E-pet Service Apps for Kampar Residential Mobile Application

By

Lim Chun Keat

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Dr. Noraini Binti Ibrahim
Supervisor's name

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ABSTRACT

In this mobile application project, I've developed a mobile application for e-pet services, specifically tailored to meet the needs of Kampar residents. The primary goal of this application is to deal with the challenges associated with traditional methods of booking pet services. The goal is to streamline the process of reserving pet services, ensuring it is convenient and efficient for users while offering flexibility to accommodate diverse needs. Within the scope of this project, three key problem statements have been identified. Firstly, the current e-pet service application offers a limited range of services, potentially constraining its user base. Thus, a primary objective is to expand the range of services offered to include essential pet care services. By diversifying the services available, the aim is to better cater to the needs of pet owners and differentiate the application from competitors. Secondly, a significant challenge lies in the lack of trust among pet owners, leading to a loss of market share and difficulties in building brand reputation. To address this challenge, the project focuses on implementing robust verification systems for service providers and establishing transparent rating and review mechanisms to instill confidence in users. Thirdly, scheduling inflexibility contributes to high rates of no-shows and last-minute cancellations, often due to the absence of timely reminders. To mitigate this issue, a comprehensive booking reminder and confirmation system is being implemented. This system will send reminders with options for users to confirm or cancel appointments, aiming to reduce missed appointments and enhance overall efficiency and customer satisfaction. Through these initiatives, the aim of this personal project is to revolutionize the pet services landscape in Kampar. The objective is to develop an easy to use and effective platform that meets the diverse needs of pet owners while fostering user loyalty and satisfaction. By addressing the identified problems and aligning project objectives with the needs of the target audience, the goal is to establish a trusted and reliable solution for pet care in Kampar.

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CHAPTER 1

Introduction

Technology[1] is playing an increasingly significant role in our daily lives, particularly in this era of globalization and modernization. It has also revolutionized the service industry. Thanks to technology, people can now utilize smartphone applications to accomplish tasks remotely from anywhere at any time. Moreover, these apps can connect users with pet care professionals and enthusiasts in their area through e-pet services apps. In places like Kampar, finding reliable pet care services can be challenging. Many pet services may not be readily available or accessible. This e-pet services app simplifies the process by allowing users to easily book a variety of pet-related services with just a few taps. Whether it's finding a pet sitter, groomer, or trainer, this app brings convenience and peace of mind to pet owners in need of professional assistance. Additionally, the app offers 24/7 accessibility, ensuring that users can access services whenever they need them, adding to the overall convenience and ease of use.

1.1 Problem Statement and Motivation

1.1.1 Limited Services

The current e-pet service application offers only a limited range of services [2], which may not meet the diverse needs of pet owners. For instance, some pet owners may require washing and grooming services, tasks that can be both challenging and time-consuming to undertake at home. Additionally, pet owners may seek veterinarians with first-aid certification to address emergency situations involving their pets.

The absence of these essential services in the e-pet application could potentially restrict its user base. Competitors offering a broader array of services might attract those seeking comprehensive pet care solutions. Consequently, the e-pet service application risks losing both revenue and market share.

The limited service offerings of the e-pet application could also diminish the user experience for pet owners. Their inability to access necessary services may result in dissatisfaction and negative feedback. Consequently, the application's reputation and user base may suffer further as a result of adverse comments and reviews.

1.1.2 Lack of trust

Pet owners hold significant concerns about the trustworthiness of pet care service providers, prioritizing the assurance of quality care for their cherished companions in their absence. Whether due to work commitments, travel obligations, or other responsibilities, pet owners seek reassurance that their pets are receiving the best possible care. [2]

This lack of trust manifests in various ways. Some pet owners may opt to forgo pet care services altogether, preferring to adjust their schedules or rely on assistance from friends and family. Others may reluctantly engage with service providers but remain plagued by fear and worry throughout, constantly fretting over their pet's well-being. [3]

1.1.3 Lack of flexibility that can cause scheduling issue

Pet owners often face challenges in finding service providers who can accommodate their scheduling needs, with availability presenting a significant hurdle. Securing appointments in advance becomes arduous due to this constraint. A primary issue is the prevalence of no-shows and last-minute cancellations,[9] which occur despite appointments being scheduled well in advance. These problems arise from the absence of timely appointment reminders, leaving clients vulnerable to forgetting their commitments.

Consider a scenario where a client schedules an appointment a month in advance. As the appointment date nears, there's a notable risk of it slipping their mind amid their busy schedules. This oversight leads to missed opportunities for both clients and our business. Clients may miss out on essential services for their pets, while we forego valuable revenue.

Moreover, sudden cancellations carry significant consequences. Clients frequently cancel appointments with minimal notice, sometimes as little as 30 minutes beforehand. This not only disrupts staff preparations but also prevents other potential customers from booking those slots, thereby disrupting business operations and impacting customer satisfaction.

Motivation

The primary goal of my project is to address the needs of individuals who struggle to allocate time for their pet's essential services. Our goal is to enhance the convenience and effectiveness of pet care through the development of a mobile application. This application is tailored to simplify the process of booking pet services, making it more accessible to users with busy schedules.

We aspire to create a comprehensive platform serving as a one-stop service application. This entails offering a broad spectrum of pet services, ranging from basic care like grooming and sitting to advanced services such as veterinary bookings, pet taxi services, and a community page for pet sharing.

To maintain competitiveness and cater to diverse pet owner needs, we plan to expand our service offerings. This includes services like pet supply delivery, bathing, grooming, and access to first-aid certified veterinarians. By diversifying our services, we aim to attract new users while retaining existing ones, positioning our application as a comprehensive solution for pet owners.

In addition to streamlining bookings and achieving cost savings, our project addresses inefficiencies in traditional pet service center operations. These centers often rely on manual record-keeping and notifications, leading to potential errors. Our solution involves maintaining a comprehensive database for simplified record management, ensuring easy access to customer details. Furthermore, we are implementing a reminder system to facilitate timely notifications, reducing the likelihood of missed appointments.

In summary, our project aims to make pet service bookings more accessible, cost-effective, and efficient for users while modernizing operational processes for service providers. Ultimately, we aim to enhance the overall experience for both pet owners and service providers, ensuring that valuable revenue opportunities are not missed.

1.2 Research Objectives

1.2.1 To Provide Essential Services for Pet Owners

Offering a seamless booking process for services such as grooming, pet sitting, and veterinary care, this application aims to become a comprehensive solution for pet owners. The e-pet service application intends to enhance its functionality by introducing additional offerings, including pet supply delivery, expanded bathing and grooming options, and access to first-aid qualified veterinarians. The objective of this expansion is to cater to a broader spectrum of pet care needs, attracting new customers while retaining existing ones.

Expanding its range of services will enable the application to better meet the requirements of pet owners and differentiate itself from competitors. By positioning itself as an all-in-one solution for pet care, this strategy is poised to establish the e-pet service application as an industry leader. These enhancements are expected to bolster its position in the market, attracting more users, increasing revenue, and expanding market share.

1.2.2 To Provide a Trusted System to Pet Owner

Effectively addressing the concern of trust in pet care service providers necessitates implementing robust systems to verify their credentials and experience. Pet owners require assurances that those handling their pets are qualified, skilled, and possess the necessary expertise for proper treatment. This entails ensuring that training and certifications are thoroughly validated and that industry standards and regulations are adhered to.[4]

Additionally, establishing a transparent rating and review system can significantly enhance pet owners' confidence. Allowing previous consumers to share their experiences and provide feedback on the quality, reliability, and professionalism of

services enables prospective consumers to make more informed decisions. Constructive criticism helps identify areas for improvement and reinforces accountability, while positive reviews serve as endorsements of providers' competence and trustworthiness.[5]

To assist pet owners in making well-informed choices, these ratings and reviews must be readily visible on the service provider's profile.

In conclusion, overcoming the mistrust of pet care service providers requires an integrated approach. This approach combines thorough credential verification with open channels of communication. By building trust in the skill, dependability, and empathy of service providers, pet owners can feel more comfortable entrusting their pets to these professionals, confident that their companions will receive the love and attention they deserve.

1.2.3 To Provide more Flexible Scheduling System

To enhance scheduling flexibility, the application allows pet owners to easily discover and book services that suit their availability. An online calendar[7] displays each service provider's available time slots, along with existing reservations and any periods of unavailability.

With this application's assistance, pet owners can schedule services at times convenient for their schedules. Those requiring regular services, such as pet sitting, benefit from the system's ability to schedule recurring appointments.[6]

Moreover, the e-pet service application should feature a notification system that sends reminders to both pet owners and service providers regarding upcoming appointments.[10] This feature minimizes no-shows and ensures both parties are prepared for the scheduled service.

By implementing a flexible and user-friendly scheduling system, the e-pet service application can enhance user experience, increase customer satisfaction, and optimize service provider utilization, thereby boosting revenue and profitability.

Efficiency and customer satisfaction are paramount. To address issues like no-shows and last-minute cancellations, we will implement a comprehensive booking reminder and confirmation system.[8] This system proactively reminds customers of their appointments, reducing no-shows and inconveniences. Additionally, a confirmation process adds an extra layer of reliability, allowing customers to confirm bookings, providing double assurance with service providers.

1.2.4 To evaluate the vulnerable of e-pet service apps for Kampar residential

The fourth objective is to rigorously test the e-pet service application for Kampar residents to ensure its functionality, usability, security, and scalability. This comprehensive testing strategy includes unit testing for individual components, integration testing for seamless interactions between modules, functional testing to validate core features like booking and GPS, usability testing to assess user-friendliness, and performance and security testing. Furthermore, tests for compatibility with a range of devices and operating systems will be carried out to guarantee a seamless user experience. Regression testing, user acceptance testing, performance and load testing, and beta testing will be the last stages of the testing process. This meticulous approach is designed to prepare the application for a successful launch, aiming to deliver a more convenient and efficient experience for both users and service providers.

1.3 Project Scope and Direction

The project's scope is to create a cutting-edge mobile application for e-pet services that will meet the needs of pet owners who are limited in time while overcoming the limitations of traditional booking procedures. With a range of pet-related services available, this application will act as a comprehensive platform for pet service providers and users together.

A wide range of pet services will be available through the application, such as pet boarding, veterinarian access, grooming at service centers and on-site choices, and pet supply delivery. With such a wide range of options, pet owners may discover all the

services they require in one location, customized to suit their preferences and schedules.

The application's user-friendly interface and on-site pet service scheduling capabilities will speed up the booking procedure for users. These features make it easier than ever for pet owners to manage pet care while leading busy lives by streamlining the user experience and increasing convenience.

Furthermore, the application's inclusion of reminder and confirmation features will also help pet service providers. By confirming appointments, these capabilities will assist providers in guaranteeing consumer readiness and enhancing communication. This improves the general effectiveness of service delivery while also streamlining operations.

This smartphone application seeks to revolutionize the pet care sector by catering to the unique demands of both service providers and users, hence enhancing accessibility and efficiency for all parties.

1.4 Contributions

This e-pet services application has a clear and central purpose, to make pet service bookings incredibly convenient and efficient for users while offering flexibility to meet their diverse needs. With just a few clicks, users can easily schedule appointments for their pet services, simplifying what might have been a complex process.

To improve user-friendliness, the application incorporates visually appealing images related to various pet services. This visual approach makes it more comfortable for users to understand and select the services they require, reducing any potential confusion.

Acknowledging that many pet owners have busy schedules, the application provides on-site services that deliver necessary pet care right to the user's door. This function

removes the need for long drives to service centers, adding a major level of convenience.

In addition to convenient bookings, this application incorporates smart booking and reminder functionalities. These features ensure that users never miss an appointment and can manage their pet service commitments efficiently. As a result, users can focus on their own work and daily tasks without the added hassle of coordinating pet services.

In conclusion, the e-pet services program essentially puts the convenience of the user above all else. The app not only satisfies the need of pet care but also goes above and beyond to guarantee an effortless integration into everyday life by streamlining the booking process, providing on-site services, and adding thoughtful features like reminders. Users are able to concentrate on their personal and professional obligations with the assurance that their pets are getting the care and attention they require.

1.5 Report Organization

The report's chapters are organized in an organized manner. A thorough literature analysis of mobile applications for e-pet services is done in Chapter 2. This paper includes an overview of the history of e-pet care apps, their different varieties, an analysis of the drawbacks found in earlier research, and suggestions for how to overcome these drawbacks.

As we go to Chapter 3, our attention is directed on delineating the suggested approach for creating the mobile application for e-pet service house apps. This chapter explores the stages of planning, analysis, and design that are crucial to the app's successful development.

The preparatory work for developing the mobile application for the e-pet service is covered in Chapter 4. This section gives an overview of the app development process by outlining the pre-, during, and post-development phases.

In the end, Chapter 5 brings the endeavor to an end. It provides an overview of the conclusions made throughout the report and talks about the ramifications. This chapter also discusses any obstacles that arose during the experiment and offers some directions for further research.

CHAPTER 2

Literature Reviews

2.1 Review of existing system

2.1.1 BookYourPet

BookYourPet[15] is a pet specific booking app that gives their customer access to several different pet service types all on one platform. It is designed by Petpreneurs, this is a free booking app that focuses on letting users to seek pet services more convenient way. Figure 2.1.1.1 shows the home page to let the users to see the different pet services that are available which include daycare, grooming, training and more. After clicking those service, it will bring you to the booking page as shown in figure 2.1.1.2.

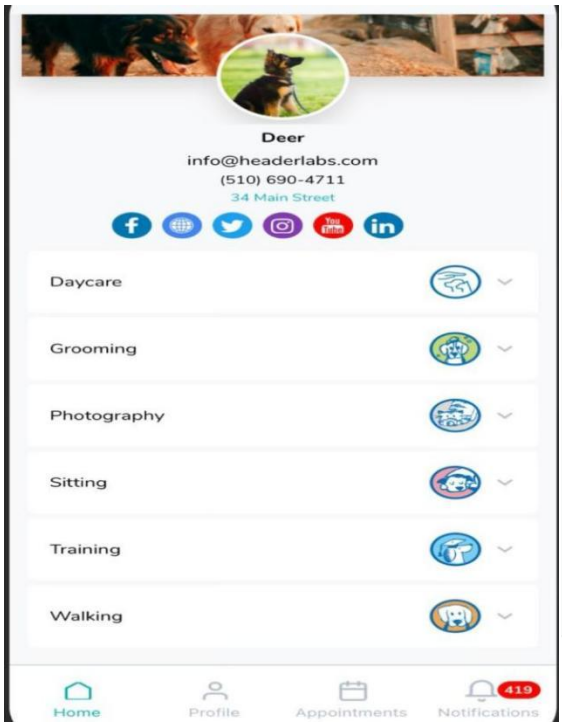


Figure 2.1.1.1 Home page of BookYourPet

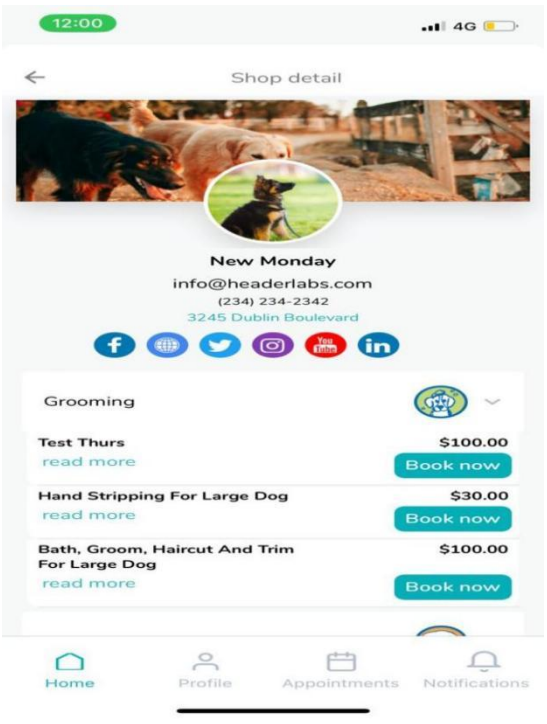


Figure 2.1.1.2 Shop Detail

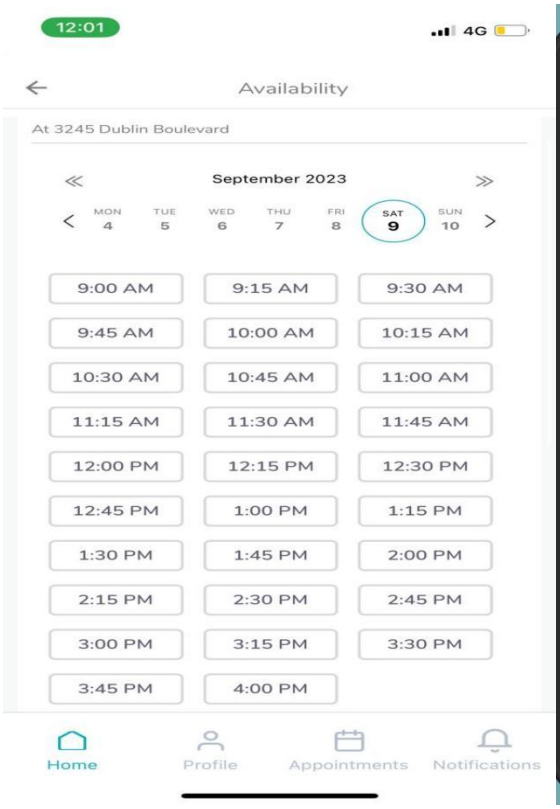


Figure 2.1.1.3 Booking Schedule

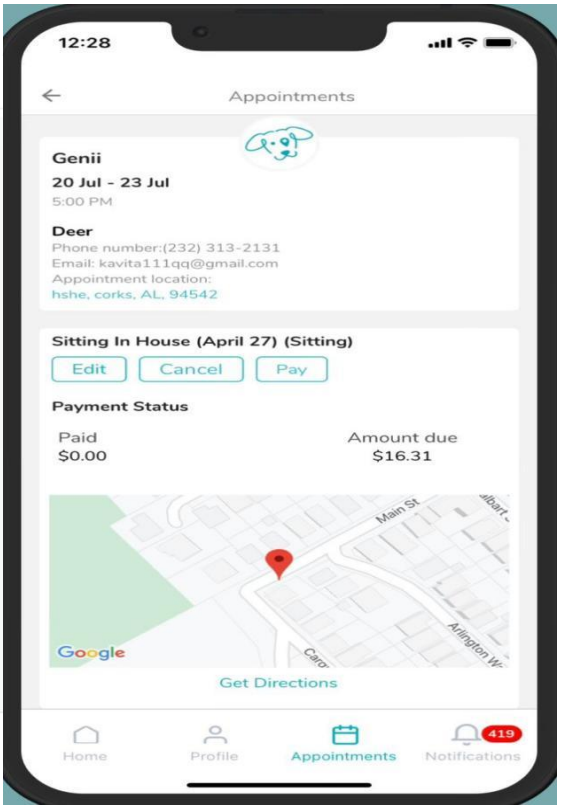


Figure 2.1.1.4 Appointment Details

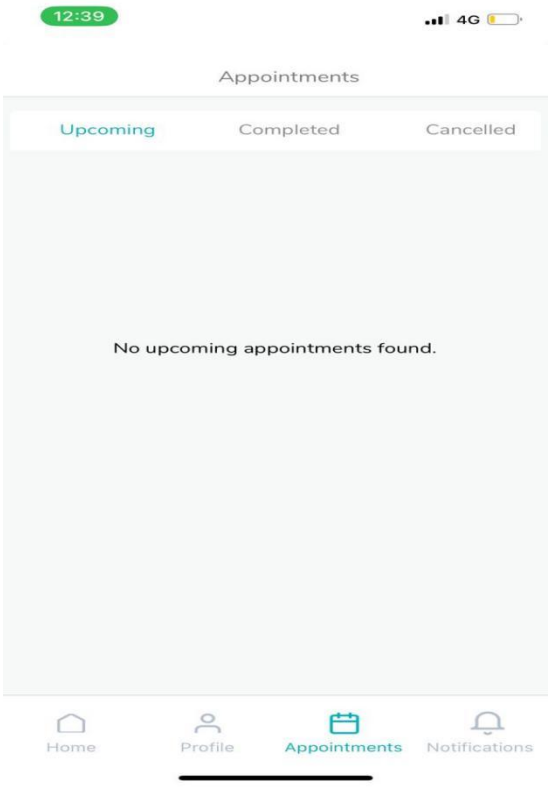


Figure 2.1.1.5 Appointment History List

Strength

Figure 2.1.1.3 not only illustrates a highly intuitive scheduling system but also brings with it several user-centric benefits. Its user-friendly design simplifies the process of selecting preferred appointment times, reducing any potential confusion or frustration. This streamlined experience enhances user satisfaction and increases the likelihood of successful appointment bookings.

Furthermore, in Figure 2.1.1.4, where the appointment details are displayed, the inclusion of essential information alongside clearly labeled buttons for editing, canceling, and paying offers users a comprehensive and efficient interaction. This convenience ensures that users can easily manage their appointments with minimal effort, contributing to an overall positive user experience.

The categorization of appointments into three distinct categories: upcoming, completed, and canceled within Figure 2.1.1.4 adds another layer of usability. Users can effortlessly navigate through their appointment history, allowing them to stay organized and informed about their past and future engagements. This feature not only saves users time but also empowers them with the ability to access specific records quickly.

In summary, the user-friendly interfaces depicted in Figures 2.1.1.3 and 2.1.1.4 not only simplify the appointment scheduling and management process but also enhance user satisfaction, reduce errors, and improve overall efficiency in handling appointments.

Weakness

The e-pet service mobile app indeed presents several notable weaknesses, and one of the primary shortcomings is the absence of filtering features in the appointment history list, as depicted in Figure 2.1.1.5. This deficiency in the filtering functionality leads to a sub optimal user experience in multiple ways.

Firstly, the filter function's inability to select multiple categories for viewing booking history is a significant drawback. Many users may have appointments across different categories, such as veterinary visits, grooming, or pet boarding. Without the option to simultaneously select and view multiple categories, users are forced to navigate back and forth between different sections, which can be cumbersome and time-consuming. This limitation not only detracts from user convenience but also reduces the app's overall efficiency.

Furthermore, the lack of date-based filtering exacerbates the usability issues. For instance, when users need to review their booking history for a specific period, such as the past month, the absence of a date-based filter becomes a substantial hindrance. Users are compelled to manually scroll through the entire list of appointments, potentially spanning a significant time frame. This inefficient process can lead to user frustration, wasted time, and a diminished overall user experience.

Solution

To address the first weakness, which is the inability to select multiple categories simultaneously in the filter function for viewing booking history, developers can implement a solution that enhances user flexibility and efficiency. By enabling users to select multiple categories at the same time, they can seamlessly access and review a broader range of data in a single view. This enhancement not only simplifies the user experience but also allows users to manage their appointments more effectively. With this solution, users can access a comprehensive overview of their pet-related activities, whether they involve veterinary visits, grooming appointments, or other categories, all in one accessible interface.

Regarding the second weakness, the absence of date-based filtering, developers can implement a solution that empowers users to select specific dates for viewing their booking history. This feature is crucial for users who need to access appointment records for particular time frames. By allowing users to choose the date they wish to view, the app becomes significantly more user-friendly and convenient. This solution eliminates the need for users to scroll through extensive lists of appointments,

especially when dealing with a large volume of data. It ensures that users can quickly and efficiently access the information they need, whether it's reviewing last month's appointments or any other specific date range. This enhancement greatly improves the overall usability of the app, particularly when dealing with substantial amounts of data.

2.1.2 JoJo Pet Taxi

JoJo Pet Taxi[16] is a pet transportation service app that is reshaping the way furry companions travel in Malaysia. Designed by K.C. Seow, this app is a cost-free shop locator that places a strong emphasis on leveraging technology to innovate within the pet industry and deliver the most comfortable and convenient experiences for pets and their owners.

Figure 2.1.2.1 serves as the main page of JoJo Pet Taxi, showcasing a comprehensive array of its key features and offerings, including services, nearby pet shops, a marketplace, and more. This main page acts as a gateway for users to explore and access the app's various functionalities, ensuring a user-friendly and informative starting point for their pet-related needs.

In Figure 2.1.2.2, we have the services page, which provides an exhaustive list of available services. These services encompass a wide range of offerings, such as pet taxi services, basic grooming for cats and dogs, and more. This dedicated services page streamlines the user's ability to explore the options available for their pets, making it easier than ever to find and book the desired service.

Figure 2.1.2.1 The main page of JoJo

Figure 2.1.2.2 The pet services page

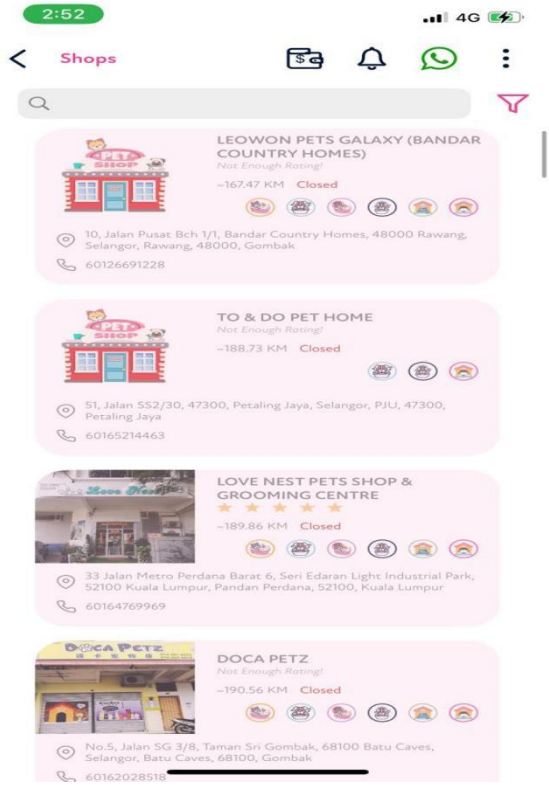


Figure 2.1.2.3 The nearest shop around users

Figure 2.1.2.4 The Shop Details

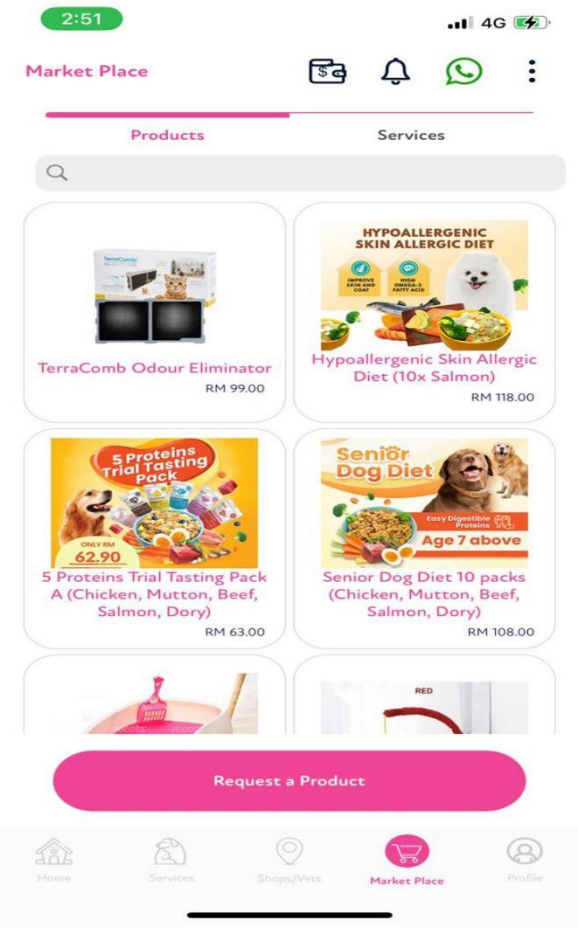


Figure 2.1.2.5 Marketplace

Strength

Figure 2.1.2.3 showcases the "Nearest Shop Around Users" feature in the JoJo Pet Taxi app, and it is a valuable and user-friendly tool for pet owners. This feature offers several benefits. Firstly, it provides users with a convenient and straightforward way to select the most suitable pet shop. The page displays essential shop details, including the shop's address, the range of services they offer, contact phone numbers, and the current open or closed status. This comprehensive information empowers users to make well-informed decisions when choosing a pet shop for their furry companions.

