



School of Computer Sciences

CSE 442 – Software Testing

Academic Session

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Milestone 1: Test Plan

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1.0 INTRODUCTION


1.1. Purpose

This test plan supports the following objectives:

- To detail the activities required to prepare for and conduct the system test.
- To define the sources of the information used to prepare the plan.
- To define the test tools and environment needed to conduct the system test.
- To find and fix any flaws or problems in the system, before releasing the application to the end users.
- To prescribe the schedule of the testing activities.
- Communicate with all responsible parties involved, to provide an understanding of the testing process and objectives.

1.2. Scope


The scope of testing covers white box and black box testing for features developed in Health2U from F001 to F0021. This test plan covers unit testing, integration testing, acceptance testing, and regression testing. This testing would focus on meeting the requirement of the system and making sure that the system fits the purpose.

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2.0 TEST ITEMS


Health2U is a system that consists of both consultation and pharmacy services under one platform. This system includes several features such as user registration, managing profiles, purchasing medicines, consulting doctors, and so on. The user registration feature enables new users to create an account by providing their personal and contact information while existing users can log in to their accounts using their email address and password. The manage profile feature in Health2U enables registered users to manage their profiles where the users can edit their details.

The telemedicine subsystem allows patients to consult with doctors via video conferencing. This subsystem contains features that allow users to filter doctors, manage e-health records, manage e-prescriptions, make payments, manage appointments, and book appointments using chatbot and appointment notifications. Registered users are allowed to consult doctors via video conferencing. They are required to choose a valid payment card before proceeding with the consultation service to ensure the patient is charged the correct amount. The filter doctors feature enables users to find their desired doctors based on their category, gender, and language. The manage e-health records feature in the telemedicine subsystem allows the doctors to update the patient's health records within the platform. As well, doctors and patients can access the medical reports. The doctors can update the medical report and save it securely while the patients are only allowed to download the medical report. The manage e-prescription feature allows doctors to prescribe medication to patients through the platform. Besides that, the patients also can access the prescribed medication details and download them along with the medical report. In addition, patients can purchase the prescribed medications from the e-pharmacy subsystem in Health2U. The make payment feature allows the users to pay for the telemedicine service that is provided via debit or credit card payment method. Once the payment is done successfully, patients can download the generated payment receipt. The appointment management feature allows doctors to update and schedule appointments through the platform. This feature also allows the patients to manage their appointment, where they can view the appointments and cancel them via the platform. The booking of appointments via chatbot allows patients to book, reschedule, or cancel their appointments easily. The appointment notification feature in this system will enable the system to send emails to the

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patients and doctors when an appointment is booked, rescheduled, or canceled and also send a reminder email for both the patient and doctor before the appointment due date.

The e-Pharmacy subsystem allows customers to purchase healthcare products and medicines and the customer can collect them the product is ready for pickup. This subsystem includes features such as searching for products or medicines, filtering products, managing products in the cart, managing products and orders in real-time, performing payments, providing personalized product recommendations, and sending awareness messages to the users. The search feature allows customers to search for a specific product by entering the product name, whereas for medicines the customers have to enter the e-prescription id that was obtained from the Telemedicine system. The product filtration feature allows customers to filter products based on categories, such as supplements, medicines, baby care, and many more. It also allows customers to filter products based on subcategories, which can be specific health issues, product types, and product specifications to make it easier for users to find the products they need quickly and efficiently. This feature also enables customers to sort products based on their price. Besides that, the manage products in the cart feature allow customers, to view, add, modify, or delete product from the cart. This system also includes managing products and orders in real-time feature where any updates on the product or orders, will be instantly updated for all the users without any delays. Once the order status is updated to 'Ready to Pick Up', the system will instantly send a notification via SMS to the user to collect the product. Moreover, the perform payment feature allows customers to make payments using various payment methods such as PayPal, credit or debit card, and Cash On delivery, in order to complete their purchases. The product recommendation feature suggests products for customers that satisfy their interests by analyzing their purchase history. In addition, the system also includes sending awareness message features, where the admin can send messages to the customers via email, to create awareness of the fake and dangerous healthcare products.


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3.0 FEATURES TO BE TESTED.


Feature ID	Feature Description	Test level (Unit/Integration/System testing)
F001	Register: - Users can register and create a new profile in the system.	System, Integration, Unit
F002	Login: - Allow users to login into the system using the correct credentials.	System, Integration, Unit
F003	Logout: - The session will be ended, and the user will be logged out of the system	System, Integration
F004	Edit Profile: - User can edit their profiles and changes are saved correctly and validation rules are enforced to prevent incorrect or invalid data from being saved	System, Integration, Unit
F005	View Profile: - Users can access and view their profile details.	System, Integration, Unit
F006	Filter doctor: – Users can filter for doctors' profiles based on different criteria, such as specialization, gender, or language preferred.	System, Integration, Unit
F007	View the doctor's detail: – Users can access and view the doctor's detail that they search for	System, Integration, Unit
F008	Initiate video call: - Calls can be initiated correctly by the doctors. Both patient and patient easily connect.	System, Integration
F009	Video call management: -	System, Integration

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	Users can easily manage the call such as muting the microphone, camera settings, and ending calls.	
F010	Join video call: – Patients can join the call as the button toggles correctly as the call is initiated.	System, Integration
F011	Create medical report: - Doctors can create new medical reports and validation rules are enforced to prevent incorrect or invalid data from being saved. The records are saved correctly.	System, Integration, Unit
F012	Manage medical reports: - Doctors can update new medical reports before certain period and validation rules are enforced to prevent incorrect or invalid data from being saved. The updated data are saved correctly.	System, Integration, Unit
F013	View medical report: - Doctors and patients can access and view the correct medical report.	System, Integration, Unit
F014	Download medical report: - Patients are allowed to download a medical report for a specific consultation that is chosen.	System, Integration
F015	Fill in medical details: - Patients can fill in medical details and validation rules are enforced to prevent incorrect or invalid data from being saved. The records are saved correctly.	System, Unit
F016	Manage medical details: - Patients can update medical details before booking each appointment and validation rules are enforced to prevent incorrect or invalid data from being saved.	System, Unit

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F017	View medical details: - Patients and doctors can view the latest updated medical details related to the user.	System, Unit
F018	Create e-prescription: - Doctors can create new e-prescriptions after each consultation and validation rules are enforced to prevent incorrect or invalid data from being saved. The data will be saved securely and correctly.	System, Unit
F019	View e-prescription: - Patients and doctors can view the prescribed e-prescription for a particular consultation that is related to the user.	System
F020	Download e-prescription: - Patients are allowed to download the e-prescription for a specific consultation that is chosen.	System, Integration
F021	Manage e-prescription: - Doctors can update the prescription before a certain period. The updated data are saved correctly.	System, Unit
F022	Cancel appointment: - Patients and doctors can cancel an active appointment at any time before the appointment is initiated.	System, Unit
F023	Appointment notification: - Reminders/notifications are sent to users 3 days before their scheduled appointments and once an appointment is made, canceled, or rescheduled.	System, Integration, Unit
F024	Doctor availability management: -	System, Unit

