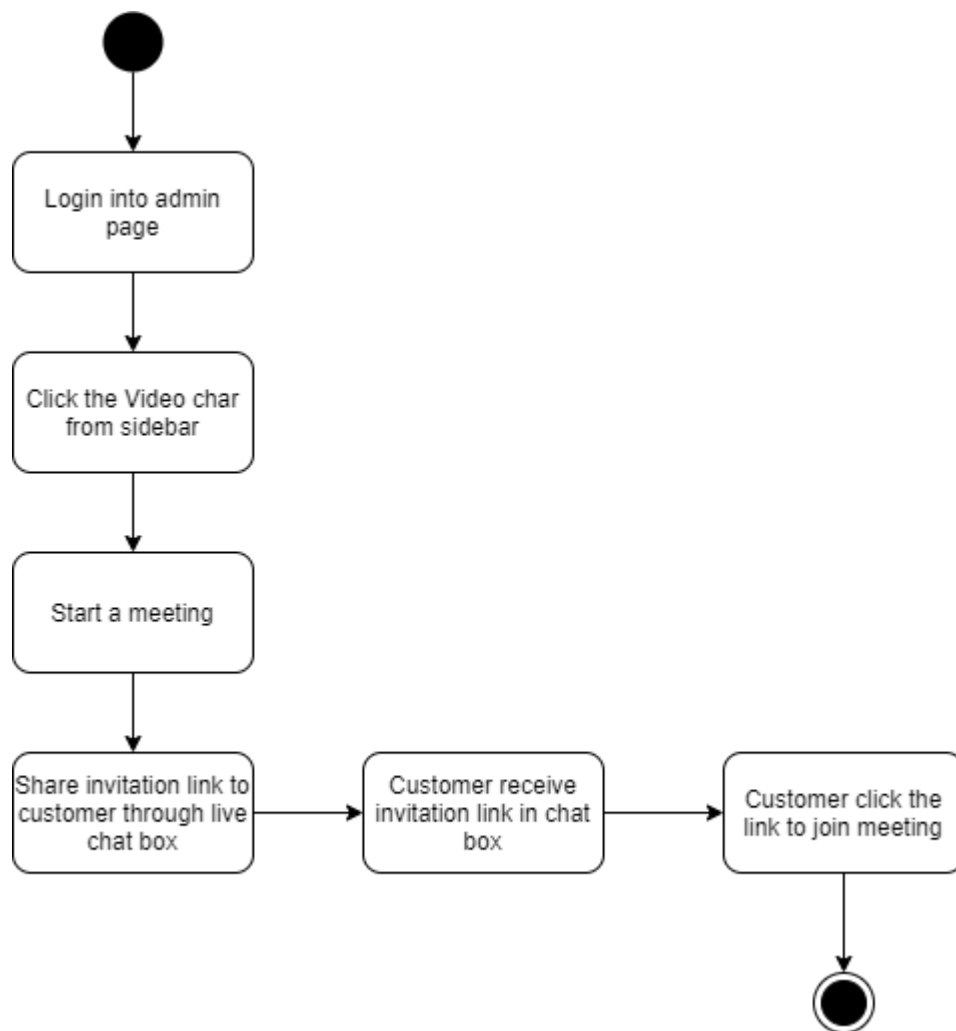
This takes them to the registered account page, which lists all the registered accounts in the system. The admin can choose to delete, edit, or view a registered account.

To delete a registered account, the admin clicks on the "Delete" button next to the account they want to delete. This will prompt a confirmation message to make sure that the admin wants to delete the account. If the admin clicks on the "Yes" button, the system will delete the account from the database.

To edit a registered account, the admin clicks on the "Edit" button next to the account they want to edit. This will prompt the registered account form with the current account details. The admin can then update the account details in the form and click on the "Update" button to save their changes.

To view a registered account, the admin clicks on the "View" button next to the account they want to view. This will display the account details, such as the account name, email address, and creation date.

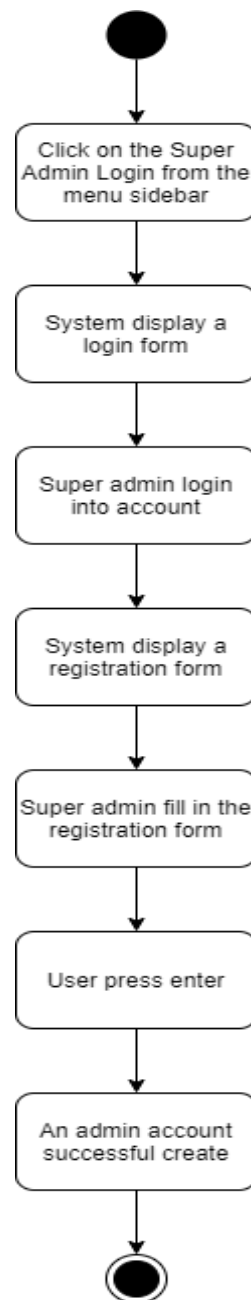
#### 4.4.16 Video Chat – Admin Perspective



*Figure 4.19 Activity Diagram – Video Chat - Admin Perspective*

The flowchart outlines how an admin sets up a video chat meeting: the admin logs in, starts a meeting which generates a link, and shares that link with the customer through a built-in chat box. The customer then clicks the link to join the meeting.

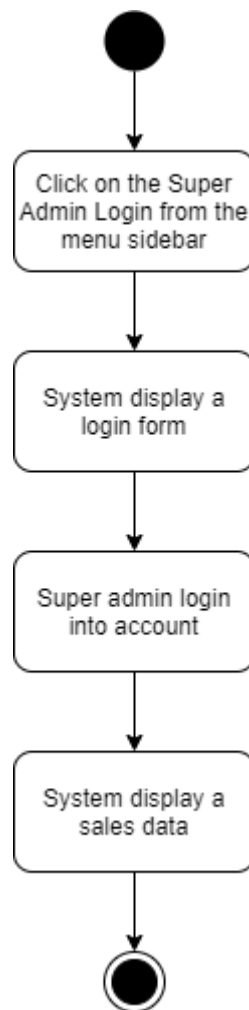
#### 4.4.17 Register an admin account – Super Admin Perspective



*Figure 4.20 Activity Diagram – Register Admin account – Super Admin Perspective*

To create a new admin account, the super admin begins by clicking on “Super Admin Login” from the menu sidebar. The system then displays a login form for authentication. After successful login, a registration form appears, allowing the super admin to input details for the new admin account. Upon submission, the system processes the data, and the admin account is successfully created and ready for use.

#### 4.4.18 View Dashboard – Super Admin Perspective



*Figure 3.28 Activity Diagram – View Dashboard – Super Admin Perspective*

The activity diagram depicts a flowchart outlining the steps for a Super Admin to access sales data on a system. The process begins with the Super Admin clicking on their login option from the menu sidebar. Subsequently, the system displays a login form for authentication purposes. After successful login, the Super Admin gains access to sales data for review.

## 4.5 Sequence Diagram

### 4.5.1 Make Order – Customer Perspective

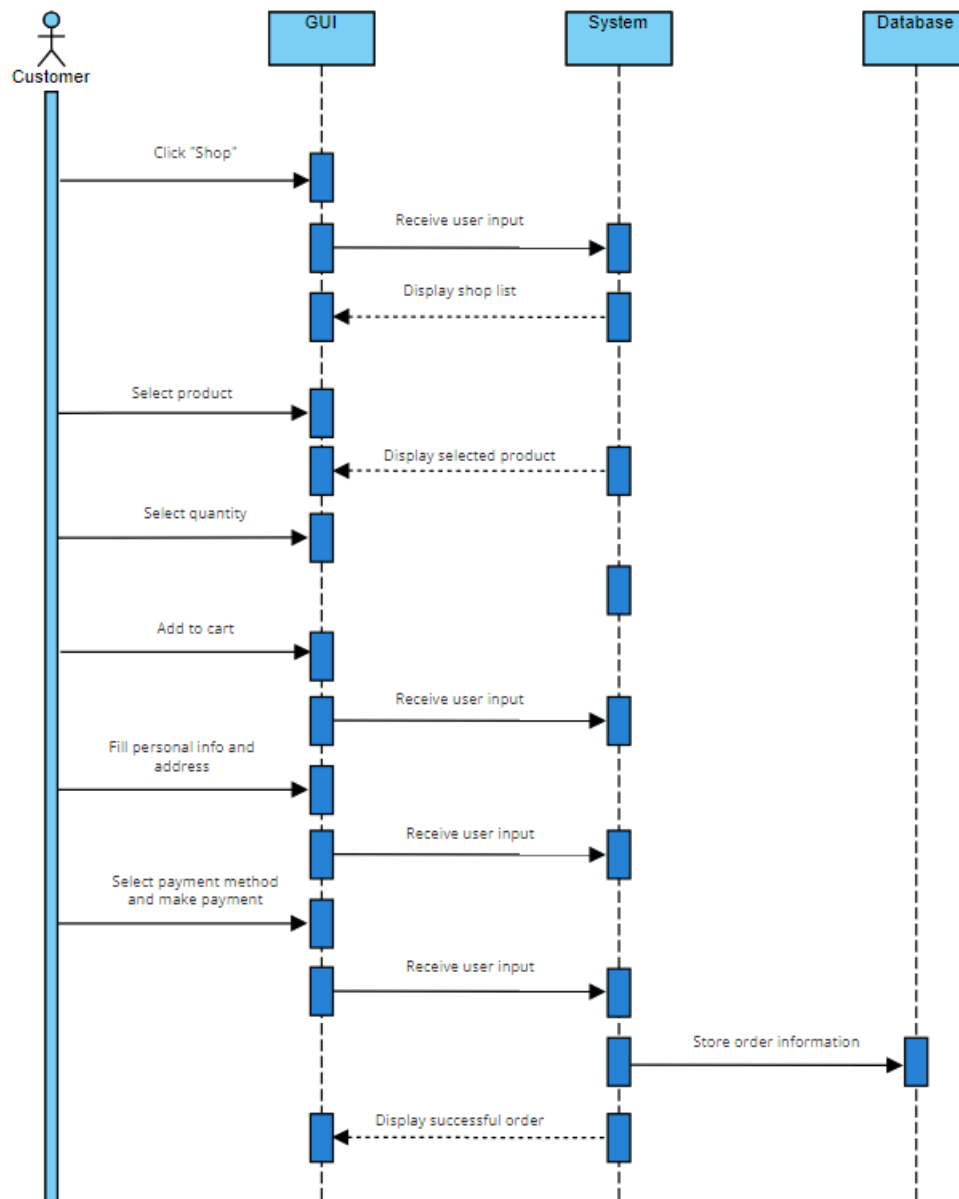


Figure 4.22 Sequence Diagram – Make Order - Customer Perspective

## 4.5.2 Login – Customer Perspective

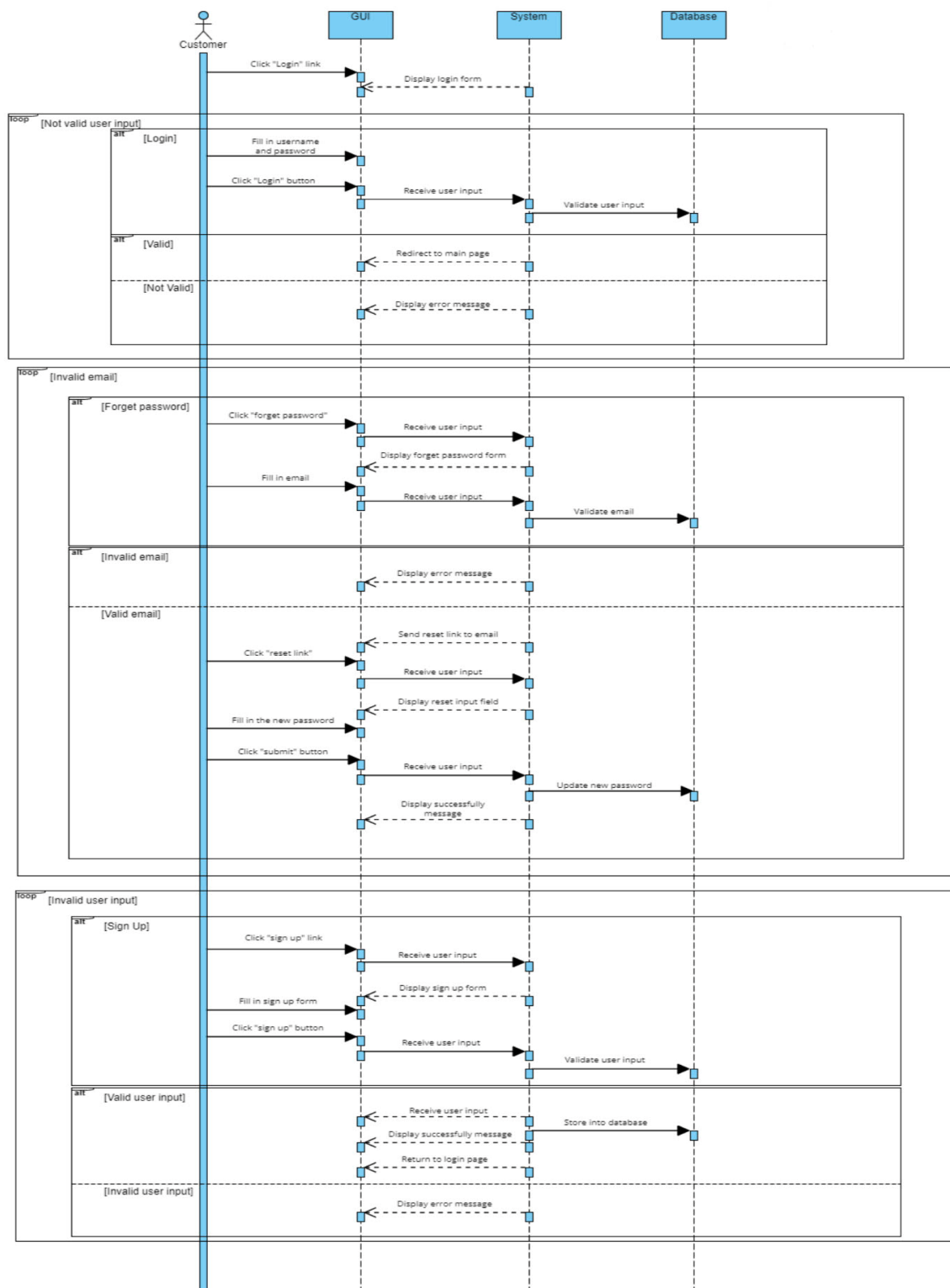
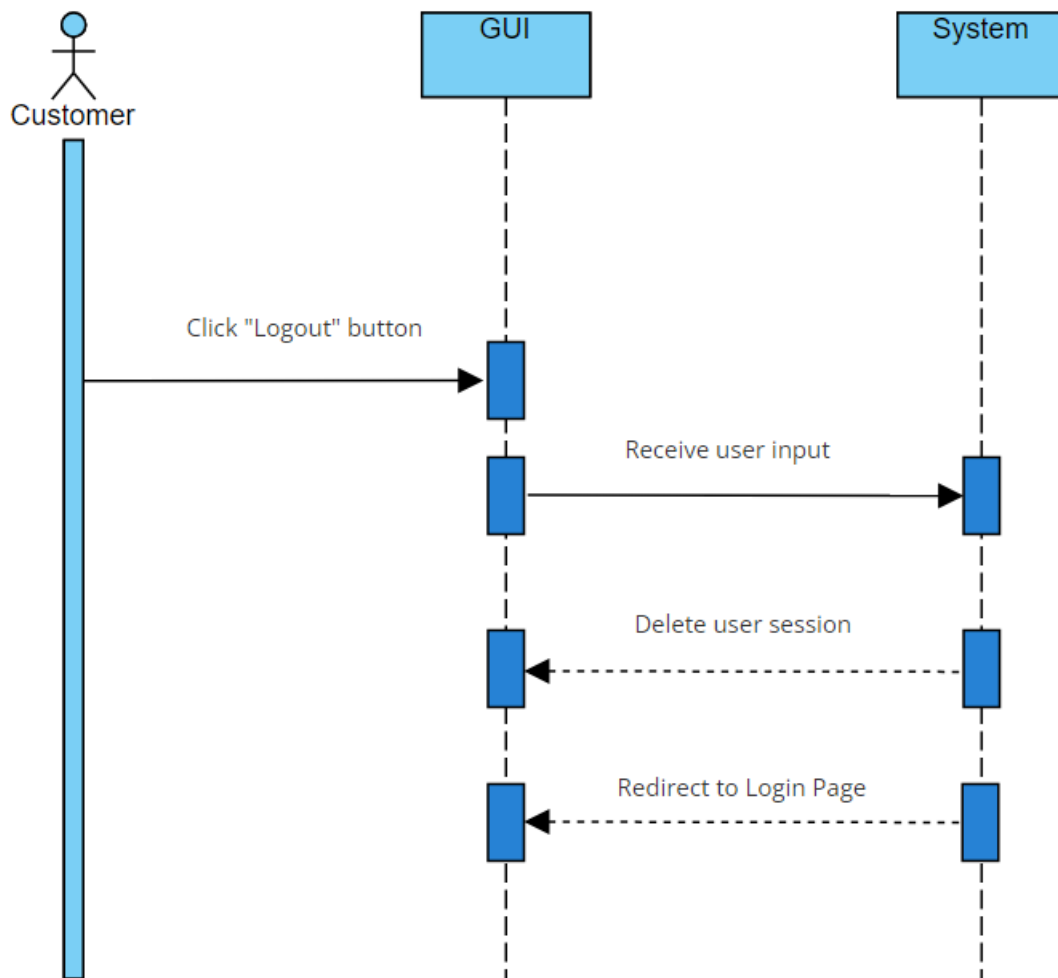


Figure 4.23 Sequence Diagram – Login Register - Customer Perspective

#### 4.5.3 Logout – Customer Perspective



*Figure 4.24 Sequence Diagram – Logout - Customer Perspective*

#### 4.5.4 Live Chat – Customer Perspective

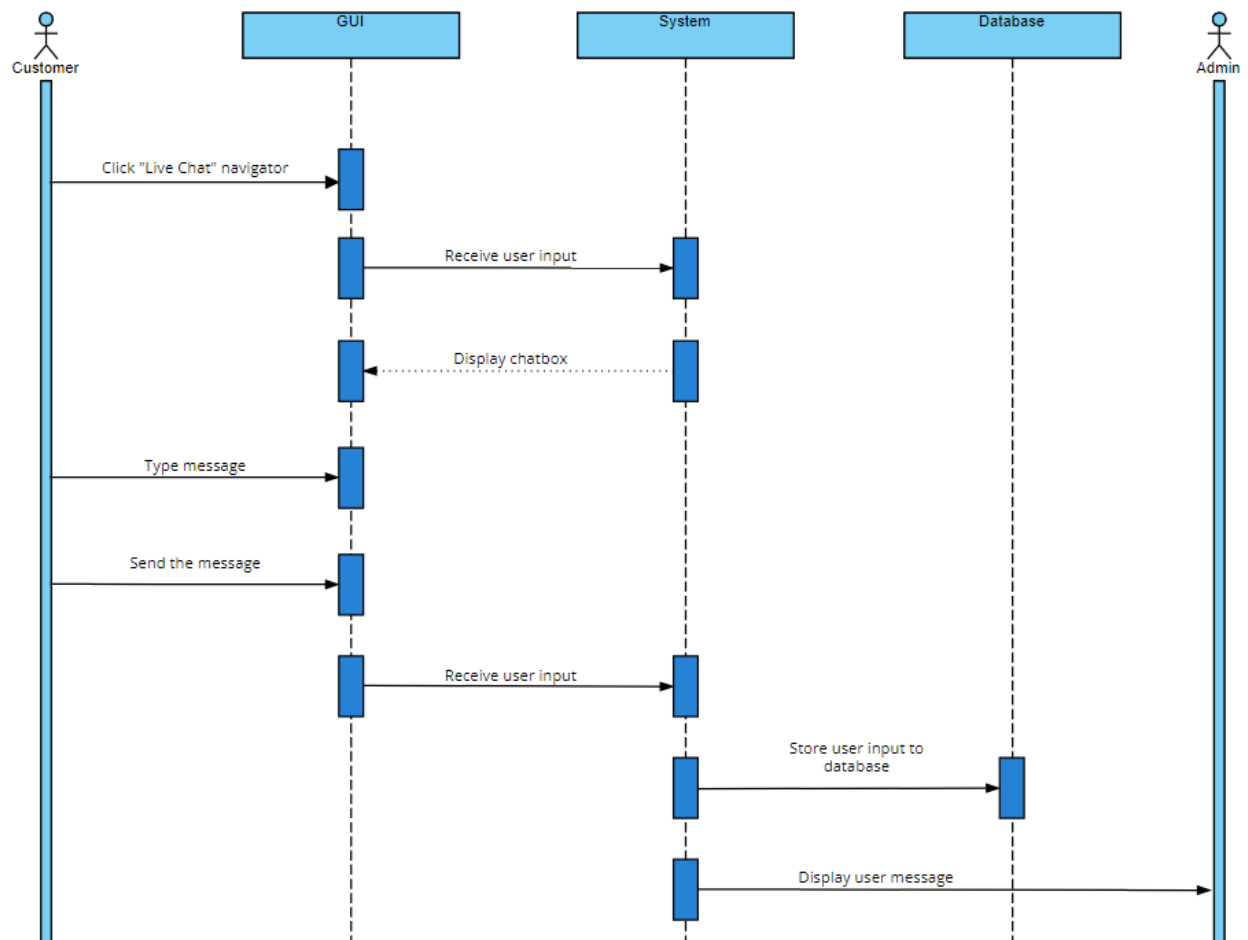


Figure 4.25 Sequence Diagram – Live Chat - Customer Perspective

#### 4.5.5 Search Module – Customer Perspective

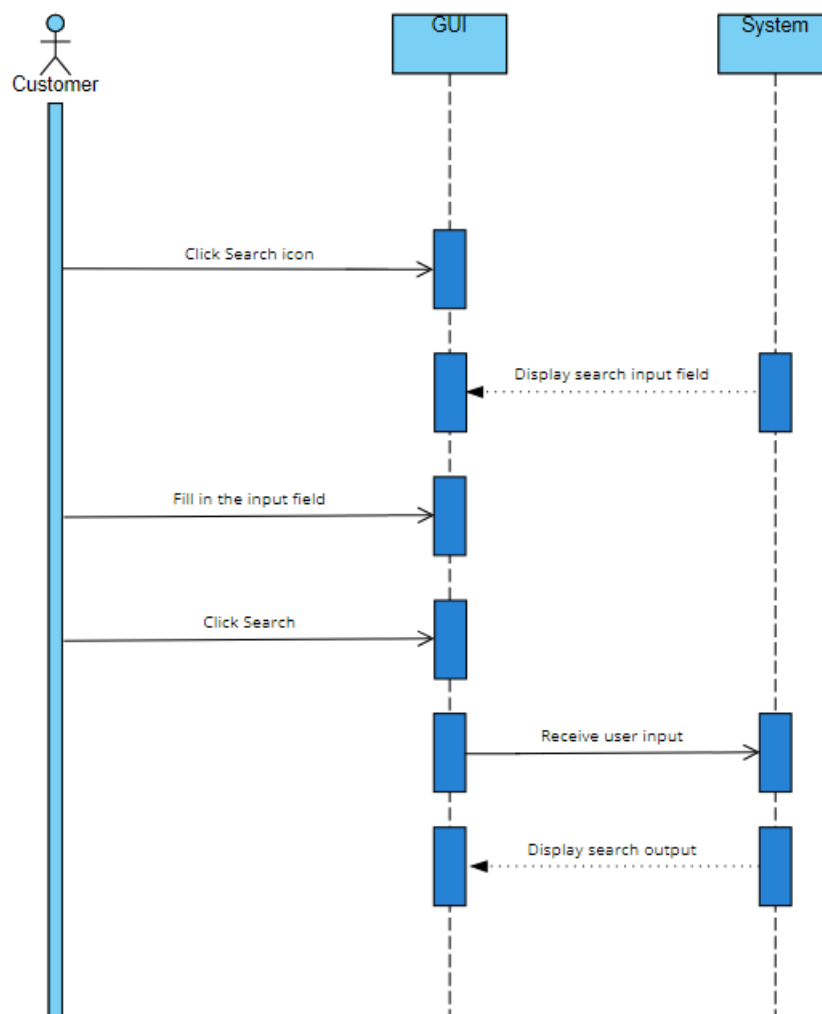


Figure 4.26 Sequence Diagram – Search Module - Customer Perspective

#### 4.5.6 Write Review – Customer Perspective

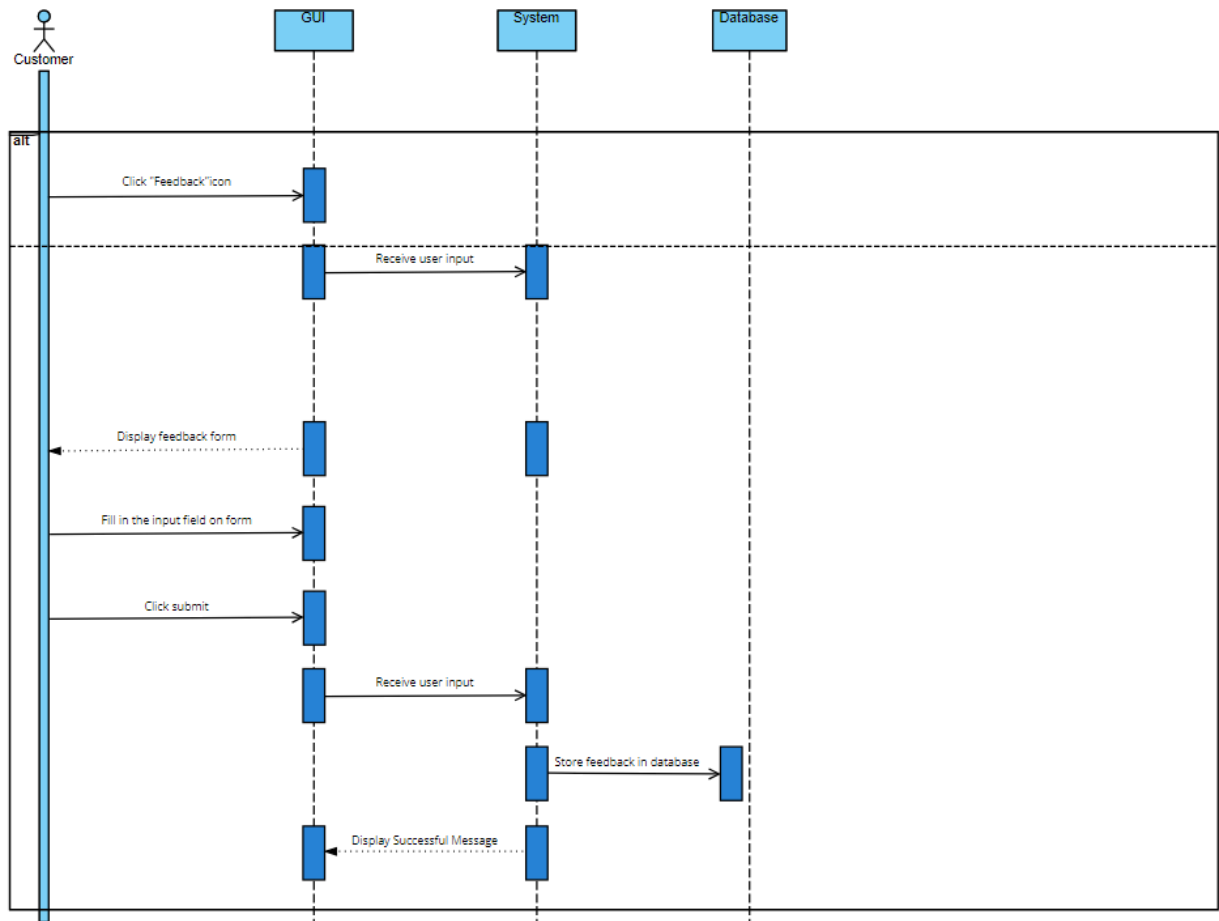


Figure 4.27 Sequence Diagram – Write Review - Customer Perspective

#### 4.5.7 View and Edit Personal Information – Customer Perspective

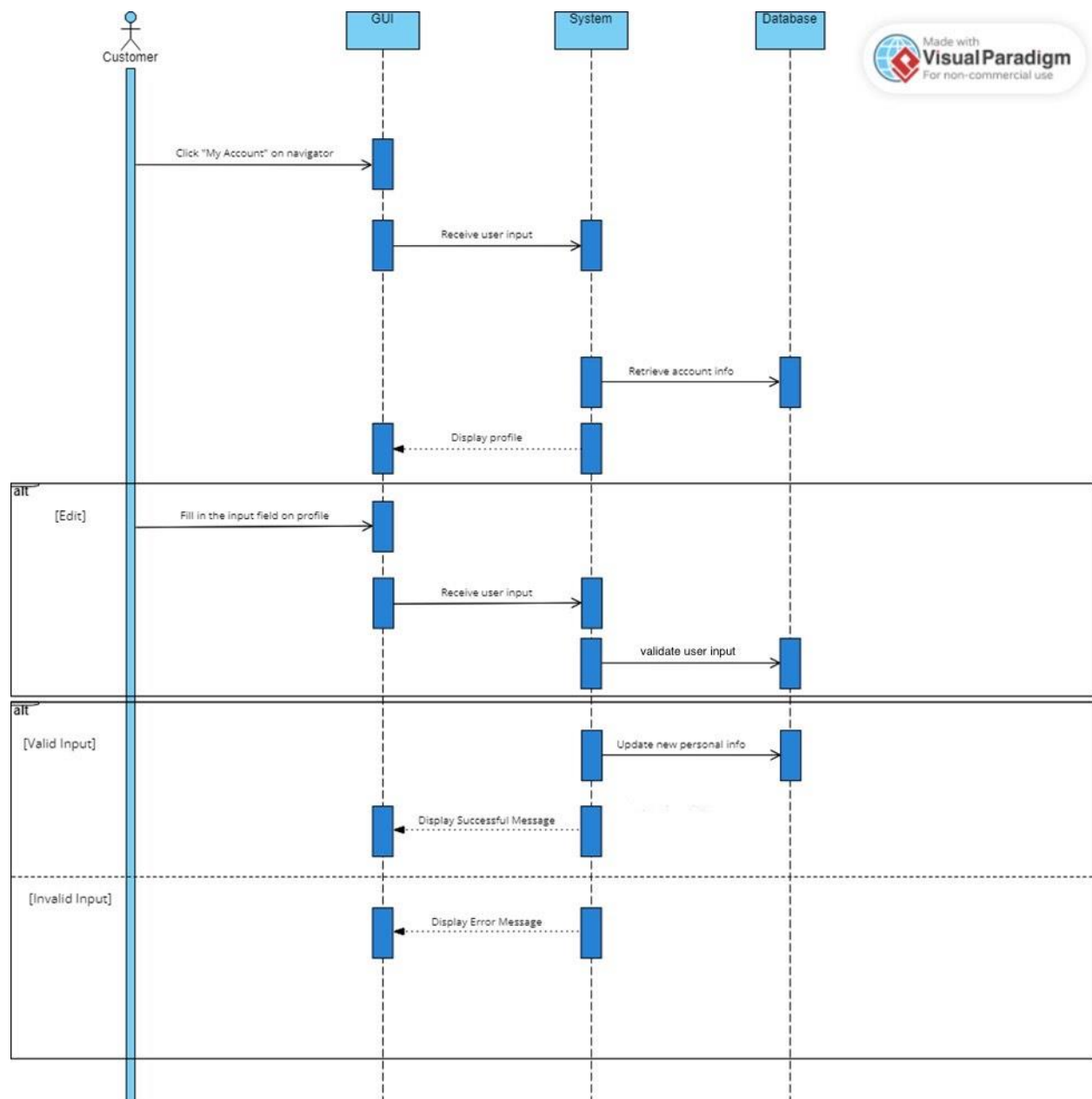


Figure 4.28 Sequence Diagram – View and Edit Personal Information - Customer Perspective