Moreover, the inclusion of a search bar at the top of the page enhances user convenience further. It allows users to quickly find specific shops or services they are

looking for, saving them time and effort in the process. This search functionality streamlines the user experience, ensuring that users can easily locate their preferred pet shops with minimal hassle.

Moving on to Figure 2.1.2.4, the "Shop Details" page provides all the necessary information about the selected pet shop. This feature ensures that users have access to detailed information, such as the shop's operating hours, reviews, and any special offers or promotions. Users can make well-informed decisions and have a clear understanding of what to expect from their chosen pet shop.

Lastly, Figure 2.1.2.5 introduces the "Marketplace" feature[17], a unique offering in the JoJo Pet Taxi app. This sets the app apart from similar applications and surprises users with added convenience. By incorporating a marketplace for pet accessories, the app eliminates the need for users to switch between multiple platforms. Users can conveniently browse and purchase pet accessories within the app, simplifying their pet care journey and making it a one-stop destination for all their pet-related needs.

Weakness

Regarding the first weakness, it's worth noting that the app lacks a discussion or comment box where users can engage with the community or leave comments about the specific pet shops they have used for their services. This absence restricts users from sharing their experiences or providing feedback, which can be highly valuable in building trust and making informed decisions about pet services. A potential solution to address this weakness would be to introduce a feature that allows users to leave comments, reviews, and ratings for the pet shops they have patronized. This user-generated content can contribute to a sense of community and transparency, enhancing the overall user experience and fostering trust among pet owners.

Turning to the second weakness, the absence of date-based filtering in the booking history can indeed be a hindrance for users who require access to specific appointment records within particular time frames. Implementing a solution that empowers users to select specific dates for viewing their booking history is essential.

By incorporating this feature, users gain more control and convenience when navigating their appointment records. They can simply choose the date they wish to review, eliminating the need to manually scroll through extensive lists of appointments, particularly when dealing with a substantial volume of data. This enhancement significantly elevates the app's usability, especially for users with extensive booking histories, by simplifying the process of accessing the precise information they require.

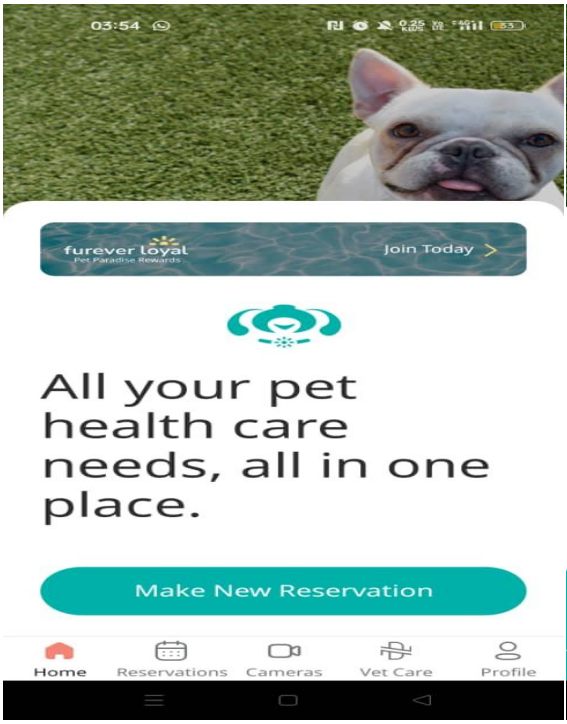
Solution

To address the absence of a comment or discussion feature in the app, developers should consider implementing a user-generated content feature. This feature would enable users to provide feedback, share their experiences, and interact with the community, ultimately enhancing the app's value and user engagement. Firstly, developers should introduce a user review and rating system. This system would allow users to rate pet shops based on various aspects, such as service quality, pricing, and customer service. Users can also leave detailed reviews, providing valuable insights for others. Additionally, the app should facilitate comments and discussions on specific pet shop pages. Users can post comments with feedback, recommendations, and answers to questions from fellow users. This interactive element fosters a sense of community and transparency within the app.

To address the absence of date-based filtering in the booking history, developers should implement a solution that allows users to select specific dates for viewing their appointment records. This enhancement simplifies user navigation and improves overall usability. Developers can introduce a date selection feature within the booking history section. Users should be able to choose a specific date or date range to filter their appointment records. This feature eliminates the need for manual scrolling through extensive lists of appointments, particularly when dealing with a significant volume of data.

2.1.3 Pet Paradise

Pet Paradise, created by Fred Goldsmith, is an e-pet service app designed to meet the diverse needs of pet owners. Figure 2.1.3.1 serves as the central hub, highlighting key features like reservations, live cameras, and vet care for easy access. Figure 2.1.3.2 focuses on the reservation service, simplifying the process of booking services like boarding, grooming, and veterinary care, enhancing user convenience.



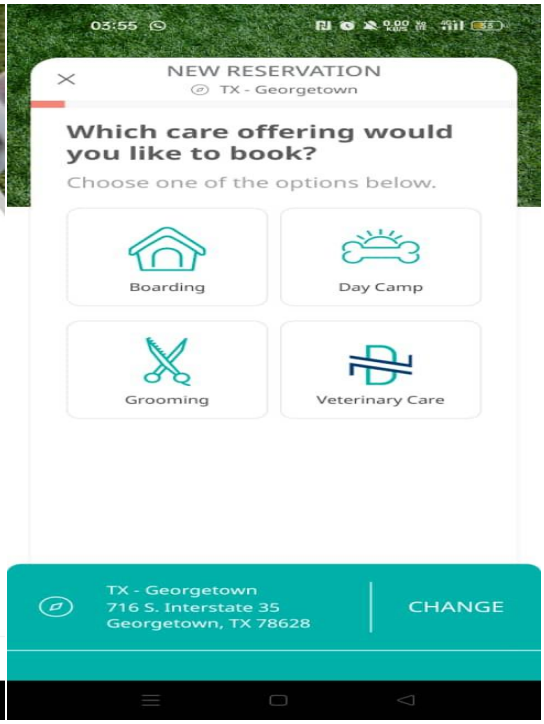


Figure 2.1.3.1 The home page of Pet Paradise **Figure 2.1.3.2 Service Selection**

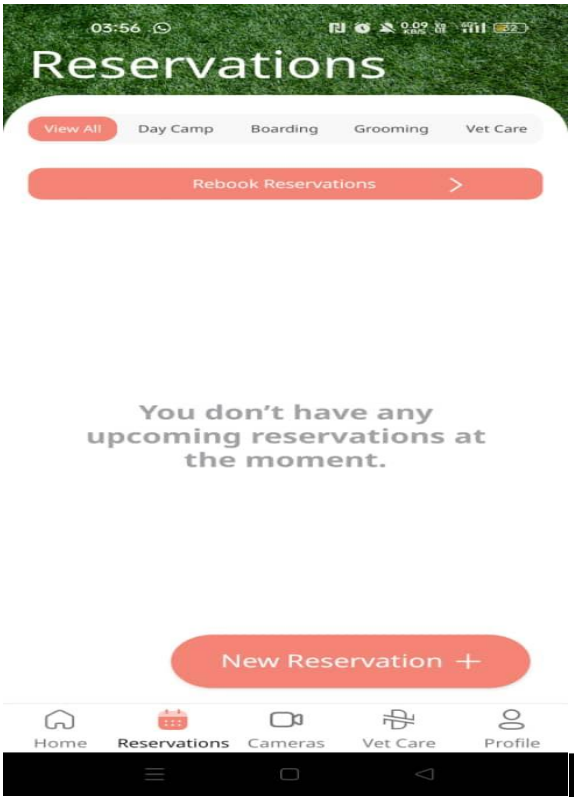


Figure 2.1.3.3 Re-book reservation

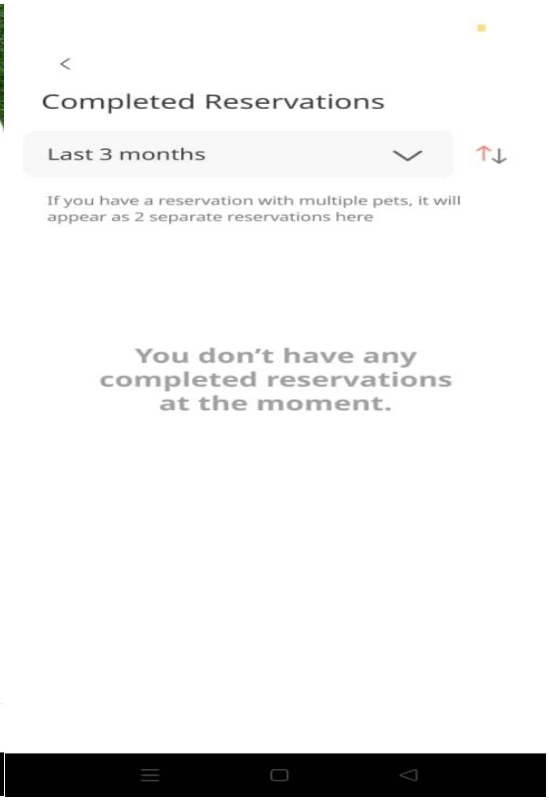


Figure 2.1.3.4 Completed Reservation

Strength

Figure 2.1.3.3 highlights one of Pet Paradise's notable strengths: the re-book reservations feature. This functionality allows users to easily re-book reservations they've made previously, effectively eliminating the hassle of searching and re-entering details. This convenience factor enhances the user experience significantly.

Additionally, Figure 2.1.3.4 demonstrates another user-friendly feature within the application the sorting feature. This feature empowers users to sort their reservations based on different time frames, such as the last 3 months or last week, offering flexibility and customization in managing their pet-related bookings.

Furthermore, the clarity in displaying reservations for multiple pets is a commendable aspect of the application. When users have reservations involving multiple pets, Pet Paradise presents them as separate reservations, ensuring a clear and straightforward

view of each pet's booking details. This transparent presentation contributes to an efficient and user-friendly interface, enhancing the overall user experience.

Weakness

A significant drawback I've observed in this application is its lack of a notification feature. Unlike many modern apps, Pet Paradise does not offer a notification system. This means that users do not receive real-time alerts or updates regarding their reservations, their pet's well-being, or any important information related to the app's services.

Furthermore, the absence of a notification history feature compounds this issue. Without a notification history, users cannot revisit or reference past notifications, which can be crucial for tracking the history of their interactions and staying informed about past events or communications from the app.

Solution

To address the observed weakness in Pet Paradise, implementing a real-time notification system would be a significant improvement. This feature could send users alerts and updates regarding their reservations, upcoming appointments, or any relevant pet care information. By providing timely notifications, users can stay informed and engaged with the app, ensuring they don't miss crucial information or appointments.

Secondly, introducing a notification history feature would be highly beneficial. This history could store past notifications, allowing users to refer back to them whenever necessary. Whether it's reviewing previous communication with the app, checking the status of past reservations, or accessing important pet-related reminders, a notification history provides a valuable reference point for users to stay organized and informed.

2.2 Summary Table

System	Strength	Weakness
Book Your Pet	● **User-friendly** ● **Simple and easy to use.** ● **Categorization- easy to navigate through their app history**	● **Lack of appointment history list** ● **Lack of date-based filtering**
JoJo Pet Taxi	● **Convenient and straightforward way to select the most suitable pet shop** ● **AI Bot Chat** ● **Marketplace feature**	● **Lack of Discussion Feature/Comment Box** ● **Lack of date-based filtering**
Pet Paradise	● **Many services provided.** ● **Re-book reservations feature** ● **Sorting feature** ● **Displaying reservations for multiple pet**	● **Lack of Notifications feature** ● **Lack of Notifications History**

Figure 2.1 Summary Table

CHAPTER 3

PROPOSED METHOD/APPROACH

Agile methodology[11] is favored for its dynamic and collaborative approach, well-suited to the fast-paced business environment. It distinguishes itself by embracing flexibility, adaptability, and continuous improvement. Its key attributes make it ideal for modern projects.

Stage 1: Ideation

In the initial ideation stage[12], lay the foundation for your mobile app project. Here, you define the app's purpose and goals, document your business and user requirements, and prioritize tasks and allocate your own resources. This self-driven phase allows you to develop your project's vision and establish a clear direction.

Stage 2: Development

You begin the development phase as a one-person team, where you roll up your sleeves and start building your mobile app. This stage includes all production tasks, such as UX/UI design, coding, and architecture. It is critical to have an organized development process when working alone.

Stage 3: Testing

After developing your app, it's time for self-assessment. You play the role of both developer and tester, checking for clean code, addressing any bugs or errors, and conducting trial runs to ensure full functionality.

Stage 4: Deployment

With your app ready for release, you handle the deployment process yourself, making it accessible to potential users. This marks a significant milestone in your solo project.

Stage 5: Operations

Your work does not stop after deployment. Maintenance is critical as the single operator. You continue to monitor and improve your programme, fixing bugs and creating enhancements based on user input.

3.1 System Requirement

3.1.1 Hardware

Computers and IOS mobile devices are among the hardware used in this project. The computer is the main tool used for coding and development, offering a stable environment for working on software development projects. Meanwhile, by making application testing and deployment easier, the IOS smartphone enhances the development process. Developers can easily move from coding to testing on real-world devices thanks to our dual hardware approach, which guarantees an accurate process. We can improve productivity, streamline development cycles, and provide our users with high-quality application by utilizing the strengths of both platforms.

Figure 3.1 Specifications of laptop

Description	Specifications
Model	Gigabyte Aorus 5 MB
Processor	Intel(R) Core(TM)i5-10200H CPU @2.40GHz
Operating System	Windows 11
Graphic	NVIDIA GeForce GTX 1650 Ti
Memory	16GB RAM
Storage	520GB SSD

3.2 System Design Diagram (UML Diagramming)

3.2.1 Use Case Diagram

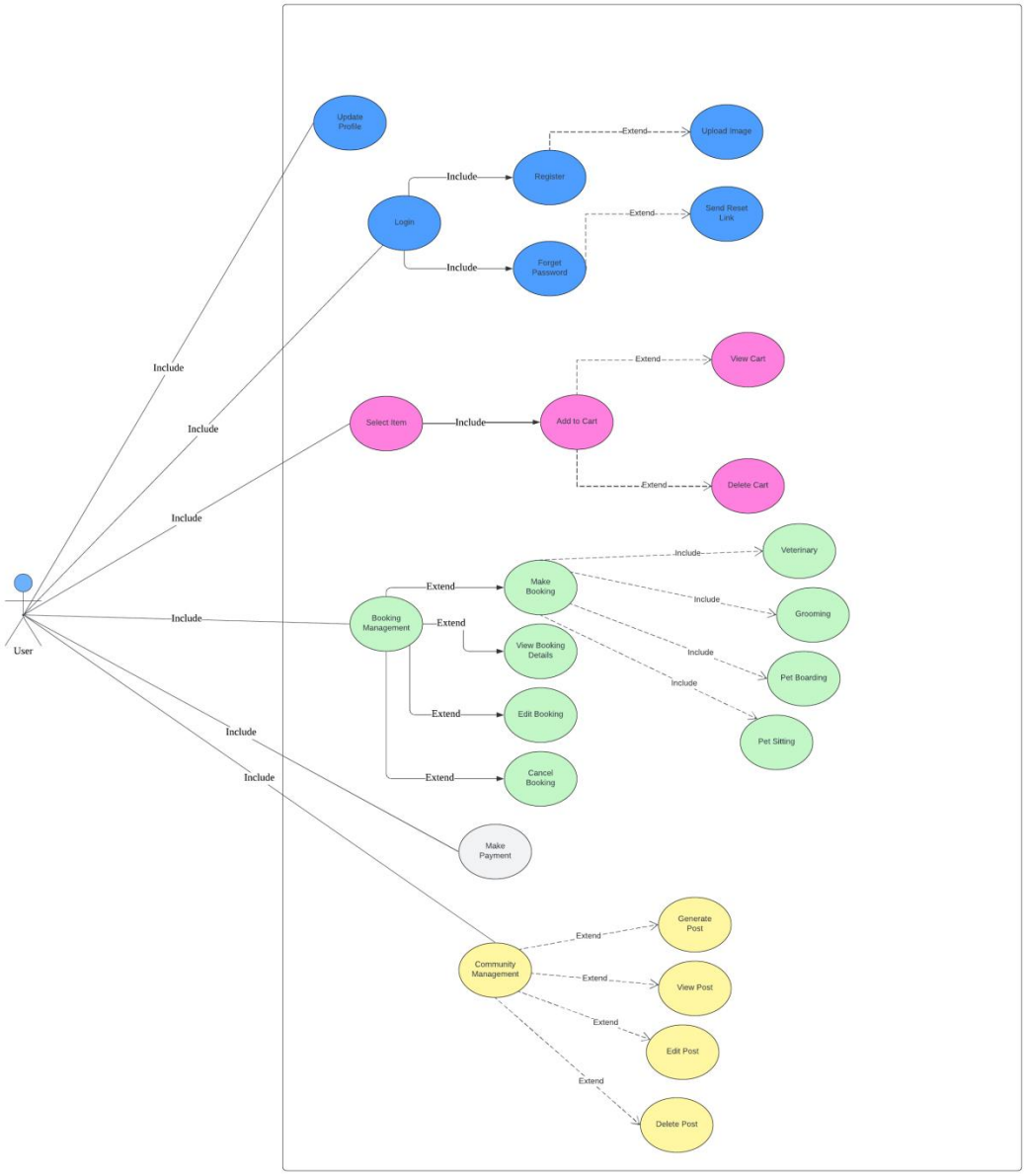


Figure 3.2.1.1 Use Case Diagram (User)

From Figure 3.2.1.1 above, users can log in by entering their email and password to proceed to the homepage. The login page contains two other buttons: "Register" and "Forgot Password." The register page is for new users who do not yet have an account, where their information will be saved into the database. The "Forgot Password" option is for users who have forgotten their password; the system automatically sends a reset link to the user's email for password reset. Once logged in, users can book pet

care services, choosing from various options such as grooming, sitting, bathing, boarding, veterinary, and others. They can also manage their bookings, including canceling or modifying existing appointments. Additionally, users have access to the marketplace, where they can select products they need and add them to their cart. They can view and delete items from the shopping cart and proceed to payment when ready. Users can also access the community section, where they can create posts related to their pets and view, edit, or delete existing posts. Furthermore, they can update their personal profiles, including changing their email, username, profile photo, and other details. Finally, users can make payments for their confirmed bookings.

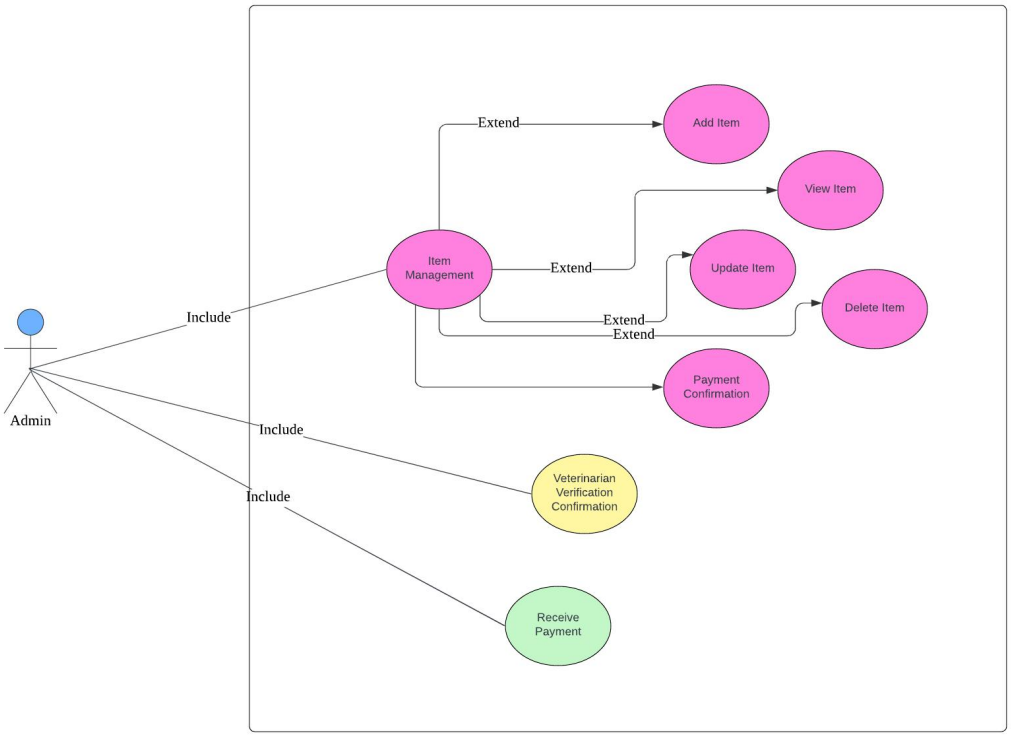


Figure 3.2.1.2 Use Case Diagram (Admin)

Figure 3.2.1.2 above illustrates the use case diagram for the admin. Firstly, the admin can log in to their own homepage, as they have different functions compared to users. They can perform veterinarian verification confirmation. Additionally, the admin can manage items, including adding, viewing, updating, and deleting items. They can also confirm payments and receive payments for products purchased by users.

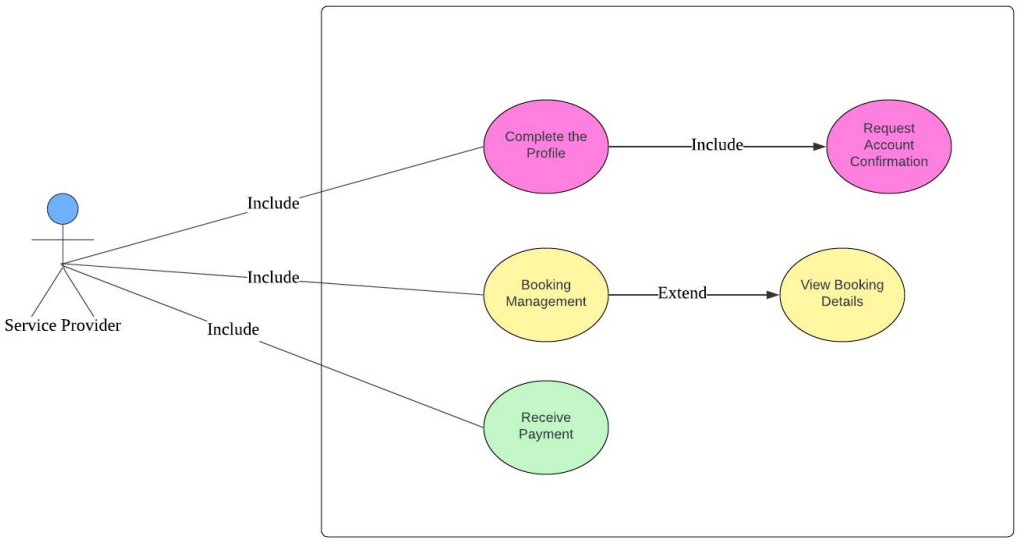


Figure 3.2.1.3 Use Case Diagram (Service Provider)

Figure 3.2.1.3 above illustrates the use case diagram for the service provider. All service providers must complete their profiles to provide their services. They can offer pet care services for users to choose from on their own user homepage. After users confirm their booking, the service provider arranges the pet care services. Additionally, service providers can update the prices for different types of pet care services. They can also search for users to view their details. Finally, service providers can receive bookings made by users, and then choose to confirm or reject them. They can also receive booking payments.