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	Doctors can manage their availability appointments. The system can block the unavailable time, set the available preferences, and update the availability	
F025	Book an appointment via chatbot: - Patients can book appointments by choosing the available date and time slots that are available via the choices given in the chatbot's choices.	System, Unit, Integration
F026	Reschedule appointment via chatbot: - Chatbot can provide an available date under the doctor to reschedule the appointment. Patients can reschedule appointments by checking the provider's availability.	System, Unit, Integration
F027	Cancel appointment via chatbot: - Chatbot can cancel the appointment chosen by the patient and handle this scenario.	System, Unit, Integration
F028	Error handling in chatbot: - Chatbot should be to handle errors and provide appropriate error messages to users.	System, Integration
F029	Add new medical service: - Admin can add new medical services and validation rules are enforced to prevent incorrect or invalid data from being saved. The data was saved successfully.	System, Unit
F030	View medical services: - Patients and admins can view the medical services along with their descriptions correctly.	System
F031	Manage medical service: - Admin can edit the medical service details and validation rules are enforced to prevent	System, Unit

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	incorrect or invalid data from being saved. The data was saved successfully.	
F032	Add payment card: - Patients are required to add a valid card into the system for payment transactions for consultation.	System, Unit, Integration
F033	Delete payment card: - Patients can delete the card that is saved in the system.	System, Unit, Integration
F034	View payment card: - Patients can view all their saved cards.	System, Integration
F035	Select payment card: - Patients are able to select a valid card for further processing of payment.	System, Integration
F036	Payment authorization: - The availability of fund in the card is checked and the payment gateway accurately authorizes payments and prevent declined transaction.	System, Integration
F037	Payment confirmation: - The system should be able to confirm successful payments and provide relevant transactional details.	System, Unit
F038	View appointment details: - Patients, doctors, and admin can be able to view all the appointments and details related to the specific appointments.	System
F039	Filter appointments based on date, doctor, and status: - Patients and doctors can be able to filter their appointments based on different criteria such as date and status whereas patients are able to filter based on the doctor's name as well.	System, Unit

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F040	View consultation details: - Doctors and patients are able to access and view all the consultation details and the specified consultation details.	System
F041	Filter consultation based on date and doctor: - Patients and doctors can be able to filter their consultations based on date whereas patients are able to filter based on the doctor's name as well.	System, Unit
F042	Admin register doctor: - Admin is able to register a doctor into the system and also send an email to the doctor to update their email and temporary password.	System, Unit, Integration
F043	Recommend healthcare products based on customer's interest: - The system should recommend healthcare products that customers might be interested in by analyzing the purchase history of the customer and other users.	System, Unit, Integration
F044	Search for a specific healthcare product: - The customer should be able to search for a specific healthcare product by typing keywords related to it. Products that match the keyword should be displayed on the screen.	System, Unit
F045	Modify product information in real-time: - The pharmacist can edit existing product information. The edited information should be updated for all users instantly.	System, Unit
F046	View available healthcare products in real-time: - The customers should be able to view all the	System

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	available healthcare products. The product information should synchronize for all users.	
F047	Filter healthcare products based on the main category: - The customers can filter the healthcare products based on categories such as OTC medicine, Covid-19, supplements and vitamins, woman's care, first aid, and so on.	System, Unit
F048	Filter healthcare products based on the sub-category: - The customers can filter the healthcare products based on sub-categories in each main-category.	System, Unit
F049	Sort healthcare products based on the product price: - The customers can sort the healthcare products based on prices, such as low-to-price, price-to-low, and best match.	System, Unit
F050	View medicines prescribed by doctors: - The customer can view medicines prescribed by doctors from the Telemedicine system. The customer is required to enter an e-prescription id in the prescription. The id will be verified, and the medicines prescribed will be shown to the customer.	System, Integration
F051	Add product to cart in real-time: - The customer can add a healthcare product to the cart by specifying the quantity they wished to buy.	System, Unit
F052	Delete product in the cart in-real-time: -	System, Unit

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	The customer can remove the product from their cart by clicking on the delete button associated with the product.	
F053	Update product in the cart in real-time: - The customer can edit the product quantity in the cart using add and minus buttons.	System, Unit
F054	View products in the cart in real-time: - The customers can view their carts. All the products added to the cart should be displayed to them.	System, Unit
F055	Compute the subtotal of each product in the cart in real-time: - The system should compute the subtotal for each product added to the cart and display them to the user.	System, Unit
F056	Compute the total of all products in the cart in real-time: - The system should calculate the total amount of all products in the cart and display them to the customer.	System, Unit
F057	Customers view all the orders made by them: - The customers can view all the orders that include current and past orders, made by them.	System
F058	Customer filter orders based on the order status: - The customer can filter the orders according to the order status.	System, Unit
F059	Cancel orders made by the customer: - The customer can choose to cancel the order that has been made.	System, Unit

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F060	Request for refund orders: - Customer request refunds for orders that have been completed.	System, Integration, Unit
F061	Customers receive notification to Pick Up Orders through SMS: - The customer should receive a notification through SMS when the order is ready to be collected.	System, Integration, Unit
F062	Give reviews and ratings for products in completed orders: - The customer should be able to give reviews and ratings for completed orders.	System, Unit
F063	View all reviews and ratings for each product:- The customer should view all reviews and ratings given to a product.	System
F064	Compute the average rating for each product: - The system should compute the average rating given by all customers for a product.	System, Unit
F065	Pharmacist and admin update order status:- The pharmacist and admin can update the order status based on the progress of the order.	System, Unit
F066	Pharmacist and Admin view orders made by all customers: - The pharmacist and admin can view all the orders made by the customers.	System
F067	Pharmacist and Admin filter orders made by all customers: -	System, Unit

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	The pharmacist and admin can filter orders based on the order status, which are Completed, Ready for Pick Up, Processing, and Cancelled.	
F068	Pharmacist and Admin filter products based on availability: - The pharmacist and admin can filter products based on the availability of the product, whether Available or Unavailable.	System, Unit
F069	Pharmacist or Admin add a new product in real-time: - The pharmacist and admin can add new products to the system by filling in their required details. The added product should be rendered immediately for all customers.	System, Unit
F070	Pharmacist or Admin edits a product in real-time: - The pharmacist and admin can edit existing product information. The edited information should be updated for all users.	System, Unit
F071	Pharmacist and Admin delete product in real-time: - The pharmacist and admin can delete existing products from this application. The product should not be listed in any current orders. The product should be removed for all customers.	System, Unit
F072	Pharmacist and Admin view all products in real-time: - The pharmacist and admin can view all the products that include, medicines and healthcare care products, that are available and unavailable.	System

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F073	Admin adds a new pharmacist: - The admin can add a new pharmacist to the system.	System, Unit
F074	Admins modify pharmacists' information: - The admin can modify the pharmacist's basic information, such as email, contact number, active status, and address.	System, Unit
F075	Admin sends awareness messages to customers: - The admin can send awareness messages regarding fake and dangerous health care products to the selected customers' email from their dashboard.	System, Integration, Unit
F076	Admin filter users based on role: - The admin can filter users based on their role, whether customers, doctors, and pharmacist.	System, Unit, Integration
F077	Admin upload new advertisement poster: - Admin can be able to upload new advertisement posters to firebase storage and store the link in Firestore.	System, Unit
F078	Admin deletes advertisement poster: The admin can delete the saved posters from the database.	System, Unit
F079	Admin view all advertisement posters:- The admin can view all the uploaded advertisement posters in the system.	System
F080	Display advertisement posters randomly for each customer: - The system should display the posters randomly for each customer.	System
F081	Admin manages user's details: -	System, Unit

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	Admin can edit a user's basic details such as email, contact number, and address, and the data will be stored correctly.	
F082	Admin manages doctor's detail: - Admin can edit a doctor's basic details such as email, contact number, active status, and address, and the data will be stored correctly.	System, Unit

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4.0 FEATURES NOT TO BE TESTED

The following are the features that will not be tested: -

- i. Perform a payment using PayPal.
- ii. Credit card payment using Stripe.
- iii. Video call communication using VideoSDK API.
- iv. Sending reminders and notification emails using Gmail API

5.0 TEST APPROACH OR TEST STRATEGY

5.1 Test design techniques for white-box testing

Various actions will be taken to conduct the white box testing for the Health2u system. The internal structure and logic of the Health2u system can be evaluated comprehensively by carrying out white box testing strategies in the test plan of this system. This will ensure that the Health2u system will be dependable, and effective, and satisfies both its functional and non-functional needs.

