



ITS64604 Principles of Software Engineering

ASSIGNMENT 2

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1.0 Modified Use Cases

1.1 Use Case: User Login Management System



1.2 Appointment Scheduling System



1.2.1 Use Case Description

Use Case Name	Basic Flow @Happy Path	Alternate Flow @ Alternate Path	Exception Flow @ Exception Pathway
UC02.0: Search doctor	The patient searches for a doctor using specific criteria and filters to find suitable options.	The patient searches for a doctor and refines the search using additional filter criteria.	The system does not return any doctors matching the criteria, prompting the user to adjust the search filters.
UC02.1: Select doctor	The patient selects a doctor from the search results for more detailed information.	The patient selects multiple doctors to compare their profiles and choose the most suitable one.	The system experiences a delay in loading the doctor's profile, prompting the patient to retry or choose another doctor.
UC02.2: View doctor's info	The patient views detailed information about the selected doctor, including qualifications, specialties, and availability.	The patient views comparative profiles of multiple doctors for better decision-making.	Due to a system error, the detailed information is not displayed correctly, prompting the patient to refresh the page or select another doctor.
UC02.3: Book an appointment	The patient books an appointment with the selected doctor.	The patient books multiple appointments with different doctors to choose the best timing and availability.	The appointment booking fails due to a system error or scheduling conflict, prompting the patient to select a different time or doctor.
UC02.4: Choose date and time	The patient chooses a suitable date and time for the appointment from the available slots.	The patient chooses multiple preferred dates and times to increase the chances of getting an appointment.	The patient chooses multiple preferred dates and times to increase the chances of getting an appointment.
UC02.5: Confirm appointment	The patient confirms the selected date and time for the appointment.	The patient confirms multiple appointments and chooses the most convenient one later.	The confirmation fails due to a system error, prompting the patient to retry or contact support.
UC02.6: Manage appointment	The patient manages their appointment details, including rescheduling or cancelling if necessary.	The patient updates multiple appointments simultaneously to ensure the best timing and availability.	The system fails to update the appointment details due to a system error, prompting the patient to retry or contact support.
UC02.7: Handling appointment requests	The admin handles incoming appointment requests, ensuring they	The admin prioritises urgent or high-priority appointment requests	The system experiences a delay in processing appointment

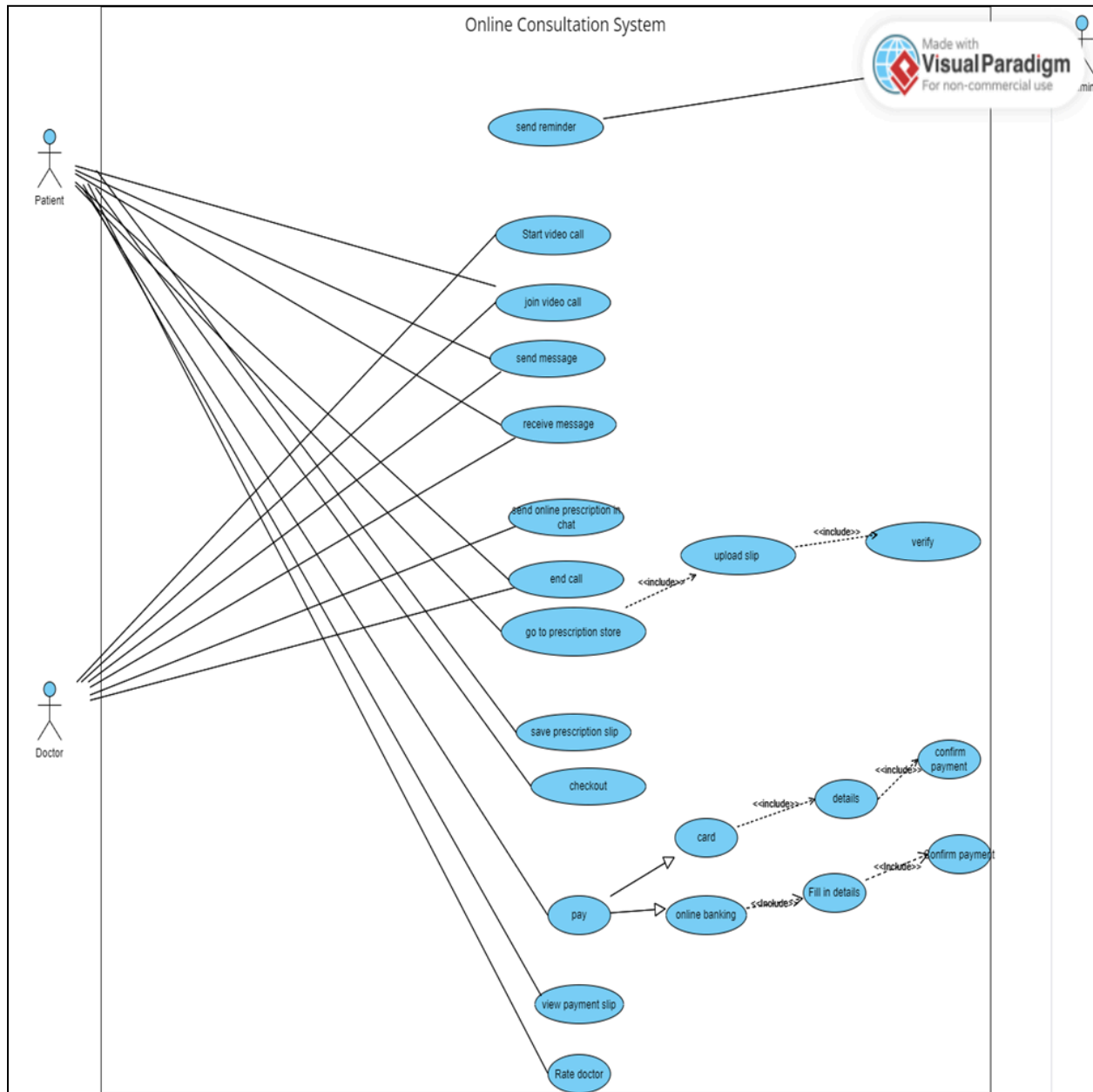
	are scheduled appropriately.	to ensure timely scheduling.	requests, prompting the admin to manually intervene.
UC02.8: Scheduling appointments	The admin schedules appointments based on availability and patient preferences.	The admin schedules multiple appointments simultaneously to maximise efficiency.	The scheduling process fails due to a system error or conflict, prompting the admin to reschedule manually.
UC02.9: Managing changes and cancellations	The admin manages changes and cancellations, ensuring the system reflects the current status accurately.	The admin proactively manages potential changes and cancellations to minimise disruption.	The system fails to process changes or cancellations accurately due to a system error, prompting the admin to manually intervene.

1.2.2 Use Case Specifications

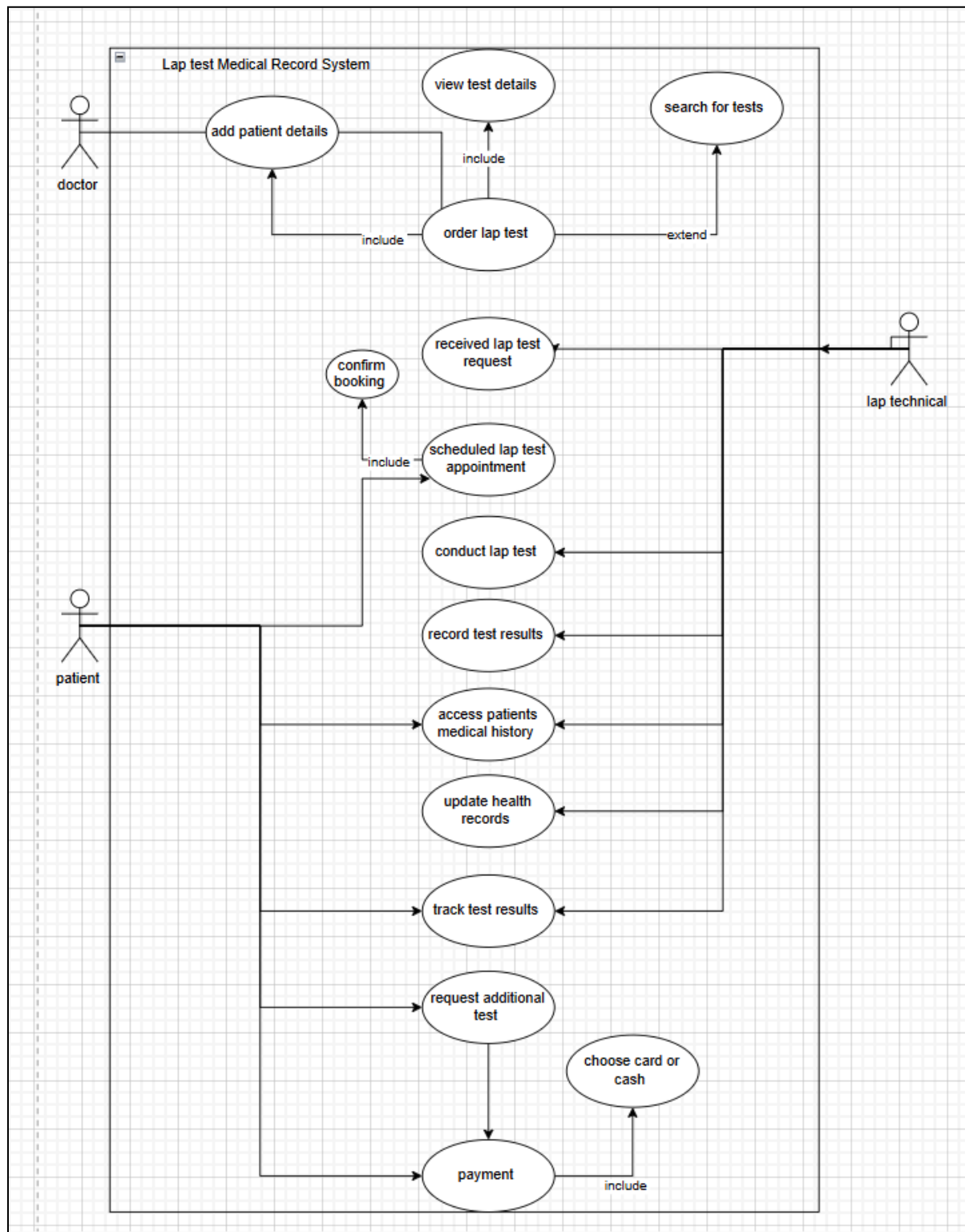
Name: Booking online appointment

- **Description:** Users can place an already-paid prescription order by: uploading a prescription slip written by their doctor/pharmacist, which will then be verified by an admin. The user then needs to supply a real and valid delivery address and confirm the order.
- **Author(s):** Nurul Syaziah
- **Actor(s):** User, doctor and admin.
- **Location(s):** User's smartphone, admin's computer.
- **Status:** Active.
- **Priority:** High (Users depend on this functionality to book an online consultation)
- **Assumption(s):** The user already booked an appointment with different doctors
- **Precondition(s):** User must be logged into the system. The user must specify criteria in the search by filter section for their healthcare provider search (e.g., specialist, state, city).

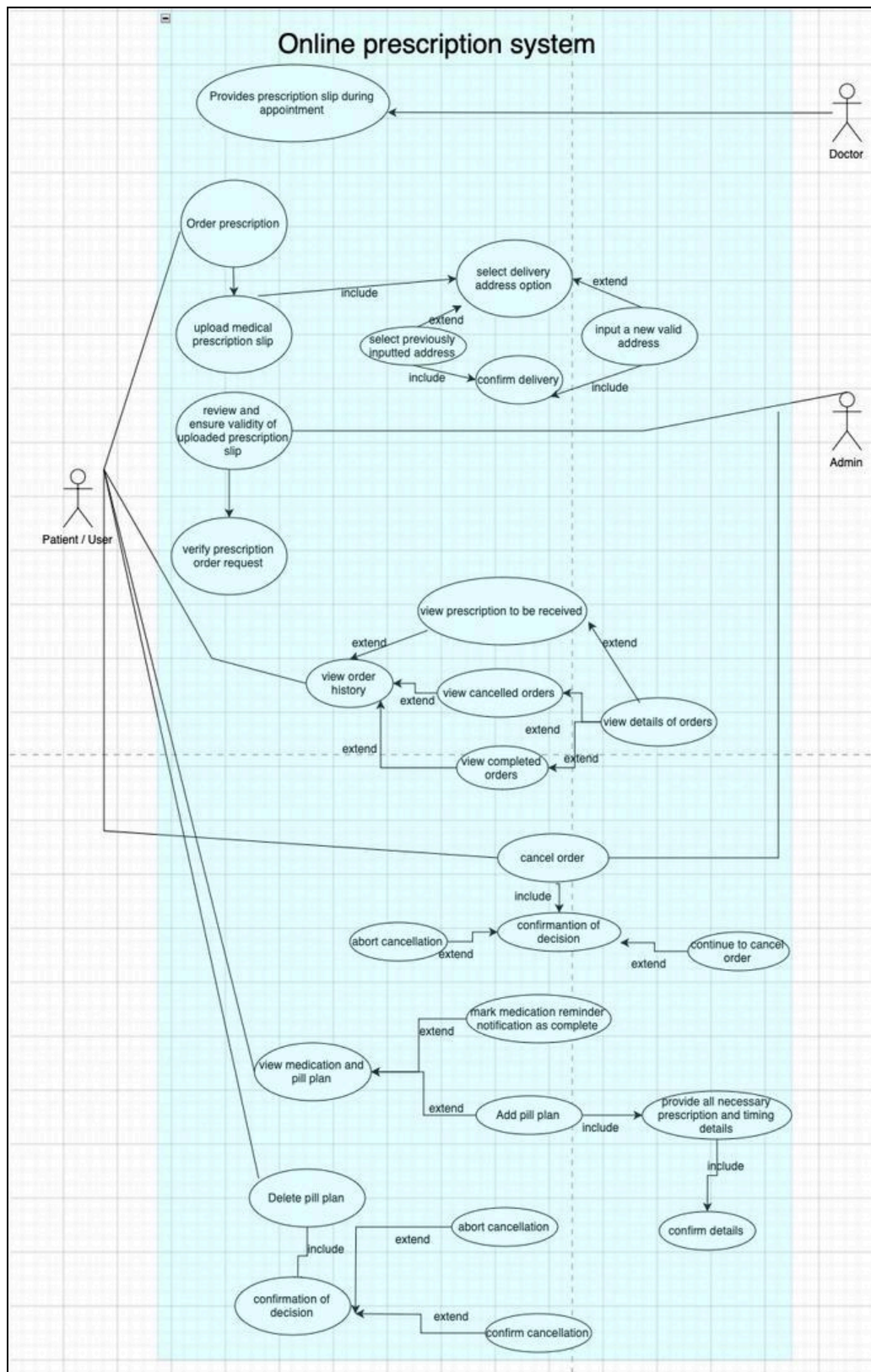
1.3 Use Case: Online Consultation Management System



1.4 Use Case: Lab Test and Medical Record System



1.5 Use Case: Online Prescription System



1.5.1 Use Case Description

Use Case Name	Basic Flow @Happy Path	Alternate Flow @ Alternate Path	Exception Flow @ Exception Pathway
UC05.0: Order Prescription	The user successfully placed an order for their prescription after uploading their prescription slip, getting it verified, and choosing their previously inputted address as the delivery location.	The user successfully placed an order for their prescription after uploading their prescription slip, getting it verified, and inputting a new address as the delivery location by correctly filling out address details.	The user is unsuccessful in placing their prescription order after uploading their prescription slip, getting it verified and inputting an invalid address. The system then prompts the user to enter valid address details.
UC05.1: View Order History	The user is able to view the orders to be received, the completed orders and cancelled orders. The user can see the estimated time of arrival for the orders to be received.	The user is able to view the orders to be received, the completed orders and cancelled orders. The user can see the estimated time of arrival for the orders to be received and the specific expected time of delivery after clicking the order for more details.	Due to a system error, it is unresponsive. This makes it so that the user is not able to view order history.
UC05.2: Cancel Order	The user successfully cancels an order upon confirmation of decision. The Admin then cancels the delivery based on this.	N/A	The user aborts the cancellation upon confirmation of decision.
UC05.3: View Medication Reminder and Pill Plan	<p><u>View Medication Reminder:</u> The user is able to view their medication reminder(s). There, the user is able to mark alerting medication reminder notifications (pill plan reminders) as complete.</p> <p><u>Pill Plan:</u> The user is also able to view their medication</p>	<p><u>View Medication Reminder:</u> The user is able to view their medication reminder(s). If a reminder "alerts", if the user does not respond to the notification, it will alert again in a specified amount of time based on its timing details when adding the pill plan. It will only stop when the user marks</p>	<p><u>View Medication Reminder:</u> The user is able to view their medication reminders. However, due to a system error, the user is not able to mark the alerting notification as "Complete".</p> <p><u>Pill Plan:</u> The user is able to view their medication</p>

	reminder(s) upon clicking on the button (My Pill Plans) that leads to the screen. There, the user is able to add pill plans by providing all the necessary details and confirming them.	their medication reminder notification(s) as complete. <u>Pill Plan:</u> N/A	reminder(s) upon clicking on the button (My Pill Plans) that leads to the screen. There, the user is unsuccessful in adding a pill plan due to invalid inputted details when adding a pill plan. The system then prompts the user to enter valid details.
UC05.4: Delete Pill Plan	The user is successful in deleting the pill plan upon confirmation of the cancelling.	The pill plan lives out its duration (duration of intake; how long the user needs to take the medication for) and “expires”, deleting itself after time is up.	The user aborts the pill plan cancellation upon confirmation of decision.