3.3.1 Activity Diagram

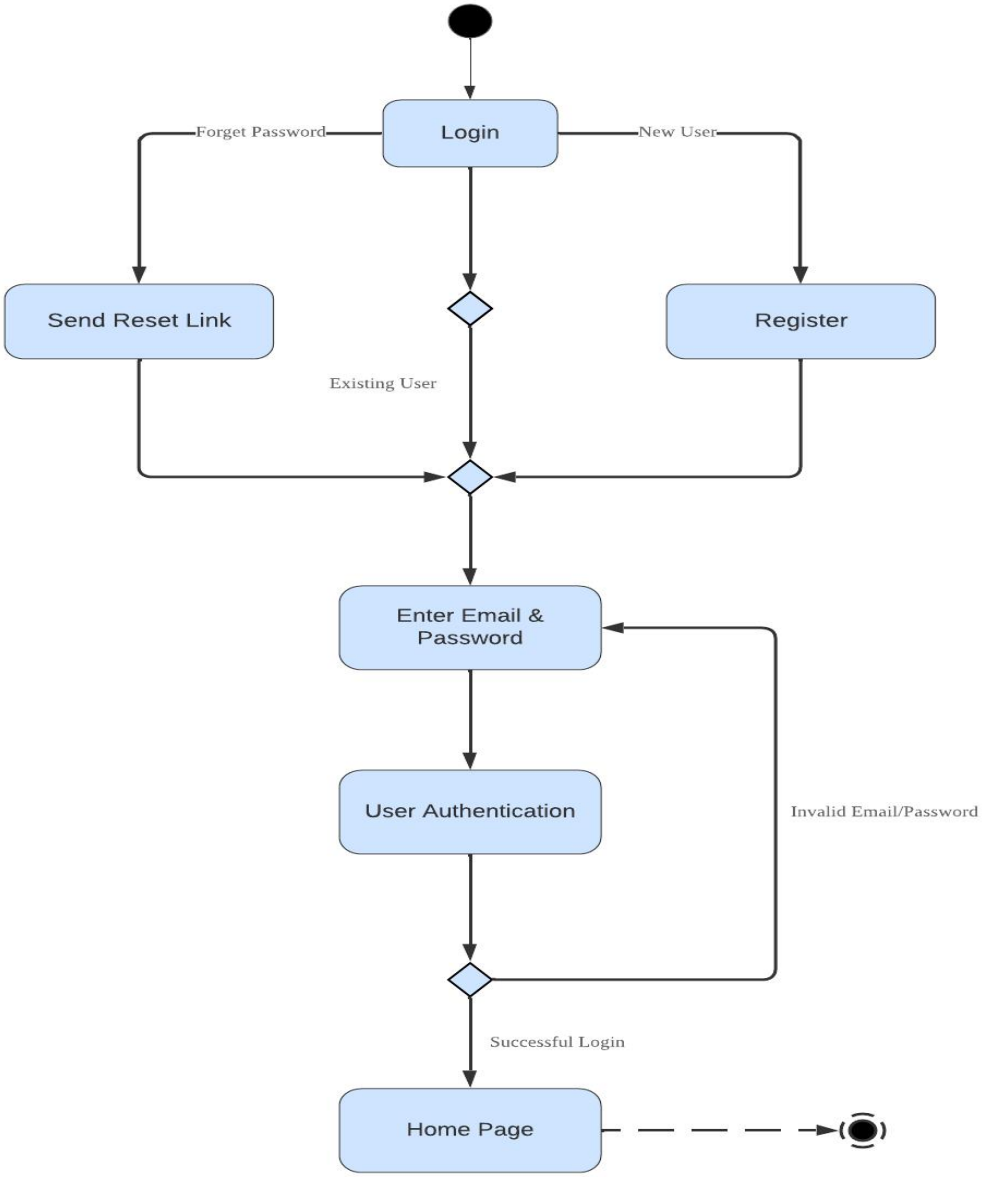


Figure 3.3.1.1 Activity Diagram of Login

Figure 3.3.1.1 displays the Activity Diagram for Register, Forget Password, and User Login processes. When it comes to the login process, a new user has the option to register a new account. For existing users who have forgotten their password, there is an option to reset their password. Once the user has either registered a new account or reset their password, they can proceed by entering their email and password, leading to the user authentication step. If the user's email and password match the records, they will be directed to the home page. However, if the user enters either their email or password incorrectly, they will need to re-enter the correct information.

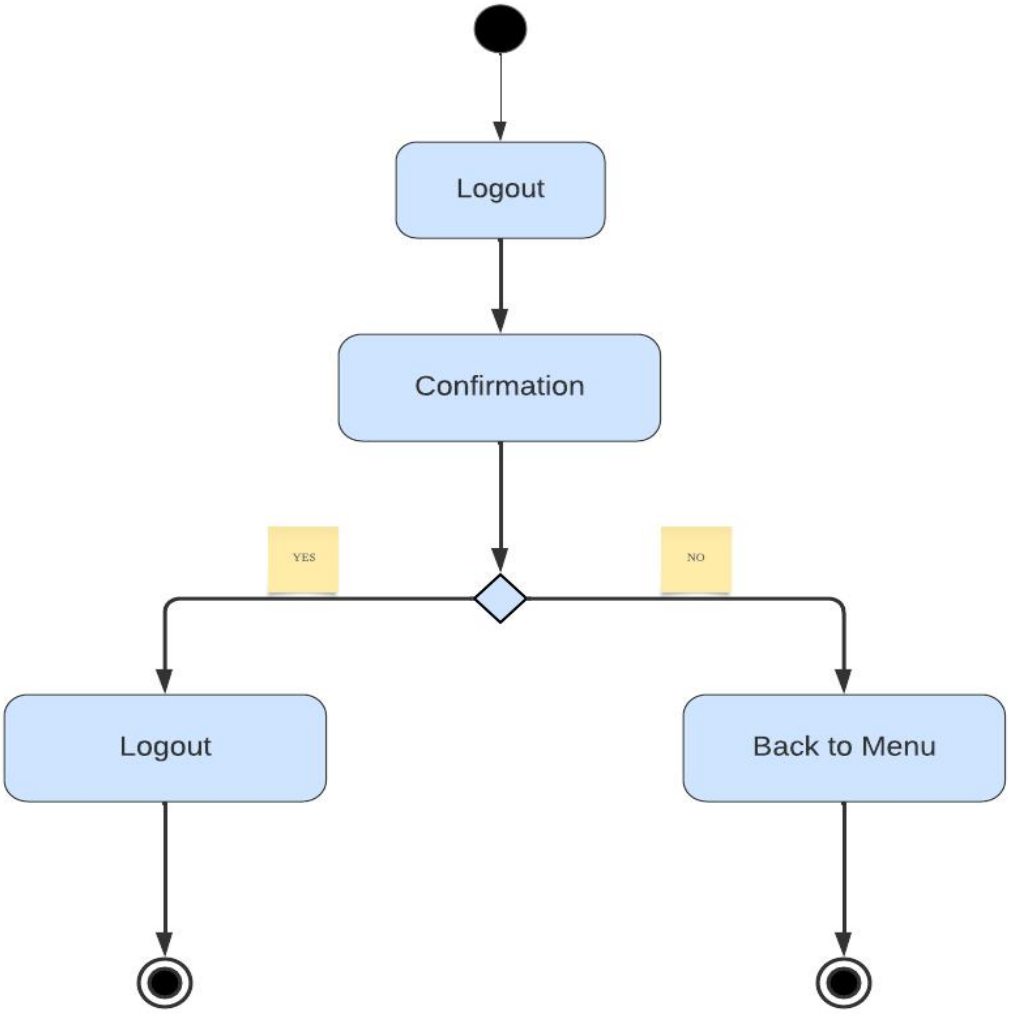


Figure 3.3.1.2 Activity Diagram of Logout

This is the logout feature. When a user clicks the logout icon, a confirmation dialog will appear with two options: "Yes" or "No." If the user selects "Yes," it will trigger the logout process. If "No" is chosen, the user will be returned to the menu.

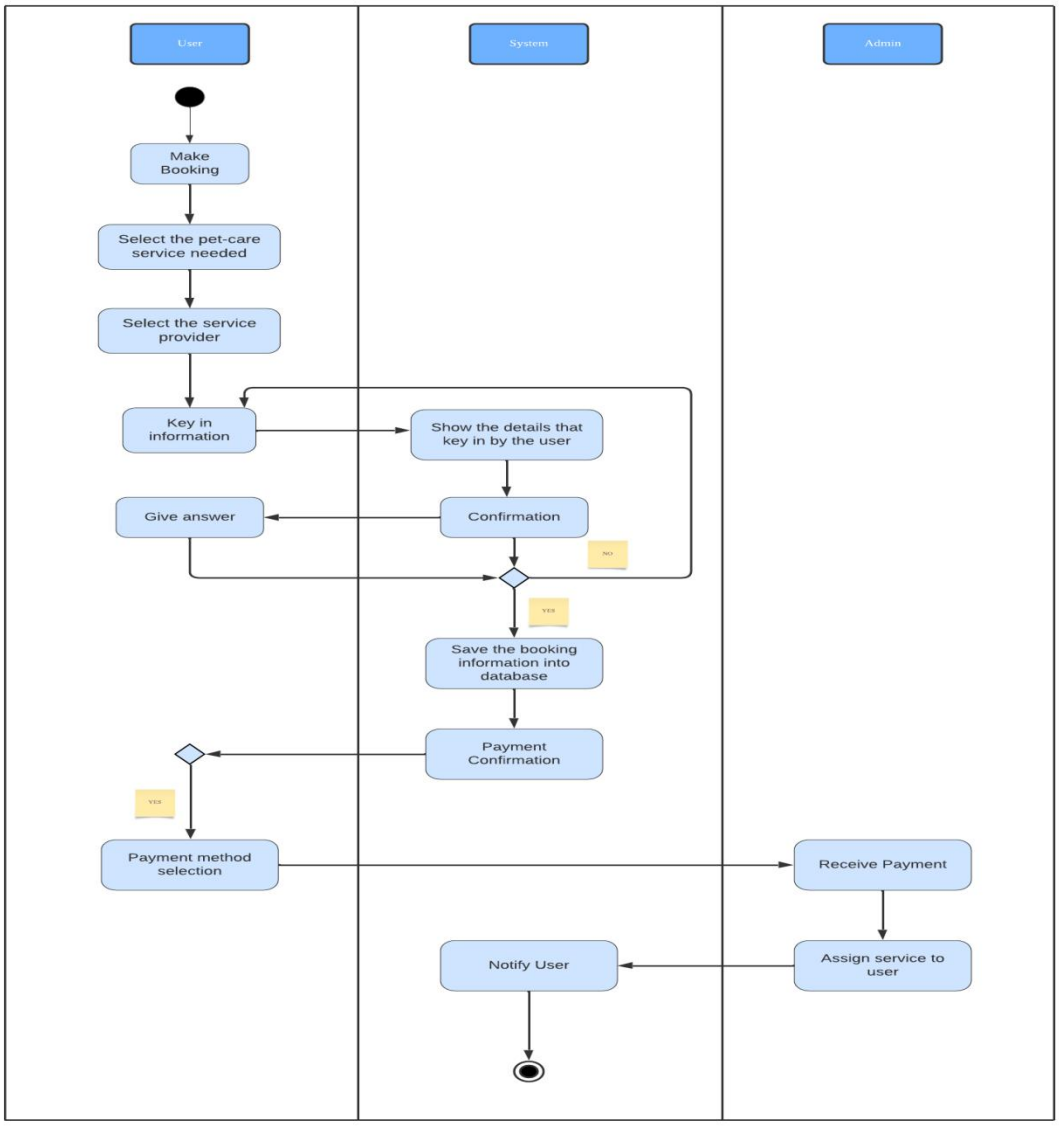


Figure 3.3.1.3 Activity Diagram of Making Booking

Figure 3.3.1.3 shows the activity diagram of making booking. First, the user will select the pet-care service that they needed such as grooming, bathing, sitting, veterinarians, boarding, and other services. Then, user will key in their information like date, time, and others based on the pet care services they selected. After key in all the information, the system will display the details enter by the user to ask users whether the details are correct or not, if yes, the system will save the information into the database else will call user to re-key in the information. After that, the system will ask user whether to do the payment, if yes will prompt out an alert to let user choose the payment method. Finally, the admin will receive the payment and will assign the particular pet care service to user, then the system will notify the user of the pet care service assign.

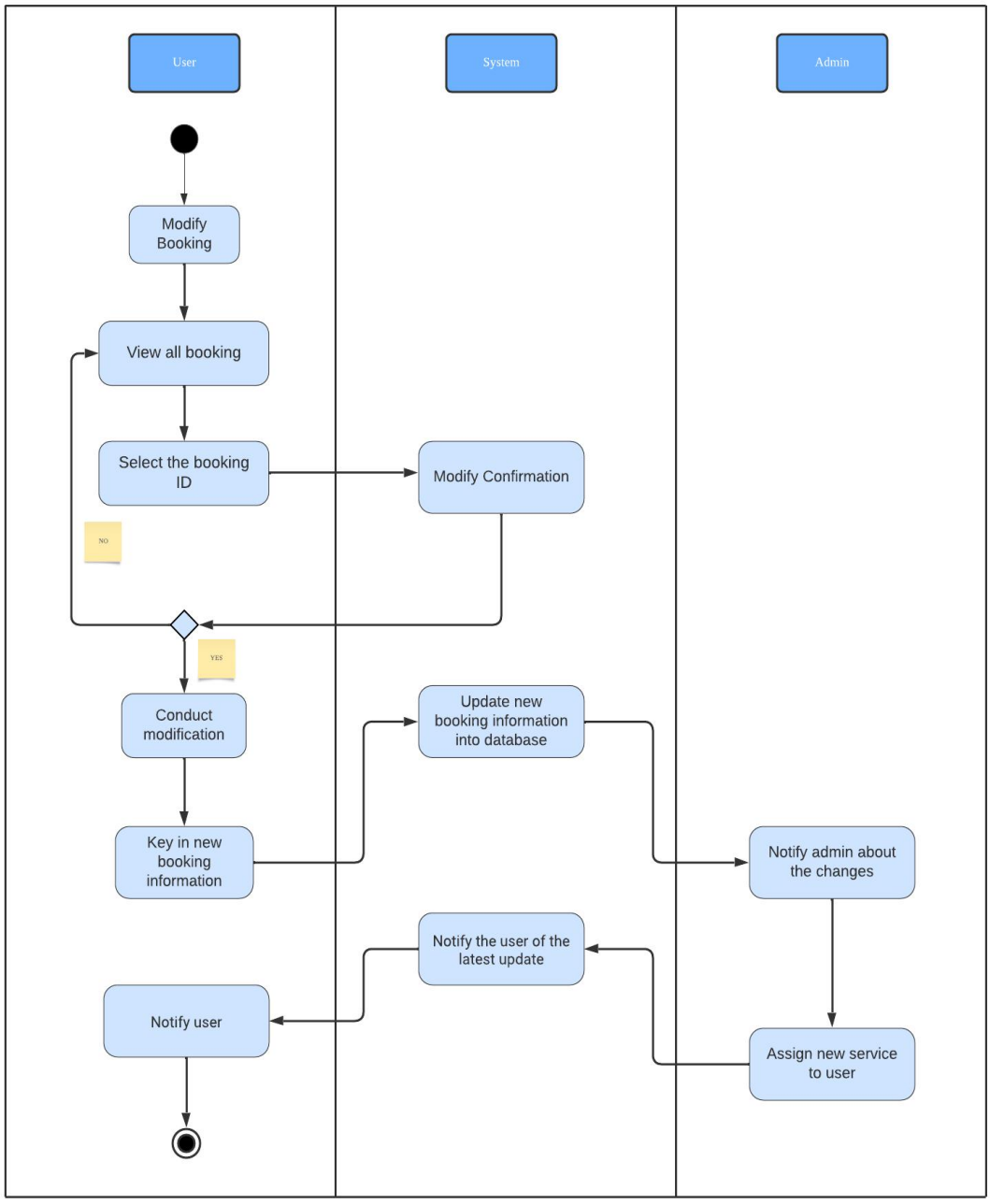


Figure 3.3.1.4 Activity Diagram of Modify Booking

Figure 3.3.1.4 above depicts the activity diagram for modifying a booking. First, the user can view all the bookings made by them. Then, the user selects the booking that requires modification. After selecting the booking, the system prompts an alert asking the user to confirm the modification. If the user cancels, they are returned to the booking list. If confirmed, the user inputs the new information, which updates in the database for that booking. Subsequently, the system notifies the admin about the changes made. The admin then determines if there is a need to assign new pet care service. Afterward, the system notifies the user about the changes.

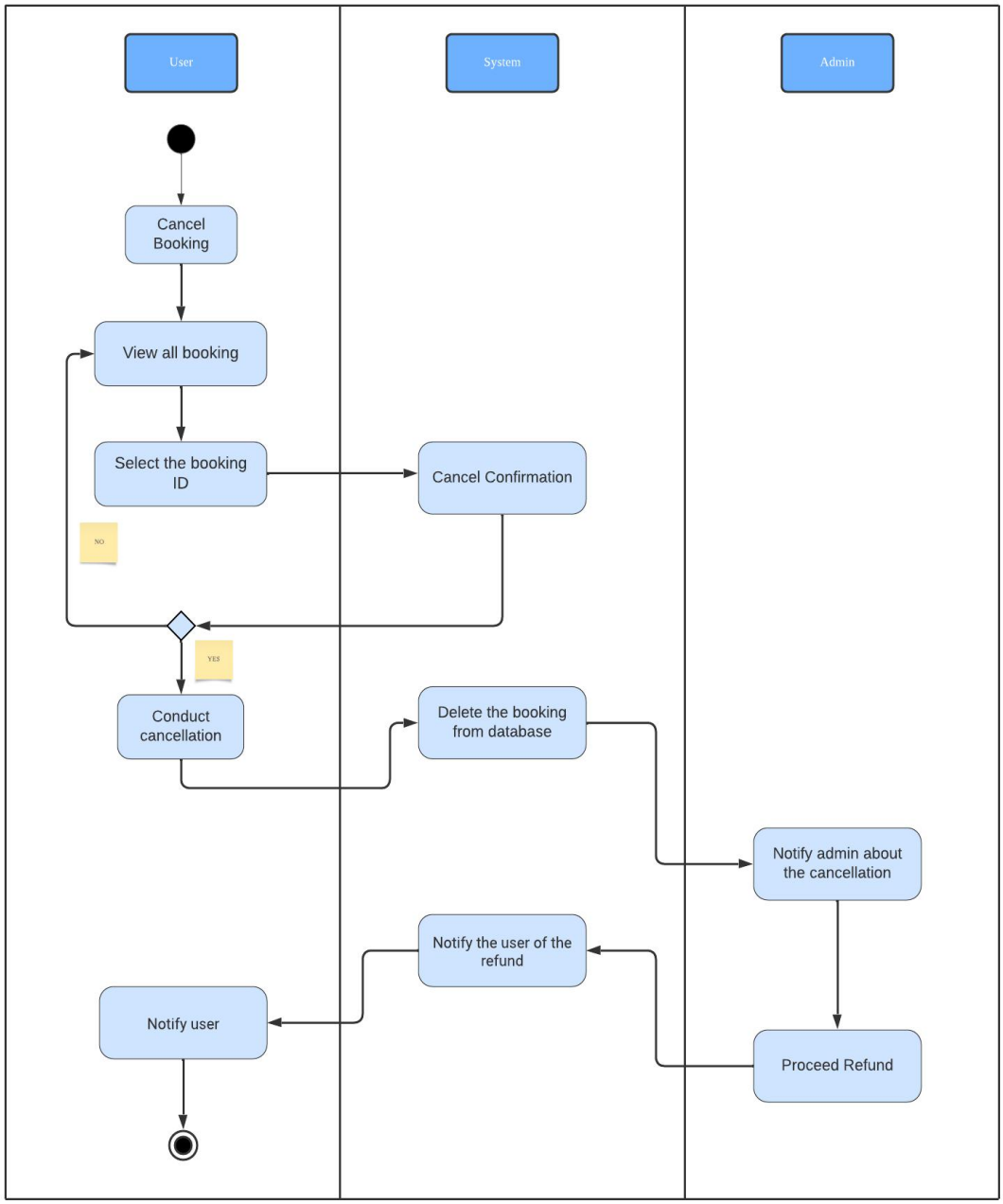


Figure 3.3.1.5 Activity Diagram of Cancel Booking

Figure 3.3.1.5 above illustrates the activity diagram for canceling a booking. First, the user can view all the bookings that have been made. Then, the user selects the booking they wish to cancel. Afterward, the system prompts an alert asking the user to confirm the cancellation. If the user declines, the system redirects them to the booking lists. If confirmed, the system deletes the booking from the database and notifies the admin of the cancellation. The admin reviews whether the cancellation meets the requirements for booking cancellation. If so, the admin confirms, and the refund is processed to the user. Finally, the system notifies the user.

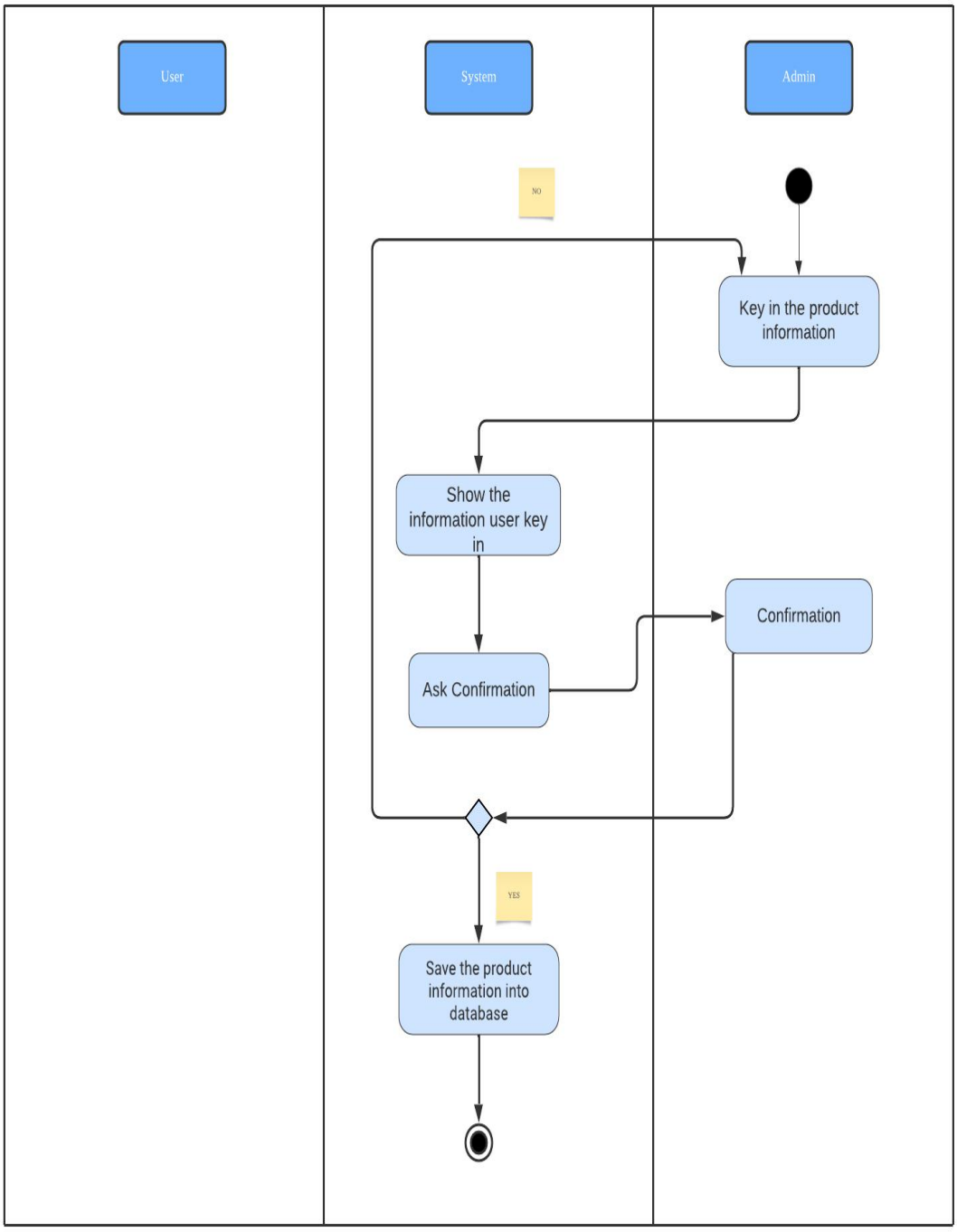


Figure 3.3.1.6 Activity Diagram of Adding the Product

Figure 3.3.1.6 above depicts the activity diagram for adding a product. When the admin chooses to add a product, the system prompts the admin to input the product information. Afterward, the system displays the entered information for confirmation. The admin then provides their response. If confirmed, the data is saved into Firebase, and the function ends. If not confirmed, the system prompts the user to re-input the information.

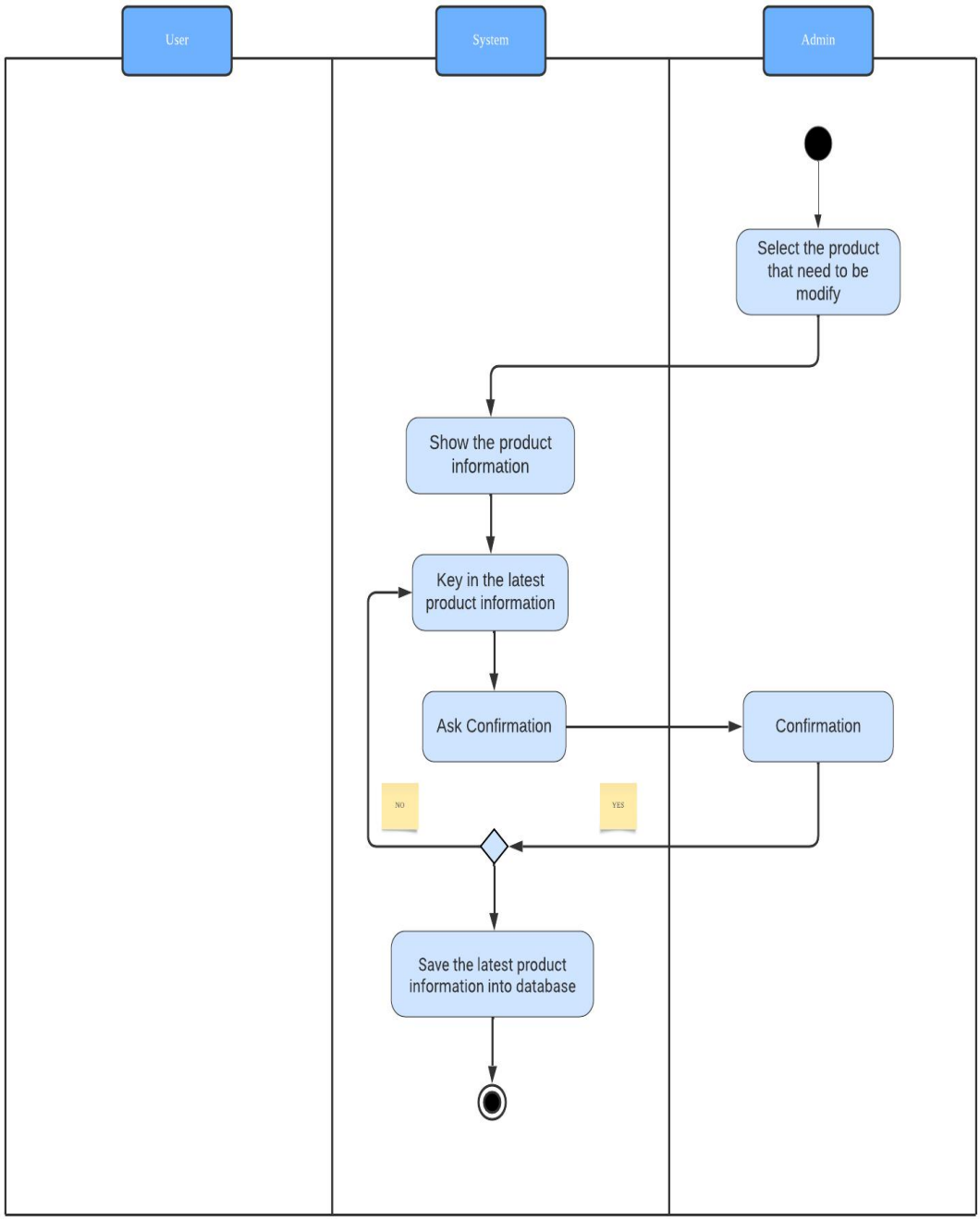


Figure 3.3.1.7 Activity Diagram of Modify the Product

Figure 3.3.1.7 above illustrates the activity diagram for modifying a product. When the admin chooses to modify a product, the system prompts for the product information. Subsequently, the system allows the admin to input the latest product information and displays the entered information for confirmation. The admin then provides their response. If confirmed, the latest product information is saved into Firebase, and the function ends. If not confirmed, the system prompts the user to re-enter the product information.