#### 4.5.8 View Order – Customer Perspective

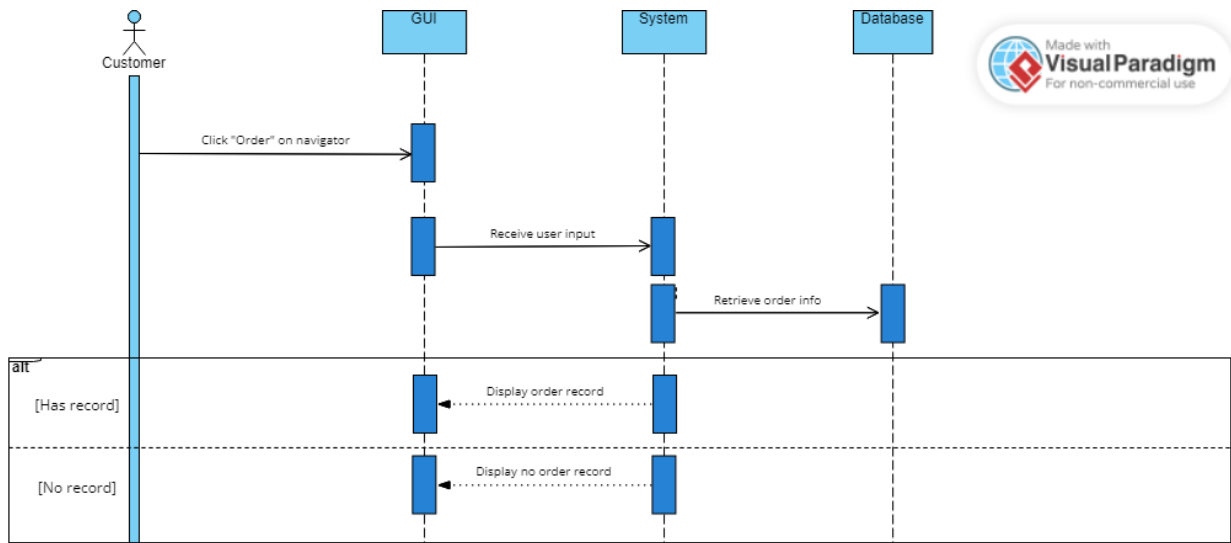


Figure 4.29 Sequence Diagram – View and Edit Order- Customer Perspective

### 4.5.9 Create New Product – Admin Perspective

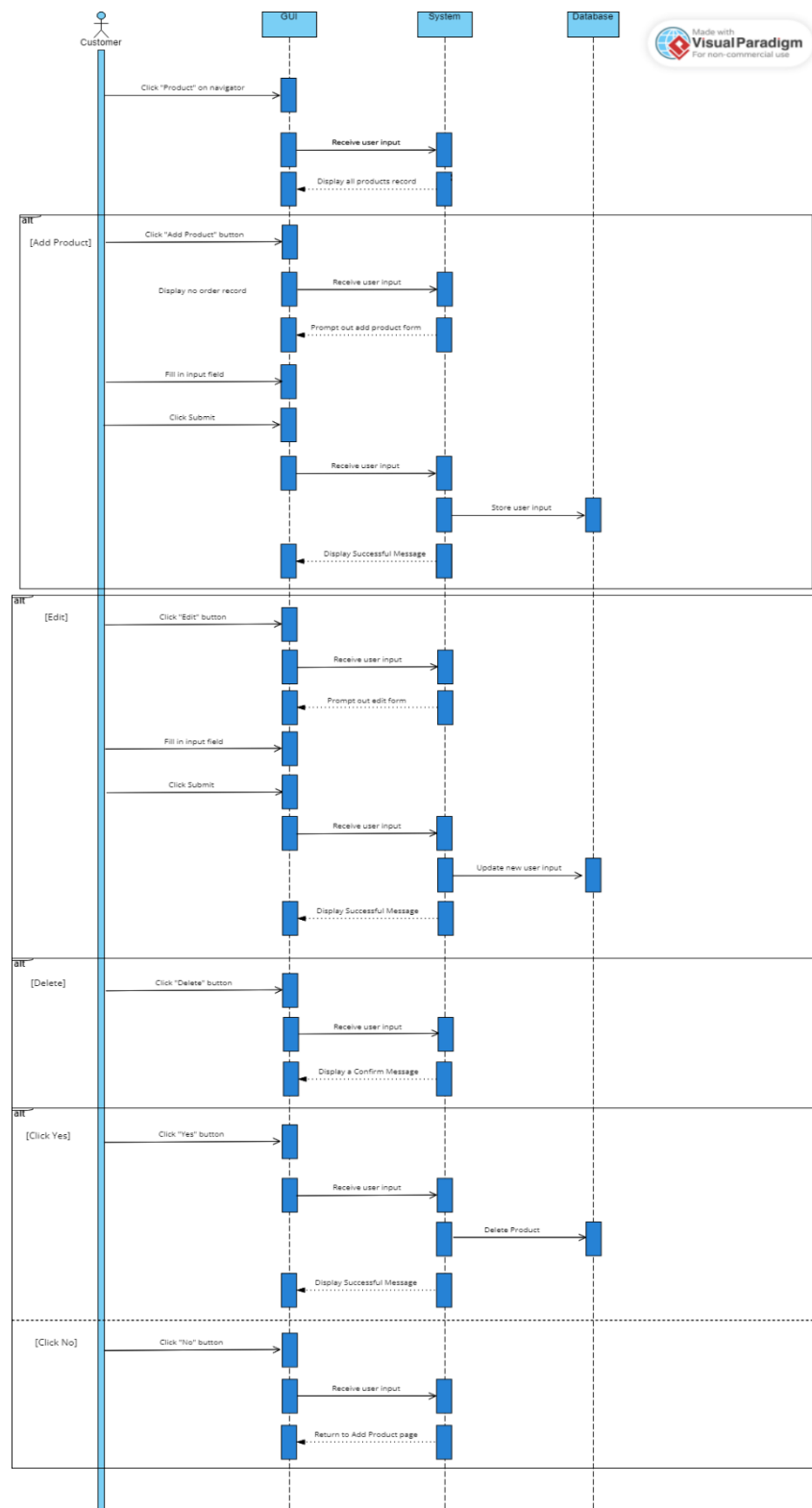


Figure 4.30 Sequence Diagram – Create New Product - Admin Perspective

#### 4.5.10 View Feedback – Admin Perspective

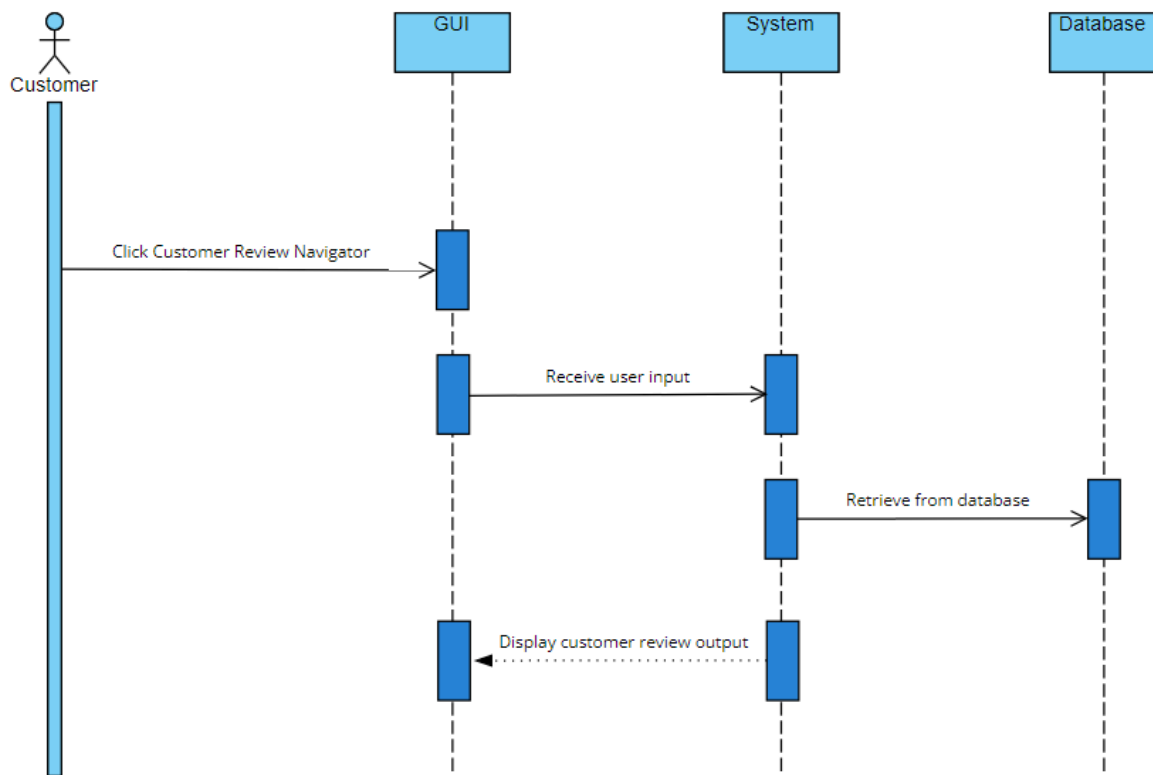


Figure 4.31 Sequence Diagram – View Feedback - Admin Perspective

#### 4.5.11 View Registered Customer Account – Admin Perspective

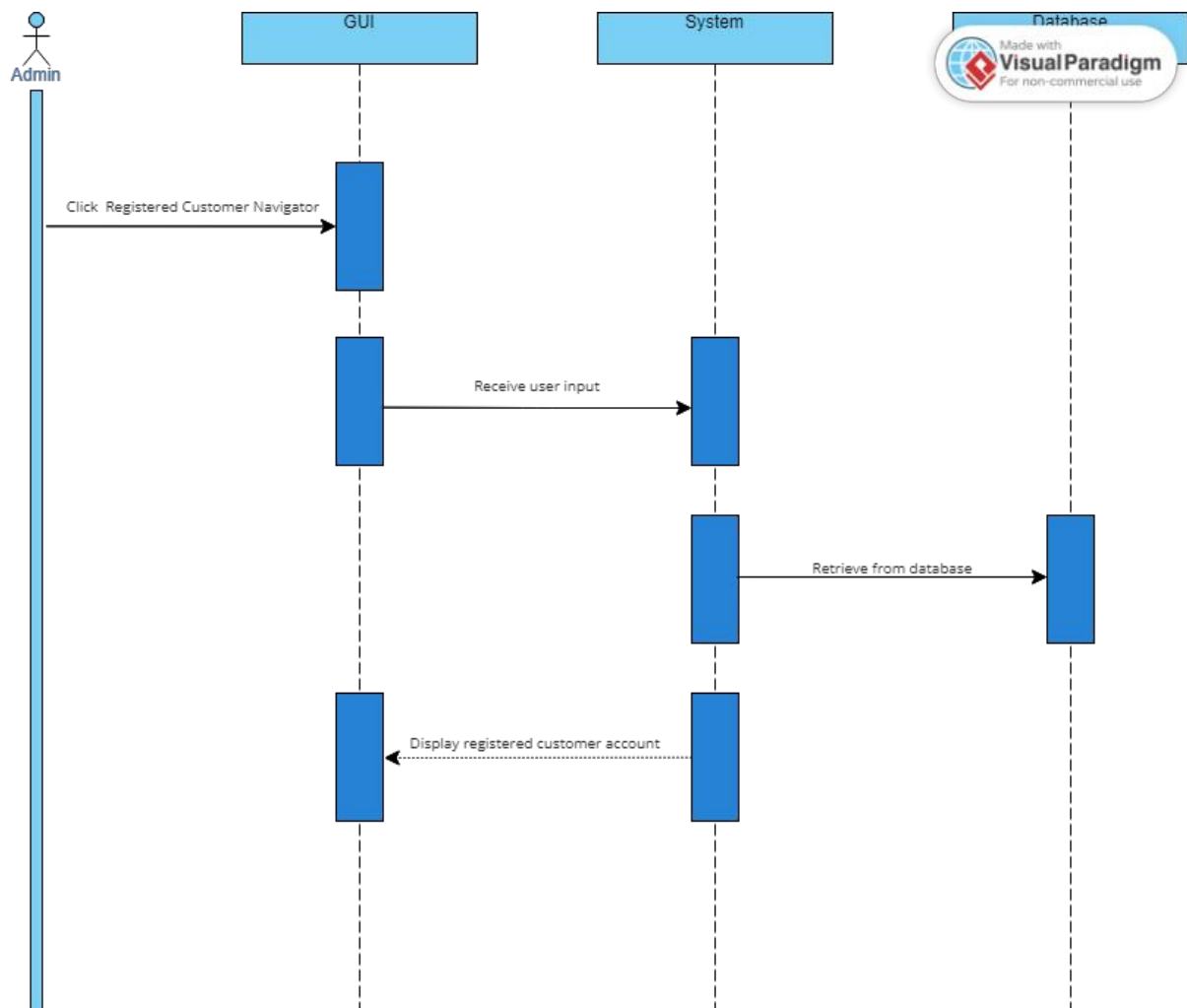


Figure 4.32 Sequence Diagram – View Registered Customer Account - Admin Perspective

#### 4.5.12 View and Update Order Status – Admin Perspective

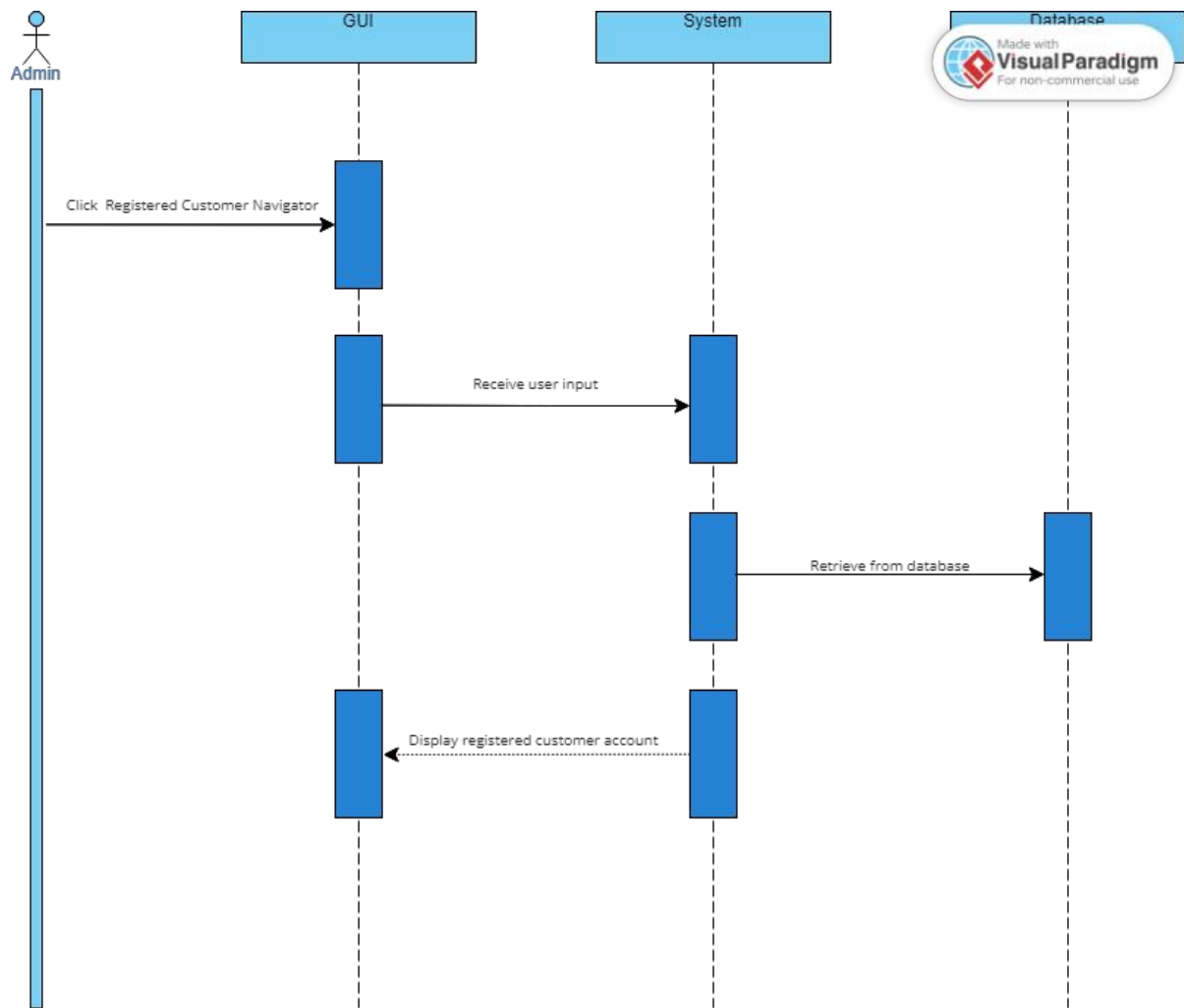


Figure 4.33 Sequence Diagram – View and Update Order Status - Admin Perspective

#### 4.5.13 Video Chat– Admin Perspective

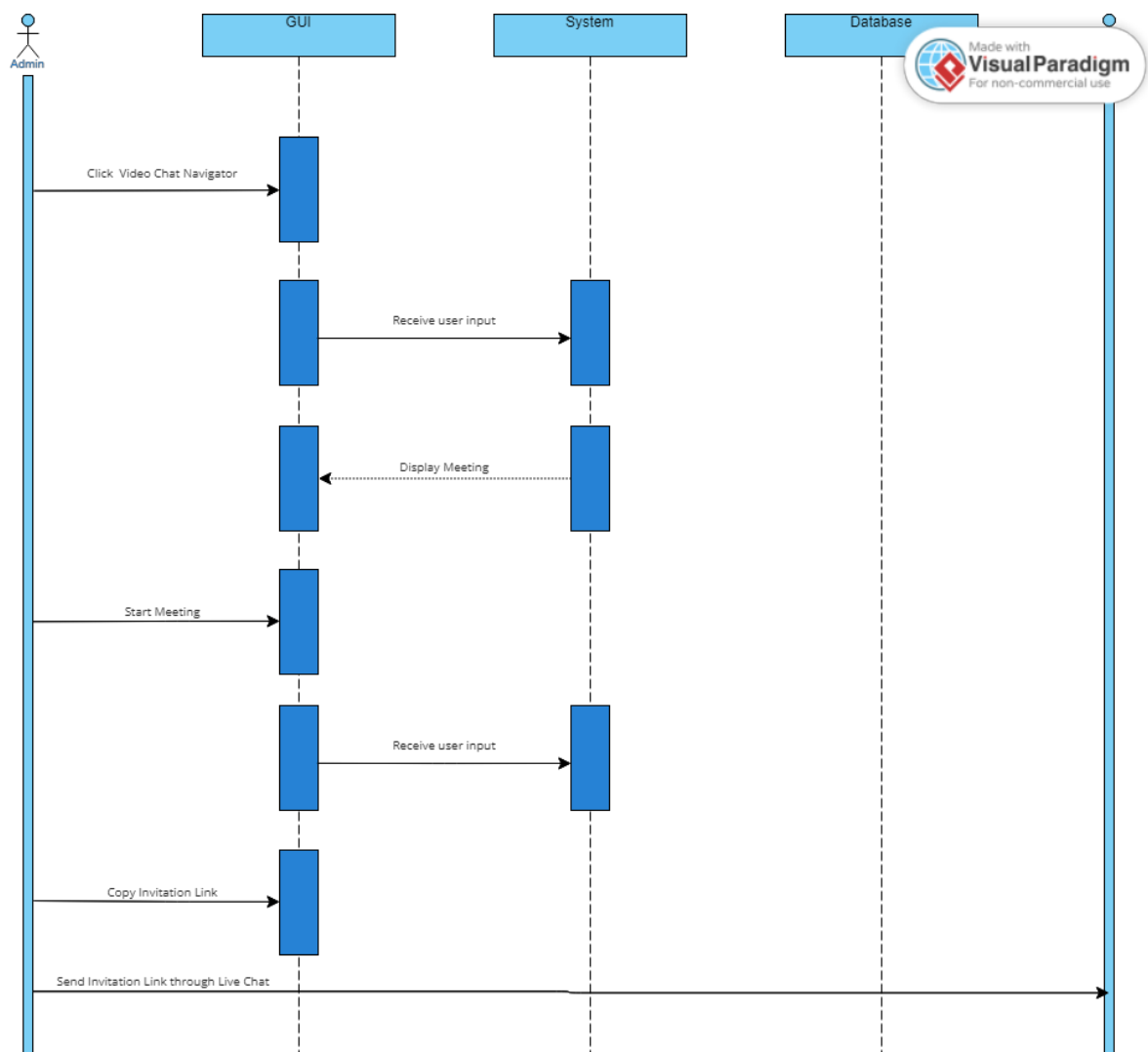


Figure 4.34 Sequence Diagram – Video Chat - Admin Perspective

#### 4.5.14 View Dashboard – Super Admin Perspective

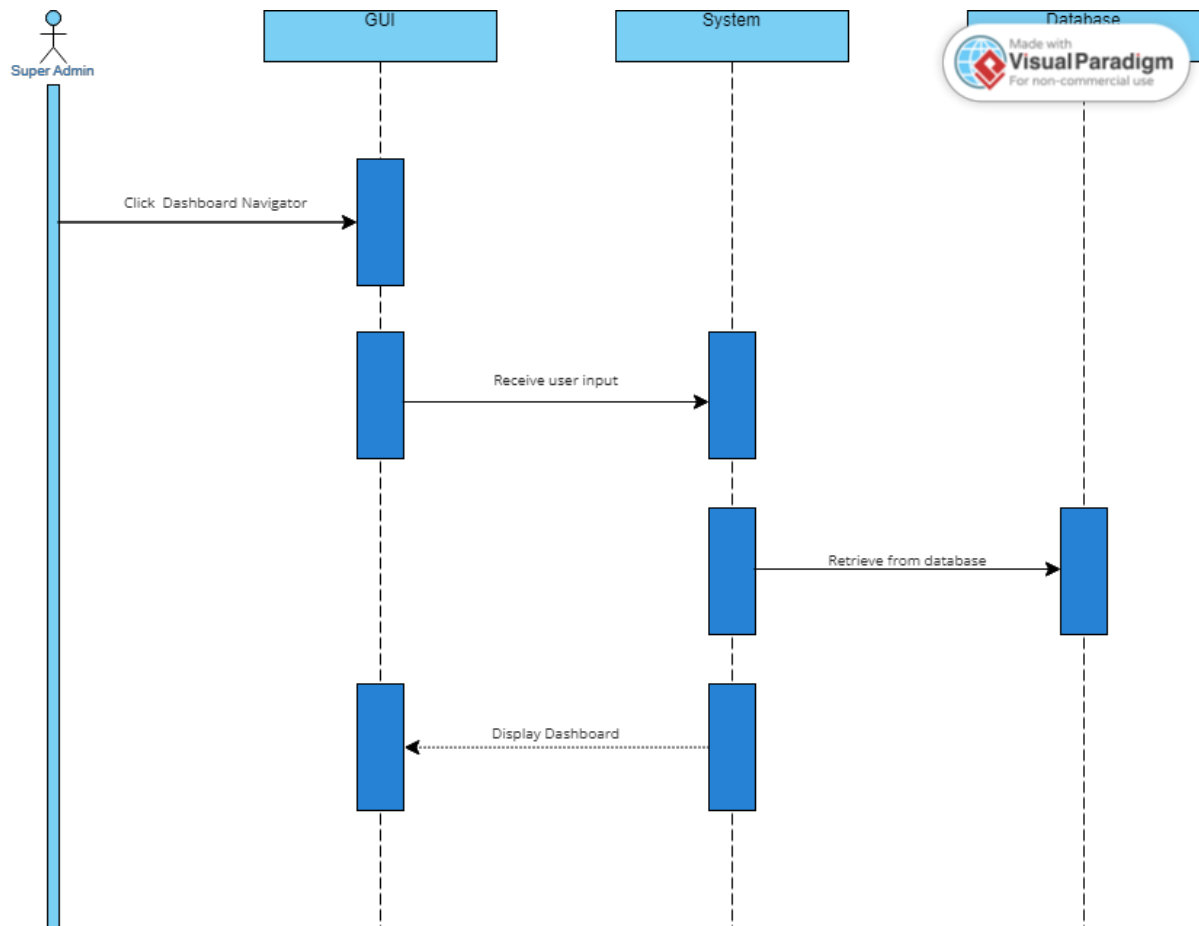


Figure 4.35 Sequence Diagram – View Dashboard – Super Admin Perspective

#### 4.5.15 Register for New Admin Account – Super Admin Perspective

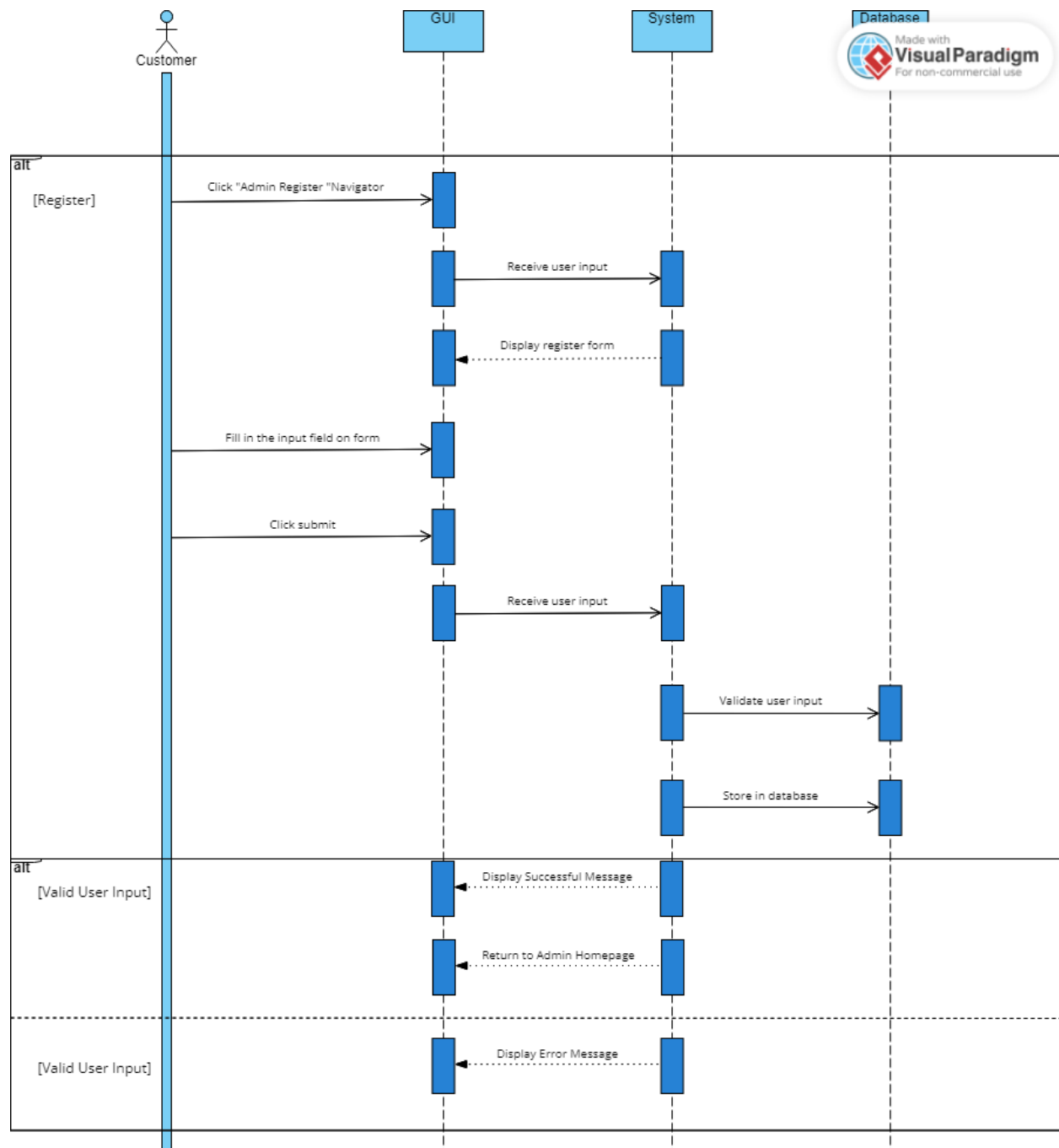
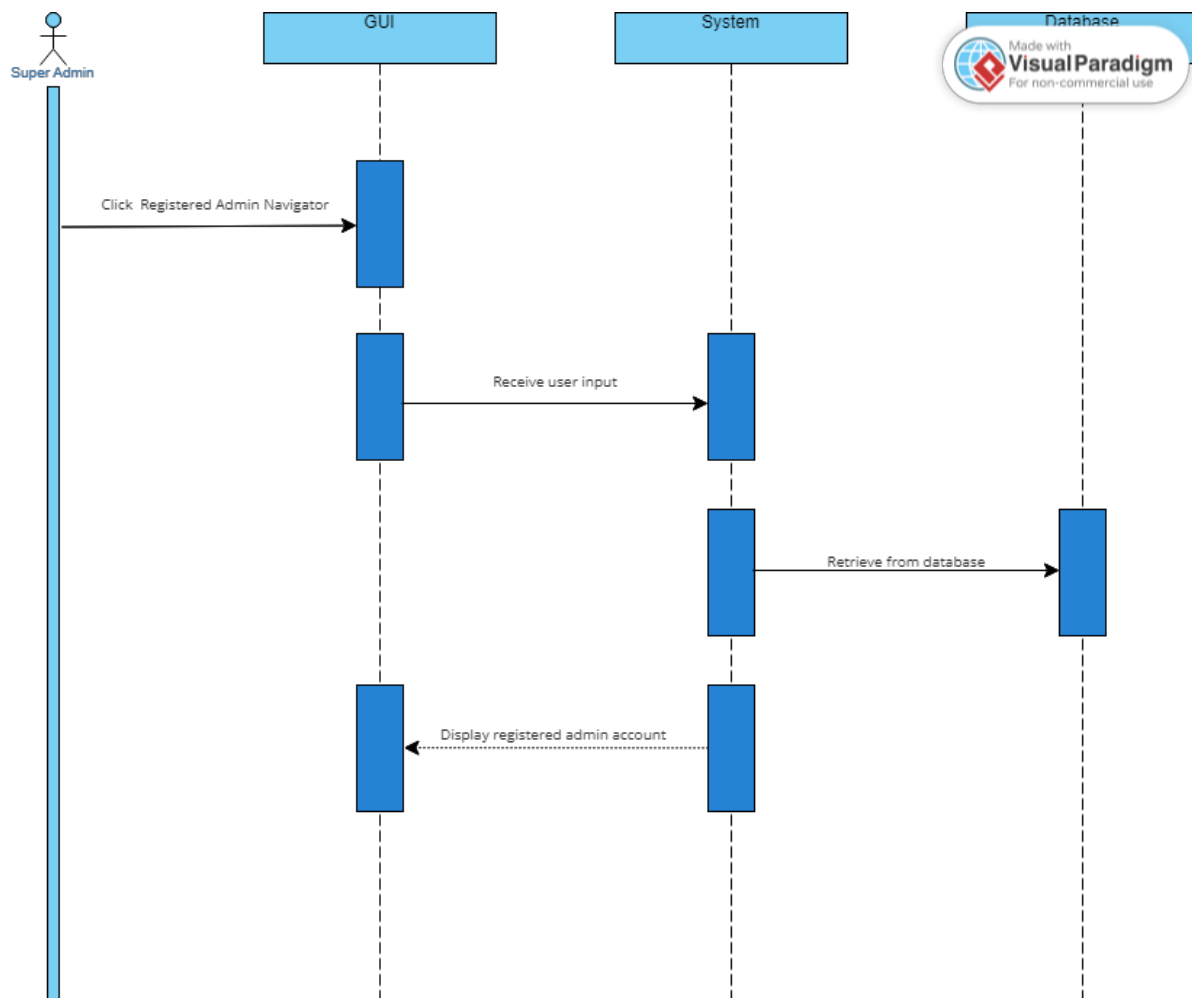