1.5.2 Use Case Specifications

1.5.2.1 Specification 1

- **Name:** UC05.0: Order Prescription
- **Description:** Users can place an already-paid prescription order by: uploading a prescription slip written by their doctor/pharmacist, which will then be verified by an admin. The user then needs to supply a real and valid delivery address and confirm the order.
- **Author(s):** Kellavina Loh Kar Mun.
- **Actor(s):** User, doctor and admin.
- **Location(s):** User’s smartphone, admin’s computer.
- **Status:** Active.
- **Priority:** High (Users depend on this functionality to receive medication. Delays or errors in prescription orders can have serious implications.)
- **Assumption(s):** User’s prescription had already been paid in the previous doctor’s appointment.
- **Precondition(s):** User must be logged into the system. The user also must obtain a filled prescription slip from their doctor.

- **Postcondition(s):** A prescription order is placed.
- **Primary (Happy) Path:** The user successfully placed an order for their prescription after uploading their prescription slip, getting it verified, and choosing their previously inputted address as the delivery location.
- **Alternate Pathway(s):** The user successfully placed an order for their prescription after uploading their prescription slip, getting it verified, and inputting a new address as the delivery location by correctly filling out address details.
- **Exception Pathway(s):** The user is unsuccessful in placing their prescription order after uploading their prescription slip, getting it verified and inputting an invalid address. The system then prompts the user to enter valid address details.

1.5.2.2 Specification 2

- **Name:** UC05.1: View Order History
- **Description:** Enables the user to view and navigate through their order history, including orders to receive, completed, and cancelled orders, along with their details such as estimated time of arrival.
- **Author(s):** Kellavina Loh Kar Mun.
- **Actor(s):** User.
- **Location(s):** User's smartphone.
- **Status:** Active.
- **Priority:** High (Provides users with reassurance and transparency about their medical orders. Access to the order history also allows users to review past (and current) orders and allows the user to view details such as the estimated arrival times of their deliveries).
- **Assumption(s):** The backend system is functional and can retrieve order details quickly.
- **Precondition(s):** The user must be logged in. The user has an order history associated with their account.
- **Postcondition(s):** User views various segments of their order history (including to receive, completed and cancelled orders). The user also has the option to interact with the system to retrieve details from an order.
- **Primary (Happy) Path:** The user is able to view the orders to be received, the completed orders and cancelled orders. The user can see the estimated time of arrival for the orders to be received

- **Alternate Pathway(s):** The user is able to view the orders to be received, the completed orders and cancelled orders. The user can see the estimated time of arrival for the orders to be received and the specific expected time of delivery after clicking the order for more details
- **Exception Pathway(s):** Due to a system error, it is unresponsive. This makes it so that the user is not able to view their order history.

1.5.2.3 Specification 3

- **Name:** UC05.2: Cancel Order
- **Description:** The user is able to cancel a prescription order upon confirmation.
- **Author(s):** Kellavina Loh Kar Mun
- **Actor(s):** User, Admin
- **Location(s):** User's smartphone.
- **Status:** Active.
- **Priority:** Moderate (While the cancellation of an order is important, most users don't cancel their prescription orders as it is medication recommended by the doctor. However, in cases where the user is able to buy the medication in real life after ordering it online, some users may cancel while others may just store the medication for future purposes).
- **Assumption(s):** The prescription slip has been digitised and/or the user has a decent enough camera on their phone to take a clear image of the prescription slip.
- **Precondition(s):** The user must be logged in. The user must have also placed an order recently.
- **Postcondition(s):** The prescription order is cancelled. The prescription is valid to be used again.
- **Primary (Happy) Path:** The user successfully cancels an order upon confirmation of decision. The Admin then cancels the delivery based on this.
- **Alternate Pathway(s):** There is no alternate pathway.
- **Exception Pathway(s):** The user aborts the cancellation upon confirmation of decision.

1.5.2.4 Specification 4

- **Name:** UC05.3: View Medication Reminder and Pill Plan
- **Description:** Focuses on managing medication schedules and reminders for users, also allows users to view and add pill plans.
- **Author(s):** Kellavina Loh Kar Mun.
- **Actor(s):** User.
- **Location(s):** User's smartphone.
- **Status:** Active.
- **Priority:** High (It directly impacts user satisfaction and system usability. Especially since users are most likely to use this feature the most).
- **Assumption(s):** The user has medication/supplements that they have to take regularly.
- **Precondition(s):** The user is logged into the system and have at least 1 medication reminder
- **Postcondition(s):** The medication reminders are updated based on user interaction (marked as complete). The system also records any additions to the pill plans and reflects these additions to the user's account.
- **Primary (Happy) Path:**
 - View Medication Reminder: The user is able to view their medication reminder(s). There, the user is able to mark alerting medication reminder notifications (pill plan reminders) as complete.
 - Pill Plan: The user is also able to view their medication reminder(s) upon clicking on the button (My Pill Plans) that leads to the screen. There, the user is able to add pill plans by providing all the necessary details and confirming them.
- **Alternate Pathway(s):**
 - View Medication Reminder: The user is able to view their medication reminder(s). If a reminder "alerts", if the user does not respond to the notification, it will alert again in a specified amount of time based on its timing details when adding the pill plan. It will only stop when the user marks their medication reminder notification(s) as complete.
 - Pill Plan: There is no alternate pathway for the pill plan.
- **Exception Pathway(s):**
 - View Medication Reminder: The user is able to view their medication reminders. However, due to a system error, the user is not able to mark the alerting notification as "Complete".

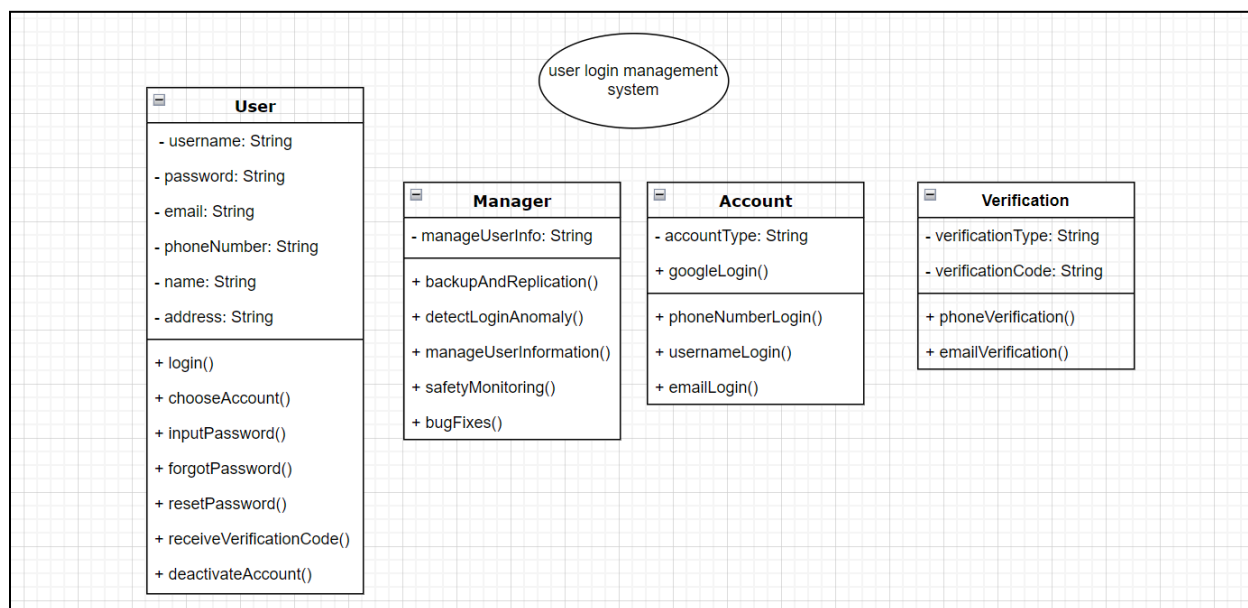
- Pill Plan: The user is able to view their medication reminder(s) upon clicking on the button (My Pill Plans) that leads to the screen. There, the user is unsuccessful in adding a pill plan due to invalid inputted details when adding a pill plan. The system then prompts the user to enter valid details.

1.5.2.5 Specification 5

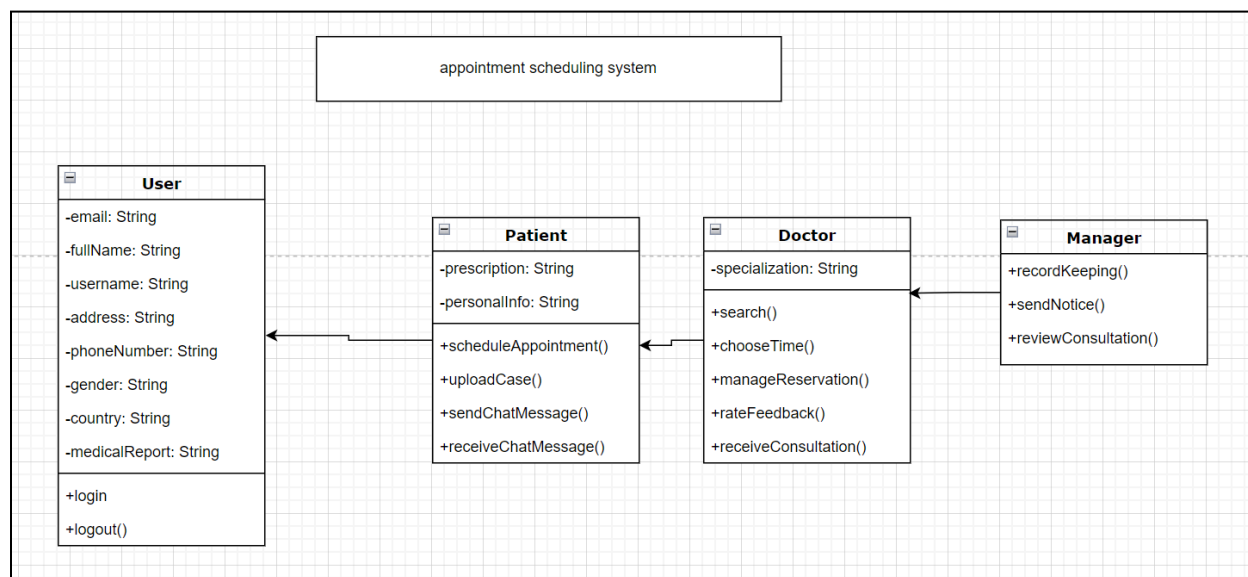
- **Name:** UC05.4: Delete Pill Plan
- **Description:** Allows the user to manually delete a pill plan or allows the system to automatically expire a pill plan based on its duration. This function ensures that users can manage their medication schedules effectively and remove plans that are no longer needed.
- **Author(s):** Kellavina Loh Kar Mun.
- **Actor(s):** User.
- **Location(s):** User's smartphone.
- **Status:** Active.
- **Priority:** Medium (Important for user medication management but not crucial to the system operation)
- **Assumption(s):** User already has pill plans (associated with their account) that can be deleted (At least 1 pill plan).
- **Precondition(s):** The user must be logged into their account. The user has at least 1 pill plan that can be deleted.
- **Postcondition(s):** The pill plan is deleted from the list of active pill plans in the user's account.
- **Primary (Happy) Path:** The user is successful in deleting the pill plan upon confirmation of the cancelling.
- **Alternate Pathway(s):** The pill plan lives out its duration (duration of intake; how long the user needs to take the medication for) and "expires", deleting itself after time is up.
- **Exception Pathway(s):** The user aborts the pill plan cancellation upon confirmation of decision.

2.0 Modified Class Diagrams

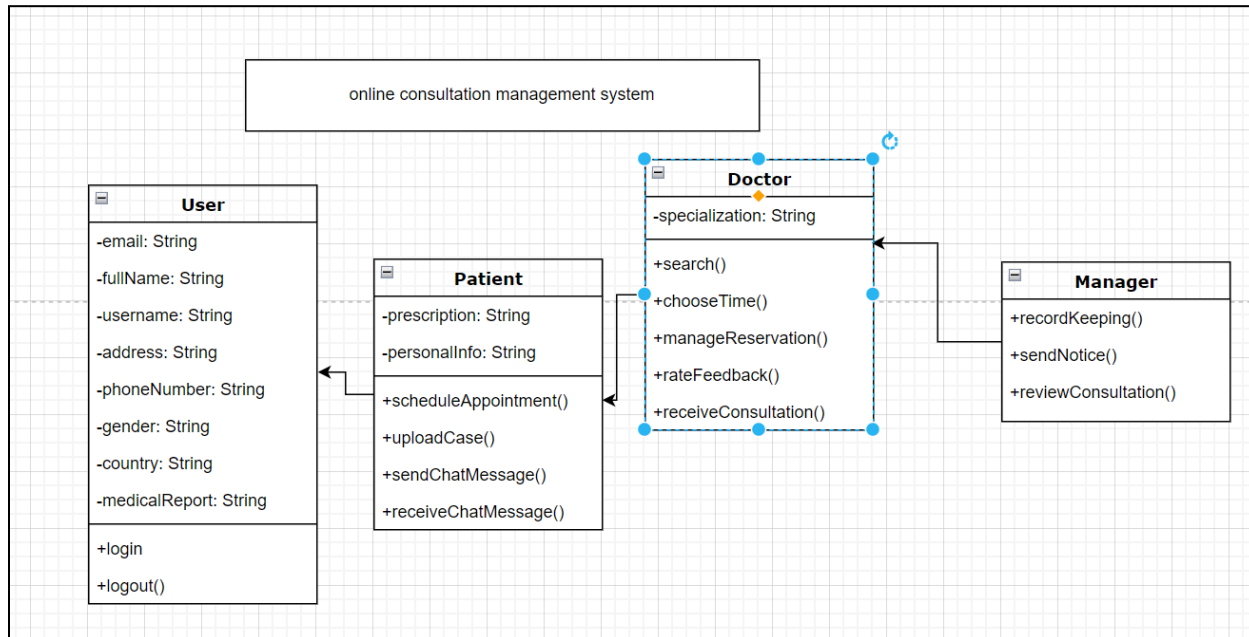
2.1 Class Diagram: User Login Management System