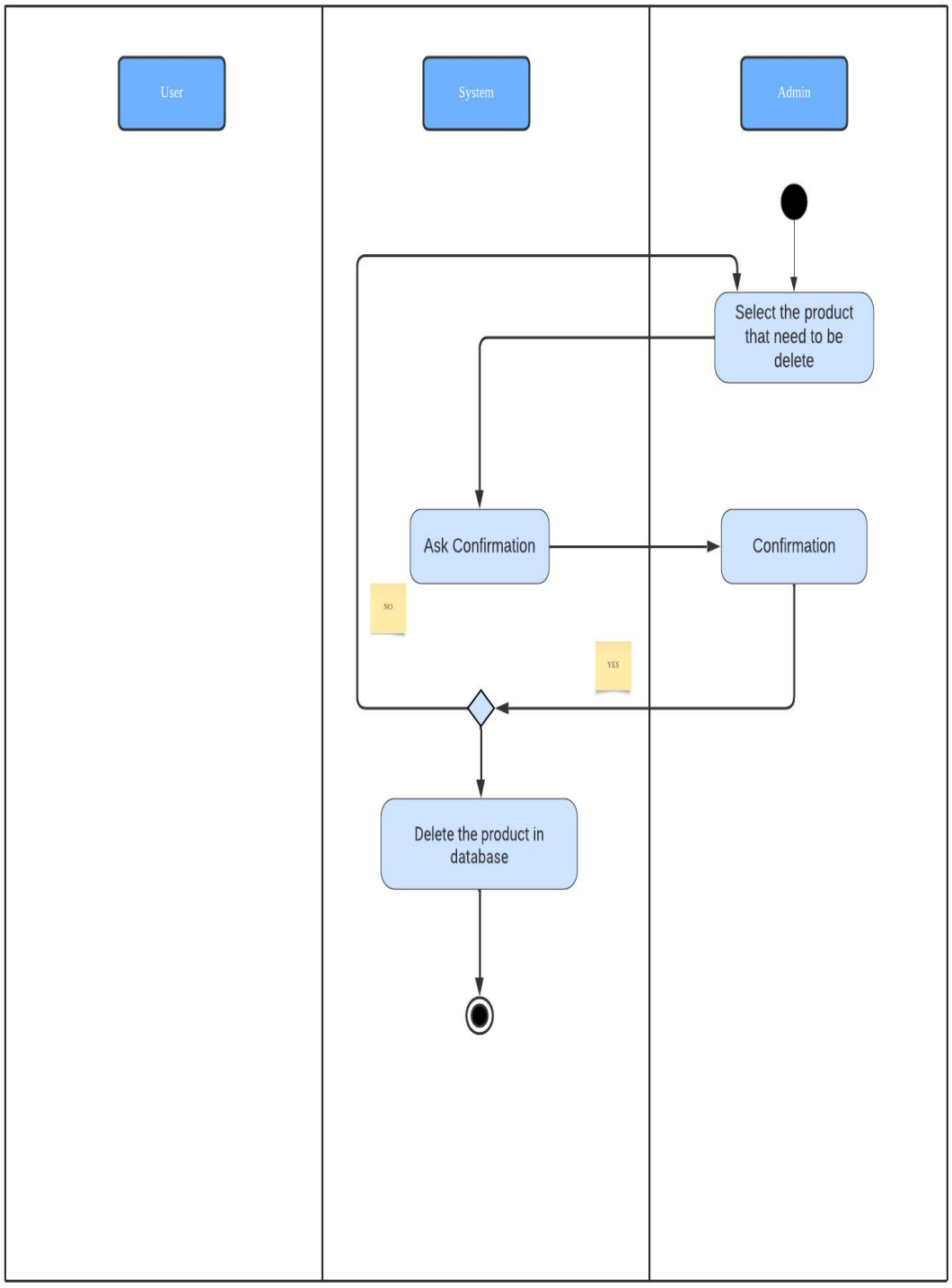


Figure 3.3.1.8 Activity Diagram of Delete the Product

Figure 3.3.1.8 above illustrates the activity diagram for deleting a product. When the admin chooses to delete a product, the system asks for confirmation. The admin then provides their response. If confirmed, the product is deleted from Firebase, and the function ends. If not confirmed, the admin selects the product that needs to be deleted.

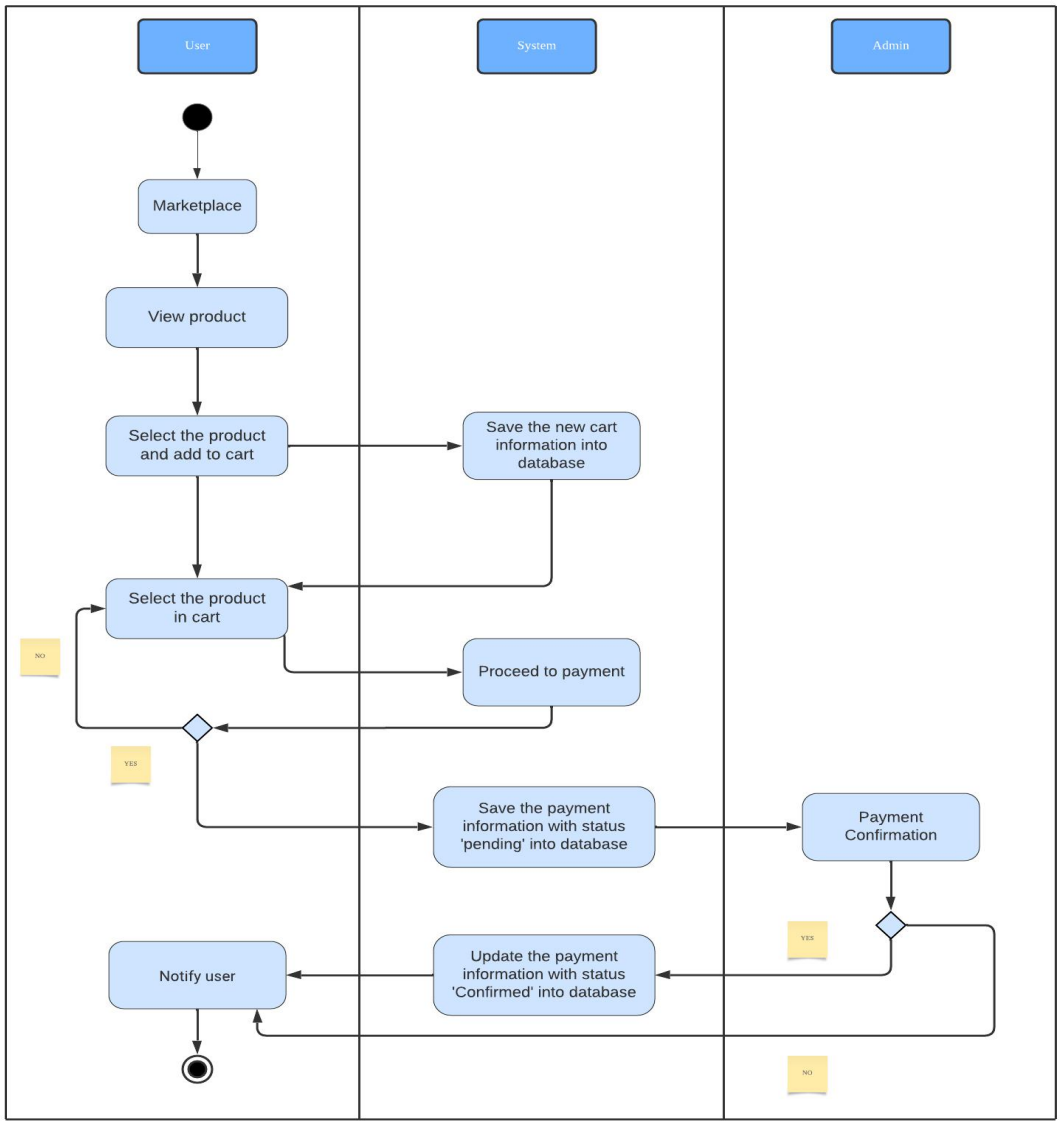


Figure 3.3.1.9 Activity Diagram of Purchase Process

Figure 3.3.1.9 above illustrates the activity diagram for purchasing a product. Firstly, the user navigates to the marketplace and views all the products provided by the admin. Next, they select the desired product and add it to the shopping cart, after which the system saves the cart information into Firebase. Then, the user can review the products in the shopping cart and decide whether to proceed to payment. If they choose to proceed, the system saves the payment information with status 'pending' into Firebase. Subsequently, the payment needs to be confirmed by the admin. If confirmed, the payment information is updated with status 'confirmed' into Firebase. If not confirmed, the user is notified that the payment hasn't been processed. If the user decides not to proceed with payment, they are allowed to select the product in the cart again.

3.4.1 ERD Diagram

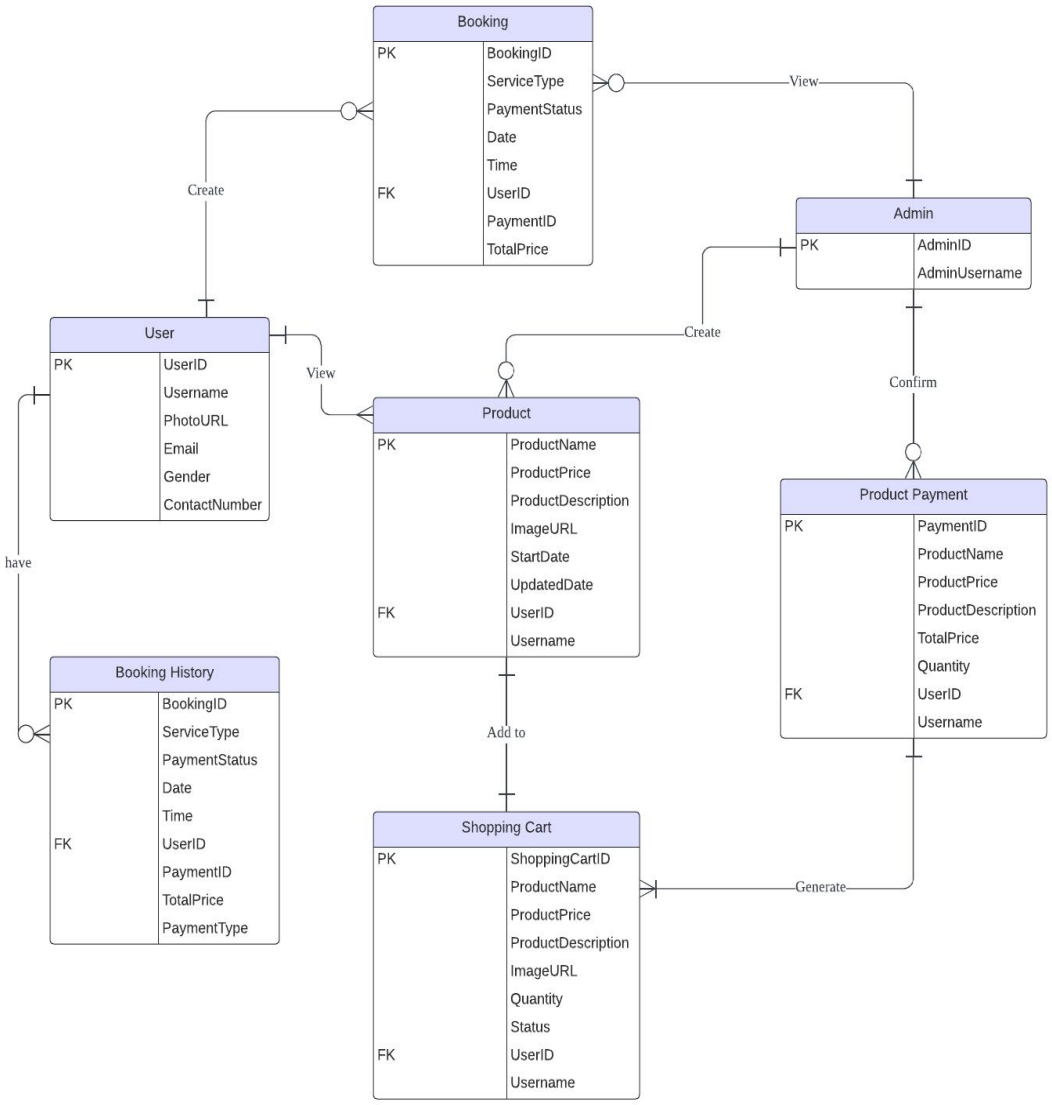


Figure 3.4.1.1 ERD Diagram

Figure 3.4.1.1 displays the major entities and their relationships within the scope of the e-pet service mobile application. The diagram comprises a total of seven entity tables, visualizing how different entities relate to each other and how data flows within the database. A user can create zero or many bookings in the e-pet service. They can also have zero or many booking histories in the e-pet service. In the marketplace, users can view many products. An admin can view zero or many bookings in the booking list. Each product can only be added to one shopping cart. Many or one shopping carts generate one product payment. The admin can confirm zero or many product payments, and they can also create zero or many products. The booking history contains all the information users input when they make their booking.

CHAPTER 4

Preliminary Work

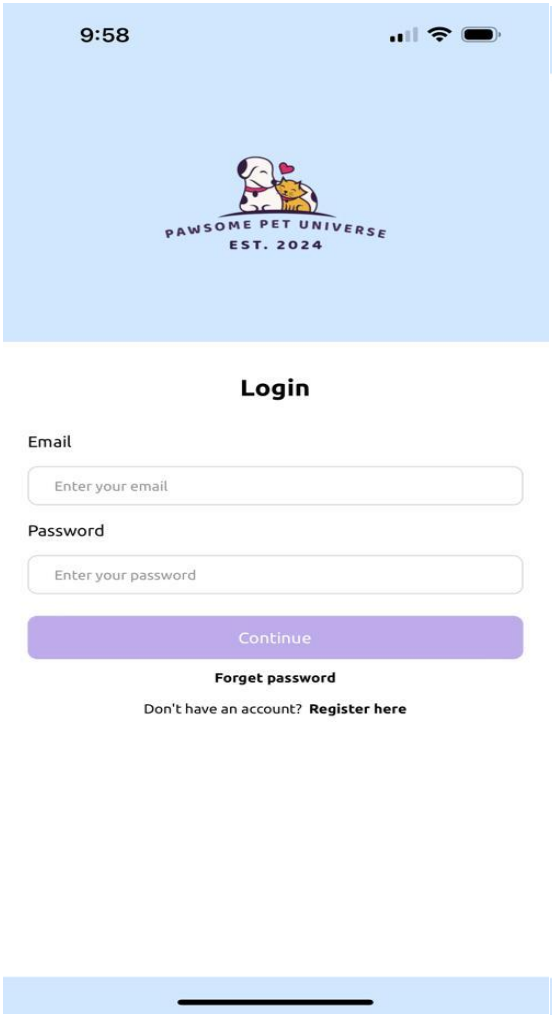


Figure 4.0.1 Login Page

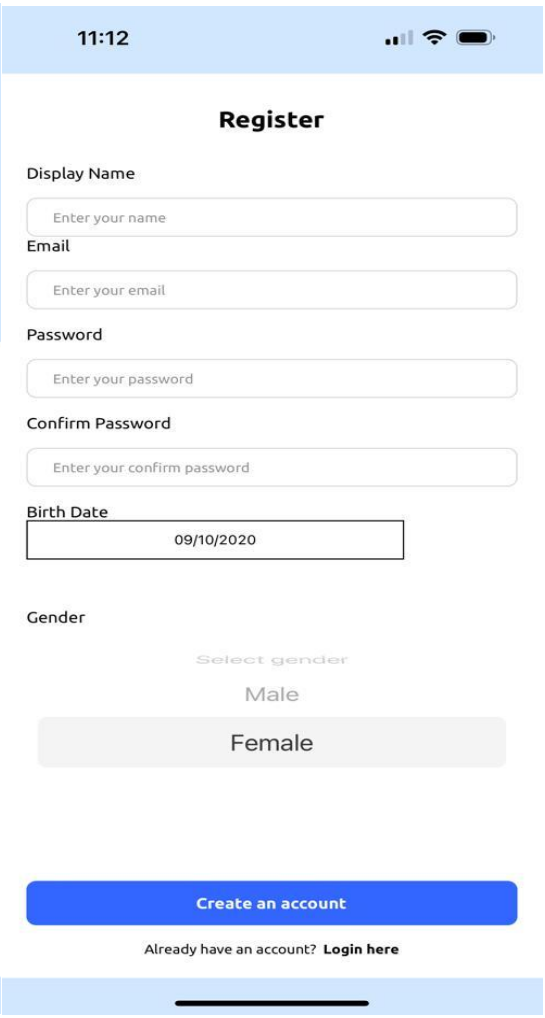


Figure 4.0.2 Register Page

Figure 4.0.1 above illustrates the login page. This page allows users to enter their email account and password to access the home page. New users can click on "register here" to navigate to the register page (Figure 4.0.2) to register.

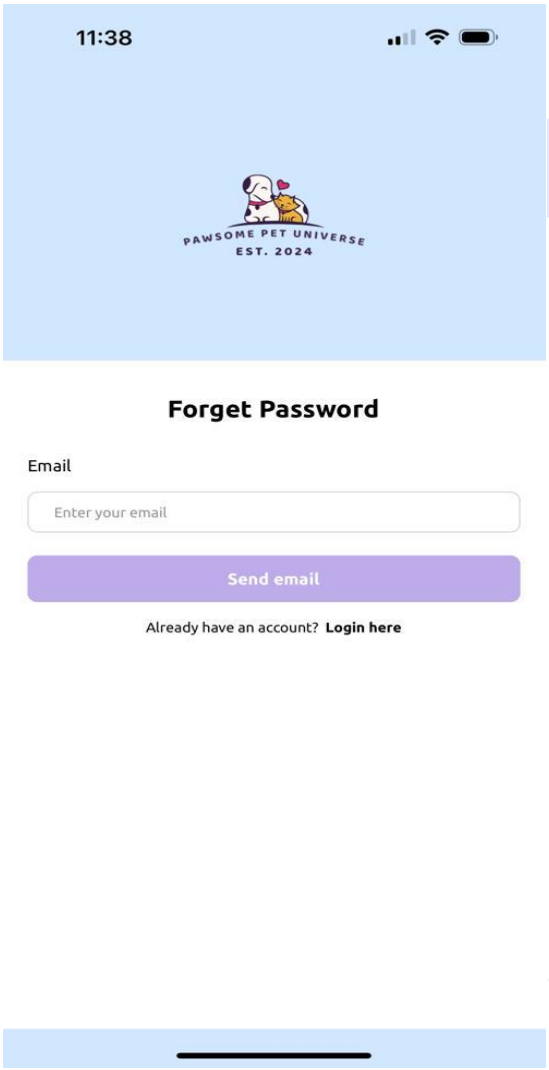


Figure 4.0.3 Forget Password Page

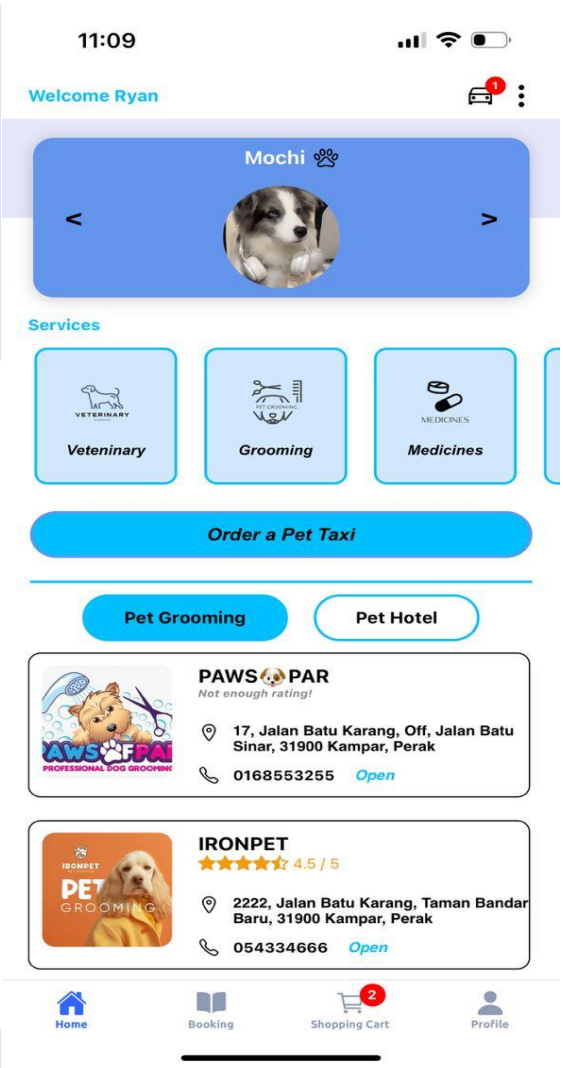


Figure 4.0.4 Home Page

Users who have forgotten their password can click on "forgot password," which will direct them to the forgot password page (Figure 4.0.3). Figure 4.0.4 depicts the home page, which contains all the pet-related services such as veterinary, grooming, medicines, foods, pet boarding, pet sitting, pet taxi, and community.

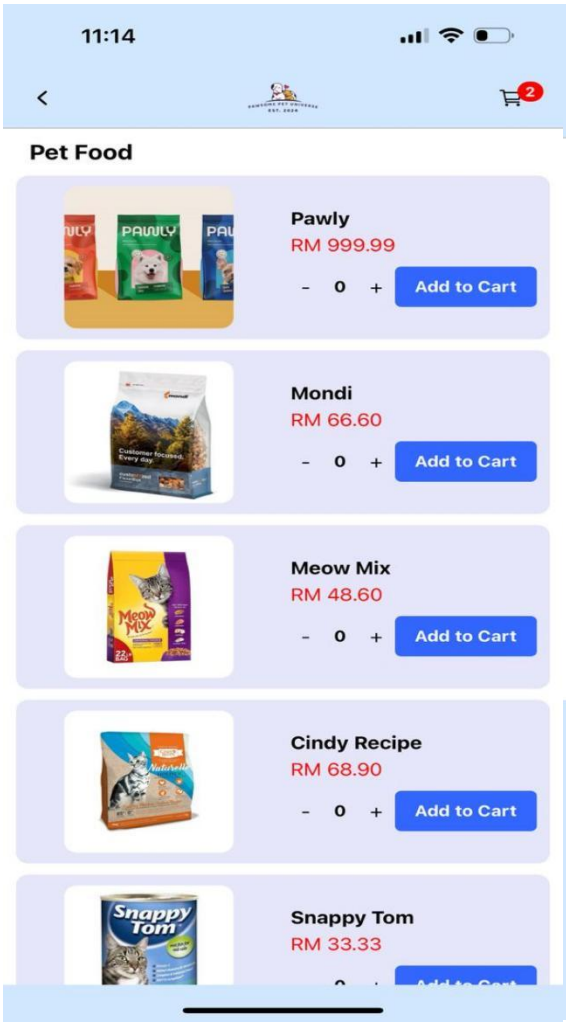


Figure 4.0.5 Pet Food Page

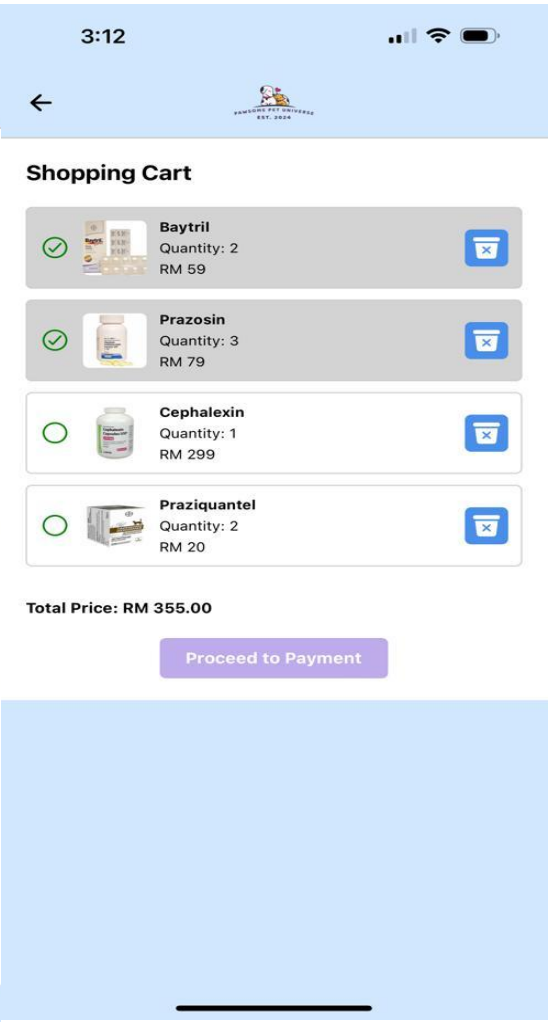


Figure 4.0.6 Shopping Cart Page

Figure 4.0.5 is the pet food page, which allows users to select the products they need and add them to the cart, along with specifying the quantity. After adding items to the cart, users can click on the shopping cart icon in the top navigation, which navigates to the Shopping Cart Page shown in Figure 4.0.6. Inside Figure 4.0.6, all the products and their quantities selected are displayed. Users can delete each item in the shopping cart using the trash icon displayed next to each item. Additionally, users can select items in the cart, and the total price of the selected items will be displayed at the bottom.