The main white-box testing techniques that will be covered are: -


○ **Control-flow-based testing.**

▪ **Statement testing**

The design of statement testing will be by planning testing which involves testing each line of code or statement in the source code at least once. The coverage of the statement will be defined by identifying the total statements executed over the total number of statements. The test will be considered completed if the previously determined level of coverage is reached.

▪ **Path testing**

Path testing will be conducted by developing test cases that ensure that all the paths in systems are passed through at least once.

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- **Decision testing**

Design testing will be performed by developing test cases that will identify and test every possible outcome of a decision such as if/else statement, switch, for, and while statements. All potential outcomes of the decision points in the code are evaluated by using decision testing. This makes it easier to make sure the code runs properly in any case.

- **Condition testing**

Condition testing will be performed by developing test cases that will test the identified conditions in the code. A condition is a logical expression, such as a comparison or a Boolean expression, that evaluates to true or false.

- **Dataflow-based testing.**

Dataflow-based testing will be carried out by developing test cases that will test the identified data flows in the code. The transfer of data between variables, functions, or modules in the code is referred to as a data flow.

5.2 Test design techniques for black-box testing


Black box testing will be performed for the system by developing test cases based on the system's requirements and specifications and executing them with various input values and conditions, to verify that the system behaves as expected and meets the desired quality standards. Black box testing aims to find flaws or issues that may impair the system's functionality, usability, or performance, from the end-user's perspective.

The main black-box testing techniques that will be covered are: -

- **Syntax testing**

Syntax testing will be performed by defining test cases based on a formal input syntax specification to verify its accuracy and validity.

- **Use Case Testing**

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Use case testing will be conducted by designing test cases that simulate scenarios from a use case, to detect integration defects that can arise from the interaction and interference of various system components.

- **State Transition testing**

State transition testing will be performed to verify that the system responds correctly to different input conditions and events, by testing the transitions between various system states.


- **Decision Table testing**

Decision table testing will be conducted to test different combinations of input conditions and their corresponding actions, to ensure that the system behaves as intended in all possible scenarios.

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6.0 ITEM PASS/FAIL CRITERIA


Related Feature	F001 – Register				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC001	User registration – Enter valid information	Enter valid information. e.g.: - Name: Lim Chai Yen Email: chaiYen@gmail.com Phone number: 012345679 Username: chaiYen Password: 12345chaiYen	Successfully registered into the system and navigated to the login page	The “User registered successfully” message is displayed. Navigated to the login page successfully.	The user’s data is not saved successfully, or the message is not displayed.
TC002	User registration – Enter existing email	Enter valid information. e.g.: - Name: Lim Chai Yen Email: chaiYen@gmail.com Phone number: 012345679 Username: chaiYen Password: 12345chaiYen	Email already exists. Prompt to login.	Display the “Email already exists” message displayed. Navigate to the login page.	Message not displayed or not navigated to the login page.
TC003	User registration – Enter an invalid password	Enter an invalid password.	Invalid password	“Registration fails due to	Registration failed due to an invalid password.

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		e.g.: - Name: Lim Chai Yen Email: chaiYen@gmail.com Phone number: 012345679 Username: chaiYen Password: 0012v		invalid password. (Must be 0-9 alphanumeric)” the message is displayed.	
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Related Feature	F002 –Login				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC004	Enter valid information	Enter a valid username and password. Example: Username: Faiza Password: faiza0204	Login success and navigate to the homepage. Sessions start successfully	Successfully login to the system.	The “Login failed” message displayed
TC005	Enter incorrect password	The password entered is invalid. Example: Username: Faiza Password: f000	Prompt login page again.	Display username or password incorrect error message.	No error message was displayed.

Related Feature	F003– Logout				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria

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TC006	Click logout	Click on the “Logout” button	The session ends and the user logged out	The user logged out and display “Logged out Successfully”	Unable to logout The session does not end
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Related Feature ID	F004- Edit profile				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC007	Modify profile information.	Contact Number: 018-xxxxxxx	The newly updated information of the customer is stored in the database and displayed to the customer.	Display ‘Successfully saved’	Display ‘Data was not stored successfully’.
	Enter invalid data	Contact Number: health	Display the appropriate error message.	Display ‘Invalid input’	Error message not displayed.
TC008	Enter empty input.	Contact Number:	Display appropriate error message	Display ‘Contact number is required’	Error message not displayed.
TC009	Edit user account password. Enter an invalid current password.	Current password: abcghd New Password: healthy	Display appropriate error message	Display ‘Your current password doesn’t match’	Error message not displayed.
TC010	Edit user account password. Enter a valid password.	Current password: health2u New Password: healthy	The password is changed.	Display "Your password has been successfully updated."	Password modified is not updated in the database. The password doesn’t change.

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Related Feature ID	F005 – View profile				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC011	View user profile	Click on ‘View Profile’	Display all profile details	All profile details regarding the user are displayed.	Profile not displayed. Incorrect profile details displayed


Related Feature	F006 - Filter doctor				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC012	Click on a specific specialization	Specialization: “Neurologist”	Display doctors under specific specialty e.g.: Dr. Annah De Cruz Neurologist MBBS English	Doctors with specific specialties are displayed. Display “No doctor found in this specialty”	Doctors with other specialties were displayed.
TC013	Click on a specific gender	Gender: “Female”	Display doctors under specific gender e.g.: Dr. Annah De Cruz Neurologist MBBS English	Doctors of specific gender displayed. Display “No doctor found within this gender”	Doctors with other gender displayed

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TC014	Click on a language	Language: “English”	Display doctors under specific gender e.g.: Dr. Annah De Cruz Neurologist MBBS English	Doctors of specific gender displayed. Display “No doctor found within this gender”	Doctors with other gender displayed
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Related Feature	F007 – View doctor details				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC015	Click to view more details	Click on the specific doctor’s “View Profile” button.	Doctor’s details are displayed on a modal	All details regarding the doctor are displayed	The doctor’s details are not displayed. The detail displayed is incorrect. Incorrect detail is displayed

Related Feature	F008 – Initiate a video call				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC016	The video call conference starts	Click the “Invite Now” button in each appointment.	Send the invitation successfully and toggle join now on the patient’s page.	The appointment status changed from “booked” to “on call”. The “Join now” button	The appointment status does not change from “booked” to “on call”.