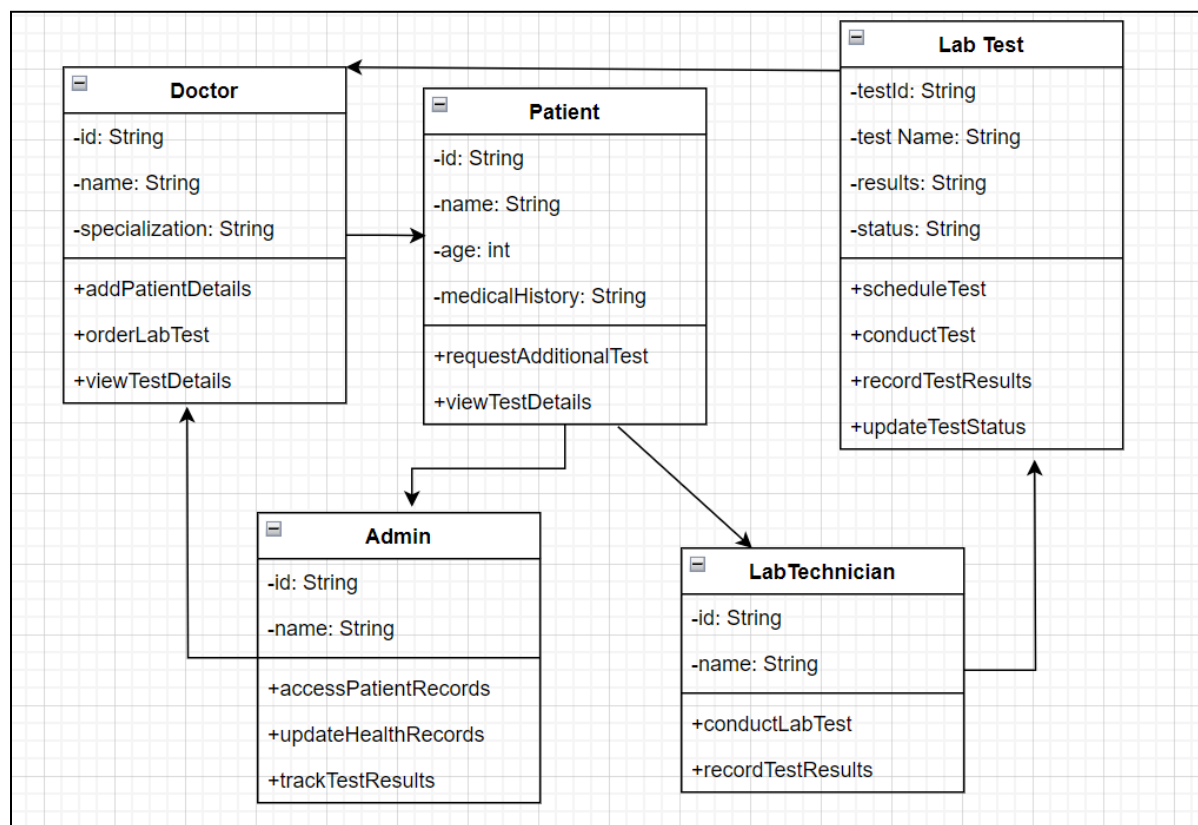
2.2 Class Diagram: Appointment Scheduling System



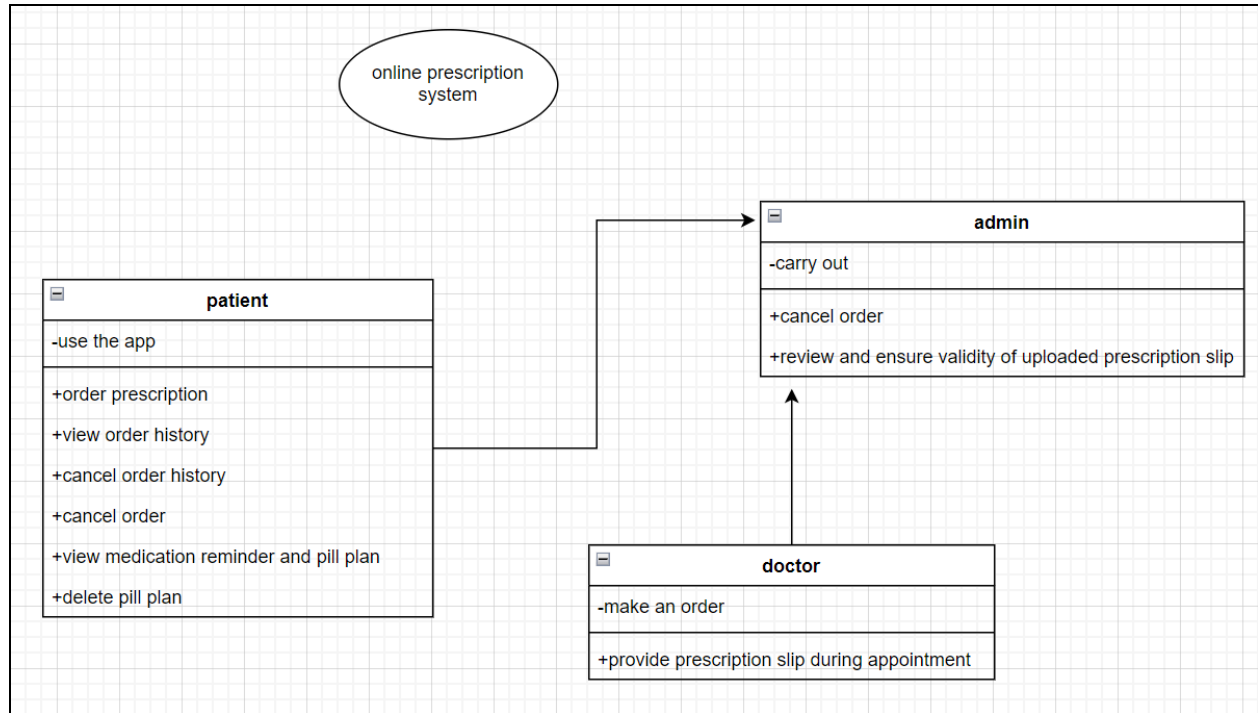
2.3 Class Diagram: Online Consultation Management System



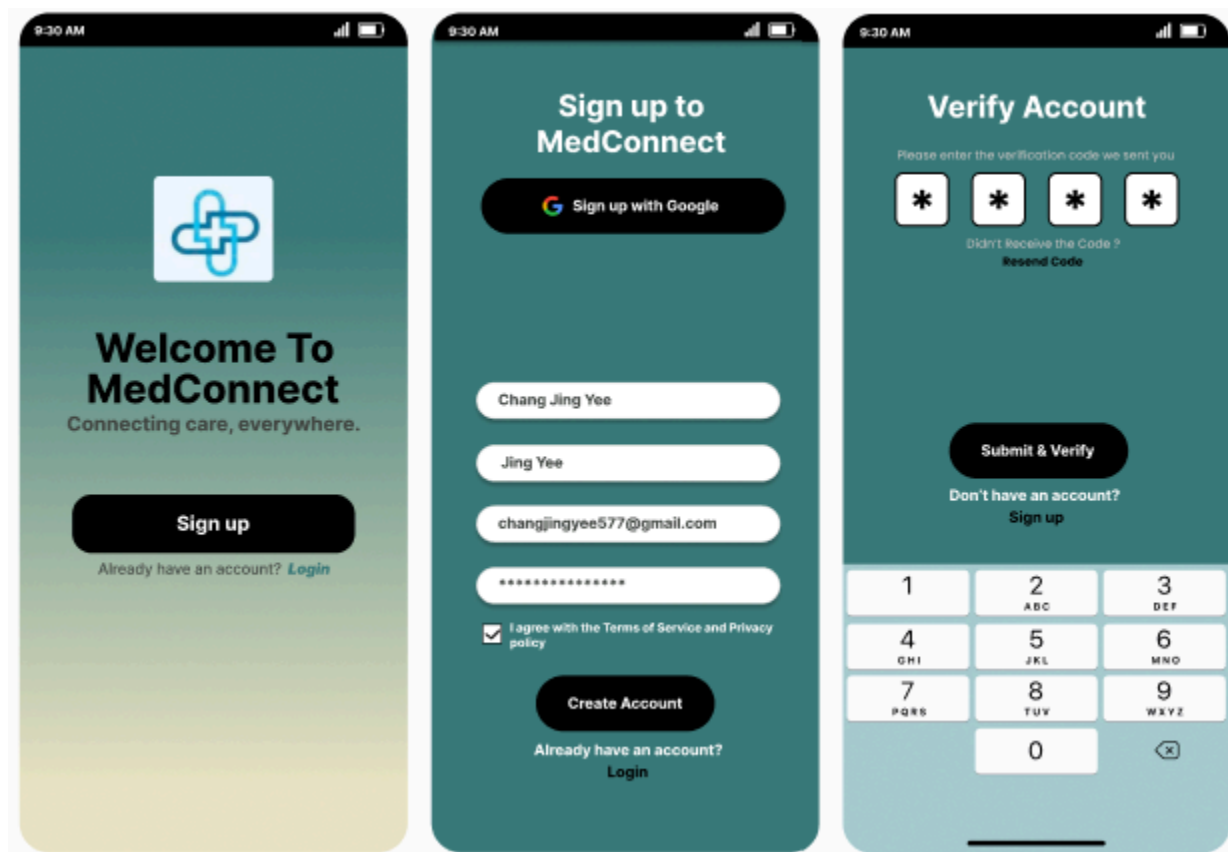
2.4 Class Diagram: Lab Test and Medical Record System



2.5 Class Diagram: Online Prescription System

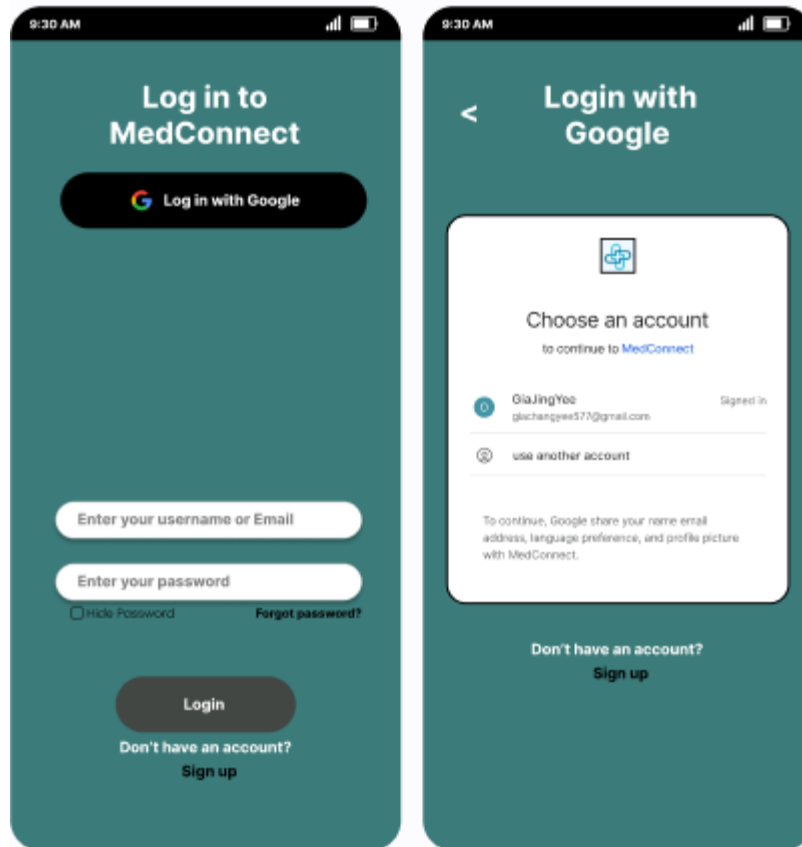


3.0 Interface Design Proposal



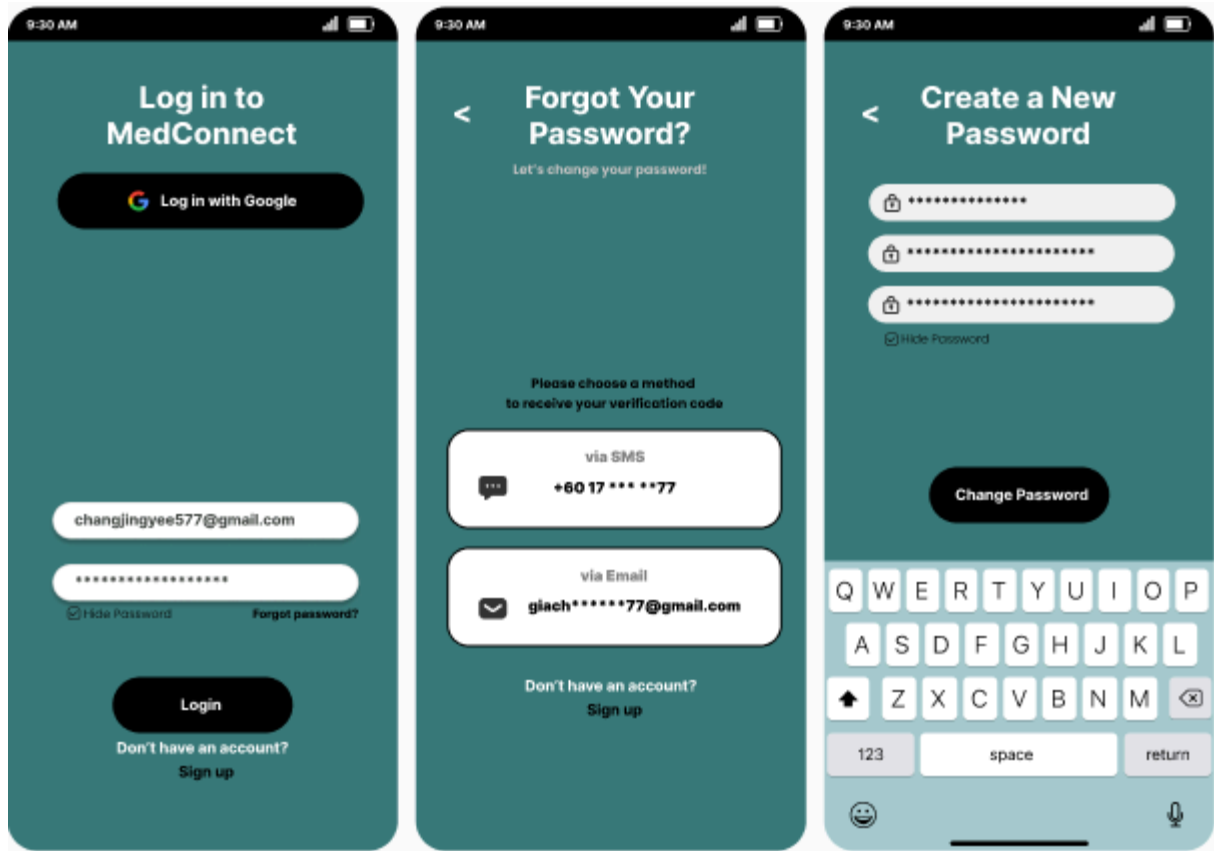
Screens 3.01

Screens 3.01: The Sign Up screen is made to make it simple for new users to register for an account. In order to guarantee accuracy, it has separate input areas for the user's full name, password, email address, and username in addition to a confirm password field. By completing these fields and selecting the 'Sign Up' button, users may instantly register. Users are required to click a little checkbox before continuing in order to acknowledge their agreement to the terms and conditions. Users can either use their phone number or email to verify their account on the Verify Account screen. Once the code has been entered, users click the 'Verify' button to finish the process. There are options to resend the code if necessary, along with clear directions on where to find the verification code on the screen. By doing this, users can be guaranteed that using their phone numbers/emails to authenticate their accounts is simple and safe.