Figure 4.0.7 Payment Page

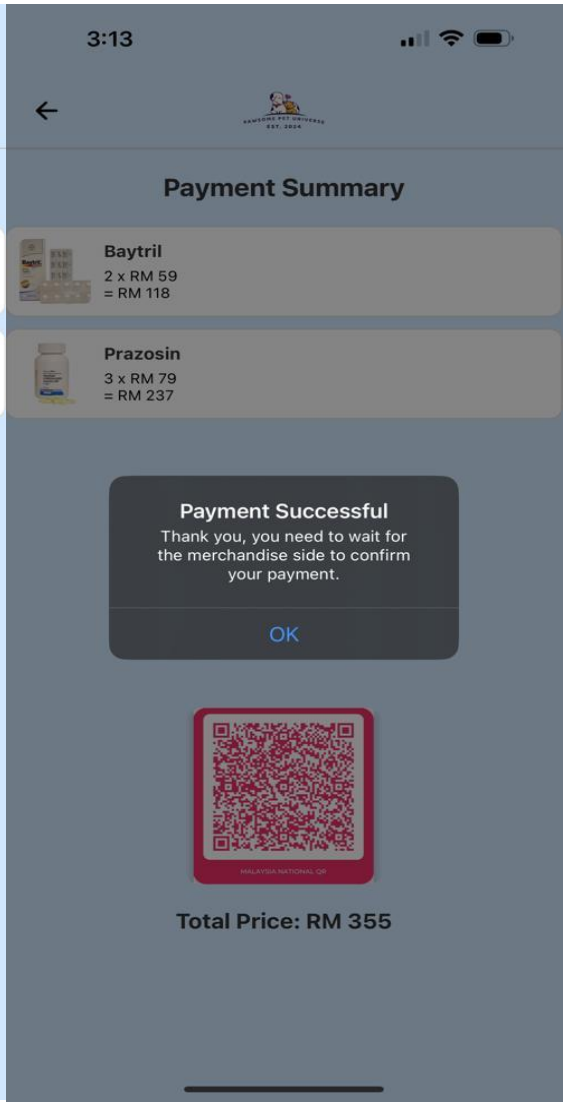


Figure 4.0.8 Payment Successful Alert

Figure 4.0.7 is the Payment Page, which displays the selected cart from the Shopping Cart Page. It presents the details of the payment, including the product names, quantities, prices, and total price. Additionally, it shows the payment QR code for users to complete the payment. After making the payment successfully, users can click on the "Make Payment Successful" button. Upon clicking, an alert titled "Payment Successful" (Figure 4.0.8) will appear, with the content "Thank you, you need to wait for the merchandise side to confirm your payment." Users can then click "OK" in the alert, which will navigate them to the home page.

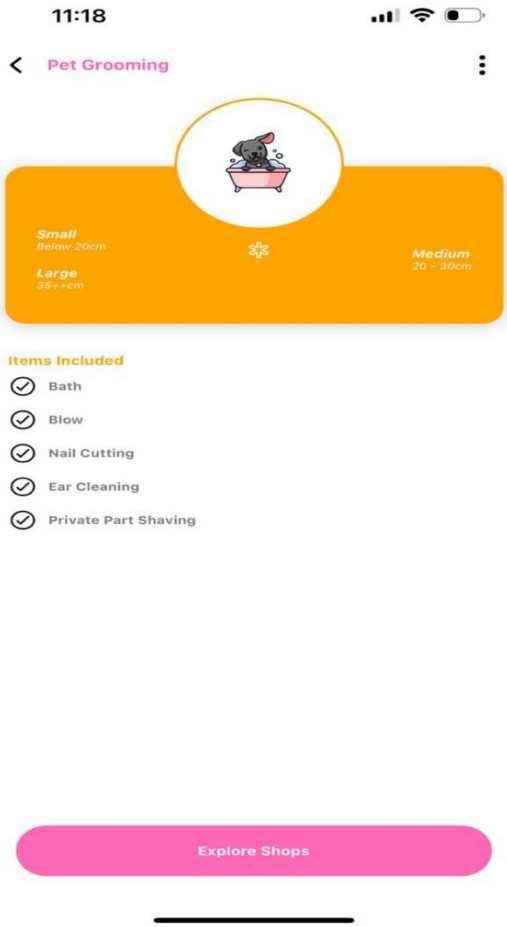


Figure 4.0.9 Pet Grooming Page

Figure 4.0.10 Shops Page

Figure 4.0.9 is displayed after the user clicks grooming button in home page. This page is to show the user what kind of item included inside this services. Furthermore, user can click the explore shops button if they want to explore more shops.

Figure 4.0.10 represents the Shops page, which will show every registered shops and the shops basic information, like Open status, shops name, rating star, address and phone number.

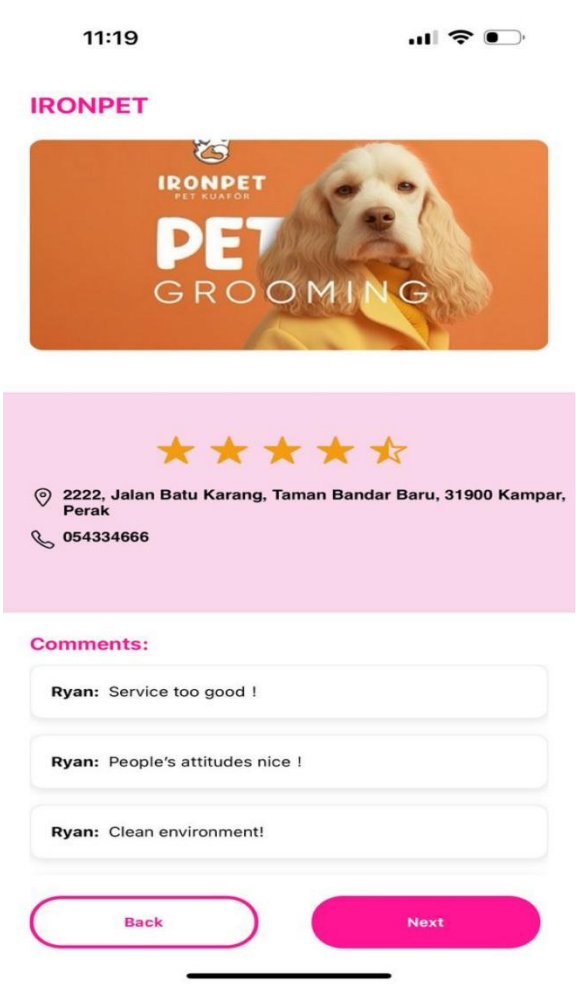


Figure 4.0.11 Shop Detail Page

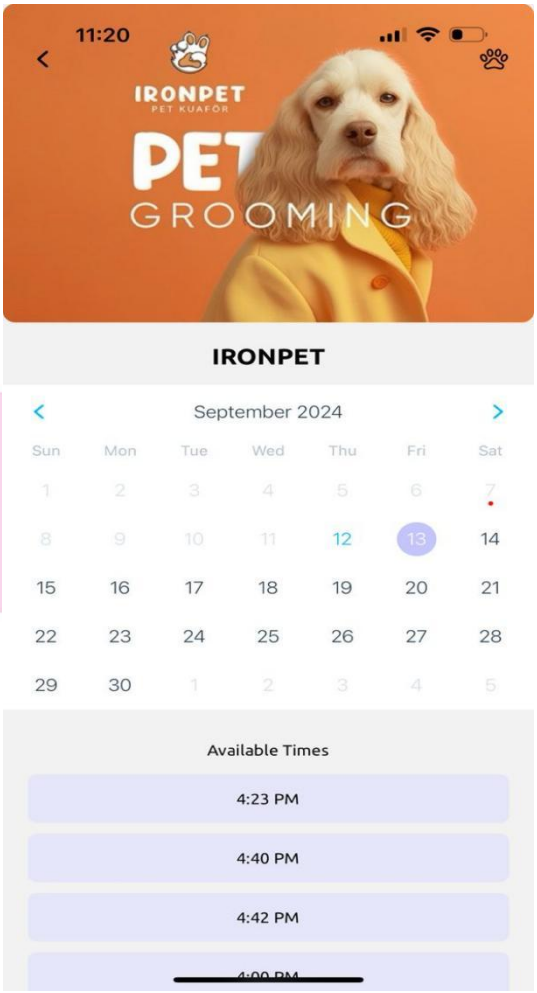
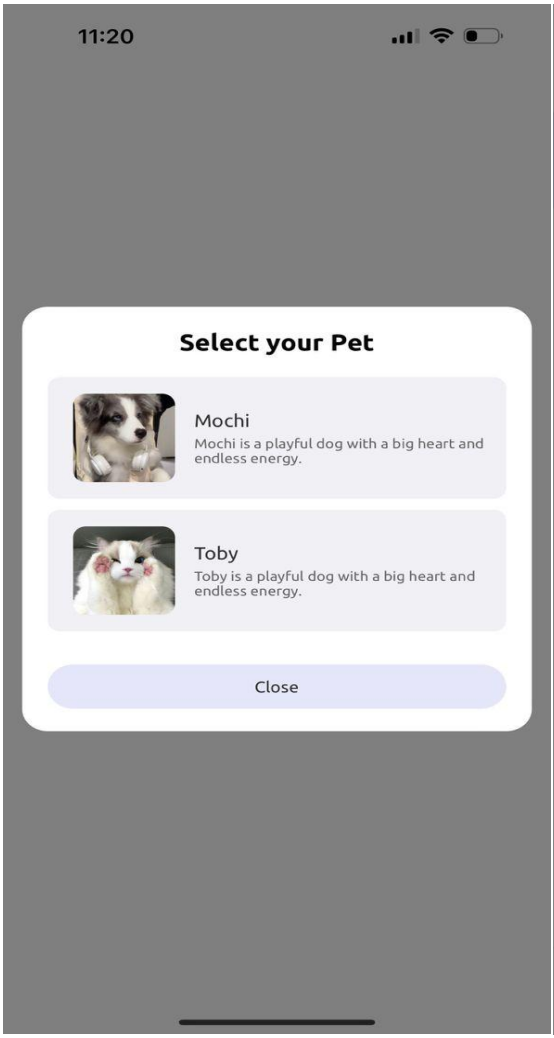


Figure 4.0.12 Booking Page

Figure 4.0.11: This screen is displayed after the user selects a shop. It shows the shop's comments and ratings. The user can click the "Next" button to proceed to the booking page in Figure 4.0.12.

Figure 4.0.12: This is the booking page where the user can select the grooming date and time for the appointment. On the calendar, past dates cannot be selected. The blue text represents today's date, and the red dots under specific dates indicate that those dates are closed by the service provider.



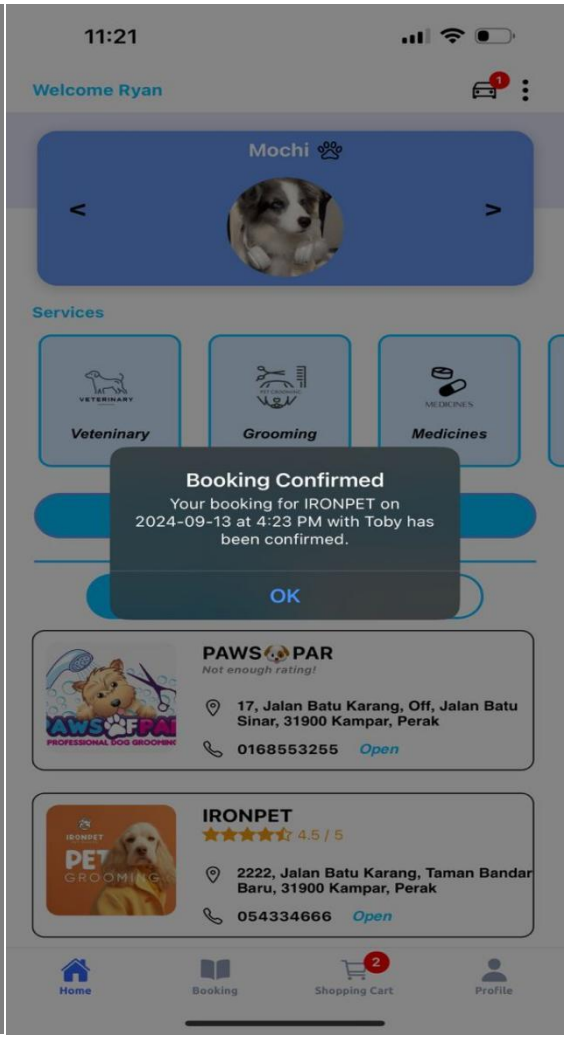


Figure 4.0.13 Select Pet Page **Figure 4.0.14 Booking Confirmed Alert**

Figure 4.0.13: This screen allows the user to select which pet they are booking for the grooming service.

Figure 4.0.14: This is a confirmation alert notifying the user that the grooming appointment has been successfully booked. The alert content reads: "Your booking at [pet shop's name] on [date] at [time] with [pet's name] has been confirmed." Users can click "OK" to close the alert and will then be redirected to the home page.

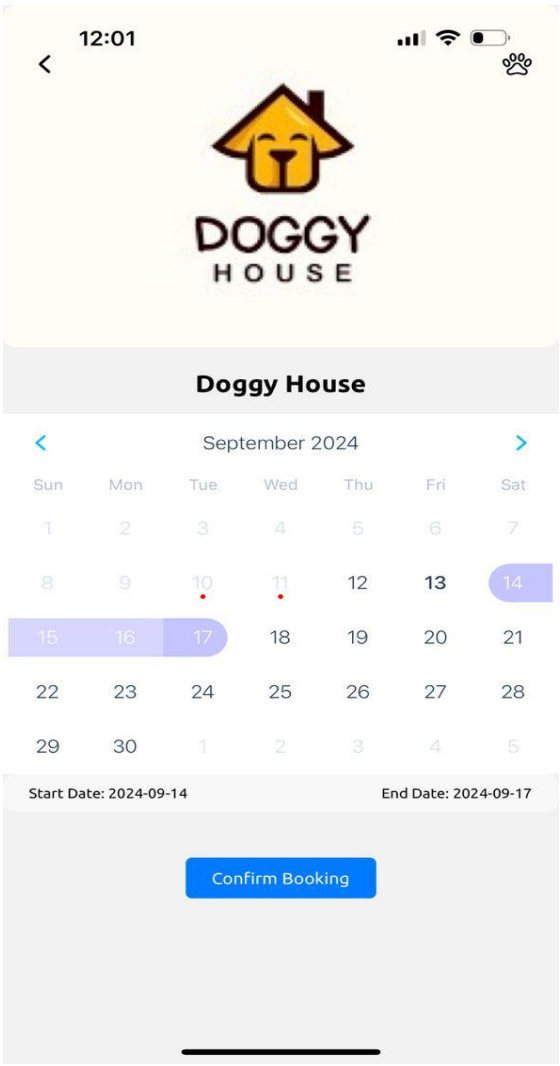


Figure 4.0.15 Pet Hotel Page

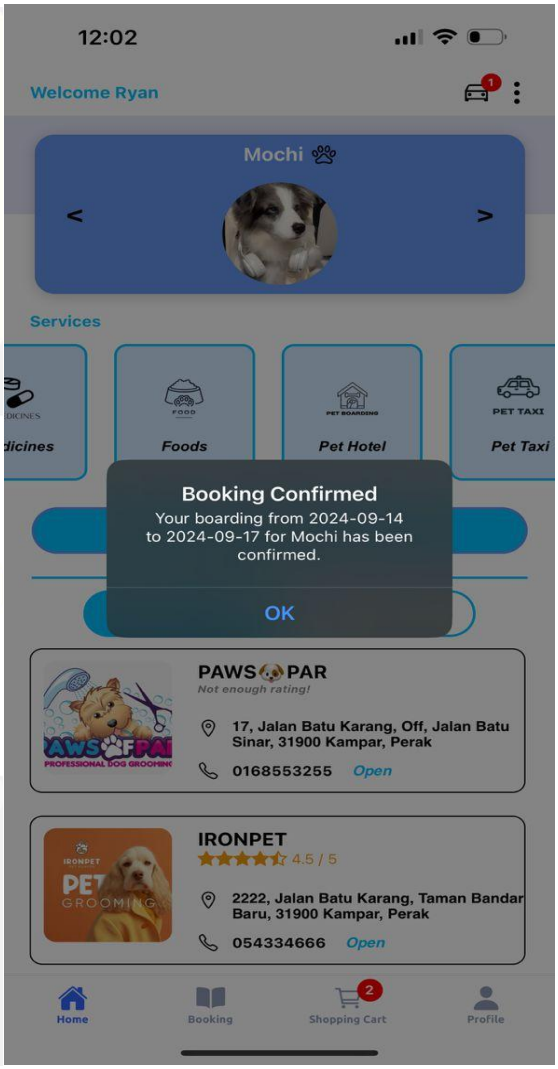


Figure 4.0.16 Booking Confirmed Alert

Figure 4.0.15: This is the booking page where the user can select the boarding date for the pet hotel. On the calendar, past dates cannot be selected. The blue text represents today's date, and the red dots under specific dates indicate that those dates are closed by the service provider.

Figure 4.0.16: This is a confirmation alert notifying the user that the boarding appointment has been successfully booked. The alert content reads: "Your booking from [start date] to [end date] for [pet's name] has been confirmed." Users can click "OK" to close the alert and will then be redirected to the home page.

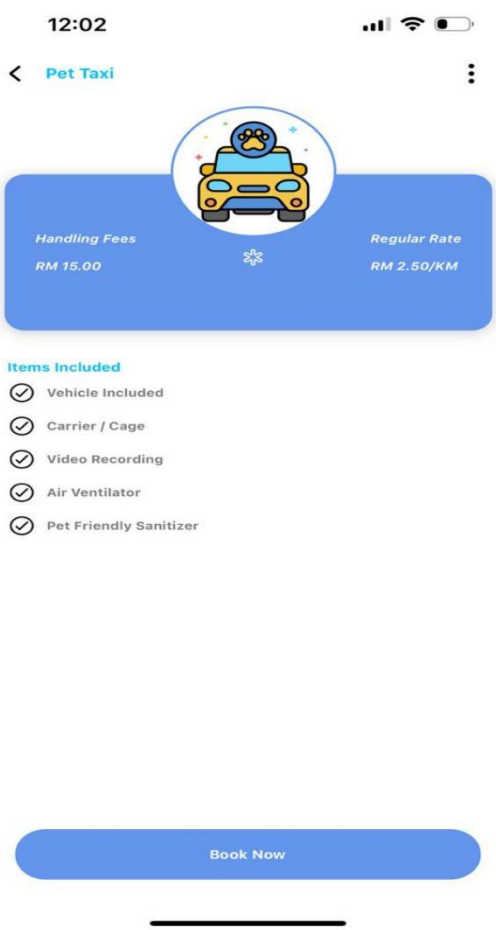


Figure 4.0.17 Pet Taxi Page

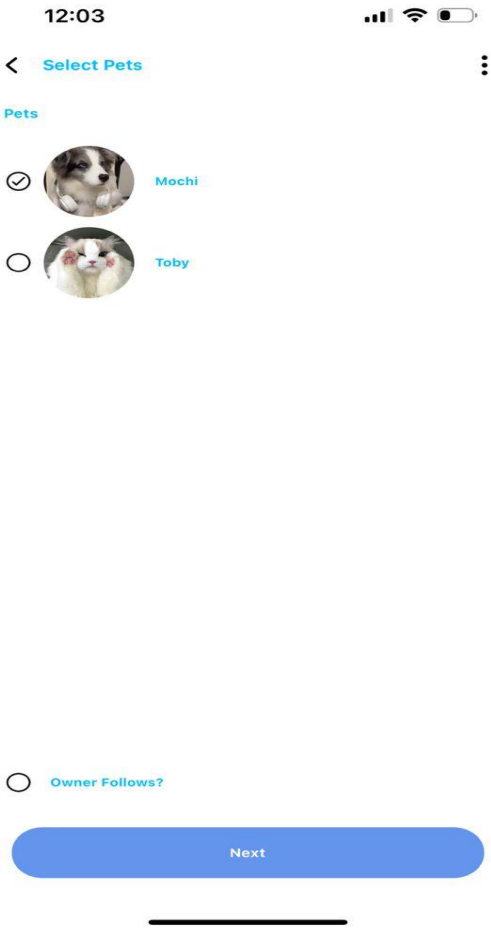
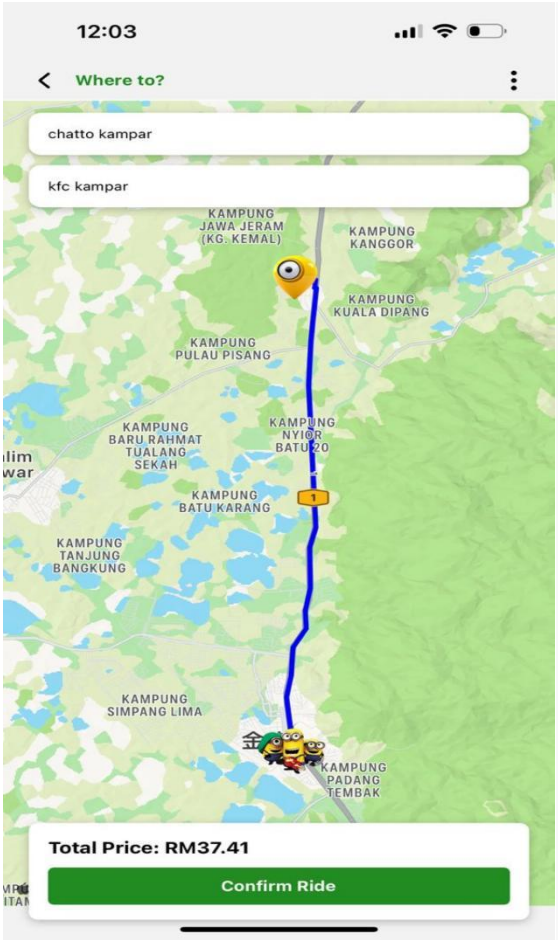


Figure 4.0.18 Select Pets

Figure 4.0.17 is displayed after the user clicks pet taxi button in home page. This page is to show the user what kind of item included inside this services. Furthermore, user can click the book now button if they want to book pet taxi.

Figure 4.0.13: This screen allows the user to select which pet they are booking for the pet taxi service.



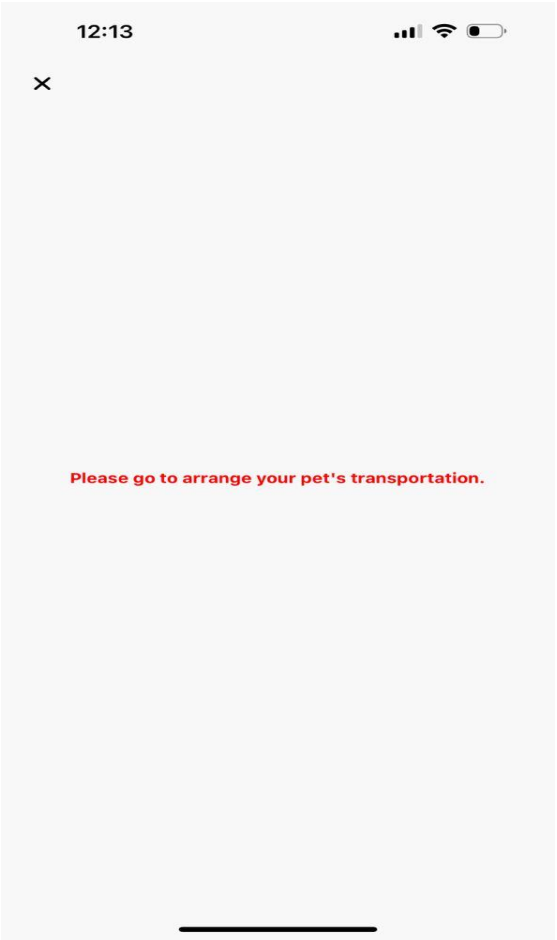


Figure 4.0.19 Pet Taxi Booking Page **Figure 4.0.20 Real time driver status**

Figure 4.0.19: This screen appears after the user clicks the "Next" button in Figure 4.0.18. It allows the user to enter the pickup location and destination. After entering the details, the route will be displayed on the map, and the price will be automatically calculated. The screen also includes a "Confirm Ride" button; clicking this button will save the booking.

Figure 4.0.20: This screen shows the current status of the pet taxi. If the message "Please go to arrange your pet's transportation" is displayed, it means that the user has not yet ordered a pet taxi.