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				toggled successfully.	The “Join now” button is not toggled.
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Related Feature	F009 – Video call Management				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC017	Mute/unmute the audio	Click the “Mute” button	The audio is muted/unmuted successfully	The selected participant’s audio is muted/unmuted without any technical issues.	The audio cannot be muted/unmuted. There is a technical issue.
TC018	End call	Click “End call”	The call ended successfully	The call ended without any technical issues. Navigate to the payment page	The call cannot be ended. Cannot navigate to the payment page
TC019	Leave call	Click “Leave call”	Successfully leave the video call conference	Leave the video conference without any technical issue Navigate to the payment page	The participants disconnected properly. Cannot navigate to the payment page.
TC020	On/Off the video call	Click the “Video” button	The video is off/on	The selected participant’s video is on/off without any technical issue	The video cannot be on/off. There is a technical issue.

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Related Feature	F010 – Join the video call				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC021	Join the video conference	Click the “Join Now” button	Navigated to a video call platform	Connect with the specified doctor via video call	Cannot join the video call.


Related Feature	F011 - Create a medical report				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC022	Submit valid medical details.	Chief complaint: Fever, Headache, Sore throat Diagnosis: Acute Pharyngitis Treatment: Antibiotics, rest, and hydration	Report created successfully message displayed	Generate a complete medical report that includes patient information, symptoms, diagnosis, and treatment plan.	A report with incomplete or incorrect details is generated. Data not stored successfully.
TC023	Submit null value	Chief complaint: Null Diagnosis: Null Treatment:	Error message displayed	“Medical report is empty. Please key in something before save” message displayed	Message not displayed. Data not stored.

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Related Feature	F012 – Manage medical report				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC024	Submit valid medical report details to edit	Chief complaint: Fever, Headache, Sore throat Diagnosis: Acute Pharyngitis Treatment: Antibiotics, rest, and hydration	The edit button is active for 5 minutes after the medical report is created. The updated medical report is saved successfully	The “Medical Report Saved Successfully” message is displayed successfully. The “Medical Report Saved Successfully” message is displayed successfully. Data stored successfully	Message not displayed. Data not stored.
TC025	Submit null values to edit.	Chief complaint: Null Diagnosis: Null Treatment: Null	Error message displayed	“Medical report is empty. Please key in something before save” message displayed	Message not displayed. Data not stored.

Related Feature	F013 – View the medical report				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC026	View medical report	Click on “Medical Report”	A medical report is displayed	The specified consultation’s medical report is displayed	The specified consultation’s medical report is not displayed.

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Related Feature	F014 – Download the medical report				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC027	Download medical report	Click the “Download” symbol top of each medical report	Medical report downloaded	The specified medical report was downloaded successfully	The medical report cannot be downloaded.

Related Feature	F015 – Fill in medical details				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC028	Submit valid details	Height: 163 cm Weight: 65kg Allergies: NA Medical History: Gastric Purpose: Fever	Navigate to the booking feature.	The medical details were saved successfully. Display ‘Successfully saved’ Booking chatbot triggered	The medical survey form was not saved successfully. Display ‘Data was not stored successfully’.
TC029	Submit incorrect input	Incorrect height is entered. Height: 1abc cm Weight: 65kg Allergies: NA	Prompt to enter a valid height value	The “Invalid height in entered” message displayed	Error message not displayed

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		Medical History: Gastric Purpose: Fever			
TC030	Submit an empty input field	Empty height value in the input Height: cm Weight: 65kg Allergies: NA Medical History: Gastric Purpose: Fever	Prompt to enter a valid height value	“Height is empty. All fields are required.” message displayed	Error message not displayed


Related Feature	F016 – Manage medical details				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC031	Edit medical details. Submit valid details	Height: 163 cm Weight: 65kg Allergies: NA Medical History: Gastric Purpose: Fever	Navigate to the booking feature.	The medical details were saved successfully. Display ‘Successfully saved’ Booking chatbot triggered	The medical survey form was not saved successfully. Display ‘Data was not stored successfully’.
TC032	Submit incorrect input	Incorrect height is entered.	Prompt to enter a valid height value	The “Invalid height in entered”	Error message not displayed

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		Height: 1ab cm Weight: 65kg Allergies: NA Medical History: Gastric Purpose: Fever		message displayed	
TC033	Submit an empty input field	Empty height value in the input Height: cm Weight: 65kg Allergies: NA Medical History: Gastric Purpose: Fever	Prompt to enter a valid height value	“Height is empty. All fields are required.” message displayed	Error message not displayed


Related Feature	F017 – View medical details				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC034	View medical details	Click on “Medical Details”	Medical detail is displayed	The patient’s medical detail is displayed	The patient’s medical detail is not displayed.

Related Feature	F018 – Create e-Prescription				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria

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TC035	Enter valid details	Medication Name: “Paracetamol” Purpose: “Fever” Dosage: ”1 tablet” Frequency: ” Every 8 hours” Intake: After a meal Description: Oral consultation	The prescription was stored successfully.	The “Prescription saved successfully” message displayed	Message not displayed.
TC036	Submit null value	Medication Name: “ ” Purpose: “Fever” Dosage: ”1 tablet” Frequency: “Every 8 hours” Intake: After a meal Description: Oral consultation	Error message displayed	“Medicine name is required. Please key in the medicine name before save” message displayed	Message not displayed.

Related Feature	F019 – View e-Prescription				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC037	View Prescription	Click on “e-Prescription” beside each consultation	e-Prescription is displayed	The specified consultation’s e-Prescription is displayed	The specified consultation’s e-Prescription is not displayed.

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Related Feature	F020 – Download e-Prescription				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC038	Download e-Prescription	Click the “Download” symbol top of the e-Prescription	e-Prescription downloaded	The specified e-Prescription was downloaded successfully	The e-Prescription cannot be downloaded.


Related Feature	F021 – Manage e-Prescription				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC039	Submit valid values to edit the prescription.	Medication Name: “Paracetamol” Purpose: “Fever” Dosage: ”1 tablet” Frequency: ” Every 8 hours” Intake: After the meal Description: Oral consultation	The edit button is active for 5 minutes after the e-prescription is created. The updated e-prescription is saved successfully	The “Prescription Saved Successfully” message is displayed successfully. Data stored successfully	Message not displayed. Data not stored.
TC040	Submit a null value to edit the prescription	Medication Name: “ Purpose: “Fever”	Error message displayed.	“Medication is empty. Please key in something before save”	Message not displayed. Data not stored.

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		Dosage: ”1 tablet” Frequency: ” Every 8 hours” Intake: After the meal Description: Oral consultation		message displayed	
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Related Feature	F022 – Cancel appointment				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC041	Cancel the appointment using the cancel button	Click on the cancel button.	The appointment was removed from the list.	The appointment is not on the list.	The appointment is still on the list.


Related Feature	F023 – Appointment notifications				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC042	Book appointment	Date: - 12/12/2023 Time: - 1.00 pm	Email sends to the doctor/patient successfully	Email received by the specified doctor/patient	Email is not sent. Email received by wrong patient/doctor.
TC043	Cancel appointment	Appointment Status: Cancelled	Email sends to the doctor/patient successfully	Email received by the specified doctor/patient	Email is not sent. Email received by wrong patient/doctor.