Figure 4.36 Sequence Diagram – Register For New Admin Account – Super Admin Perspective

#### 4.5.16 View Registered Admin Account – Super Admin Perspective

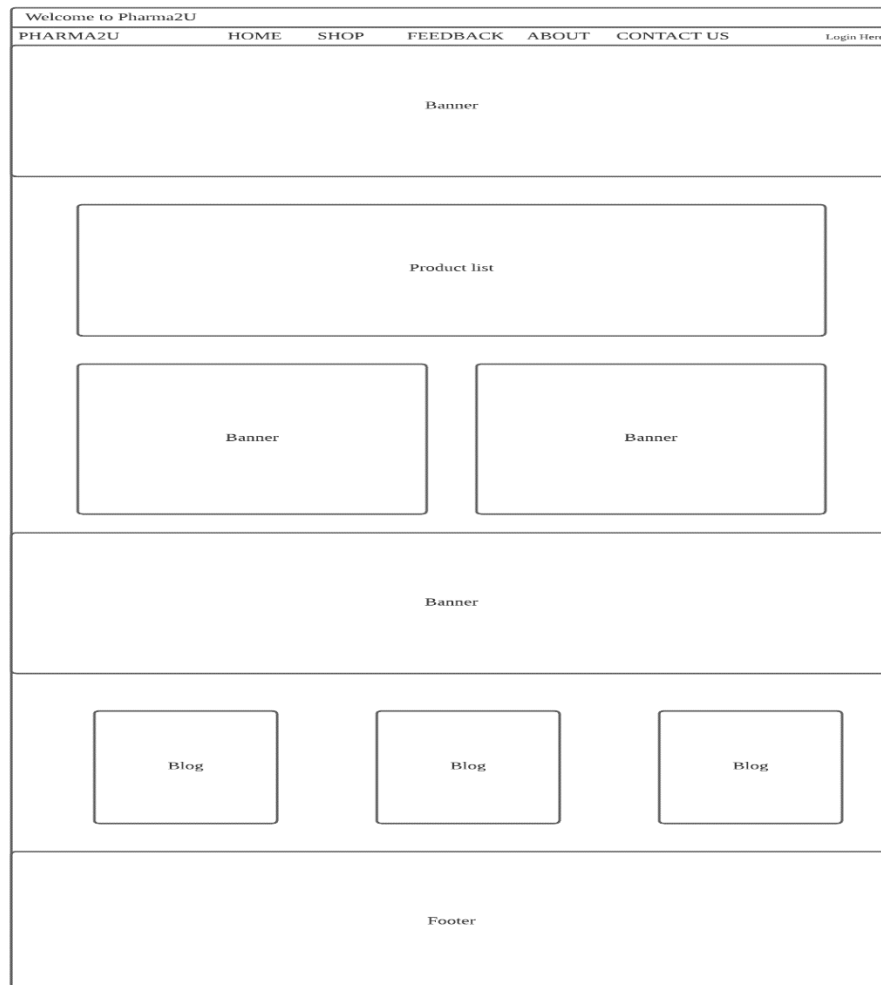


*Figure 4.37 Sequence Diagram – View Registered Admin Account – Super Admin Perspective*

## 4.6 Wireframe Diagram

### 4.6.1 Wireframe Diagram – Customer Actor

#### 4.6.1.1 Main Page Wireframe Diagram



*Figure 4.38 Wireframe – Main Page*

#### 4.6.1.2 Customer Login Page Wireframe Diagram

|                                                     |      |      |          |       |            |            |
|-----------------------------------------------------|------|------|----------|-------|------------|------------|
| Welcome to Pharma2U                                 |      |      |          |       |            |            |
| PHARMA2U                                            | HOME | SHOP | FEEDBACK | ABOUT | CONTACT US | Login Here |
| Banner                                              |      |      |          |       |            |            |
| Login                                               |      |      |          |       |            |            |
| <input type="text" value="Enter Email"/>            |      |      |          |       |            |            |
| <input type="password" value="Enter Password"/>     |      |      |          |       |            |            |
| <input type="button" value="Login"/>                |      |      |          |       |            |            |
| don't have an account? <a href="#">register now</a> |      |      |          |       |            |            |
| Footer                                              |      |      |          |       |            |            |

*Figure 4.39 Wireframe – Customer Login Page*

#### 4.6.1.3 Customer Register Page Wireframe Diagram

|                                                    |      |      |          |       |            |
|----------------------------------------------------|------|------|----------|-------|------------|
| Welcome to Pharma2U                                |      |      |          |       |            |
| PHARMA2U                                           | HOME | SHOP | FEEDBACK | ABOUT | CONTACT US |
| Banner                                             |      |      |          |       |            |
| Register                                           |      |      |          |       |            |
| <input type="text" value="Enter Username"/>        |      |      |          |       |            |
| <input type="text" value="Enter Email"/>           |      |      |          |       |            |
| <input type="text" value="Enter Phone No"/>        |      |      |          |       |            |
| <input type="password" value="Enter Password"/>    |      |      |          |       |            |
| <input type="password" value="Confirm Password"/>  |      |      |          |       |            |
| Already have an account? <a href="#">Login now</a> |      |      |          |       |            |
| <input type="button" value="Login"/>               |      |      |          |       |            |
| Footer                                             |      |      |          |       |            |

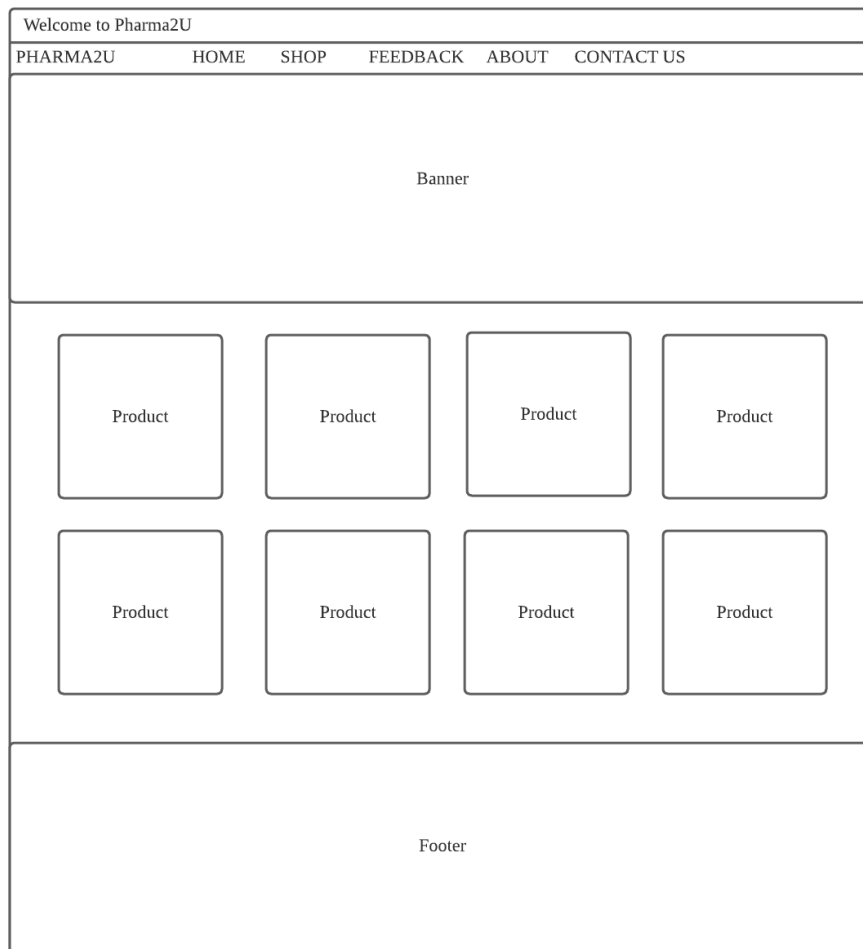
*Figure 4.40 Wireframe – Customer Register Page*

#### 4.6.1.4 Customer Feedback Page Wireframe Diagram

|                            |         |          |
|----------------------------|---------|----------|
| Welcome to Pharma2U        |         |          |
| PHARMA2U                   |         |          |
| Banner                     |         |          |
| We want to hear from you ! |         |          |
| Photo                      | Name    | Order ID |
|                            | Email   | Phone No |
|                            | Message |          |
| Footer                     |         |          |

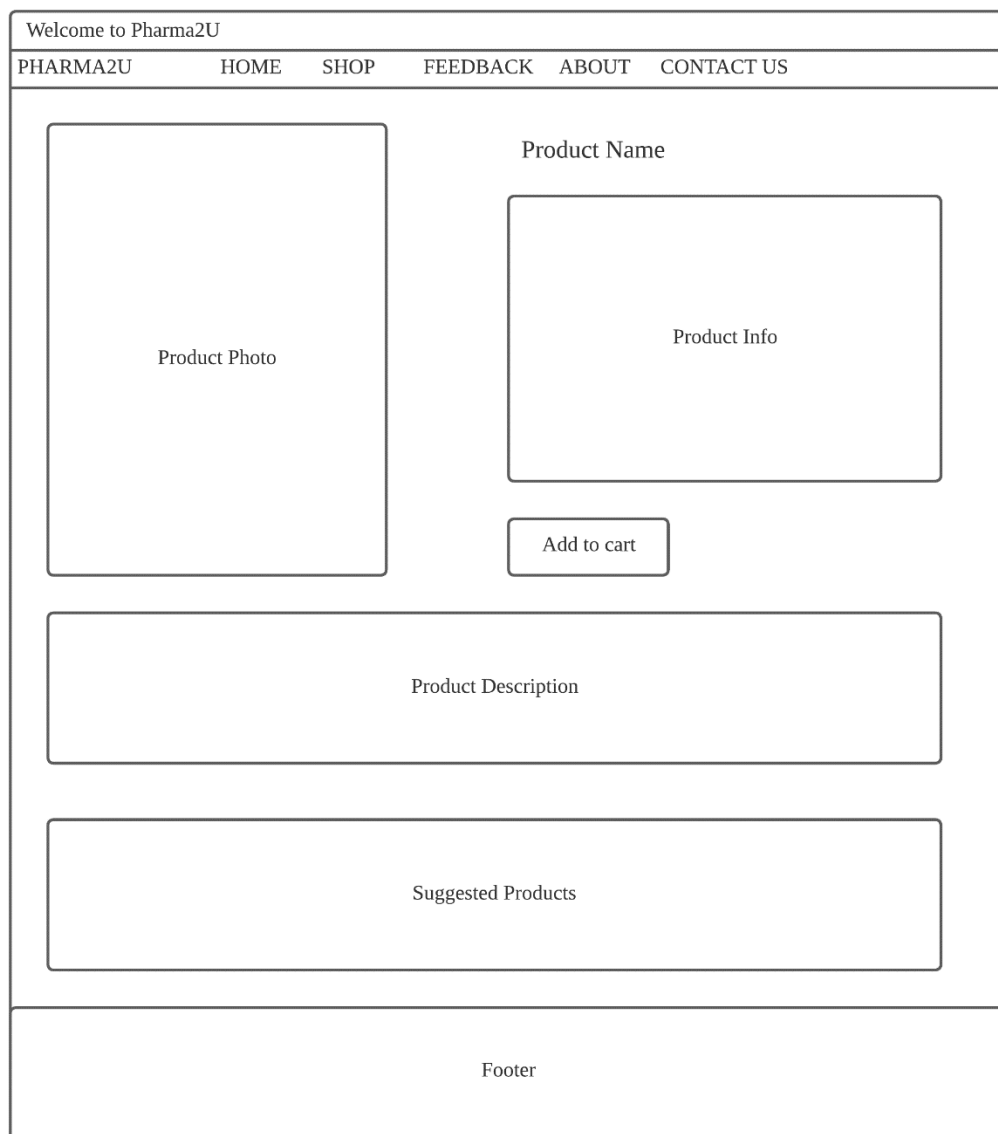
*Figure 4.41 Wireframe – Customer Feedback Page*

#### 4.6.1.5 Shop Page Wireframe Diagram



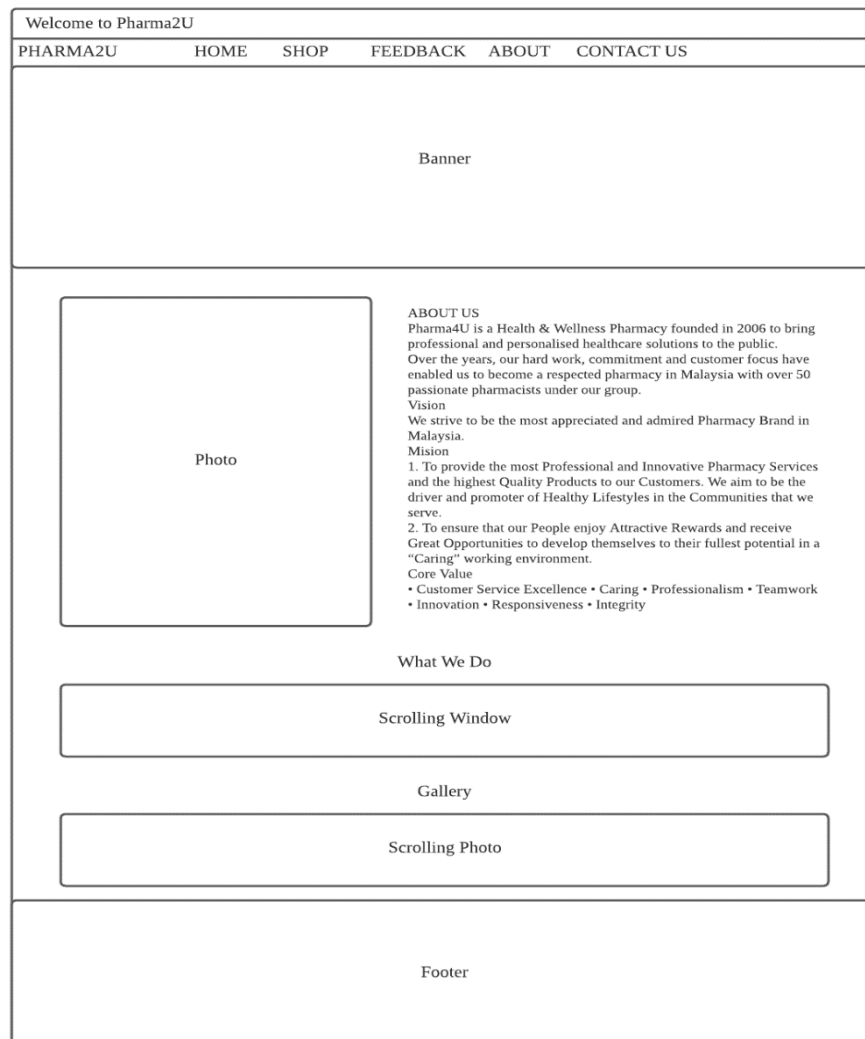
*Figure 4.42 Wireframe - Shop Page*

#### 4.6.1.6 Product Details Page Wireframe Diagram



*Figure 4.43 Wireframe – Product Detail Page*

#### 4.6.1.7 About Page Wireframe Diagram



*Figure 4.44 Wireframe – About Page*

#### 4.6.1.8 Contact Us Page Wireframe Diagram

|                                                                                                      |                                      |
|------------------------------------------------------------------------------------------------------|--------------------------------------|
| Welcome to Pharma2U                                                                                  |                                      |
| PHARMA2U                                                                                             | HOME SHOP FEEDBACK ABOUT CONTACT US  |
| Banner                                                                                               |                                      |
| Pharma4U Head Quater<br>123, JALAN URDAN, 31400<br>IPOH PERAK.<br>012-345 6789<br>www.urdanperak.com |                                      |
| Map                                                                                                  |                                      |
| Our Stores                                                                                           |                                      |
| Store List                                                                                           |                                      |
| Ask Us Everything Here                                                                               |                                      |
| <input type="text" value="Name"/>                                                                    | <input type="text" value="Message"/> |
| <input type="text" value="Email"/>                                                                   |                                      |
| <input type="text" value="Subject"/>                                                                 |                                      |
| <input type="text" value="Phone"/>                                                                   |                                      |
| Footer                                                                                               |                                      |

*Figure 4.45 Wireframe – Contact Us Page*

#### 4.6.1.9 Profile Page Wireframe Diagram

|                                                                                                                                      |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-------|----------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------|----------|----------------|--|------------------|--|--------------|----------------------|--------------|--|
| Welcome to Pharma2U                                                                                                                  |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| PHARMA2U                                                                                                                             | HOME SHOP FEEDBACK ABOUT CONTACT US Logout |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Banner                                                                                                                               |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Account Detail                                                                                                                       |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| <table border="1"><tr><td>Dashboard</td></tr><tr><td>Order</td></tr><tr><td>Account Detail</td></tr><tr><td>Logout</td></tr></table> | Dashboard                                  | Order | Account Detail | Logout | <table><tr><td>Name</td></tr><tr><td>Email Address</td></tr><tr><td>Phone No</td></tr><tr><td colspan="2">Password Reset</td></tr><tr><td colspan="2">Current Password</td></tr><tr><td>New Password</td><td>Confirm New Password</td></tr><tr><td colspan="2">Save Changes</td></tr></table> | Name | Email Address | Phone No | Password Reset |  | Current Password |  | New Password | Confirm New Password | Save Changes |  |
| Dashboard                                                                                                                            |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Order                                                                                                                                |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Account Detail                                                                                                                       |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Logout                                                                                                                               |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Name                                                                                                                                 |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Email Address                                                                                                                        |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Phone No                                                                                                                             |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Password Reset                                                                                                                       |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Current Password                                                                                                                     |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| New Password                                                                                                                         | Confirm New Password                       |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Save Changes                                                                                                                         |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |
| Footer                                                                                                                               |                                            |       |                |        |                                                                                                                                                                                                                                                                                               |      |               |          |                |  |                  |  |              |                      |              |  |

*Figure 4.46 Wireframe – Profile Page*

## 4.6.2 Wireframe Diagram – Admin Actor

### 4.6.2.1 Admin Login Wireframe Diagram

|                                            |                                     |
|--------------------------------------------|-------------------------------------|
| Welcome to Pharma2U                        |                                     |
| PHARMA2U                                   | HOME SHOP FEEDBACK ABOUT CONTACT US |
| Banner                                     |                                     |
| Admin Login                                |                                     |
| <a href="#">Back to Customer login</a>     |                                     |
| <input type="text" value="Email Address"/> |                                     |
| <input type="password" value="Password"/>  |                                     |
| <input type="button" value="Login"/>       |                                     |
| Footer                                     |                                     |

*Figure 4.47 Wireframe – Admin Login Page*

#### 4.6.2.2 Add Product In Admin Site Wireframe Diagram

|                    |                                                                                                                                                                                                                                                                   |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PHARMA4U Admin     | <div>Add Product</div> <div><input type="text" value="Name"/></div> <div><input type="text" value="Description"/></div> <div><input type="text" value="Price"/></div> <div><input type="text" value="Image"/></div> <div><input type="button" value="Add"/></div> |
| Dashboard          |                                                                                                                                                                                                                                                                   |
| Add Product        |                                                                                                                                                                                                                                                                   |
| Manage Products    |                                                                                                                                                                                                                                                                   |
| Order              |                                                                                                                                                                                                                                                                   |
| Customer Feedback  |                                                                                                                                                                                                                                                                   |
| Video Chat         |                                                                                                                                                                                                                                                                   |
| Registered Account |                                                                                                                                                                                                                                                                   |
| Super Admin Login  |                                                                                                                                                                                                                                                                   |
| Logout             |                                                                                                                                                                                                                                                                   |
|                    |                                                                                                                                                                                                                                                                   |
|                    |                                                                                                                                                                                                                                                                   |

Figure 4.48 Wireframe – Add Product in Admin Site Page

#### 4.6.2.3 Mange Product In Admin Site Wireframe Diagram

| PHARMA4U Admin     | <div>Mange Product</div> <table border="1"><thead><tr><th>ID</th><th>Name</th><th>Price</th><th>Image</th><th>User Type</th><th>Edit</th><th>Delete</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td><td></td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr></tbody></table> | ID   | Name  | Price | Image     | User Type                           | Edit                                  | Delete |  |  |  |  |  | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |  |  |  |  |  | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |  |  |  |  |  | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |  |  |  |  |  | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |  |  |  |  |  | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |  |  |  |  |  | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|-------|-----------|-------------------------------------|---------------------------------------|--------|--|--|--|--|--|-------------------------------------|---------------------------------------|--|--|--|--|--|-------------------------------------|---------------------------------------|--|--|--|--|--|-------------------------------------|---------------------------------------|--|--|--|--|--|-------------------------------------|---------------------------------------|--|--|--|--|--|-------------------------------------|---------------------------------------|--|--|--|--|--|-------------------------------------|---------------------------------------|
| ID                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Name | Price | Image | User Type | Edit                                | Delete                                |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           | <input type="button" value="Edit"/> | <input type="button" value="Delete"/> |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
| Dashboard          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           |                                     |                                       |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
| Add Product        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           |                                     |                                       |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
| Manage Products    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           |                                     |                                       |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
| Order              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           |                                     |                                       |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
| Customer Feedback  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           |                                     |                                       |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
| Video Chat         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           |                                     |                                       |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
| Registered Account |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           |                                     |                                       |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
| Super Admin Login  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           |                                     |                                       |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
| Logout             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           |                                     |                                       |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |       |       |           |                                     |                                       |        |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |  |  |  |  |  |                                     |                                       |
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Figure 4.49 Wireframe – Manage Product in Admin Site Page

#### 4.6.2.4 Edit Product Form in Admin Site Wireframe Diagram

|                    |                                                                                                                                                                                                                                                                       |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PHARMA4U Admin     | <div>Edit Product</div> <div><input type="text" value="Name"/></div> <div><input type="text" value="Description"/></div> <div><input type="text" value="Price"/></div> <div><input type="text" value="Image"/></div> <div><input type="button" value="Update"/></div> |
| Dashboard          |                                                                                                                                                                                                                                                                       |
| Add Product        |                                                                                                                                                                                                                                                                       |
| Manage Products    |                                                                                                                                                                                                                                                                       |
| Order              |                                                                                                                                                                                                                                                                       |
| Customer Feedback  |                                                                                                                                                                                                                                                                       |
| Video Chat         |                                                                                                                                                                                                                                                                       |
| Registered Account |                                                                                                                                                                                                                                                                       |
| Super Admin Login  |                                                                                                                                                                                                                                                                       |
| Logout             |                                                                                                                                                                                                                                                                       |
|                    |                                                                                                                                                                                                                                                                       |

*Figure 4.50 Wireframe – Edit Product form in Admin Site Page*

#### 4.6.2.5 Order List In Admin Site Wireframe Diagram

PHARMA4U Admin

Dashboard

Add Product

Manage Products

Order

Customer Feedback

Video Chat

Registered Account

Super Admin Login

Logout

Orders List

| ID | Name | Phone | Address | Product | Price | Status | Edit |
|----|------|-------|---------|---------|-------|--------|------|
|    |      |       |         |         |       |        | Edit |
|    |      |       |         |         |       |        | Edit |
|    |      |       |         |         |       |        | Edit |
|    |      |       |         |         |       |        | Edit |
|    |      |       |         |         |       |        | Edit |
|    |      |       |         |         |       |        | Edit |

*Figure 4.51 Wireframe – Order List in Admin Site Page*

#### 4.6.2.6 Update Order In Admin Site Wireframe Diagram

|                    |                                                                                          |
|--------------------|------------------------------------------------------------------------------------------|
| PHARMA4U Admin     | <div>Update Order Status</div> <div>Order Info</div> <div>Status</div> <div>Update</div> |
| Dashboard          |                                                                                          |
| Add Product        |                                                                                          |
| Manage Products    |                                                                                          |
| Order              |                                                                                          |
| Customer Feedback  |                                                                                          |
| Video Chat         |                                                                                          |
| Registered Account |                                                                                          |
| Super Admin Login  |                                                                                          |
| Logout             |                                                                                          |
|                    |                                                                                          |
|                    |                                                                                          |

Figure 4.52 Wireframe – Update Order in Admin Site Page

#### 4.6.2.7 Customer Feedback In Admin Site Wireframe Diagram

| PHARMA4U Admin     | <div>Customer Feedback</div> <table border="1"> <thead> <tr> <th>ID</th> <th>Name</th> <th>Order No</th> <th>Email</th> <th>Phone No</th> <th>Message</th> <th>Edit</th> <th>Delete</th> </tr> </thead> <tbody> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Edit</td><td>Delete</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Edit</td><td>Delete</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Edit</td><td>Delete</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Edit</td><td>Delete</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Edit</td><td>Delete</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Edit</td><td>Delete</td></tr> </tbody> </table> | ID   | Name     | Order No | Email    | Phone No | Message | Edit   | Delete |  |  |  |  |  |  | Edit | Delete |  |  |  |  |  |  | Edit | Delete |  |  |  |  |  |  | Edit | Delete |  |  |  |  |  |  | Edit | Delete |  |  |  |  |  |  | Edit | Delete |  |  |  |  |  |  | Edit | Delete |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|----------|----------|----------|---------|--------|--------|--|--|--|--|--|--|------|--------|--|--|--|--|--|--|------|--------|--|--|--|--|--|--|------|--------|--|--|--|--|--|--|------|--------|--|--|--|--|--|--|------|--------|--|--|--|--|--|--|------|--------|
| ID                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Name | Order No | Email    | Phone No | Message  | Edit    | Delete |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          | Edit    | Delete |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
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|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          | Edit    | Delete |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
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|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          | Edit    | Delete |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
| Dashboard          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          |         |        |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
| Add Product        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          |         |        |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
| Manage Products    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          |         |        |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
| Order              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          |         |        |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
| Customer Feedback  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          |         |        |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
| Video Chat         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          |         |        |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
| Registered Account |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          |         |        |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
| Super Admin Login  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          |         |        |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
| Logout             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          |         |        |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          |         |        |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |          |          |          |         |        |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |  |  |  |  |  |  |      |        |

Figure 4.53 Wireframe - Customer Feedback in Admin Site Page

#### 4.6.2.8 Manage Registered Account In Admin Site Wireframe Diagram

PHARMA4U Admin

Dashboard

Add Product

Manage Products

Order

Customer Feedback

Video Chat

Registered Account

Super Admin Login

Logout

Registered Account

| ID | Name | Email | Phone No | User Type | Edit | Delete |
|----|------|-------|----------|-----------|------|--------|
|    |      |       |          |           | Edit | Delete |
|    |      |       |          |           | Edit | Delete |
|    |      |       |          |           | Edit | Delete |
|    |      |       |          |           | Edit | Delete |
|    |      |       |          |           | Edit | Delete |
|    |      |       |          |           | Edit | Delete |

Figure 4.54 Wireframe – Manage Registered Account in Admin Site Page

#### 4.6.2.9 Video Chat In Admin Site Wireframe Diagram

|                    |                                                               |
|--------------------|---------------------------------------------------------------|
| PHARMA4U Admin     | <div>PHARMA4U<br/>Video Chat</div> <div>Start a meeting</div> |
| Dashboard          |                                                               |
| Add Product        |                                                               |
| Manage Products    |                                                               |
| Order              |                                                               |
| Customer Feedback  |                                                               |
| Video Chat         |                                                               |
| Registered Account |                                                               |
| Super Admin Login  |                                                               |
| Logout             |                                                               |
|                    |                                                               |

Figure 4.55 Wireframe – Video Chat in Admin Site Page

#### 4.6.2.10 Super Admin Login In Admin Site Wireframe Diagram

|                    |                                                                                    |
|--------------------|------------------------------------------------------------------------------------|
| PHARMA4U Admin     | <div>Super Admin Login</div> <div>Email</div> <div>Password</div> <div>Login</div> |
| Dashboard          |                                                                                    |
| Add Product        |                                                                                    |
| Manage Products    |                                                                                    |
| Order              |                                                                                    |
| Customer Feedback  |                                                                                    |
| Video Chat         |                                                                                    |
| Registered Account |                                                                                    |
| Super Admin Login  |                                                                                    |
| Logout             |                                                                                    |
|                    |                                                                                    |
|                    |                                                                                    |

*Figure 4.56 Wireframe – Super Admin Login in Admin Site Page*

### 4.6.3 Wireframe Diagram – Super Admin Actor

#### 4.6.3.1 Super Admin Dashboard Wireframe Diagram

|                         |                                                |
|-------------------------|------------------------------------------------|
| PHARMA4U<br>Super Admin | <div>Dashboard</div> <div>Site Analytics</div> |
| Dashboard               |                                                |
| Admin Register          |                                                |
| Registered Admin        |                                                |
| Logout                  |                                                |
|                         |                                                |

*Figure 4.57 Wireframe – Dashboard in Super Admin Site Page*

#### 4.6.3.2 Register Admin Account Wireframe Diagram

|                         |                                                                                                                                                                                              |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PHARMA4U<br>Super Admin | <div>Register Admin Account</div> <div>Enter Username</div> <div>Enter Email</div> <div>Enter Phone No</div> <div>Enter Password</div> <div>Enter Confirm Password</div> <div>Register</div> |
| Dashboard               |                                                                                                                                                                                              |
| Admin Register          |                                                                                                                                                                                              |
| Registered Admin        |                                                                                                                                                                                              |
| Logout                  |                                                                                                                                                                                              |
|                         |                                                                                                                                                                                              |

*Figure 4.58 Wireframe – Register Admin Account in Super Admin Site Page*

#### 4.6.3.3 Registered Admin Wireframe Diagram

[illegible]

Figure 4.59 Wireframe – View Registered Admin in Super Admin Site Page

### 3.7 Implementation Issue and Challenge

During the development of this project, I encountered several implementation issues and challenges. One of the primary difficulties was working with PHP, a programming language often considered challenging for beginners. PHP has its own coding standards, acronyms, and algorithms, which can pose a steep learning curve although it is quite similar with HTML. Whether PHP is easy or tough to learn largely depends on one's approach to it.