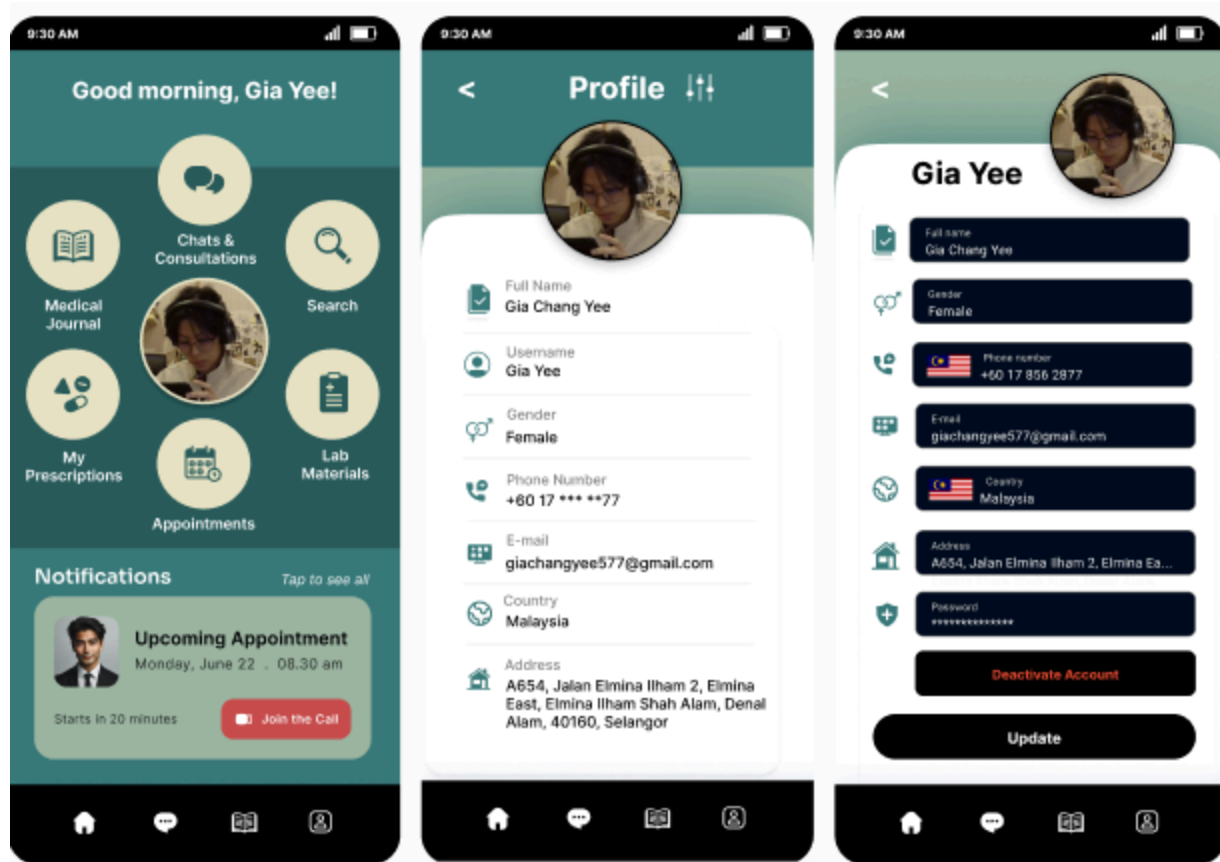
Screens 3.02

Screens 3.02 : The Login Using Google screen offers a convenient alternative for users to log in using their Google account. It features a 'Login with Google' button that redirects users to Google's authentication page. This screen simplifies the login process by reducing the number of steps required, ensuring a secure and efficient method for users to access their accounts via third-party authentication.



Screens 3.03

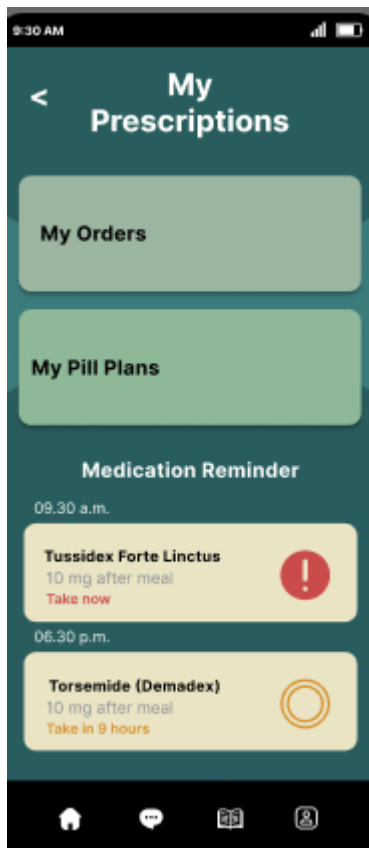
Screens 3.03: Users who are unable to remember their password can change their password by clicking on the Forgot Password screen. It offers an email address input form and a "Submit" button to start the password reset procedure. After entering their email address, consumers receive a confirmation message and are provided with clear directions on what to do next. The purpose of this screen is to make changing passwords simple and secure. The Create New Password screen allows users to set a new password after clicking the reset link sent to their email. It includes input fields for the new password and a confirm new password field, along with a 'Change Password' button to save the changes.



Screens 3.04

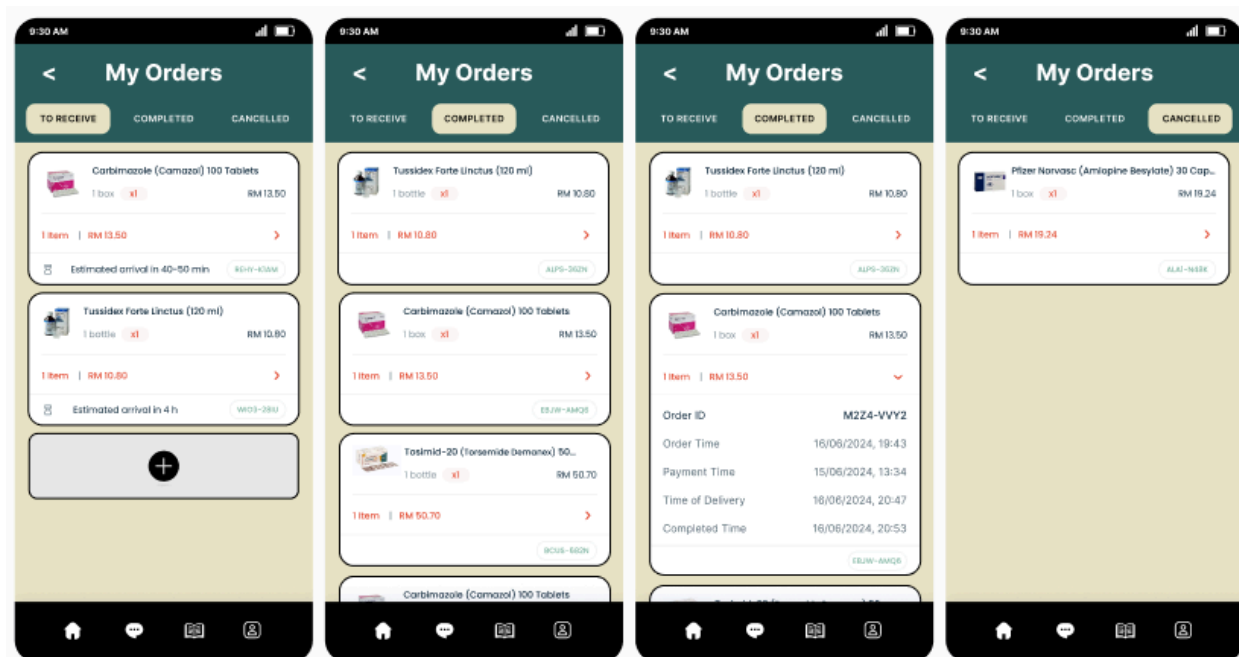
Screens 3.04 : Users can quickly access essential features like online consultation, appointment scheduling, medications, medical journals, and lab supplies from the Main Page screen, which acts as their healthcare centre. The screen includes clearly labelled buttons for each function, allowing users to navigate easily to the desired section. The main page also shows notifications, such as reminders for upcoming online appointments. The design focuses on an important priority on accessibility and simplicity, making it simple for users to find and use all the components they require.

Users can obtain a full view of their personal information on the Profile screen, which makes sure that all relevant data is readily editable and accessible. Name, username, phone number, address, gender, email, and country of the user are shown on this screen. Each field is clearly labelled and organised for easy navigation. On this screen, users can easily change their information, making sure that their profile is accurate and up to date. An 'Update' button is clearly displayed at the bottom of the screen. After making edits to their data, users can save their changes by clicking the 'Update' button.



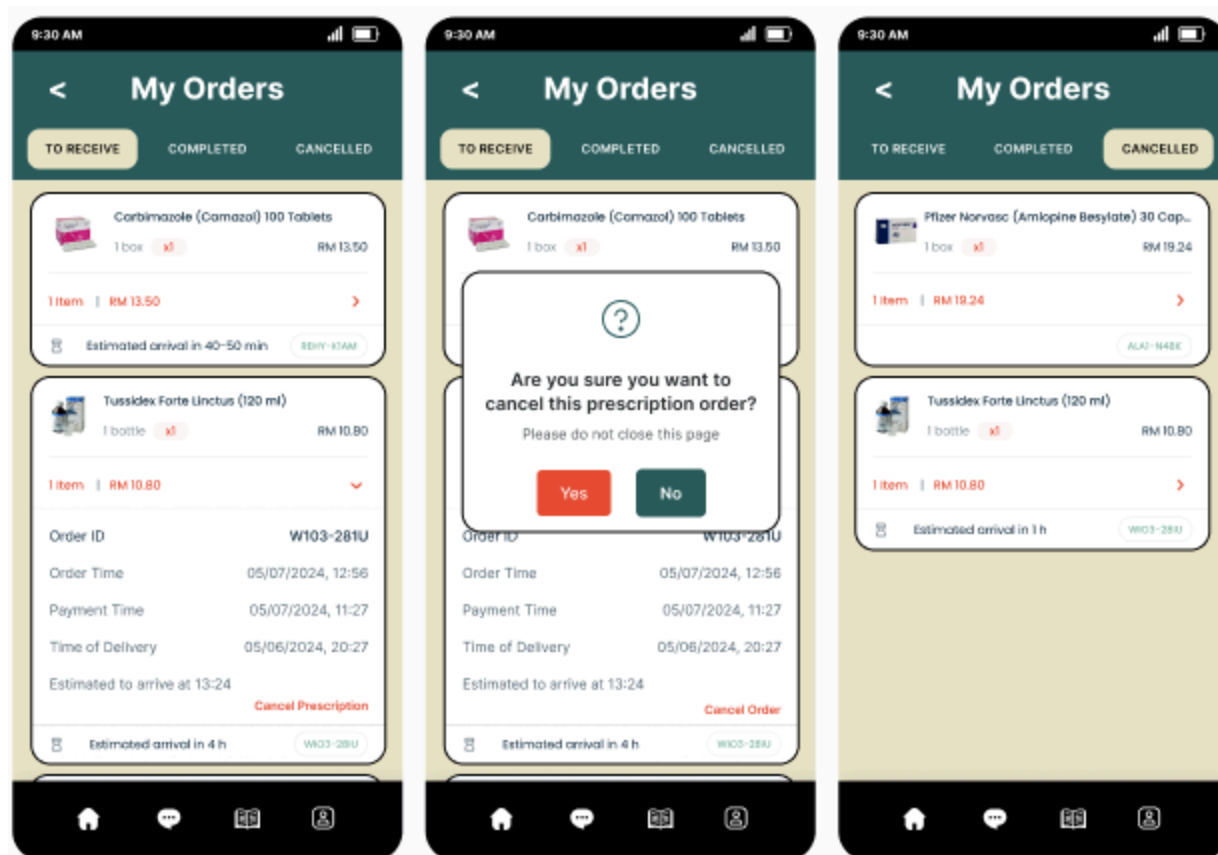
Screen 3.05

Screen 3.05 : The My Prescriptions screen provides users with a comprehensive overview of their medication management. It features two main options: 'My Orders' and 'My Pill Plans.' Additionally, the screen includes a medication reminder feature that alerts users when it is time to take their medication, ensuring they follow their prescribed regimen.



Screens 3.06

Screens 3.06 : The 'My Orders' section allows users to navigate, view and manage their prescription orders, including order to receive completed orders and cancelled orders by clicking on the tab near the top of the screen.. By clicking on the small arrow in the order boxes, users are able to view the details of their order. These details include a more accurate estimated arrival time for the orders to be received, as well as the order ID, order time, payment time, delivery time and completed time for the other orders.



Screens 3.07

Screens 3.07 : In the My Orders section, patients have the ability to cancel a prescription as long as it hasn't been shipped. When a patient opts to cancel a prescription, a pop-up message will appear, asking for confirmation to cancel the order. Upon confirming by clicking "Yes," the system will automatically update the status, and the cancelled prescription will be moved to the "Cancelled" section. This feature ensures patients can manage their orders efficiently and make changes if needed.

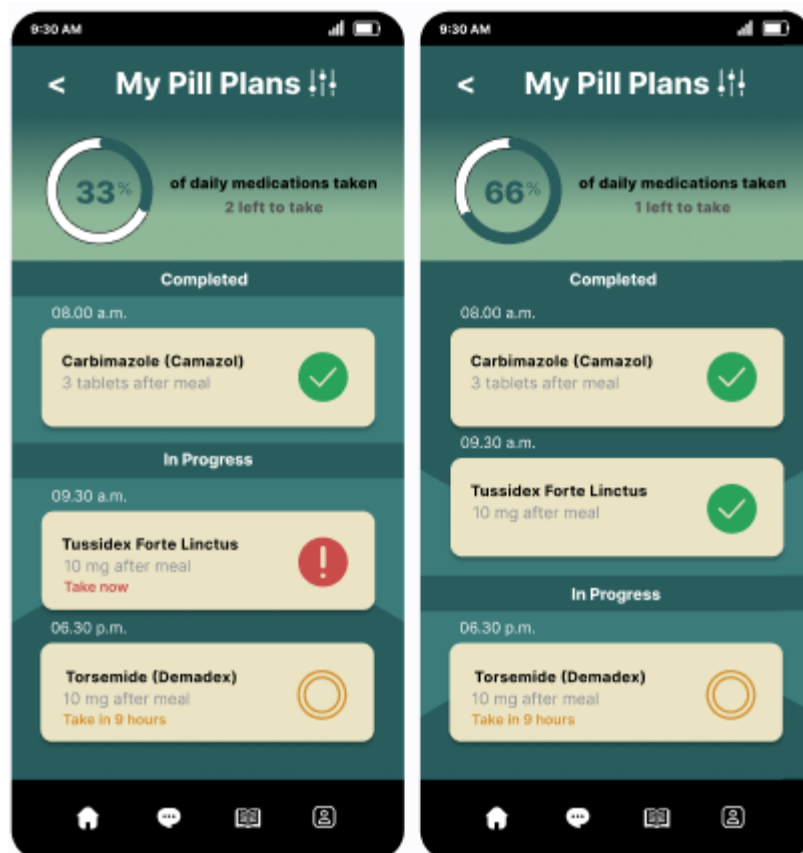
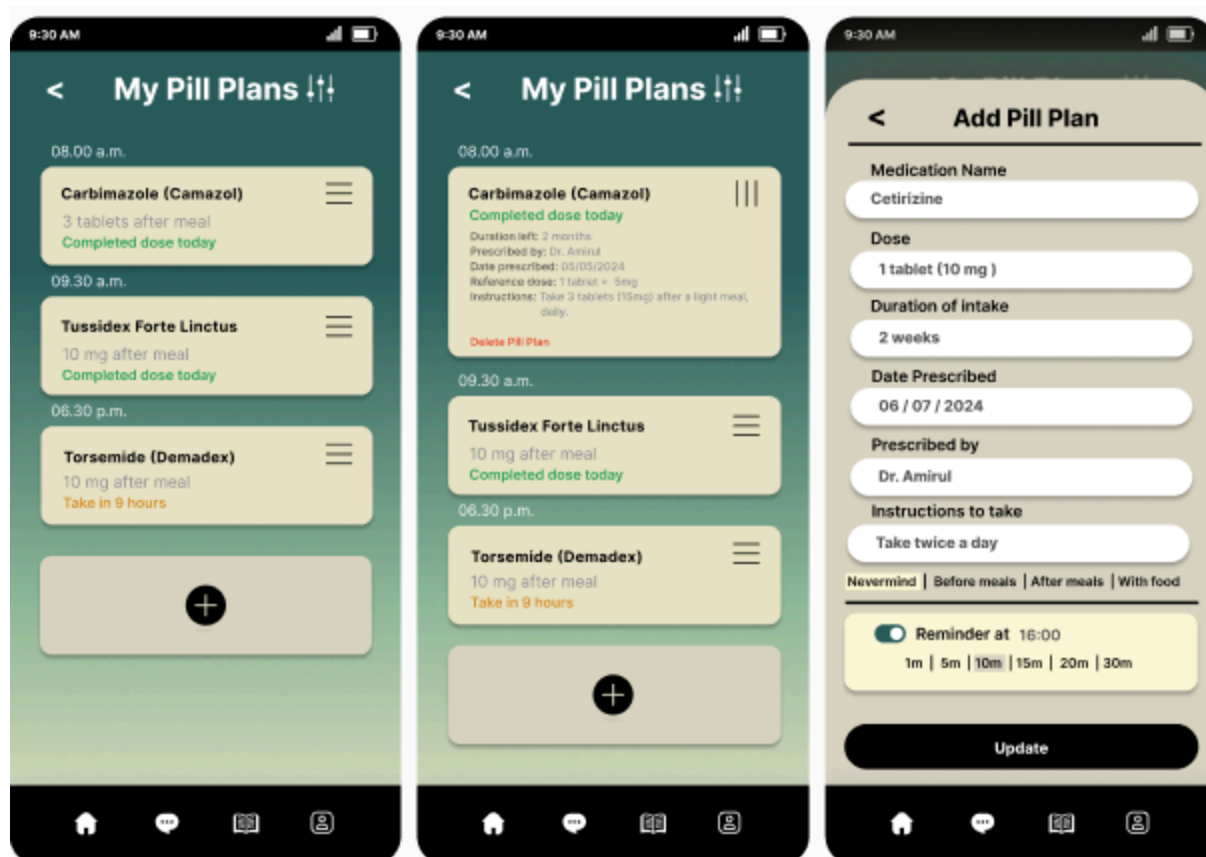