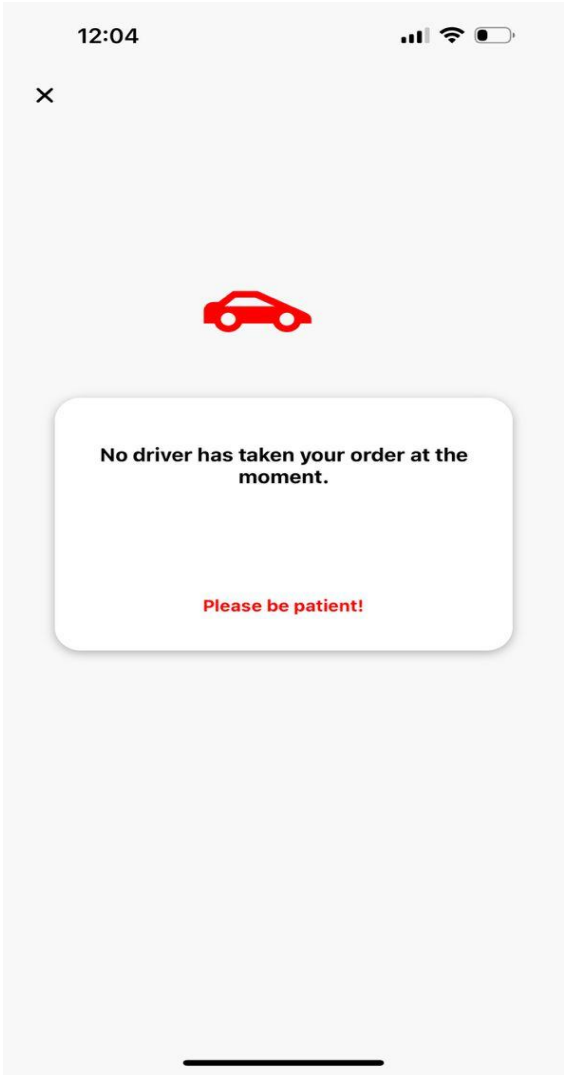


Figure 4.0.21 No driver status

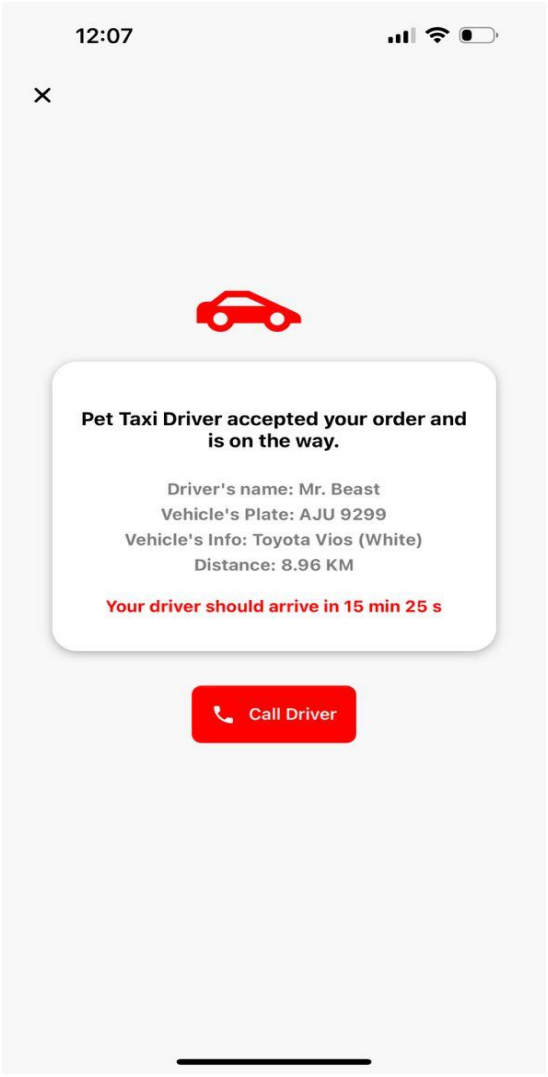
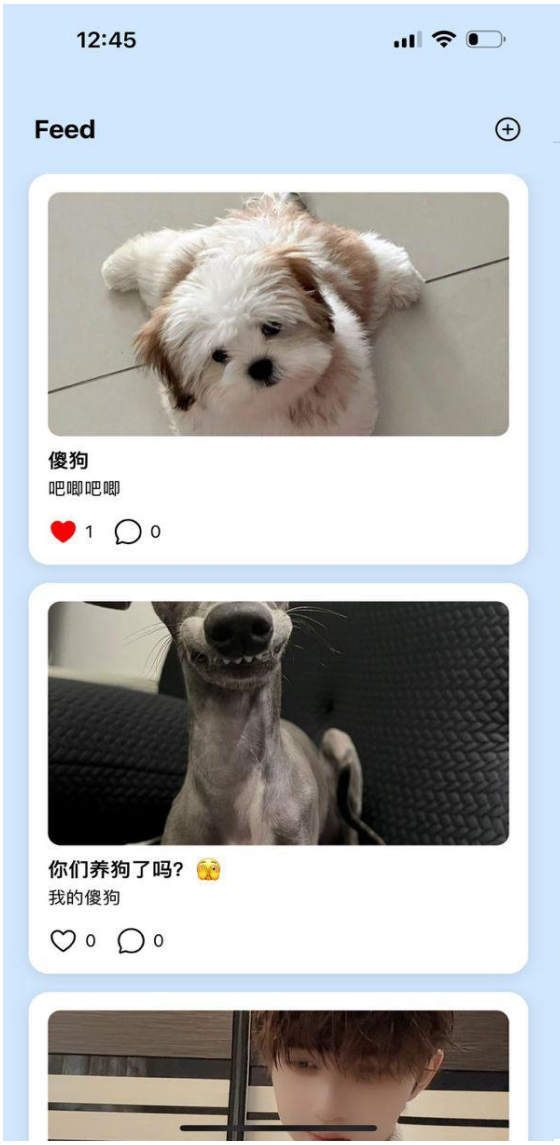


Figure 4.0.22 Accepted status

Figure 4.0.21: This screen shows the current status of the pet taxi. If the message "NO driver has taken your order at the moment" is displayed, it means that the order haven't taken by a driver.

Figure 4.0.22: This screen shows the current status of the pet taxi. If the message "Pet Taxi Driver accepted your order and is on the way" is displayed, it means that the user's had been accepted by a driver.



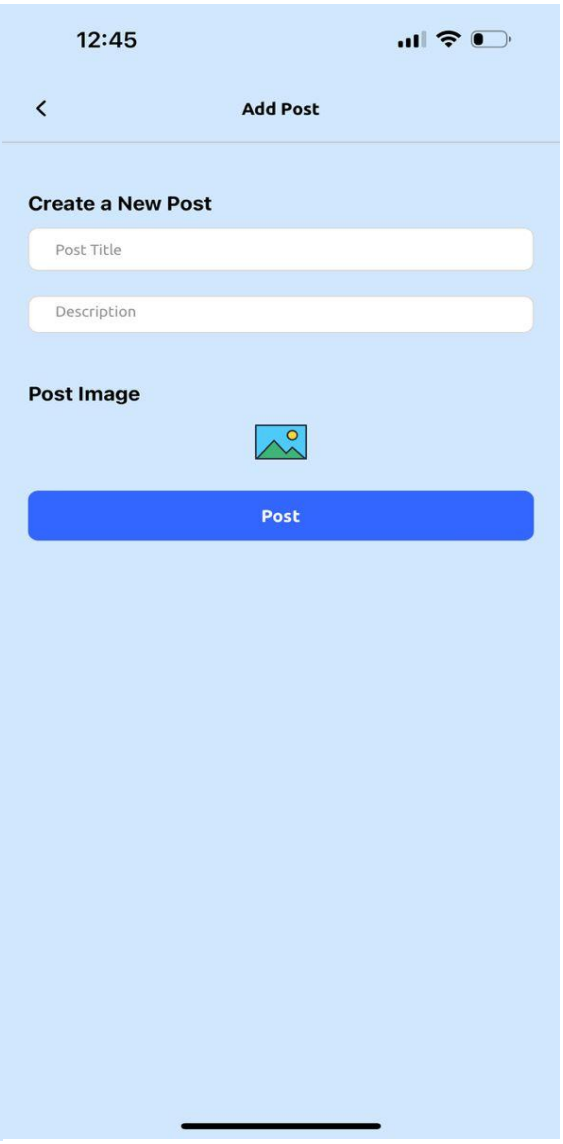
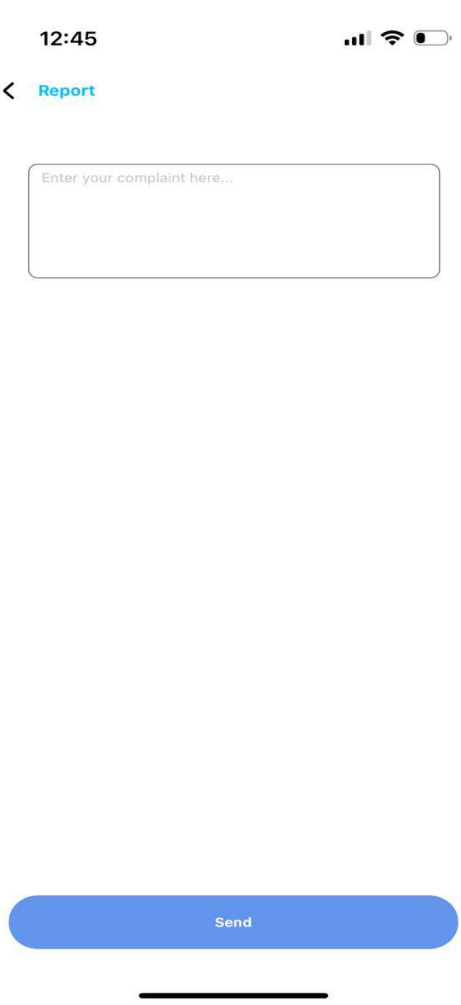


Figure 4.0.23 Community page

Figure 4.0.24 Add post page

Figure 4.0.23: This is the community page where users can share their posts with others. Each post includes an image, title, description, likes, and comments. Clicking the "Add" circle icon will navigate to Figure 4.0.24.

Figure 4.0.24: This is the "Add Post" page, where users can enter their post information and upload an image for their post.



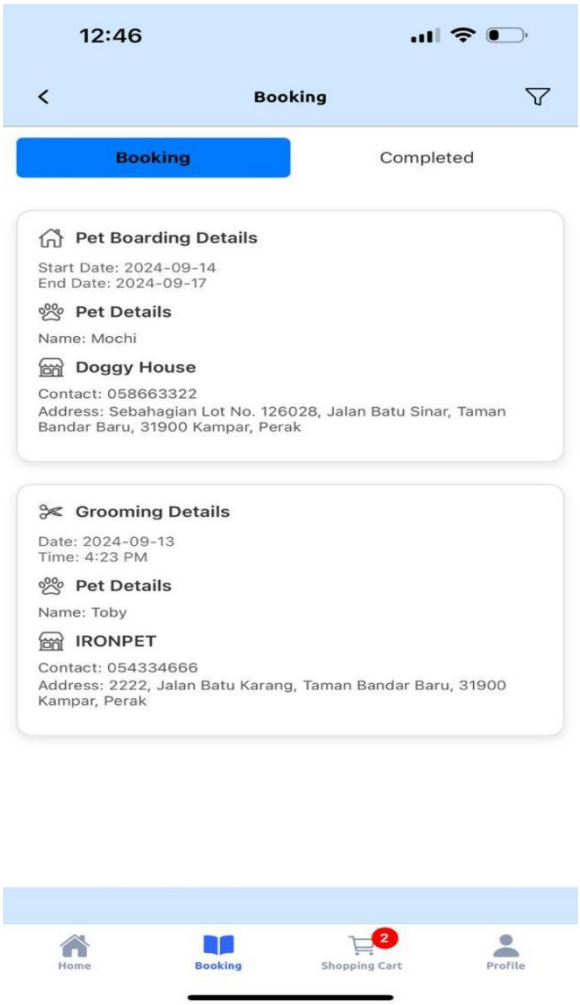


Figure 4.0.25 Report page

Figure 4.0.26 Booking tab page

Figure 4.0.25: This is the report page, featuring a long text box where users can leave their complaints. After clicking "Send," the complaint will be submitted to the admin.

Figure 4.0.26: This is the booking tab page, which displays a list of all the bookings made by the user.

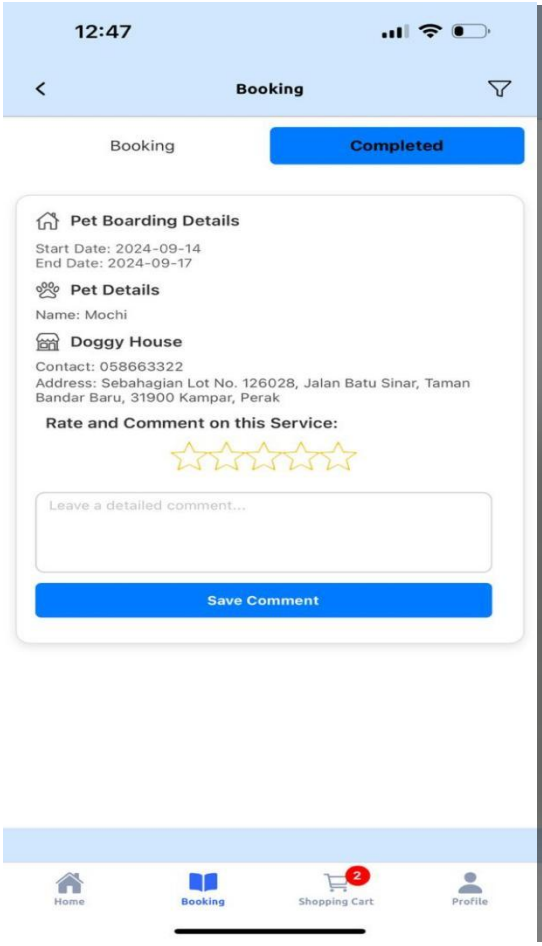


Figure 4.0.27 Booking History page

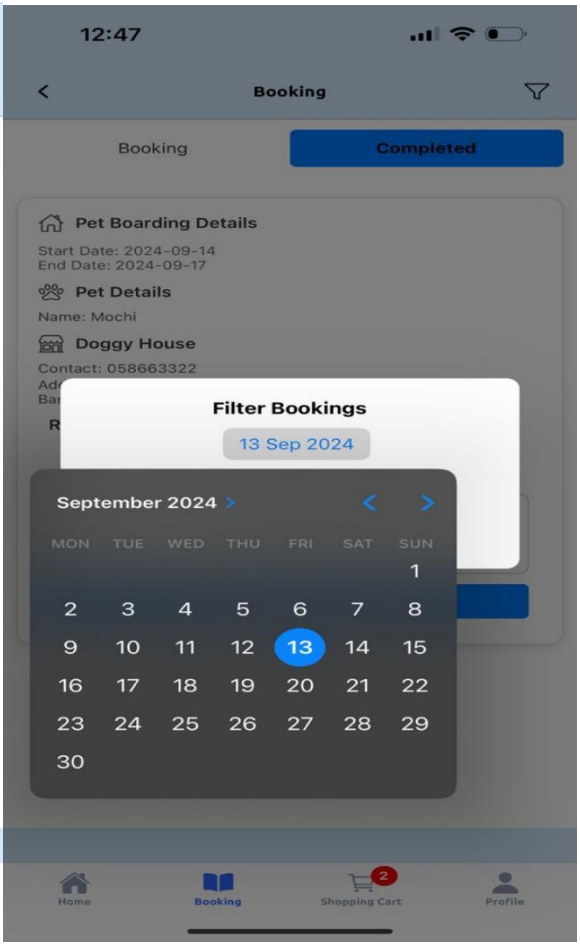


Figure 4.0.28 Filter

Figure 4.0.27: This screen displays all completed bookings. Users can rate each booking and leave a comment for the service provider.

Figure 4.0.28: This is the filter screen, allowing users to filter bookings by date and view only the bookings that match their selected criteria.

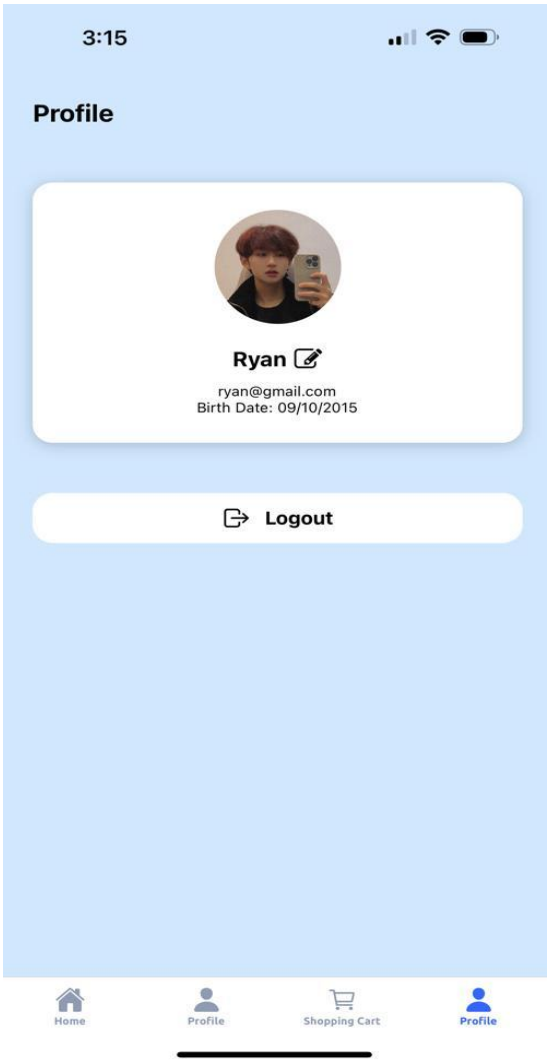


Figure 4.0.29 Filter

Figure 4.0.29 represents the Profile page, which contains user information such as profile image, email, birthdate, and username. Users can click the edit icon next to the username, which will navigate them to the edit profile page to modify their information. Additionally, within Figure 4.0.29, there is a button that allows users to logout.

Figure 4.0.30 Home Page

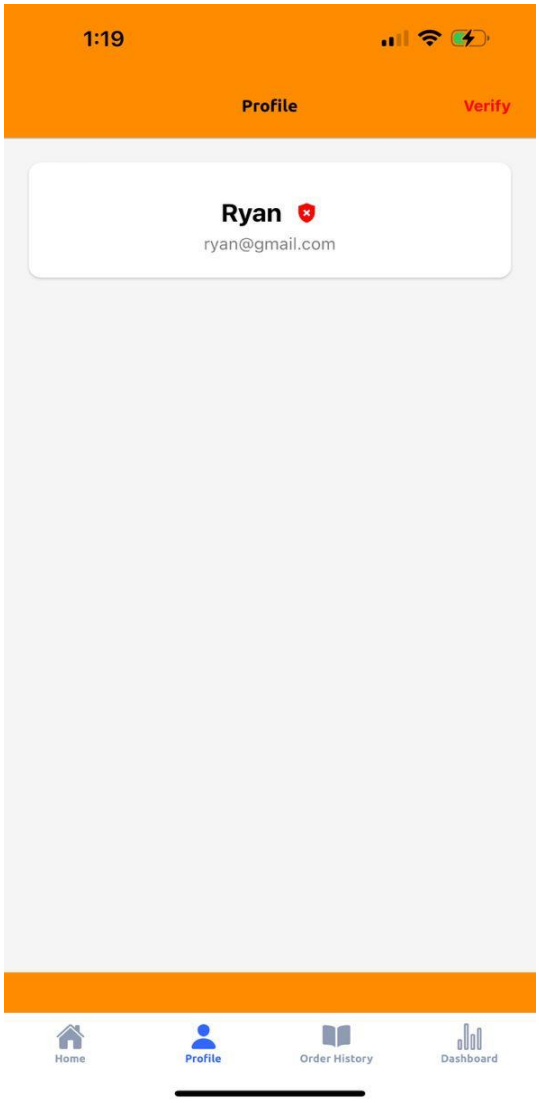


Figure 4.0.31 Profile Page

Figure 4.0.30: This is the pet taxi driver home page. If the message "Please register as a pet taxi driver" is displayed, it indicates that the driver has not yet registered their profile.

Figure 4.0.31: This is the pet taxi driver profile page. New drivers must click the "Verify" text to initiate the verification process. After verification, they need to wait for admin approval.

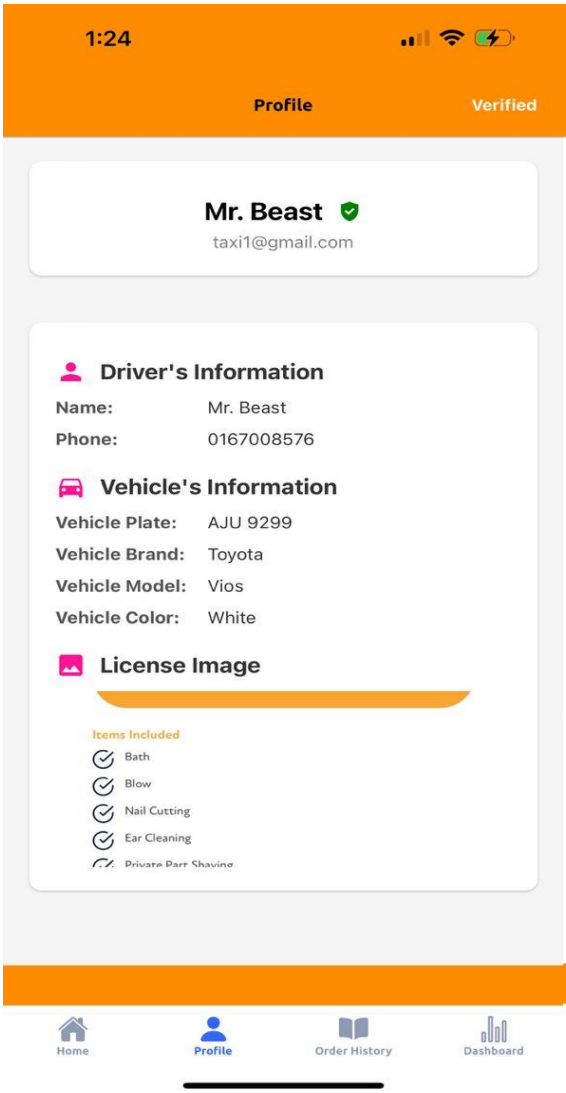


Figure 4.0.32 Verified Profile Page

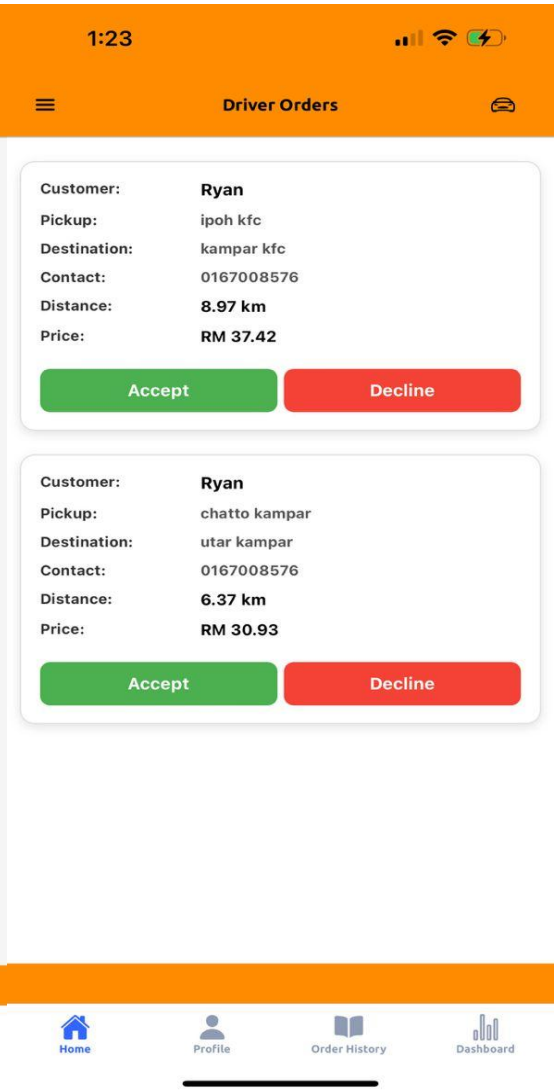


Figure 4.0.33 Verified Home page

Figure 4.0.32: This is the verified profile page, which displays the driver's verification status and all relevant driver information, including name, phone number, vehicle plate, brand, model, color, and a license image.

Figure 4.0.33: This is the verified home page, which shows all available orders. The driver can choose to either accept or decline each order.

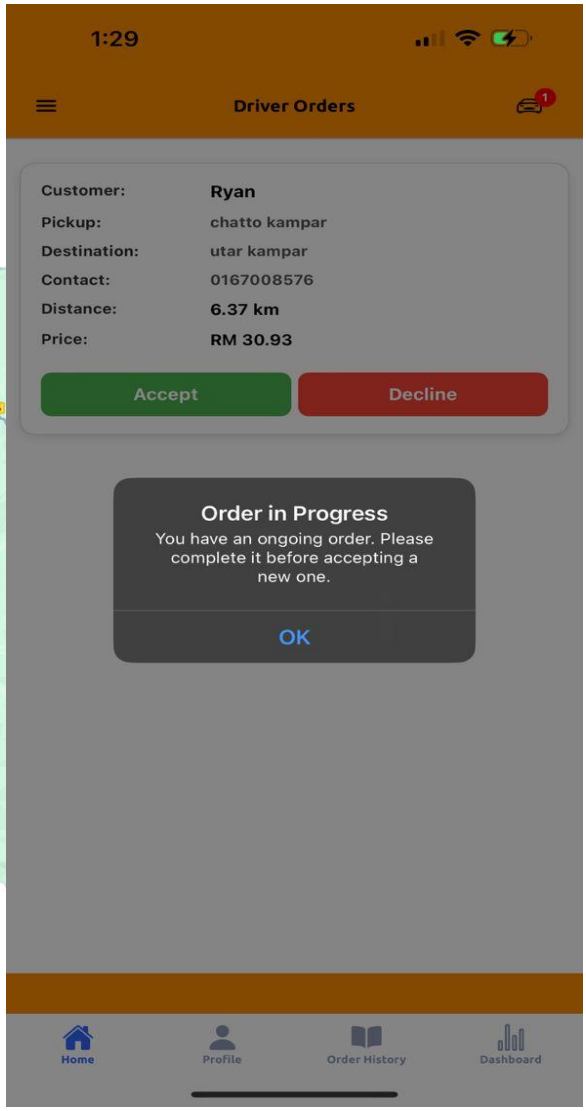


Figure 4.0.34 Google Map

Figure 4.0.35 Restriction screen

Figure 4.0.34: This screen displays Google Maps and automatically shows this map after the driver accepts an order.

Figure 4.0.35: This is a restriction screen that prevents the driver from accepting additional orders while they have an ongoing order. It shows the title "Order in Progress" and the content: "You have an ongoing order. Please complete it before accepting a new one."