One specific challenge I faced was utilizing PHP to interact with MySQL for the project's development. My prior knowledge did not include a deep understanding of back-end systems since I didn't learn it before in my program structure of my course (IB), and yet, this project demanded substantial back-end work. Additionally, I faced with the complexities of preventing SQL injection vulnerabilities, especially when I couldn't employ prepared statements. This involved carefully managing table names, column names, and expressions to enhance security through a method known as whitelisting.

Another significant implementation issue revolved around the task of tracking user locations. There were two primary challenges in this area:

1. **Data Quality and Integrity:** Maintaining data quality and integrity can be a significant challenge, especially when dealing with a large volume of data in a database-driven project. Ensuring that data is accurate, up-to-date, and free from errors or inconsistencies requires robust data validation and cleansing processes. Failing to address data quality issues can lead to incorrect results, poor decision-making, and system malfunctions.
2. **Data Privacy and Security:** As data volumes increase, ensuring the privacy and security of sensitive information becomes more complex. Organizations must implement robust data encryption, access controls, and identity management systems to protect data from unauthorized access or breaches. All user data collected in the database must be protected and guaranteed.

In summary, the project involved grappling with PHP intricacies, addressing SQL injection vulnerabilities, maintaining data quality and integrity, and ensuring data privacy and security. These challenges required a combination of technical skill, meticulous attention to detail, and a commitment to best practices in web development and data management.

# CHAPTER 5: SYSTEM IMPLEMENTATION

## 5.1 Hardware Setup

Using the MySQL, XAMPP you need to be following:

1. Laptop with modern operating system example Windows, MacOS and Linux.
2. Minimum 4GB of RAM and 10GB of free hard drive space.
3. A website browser example Google Chrome, Microsoft Edge and Mozilla Firefox.
4. A stable internet environment which mean WIFI for downloading the XAMPP.

## 5.2 Software Setup

Using the MySQL, XAMAPP and PHP you need to be following:

### 5.2.1 Download XAMPP

Download XAMPP from the official Apache Friends website (<https://www.apachefriends.org/download.html>). Choose the version that is suitable for your operating system.

### 5.2.2 Install XAMPP

After the download is complete, need to open the downloaded file to start installation process and follow the instructions to install it.

### 5.2.3 Start XAMPP

When the installation is complete, click the XAMPP Control Panel icon. After the click the Control Panel icon, it will show the status of Apache and MySQL.

### 5.2.4 Start the Apache and MySQL

Click the start button of Apache and MySQL. When started, it will show the status is running.

### 5.2.5 Testing XAMPP

Open a web browser and type <http://localhost/phpmyadmin/> in the address bar. If success, then will see the XAMPP database

### 5.3 Setting and Configuration

1. Start the XAMPP Control Panel and click the button of Apache and MySQL.
2. Open a web browser and type <http://localhost/phpmyadmin/> in the address bar.
3. In the phpMyAdmin create a database and insert a name of the database.
4. Create a folder in this file location C:\xampp\htdocs and put a folder name example “fyp”.
5. In the “fyp” create a PHP file and put a file name example “index.php”.
6. In the web browser address bar type “<http://localhost:80/index.php>” try to access the website.
7. Create a PHP file and put the file name as “connectDB.php” and type the code inside the php file:

```
<?php

$host = "localhost";

$username = "root";

$password = "";

$dbname = "user_db";

// Create connection

$conn = mysqli_connect($host, $username, $password, $dbname);

// Check connection

if (!$conn) {

    die("Connection failed: " . mysqli_connect_error());

}
```

```
echo "Connected successfully";
```

```
?>
```

## 5.4 Implementation Issue and Challenge

During the development of this project, I encountered several implementation issues and challenges. One of the primary difficulties was working with PHP, a programming language often considered challenging for beginners. PHP has its own coding standards, acronyms, and algorithms, which can pose a steep learning curve although it is quite similar with HTML. Whether PHP is easy or tough to learn largely depends on one's approach to it.

One specific challenge I faced was utilizing PHP to interact with MySQL for the project's development. My prior knowledge did not include a deep understanding of back-end systems since I didn't learn it before in my program structure of my course (IB), and yet, this project demanded substantial back-end work. Additionally, I faced with the complexities of preventing SQL injection vulnerabilities, especially when I couldn't employ prepared statements. This involved carefully managing table names, column names, and expressions to enhance security through a method known as whitelisting.

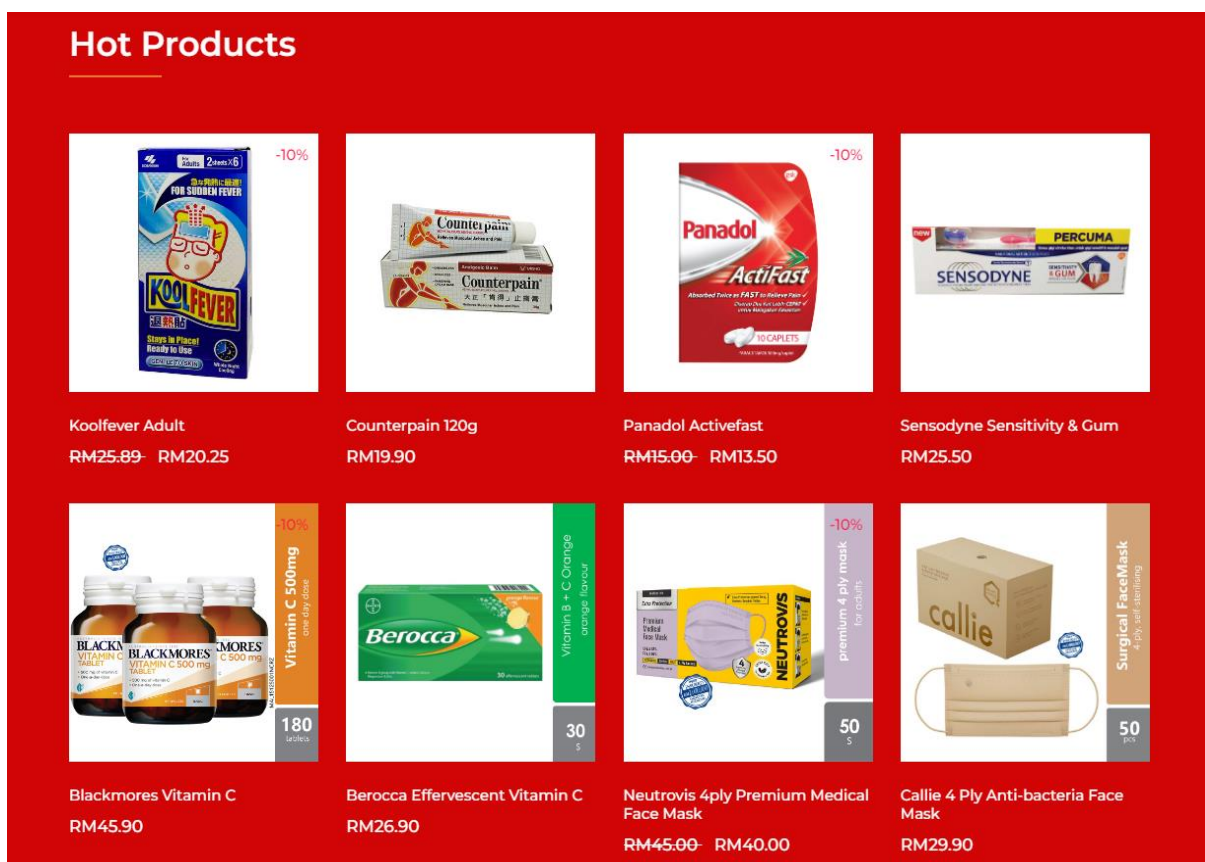
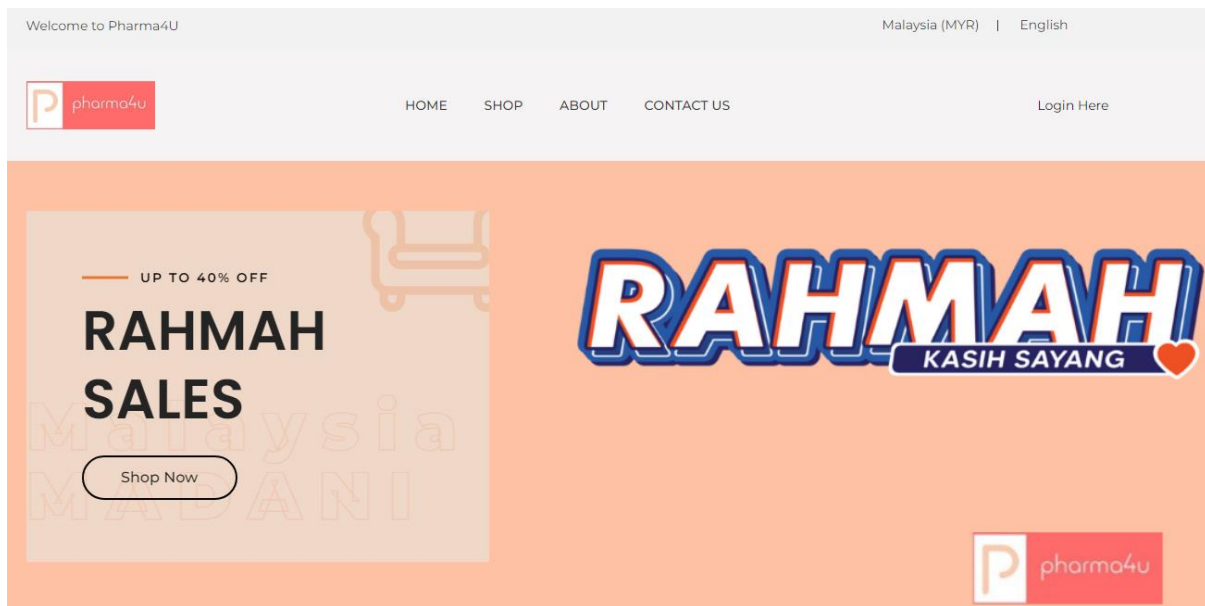
Another significant implementation issue revolved around the task of tracking user locations. There were two primary challenges in this area:

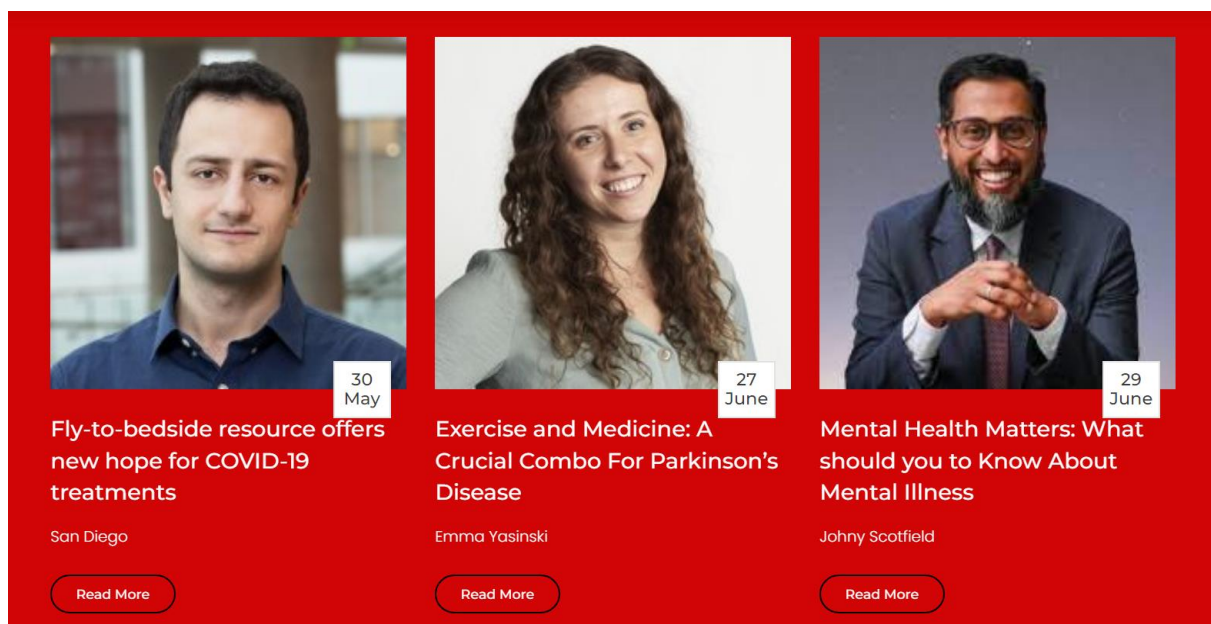
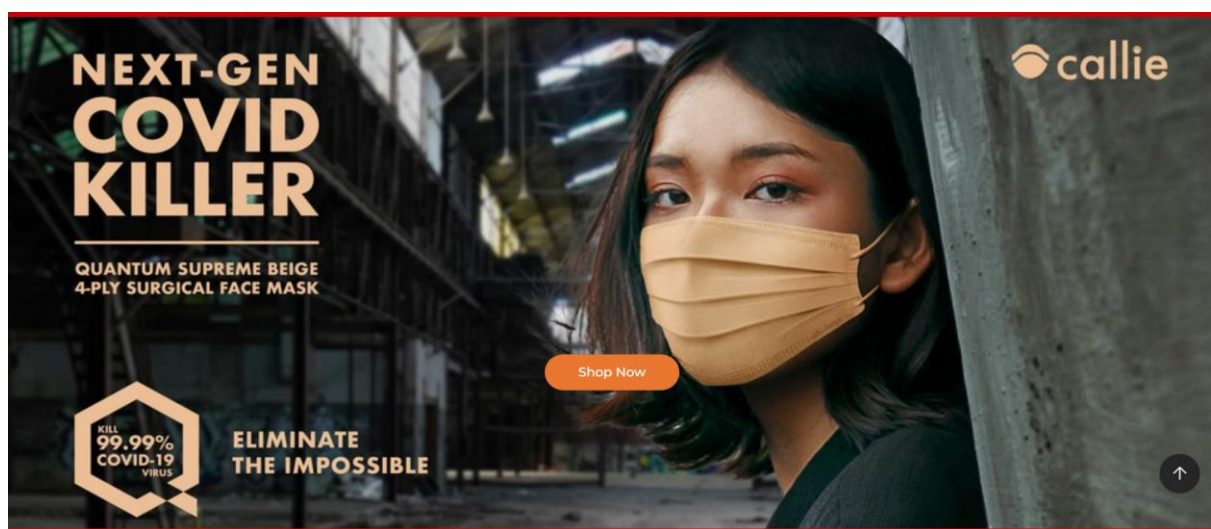
1. **Data Quality and Integrity:** Maintaining data quality and integrity can be a significant challenge, especially when dealing with a large volume of data in a database-driven project. Ensuring that data is accurate, up-to-date, and free from errors or inconsistencies requires robust data validation and cleansing processes. Failing to address data quality issues can lead to incorrect results, poor decision-making, and system malfunctions.
2. **Data Privacy and Security:** As data volumes increase, ensuring the privacy and security of sensitive information becomes more complex. Organizations must implement robust data encryption, access controls, and identity management systems to protect data from unauthorized access or breaches. All user data collected in the database must be protected and guaranteed.

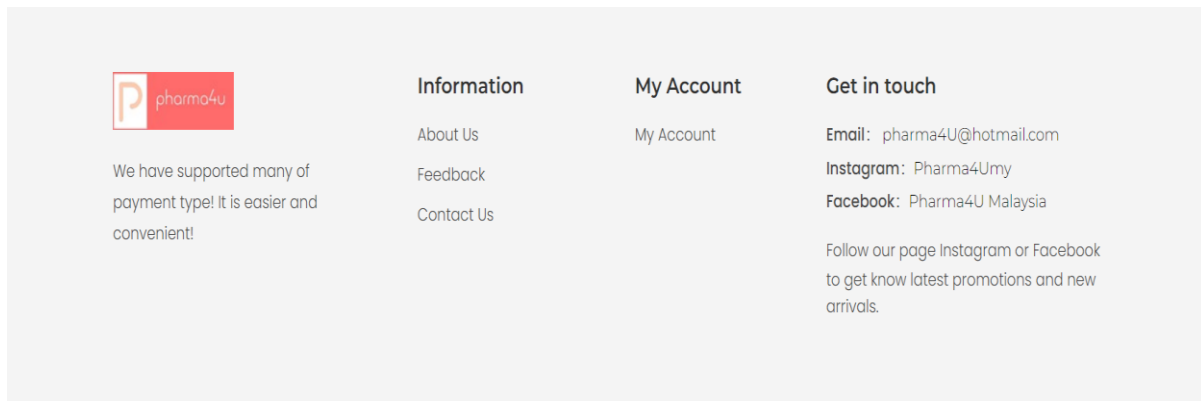
In summary, the project involved grappling with PHP intricacies, addressing SQL injection vulnerabilities, maintaining data quality and integrity, and ensuring data privacy and security. These challenges required a combination of technical skill, meticulous attention to detail, and a commitment to best practices in web development and data management.

## 5.4 Screenshot of the System Implementation

### 5.4.1 Main Page







*Figure 5.1 – Main Page*

The main page of the website features a header for navigation and user account access, a sliding banner displaying featured products or promotions, and a product list showcasing a range of items for purchase, often complemented by product ads interspersed throughout. Additionally, it incorporates a section for blogs or articles providing valuable insights, while the footer serves as a secondary navigation hub with links to essential pages, contact information, and legal notices.

## 5.4.2 Shop Page

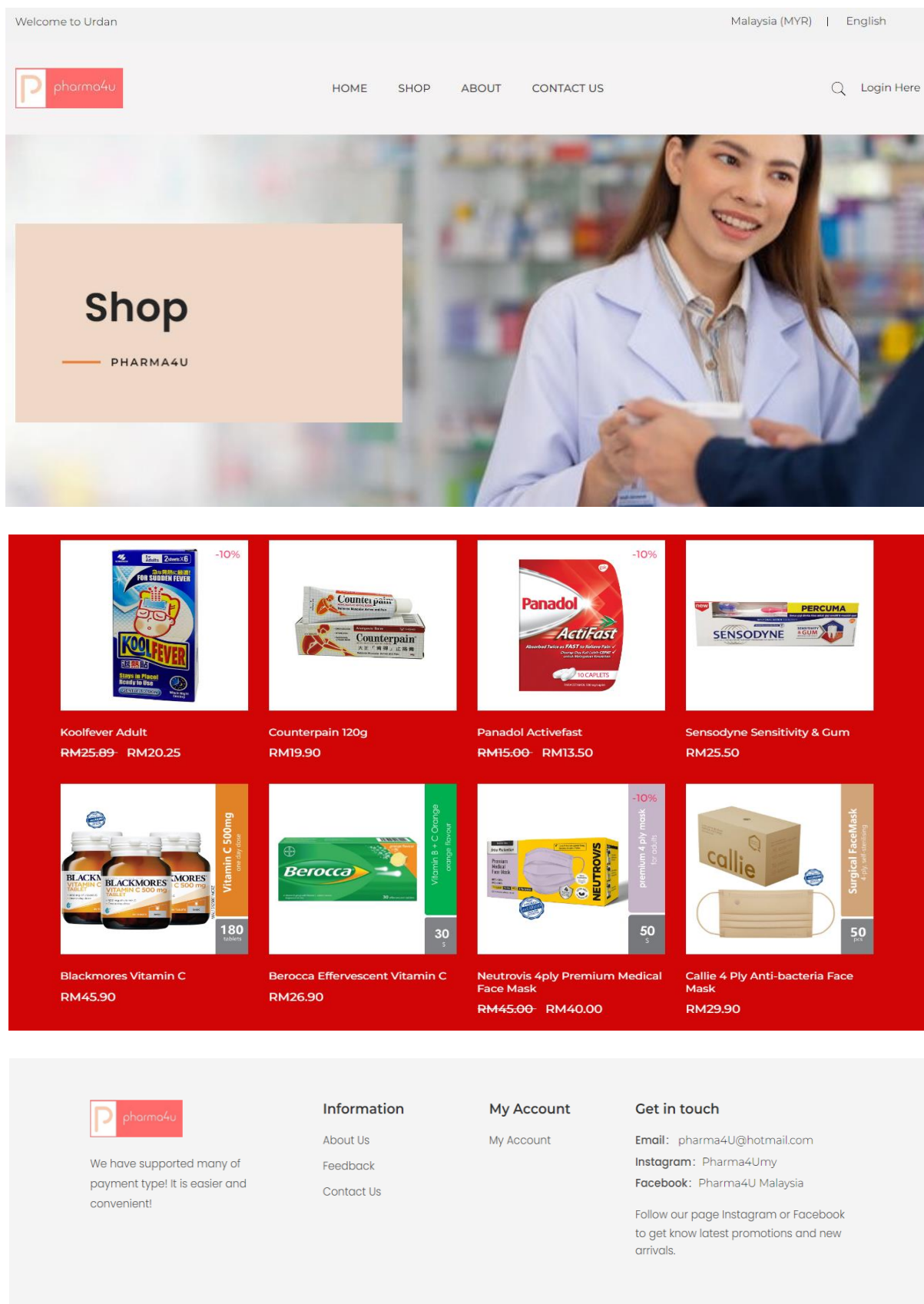


Figure 5.2 – Shop Page

The Shop page presents a streamlined interface comprising a header featuring a search function to efficiently locate specific products, ensuring ease of navigation and user convenience. The main body of the page encompasses comprehensive lists of all available products for optimal browsing. Lastly, the footer, positioned at the bottom of the page, provides supplementary navigation links, contact details, and essential legal information, offering users a comprehensive browsing experience while ensuring accessibility to key website functionalities and resources.

### 5.4.3 Feedback Page

Welcome to Pharma4U

Malaysia (MYR) | English



HOME | SHOP | ABOUT | CONTACT US

Logout  

We want to hear from you !



How was your shopping ?

**Name:** Teoh Zi Qian

**Phone:** 601110697276

**Order No:** 74

**Email:** zqteoh1016@gmail.com

**Rating:**

1

2

3

4

5

6

7

8

9

10

Message

Send Message



We have supported many of payment type! It is easier and convenient!

Information

About Us

Feedback

Contact Us

My Account

My Account

Get in touch

Email: pharma4U@hotmail.com

Instagram: Pharma4Umy

Facebook: Pharma4U Malaysia

Follow our page Instagram or Facebook to get know latest promotions and new arrivals.

Figure 5.3 – Feedback Page

The Feedback Page is structured to facilitate user interaction and input, beginning with a header that maintains consistency with the website's design and functionality, possibly including navigation elements for easy access to other sections of the site. The central feature of the page is the feedback form, prominently displayed to encourage users to share their thoughts, suggestions, or concerns regarding their experience with the order purchased. The form typically includes fields for ratings and feedback text input. Finally, the footer provides supplementary navigation links, contact information, and essential legal notices, ensuring users have access to important resources while engaging in the feedback process.

### 5.4.4 About Page

Welcome to Urdan

Malaysia (MYR) | English

 HOME SHOP ABOUT CONTACT US [Login Here](#)



## ABOUT US

Pharma4U is a Health & Wellness Pharmacy founded in 2006 to bring professional and personalised healthcare solutions to the public.

Over the years, our hard work, commitment and customer focus have enabled us to become a respected pharmacy in Malaysia with over 50 passionate pharmacists under our group.

## Vision

We strive to be the most appreciated and admired Pharmacy Brand in Malaysia.

## Mision

1. To provide the most Professional and Innovative Pharmacy Services and the highest Quality Products to our Customers. We aim to be the driver and promoter of Healthy Lifestyles in the Communities that we serve.
2. To ensure that our People enjoy Attractive Rewards and receive Great Opportunities to develop themselves to their fullest potential in a "Caring" working environment.