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TC044	Reschedule appointment	Date: - 12/12/2023 Time: - 11.00 pm	Email sends to the doctor/patient successfully	Email received by the specified doctor/patient	Email is not sent. Email received by wrong patient/doctor.
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Related Feature	F024 – Doctor availability management				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC045	Submit valid date and time slots	Date: 21/1/2023 Time: 9.30am - 910.30am	The new appointment was scheduled successfully	Display the “Appointment scheduled successfully” message	No message displayed
TC046	Submit null value	Date: ” “ Time: 9.30am - 910.30am	Display error message	Display the “Date field is empty. Date is required.” message	No message displayed
TC047	Submit invalid date	Date: 21/1/2020 Time: 9.30am - 910.30am	Display error message	Display the “Date chosen is invalid” message	No message displayed


Related Feature	F025 – Book an appointment using a chatbot				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC048	The “Book Appointment” button clicked	Choose a valid date and time shown by a chatbot. e.g.: Date: 21/1/2023	Chatbot display only available date and time. A new appointment should be booked and confirmed	The chatbot should confirm the appointment details and provide a reference number for the booking. The appointment	The chatbot does not confirm the appointment details or provide a reference number. The appointment is not added to the system or

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		Time: 9.30am - 10.30am		should be added to the system and reflected in the doctor's schedule.	reflected in the doctor's schedule.
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Related Feature	F026 – Reschedule the appointment using the chatbot				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC049	Request to reschedule in chatbot	Choose an appointment to reschedule.	Chatbot displays all the appointments for specific users.	The chatbot should confirm the appointment details and provide the available date and time for the chosen doctor.	The chatbot does not confirm the appointment details or provide an available date and time for the chosen doctor.
TC050	Choose an available date to reschedule	Choose a valid date and time shown by the chatbot to reschedule. e.g.: Date: 11/2/2023 Time: 5.30 pm - 6.30 pm	Chatbot display only available date and time. The appointment should be rescheduled and confirmed	The chatbot should confirm the appointment details. The appointment should be rescheduled in the system and reflected in the doctor's schedule.	The chatbot does not confirm the appointment details. The appointment is not rescheduled to the system or reflected in the doctor's schedule.

Related Feature	F027 – Cancel appointment using a chatbot				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC051	Request to cancel in chatbot	Choose an appointment to cancel.	Chatbot displays all the	The chatbot should confirm the	The chatbot does not confirm the


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			appointments for specific users.	appointment details.	appointment details.
TC052	Cancel appointment.	Click on the appointment to cancel	The appointment is not on the list.	The chatbot should confirm the appointment details. The appointment should be cancelled and reflected in the doctor's schedule.	The chatbot does not confirm the appointment details. The appointment is not cancelled or reflected in the doctor's schedule.

Related Feature	F028 – Error handling in chatbot				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC053	Chat using the chatbot	Request: Cancel the appointment Appointment ID: “”.	The chatbot should recognize the inputs and provide appropriate responses based on the information provided.	The chatbot should also handle unexpected inputs and provide helpful feedback to the user.	The chatbot does not recognize the inputs provided or provide appropriate responses.

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Related Feature	F029 – Add new medical service				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC054	Submit valid input	Medical service: “Dermatology” Description: “A service that takes care of skin-related diseases” Picture: Skin-related pic uploaded	Medical service was stored successfully.	The “Medical saved successfully” message is displayed.	Message not displayed.
TC055	Submit invalid information	Medical service: “1345” Description: “A service that takes care of skin-related diseases” Picture: Skin-related pic uploaded	Display appropriate error message	Display ‘Invalid inputs’	Error message not displayed
TC056	Submit null value	Medical service: “” Description: “A service that takes care of skin-related diseases” Picture: Skin-related pic uploaded	Error message displayed	“Medical Service is required. Please key in medical service before save” message displayed	Message not displayed.

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Related Feature	F030 – View medical services				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC057	View medical services	Click the “Services Available” button	Services displayed	The specified medical service details are displayed successfully.	The specified medical service details are not displayed.


Related Feature	F031 – Manage medical service				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC058	Edit medical service details.	Medical service: “Dermatology” Description: “A service that treats related diseases” Picture: Skin-related pic uploaded	Updated medical services saved successfully	The “Medical Service Saved Successfully” message is displayed successfully. Data stored successfully	Message not displayed. Data not stored.
TC059	Delete medical service	Click the “Delete” button for the specific medical	The medical service was removed from the list.	Medical service is not on the list.	Medical service is still on the list.

Related Feature	F032 - Add payment card				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC060	Enter valid card details	Card Name: “Testing Result” Card Number:	Display added card.	The “Card added successfully”	The “Fail adding card” message displayed

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		1111 2222 3333 4444 CVV: 917 Expiry Date: 12/23	“1111 **** * ****”	message displayed	
TC061	Enter invalid CVV number	Card Name: “Testing Result” Card Number: 1111 2222 3333 4444 CVV: “001” Expiry Date: 12/23	Prompt key in card CVV number again	The “CVV number does not match” message displayed	No error message displayed
TC062	Enter expired card	Card Name: “Testing Result” Card Number: 1111 2222 3333 4444 CVV: 917 Expiry Date: 12/19	Prompt key in a different card.	The “Card has expired” message displayed	No error message displayed


Related Feature	F033 – Delete payment card				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC063	Delete card	Click on the “Delete” icon	Delete is successful	The “Card deleted successfully” message is displayed	Unable to delete the card.

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Related Feature ID	F034- View payment card				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC064	View payment card	Click the “Pay” button	Payment cards displayed	The payment card’s details are displayed successfully.	The payment card’s details are not displayed.

Related Feature ID	F035- Select payment card				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC065	Select a valid payment card for payment	Click on a valid card. e.g: - Payment card option: “1234 5678 9123 4567”	The selected payment card will undergo an authorization	The selected payment card by the user should be processed further without any issues.	The payment fails to process for the selected payment card.


Related Feature ID	F036- Payment authorization				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC066	Payment is authorized by the API	Selected card details	The payment is authorized, and payment is processed successfully	The payment should be authorized, and the payment status should be changed from pending to paid.	The payment is not authorized, or the payment status is not changed to paid from pending.

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Related Feature ID	F037 -Payment confirmation				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC067	Payment is made	Payment status	Receive a confirmation message on the screen.	The confirmation message on the screen with the confirmation code	Resulting in an error message or the user being redirected to the payment screen.

Related Feature	F038 – View appointment details				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC068	Click to view more details	Click on “View More Details” beside each appointment	Details of the appointment displayed	Specified appointment detail displayed	The correct appointment details are not displayed.


Related Feature	F039 – Filter appointment details				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC069	Click on a specific specialization	Click on a specific specialty. e.g.: Click on “Neurologist”	Display appointments under specific specialty	Appointments with specific specialties are displayed. Display “No appointments found in this specialty”	Appointments with another specialty are displayed.
TC070	Click on a specific status	Click on a specific status. e.g.: Click on “Booked”	Display appointments under the specific status	Appointments under specific status displayed. Display “No appointments	Appointments with other statuses displayed

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				found within this status"	
TC071	Click on a date	Click on a specific date. e.g.: Click on "1/12/2022"	Display appointments under a specific date	Appointments under specific dates are displayed. Display "No appointments found within this gender"	Appointments with other dates displayed


Related Feature	F040 – View consultation details				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC072	Click to view more details	Click on "View More Details" beside each consultation	Details of the consultation displayed	Specified consultation detail displayed	The consultation details are displayed. Incorrect consultation details displayed

Related Feature	F041 – Filter consultations details				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC073	Click on a specific specialization	Click on a specific specialty. e.g.: Click on "Neurologist"	Display consultations under specific specialty	Consultations with specific specialties are displayed. Display "No consultations found in this specialty"	Consultations with another specialty displayed.
TC074	Click on a date	Click on a specific date.	Display consultations under a specific date	Consultations under specific date displayed.	Consultations with other dates displayed