Diagram 3.08

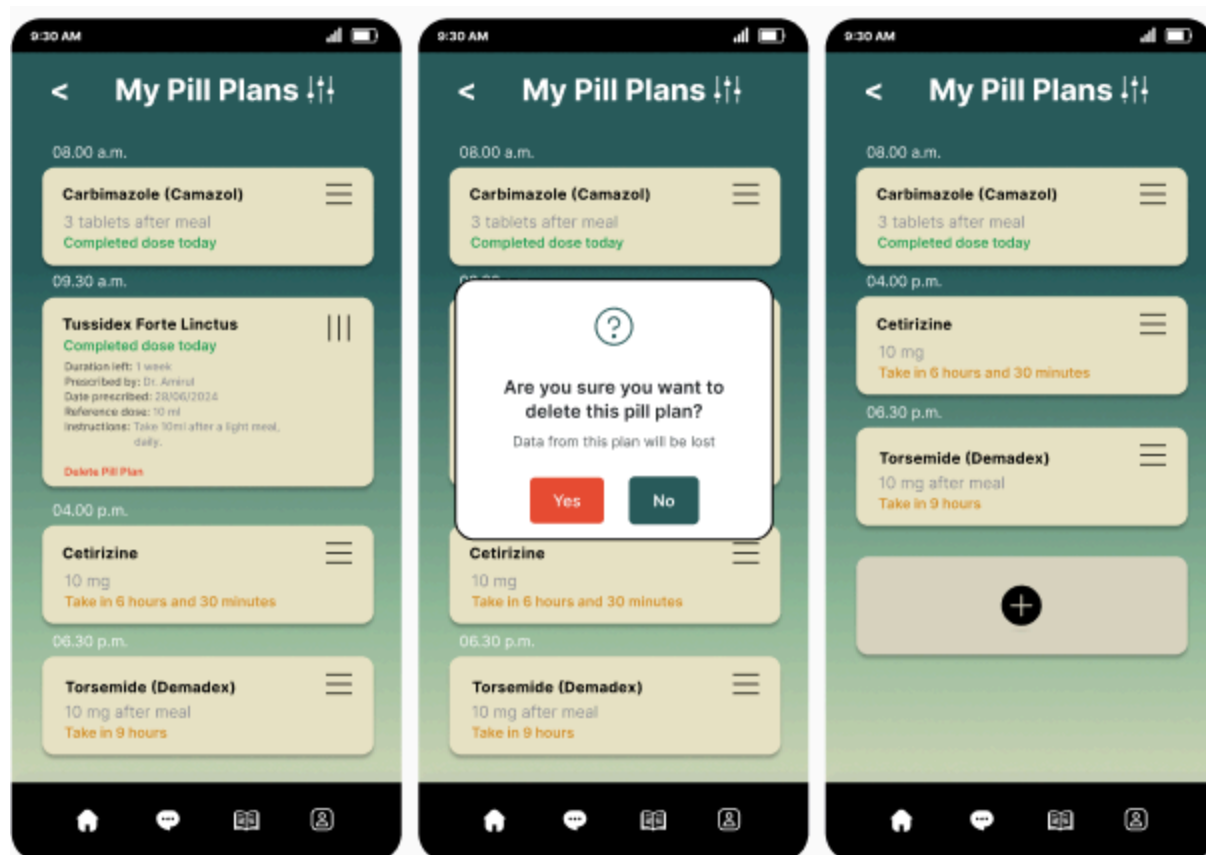
Diagram 3.08 : The 'My Pill Plans' general area assists users in keeping track of their medication schedules by providing reminders for their prescription regiment. This allows the user to click on the medication due to take when the notification alerts at the specified time which will transfer the medication reminder from 'In Progress' to 'Completed' (marking completed reminders as 'Completed'). On top of the 'My Pill Plans Page' is the percentage progress of the number of medications due to take that day. It will increase over time as the user marks each medication reminder as 'Completed'.



Screens: 3.09

Screens 3.09 : In the My Pill Plans section, when patients click on their medicine, it will display detailed information, including the name of the prescribing doctor, dosage, instructions, date prescribed, and the number of days left to take the medication. Patients will always have access to all the information they need on their medication schedule thanks to this complete view. Users can add medication reminders by adding a pill plan. To do so, users will need to enter detailed drug information for their pill plans using the 'Add Pill Plan' option.

These details include the name of the medication, the dosage, the duration of intake, the date prescribed, who it was prescribed by, instructions to take if applicable, whether to take the medication before, after or with food (if this does not apply, 'Nevermind' is chosen) and of course, the time of the reminder and how long before the reminder alerts again if it is not marked. In order to notify the patient when it's time to take their prescription, a reminder can also be established. Upon entering the necessary data, users can save the medication schedule by selecting the 'Update' option. The 'My Pill Plans' area then has this updated data, assisting users in keeping precise and current records of their prescription regimens.



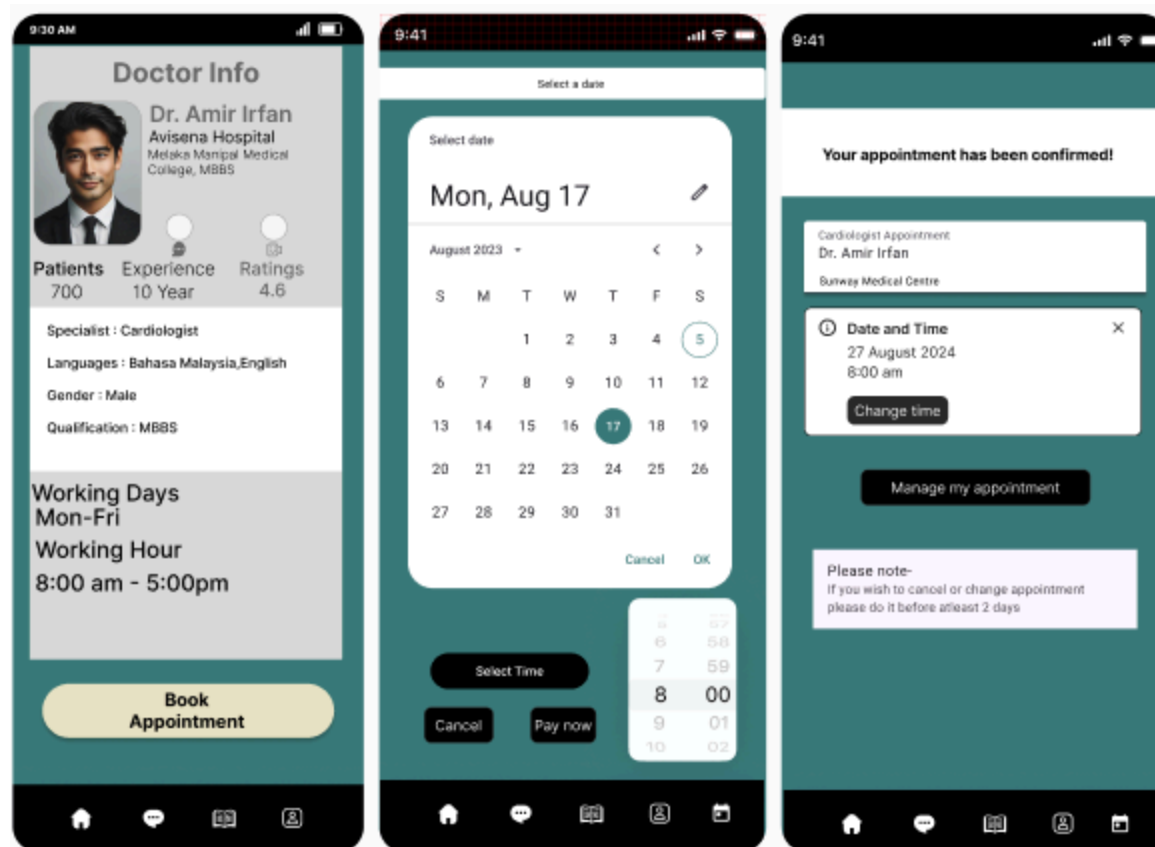
Screens 3.10

Screens 3.10 : In the My Pill Plans section, once the patient finishes with a pill plan, they have the option to delete the plan. Upon clicking the delete option, a confirmation message pops up, asking the patient if they are sure they want to delete the plan. If the patient confirms by clicking "Yes," the pill plan will be deleted, and the My Pill Plans section will be updated accordingly.



Screens 3.11

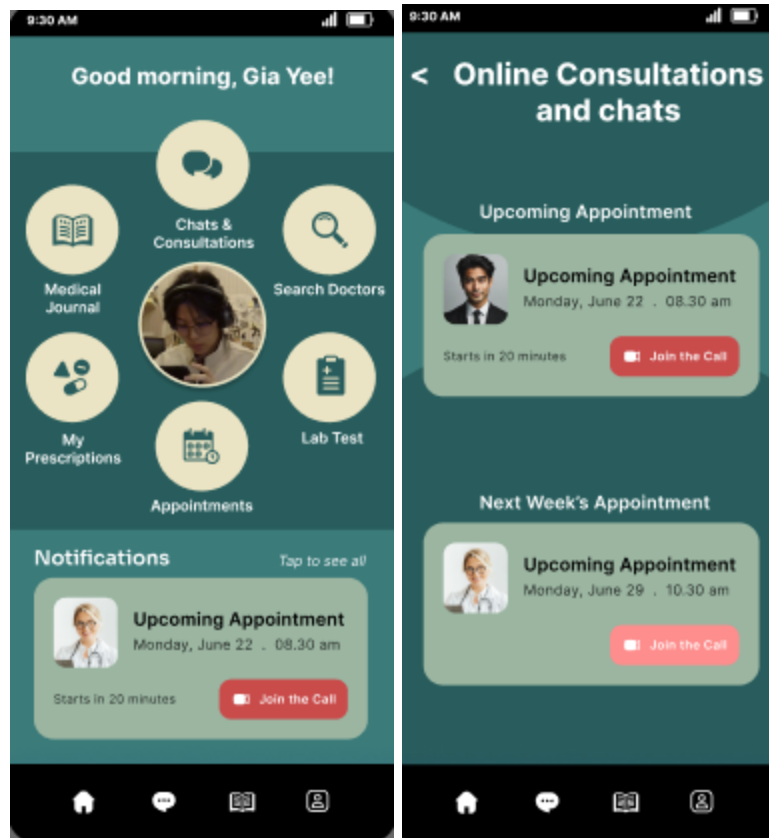
Screens 3.11 : Users can begin their search for healthcare providers by entering specific criteria, such as specialty, state and city. Users input their preferences and filters to narrow the list of available doctors, ensuring they find the right match for their healthcare needs. After applying filters, a thorough list of healthcare providers that meet the user's search criteria is displayed on the Doctor List screen.



Screens 3.12

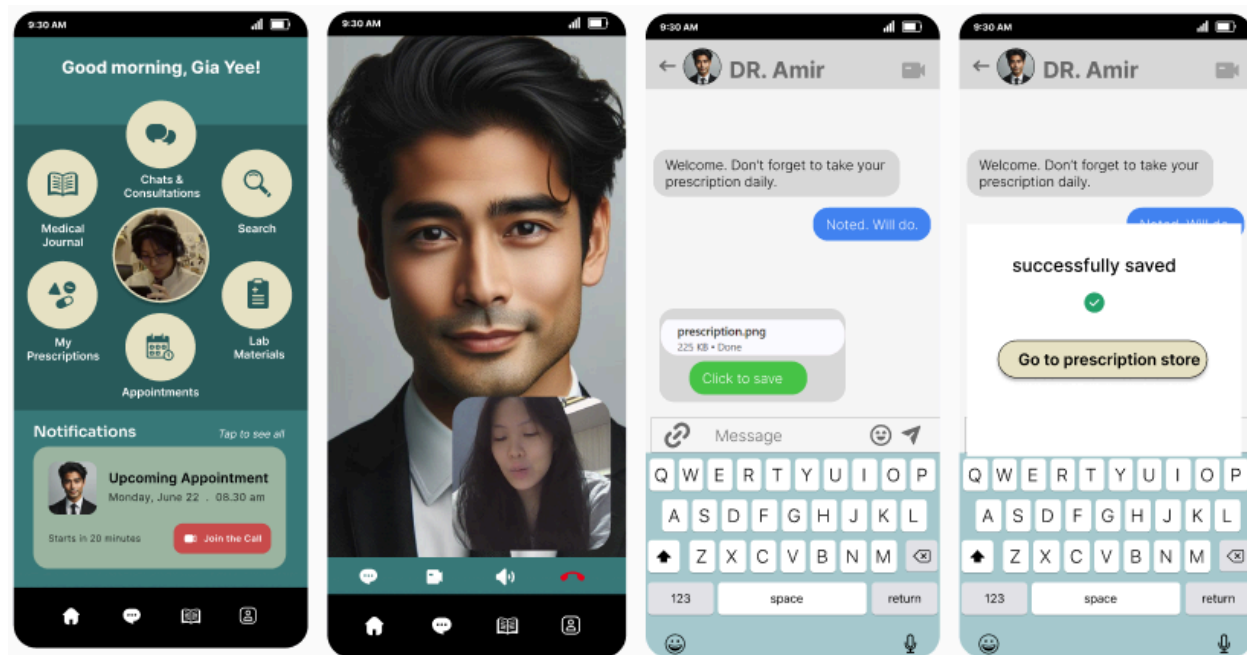
Screens 3.12: The Doctor Profile screen provides detailed information about a selected healthcare provider. Users are able to view the doctor's details, user ratings, and office hours. Upon selecting the 'Book an Appointment' button, the user is presented with two alternatives from which to select, online consultation or in-person meeting. Users are redirected to the Appointment Booking screen after selecting the type of appointment, where they can select a preferred date and time using a calendar interface.

The system displays available slots based on the doctor's working hours, ensuring compatibility with the user's schedule. Users check the appointment information and confirm their booking after selecting a time and date that work for them. A confirmation message stating that the appointment was successfully arranged is displayed on the Appointment Confirmation screen, giving reassurance.