## Core Value

• Customer Service Excellence • Caring • Professionalism • Teamwork • Innovation • Responsiveness • Integrity



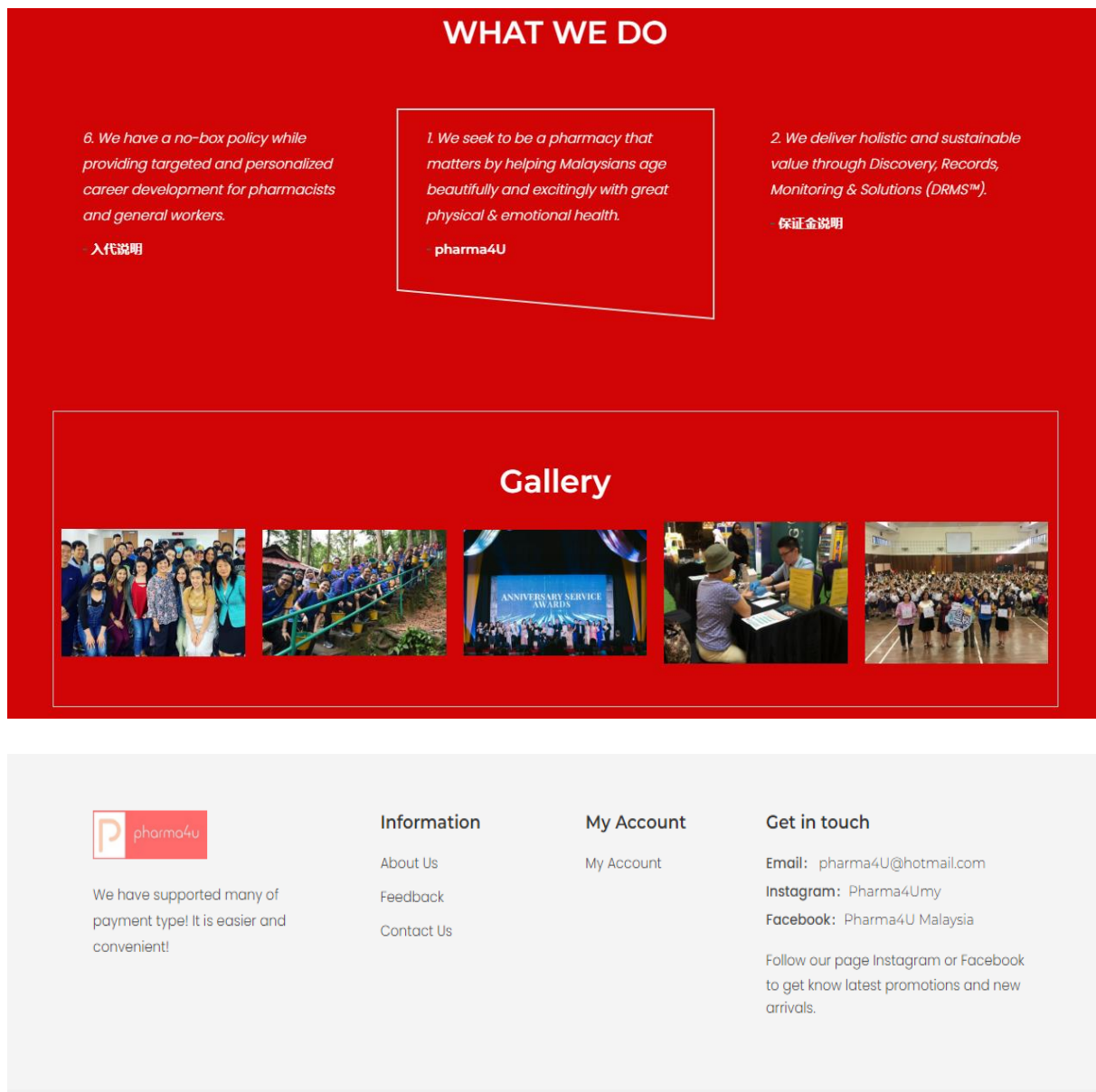
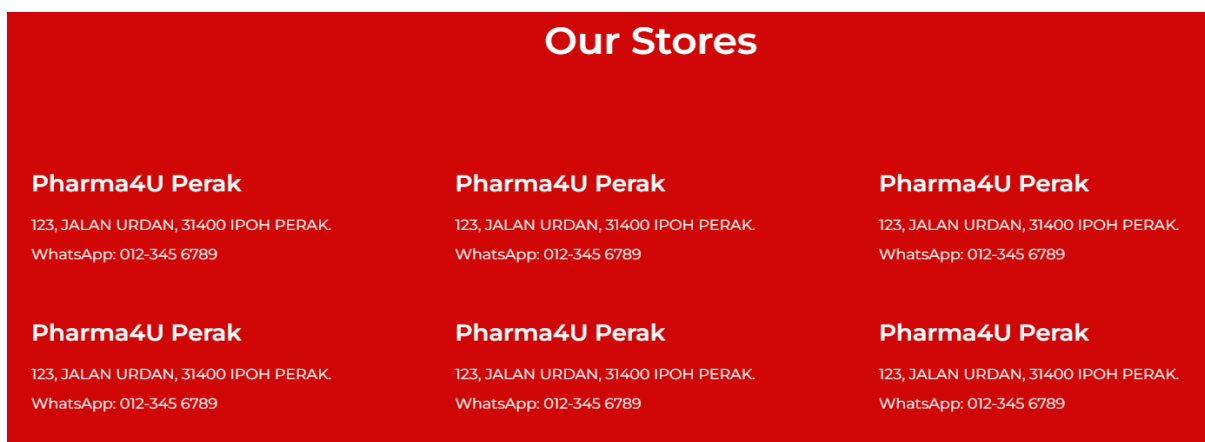
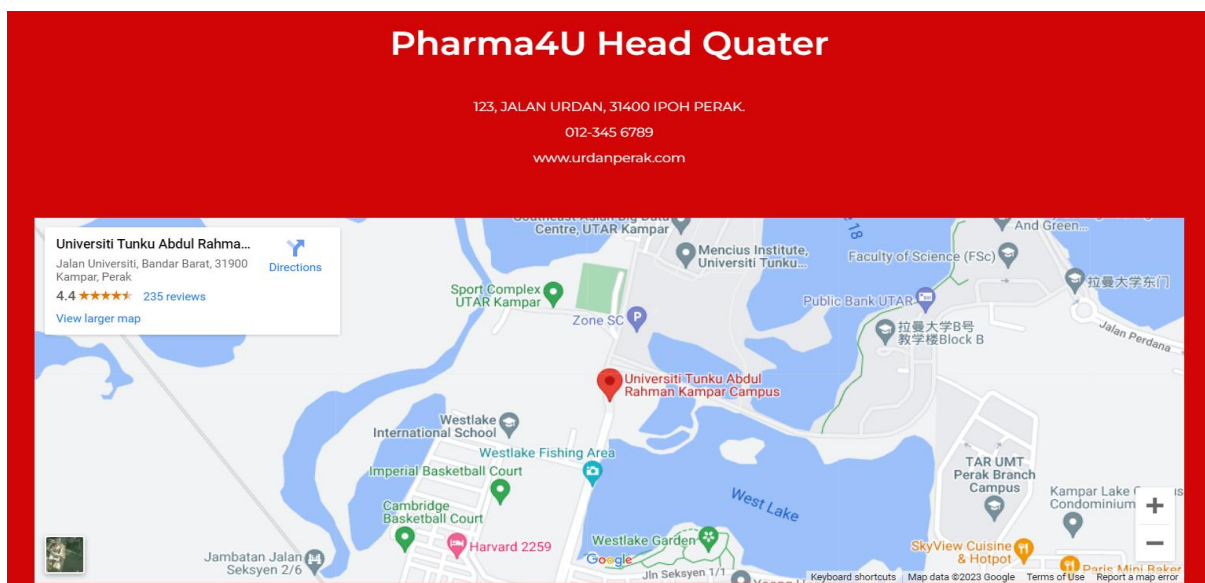
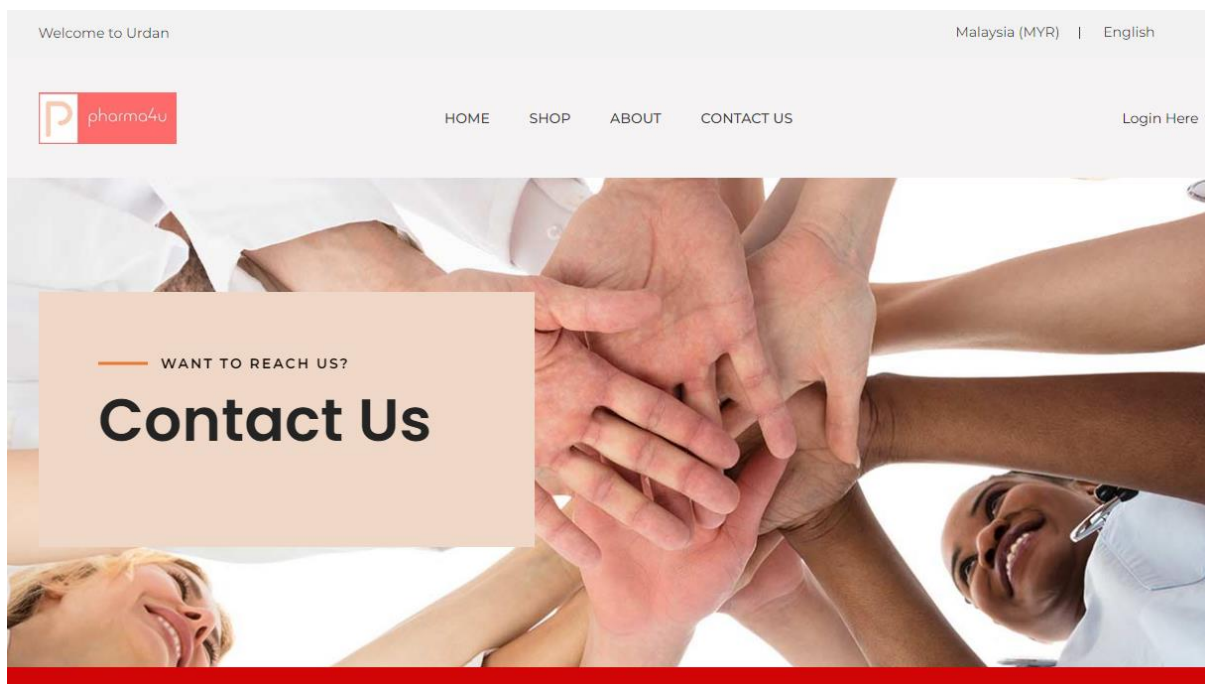
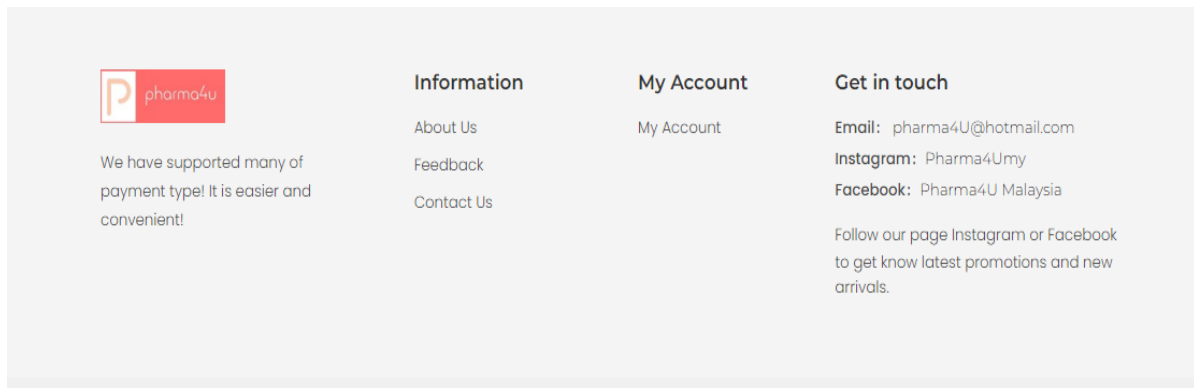


Figure 5.4 – About Page

The About Page offers a concise yet comprehensive overview of the company, featuring a header for navigation consistency, followed by sections detailing the company background, mission, vision, and core values. Additionally, it outlines the company's activities in a "What We Do" section and showcases its achievements through a gallery. The footer contains essential navigation links and contact information. This layout provides users with a clear understanding of the company's identity, objectives, and offerings.

## 5.4.5 Contact Us Page

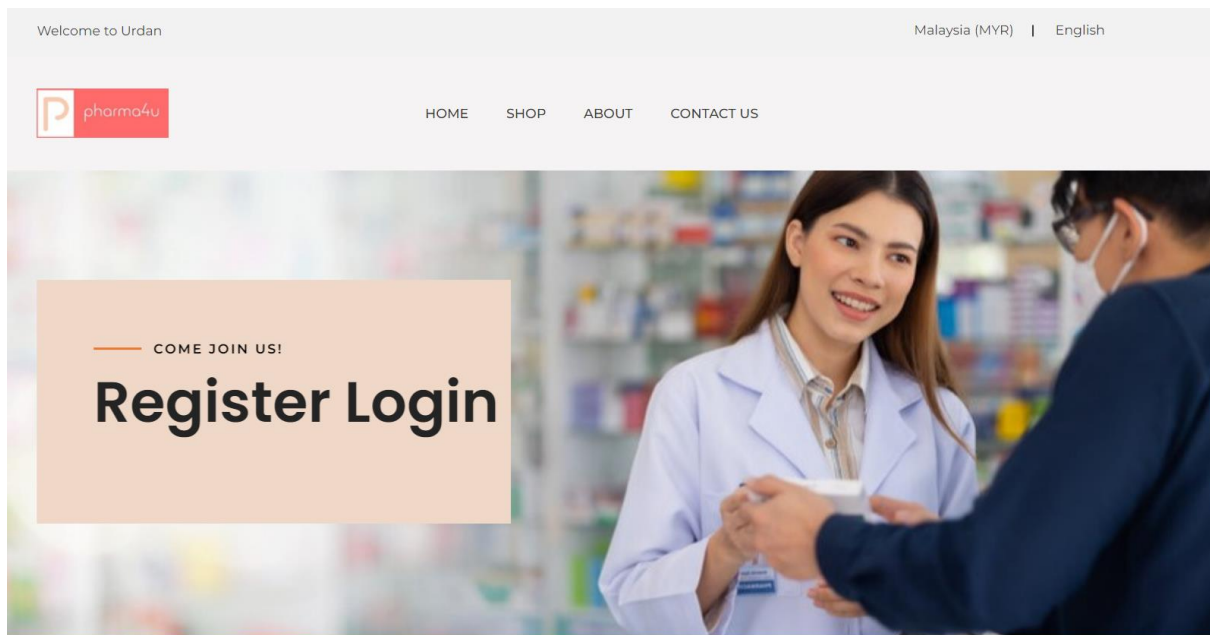


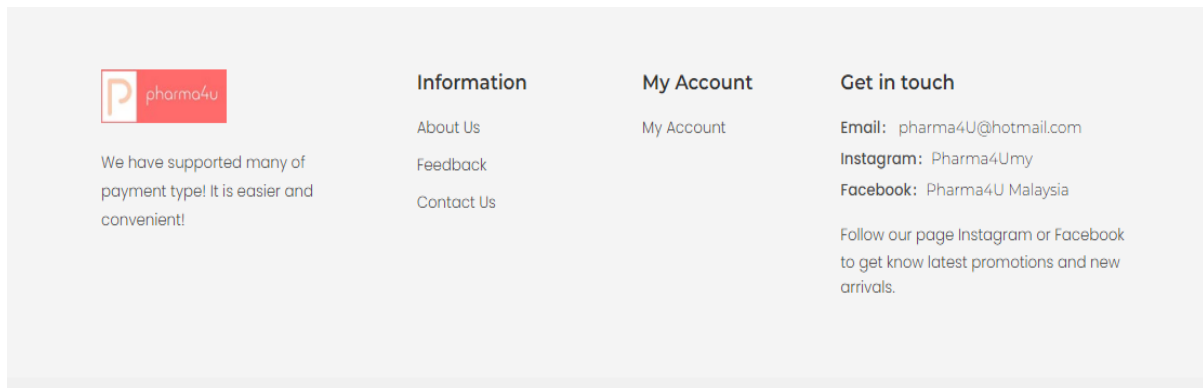


*Figure 5.5 – Contact Us Page*

The Contact Us Page provides users with essential information for reaching out to the company, starting with a header for navigation consistency. It includes an interactive map showcasing the headquarters' location, making it easy for users to visualize and locate the main office. Additionally, the page features a list of store locations, each accompanied by its address and possibly additional contact details, enabling users to find the nearest store. Finally, the footer contains supplementary navigation links and essential contact information. This layout ensures users can easily connect with the company's headquarters or locate nearby stores, enhancing accessibility and user experience.

### 5.4.6 Login Page

The image shows a login form titled "Customer Login" centered within a white rectangular area that is framed by a thick red border. At the top of the white area, there are two buttons: "Customer Login" in a red box and "Admin Login" in a yellow box. Below the title, there are two input fields: "Enter email" and "Enter password". Below these fields is a large red button labeled "Login Now". At the bottom of the form, there are two lines of text: "Forget password? **Click here**" and "Don't have an account? **Register now**".



*Figure 5.6 –Login Page*

The Login Page offers a streamlined interface for users to access their accounts, featuring a header for navigation consistency. It includes separate login forms for customers and admin, ensuring secure access to relevant features and information. Additionally, the page provides a link for password recovery, facilitating user account management. Users who do not yet have an account are directed to a registration link, allowing them to create a new customer account. Finally, the footer contains supplementary navigation links, ensuring users have access to essential resources and information throughout their interaction with the login process. This layout promotes ease of use and accessibility for both new and returning users.

### 5.4.7 Customer Register Page

Welcome to Urdan

Malaysia (MYR) | English



HOME   SHOP   FEEDBACK   ABOUT   CONTACT US

COME JOIN US!

# Register

Staff Login:  
[Click Here](#)



## Register

**Fill the information below for registration**

enter your name

enter your email

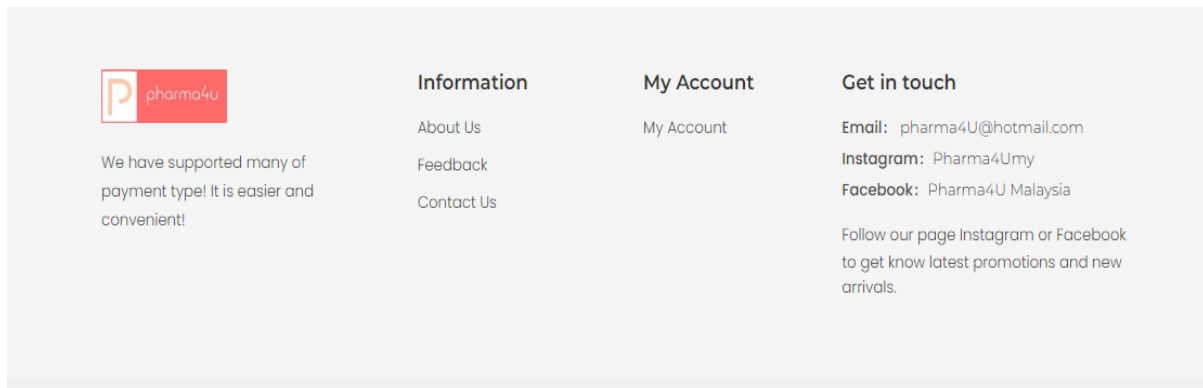
012-3456789

enter your password

confirm your password

Already have an account? [Login now](#)

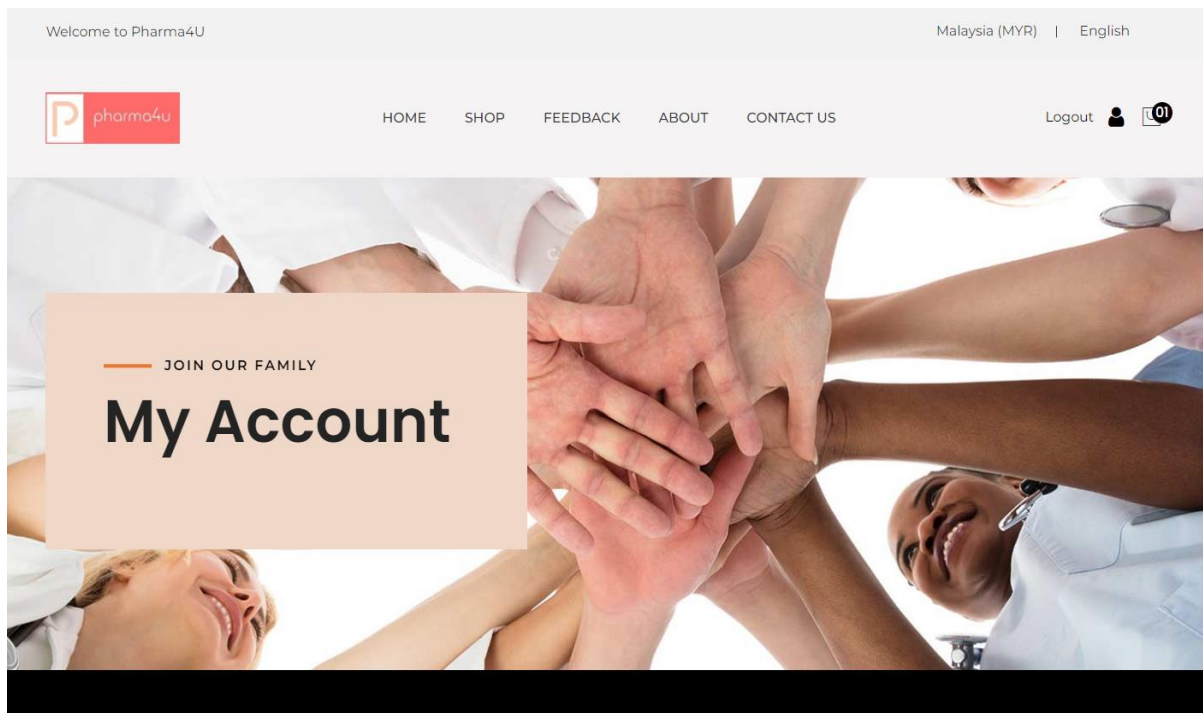
REGISTER



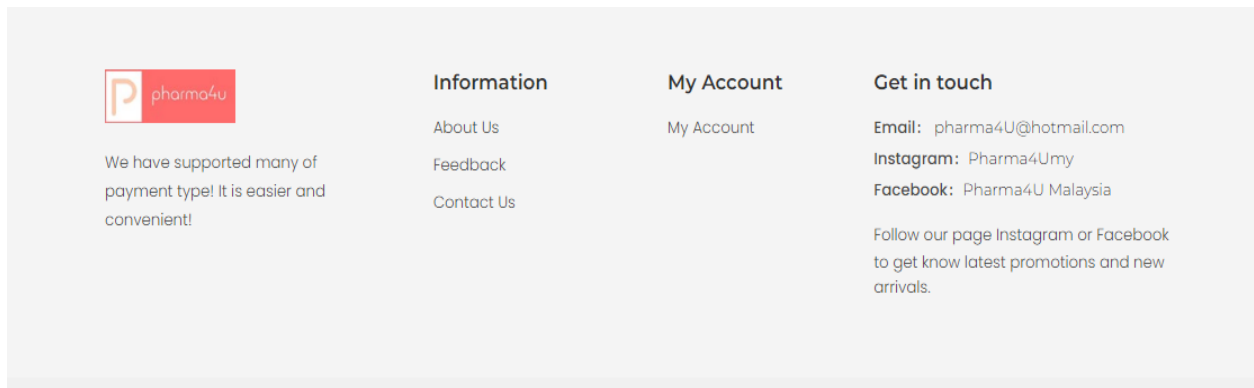
*Figure 5.7 – Customer Register Page*

The Customer Register Page offers a straightforward interface for users to create new accounts, beginning with a header for navigation consistency. It prominently features a registration form where users can input their details to create a new customer account, including information such as name, email address, password, and additional profile information. The form guides users through the registration process, ensuring a smooth experience. Lastly, the footer contains supplementary navigation links, ensuring users have access to essential resources and information throughout their account creation journey. This layout promotes user-friendly registration and accessibility.

## 5.4.8 Profile Page



The screenshot displays the "My Account" profile page. On the left is a dark sidebar with two menu items: "Dashboard" and "Account Details", with "Account Details" highlighted in orange. The main content area has a white background and is titled "Account Details". It contains several form fields: "Name" with the value "Teoh Zi Qian", "Email Address" with "zqteoh1016@gmail.com", and "Phone No" with "0110697276". Below these is a "Password change" section with three input fields: "Current Password" (placeholder: "enter previous password"), "New Password" (placeholder: "enter new password"), and "Confirm Password" (placeholder: "confirm new password"). At the bottom of the form is an orange "Save Changes" button.



*Figure 5.8 – Profile Page*

The Profile Page provides users with a centralized hub to manage their account information, starting with a header for navigation consistency. It prominently displays the user's profile information, such as name, email address, and possibly additional details, allowing users to update or modify their information as needed. The page offers intuitive controls and forms for users to make changes, ensuring a seamless user experience. Finally, the footer contains supplementary navigation links, ensuring users have access to essential resources and information while managing their profiles. This layout promotes user autonomy and accessibility in maintaining account details.

## 5.4.9 Product Detail Page

Welcome to Urdan

Malaysia (MYR) | English

**P** pharma4u

HOME SHOP ABOUT CONTACT US

Q



**Counterpain**  
RM 15.00

**Product Description:**

- Counterpain Analgesic Balm Hot ointment is a very good ointment for pain relief from hot muscles.
- Counter Pain HOT heats the muscles already during massage and gives a sense of well-being with muscle pain or overexertion and sprains.
- Approved by MDA, FDA and CE.

- 1 +
Add to cart

SCAN ME



### Related Products



**callie**  
Surgical FaceMask  
4 ply, self-sealing

50

**Callie 4 Ply Anti-bacteria Face Mask**  
RM29.90



**callie**  
KN95 Face Mask  
8 PLY & FFE > 95%

20

**Callie Kn95 Ff Face Mask Respirator**  
RM49.90



**NEUTROVIS**  
Premium Medical Face Mask

premium 4 ply mask for adults

-10%

50

**Neutrovis 4ply Premium Medical Face Mask**  
RM45.00 - RM40.00



**Berocca**  
Vitamin B + C Orange  
orange flavour

30

**Blackmores Vitamin C**  
RM45.90

**P** pharma4u

We have supported many of payment type! It is easier and convenient!

**Information**

- About Us
- Feedback
- Contact Us

**My Account**

- My Account

**Get in touch**

Email: pharma4U@hotmail.com

Instagram: Pharma4Umy

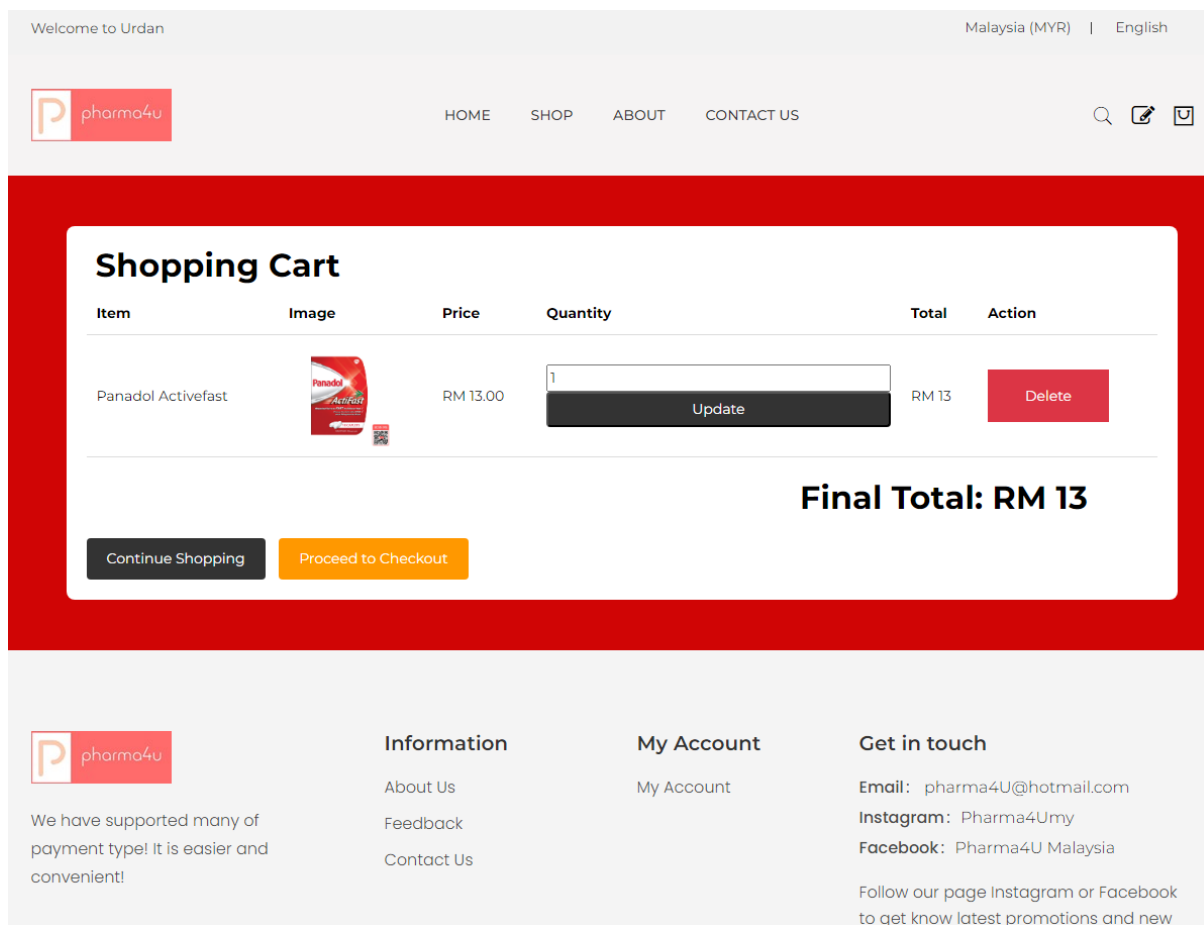
Facebook: Pharma4U Malaysia

Follow our page Instagram or Facebook to get know latest promotions and new arrivals.

Figure 5.9 – Product Detail Page

The Product Detail Page offers users a comprehensive overview of a specific product, beginning with a header for navigation consistency. It prominently displays the product's information, including a detailed description, high-quality images showcasing its features, and the price. Users can easily evaluate the product and make informed purchasing decisions based on this information. Additionally, the page features related products, offering users suggestions for complementary or similar items they may be interested in exploring. Finally, the footer contains supplementary navigation links, ensuring users have access to essential resources and information while browsing product details. This layout enhances user engagement and accessibility, facilitating a seamless shopping experience.

### 5.4.10 Cart Page



*Figure 5.10 – Cart Page*

The Cart Page is designed to provide users with a centralized view of items they have added to their shopping cart, starting with a header for navigation consistency. The main focus of the page is the cart itself, which displays a list of all selected items, including details such as product names, quantities, prices, and images. Users can easily review and manage the contents of their cart, adjusting quantities or removing items as needed. Additionally, the page may offer options for users to proceed to checkout or continue shopping. Finally, the footer contains supplementary navigation links and essential information, ensuring users have access to resources and assistance while managing their cart. This layout promotes user convenience and facilitates a smooth shopping experience.

### 5.4.11 Checkout Page

Welcome to Urdan

Malaysia (MYR) | English



HOME | SHOP | ABOUT | CONTACT US

  00

#### Billing Details

Full Name

Address

House number and street name

Town / City

State / County

Postcode / ZIP

Phone

Email Address

#### Your Order

| Product                                                                            | Total                            |
|------------------------------------------------------------------------------------|----------------------------------|
| Panadol Activefast X1                                                              | RM 13.00                         |
|  |                                  |
| Subtotal                                                                           | RM 13.00                         |
| Shipping:                                                                          |                                  |
| Standard Delivery (RM10)                                                           | <input checked="" type="radio"/> |
| Same Day Delivery (RM30)                                                           | <input type="radio"/>            |
| Total                                                                              | RM 23.00                         |

☒ ONLINE BANKING

Make your payment directly into our bank account.  
Please use your Order ID as the payment reference.

☐ CASH ON DELIVERY

☐ E-WALLET

Send Order

Figure 5.11 – Checkout Page

The Checkout Page streamlines the process of completing a purchase, commencing with a header for consistent navigation. It comprises sections for Billing Details, where users input their shipping information, and a summary of Cart Items, displaying the products selected for purchase along with their details. Additionally, users select their preferred Shipping Method and Payment Method, ensuring flexibility and convenience. Once all necessary information is provided, users can proceed to finalize their purchase by clicking the "Send Order" button. Finally, the footer includes supplementary navigation links and essential information, offering users support and resources throughout the checkout process. This layout optimizes user experience and ensures a seamless transaction process.

### 5.4.12 Payment Page

#### Card Payment

Card Accepted:



Name On Card:

Credit/Debit Card Number:

Exp Month:

Exp Year:

CVV

Proceed Payment

#### E-Wallet Payment

E-Wallet Accepted:



Name:

Registered Phone Number:

Password:

Proceed Payment

#### Cash On Delivery

These Terms And Conditions ("Agreement") Govern The Use Of The Online Payment Services ("Services") Provided By [Pharma4U] ("Company"). By Using The Services, You Agree To Abide By These Terms.

1. Acceptance Of Terms By Accessing Or Using The Services, You Agree To Be Bound By This Agreement. If You Do Not Agree With Any Part Of This Agreement, You May Not Use The Services.

2. Description Of Services The Services Provided By The Company Include Online Payment Processing For Purchases Made On Our Platform.