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		e.g.: Click on “22/5/2023”		Display “No consultations found within this gender”	
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Related Feature	F042 – Register doctor				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC075	Doctor registration – Enter valid information	Enter valid information. Name: Jackson Chan Email: chan@gmail.com Phone number: 0189054717 Username: chanDr Password: 12345poi	Successfully registered into the system and send an email to the doctor	Successfully registered and an email sent	The user is unable to register or the email is not sent
TC076	Doctor registration – Enter the existing license number	Enter valid information. e.g.: Name: Jackson Chan Email: chan@gmail.com Phone number: 0189054717 Username: chanDr Password: 12345poi	Email address already exist message is displayed.	Display the “email already exist” message displayed	Message not displayed

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Related Feature ID	F043- Recommend healthcare products based on customer's interest.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC077	Click on a specific healthcare product.	Click on a specific healthcare product card.	Recommend healthcare products based on customer interest.	The recommended products are relevant to the customer's interests and preferences.	No products are recommended.

Related Feature ID	F044- Search for a specific healthcare product.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC078	Enter a keyword in the search box and click on the search button.	Search: 'vitamin C'.	Display products that match the keyword searched.	Vitamin C products are shown to the customer. Display 'No results found'	Products that don't match the keyword are shown to the customer.
TC079	Submit a null value to the search function.	Search: "".	Display appropriate error messages to the customer.	Display 'Keyword is required'	An error message is not displayed


Related Feature ID	F045- Modify product information in real-time				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC080	Enter valid information	Product price: RM25 Product Costs: RM15	The newly updated information on the healthcare product is stored in the database and updated	Display 'Successfully saved'	Display 'Data was not stored successfully'.

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			to all customers instantly.		
TC081	Enter empty input	Product price: Product Costs:	Display appropriate error message	Display ‘All fields are required’	Error message not displayed
TC082	Enter invalid information	Product price: health Product Costs: medicine	Display appropriate error message	Display ‘Invalid inputs’	Error message not displayed

Related Feature ID	F046- View available healthcare products in real-time				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC083	View all available healthcare products	Click on the e-pharmacy system in the header.	Display all available products.	All available products are shown. Display ‘No products are available’.	Unavailable products are shown.


Related Feature ID	F047 – Filter healthcare products based on the main category				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC084	Click on the main category.	Click on any specific main category. Example: Click on ‘Supplements’	Display healthcare products under the main category. Example: Display products that are classified under ‘Supplements’.	Products from selected categories are shown to the customer customers. Display ‘No products found in this category.’ Example: Products that are under the	Random products from various categories are shown to the customer.

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				Supplements category are shown to the user.	
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Related Feature ID	F048 – Filter healthcare products based on the sub-category				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC085	Click on a sub-category.	Click on any specific sub-category. Example: Click on ‘Joint problem’.	Display healthcare products under the sub-category. Example: Display products that are classified under ‘Joint problem’.	Products from selected sub-categories are shown to the customer. Display ‘No products found in this sub-category.’ Example: Products under the joint problem sub-category are shown to the user.	Random products from various sub-categories are shown to the customer.

Related Feature ID	F049 – Sort healthcare products based on the product price				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC086	Sort products in ascending or descending order in terms of price.	Select the desired sorting order (ascending or descending). Example: Click on ‘Low to High’.	Sort healthcare products based on the price order selected and display them. Example: Sort the products from low to high and display them.	Products are sorted based on chosen order. Example: Products are sorted from low to high.	Products are sorted incorrectly.

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Related Feature ID	F050- View medicines prescribed by doctors				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC087	Enter a valid e-prescription id.	Prescription id: 1110203891	The medicines prescribed by the doctor from the Telemedicine system should be displayed for the customer.	All the information about the medicines prescribed by a doctor, which includes, the medicine name, quantity, price, and dosage is displayed to the customer.	Medicines prescribed are not shown to the customer.
TC088	Enter invalid e-prescription id.	Prescription id: 11111111	Display the appropriate error message.	Display 'Invalid prescription id'.	An error message is not displayed.
TC089	Enter empty input field	Prescription id:	Display the appropriate error message.	Display 'Prescription id is required'	An error message is not displayed.


Related Feature ID	F051- Add product to cart in real-time				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC090	Enter the quantity and click on the 'add to cart' button.	Quantity: 5 Click on the 'Add to cart' button.	The product should be added to the cart.	Display 'Product successfully added to the cart'.	Display 'Unable to add a product to cart'.

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TC091	Add to cart button is clicked without entering the quantity.	Quantity: "" Click on the 'Add to cart' button.	Display the appropriate error message.	Display 'Product quantity is required'	Error message not displayed.
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Related Feature ID	F052- Delete product in the cart in-real-time				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC092	Click on the delete button next to the product.	Click on the delete button.	The product was removed from the cart.	The product is not in the cart.	The product is still in the cart.


Related Feature ID	F053- Update product in the cart in real-time				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC093	Enter valid product quantity.	Product Quantity: 2	The edited product quantity needs to be updated in the database and displayed to the customer.	Display the newly updated product quantity.	Product quantity not updated.
TC094	Enter invalid product quantity	Product quantity: a	Display appropriate error message	Display 'Invalid input'	An error message is not displayed
TC095	Enter empty input field	Product quantity: "	Display appropriate error message	Display 'Product quantity is required'	An error message is not displayed.

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Related Feature ID	F054- View products in the cart in real-time				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC096	Click on the cart icon to view products in the cart.	Click on the cart icon.	All the products that have been added to the cart should be shown to the customer.	Display products in the cart. Display 'Cart is empty'.	The cart page is not displayed. Products added to the cart are missing.

Related Feature ID	F055- Compute the subtotal of each product in the cart in real-time.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC097	Change the product quantity of a product.	Product quantity: 3	Compute new subtotal of the specific product instantly and display it.	Display the newly updated subtotal.	The subtotal is incorrect.


Related Feature ID	F056- Compute the total of all products in the cart in real-time				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC098	Add product to cart.	Click on add to cart button.	The new total price of the products in the cart should be computed and updated instantly and displayed to the customer.	Display the newly updated total	The computed total is incorrect.

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Related Feature ID	F057- Customer view all the orders made by them.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC099	View all orders made by the customer	Click on the orders icon.	Orders that are associated with the customer's account, that includes current and past orders should be displayed to the customer.	Display all orders made by the customer. Display 'No orders have been made yet'.	Orders made by the customer are not displayed. Orders that aren't made by the customer are displayed.

Related Feature ID	F058- Customer filters orders based on the order status.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC100	Filter orders based on status.	Click on specific order status. Exp: Order status: Processing	Orders are filtered according to the order status.	Display orders that are still in 'Processing'. Display 'No orders found'	Display orders with different order statuses.


Related Feature ID	F059- Cancel orders made by the customer				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC101	Click on the cancel button to cancel an order made.	Click on a cancel button for a specific order	Order status changed to canceled and updated in the database.	Order status changed to 'Cancelled' and shown to the customer.	Order status doesn't change to cancel.

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Related Feature ID	F060- Request for refund orders				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC102	Click on the refund button for orders that have been completed to request for refund.	Click on the refund button for a completed order.	Order status changed from completed to request for refund and updated in the database.	Order status changed to 'Request for refund' and shown to the customer.	Order status doesn't change to 'Request for refund'.