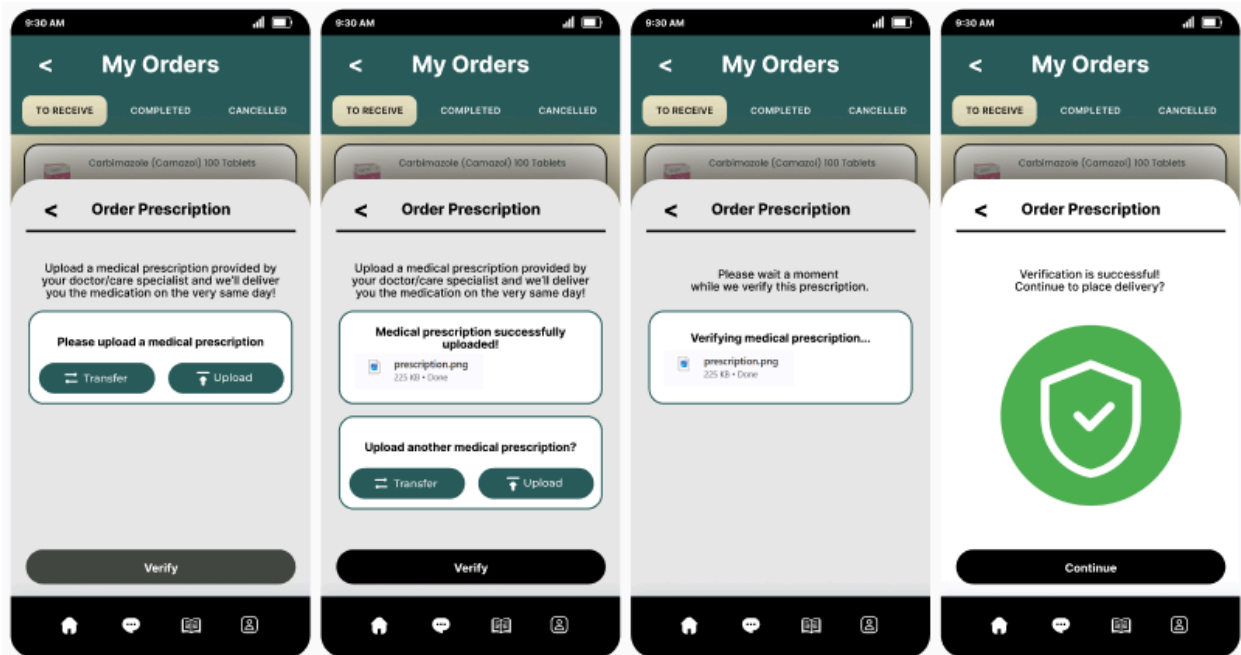
Screens 3.13

Screens 3.13 : Users can view their scheduled online consultation appointments in the Reminder and Notification area. Users can initiate a video conference and have a conversation with their doctor by clicking the 'Join conference' button when it's time for the consultation. Also, by selecting the 'Online Consultation and Chat' button from the main menu, users can access their scheduled online consultations immediately. This launches a screen with their scheduled online consultations, they can click 'Join Call' to join the session.



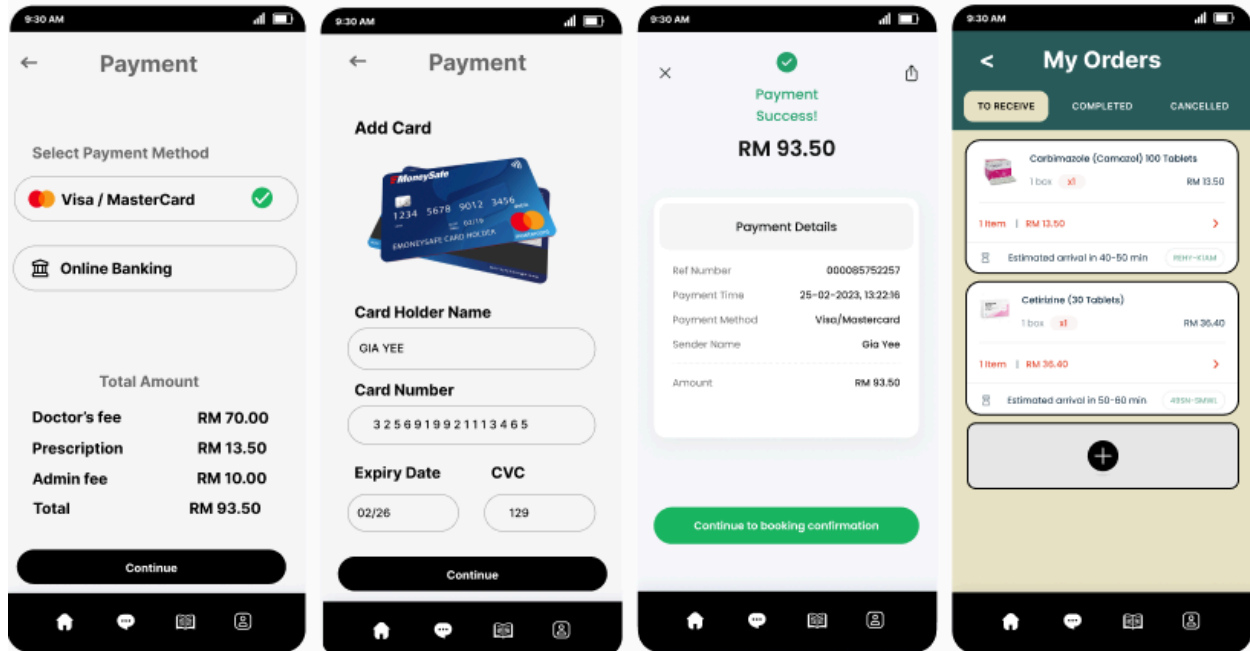
Screens 3.14

Screens 3.14 : Patients chat and have video calls with their physicians. The physician can send a prescription receipt right from the chat message after the session. Below the receipt, a "Click to Save Receipt" button appears. After saving the receipt, users are given the option to go to the prescription store. At the same time the online consultation with the doctor will end.



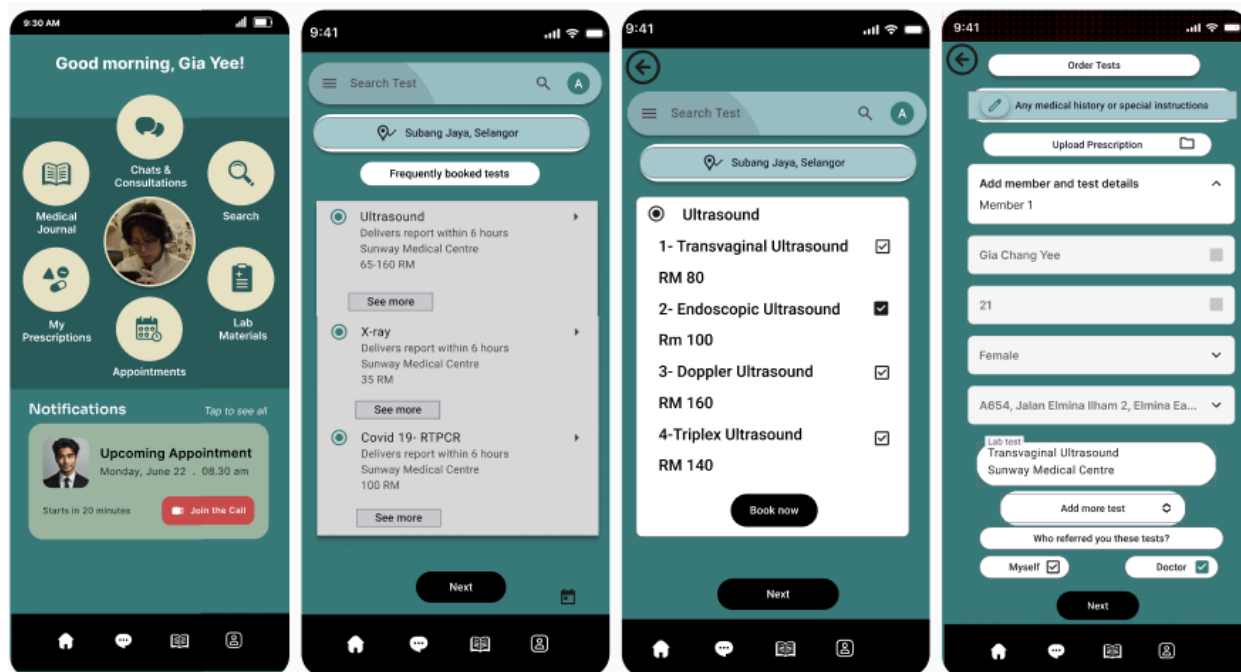
Screens 3.15

Screens 3.15 : In the given space, users submit the prescription receipt. After uploading, users must select "Verify" to verify the receipt. Users can proceed to submit their order after verification. They fill out their address and then continue to checkout, using a Visa, Mastercard, or online banking to pay for their medication and the doctor's fee



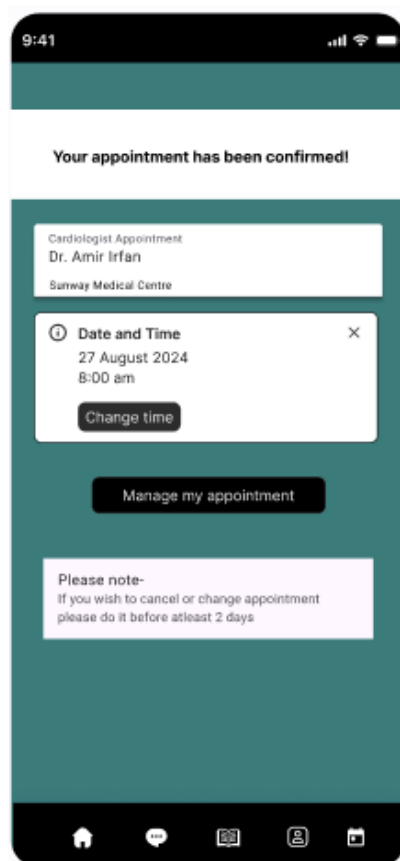
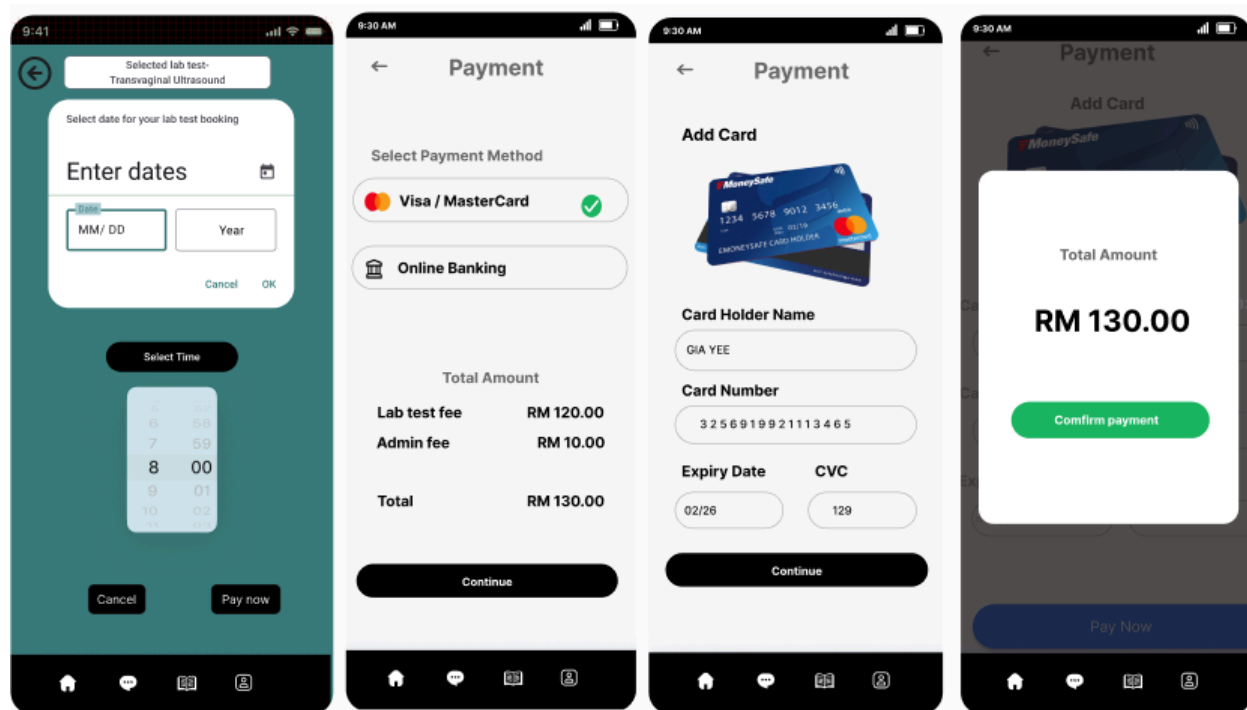
Screens 3.16

Screens 3.16 : They proceed to checkout after entering their address and pay for their medication and doctor's charge with a Visa, Mastercard, or internet banking. If the user wishes to pay by card can select the Visa/Master Card option and can proceed to fill in the card details. Displays a receipt for the transaction, confirming the completion of the payment process. Users can click the "Continue to Prescription Store" button to check the current status of their medication order, which will show the status of receiving the medicine.



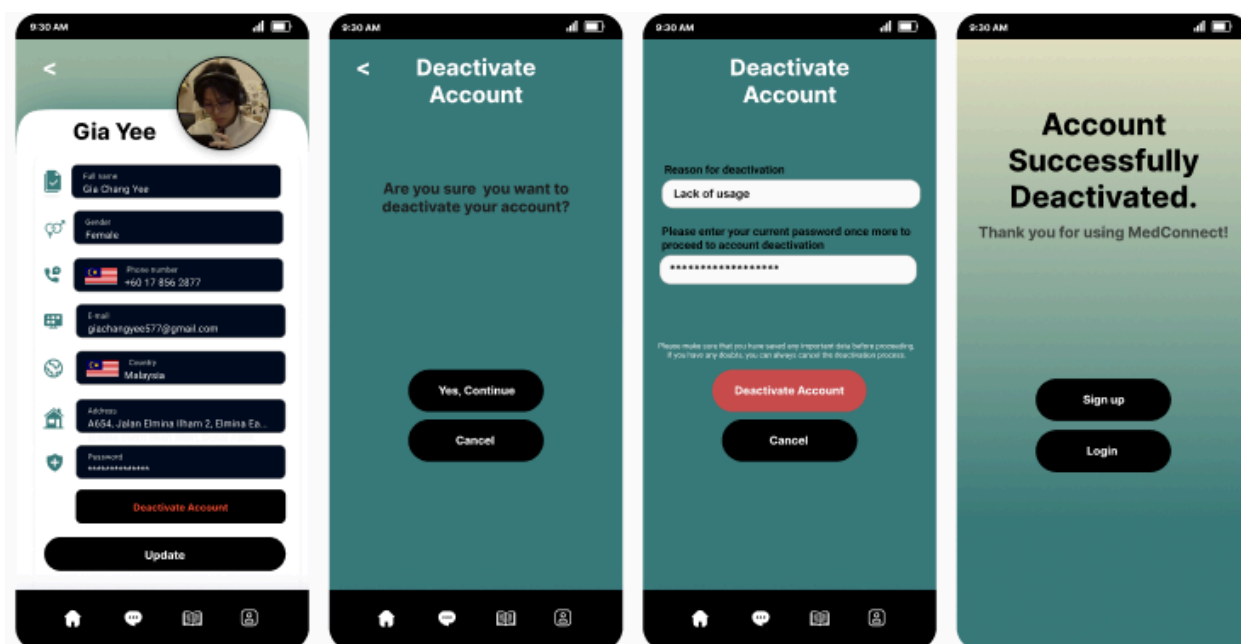
Screens 3.17

Screens 3.17 : To book a lab test, users need to click on the 'lab test' icon on the main page. Then, it will bring users to frequently scheduled tests and a search bar that allows users to identify specific tests. For every test that is regularly scheduled, users can click "See More" to view full details about the specific test. After reviewing the details, users can select their specific test and click the "Book Now" button. Users must provide personal information, such as name, address, age, and gender, on the next page. In addition, they can add more tests if necessary, upload a prescription, and provide any medical history or unique instructions. Users must provide personal information, such as name, address, age, and gender, on the next page. In addition, they can add more tests if necessary, upload a prescription, and provide any medical history or unique instructions.



Screens 3.18

Screens 3.18 : Users click "Pay Now" to be taken to the payment page where they may finish the purchase by paying with a card or through online banking after choosing the day and time. Users are sent to the booking confirmation page, which verifies their payment and appointment details, as soon as their money is approved.



Screens 3.19

Screens 3.19 : To deactivate the account, Users must go to their profile and click the 'edit' icon option in order to go to edit their account. One of the options at the bottom of the profile change page is to 'Deactivate Account'. The user is asked to confirm their selection after choosing this option. The user is then prompted to provide their password and give a justification for cancelling their account. In the end, the account will be terminated by selecting the "Deactivate" button.