3. User Responsibilities

- Users Must Provide Accurate And Complete Information When Using The Services.
- Users Are Responsible For Maintaining The Security Of Their Account Credentials.
- Users Agree To Abide By All Applicable Laws And Regulations When Using The Services.

4. Fees And Charges

- The Company May Charge Transaction Fees For Using The Services. These Fees Will Be Clearly Communicated To Users Before Completing A Transaction.
- Users Are Responsible For Any Additional Charges Imposed By Third-Party Payment Processors.

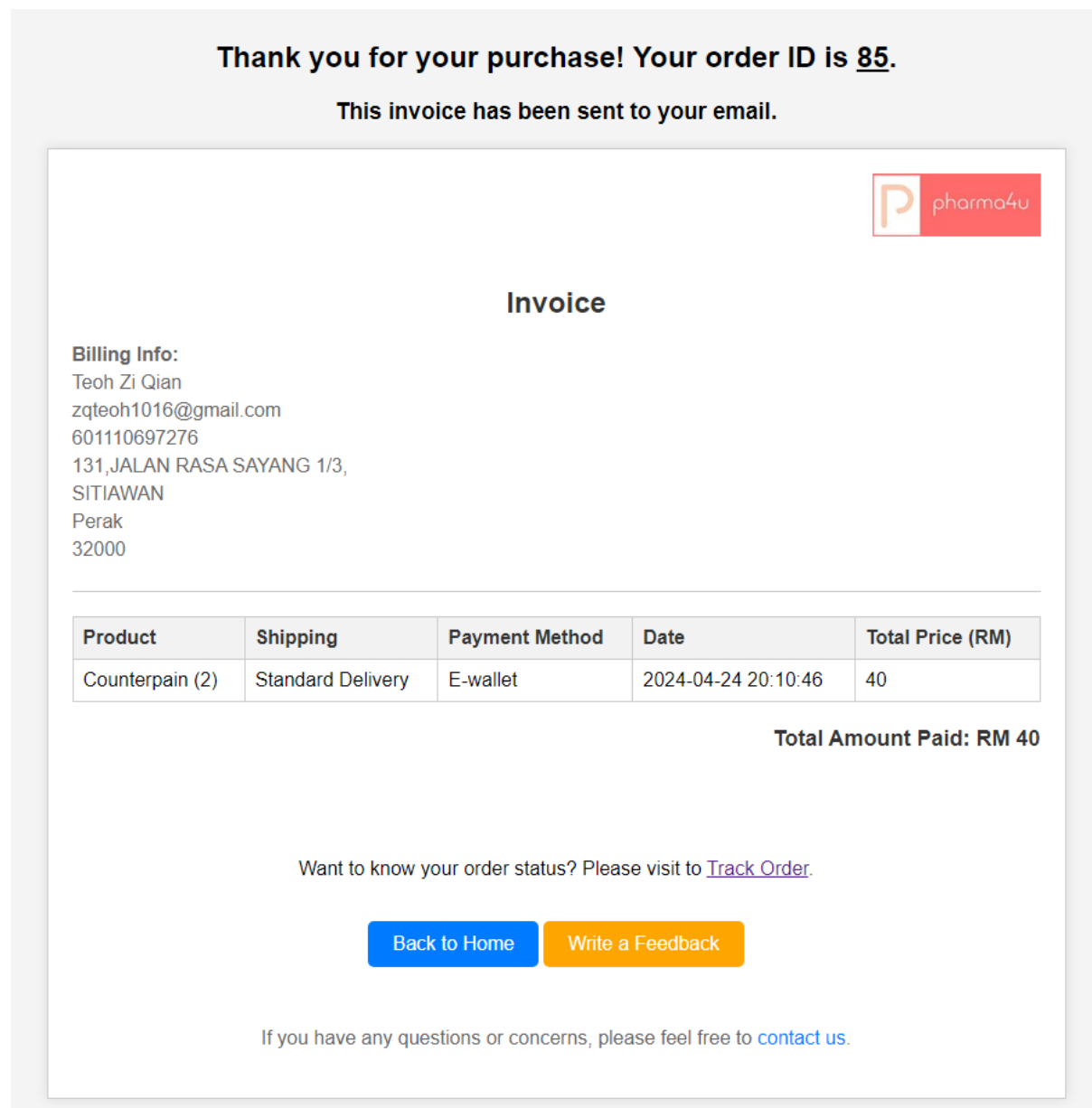
☐ I Agree To The Terms And Conditions

Proceed Payment

Figure 5.12 – Payment Page

The Payment Page offers users a variety of payment options to complete their purchase, featuring a header for consistent navigation. Users can redirect to different payment methods, including credit/debit cards, Cash on Delivery (COD), and e-wallets. Each payment method is presented with clear instructions and possibly additional information to guide users through the process. Users can select their preferred payment option and proceed accordingly. Finally, the footer includes supplementary navigation links and essential information, ensuring users have access to support and resources throughout the payment process. This layout provides flexibility and convenience, accommodating users' diverse preferences and needs.

### 5.4.13 Receipt Page



*Figure 5.13 – Receipt Page*

The Receipt Page serves as a comprehensive summary of the user's purchase, beginning with billing information followed by a detailed breakdown of the purchased order, including individual items, quantities, prices, and a total amount paid. Additionally, the page provides a link to track the order's status, ensuring transparency and convenience for users. Users are also presented with buttons linking back to the Home page and allowing them to write feedback. Finally, the footer includes a Contact Us link, providing users with additional support options and ensuring accessibility to essential resources. This layout offers users a seamless post-purchase experience while promoting engagement and support.

#### 5.4.14 Forgot Password Page

Welcome to Urdan

Malaysia (MYR) | English

HOME SHOP ABOUT CONTACT US

## Forgot Password

[Go Back](#)

**Enter your registered email to reset password**

Email

[Send](#)

[Go Back](#)

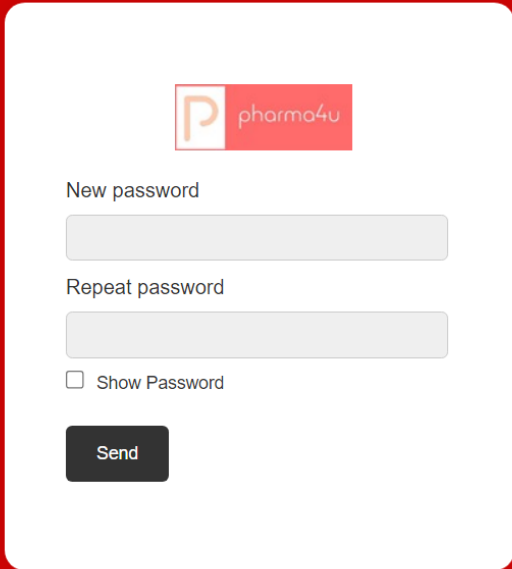
Don't have an account? [Register here](#)

[Terms of use](#). [Privacy policy](#)

*Figure 5.14 – Forgot Password Page*

The Forgot Password Page simplifies the process of resetting a user's password, featuring a header for consistent navigation. It prominently displays an email input field where users can enter their email address to receive a reset password link. Upon submission, a confirmation message is displayed indicating that the reset link has been sent to the provided email address. This straightforward layout ensures user-friendliness and facilitates the password recovery process.

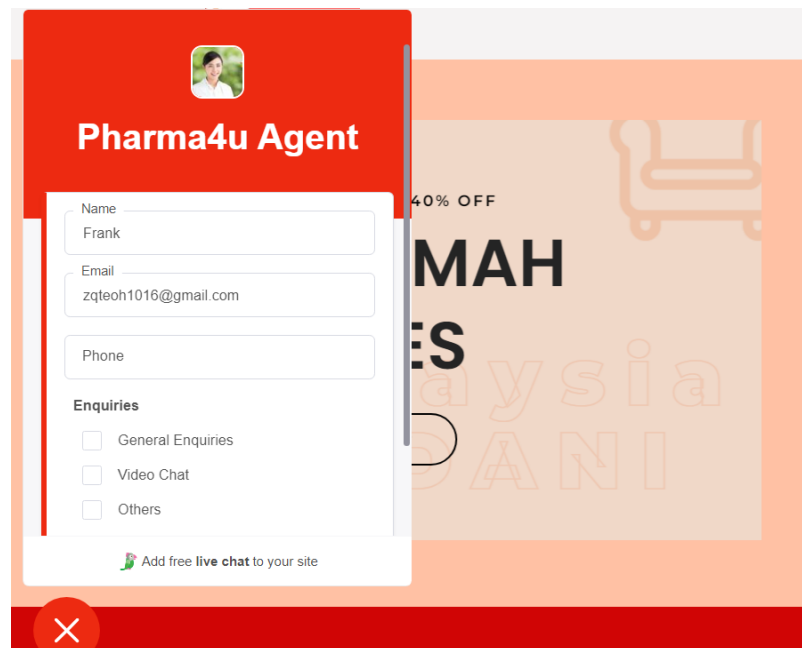
#### 5.4.15 Reset Password Page

The image shows a 'Reset Password' form centered on a solid red background. The form is a white rounded rectangle. At the top of the form is the 'pharma4u' logo, which consists of a stylized 'P' in a square followed by the text 'pharma4u'. Below the logo are two text input fields: the first is labeled 'New password' and the second is labeled 'Repeat password'. Under the second input field is a checkbox labeled 'Show Password'. At the bottom of the form is a dark grey button with the word 'Send' in white text.

*Figure 5.15 –Reset Password Page*

The Reset Password Page streamlines the process of setting a new password, featuring a form with fields for users to input and confirm their new password. Additionally, the page includes a send button to submit the new password for verification. This straightforward layout ensures ease of use and facilitates a seamless password reset experience.

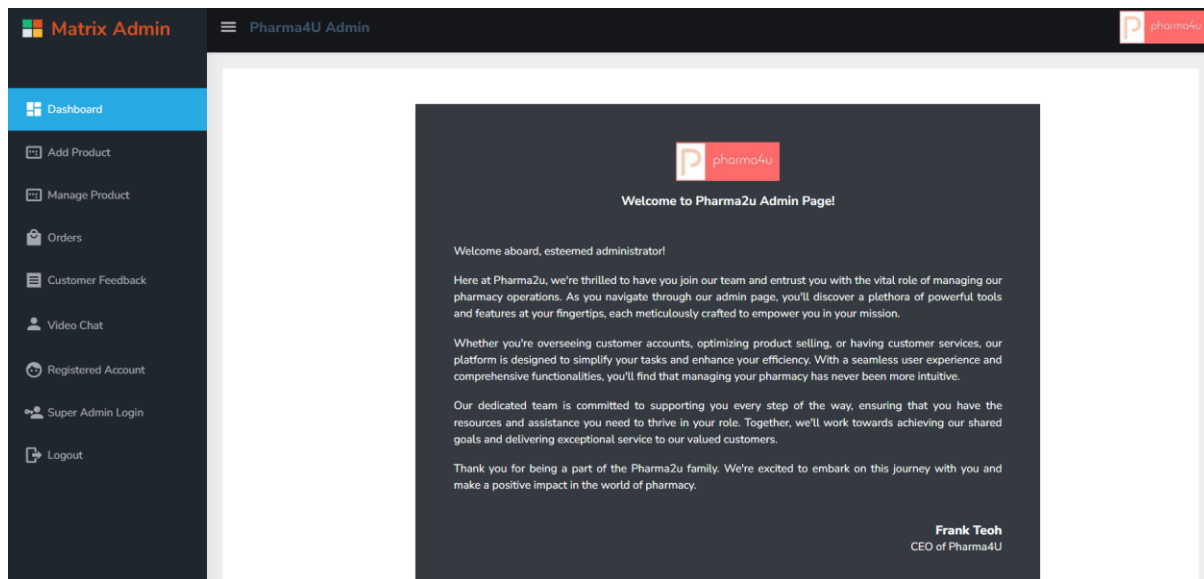
#### 5.4.16 Live Chat Icon



*Figure 5.16 – Live Chat Pop-up Chat*

The Live Chat Icon triggers a pop-up chatbox, providing users with instant access to support for inquiries. Upon clicking the icon, a chat window appears, allowing users to interact with customer service representatives or automated chatbots to ask questions or seek assistance. This feature enhances user experience by offering real-time support and addressing inquiries promptly.

### 5.4.17 Dashboard In Admin Page



*Figure 5.17 – Dashboard In Admin Page*

The Dashboard in the Admin Page offers a streamlined interface for administrators to manage the website, featuring a sidebar navigation menu for easy access to various administrative functions. Additionally, the dashboard includes a welcome message, providing a personalized greeting to administrators upon logging in. This layout enhances user experience by offering intuitive navigation and a welcoming interface for efficient website management.

### 5.4.18 Add Product In Admin Page

The screenshot shows the 'Add Products' page in the Matrix Admin interface. The sidebar on the left contains navigation links: Dashboard, Add Product (highlighted), Manage Product, Orders, Customer Feedback, Video Chat, Registered Account, Super Admin Login, and Logout. The main content area is titled 'Add Products' and contains a form with the following fields:

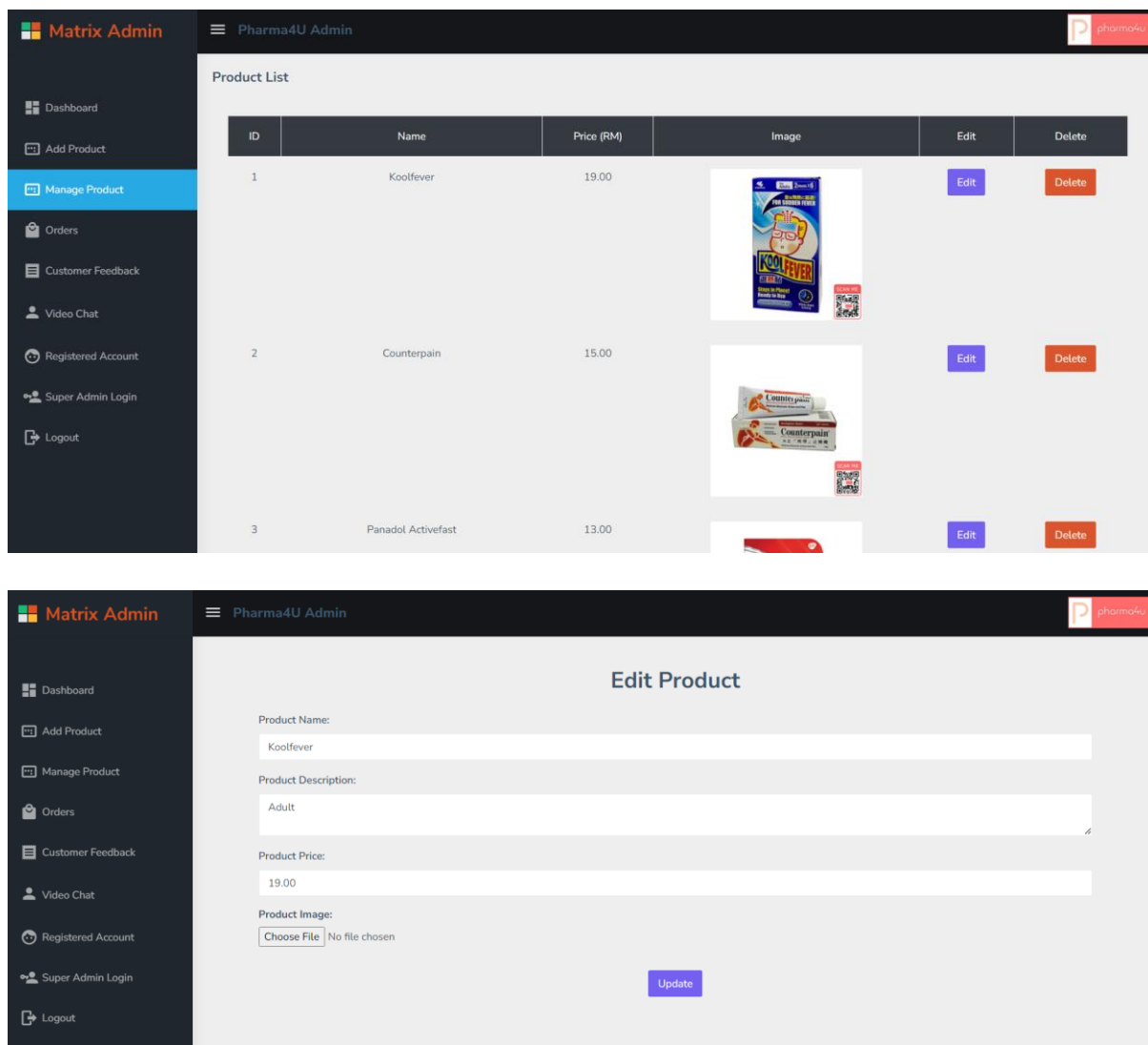
- Product Name:** A text input field with the placeholder 'Enter product name'.
- Product Description:** A text input field with the placeholder 'Enter product description'.
- Product Price:** A text input field with the placeholder 'Enter product price'.
- Product Image:** A file upload field with a 'Choose File' button and the text 'No file chosen'.

At the bottom of the form is a purple button labeled 'Add Product'.

*Figure 5.18 – Add Product In Admin Page*

The Add Product page in the Admin Page provides a user-friendly interface for administrators to input new product information. It includes a form with fields for essential product details such as name, description, price, and image upload. Administrators can fill out these fields with the relevant information for the new product. Additionally, the page features an "Add Product" button to submit the entered information and add the product to the website's inventory. This layout streamlines the process of adding new products, enhancing efficiency for administrators.

### 5.4.19 Manage Product in Admin Page



*Figure 5.19 – Manage Product in Admin Page*

The Manage Product section in the Admin Page offers administrators a comprehensive overview of the existing product added. It includes a product list with options to edit or delete each item. For editing, administrators can click on a product to access its dedicated edit page, where they can modify the product's information as needed. Alternatively, administrators can directly delete a product from the list. This layout streamlines product management tasks, providing administrators with efficient tools to update and maintain the website's product catalog.

### 5.4.20 View and update Customer Order status in Admin Page

The screenshot displays the 'Matrix Admin' interface for 'Pharma4U Admin'. The left sidebar contains navigation links: Dashboard, Add Product, Manage Product, Orders (highlighted), Customer Feedback, Video Chat, Registered Account, Super Admin Login, and Logout. The main content area shows a 'Customer Order' table with 7 rows of order data. Each row includes an 'ID', 'Name', 'Phone (+60)', 'Address', 'Product', 'Price (RM)', 'Status', and an 'Action' button labeled 'Edit'.

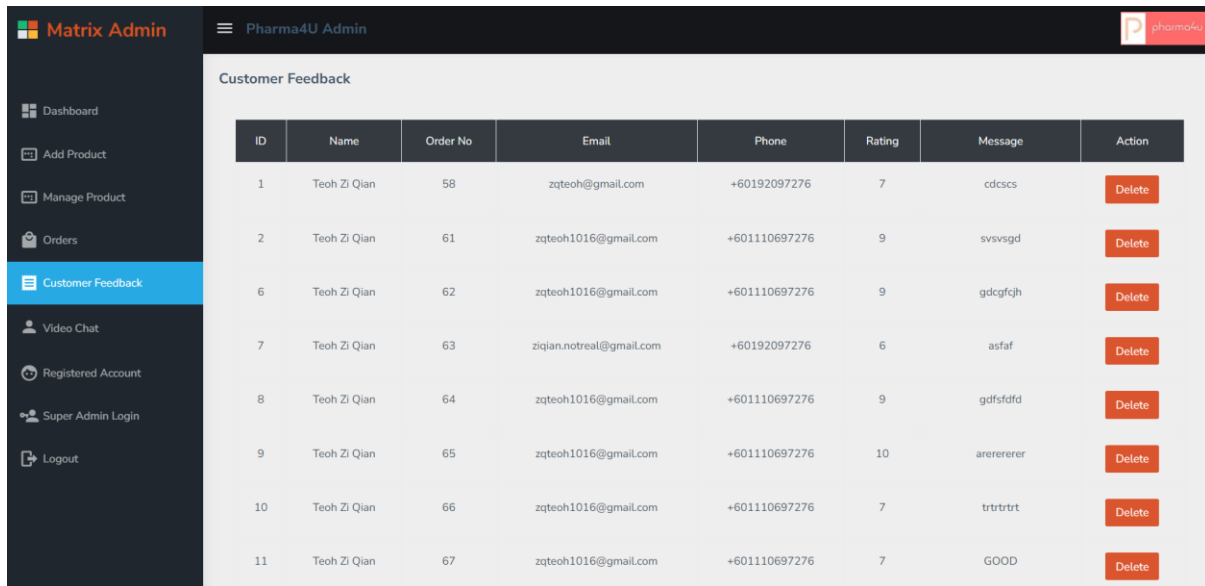
| ID | Name         | Phone (+60) | Address                                         | Product       | Price (RM) | Status                      | Action |
|----|--------------|-------------|-------------------------------------------------|---------------|------------|-----------------------------|--------|
| 1  | Teoh Zi Qian | 1110697276  | 131,JALAN RASA SAYANG 1/3, 32000 SITIAWAN Perak | Koolfever (1) | 25         | Order received by Pharma2U  | Edit   |
| 2  | Teoh Zi Qian | 1110697276  | 131,JALAN RASA SAYANG 1/3, 32000 SITIAWAN Perak | Koolfever (1) | 0          | Preparing Order             | Edit   |
| 3  | Teoh Zi Qian | 1110697276  | 131,JALAN RASA SAYANG 1/3, 32000 SITIAWAN Perak | Koolfever (1) | 0          | Ready for pickup by courier | Edit   |
| 4  | Teoh Zi Qian | 1110697276  | 131,JALAN RASA SAYANG 1/3, 32000 SITIAWAN Perak | Koolfever (1) | 181        | Parcel picked up by courier | Edit   |
| 5  | Teoh Zi Qian | 1110697276  | 131,JALAN RASA SAYANG 1/3, 32000 SITIAWAN Perak | Koolfever (1) | 181        | Order received by Pharma4U  | Edit   |
| 6  | Teoh Zi Qian | 1110697276  | 131,JALAN RASA SAYANG 1/3, 32000 SITIAWAN Perak | Koolfever (1) | 181        | Parcel Received by customer | Edit   |
| 7  | Teoh Zi Qian | 1110697276  | 131,JALAN RASA SAYANG 1/3, 32000 SITIAWAN Perak | Koolfever (1) | 181        | Parcel Received by customer | Edit   |

Below the table, the 'Order Status' form is shown. It includes a 'Back to Order' link and fields for: Order ID (1), Customer Name (Teoh Zi Qian), Phone no (+60) 1110697276, Email (zqteoh1016@gmail.com), Delivery Address (131,JALAN RASA SAYANG 1/3, 32000 SITIAWAN Perak), Item purchased (Koolfever (1)), Shipping Method (Standard Delivery), Payment Method (COD), Total Amount (RM) 25, and Status (Order received by Pharma4U). An 'Update' button is at the bottom right.

Figure 5.20 – View Customer Order in Admin Page

The "View Customer Order Status" section in the Admin Page displays a list of customer orders, providing administrators with essential information such as order details and current status. Each order entry includes an "Edit" button, allowing administrators to update the order status. Clicking on this button directs administrators to a dedicated page where they can modify the order status. This feature ensures transparency and enables customers to track their orders efficiently. Additionally, it streamlines order management tasks for administrators, enhancing overall efficiency in the system.

### 5.4.21 Feedback in Admin Page

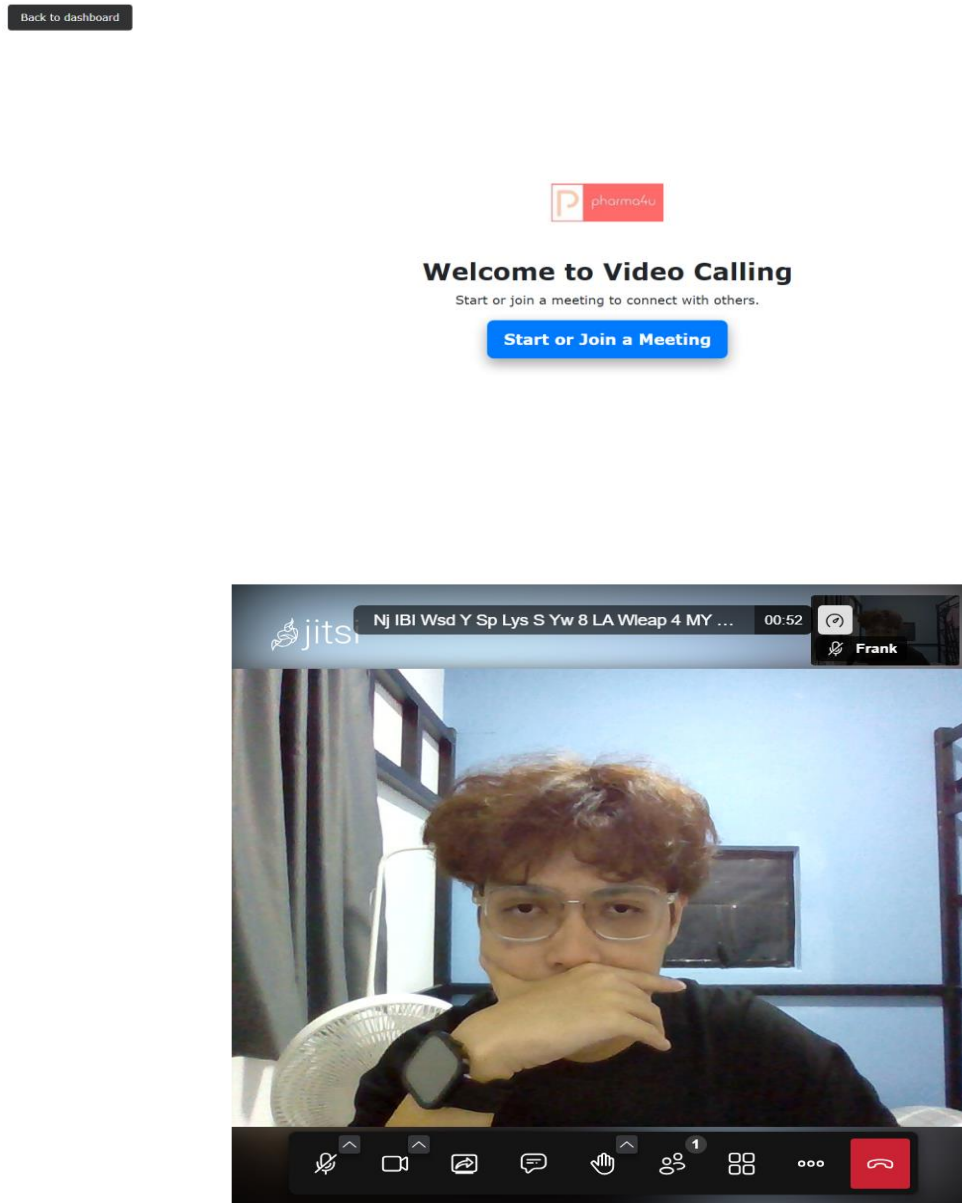


| ID | Name         | Order No | Email                   | Phone         | Rating | Message  | Action |
|----|--------------|----------|-------------------------|---------------|--------|----------|--------|
| 1  | Teoh Zi Qian | 58       | zqteoh@gmail.com        | +60192097276  | 7      | cdscs    | Delete |
| 2  | Teoh Zi Qian | 61       | zqteoh1016@gmail.com    | +601110697276 | 9      | svsvsgd  | Delete |
| 6  | Teoh Zi Qian | 62       | zqteoh1016@gmail.com    | +601110697276 | 9      | gdcgfh   | Delete |
| 7  | Teoh Zi Qian | 63       | zqian.notreal@gmail.com | +60192097276  | 6      | asfaf    | Delete |
| 8  | Teoh Zi Qian | 64       | zqteoh1016@gmail.com    | +601110697276 | 9      | gdfrfd   | Delete |
| 9  | Teoh Zi Qian | 65       | zqteoh1016@gmail.com    | +601110697276 | 10     | arererer | Delete |
| 10 | Teoh Zi Qian | 66       | zqteoh1016@gmail.com    | +601110697276 | 7      | trtrtrtr | Delete |
| 11 | Teoh Zi Qian | 67       | zqteoh1016@gmail.com    | +601110697276 | 7      | GOOD     | Delete |

*Figure 5.21 – Feedback in Admin Page*

The "Feedback" section in the Admin Page presents administrators with a list of feedback entries along with associated ratings provided by users. Each feedback entry includes details such as the user's name, order ID, the content of the feedback, and the rating given. Administrators have the option to review and manage feedback by deleting individual entries if necessary. A "Delete" button is provided alongside each feedback entry, allowing administrators to remove unwanted or irrelevant feedback from the system. This feature enables administrators to maintain the integrity of the feedback system and ensure a positive user experience.