Related Feature ID	F061- Customers receive notification to Pick Up Orders through SMS				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC103	Customers receive a notification when the order status is updated from 'Processing' to 'Ready for Pick Up' by the pharmacist.	Order status: 'Ready for pick up'.	The customer receives a notification through SMS to collect the order.	The SMS is received by the customer.	SMS is not sent to the customer.

Related Feature ID	F062- Give reviews and ratings for products in completed orders				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC104	Enter review and rating for each product in completed orders.	Rating: 4/5 Review: The product is very efficient for muscle pain.	The rating and reviews are stored in the database and updated for all users.	Display the added rating and review for the product for all users.	Ratings and reviews are not updated.

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				Display 'Thank you for your feedback'.	
TC105	Enter a null value for the rating	Rating: Review: The product is very effective for muscle pain.	Display appropriate error message	Display 'Rating is required'	Error message not displayed.
TC106	Enter null input for review	Rating: 4/5 Review:	The rating is stored in the database and updated for all users.	Display the newly added rating for the product for all users. Display 'Thank you for your rating'	A newly added rating is not shown.

Related Feature ID	F063- View all reviews and ratings for each product				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC107	Click on a specific product to view the product information including ratings	Click on a specific product.	Navigate to the product detail page, which displays all the reviews and ratings given by other customers.	Display all ratings given for the product by other customers. Display "No ratings given yet for the product".	Ratings and reviews given for a particular product are not displayed.

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Related Feature ID	F064- Compute the average rating for each product				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC108	Give review and rating for a product	Customer 1: Rating: 3/5 Customer 2: Rating: 5/5	Compute the average rating given for each product and display them	The average computed is correct. Display: Average Rating: 4/5	The average computed is incorrect.

Related Feature ID	F065 – Pharmacist and admin update order status.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC109	Click on an order and change the order status by choosing the status from the dropdown list.	Select an order status. Example: Order status: 'Completed'	The order status of the order should be updated in the database and for the customer who made the order.	Display 'Order status successfully updated'.	Display 'Unable to update order statuses.'
	Change order status to 'Ready for Pick up'.	Order status: 'Ready for Pick Up'.	The order status of the order should be updated in the database and for the customer who made the order. Customers should receive a notification to collect the order through SMS.	Display 'Order status successfully updated'. The customer receives a notification through SMS.	Display the 'Unable to update the order status message. Notification is not sent to the customer.

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Related Feature ID	F066 – Pharmacist and Admin view orders made by all customers.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC110	Click on orders from the dropdown list to view all the orders made by all the customers.	Click on ‘Orders’ from the dropdown list.	Display all orders that include current and past orders of all customers.	<p>All orders made by all customers are shown.</p> <p>Displays the ‘No orders have been made yet’ message if there are no orders.</p>	<p>Not all orders are shown.</p> <p>No orders are shown, even if their orders have been made by the customer.</p>


Related Feature ID	F067 – Pharmacist and admin filter orders made by all customers.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC111	Click on specific order status.	Click on the ‘Processing’ order status.	All orders that are currently in processing are shown.	Display all orders with ‘Processing’ status.	<p>Not all orders that are currently in processing status are shown.</p> <p>Orders with different statuses are shown.</p>
TC112	Click on specific order status.	Click on the ‘Completed’ order status.	All orders that are completed are shown.	Display all orders with ‘Completed’ status.	<p>Not all orders that are currently in completed status are shown.</p> <p>Orders with different statuses are shown.</p>

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TC113	Click on specific order status.	Click on 'Ready for pick up' order status.	All orders that are ready for pick up are shown.	Display all orders with 'Ready for pick up' status.	Not all orders that are ready for pick up are shown. Orders with different statuses are shown.
TC114	Click on specific order status.	Click on the 'Cancelled' order status.	All orders that are canceled are shown	Display all orders with 'Completed' status.	Not all orders that are canceled are shown. Orders with different statuses are shown.

Related Feature ID	F068 – Pharmacist and Admin filter products based on availability.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC115	Click on specific status	Example: Click on 'Unavailable'.	Display all unavailable products.	All unavailable products are shown.	Available products are shown as well.
TC116	Click on specific status	Example: Click on 'Available'.	Display all available products.	All available products are shown	Unavailable products are shown as well.

Related Feature ID	F069- Pharmacist or Admin add a new product in real-time				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC117	Enter valid information for a healthcare product Enter valid information about a	Product name: Vitamin C Product price: RM25 Product Costs: RM15 Product category: Vitamin & Supplements Product Description: It helps the body make	New health care product information should be stored in the database and displayed to all users.	Display 'Product successfully stored'	Display 'Unable to store the product.'


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	healthcare product	collagen, an important protein used to make skin, cartilage, tendons, ligaments, and blood vessels. Product Health Benefit: Bone strength, Oral problem			
TC118	Enter empty input for adding health care products	Product name: Vitamin C Product price: Product Costs: Product category: Vitamin & Supplements Product Description: Product Health Benefit: Bone strength, Oral problem	Display appropriate error message	Display 'All fields are required'	Error message not displayed
TC119	Enter invalid information about healthcare products.	Product price: health Product Costs:	Display appropriate error message	Display 'Invalid inputs'	Error message not displayed
TC120	Enter valid information for adding medicines	Product name: Paracetamol Product price: RM25 Product Costs: RM15 Manufacture Date: 10/02/2022 Expiry Date: 22/10/2022 Product category: Prescribed medicines Product Stock: 200 Product Description: It helps the body make collagen, an important protein used to make skin,	New medicine information should be stored in the database and displayed to all users.	Display 'Product successfully stored'	Display 'Unable to store the product.'

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		cartilage, tendons, ligaments, and blood vessels. Dosage: 500mg Medicine Type: Tablet			
TC121	Enter empty input for adding medicines	Product name: Paracetamol Product price: RM25 Product Costs: Manufacture Date: Expiry Date: Product category: Prescribed medicines Product Stock: 200 Product Description: Dosage: 500mg Medicine Type: Tablet	Display appropriate error message	Display 'All fields are required'	Error message not displayed
TC122	Enter invalid information for adding medicines	Manufacture Date: health Expiry Date: medicine	Display appropriate error message	Display 'Invalid inputs'	Error message not displayed

Related Feature ID	F070- Pharmacist or Admin edit a product in real-time				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
T123	Enter valid information for healthcare product	Product price: RM25 Product Costs: RM15	The newly updated information about the healthcare product is stored in the database and displayed to the customer.	Display 'Successfully saved'	Display 'Data was not stored successfully'.

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T124	Enter empty input for healthcare product	Product price: Product Costs:	Display appropriate error message	Display 'All fields are required'	Error message not displayed
	Enter invalid information for healthcare product	Product price: health Product Costs: medicine	Display appropriate error message	Display 'Invalid inputs'	Error message not displayed
TC125	Enter valid information for medicine	Dosage: 200mg Medicine Type: Liquid	The updated information on the medicine is stored in the database and displayed to the customer.	Display 'Successfully saved'	Display 'Data was not stored successfully'.
TC126	Enter empty input for medicine	Dosage: Medicine Type:	Display appropriate error message	Display 'All fields are required'	Error message not displayed
TC127	Enter invalid information for medicine	Dosage: health Medicine Type: health	Display appropriate error message	Display 'Invalid inputs'	Error message not displayed


Related Feature ID	F071- Pharmacist and Admin delete products in real time.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC128	Click on the delete button next to the healthcare product.	Click on the delete button.	The product was deleted from the system.	Display 'Product successfully deleted'	Display 'The product could not be deleted.'