4.0 Test Plan

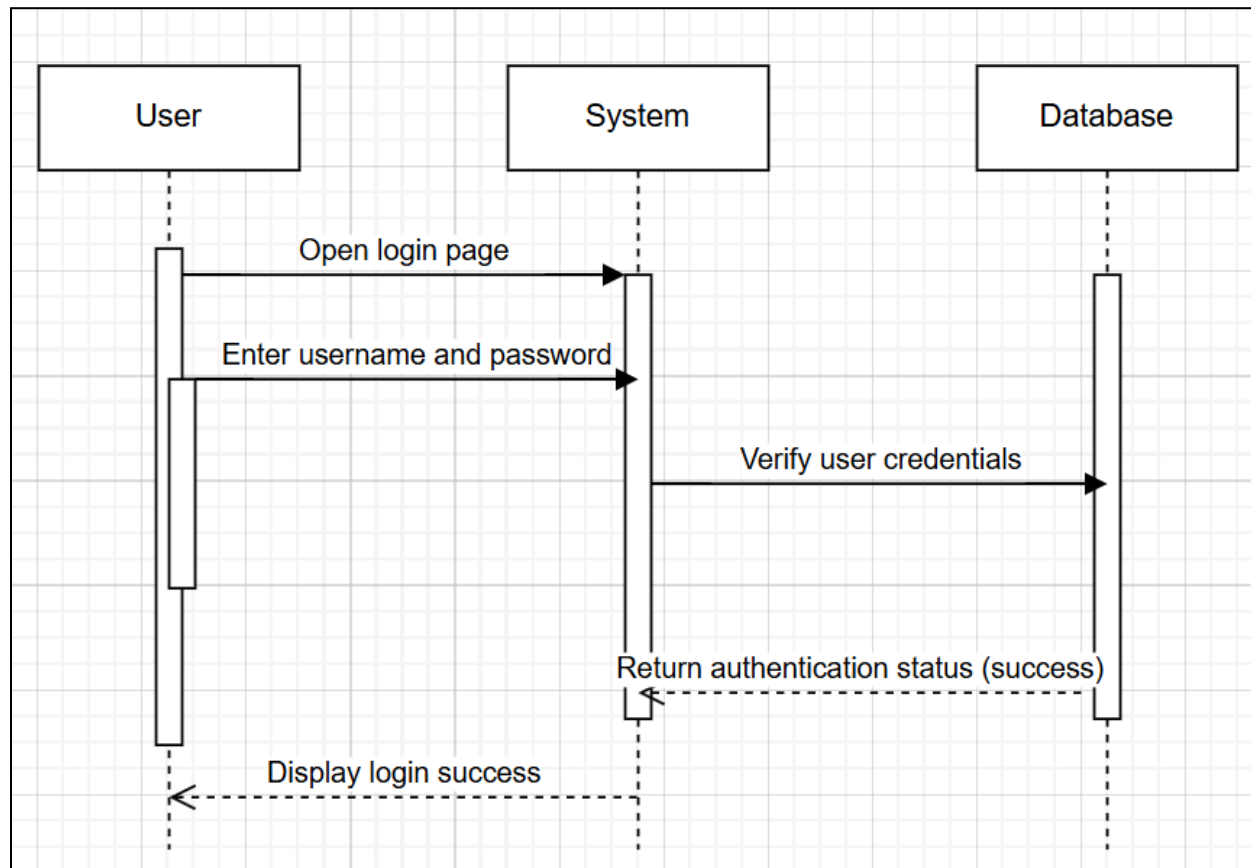
Use Case	Test Case	Description	Procedure	Expected Results
UC05: Online Prescription System	TC05-1: Successful Prescription Order Placement	A prescription order is successfully placed after uploading a medical prescription and either choosing or adding a new address.	<u>Choose address:</u> The user places an order for a prescription delivery by uploading a medical prescription slip then choosing the option for the address already inputted. The admin then reviews and approves the validation of the prescription request.	Upon successful order placement, a message will pop up on screen: "Order has been placed!". After clicking "Continue", the new prescription order will appear on the "My Orders" To Receive" screen. The estimated time for arrival is also shown. Thus, a successful prescription order is placed.
			<u>Input new address:</u> The user places an order for a prescription delivery by uploading a medical prescription slip provided by a doctor. They then input the details (Address details, phone number, zip code, state, city, house number and area) of a new address. The admin then receives, reviews and approves the validation of the prescription request.	
	TC05-2.0: Unsuccessful Prescription Order Placement Due to Invalid Address	The prescription order placement is unsuccessful due to an invalid address input.	Following the "Prescription order" flow, after uploading their medical prescription and getting it successfully verified, the user then inputs an invalid "Area" for the address. The system then prompts the user to "Please enter a valid area for your address".	The system then prompts the user to "Please enter a valid area for your address". The user will then have the option of reattempting inputting a valid area for their address.
	TC05-2.1: Successful Prescription Order Placement After Reattempt on Inputting Valid Address Details	The prescription order is placed after the user successfully reattempts inputting a valid address detail.	Following the system prompt, the user inputs a valid address detail (Area) in place of the previous invalid input.	The prescription order is successfully placed and the user is met with the message: "Order has been confirmed!". The user's order will then show on the "My Orders: To Receive" screen.

	TC05-3: A Medication Reminder Notification is marked as "Complete"	The user clicks on the medication reminder notification after its alert. The notification is then transferred to the "Completed" list of medication reminders.	The user is able to mark their "due" medical reminder (Under "In Progress") as "Complete" by clicking on its red alert icon.	Upon clicking, the notification (currently red and under "In Progress") is then transferred to the "Completed" list of medication reminders for the day. The percentage of the ("% of daily medications taken) will then increase accordingly. The number of the medications the user has to take (_ left to take) will decrease by 1. The medical reminder is completed.
	TC05-4: Cancel Order Placement	The user cancels their prescription order placement.	After clicking on the "expand" icon next to its respective order bubble box, The user is able to cancel their order placement after confirming their decision to continue with the cancellation.	The order placement is cancelled, and is removed from "To receive" orders and shows up under the "Cancelled" orders.
	TC05-5: View Order History	The user is able to view their orders to be delivered, their completed orders and their cancelled orders .	The user is able to navigate across each tab (To receive, completed, cancelled) by clicking the 3 options.	The user is able to freely navigate across each "order" section. The user is also able to see the details of their orders (To receive, completed, cancelled) by clicking the "arrow" icon near its respective orders.
	TC05-6: Successfully Adding a Pill Plan	The user adds a new pill plan after filling in its prescription and timing (scheduling) details.	The user is able to add a new pill plan by clicking on the edit icon next to "My Pill Plans" and then clicking on the "+" symbol on the screen. The user will then supply the details (Medication name, dose, duration of intake, date prescribed, prescribed by, instructions for intake and reminder time) and hit "Update".	After clicking "Update", a new medical reminder is made. This new pill reminder will then appear on the screen in the "My Pill Plan screen". Thus, a new pill plan was created.

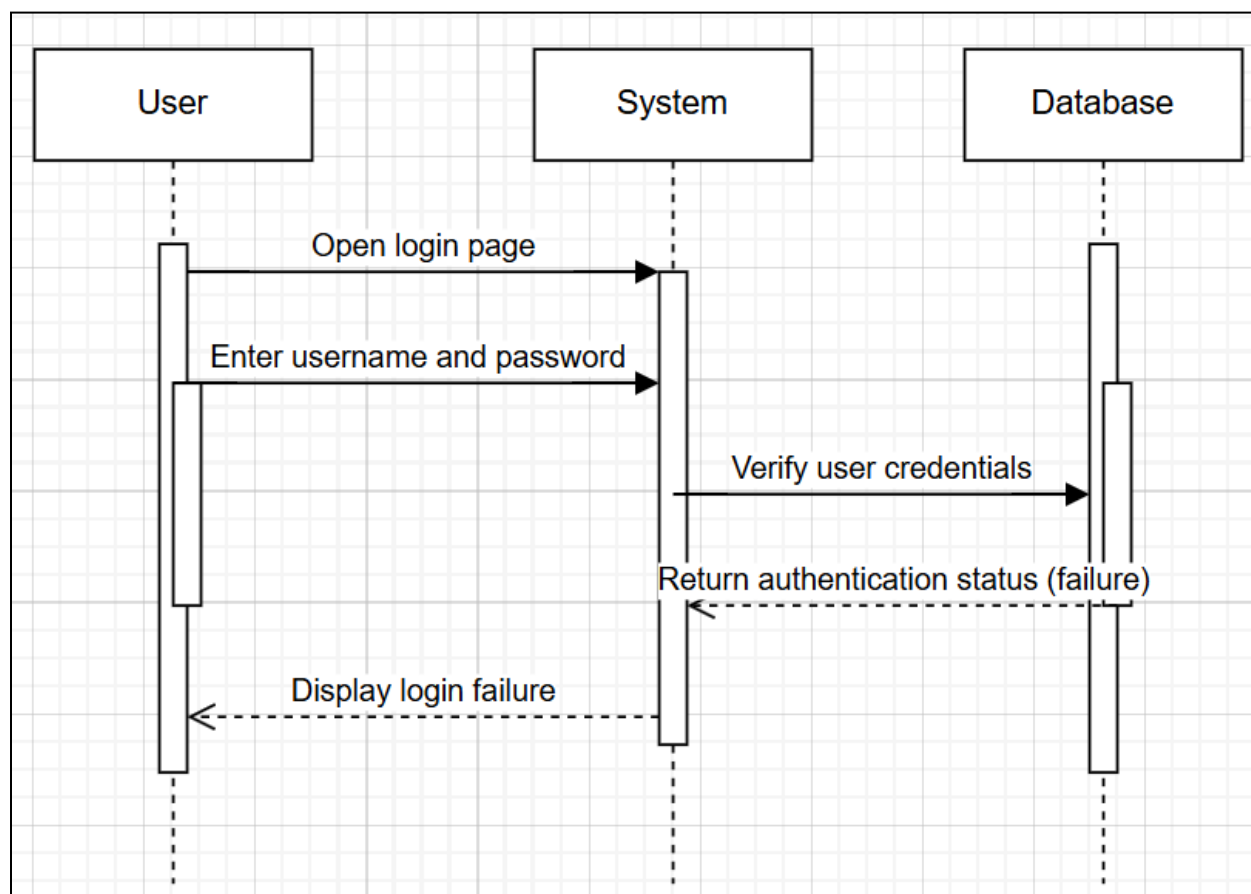
	TC05-7: Delete Pill Plan	The user cancels an order upon confirmation of their decision.	After cycling on the edit icon, upon clicking on "Cancel Prescription" which can be found after the user expands the pill plan reminder container (box), the message: "Are you sure you want to delete this pill plan?" will pop up on screen with 2 options: Yes or No. To delete the pill plan, the user will select "Yes".	Upon clicking "Yes", the pill plan will be deleted and no longer show under medication reminder or during editing.
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5.0 Sequence Diagram

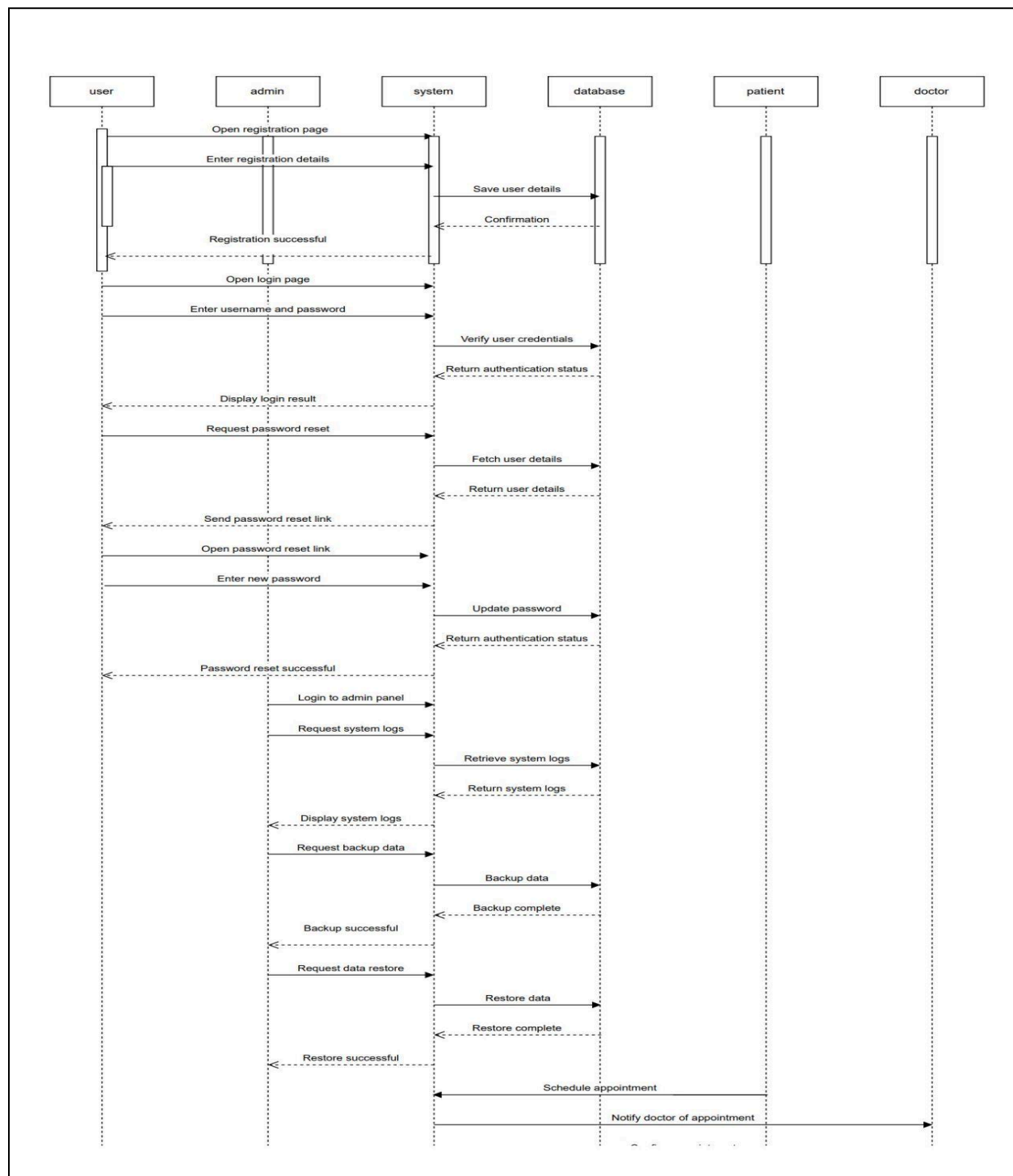
This is one Happy Path:

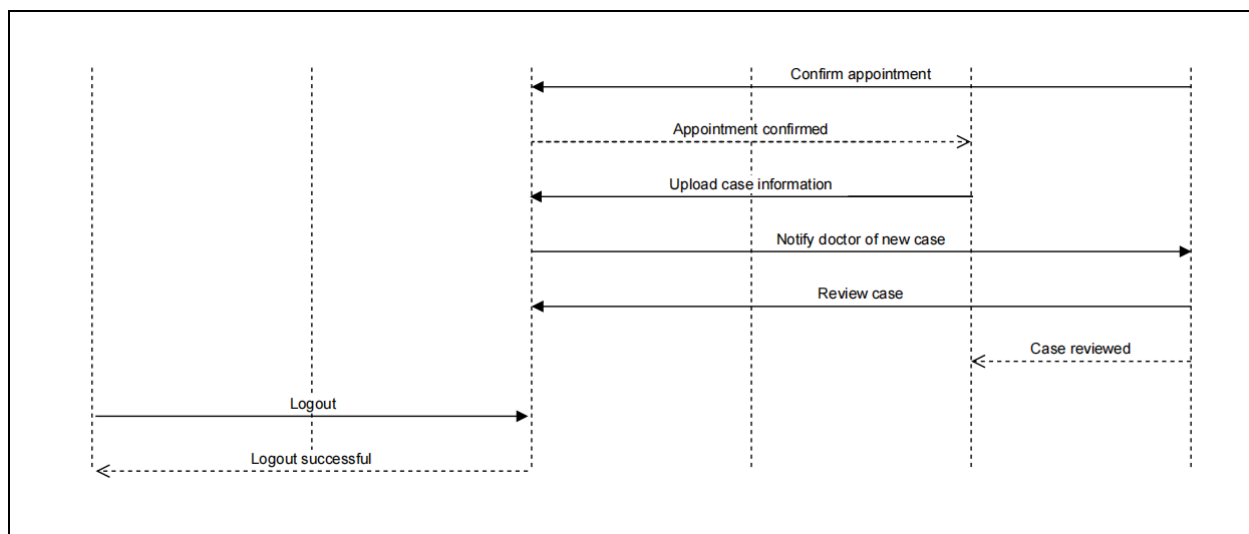


This is one Alternative Path:

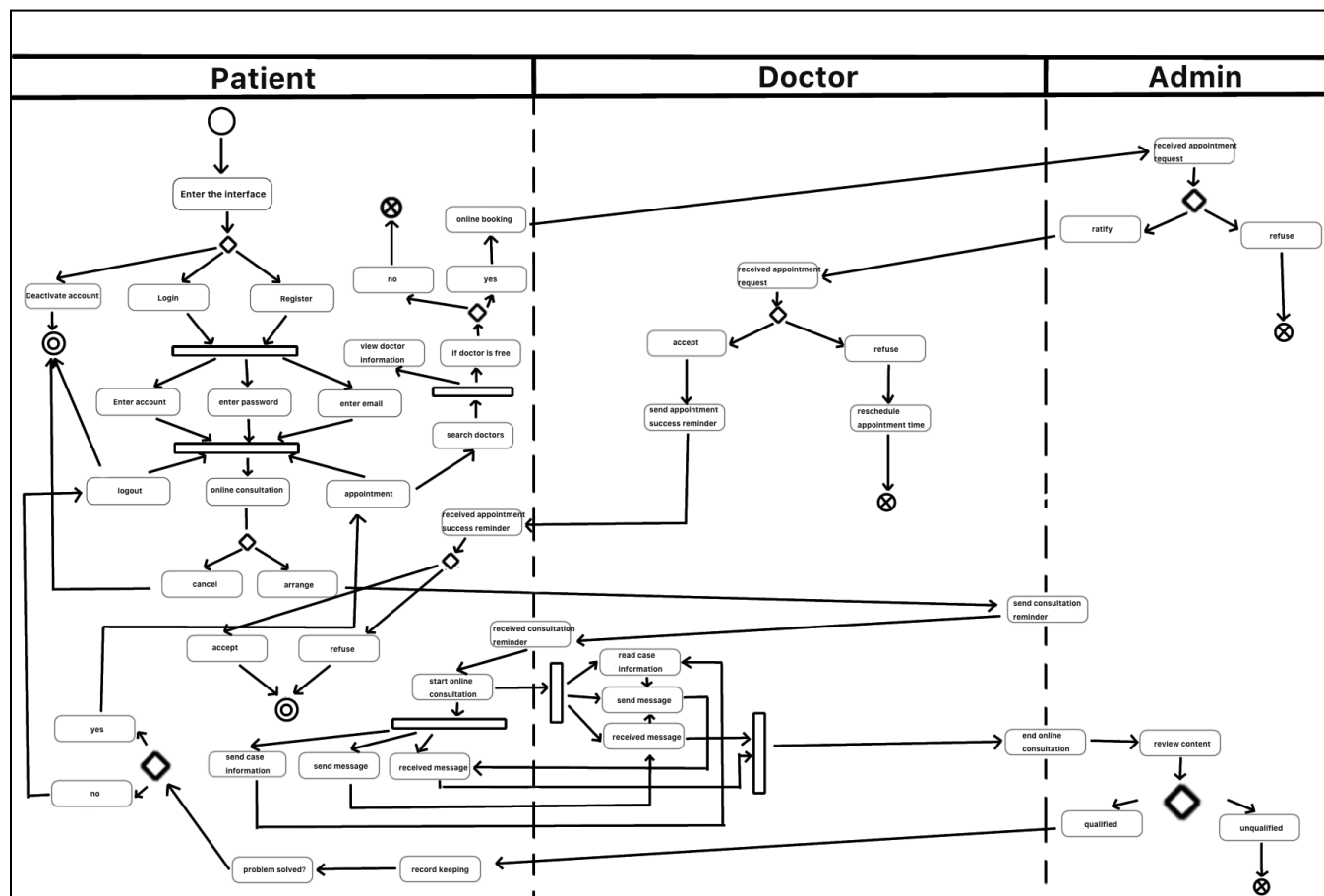


Here's the whole sequence diagram for the User Login Management System and Appointment Scheduling System:



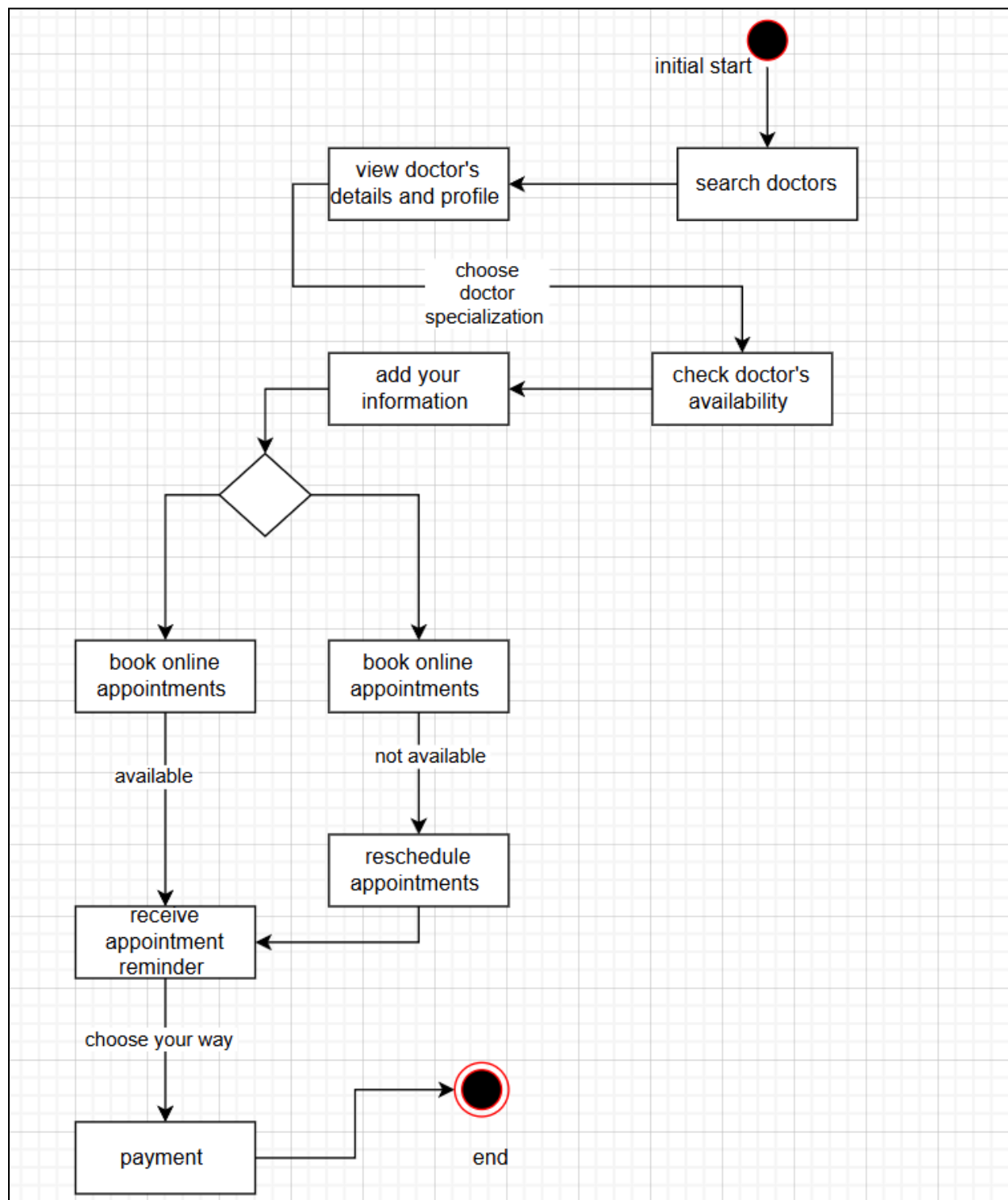


6.0 Activity Diagram

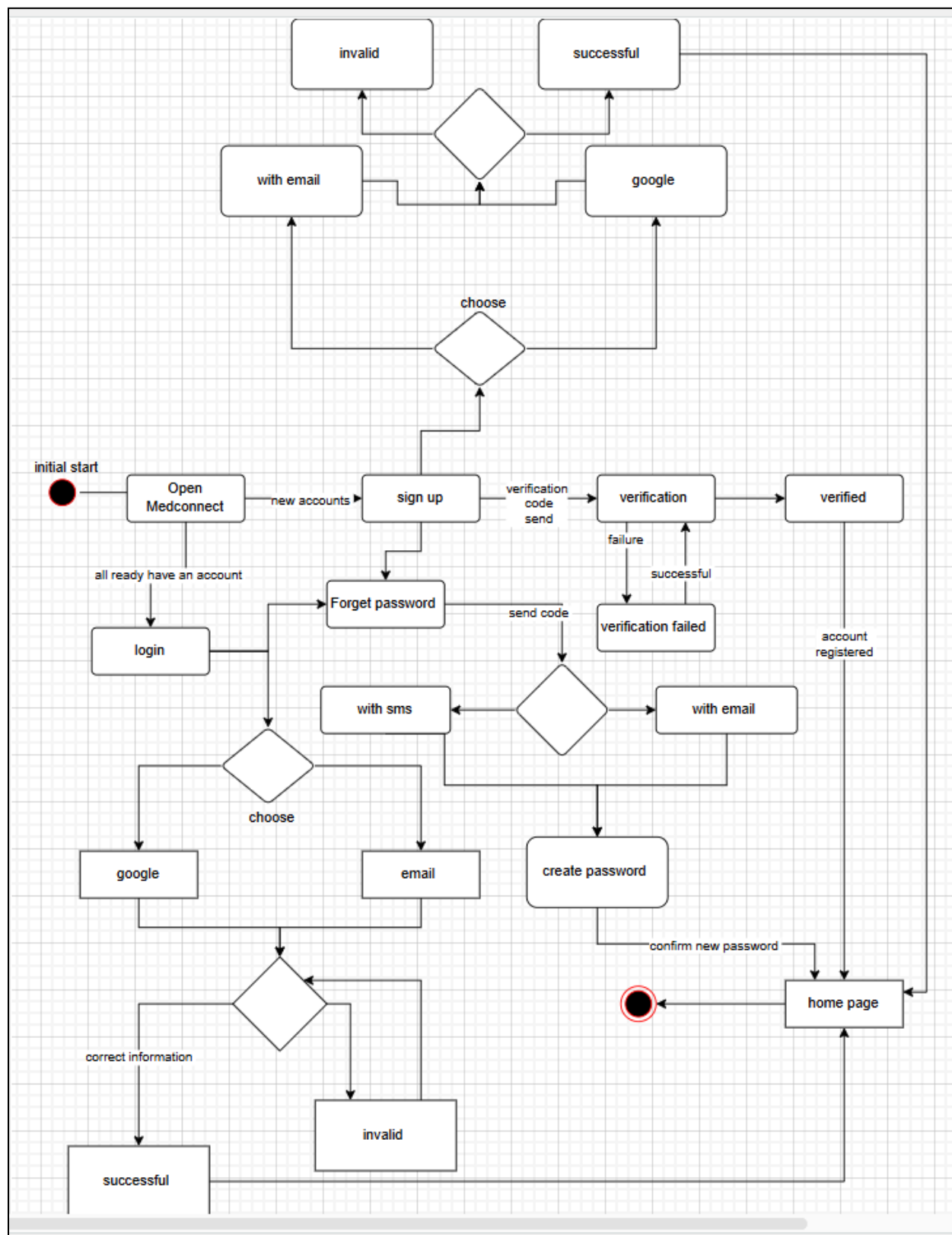


7.0 State Chart Diagrams

7.1 State Chart Diagram: Appointment Scheduling System



7.2 State Chart Diagram: User Login Management System



8.0 Design Rationale

8.1 Strengths and Weaknesses

MedConnect was designed with the intention of streamlining the experience of health check-ups for users across a broad demographic spectrum. It combines video consultations, appointment management, prescription ordering, medication reminders and health records into a single interface. This integration of features enhances the efficiency and convenience of health management tasks while also simplifying the user experience, making it perfect for people who aren't that tech-savvy, like the elderly.

Additionally, MedConnect prioritises security, using 2-step verification as a way to safeguard personal health information. Not only does this protect personal data held within the account, it also helps with building trust within its user base, which is a problem a lot of telehealth and telemedicine platforms struggle with.

However, the platform is not without its weaknesses. One concern is its reliance on fast and stable internet connectivity due to its many online services. In areas where internet service is unreliable, users may experience disruptions, which could hinder access to telehealth services, particularly critical in rural or underserved regions.

Another limitation is the lack of integration with broader healthcare systems, which restricts the platform's utility for users requiring a cohesive view of their health data across different service providers. From a usability perspective, some users, especially older adults, find the navigation challenging, which could deter adoption among a key demographic.

8.2 Alternative Design Ideas Considered

In the planning stages, the design team explored several technological frameworks to try and enhance MedConnect's functionality. One consideration was the implementation of blockchain technology. This would decentralise the storage of health records, making it so that users are able to send and receive medical data without compromising privacy, security and data integrity. However, the complexity and potential latency introduced by blockchain technology were deemed a poor fit for the real-time demands of telehealth communications, leading to its rejection.

Additionally, a microservices architecture was considered to replace a traditional monolithic structure. This approach would allow each component of MedConnect, such as scheduling or prescription management, to operate independently, facilitating more flexible scaling and updating.

Despite the appeal of microservices in theory, the decision to proceed with a more conventional architecture was made to avoid the initial complexities and costs associated with setting up and maintaining a distributed system, which could impact the platform's stability and time to market.

9.3 Evaluation of the Proposed Ideas

The current design of MedConnect is convenient and efficient for present needs. However, as the platform scales and the needs of the user base evolve, it may be necessary to revisit some of the discarded ideas. The incorporation of blockchain might become more viable as the benefits of enhanced security and patient data ownership outweigh the complexity of designing it and the latency issues it brings. Similarly, transitioning to a microservices architecture could be reconsidered to better support scalability and the rapid deployment of new features as demand grows.

9.0 Group Analysis

9.1 Strengths and Weaknesses of the Project Team:

A major advantage which could be highlighted for the project team was the fact that each of the team members possessed different skills. That is, we had a nice distribution of students interested in UI/UX design and students who were decent at software engineering diagrams. Such a distribution helped to approach the work on various aspects of the project more efficiently and allowed us to recognize that, having a 'complete' project, we did not lose any important aspects in it.

Still, there were several weaknesses that the team encountered. Such as communication problems due to having language barriers. And also that we were late to submit. Another major concern was variation in working habits and time, this was because people have different schedules and organisational structures hence time and schedule expectations would not always tally. Different users had different working schedules with some of them having to work during the night while others during the early morning making it hard to have everyone available for a synchronous meeting. We attempted to counter this by setting clear deadlines when communicating and using asynchronicity when working on assignments; however, we failed to make everyone conscious of the meetings and the information that was discussed.

Furthermore, there were sometimes disagreements on the decision-making process, especially about which aspects to focus on in terms of alteration or addition based on users' feedback. Although we had a clear way of voting /reaching consensus it was at times costly in terms of time and sometimes generated a lot of frustrations as we moved round in circles.

9.2 Lessons Learnt About Teamwork:

Another important lesson we learned was the flexibility and adaptability in the framework of our teamwork. During the completion of the project there are always some barriers that are unforeseen; they include technical constraints and shifts in project specifications. Fortunately, due to the understanding of change in terms of plans and roles, these obstacles were easier to address.

Looking at the future, it would become our practice to conduct ongoing check-ups to see whether we are making the expected progress and, if not, what corrective measures ought to be taken. Moreover, there was understanding of the need to come up with a clear conflict solving strategy. For the future, it will be necessary to set up more detailed rules to regulate the process of possible disagreements to minimise their impact on our work.

At the same time, several aspects of the teamwork being characterised as efficient and could be utilised in the subsequent projects. One of the biggest benefits of the collaborative tools that were used during the project was that everyone remained informed and on the same page. Communication was active and made certain that everyone understood what was

required of them and by when it had to be done. In addition, creating a positive organisational culture, in which the team members did not hesitate sharing their thoughts and asking for assistance was advantageous. They would be deemed as relevant and further incorporated in the subsequent series of works in order to maintain the integration of all these aspects to foster a strong team cooperation.