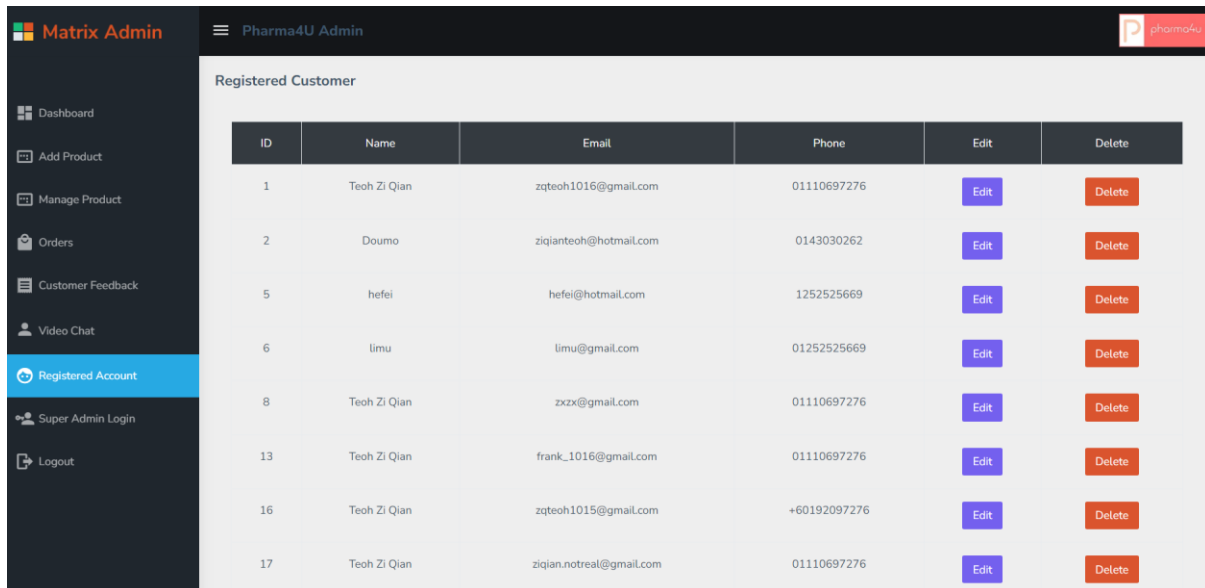
### 5.4.22 Video Chat in Admin Page



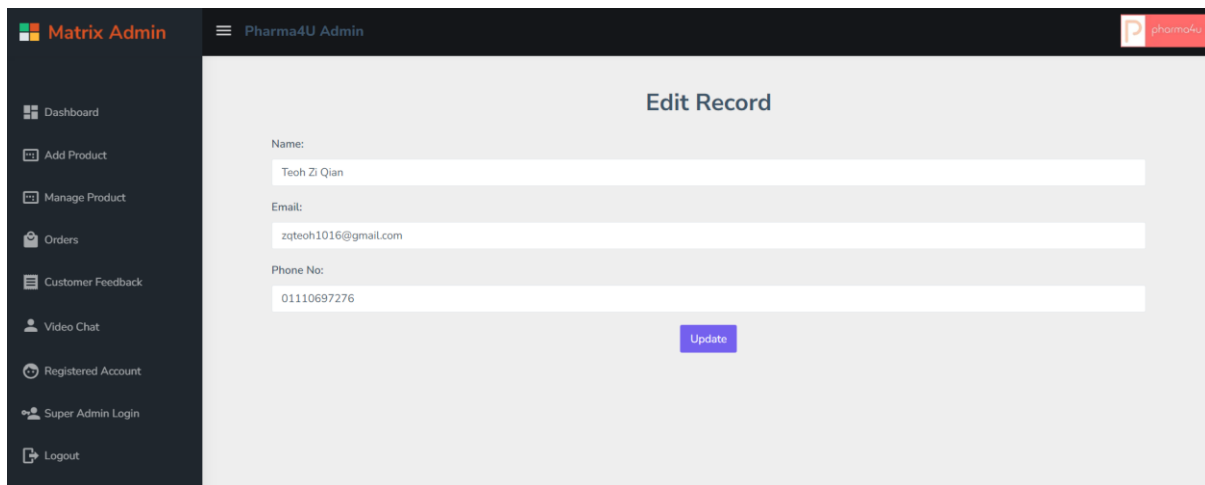
*Figure 5.22 – Video Chat in Admin Page*

The "Video Chat" feature in the Admin Page offers administrators the ability to initiate meetings with users or other administrators. It includes a "Start Meeting" button, which, upon clicking, directs administrators to a dedicated meeting page. This page provides a platform for video conferencing, allowing participants to communicate in real-time through video and audio channels. The "Start Meeting" button streamlines the process of initiating video conferences, providing administrators with a convenient way to conduct meetings and collaborate effectively within the administrative interface.

### 5.4.23 Registered Account in Admin Page



| ID | Name         | Email                   | Phone        | Edit                 | Delete                 |
|----|--------------|-------------------------|--------------|----------------------|------------------------|
| 1  | Teoh Zi Qian | zqteoh1016@gmail.com    | 01110697276  | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 2  | Doumo        | ziqianteh@hotmail.com   | 0143030262   | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 5  | hefei        | hefei@hotmail.com       | 1252525669   | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 6  | limu         | limu@gmail.com          | 01252525669  | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 8  | Teoh Zi Qian | zxzx@gmail.com          | 01110697276  | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 13 | Teoh Zi Qian | frank_1016@gmail.com    | 01110697276  | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 16 | Teoh Zi Qian | zqteoh1015@gmail.com    | +60192097276 | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 17 | Teoh Zi Qian | zqian.notreal@gmail.com | 01110697276  | <a href="#">Edit</a> | <a href="#">Delete</a> |



**Edit Record**

Name:

Email:

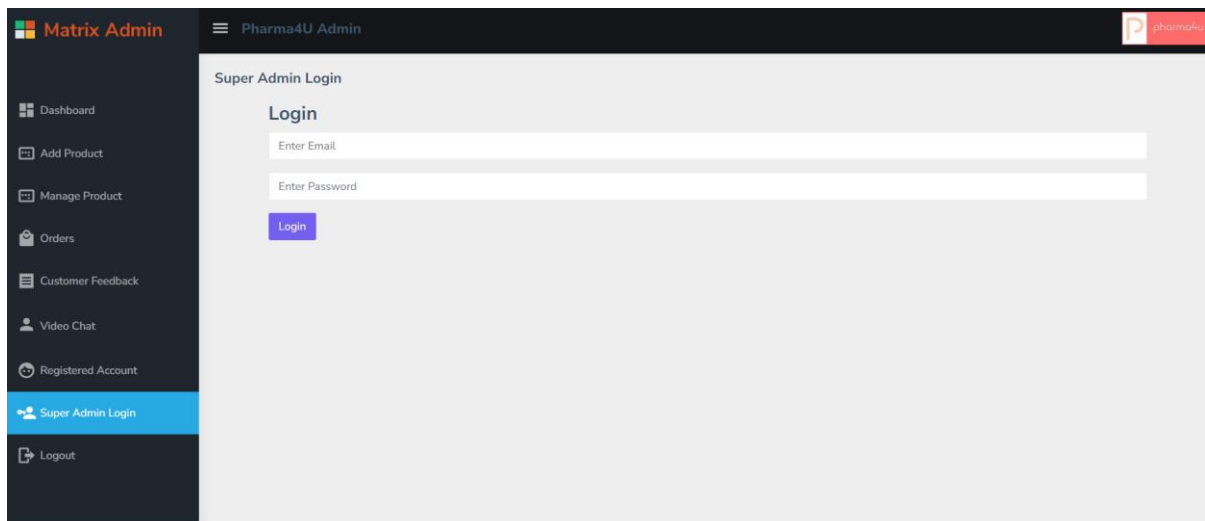
Phone No:

[Update](#)

*Figure 5.23 – Registered Customer Account in Admin Page*

The "Registered Accounts" section in the Admin Page displays a list of registered customer accounts, providing administrators with essential user information. Each account entry includes details such as the user's name, email address, and other information. Administrators have the option to manage these accounts by editing or deleting them as needed. For editing, administrators can click on an account to access its dedicated edit page, where they can modify account details. Alternatively, administrators can directly delete an account from the list using the provided "Delete" button. This feature streamlines account management tasks for administrators, allowing them to efficiently manage the user database within the administrative interface.

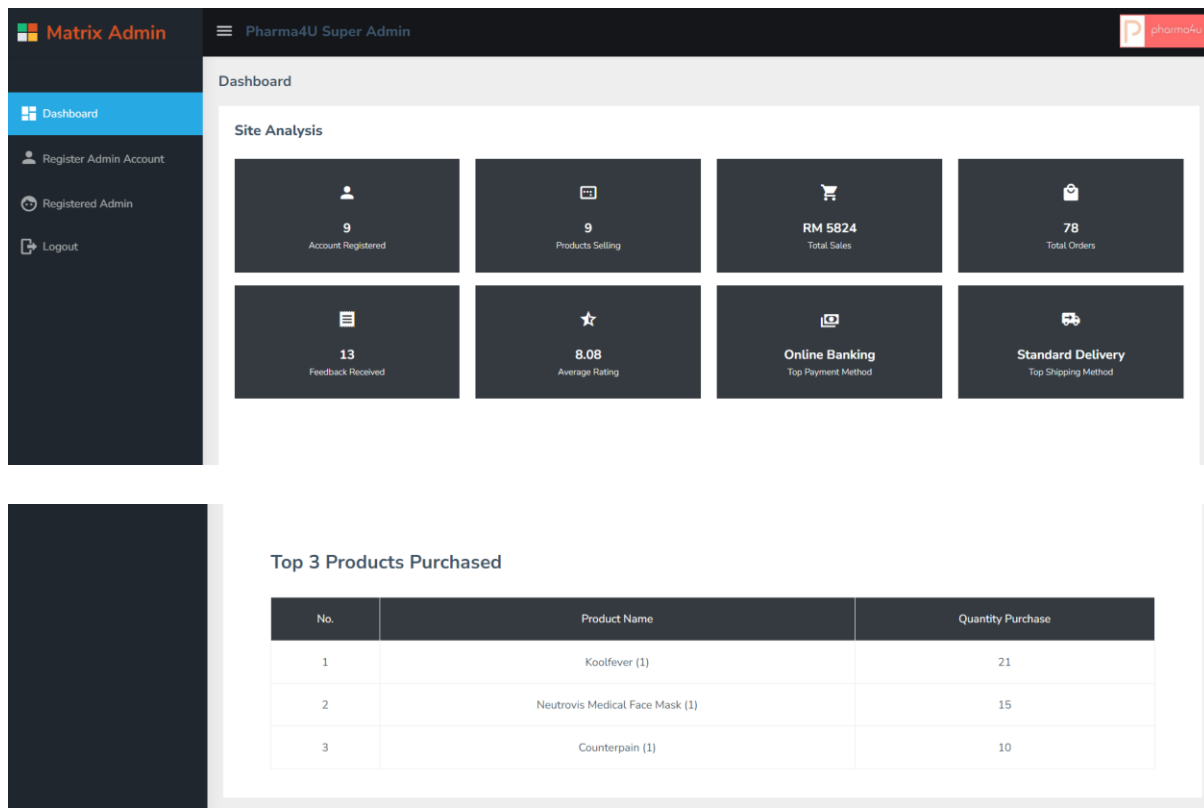
#### 5.4.24 Super Admin Login in Admin Page

The screenshot shows the 'Matrix Admin' interface. On the left is a dark sidebar with a menu including 'Dashboard', 'Add Product', 'Manage Product', 'Orders', 'Customer Feedback', 'Video Chat', 'Registered Account', 'Super Admin Login' (highlighted in blue), and 'Logout'. The main content area has a top header with 'Pharma4U Admin' and a logo. Below this, the page is titled 'Super Admin Login'. It features a 'Login' section with two input fields: 'Enter Email' and 'Enter Password'. A purple 'Login' button is positioned below the password field.

*Figure 5.24 – Super Admin Login in Admin Page*

The "Super Admin Login" section in the Admin Page provides a dedicated form for Super Admins to access the Super Admin site. This form includes fields for entering the Super Admin's email and password. Upon successful authentication, Super Admins gain access to advanced administrative functionalities and privileges within the system. This feature ensures secure access to sensitive administrative controls and enhances overall system security.

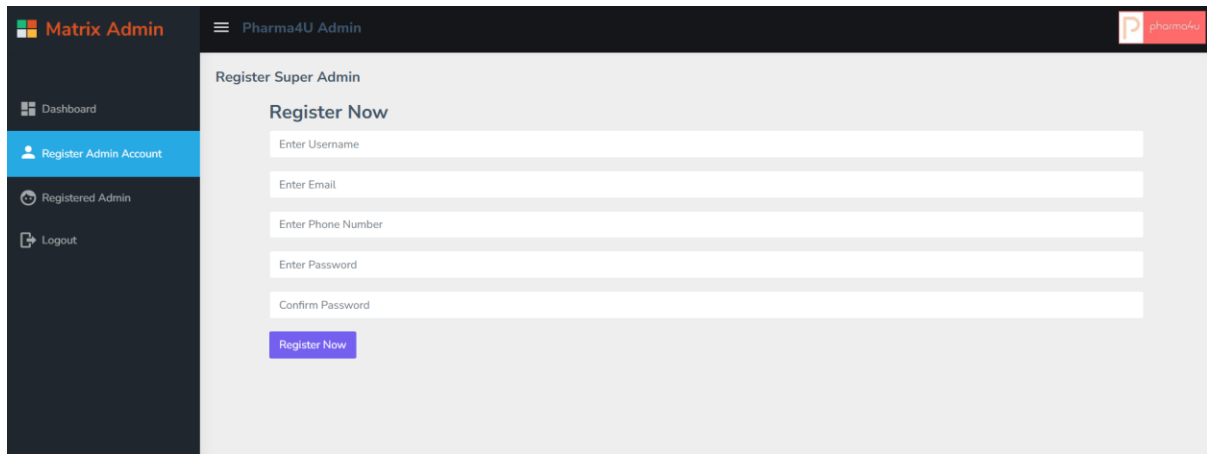
### 5.4.25 Dashboard in Super Admin Page



*Figure 5.25 – Dashboard in Super Admin Page*

The "Dashboard" in the Super Admin page offers a comprehensive overview of site analytics, providing valuable insights into the platform's performance. It includes key metrics such as total orders, total revenue generated, average rating across products, total number of products sold, the top three best-selling products and more. These metrics are presented in visually appealing charts or tables, allowing Super Admins to quickly assess the platform's performance and make data-driven decisions. This feature enhances transparency and facilitates effective management of the platform, ensuring its continued success and growth.

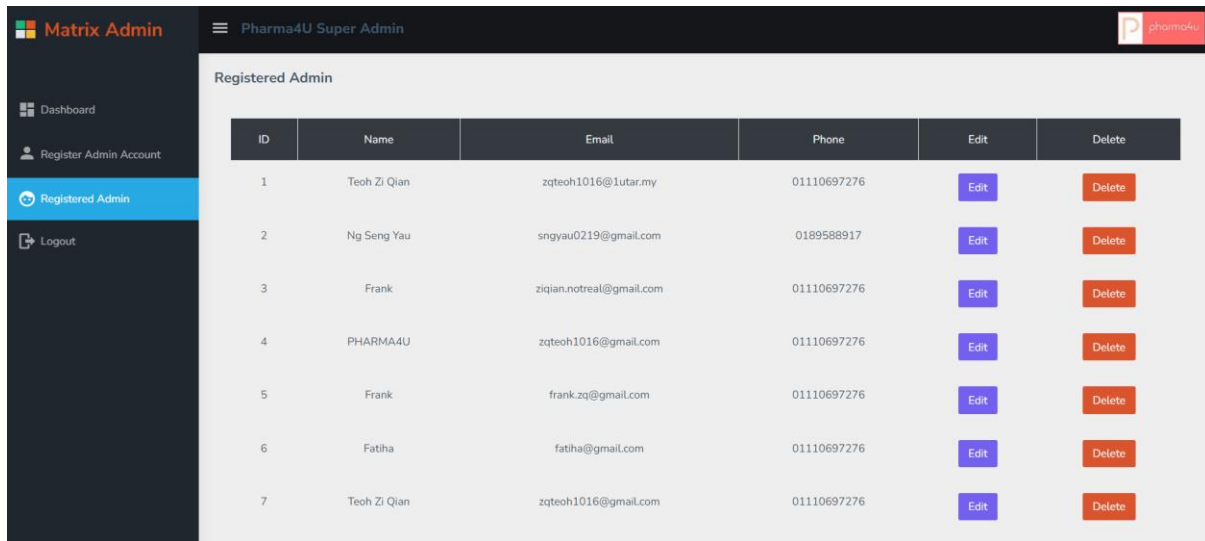
### 5.4.26 Register Admin Account in Super Admin Page

The screenshot shows the 'Pharma4U Admin' interface. On the left is a dark sidebar with the 'Matrix Admin' logo and a menu containing 'Dashboard', 'Register Admin Account' (highlighted in blue), 'Registered Admin', and 'Logout'. The main content area is titled 'Register Super Admin' and contains a 'Register Now' section. This section has five input fields: 'Enter Username', 'Enter Email', 'Enter Phone Number', 'Enter Password', and 'Confirm Password'. A purple 'Register Now' button is located at the bottom of the form.

*Figure 5.26 – Register Admin Account in Super Admin Page*

The "Register Admin Account" section in the Super Admin page provides a form for registering new administrator accounts within the system. This form typically includes fields for entering the necessary information, such as the admin's username, email address, phone number and password. Upon submission of the form, the Super Admin can create a new administrator account, granting access to specific administrative functionalities and privileges within the system. This feature enables the Super Admin to effectively manage the team of administrators and ensure secure access to administrative controls.

### 5.4.27 Registered Admin in Super Admin Page



| ID | Name         | Email                   | Phone       | Edit                 | Delete                 |
|----|--------------|-------------------------|-------------|----------------------|------------------------|
| 1  | Teoh Zi Qian | zqteoh1016@1utar.my     | 01110697276 | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 2  | Ng Seng Yau  | sngyau0219@gmail.com    | 0189588917  | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 3  | Frank        | zqian.notreal@gmail.com | 01110697276 | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 4  | PHARMA4U     | zqteoh1016@gmail.com    | 01110697276 | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 5  | Frank        | frank.zq@gmail.com      | 01110697276 | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 6  | Fatiha       | fatiha@gmail.com        | 01110697276 | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 7  | Teoh Zi Qian | zqteoh1016@gmail.com    | 01110697276 | <a href="#">Edit</a> | <a href="#">Delete</a> |

*Figure 5.27 – Registered Admin in Super Admin Page*

The "Registered Admin" section in the Super Admin page displays a list of registered administrator accounts, providing an overview of the administrative team. Each entry includes essential details such as the admin's name, email address, and phone number. Administrators can manage these accounts by editing or deleting them as necessary. For editing, the Super Admin can click on an account to access its dedicated edit page, where they can modify account details. Alternatively, the Super Admin can directly delete an account from the list using the provided "Delete" button. This feature streamlines the management of administrator accounts, ensuring efficient oversight and control within the administrative hierarchy.

## CHAPTER 6: SYSTEM EVALUATION AND DISCUSSION

### 6.1 Black Box Testing

A software testing technique known as "black box testing" is used to assess software application's functionality without looking at its core code or structure. This method treats the software as a "black box" whose inner workings are obscured or unknown, with testers concentrating simply on the inputs given to it and the associated outputs it generates. In this chapter, will do all the function and feature testing about the system.

#### 6.1.1 Check account login functionality

*Table 6. 1 - Check account login functionality*

| Test Case                                                | Test Steps                                                                                             | Expected Result                                                                                               | Actual Result | Pass/Fail |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------|-----------|
| Check the result on typing valid email and password      | 1. Click correct login link<br>2. Fill in correct email and password<br>3. Click the login button      | After click login button user will redirect to home page and there is a logout button on the top right corner | Expected      | Pass      |
| Check the result on typing invalid username and password | 1. Click correct login link<br>2. Fill in incorrect username and password<br>3. Click the login button | System will display an error message                                                                          | Expected      | Pass      |

### 6.1.2 Check account registration functionality

Table 6. 2 - Check account sign up functionality

| Test Case                                | Test Steps                                                                                         | Expected Result                                                                                                                        | Actual Result | Pass/Fail |
|------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------|
| Check the result on typing valid input   | 1. Click register link in login page<br>2. Fill in correct input<br>3. Click the register button   | 1. System will validate the input and store into database<br>2. user will redirect to the login page<br>3. user can login to home page | Expected      | Pass      |
| Check the result on typing invalid input | 1. Click register link in login page<br>2. Fill in incorrect input<br>3. Click the register button | 1. System will validate the input<br>2. System will display and error message                                                          | Expected      | Pass      |

### 6.1.3 Check forgot password functionality

Table 6. 3 - Check forgot password functionality

| Test Case                                    | Test Steps                                                                                                                                                                | Expected Result                                                | Actual Result | Pass/Fail |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|---------------|-----------|
| Check result on typing valid of new password | 1. Click the correct forgot password link<br>2. Fill in the valid email<br>3. Click the link in the received email<br>4. Type a new password<br>5. Click the reset button | User can login their account by using the new password         | Expected      | Pass      |
| Check result on typing the old password      | 1. Click the correct forgot password link<br>2. Fill in the valid email<br>3. Click the link in the received email<br>4. Type an old password                             | System will display an error message and ask user to try again | Expected      | Pass      |
|                                              | 5. Click the reset button                                                                                                                                                 |                                                                |               |           |

#### 6.1.4 Check ordering functionality

Table 6. 4 - Check ordering functionality

| Test Case                                  | Test Steps                                                                                                                                         | Expected Result                                                                                 | Actual Result | Pass/Fail |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------|-----------|
| Check user able to be order                | 1. click the “Shop” on the headerbar in home page<br>2. Add product into cart<br>3. Fill in delivery and payment info<br>4. Click the order button | 1. System will display a successfully message<br>2. store the booking details to MySQL database | Expected      | Pass      |
| Check users login to account to make order | 1. Click the product<br>2. Add to cart<br>3. Redirect to login page                                                                                | User can’t continue on making order if do not login                                             | Expected      | Pass      |
| Check system display cart product info     | Click the order link                                                                                                                               | System displays a correct cart info                                                             | Expected      | Pass      |

### 6.1.5 Check live chat functionality

Table 6. 5 - Check live chat functionality

| Test Case                                   | Test Steps                                                                                                                               | Expected Result                                         | Actual Result | Pass/Fail |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------|-----------|
| Check user click Tawk.to icon to chat       | 1. Click the Tawk.to live chat icon on the bottom left corner<br>2. Select the Enquiry type                                              | System will display a chat box to user                  | Expected      | Pass      |
| Check user can type message in the chat box | 1. Click the Tawk.to live chat icon on the bottom left corner<br>2. Select the Enquiry type<br>3. Type some message in the text box area | User can type any message in the chat box               | Expected      | Pass      |
| Check admin can receive message             | 1. Click the Tawk.to live chat icon on the bottom left corner<br>Select the Enquiry type                                                 | Admin can receive the message from sender and can reply | Expected      | Pass      |

|  |                                                                                                             |  |  |  |
|--|-------------------------------------------------------------------------------------------------------------|--|--|--|
|  | 3. Type some message in the text box area<br>4. Click send button<br>5. Open the admin live chat in Tawk.to |  |  |  |
|--|-------------------------------------------------------------------------------------------------------------|--|--|--|

### 6.1.6 Check video chat functionality

Table 6. 6 - Check video chat functionality

| Test Case                                                | Test Steps                                                                                                                              | Expected Result                                                                        | Actual Result | Pass/Fail |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------|-----------|
| Check user can click Tawk.to icon to request video chat  | 1. Click the Tawk.to live chat icon on the bottom left corner<br>2. Select the Video Chat<br>3. Click link to join                      | System will display a chat box to user and admin will send invitation link to join     | Expected      | Pass      |
| Check admin can receive request and send invitation link | 1. Login into Tawk.to<br>2. Select the received chat<br>3. Start a meeting<br>4. Copy invitation link<br>5. Paste and click send button | Admin can receive video chat request from sender and proceed a live meeting for sender | Expected      | Pass      |

### 6.1.7 Check feedback functionality

Table 6. 7 - Check feedback functionality

| Test Case                                                        | Test Steps                                                                                                                         | Expected Result                              | Actual Result | Pass/Fail |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------|-----------|
| Check user typing invalid email                                  | 1. click the feedback link in the email receipt<br>2. typing invalid email<br>3. click send button                                 | System will display an error message to user | Expected      | Pass      |
| Check user can typing message in the text box area               | 1. click the feedback link in the email receipt<br>2. fill in all the input field in the feedback form                             | User able to fill all the input field        | Expected      | Pass      |
| Check the feedback can store to database after click send button | 1. click the feedback link in the email receipt<br>2. Fill in all the input field in the feedback form<br>3. Click the send button | All the user input can store into database   | Expected      | Pass      |

### 6.1.8 Track Order functionality

Table 6. 8 - Check track order functionality

| Test Case                                                | Test Steps                                                  | Expected Result                      | Actual Result | Pass/Fail |
|----------------------------------------------------------|-------------------------------------------------------------|--------------------------------------|---------------|-----------|
| Track in the order record system will display the record | 1. click the track order status button in the email receipt | System will display the order status | Expected      | Pass      |

### 6.1.9 Check user profile functionality

Table 6. 9 - Check user profile functionality

| Test Case                                       | Test Steps                                                                                         | Expected Result                                       | Actual Result | Pass/Fail |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------|-----------|
| Check user can review their profile information | Click the my account on the navigation bar                                                         | System will display the all user information          | Expected      | Pass      |
| Check user can update their information         | 1.Click the my account on the navigation bar<br>2.Fill in the input field<br>3.Clink update button | System will store the new user input data to database | Expected      | Pass      |

|                                                                                |                                                                                                                                                                                                                                                                                         |                                                                              |          |      |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------|------|
| Check user typing invalid old password                                         | <ol style="list-style-type: none"> <li>1. Click the my account on the navigation bar</li> <li>2. fill in the invalid password in the old password input field</li> <li>3. click the update button</li> </ol>                                                                            | System will display an error message and no store the user input to database | Expected | Pass |
| Check user typing different password in the confirm password with new password | <ol style="list-style-type: none"> <li>1. Click the my account on the navigation bar</li> <li>2. fill in the new password input field</li> <li>3. fill in different user input with the new password in the confirm password input field</li> <li>4. click the update button</li> </ol> | System will display an error message and no store the user input to database | Expected | Pass |

### 6.1.10 Logout functionality

Table 6. 10 - Check logout functionality

| Test Case                                          | Test Steps                                                     | Expected Result                      | Actual Result | Pass/Fail |
|----------------------------------------------------|----------------------------------------------------------------|--------------------------------------|---------------|-----------|
| Check system end session after click logout button | 1. click the logout button at the top right corner in homepage | System will direct to the login page | Expected      | Pass      |

### 6.1.11 Check admin page functionality

Table 6. 11 - Check admin dashboard functionality

| Test Case                             | Test Steps                                                                                    | Expected Result                          | Actual Result | Pass/Fail |
|---------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------|---------------|-----------|
| Check system will login to admin page | 1. Click the login button<br>2. Fill in the admin email and password<br>3. Click login button | System will redirect admin to admin page | Expected      | Pass      |

### 6.1.12 Check admin add and manage product functionality

Table 6. 12 - Check admin add and manage product functionality

| Test Case                             | Test Steps                                                                                                                                         | Expected Result                                                                                                                                                        | Actual Result | Pass/Fail |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------|
| Check admin able to add new product   | 1. Click the add product button<br>2. Fill in the product info and image<br>3. Click add button                                                    | 1. System will store the new product to database<br>2. System will display the new product in the shop page                                                            | Expected      | Pass      |
| Check admin able to edit product info | 1. Click the manage product in admin page<br>2. Click the edit button in the action column<br>3. Update the product info<br>4. Click update button | 1. System will update the new product to database<br>2. System will display the new product in the shop page after edit<br>3. System will display a successful message | Expected      | Pass      |
| Check admin able to delete product    | 1. Click delete in the action column<br>2. Click confirm                                                                                           | System will delete the product in database                                                                                                                             | Expected      | Pass      |

### 6.1.13 Check admin live chat functionality

Table 6. 13 - Check admin live chat functionality

| Test Case                                                                 | Test Steps                                                                                                 | Expected Result                            | Actual Result | Pass/Fail |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------------|-----------|
| Check admin can login into Tawk.to and perform live chat customer service | 1. Login into Tawk.to account<br>2. Select the person in the list                                          | System will display a chat box to admin    | Expected      | Pass      |
| Check admin can type message in the chat box                              | 1. Login into Tawk.to account<br>2. Select the person in the list<br>3. Reply message in the text box area | Admin can type any message in the chat box | Expected      | Pass      |

#### 6.1.14 Check admin video chat functionality

Table 6. 14 - Check admin video chat functionality

| Test Case                                                                                | Test Steps                                                                                                                                                                                                                                    | Expected Result                                                      | Actual Result | Pass/Fail |
|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------|-----------|
| Check admin can login into Tawk.to and admin page to perform video chat customer service | 1. Login into Tawk.to account and admin page<br>2. Click the Video Chat in the admin page<br>3. Start a new meeting<br>4. Copy invitation link<br>5. Send invitation link through Tawk.to<br>5.Customer join meeting with the invitation link | System will display a video chat meeting for both admin and customer | Expected      | Pass      |

#### 6.1.15 Check admin view customer feedback review functionality

Table 6. 15 - Check admin view customer feedback review functionality

| Test Case                                    | Test Steps                       | Expected Result                             | Actual Result | Pass/Fail |
|----------------------------------------------|----------------------------------|---------------------------------------------|---------------|-----------|
| Check admin able to review the user feedback | Click the feedback in admin page | System will display all the feedback review | Expected      | Pass      |

#### 6.1.16 Check admin review customer order functionality

Table 6. 16 - Check admin review customer order functionality

| Test Case                                             | Test Steps                                                                                                     | Expected Result                                            | Actual Result | Pass/Fail |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|---------------|-----------|
| Check admin able to review the customer order details | Click the Order in the admin page                                                                              | System will display all the customer order details         | Expected      | Pass      |
| Check admin able to delete customer order record      | 1. Click the Order in the admin page<br>2. Click the delete button under action<br>3. Click the confirm button | System will delete the selected customer order in database | Expected      | Pass      |

#### 6.1.17 Check admin review registered customer account functionality

Table 6. 17 - Check admin review registered customer account functionality

| Test Case                                              | Test Steps                                     | Expected Result                                     | Actual Result | Pass/Fail |
|--------------------------------------------------------|------------------------------------------------|-----------------------------------------------------|---------------|-----------|
| Check admin able to review registered customer account | Click the Registered Account in the admin page | System will display all the registered account info | Expected      | Pass      |

#### 6.1.18 Check admin logout functionality

Table 6. 18 - Check admin logout functionality

| Test Case                  | Test Steps                                | Expected Result                              | Actual Result | Pass/Fail |
|----------------------------|-------------------------------------------|----------------------------------------------|---------------|-----------|
| Check admin able to logout | Click the logout button in the admin page | System will redirect admin to the login page | Expected      | Pass      |

#### 6.1.19 Check super admin login functionality

*Table 6. 19 - Check super admin login functionality*

| Test Case                       | Test Steps                                                                                    | Expected Result                          | Actual Result | Pass/Fail |
|---------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------|---------------|-----------|
| Check super admin able to login | 1.Click the Super Admin Login in the admin page<br>2. Fill in the email and password to login | System will display all Super Admin page | Expected      | Pass      |

#### 6.1.20 Check super admin view and register new admin account functionality

*Table 6. 20 - Check super admin register new admin account functionality*

| Test Case                                               | Test Steps                                                                                                                        | Expected Result                                        | Actual Result | Pass/Fail |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------------|-----------|
| Check super admin able to register new admin account    | 1. Click the Register Admin Account in super admin page<br>2. Fill in the new admin registration info<br>3. Click register button | System will validate the input and store into database | Expected      | Pass      |
| Check super admin able to view registered admin account | Click the Registered Admin in super admin page                                                                                    | System will display all registered admin account info  | Expected      | Pass      |

#### 6.1.21 Check super admin view dashboard info functionality

*Table 6. 21 - Check super view dashboard info functionality*

| Test Case                                     | Test Steps                              | Expected Result                                        | Actual Result | Pass/Fail |
|-----------------------------------------------|-----------------------------------------|--------------------------------------------------------|---------------|-----------|
| Check super admin able to view dashboard info | Click the Dashboard in super admin page | System will display all sales and website analyze data | Expected      | Pass      |

#### 6.1.22 Check superadmin logout functionality

Table 6. 22 - Check super admin logout functionality

| Test Case                        | Test Steps                                      | Expected Result                                    | Actual Result | Pass/Fail |
|----------------------------------|-------------------------------------------------|----------------------------------------------------|---------------|-----------|
| Check super admin able to logout | Click the logout button in the super admin page | System will redirect super admin to the admin page | Expected      | Pass      |

## 6.2 System Review

### 6.2.1 User Testing

On the scale of 1-5, how would you rate the ease of use of the account login functionality?