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TC129	Click on the delete button next to the medicine.	Click on the delete button.	The medicine is was deleted from the system.	Display 'Product successfully deleted'	Display 'The product could not be deleted.'
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Related Feature ID	F072 - Pharmacist and Admin view all products in real-time				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC130	Click on products in the dropdown list to view all the products in the system.	Click on 'Products' from the dropdown list	Display all products that include medicines and healthcare products that are available and unavailable.	All products are shown.	Not all products are shown.

Related Feature ID	F073 –Admin add a new pharmacist				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC131	Enter valid information.	Name: Dashny Email: dashny@gmail.com NRIC: 00XXXX-XX-XXXX Contact: 018-xxxxxxx Address: 104, taman kangkong, lunas kedah. Password: xxxxxxxxxx	New pharmacist's information should be stored in the database.	Display 'Pharmacist added to the system'.	Display 'Unable to add pharmacist'. Display 'Pharmacist already exists'.
TC132	Enter empty input	Name: Dashny Email: NRIC:	Display appropriate error message	Display 'All fields are required'	Error message not displayed

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		Contact: 018-xxxxxxx Address: 104, taman kangkong, lunas kedah.			
TC133	Enter invalid information	Name: Dashny Email: @@@ghjkl NRIC: aaaaaaaa Contact: health Address: 104, taman kangkong, lunas kedah.	Display appropriate error message	Display 'Invalid inputs'	Error message not displayed


Related Feature ID	F074 –Admin modify pharmacists' information.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC134	Enter valid information.	Example: Email: dashny@gmail.com Contact: 018-xxxxxxx Address: 104, taman kangkong, lunas kedah. Status: Active	Updated pharmacists' information should be stored in the database.	Display 'Pharmacist information updated in the system'.	Display 'Unable to update pharmacist'. Pharmacist information is not updated in the database.
TC135	Enter empty input	Email: Contact: 018-xxxxxxx Address: 104, taman kangkong, lunas kedah. Status: Active	Display appropriate error message	Display 'All fields are required'	Error message not displayed
TC136	Enter invalid information	Email: @@@ghjkl Contact: health Address: 104, taman kangkong, lunas kedah.	Display appropriate error message	Display 'Invalid inputs'	Error message not displayed

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		Status: Active			
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Related Feature ID	F075 – Admin sends awareness messages to customers				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC137	Enter the subject and message.	Subject: Fake injectable Covid-19 drugs Message: The Food and Drug Administration (FDA) has again cautioned the public against patronizing counterfeit injectable Covid-19 vaccines and fake medicines. Select a list of customers, who should receive the email.	A message should be sent to all customers selected through email.	Display ‘Message successfully sent’.	Display ‘Unable to send message’.
TC138	Enter empty input	Subject: Fake injectable Covid-19 drugs Message:	Display appropriate error message	Display ‘All fields are required	Error message not displayed


Related Feature ID	F076 – Admin filters users based on role.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC139	Filter users based on their role whether, customers, doctors, or pharmacists.	Select a role from the dropdown list to filter the users. Example: Role: Customers	The users that belong to that role should be displayed.	All customer details are displayed.	Customer details are not displayed.

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				Display the “No customers are available” message.	
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Related Feature ID	F077 – Admin uploads new advertisement poster.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC140	Add upload a new poster and save it in the database.	Admin uploads new poster.	The new poster should be stored in Firebase storage and the link should be generated and saved in the Firestore.	<p>The link is saved in the Firestore.</p> <p>Display the “Poster added successfully” message.</p>	<p>Failure to upload advertisement posters.</p> <p>The link is not generated.</p> <p>The link is not stored in the database.</p> <p>Display the “Error saving poster” message.</p>


Related Feature ID	F078 – Admin deletes advertisement poster				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC141	Admin deletes an advertisement poster.	Admin click on the delete button that is next to the poster.	The poster is deleted from the Firebase storage and the link is deleted from the Firestore.	Display the “Poster successfully deleted from the firestore.” message.	<p>The poster is not deleted in Firebase storage and Firestore.</p> <p>Display the “Unable to delete poster” message.</p>

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Related Feature ID	F079 – Admin view all advertisement poster				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC142	Admin click on the advertisement tab to view all the advertisement posters.	Admin click on the advertisement tab.	All the advertisement posters stored in the database are displayed to the admin	All posters are displayed. Display “No posters are available”.	Posters stored in the database are not displayed.


Related Feature ID	F080 – Display advertisement posters randomly for each customer.				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC143	Posters should be displayed randomly for each of the customers.	-	Random advertisement posters are displayed for the user.	Posters are displayed randomly.	No posters are displayed.

Related Feature ID	F081 –Admin manage user’s details				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC144	Submit valid information to edit	Example: Email: john@gmail.com Contact: 018-xxxxxxx Address: 14, taman restu, pajam,Melaka.	Updated users’ information should be stored in the database.	Display ‘User’s information updated in the system’.	Display ‘Unable to update user’. The user’s information is not updated in the database.

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TC145	Submit empty input to edit	Email: Contact: 018-xxxxxxx Address: 14, taman restu, pajam,Melaka.	Display appropriate error message	Display 'All fields are required'	Error message not displayed
TC146	Submit invalid information	Email: aas#@ Contact: 018-xxxxxxx Address: 14, taman restu, pajam,Melaka.	Display appropriate error message	Display 'Invalid inputs'	Error message not displayed

Related Feature ID	F082 –Admin manage doctor’s details				
Test Case ID	Actions	Test Input	Expected Result	Pass Criteria	Fail Criteria
TC147	Submit valid information to edit	Example: Email: johnson@gmail.com Contact: 018-xxxxxxx Address: 39,Taman Abd, Johor, Johor Bahru.	Updated doctors' information should be stored in the database.	Display 'Doctor's information updated in the system'.	Display 'Unable to update doctor'. The doctor's information is not updated in the database.
TC148	Submit empty input to edit	Email: Contact: 018-xxxxxxx Address: 39,Taman Abd, Johor, Johor Bahru.	Display appropriate error message	Display 'All fields are required'	Error message not displayed
TC149	Submit invalid information	Email: @@@ghjkl Contact: anvbf Address: 39,Taman Abd, Johor, Johor Bahru.	Display appropriate error message	Display 'Invalid inputs'	Error message not displayed

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7.0 ENTRY CRITERIA

The following items are needed before testing can begin:

- i. Software Requirement Document (SRD) of Health2U
- ii. Software under test: Health2u
- iii. Test data availability
- iv. Test environment readiness
- v. Test case availability

8.0 EXIT CRITERIA

The following items are needed before testing can end:

- i. Test execution has been completed.
- ii. Open defect at the end of the final iteration shall be:
 - Zero fatal defect
 - Zero major defect
 - ≤minor defects
- iii. Documentation completeness: All the relevant documentation, such as user manuals, release notes, and installation guides, must be complete, accurate, and up to date.
- iv. User acceptance: The software must meet the expectations of the end-users and satisfy the business needs.
- v. Regulatory compliance: The software must comply with applicable regulations and standards, such as data protection laws or industry-specific regulations.