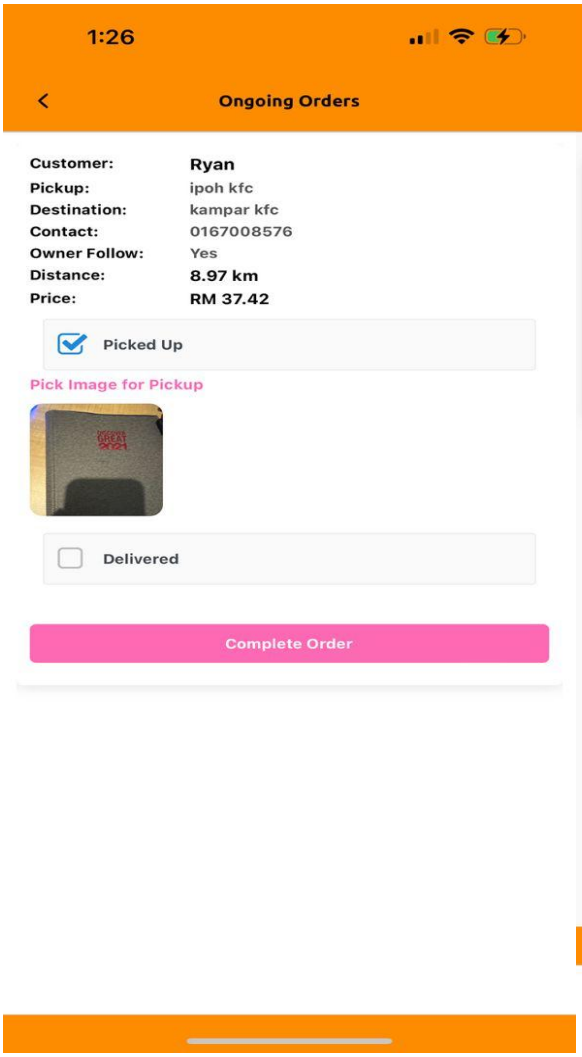


Figure 4.0.36 Ongoing Order Page

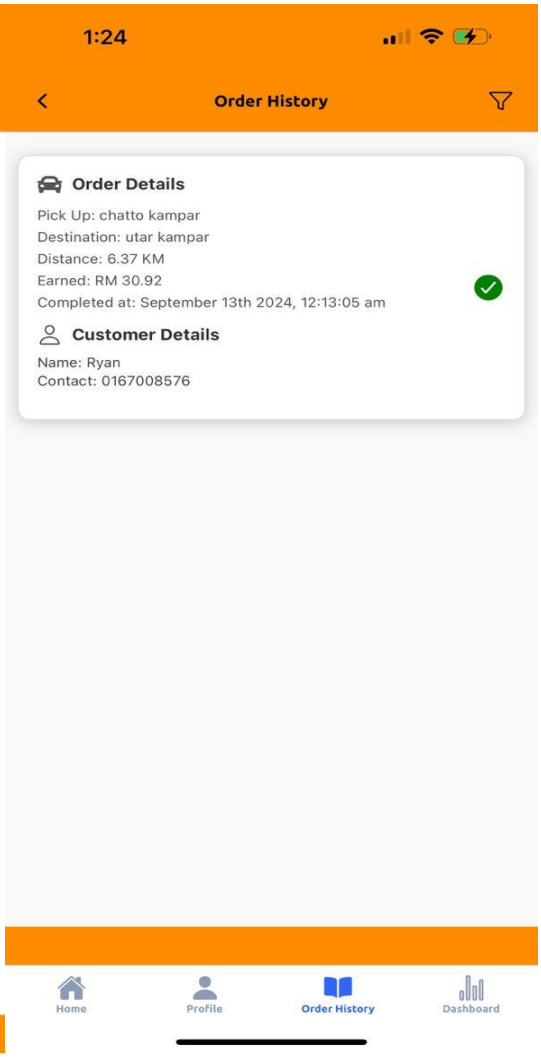


Figure 4.0.37 Order History page

Figure 4.0.36: This is the ongoing order page, where the driver is required to upload photos as evidence of pickup and delivery. The "Complete Order" button will only become clickable once all required evidence has been uploaded.

Figure 4.0.37: This is the order history page, which displays all completed pet taxi orders. It also includes a filter feature that allows the driver to filter orders by date and other criteria.

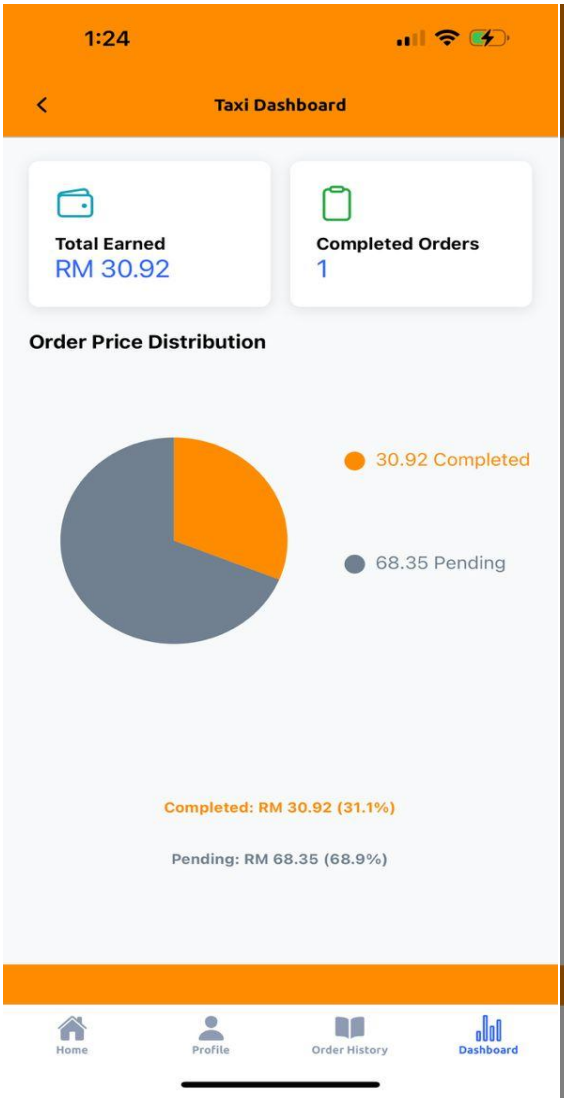


Figure 4.0.38 Dashboard Page

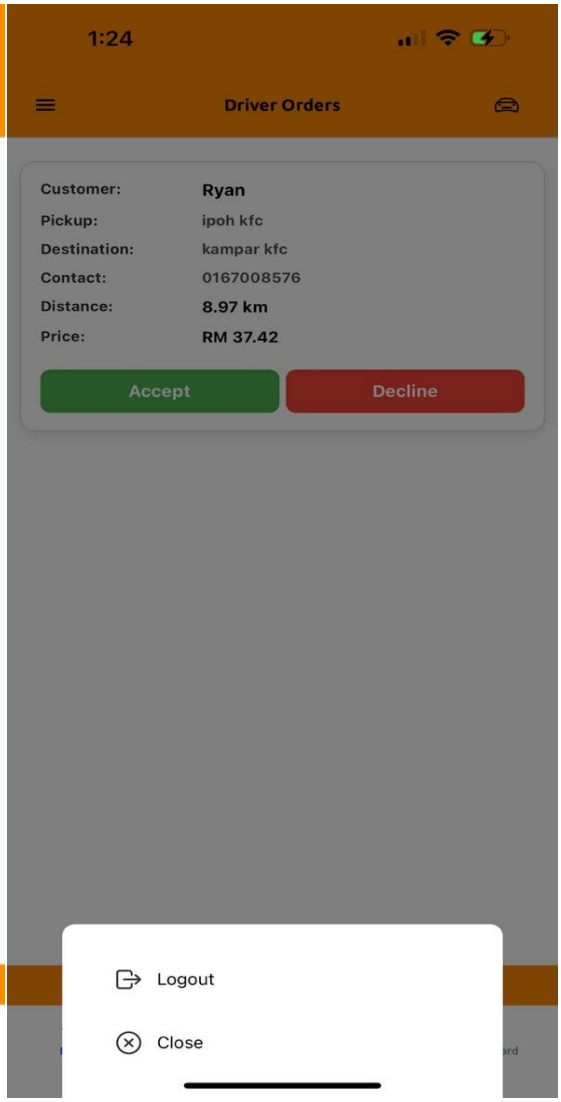


Figure 4.0.39 Modal

Figure 4.0.38: This is the Dashboard page, which displays the total earnings and the total number of completed orders. It also includes a pie chart that provides a visual representation of key information.

Figure 4.0.39: This is a modal that contains a "Logout" button. Clicking this button will log the driver out of the system.

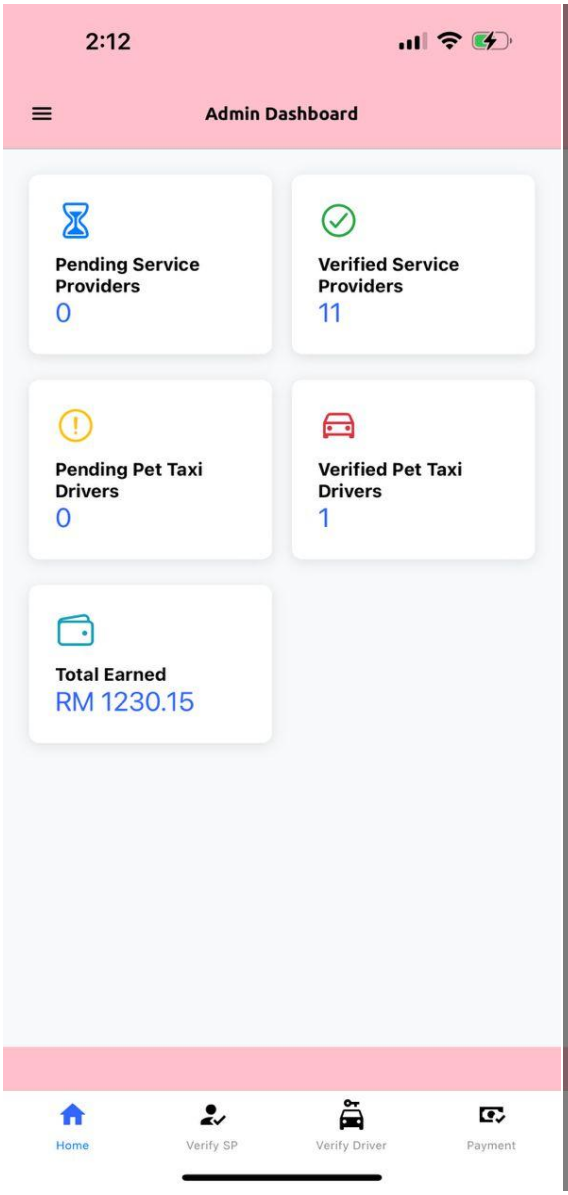


Figure 4.0.40 Admin Dashboard

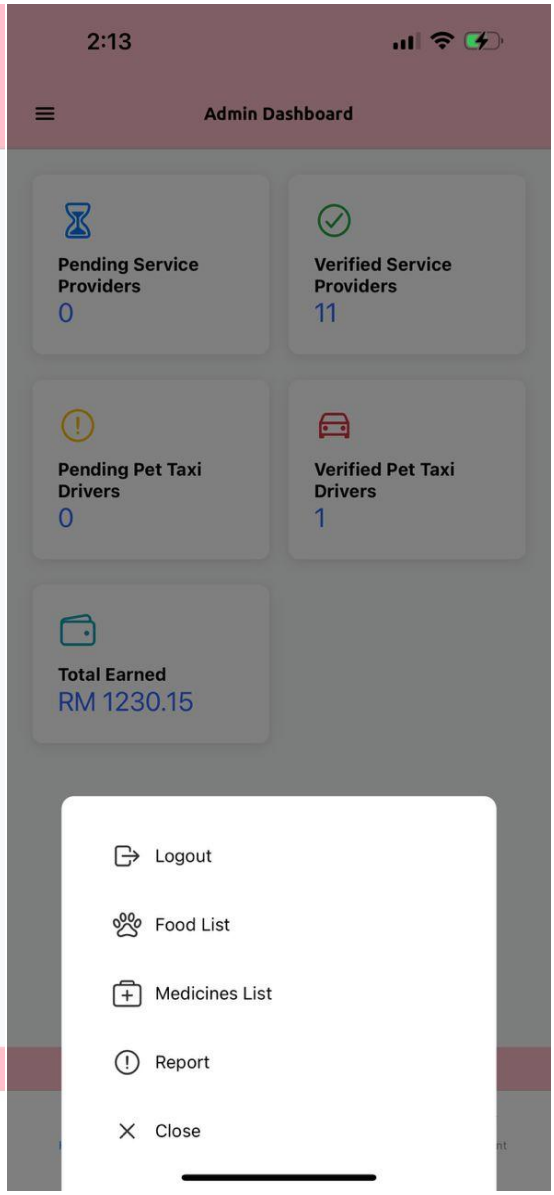


Figure 4.0.41 Modal

Figure 4.0.40: This is the admin dashboard, displaying the number of pending service providers awaiting approval, pending pet taxi drivers awaiting approval, verified pet taxi drivers, and verified service providers. Additionally, it shows the total earnings.

Figure 4.0.41: This is a modal that contains options for "Logout," "Food List," "Medicines List," "Report," and "Close." Clicking "Logout" will log the admin out, and clicking "Close" will close the modal.

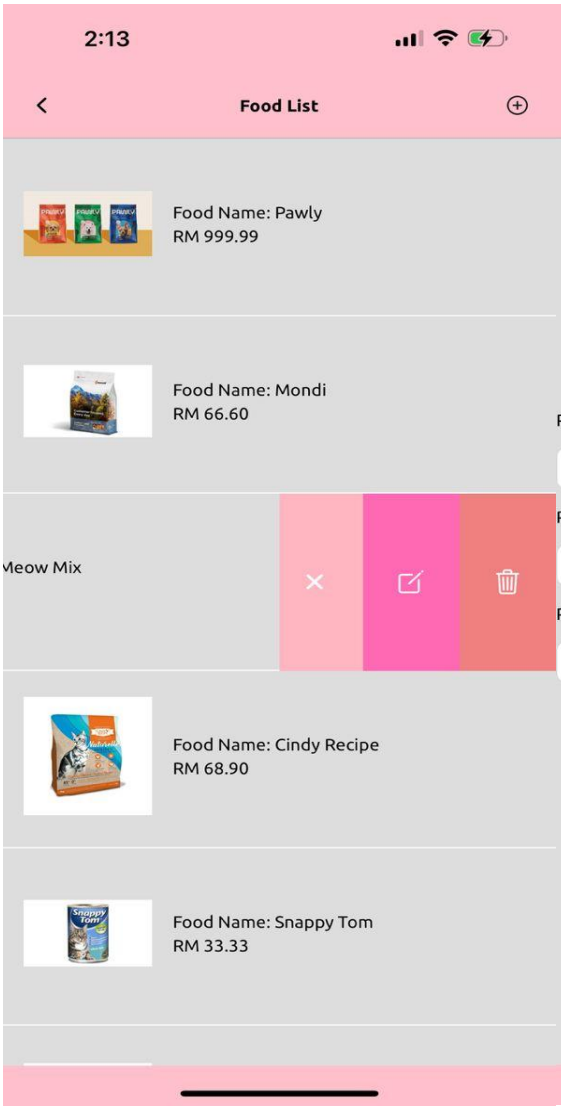


Figure 4.0.42 Food List Page

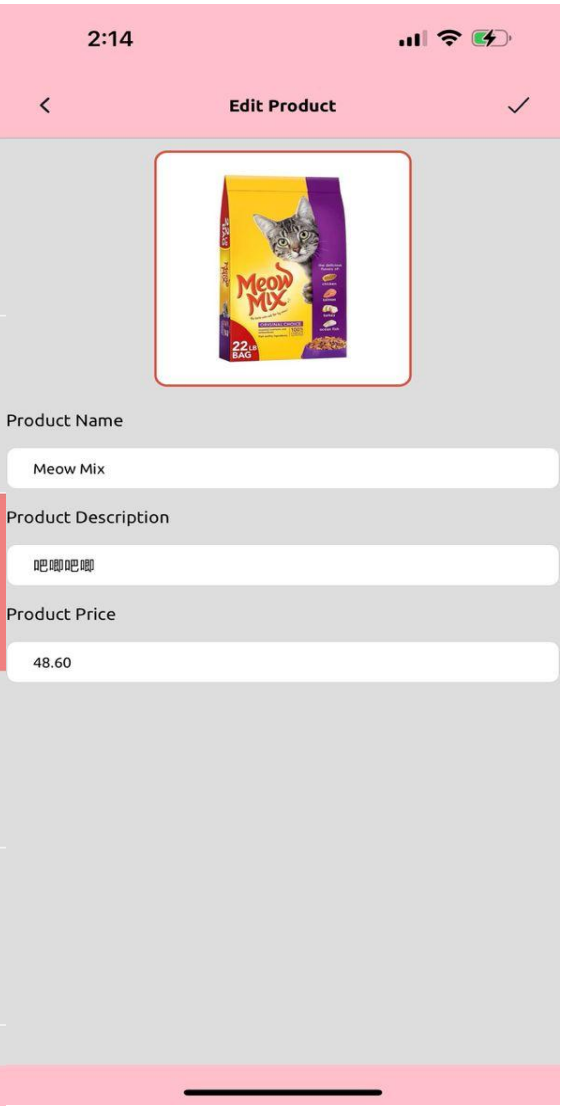


Figure 4.0.43 Edit Product Page

Figure 4.0.42: This is the food list page, displaying all available food items. Each item can be swiped to the left to reveal three hidden options: "Close," "Edit," and "Delete."

Figure 4.0.43: This is the Edit Product page, where the admin can update the details of a specific product.

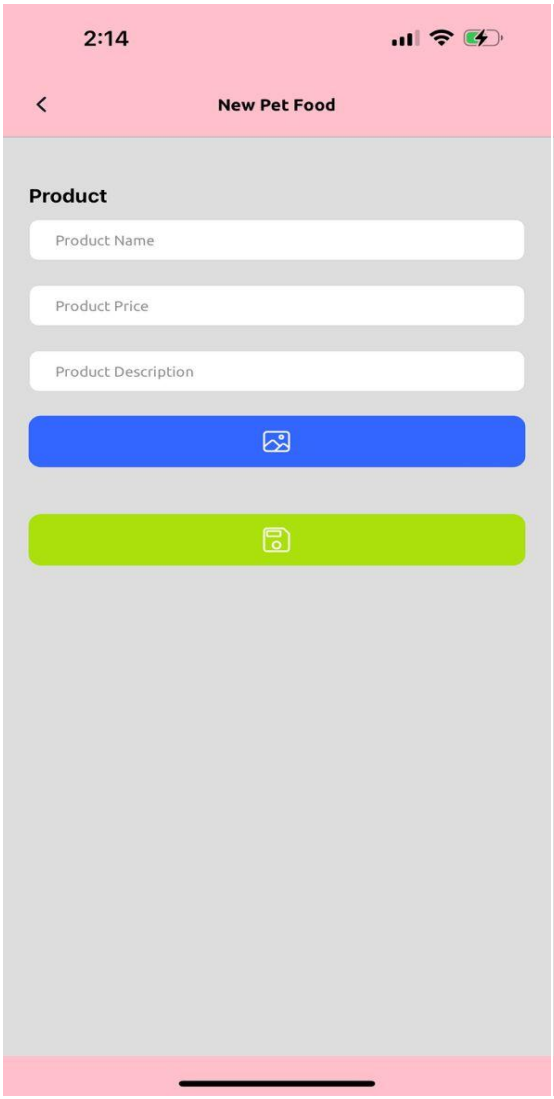


Figure 4.0.44 New Pet Food Page

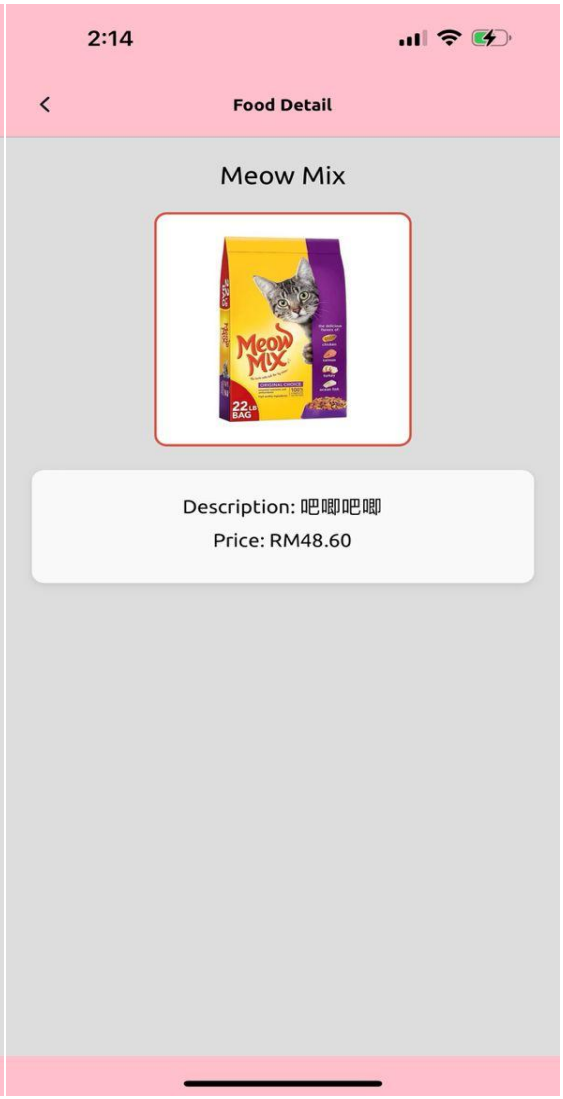


Figure 4.0.45 Food Detail Page

Figure 4.0.44: This is the "New Pet Food" page, where the admin can create a new pet food item for sale in the app. The admin needs to enter the product name, price, description, and upload a photo before clicking the "Save" button to save the product.

Figure 4.0.45: This is the "Food Detail" page, which displays detailed information about a specific food item.

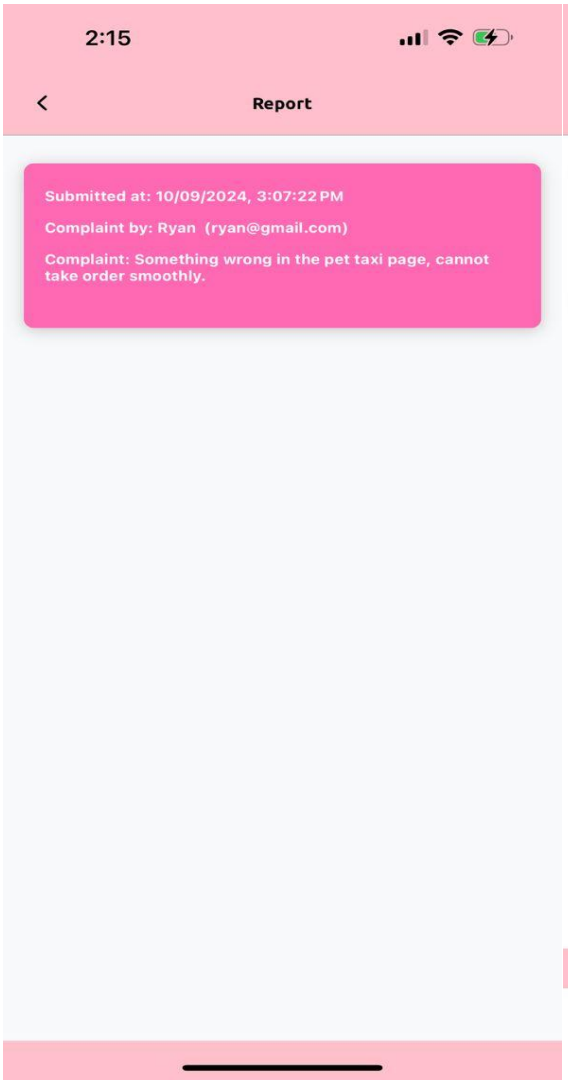


Figure 4.0.46 Report Page

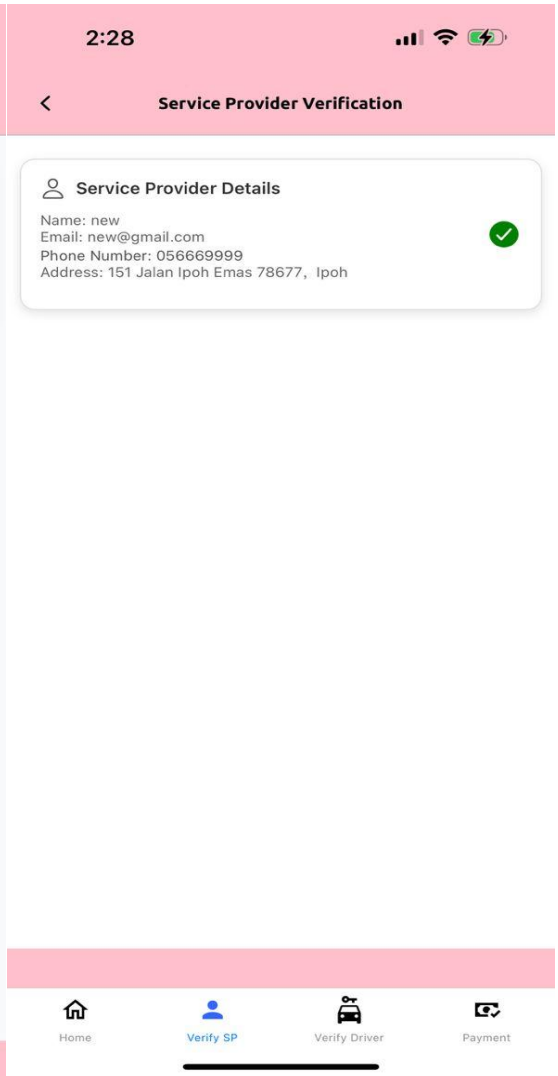


Figure 4.0.47 SP Verification Page

Figure 4.0.46: This is the "Report" page, where the admin can view complaints submitted by app users.

Figure 4.0.47: This is the "Service Provider" page, where the admin can verify service providers. It displays key information such as the provider's name, phone number, email, and address.