10 responses

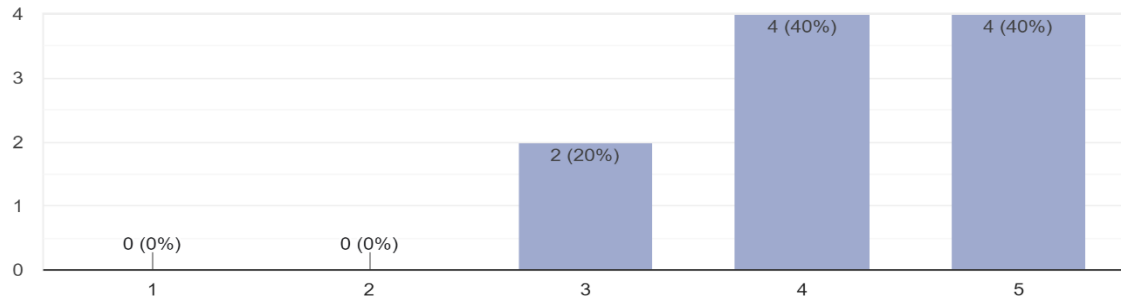


Figure 6. 1 - User testing 1

The figure above shows that a majority of users, 80%, found the account login functionality very easy to use. This is because 40% of respondents rated it a 4 (very easy) and another 40% rated it a 5 (extremely easy) on a scale of 1 to 5. The remaining 20% found it somewhat easy to use, rating it a 3. There were no respondents who found it difficult or very difficult to use. Overall, this suggests that the account login functionality is user-friendly.

Did you encounter any issues while sign-up an account?

10 responses

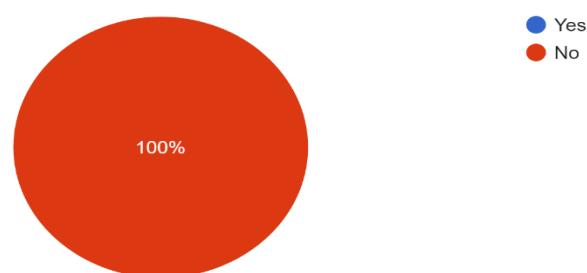
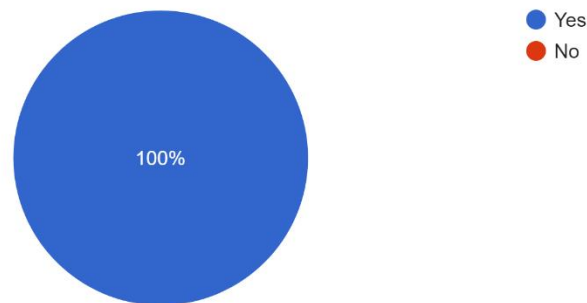


Figure 6. 2 - User testing 2

The figure above shows that whether people encountered any issues while signing up for an account. In this case, all 10 respondents said they had no issues, with 100% responding no. This suggests that the signup process may be relatively smooth and user-friendly.

Were you able to successfully use the Forgot Password function?

10 responses

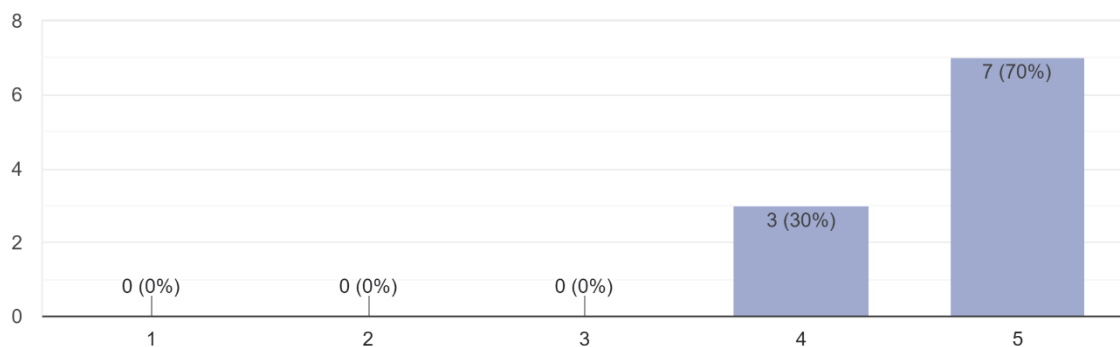


*Figure 6. 3 - User testing 3*

The figure above shows that all respondents, which is 100%, were able to successfully use the forgot password function, and 0% of them found the forgot password function was not successful. This suggests that the forgot password function is working well and is easy to use.

On the scale of 1-5, how satisfied are you with the online purchase on the platform?

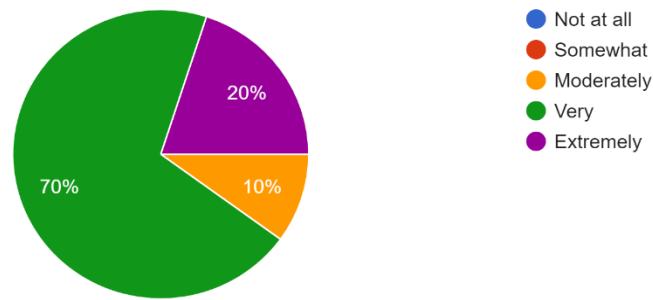
10 responses



*Figure 6. 4 - User testing 4*

The figure above shows how satisfied users were with their online purchases on a platform, with satisfaction rated on a scale of 1 to 5. The results show that a majority of respondents, 70%, rated their satisfaction as a 5 (extremely satisfied). Another 30% of respondents rated their satisfaction as a 4 (very satisfied). There were no respondents who indicated that they were neutral or unsatisfied with their purchases. Overall, these results suggest that users are very satisfied with their online purchases on this platform.

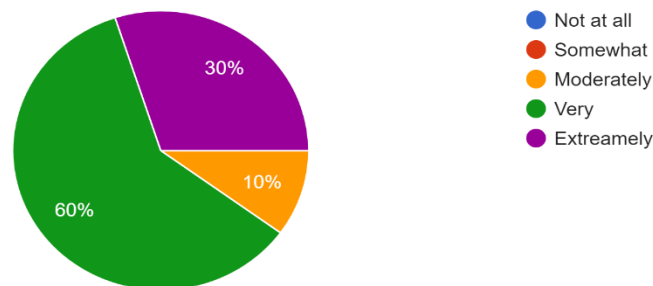
Did you find the Live Chat feature helpful and accessible?  
10 responses



*Figure 6. 5 - User testing 5*

The figure above shows the results of a survey asking if people found a live chat feature helpful and accessible. The survey found that a large majority of respondents, 90%, found the live chat feature to be helpful and accessible. This is because 70% of respondents said the feature was very helpful and accessible, and another 20% said it was extremely helpful and accessible. Only 10% of respondents said the live chat feature was moderately helpful and accessible. There were no respondents who said it was somewhat or not at all helpful and accessible. Overall, this suggests that the live chat feature is well-received by users.

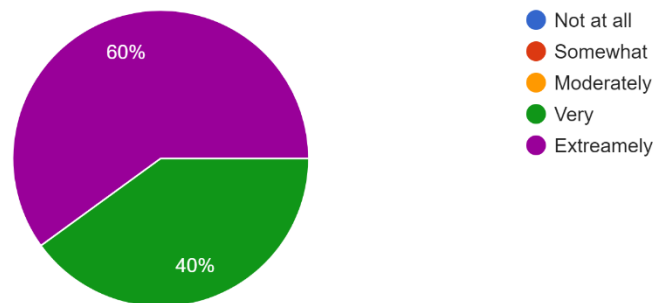
Did you find the Video Chat feature helpful and accessible?  
10 responses



*Figure 6. 6 - User testing 6*

The figure above shows that a majority of people found the video chat feature helpful and accessible, with 90% of respondents rating it positively. Specifically, 60% of respondents found the video chat feature to be very helpful and accessible, and another 30% said it was extremely helpful and accessible. Only 10% of respondents said the video chat feature was moderately helpful and accessible. There were no respondents who said it was somewhat or not at all helpful and accessible. Overall, this suggests that the video chat feature is well-received by users.

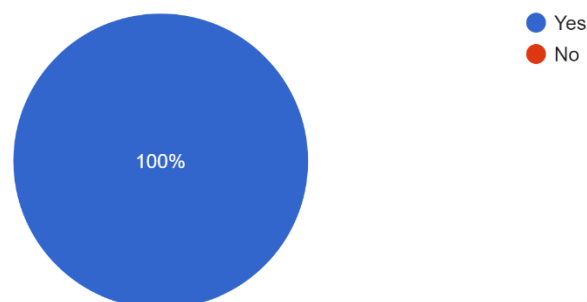
Were you able to provide Feedback Rating easily through the designed feedback functionality?  
10 responses



*Figure 6. 7 - User testing 7*

The figure above shows that a large majority of respondents found the designed feedback functionality easy to use. Specifically, 60% of respondents said they found it extremely easy to use, and another 40% said it was very easy to use. There were no respondents who said it was difficult or very difficult to use. Overall, this suggests that the designed feedback functionality is user-friendly and easy to navigate.

Were you able to access and edit your user profile information without any difficulties?  
10 responses

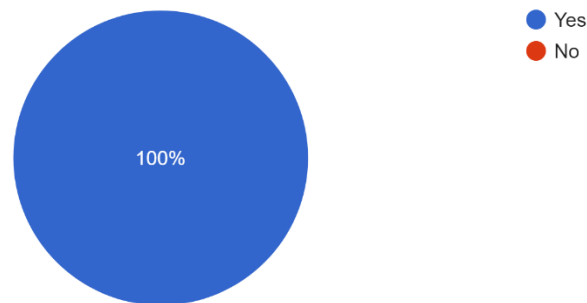


*Figure 6. 8 - User testing 8*

The figure above shows that all respondents, which is 100%, were able to access and edit their user profile information without any difficulties. This suggests that the process for editing user profile information may be relatively smooth and user-friendly.

Were you able to track your order status after you made an order?

10 responses

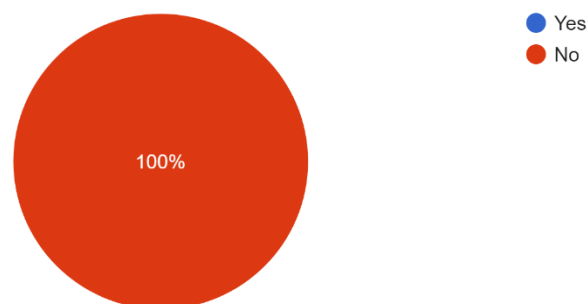


*Figure 6. 9 - User testing 9*

The figure above shows that all respondents, which is 100%, were able to track their order status after they made an order. This suggests that the order tracking system is functioning well and is easy to use.

Did you experience any problems while logging out your user account?

10 responses

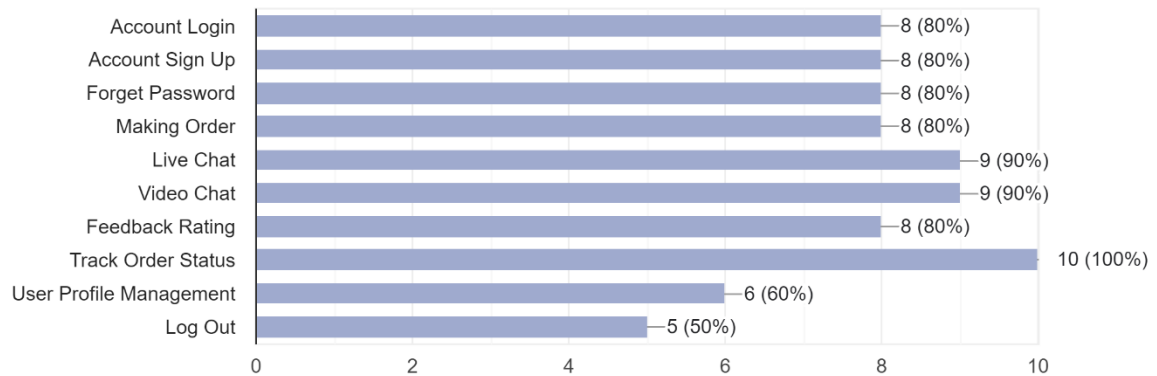


*Figure 6. 10 - User testing 10*

The figure above shows that none of the respondents, which is 100%, were able to log out of their user accounts. This suggests that there is no significant problem with the logout functionality since 100% of respondent do not face any problems while logging out of their account.

Which of the following features did you use during your interaction with our platform? (Check all that apply)

10 responses



*Figure 6. 11 - User testing 11*

The figure above shows how users interacted with various features on a platform. Most users interacted with features related to account management and placing orders. Specifically, 80% of users reported using features like Account Login, Account Sign Up, Forget Password, and Making Orders.

Additionally, a high percentage of users utilized the communication features, with 90% using Live Chat and Video Chat. This suggests that these features are important for user interaction on the platform.

Interestingly, while 80% of users reported using the Feedback Rating feature, only 60% used User Profile Management. This could indicate that providing feedback is easier than managing user profiles on the platform.

Finally, only half of the users (50%) reported using the Logout feature. This could be a cause for concern as it might indicate potential issues with the logout functionality or a lack of clarity in the logout process. Overall, the survey results suggest areas for improvement, such as the logout function, and may inform future design decisions for the platform.

Which of the following features did you find out helpful? (Check all that apply)

10 responses

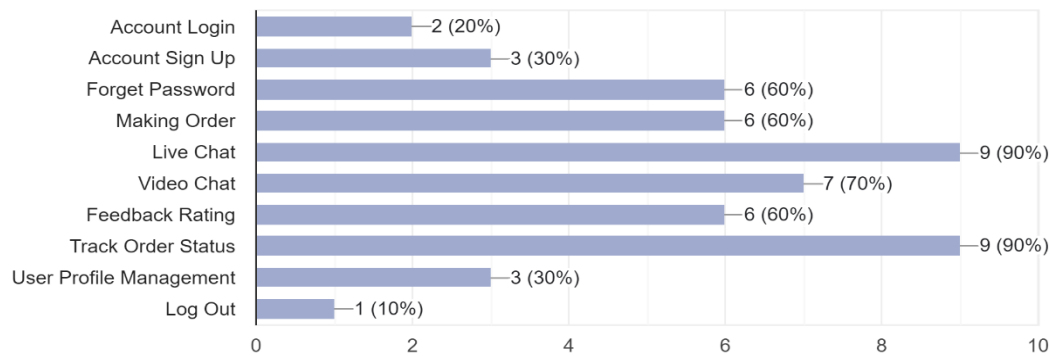


Figure 6. 12 - User testing 12

The figure above shows that users found features related to order completion and communication most helpful. Specifically, 90% of users found both Live Chat and Track Order Status helpful, while 60% found Making Order and Feedback Rating helpful. However, features related to account management were less popular. Only 30% found User Profile Management helpful and even fewer, 20% and 10% respectively, found Account Login and Logout helpful. Interestingly, 60% of users found the Forget Password feature helpful, which suggests there may be room for improvement in the account login process.

Which factors influenced you satisfaction with the making order process? (Check all that apply)

10 responses



Figure 6. 13 - User testing 13

The figure above shows that users rated the user-friendly interface (90%) as the most important factor influencing their satisfaction with the order process. Speed of the process (80%) followed closely behind. This suggests that users prioritize an intuitive and easy-to-use interface that allows them to complete their orders quickly. While responsive function (60%) and clarity of instructions (50%) were rated lower, they are still important aspects to consider.

## 6.2 Objective Evaluation

### **1) To develop a web-based medicine e-commerce online shopping system.**

The first objective, which revolves around developing a web-based medicine e-commerce online shopping system named PHARMA4U, is measured against certain benchmarks. This system allowed customers to access medicine e-commerce online shopping through an online system and provide customers with orders or purchase medicine functions. Therefore, customers can purchase items through the online system and no need to visit physically the store, customers can make orders online 24 hours per day, 7 days a week over the Internet and smart devices. This web-based medicine e-commerce online shopping system uses MySQL, and PHP to develop. This system also has other functions or features, for example, feedback rating, video chat, live chat and others.

### **2) To provide a customer live chat and video chat services on the web-based medicine e-commerce online shopping system**

The second objective aims to optimize real-time customer service capabilities. In today's fast-paced digital environment, users expect rapid solutions to their inquiries. To meet this demand, it's essential to employ a robust backend infrastructure using PHP. This framework facilitates quick response times to user queries, ensuring a seamless customer experience without mentioning MySQL.

Moreover, diversifying communication channels is vital to accommodate various user preferences. Following the example set by PHARMA4U, integrating features like live chat and video chat functionalities is crucial. PHP can interact with third-party APIs such as Tawk.to and Jitsi Meet, enabling seamless integration of these communication channels and enhancing accessibility for users.

The ultimate measure of success lies in efficient issue resolution. Positive user reviews regarding the effectiveness of the support system serve as tangible evidence of customer satisfaction and the timely assistance provided. Aligning with PHARMA4U's commitment to exemplary user service, ensuring a swift and effective support system reinforces the brand's reputation and fosters long-term customer loyalty.

**3) To develop a reliable and trusted web-based medicine e-commerce online shopping system with tracking order status, feedback rating, profile management and other features for customers**

The primary goal is to create an online platform where customers can conveniently purchase medicines. This involves providing essential features such as order status tracking for transparency, feedback and rating options for user input, and profile management for personalization. A well-organized product catalogue with detailed information ensures easy navigation and a functional search feature. Effective registration and login feature to perform functions in the web-based medicine e-commerce online shopping system, while responsive “Forget Password” feature to recover the account. Reliable user support channels are crucial for addressing customer queries and concerns promptly. Finally, stringent security measures are implemented to protect user data and ensure compliance with relevant regulations.

## **Chapter 7: Recommendation & Conclusion**

### **7.1 System Recommendation**

After sharing my project outcome with my senior, Kok Wei Li, who has graduated, he provided valuable insights on areas where I can enhance my web-based medicine e-commerce online shopping system.

#### **1. Enhancing Payment Security:**

Integrating trusted payment gateways is essential for safeguarding users' financial transactions. These gateways offer stringent security measures to protect sensitive data, such as credit card details, reducing the risk of breaches and fraud. To bolster security, consider incorporating APIs from reputable payment providers and implementing encrypted communication (HTTPS) between your application and the payment gateway servers.

#### **2. Streamlining Login with OAuth 2.0:**

Enabling OAuth 2.0 integration allows users to log in using their Google accounts, simplifying the login process. To enhance security, implement permission attributes to restrict account actions based on predefined roles. Leveraging frameworks like Laravel can facilitate precise permission management within your application.

#### **3. Enhanced Order Tracking:**

Expanding the order tracking feature to include real-time updates on order and parcel locations can significantly improve the user experience. Consider integrating features such as order tracking numbers and interactive maps displaying parcel locations in transit. This added visibility builds trust and enhances user satisfaction with your e-commerce platform.

## 7.2 Conclusion

In conclusion, this Final Year Project 1 focuses on the design and development of an e-commerce platform for purchasing medicines with ease. The project adopts a user-centered design approach, ensuring a user-friendly experience with real-time functionality.

Within this e-commerce platform for medicine shopping, several core features are integrated, including the ability to make purchases, provide feedback, engage in live chat and video chat support, and other user-centric functionalities. Moreover, the system introduces a novel feature known as the order status tracking function. This feature is designed for administrators to update and for customers to keep track of order statuses, facilitating efficient order management.

To enhance the development process and feature set of our e-commerce platform, we drew inspiration from similar systems such as HTM Pharmacy, Big Pharmacy, Big Pharmacy, and Alpro Pharmacy. By leveraging these reference systems, we aimed to better understand user needs and expectations, ultimately ensuring that our final product effectively meets these requirements when users interact with its features.

Furthermore, the chosen methodology for this project is the Waterfall model. The Waterfall methodology is a well-established software development approach that follows a sequential process from project conception to delivery. It consists of distinct phases, including requirements gathering, design, implementation, testing, and maintenance. Each phase is completed before moving on to the next, and while it's possible to revisit previous stages, doing so is challenging.

Finally, active user engagement is a crucial aspect of this project's success. Users eager to utilize the platform will have the opportunity to review it, offer suggestions, and provide feedback on aspects such as usability and user interface. Any technical issues identified during this review process will be promptly addressed and resolved.

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# FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

|                                                        |                   |
|--------------------------------------------------------|-------------------|
| Trimester, Year: Y4S2                                  | Study week no.: 4 |
| Student Name & ID: Teoh Zi Qian 19ACB06463             |                   |
| Supervisor: Cik Nor Fatiha Binti Subri                 |                   |
| Project Title: E-COMMERCE FOR ONLINE MEDICINE SHOPPING |                   |

## 1. WORK DONE

Done for modify and do correction for the report and bugs suggested from FYP1

## 2. WORK TO BE DONE

I will start to do the forgot password and reset password function

## 3. PROBLEMS ENCOUNTERED

No problem

## 4. SELF EVALUATION OF THE PROGRESS

I will try get advices and input from supervisor.

*FatihaSubri*

Supervisor's signature



Student's signature

# FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

|                                                        |                   |
|--------------------------------------------------------|-------------------|
| Trimester, Year: Y4S2                                  | Study week no.: 6 |
| Student Name & ID: Teoh Zi Qian 19ACB06463             |                   |
| Supervisor: Cik Nor Fatiha Binti Subri                 |                   |
| Project Title: E-COMMERCE FOR ONLINE MEDICINE SHOPPING |                   |

## 1. WORK DONE

I am done with the forgot password and reset password function

## 2. WORK TO BE DONE

I will start to do the add products, manage products and product QR generation function in admin site

## 3. PROBLEMS ENCOUNTERED

Not much problem.

## 4. SELF EVALUATION OF THE PROGRESS

Continue try hard to work on finish the tasks on time as scheduled

*FatihaSubri*

Supervisor's signature



Student's signature

# FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

|                                                        |                   |
|--------------------------------------------------------|-------------------|
| Trimester, Year: Y4S2                                  | Study week no.: 8 |
| Student Name & ID: Teoh Zi Qian 19ACB06463             |                   |
| Supervisor: Cik Nor Fatihah Binti Subri                |                   |
| Project Title: E-COMMERCE FOR ONLINE MEDICINE SHOPPING |                   |

## 1. WORK DONE

I am done with the add products, manage products and product QR generation function in admin site

## 2. WORK TO BE DONE

I will start to do the add to cart, checkout, email receipt, track order in customer site and manage order in admin site

## 3. PROBLEMS ENCOUNTERED

No much problem, just need to refer to sample and need to study for midterm for other subjects

## 4. SELF EVALUATION OF THE PROGRESS

Try my best to learn things that I am not familiar.

*Fatihah Subri*

Supervisor's signature



Student's signature

# FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

|                                                        |                    |
|--------------------------------------------------------|--------------------|
| Trimester, Year: Y4S2                                  | Study week no.: 10 |
| Student Name & ID: Teoh Zi Qian 19ACB06463             |                    |
| Supervisor: Cik Nor Fatihah Binti Subri                |                    |
| Project Title: E-COMMERCE FOR ONLINE MEDICINE SHOPPING |                    |

## 1. WORK DONE

I am done with the add to cart, checkout, email receipt, track order in customer site and manage order in admin site

## 2. WORK TO BE DONE

I will do the function of live chat, video chat, feedback function (improve) and login, dashboard, register admin account in super admin site

## 3. PROBLEMS ENCOUNTERED

I face difficulties on backend PHP, and abit rush since need to prepare for midterms and assignments from other subjects

## 4. SELF EVALUATION OF THE PROGRESS

Try find balance on develop FYP and my study.

*Fatihah Subri*

Supervisor's signature



Student's signature

# FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

|                                                        |                    |
|--------------------------------------------------------|--------------------|
| Trimester, Year: Y4S2                                  | Study week no.: 12 |
| Student Name & ID: Teoh Zi Qian 19ACB06463             |                    |
| Supervisor: Cik Nor Fatiha Binti Subri                 |                    |
| Project Title: E-COMMERCE FOR ONLINE MEDICINE SHOPPING |                    |

## 1. WORK DONE

I am done with the function of live chat, video chat, feedback function (improve) and login, dashboard, register admin account in super admin site

## 2. WORK TO BE DONE

I will do the report, system review and debug the system

## 3. PROBLEMS ENCOUNTERED

I face difficulties on backend PHP, and abit rush since need to prepare for quiz, midterm and assignments from other subjects

## 4. SELF EVALUATION OF THE PROGRESS

Try to finish and submit my FYP on time.

*FatihaSubri*

Supervisor's signature



Student's signature

## Poster



**Universiti Tunku Abdul Rahman**

**BACHELOR OF INFORMATION SYSTEMS (HONOURS)**  
**BUSINESS INFORMATION SYSTEMS**



### Introduction

This project is to develop an E-Commerce For Online Medicine Shopping and this project is for academic purposes.

This system is developed for two types of users, which are User and Admin. The system will be developed and implemented, catering to the needs of its users.

### Objective

- 1) To provide a web-based medicine e-commerce online shopping system.
- 2) To provide a customer live chat service on the web-based medicine e-commerce online shopping system
- 3) To provide a reliable and trusted web-based medicine e-commerce online shopping system for customers

### Methodology

#### Waterfall

- 1) Requirement
- 2) Design
- 3) Implementation
- 4) Testing
- 5) Maintenance

### Our Services

- 1) Search Function
- 2) Feedback Form
- 3) Live Chat
- 4) Track Order
- 5) Manage Order

## Conclusion

PHARMA2U is focused on the design and development of an E-COMMERCE FOR ONLINE MEDICINE SHOPPING for users to easily purchase items and admins manage the website. This project uses a user-centric approach, it includes real-time functions for users to ensure that the system is user-friendly for users.

Prepared by Teoh Zi Qian 19ACB06463

# PLAGIARISM CHECK RESULT

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*by* TEOH ZI QIAN

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| <b>Full Name(s) of Candidate(s)</b> | TEOH ZI QIAN                            |
| <b>ID Number(s)</b>                 | 19ACB06463                              |
| <b>Programme / Course</b>           | IB                                      |
| <b>Title of Final Year Project</b>  | E-COMMERCE FOR ONLINE MEDICINE SHOPPING |

| <b>Similarity</b>                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Supervisor's Comments<br/>(Compulsory if parameters of originality exceeds the limits approved by UTAR)</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Overall similarity index: <u>8</u> %</b><br><br><b>Similarity by source</b><br>Internet Sources: <u>5</u> %<br>Publications: <u>0</u> %<br>Student Papers: <u>5</u> %                                                                                                                                                                                                                                            |                                                                                                                |
| <b>Number of individual sources listed of more than 3% similarity: <u>0</u></b>                                                                                                                                                                                                                                                                                                                                     |                                                                                                                |
| <b>Parameters of originality required and limits approved by UTAR are as Follows:</b><br>(i) Overall similarity index is 20% and below, and<br>(ii) Matching of individual sources listed must be less than 3% each, and<br>(iii) Matching texts in continuous block must not exceed 8 words<br><i>Note: Parameters (i) – (ii) shall exclude quotes, bibliography and text matches which are less than 8 words.</i> |                                                                                                                |

Note Supervisor/Candidate(s) is/are required to provide softcopy of full set of the originality report to Faculty/Institute

***Based on the above results, I hereby declare that I am satisfied with the originality of the Final Year Project Report submitted by my student(s) as named above.***

Fatiha Subri

Signature of Supervisor

Name: NOR FATIHA BINTI SUBRI

Date: 25/04/2024

Signature of Co-Supervisor

Name:

Date:

## FYP2 CHECK LIST



### UNIVERSITI TUNKU ABDUL RAHMAN

#### FACULTY OF INFORMATION & COMMUNICATION TECHNOLOGY (KAMPAR CAMPUS)

#### CHECKLIST FOR FYP2 THESIS SUBMISSION

|                 |                            |
|-----------------|----------------------------|
| Student Id      | 19ACB06463                 |
| Student Name    | TEOH ZI QIAN               |
| Supervisor Name | Cik Nor Fatiha Binti Subri |

| TICK (✓) | DOCUMENT ITEMS                                                                                                                                                    |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | Your report must include all the items below. Put a tick on the left column after you have checked your report with respect to the corresponding item.            |
| ✓        | Title Page                                                                                                                                                        |
| ✓        | Signed Report Status Declaration Form                                                                                                                             |
| ✓        | Signed FYP Thesis Submission Form                                                                                                                                 |
| ✓        | Signed form of the Declaration of Originality                                                                                                                     |
| ✓        | Acknowledgement                                                                                                                                                   |
| ✓        | Abstract                                                                                                                                                          |
| ✓        | Table of Contents                                                                                                                                                 |
| ✓        | List of Figures (if applicable)                                                                                                                                   |
| ✓        | List of Tables (if applicable)                                                                                                                                    |
| ✓        | List of Symbols (if applicable)                                                                                                                                   |
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| ✓        | Chapters / Content                                                                                                                                                |
| ✓        | Bibliography (or References)                                                                                                                                      |
| ✓        | All references in bibliography are cited in the thesis, especially in the chapter of literature review                                                            |
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\*Include this form (checklist) in the thesis (Bind together as the last page)

I, the author, have checked and confirmed all the items listed in the table are included in my report.

  
(Signature of Student)

Date: 23/04/2024