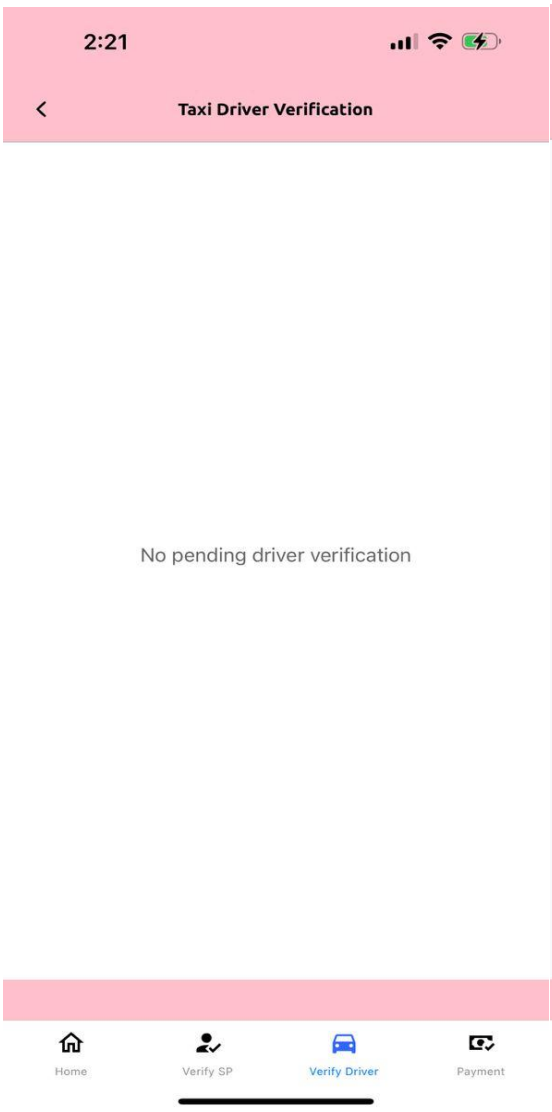


Figure 4.0.48 Taxi Driver Verification

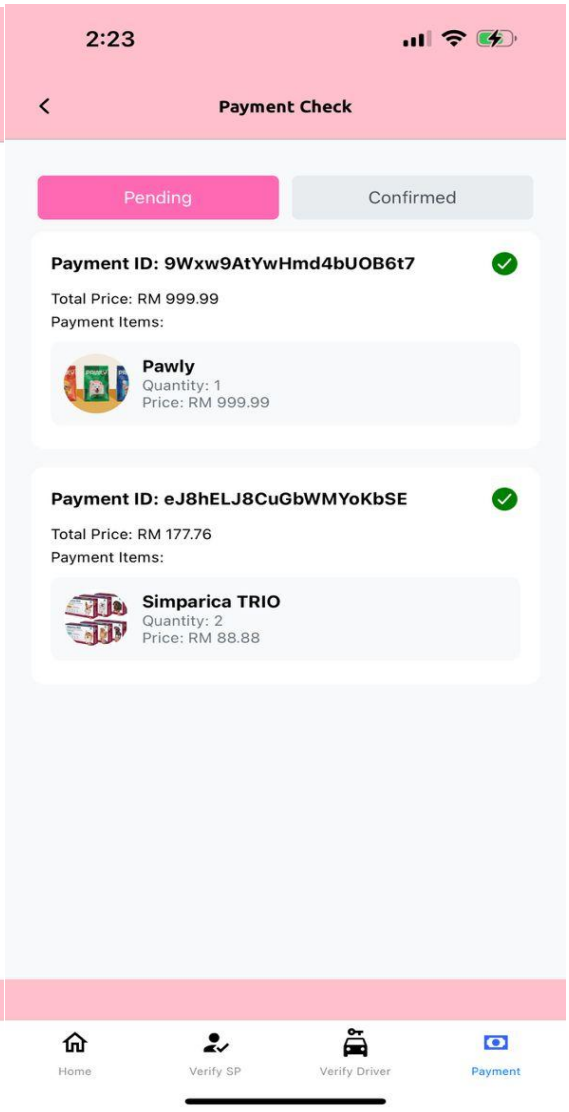


Figure 4.0.49 Payment Confirmation

Figure 4.0.48: This is the "Pet Taxi Driver Verification" page, where the admin can approve drivers. It shows necessary information about each driver, including their name, phone number, car model, license plate, car brand, and a license image. If no drivers are pending verification, the message "No pending driver verification" is displayed.

Figure 4.0.49: This is the "Payment Confirmation" page, displaying all pending payments. When the admin receives a payment, they can click the green checkmark icon to confirm it.

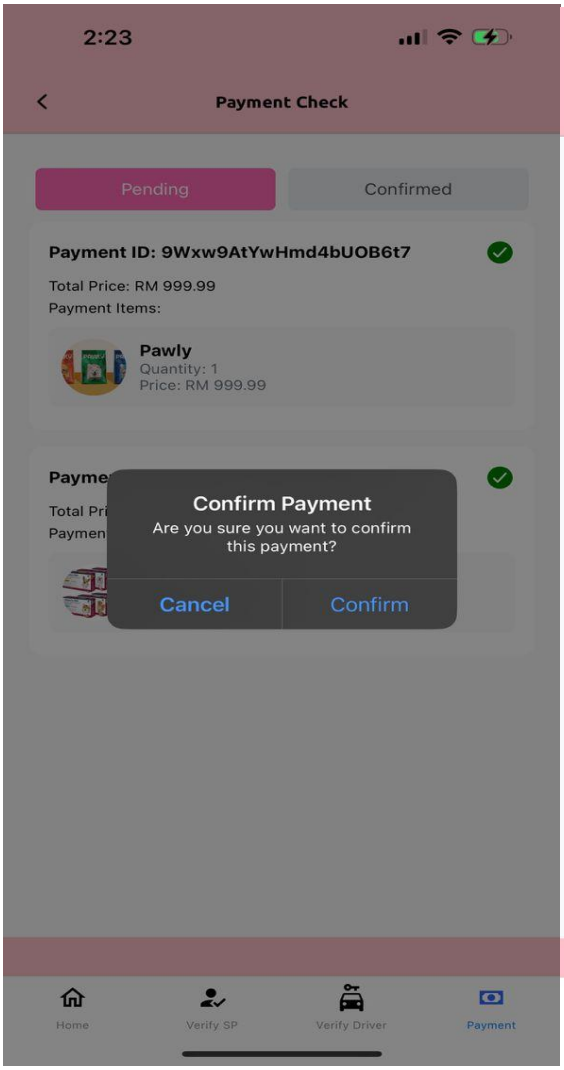


Figure 4.0.50 Confirm Payment Alert

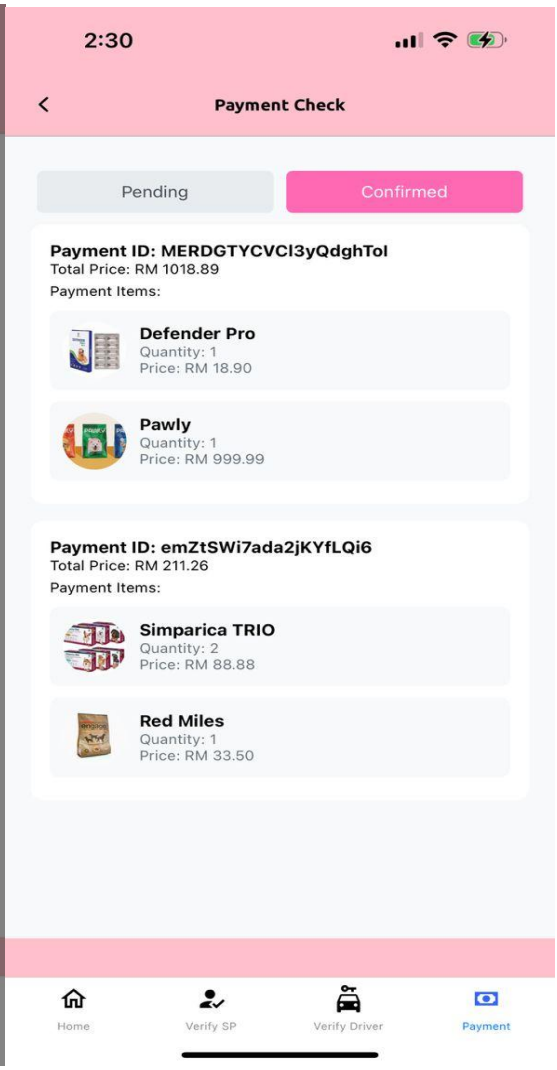


Figure 4.0.51 Confirmed Payment

Figure 4.0.50: This is the "Confirm Payment Alert." When the admin clicks the green checkmark icon to confirm a payment, an alert appears, allowing the admin to either cancel or confirm the payment.

Figure 4.0.51: This is the "Confirmed Payment" page. Once a payment is confirmed, it moves from the pending payments section to the confirmed payments section. After confirmation, the corresponding cart will be removed from the user's shopping cart page.

4.1 Setting up

4.1.1 Software

The primary software I will use in this project is React Native[13]. React Native is suitable for all devices, including websites. It speeds up development compared to a standard JavaScript page and generates pages that load faster, potentially reducing abandonment rates. Additionally, React Native allows for deploying the same code for both iOS and Android, cutting development time and costs in half.[14] Its component-based interface facilitates easy integration of interface elements, leading to superior apps. React Native also supports Firebase database and offers a wide range of third-party libraries to simplify and accelerate development.

Another software I will utilize is Firebase, serving as the database for my application. With offline data capabilities and real-time data synchronization, Firebase ensures the application's dependability and responsiveness even under challenging network conditions. Its authentication, storage, and hosting services provide a comprehensive solution for modern web and mobile app development. Integrating with third-party libraries further enhances the application's features and functionalities.[18]

Visual Studio Code serves as my primary coding platform. It is a powerful integrated development environment (IDE) that enhances productivity and simplifies the development process with various tools. Its wide library of extensions, debugging tools, and easy code editor make it suitable for building complex applications. Effective version control and developer collaboration are facilitated through its interface with Git, enabling high-quality software production quickly and easily.[19]

Lastly, I will use Expo Go, which transforms the app development process by enabling seamless testing and showcasing of apps on actual devices without the need for emulators. Expo Go eliminates the setup and configuration of emulators, allowing developers to evaluate their applications instantly by scanning a QR code. This streamlined methodology promotes quick testing and iteration, speeding up development cycles. Expo Go further enhances productivity with features like live reloading, enabling developers to view changes in real-time. It facilitates quick and easy testing on physical devices, ensuring optimized user experience and performance across platforms and devices.[20]

CHAPTER 5

System Testing

5.1 System Testing

5.1.1 PAWSOME PET UNIVERSE – Mobile Application for Admin

Steps to take	Expected Result	Actual Result (Pass/Fail)
1. Click on "Login with Email" button at welcome page	- navigate to login page	Pass
2. Click on "Enter your email" textbox	- Let admin to enter email	Pass
3. Click on "Enter your password" textbox	- Let admin to enter password	Pass
4. Click on "Login" button after user key in email and password	- Navigate admin to home page	Pass
5. Click on "Sign Up" word	- Navigate admin to register page	Pass
6. Click on "Food List" button at home page	- Navigate admin to food list page and show food list	Pass
7. Click on "Food" at food list page	- Navigate admin to food detail page and show details	Pass
8. Swipe left to show 3 hidden function	- Show hidden function	Pass
9. Click on the close hidden function	- Close the show hidden function	Pass

10. Click on the edit hidden function	- Navigate admin to edit page, admin can edit and update the food detail	Pass
11. Click on the delete hidden function	- Delete the food or medicines	Pass
12. Click on the add icon	- Navigate admin to new product page	Pass
13. Click on the “tick” at new product page	- Save the food or medicines	Pass
14. Click on the “Report” button at home page	- Navigate admin to report page and show report	Pass
15. Click on the “back”	- Navigate admin back to home page	Pass
16. Click “Verify SP” Tab	- Navigate admin to verify service provider page	Pass
17. Click on the “tick” at verify service provider page	- Approve the service provider	Pass
18. Click “Verify Driver” Tab	- Navigate admin to verify driver page	Pass
19. Click on the “tick” at verify driver page	- Approve the driver	Pass
20. Click “Payment” Tab	- Navigate admin to payment confirmation page	Pass
21. Click “Pending” button	- Show pending payment	Pass

22. Click on the “tick”	- Mark payment as completed	Pass
23. Click “Confirmed” button	- Show completed payment	Pass

Table 5.1 PAWSOME PET UNIVERSE– Mobile Application for Admin Test Case

5.1.2 PAWSOME PET UNIVERSE – Mobile Application for service provider

Steps to take	Expected Result	Actual Results (Pass/Fail)
1. Click on “Login with Email” button at welcome page	- navigate to login page	Pass
2. Click on “Enter your email” textbox	- Let user to enter email	Pass
3. Click on “Enter your password” textbox	- Let user to enter password	Pass
4. Click on “Login” button after user key in email and password	- Navigate user to home page	Pass
5. Click on “Sign Up” word	- Navigate user to register page	Pass
6. View Incoming Order	- User able to view incoming order at home page	Pass
7. Click on the “tick” icon	- User mark the order as completed	Pass
8. Click on the “filter” icon	- Let user to select what to filter	Pass

9. Click on “Mark Unavailable” button	- Navigate user to manage unavailable dates page	Pass
10. Click on the date in the calendar	- Close date or reopen date	Pass
11. Click on “Profile” tab	- Navigate user to profile	Pass
12. If user is new, click on “verify”	- Navigate user to verify page	Pass
13. Click on “Upload Certificate” button	- Let user to upload the certificate	Pass
14. Click on those “Skills”	- Let user to select the skill	Pass
15. Click “tick” icon	- Submit all the data to let admin to approve	Pass
16. View Profile	- When user is verified, they can see their information	Pass
17. Click on “Booking History” Tab	- Navigate user to booking history page	Pass
18. Click on “Dashboard” tab	- Navigate user to dashboard page that show total booking and completed booking, pie chart showing percentage of the upcoming booking and the completed booking.	Pass

19. Click on “Modal”	- Show up a modal that contain “Logout”	Pass
20. Click on “Logout”	- Log user out	Pass

Table 5.2 PAWSOME PET UNIVERSE – Mobile Application for Service Provider Test Case

5.1.3 PAWSOME PET UNIVERSE – Mobile Application for driver

Steps to take	Expected Result	Actual Results (Pass/Fail)
1. Click on “Login with Email” button at welcome page	- navigate to login page	Pass
2. Click on “Enter your email” textbox	- Let user to enter email	Pass
3. Click on “Enter your password” textbox	- Let user to enter password	Pass
4. Click on “Login” button after user key in email and password	- Navigate user to home page	Pass
5. Click on “Sign Up” word	- Navigate user to register page	Pass
6. View Incoming Order	- User able to view incoming order at home page	Pass
7. Click on “Accept” button	- User accepts the job and update the status	Pass
8. Click on “Decline” button	- User decline the job and update the status	Pass

9. Click on the “Car” icon	- navigate user to handle the ongoing order	Pass
10. Click on the “Pickup” picker	- Take or upload photo as evidence	Pass
11. Click on the “Delivered” picker	- Take or upload photo as evidence	Pass
12. Click on the “Complete Order” button	- Save those evidence and update the status	Pass
13. Click on “Profile” tab	- Navigate user to profile	Pass
14. If user is new, click on “verify”	- Navigate user to verify page	Pass
15. Click on “License” button	- Let user to upload the license	Pass
16. Click on those TextInput	- Let user to enter all driver’s data	Pass
17. Click “tick” icon	- Submit all the data to let admin to approve	Pass
18. View Profile	- When user is verified, they can view their information	Pass
19. Click on “Order History” Tab	- Navigate user to order history page	Pass
20. Click on “Filter” icon	- Let user to select what to filter	Pass
21. Click on “Dashboard” tab	- Navigate user to dashboard page that show total earned	Pass

	and completed order, pie chart showing percentage of the completed order and the pending order.	
22. Click on “Modal”	- Show up a modal that contain “Logout”	Pass
23. Click on “Logout”	- Log user out	Pass

Table 5.3 PAWSOME PET UNIVERSE – Mobile Application for Driver Test Case

5.1.4 PAWSOME PET UNIVERSE – Mobile Application for user

Steps to take	Expected Result	Actual Results (Pass/Fail)
1. Click on “Login with Email” button at welcome page	- navigate to login page	Pass
2. Click on “Enter your email” textbox	- Let user to enter email	Pass
3. Click on “Enter your password” textbox	- Let user to enter password	Pass
4. Click on “Login” button after user key in email and password	- Navigate user to home page	Pass
5. Click on “Sign Up” word	- Navigate user to register page	Pass
6. Click on “Profile” tab	- Navigate user to profile	Pass

7. Click on “Edit profile” icon	- Navigate user to update profile	Pass
8. Click on “Locate” icon	- Navigate user to update and add new address	Pass
9. Click on “Shopping Cart” tab	- Navigate user to shopping cart	Pass
10. Click the “Select Product” icon	- Select the product	Pass
21. Click the “Trash” icon	- Remove the cart	Pass
22. Click on the “Proceed to Payment” button	- Bring those data and navigate to Payment page	Pass
23. Click on the “Confirm Payment” button	- Save those data	Pass
24. Click on the “Locate” icon at Payment page	- User select address to deliver	Pass
25. Click on “Booking” tab	- Navigate usser to booking page	Pass
26. Click on “Booking” button	- Show current booking data	Pass
27. Click on “Completed” button	- Show completed booking data	Pass
28. Rate on “Star” icon	- User can rate the service after finish it	Pass
29. Comment on comment text input	- User can leave their comments	Pass
30. Click on “Filter”	- Let user to select	Pass

icon	what to filter	
24. Click on “Car” icon	- Navigate user to real time pet taxi status page	Pass
25. Click on “Call Driver” button	- Call the driver	Pass
26. Click on “Report” icon	- Navigate user to report page.	Pass
27. Click on “Send” button	- Send the complaint to admin	Pass
28. Click on “Left or Right Arrow” icon	- Swipe to another pet	Pass
29. Click on “Paw” icon	- Navigate user to create pet profile	Pass
30. Click on “Add Pet” button	- Save pet	Pass
31. Click on “Grooming” button	- Navigate user to grooming page	Pass
32. Click on “Medicines” button	- Navigate user to medicines page	Pass
33. Click on “Foods” button	- Navigate user to foods page	Pass
34. Click on “Pet Hotel” button	- Navigate user to pet hotel page	Pass
35. Click on “Veterinary” button	- Navigate user to veterinary page	Pass
36. Click on “Pet Taxi” button	- Navigate user to pet taxi page	Pass
37. Click on	- Navigate user to	Pass

"Community" button	community page	
38. Click on date in calendar	- Save the booking	Pass
39. Click on "Paw" icon	- User select pet	Pass
40. Click on "Minus or Add" icon	- Product quantity increment or decrement by 1	Pass
41. Click on "Add to Cart" button	- Save to shopping cart	Pass
42. Enter Pickup Location and Destination	- Fetch location and generate route between 2 points	Pass
43. Click on "Confirm Ride" button	- Save the route and send to driver	Pass
44. Click on "Add-Circle" icon	- Navigate user to add post page	Pass
45. Click on "Save" button	- Save post	Pass
46. Click on "Love" icon	- Like the post	Pass
47. Click on "Message" icon	- Comment the post	Pass
48. Click on "Trash" icon	- Remove comment	Pass
49. Click on "Logout"	- Log user out	Pass

Table 5.4 PAWSOME PET UNIVERSE – Mobile Application for User Test Case

CHAPTER 6

Conclusion

In conclusion, addressing the limitations of the current e-pet service application is essential to meet the diverse needs of pet owners and ensure the success of the platform.

Expanding the range of services offered by the application to include washing, grooming, and access to veterinarians with first-aid certification will not only attract more users but also enhance user satisfaction and loyalty. By providing comprehensive pet care solutions, the application can position itself as a leader in the industry and mitigate the risk of losing revenue and market share to competitors.

Additionally, building trust among pet owners is crucial for the success of the platform. Implementing robust systems for verifying the credentials and experience of service providers, as well as establishing transparent rating and review systems, can help alleviate concerns about the trustworthiness of pet care services. This will encourage more pet owners to use the application with confidence, further expanding its user base.

Furthermore, improving the flexibility and efficiency of the scheduling process is imperative to address the issue of no-shows and last-minute cancellations. Implementing a comprehensive booking reminder and confirmation system, as well as offering flexible scheduling options, can help minimize disruptions to business operations and enhance customer satisfaction.

Overall, by addressing these key concerns and continuously improving the user experience, the e-pet service application can establish itself as a trusted and indispensable resource for pet owners, ensuring its long-term success in the pet care industry.

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Appendix

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Y3T3	**Study week no.: 9**
Student Name & ID: Lim Chun Keat & 21ACB06750	
Supervisor: Dr Noraini Binti Ibrahim	
Project Title: E-pet Service Apps for Kampar Residential Mobile Application	

1. WORK DONE

- Implemented order history for driver to view order history and also added filter to let driver filter the order.
- Implemented booking history for user to view order history and also added filter to let user filter the order.

2. WORK TO BE DONE

- Implement rating system for user to rate on the service provider that provide services to user after booking completed and the rating data will be used future.

3. PROBLEMS ENCOUNTERED

- When implementing the filter, it can be confusing, and it's unclear what criteria to use for allowing both users and drivers to filter.

4. SELF EVALUATION OF THE PROGRESS

- Progress is on track with planned timelines.

Supervisor's signature

Student's signature

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Y3T3	**Study week no.: 10**
Student Name & ID: Lim Chun Keat & 21ACB06750	
Supervisor: Dr Noraini Binti Ibrahim	
Project Title: E-pet Service Apps for Kampar Residential Mobile Application	

1. WORK DONE

- Implemented a dashboard for drivers to view their total earnings for a specific month.
- Implemented a pie chart to display the percentage breakdown of the driver's earnings.
- Implemented rating system for user to rate on the service provider that provide services to user after booking completed and the rating data will be used future.

2. WORK TO BE DONE

- Do testing on these applications and make sure they work smoothly.
- Do some enhancement to make these applications better.

3. PROBLEMS ENCOUNTERED

- The calculation of the average rating needs to take some time to figure out.

4. SELF EVALUATION OF THE PROGRESS

- Progress is on track with planned timelines.

Supervisor's signature

Student's signature

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Y3T3	**Study week no.: 11**
Student Name & ID: Lim Chun Keat & 21ACB06750	
Supervisor: Dr Noraini Binti Ibrahim	
Project Title: E-pet Service Apps for Kampar Residential Mobile Application	

1. WORK DONE

- Implemented the pet taxi service using the Google Maps API to link with Google Maps and automatically guide the driver to the correct location.
- Implemented the pet taxi booking system, allowing users to input the pickup location and destination, with route calculation included.
- Implemented the ongoing order feature for drivers to update the status of active orders and upload evidence.

2. WORK TO BE DONE

- Redesigned the layout of the home page.

3. PROBLEMS ENCOUNTERED

- When users input their pickup and destination points, the system occasionally experienced delays in calculating the route, especially during times of high traffic or heavy system usage.

4. SELF EVALUATION OF THE PROGRESS

- Progress is on track with planned timelines.

Supervisor's signature

Student's signature

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Y3T3	**Study week no.: 12**
Student Name & ID: Lim Chun Keat & 21ACB06750	
Supervisor: Dr Noraini Binti Ibrahim	
Project Title: E-pet Service Apps for Kampar Residential Mobile Application	

1. WORK DONE

- Redesigned the home page layout, incorporating modern design principles and user feedback to create a more intuitive and engaging interface.

2. WORK TO BE DONE

- Prepare documentation and presentation.
- Looking for further improvement on these applications.

3. PROBLEMS ENCOUNTERED

- No

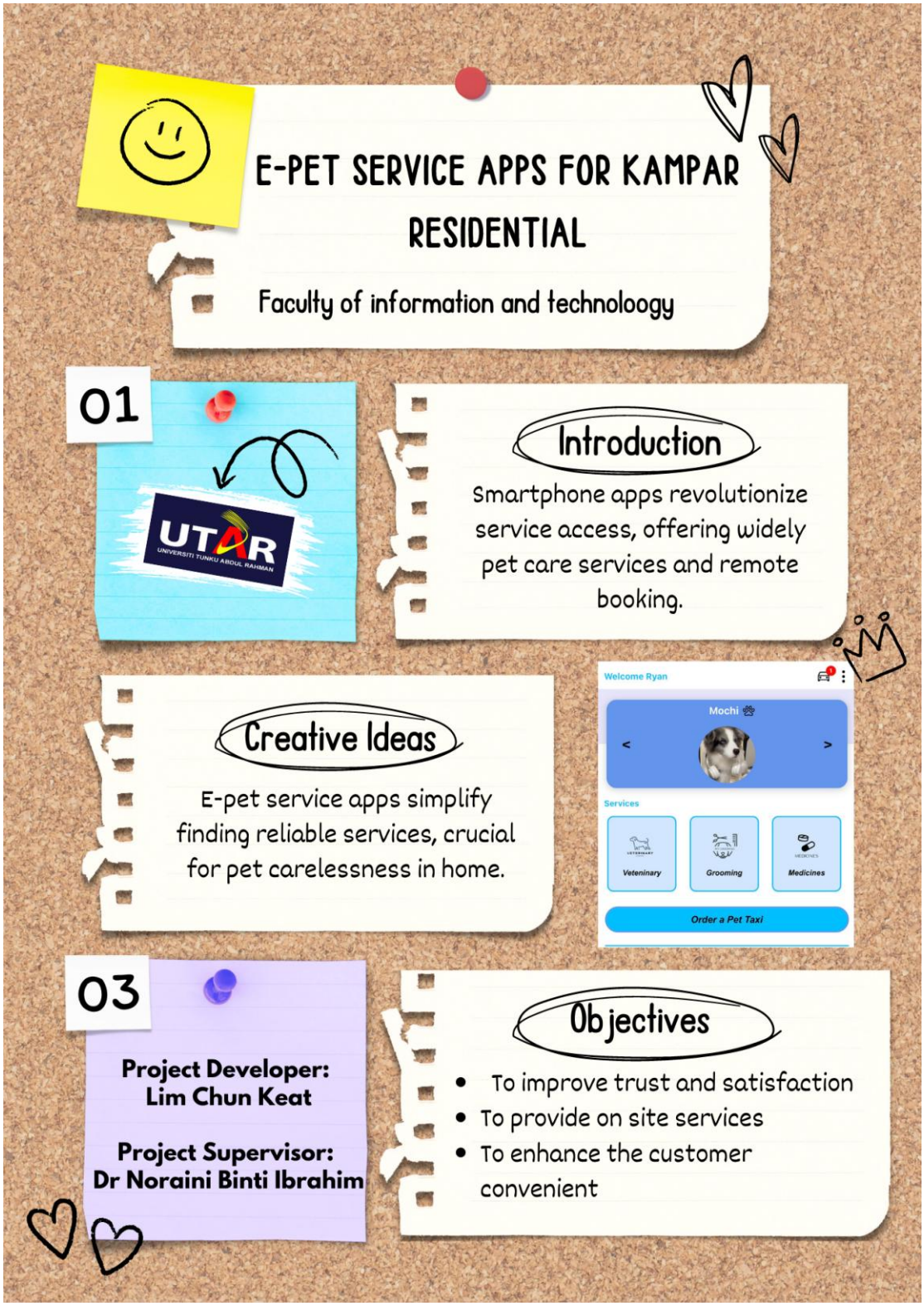
4. SELF EVALUATION OF THE PROGRESS

- Overall project completion is on track.

Supervisor's signature

Student's signature

POSTER


E-PET SERVICE APPS FOR KAMPAR RESIDENTIAL
Faculty of information and technoloogy
01
UTAR
UNIVERSITI TUNKU ABDUL RAHMAN
Introduction
Smartphone apps revolutionize service access, offering widely pet care services and remote booking.
Creative Ideas
E-pet service apps simplify finding reliable services, crucial for pet carelessness in home.
Welcome Ryan
Mochi
Services
Veteninary
Grooming
Medicines
Order a Pet Taxi
03
Project Developer:
Lim Chun Keat
Project Supervisor:
Dr Noraini Binti Ibrahim
Objectives
To improve trust and satisfaction
To provide on site services
To enhance the customer convenient

PLAGIARISM CHECK RESULT

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Signature of Supervisor

Name: Dr Noraini Binti Ibrahim

Date: 13/09/2024

Signature of Co-Supervisor

Name: _____

Date: _____

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