1. Test Plan

1.1. Introduction

This test plan outlines the approach for testing the MediConnect application to verify that it meets functional and non-functional requirements. The primary goal is to ensure the system performs as expected under various scenarios.

1.2. Test Scope

- User Registration
- User login
- Character Limit for Notes Section in Patient Detail
- Page Routing
- UI Display of Design Elements and Images
- Navigation across application pages
- Appointment/ Scheduling Filtering and Sorting

1.3. Testing Approach

- **Manual Testing:** will be conducted to verify core functions according to defined test cases.
- **Blackbox Testing**: This approach will be employed to evaluate the application's functionality without examining internal code or logic. Each test case will be designed to verify that the application responds correctly to given inputs by assessing the expected outputs.
- **Regression Testing:** will be conducted on previous features to ensure no integration issues exist after testing Sprint 4 features.
- **UI Testing:** will be validated to check for proper rendering and functionality under different network conditions.
- **Functional Testing:** confirm that all functionalities (login, registration, account management, and data interaction) function as indicated in the use cases.

1.4. Test Schedule for MediConnect

TEST NAME	TEST DESCRIPTION	START DATE	END DATE	ESTIMATED EFFORTS
Test Planning	Define the test scope, objectives, and criteria. Prepare the test cases and test environment for Medi Connect application	23/10	23/10	1 day
Black Box Testing	Perform Black Box Testing to ensure that each functionality produces expected results without examining internal code logic.	25/10	25/10	1 day
Functional Testing	Execute manual functional tests for core features, including login, registration, and page navigation.	31/10	1/11	1.5 day
UI Testing	Validate that UI elements (e.g., forms, buttons) render correctly and meet design requirements across different network conditions.	2/11	2/11	2 day
Regression Testing	Confirm that Sprint 4 updates do not impact existing functionality and that prior features remain stable.	3/11	3/11	1 day

2. BlackBox Testing: User Manual Test

2.1. Test Case 1: Register Test

TEST INFORMATION			
User Story	As a new user, I want to register with valid credentials so that I can create an account and access the application	**Pre-requisites**	The user must not have an existing account, and the database must be available
Test Case Identifier	TC01	**Test Description**	Verify that a new user can successfully sign up with valid credentials, and the data is securely stored in the database with the password encrypted
RESULT SUMMARY			
The user successfully creates an account, and the system stores the encrypted password in the database			

RESULT DETAILS			
User Input	Input Specification (Expected Result)	Output Specification	Pass/Fail
Open the MediConnect application and navigate to the register page	The register page is displayed	The user sees the form for entering user information	Pass
Enter some valid information but leave required fields (e.g., id or password) empty	Error messages should appear next to the missing fields	The system highlights the missing information with error messages, and the "Submit" button remains disabled	Pass
Enter all necessary information	No error messages, and the "Submit" button is enabled	The system accepts the input, error messages disappear, and the submission button is enabled	Pass
Click the "Submit" button to submit the register form	The system processes the information and creates an account	The system stores the encrypted password in the database and displays a success message	Pass
Confirm successful register via the success modal	A register success message is displayed	The user is redirected to the login page	Pass

2.2. Test Case 2: Login Test

TEST INFORMATION			
User Story	As a registered user, I want to log in with my credentials so that I can access the application's protected features	Pre-requisites	The user must have a valid account, and the database must contain the user's credentials
Test Case Identifier	TC02	Test Description	Verify that a registered user can log in with valid credentials, and the JWT token is issued and stored in a cookie for session management
RESULT SUMMARY			
The user successfully logs in, and a JWT token is generated and stored in a cookie			

RESULT DETAILS

User Input	Input Specification (Expected Result)	Output Specification	Pass/Fail
Open the MediConnect application and navigate to the login page	The login page is displayed	The user sees the login form for entering credentials	Pass
Enter an incorrect id or password and attempt to log in	The system displays an error message: "Invalid credentials. Please try again"	The system rejects the credentials and shows the error message	Pass
Enter a valid id and password in the respective input fields	The "Continue" button is enabled, and no error messages are displayed	The system accepts the input and enables the continue button	Pass
Click the "Continue" button to submit the login credentials	The system validates the id and password	If valid, the user is logged in, and a JWT token is stored in the cookie	Pass
Verify successful login via the user menu and modal	A success modal is displayed, and the user's profile and relevant options are available in the user menu	A success modal confirms the login, and the user menu updates to reflect the login status	Pass

2.3. Test Case 3: Page Routing Test1

TEST INFORMATION			
User Story	As a new user, I want to navigate from the login page to the register page so that I can create a new account.	Pre-requisites	The login page is accessible, and the register page is implemented.
Test Case Identifier	TC03	Test Description	Verify that the user can successfully route from the login page to the register page using the appropriate link of create an IBMid
RESULT SUMMARY			
The user successfully routes from the login page to the register page.			

RESULT DETAILS

User Input	Input Specification (Expected Result)	Output Specification	Pass/Fail
Open the MediConnect application and navigate to the login page	The login page is displayed	The user sees the login page with a "Join Now!" button.	Pass
Click on the "Join Now!" button	The application should route the user to the register page.	The user is redirected to the register page.	Pass
Verify that the register page is displayed correctly	The register page is displayed without any errors or issues.	The register page with a form for entering user details is shown.	Pass

2.4. Test Case 4: Page Routing Test2

TEST INFORMATION			
User Story	As a returning user, I want to navigate from the register page to the login page so that I can log in to my account.	Pre-requisites	The register page is accessible, and the login page is implemented.
Test Case Identifier	TC04	Test Description	Verify that the user can successfully route from the register page to the login page using the appropriate link or button.
RESULT SUMMARY			
The user successfully routes from the register page to the login page.			

RESULT DETAILS

User Input	Input Specification (Expected Result)	Output Specification	Pass/Fail
Open the MediConnect application and navigate to the register page	The register page is displayed	The user sees the register page with a "Login" link.	Pass
Click on the "Login" link	The application should route the user to the login page.	The user is redirected to the login page.	Pass
Verify that the login page is displayed correctly	The login page is displayed without any errors or issues.	The login page with a form for entering login credentials is shown.	Pass

2.5. Test Case 5: Navigating Test1

TEST INFORMATION			
User Story	As a user, I want to see all the design features and images when navigating the website.	Pre-requisites	The user is logged into the system and navigating through different pages.
Test Case Identifier	TC05	Test Description	Verify that all design features, images, and UI elements are displayed correctly across different pages.

RESULT SUMMARY
All design elements, including headers, footers, and images, were displayed correctly when the user navigated the website under normal internet conditions. However, in cases where the user experienced slow internet connection, some features failed to load. The test passed under normal conditions but failed under poor internet conditions.

RESULT DETAILS

User Input	Input Specification (Expected Result)	Output Specification	Pass/Fail
User navigates to the home page	All design elements (header, footer, images) are fully loaded and displayed correctly	The home page is rendered with all design features and images visible	Pass
User navigates to a different section (e.g., appointment page)	All design elements and images load without any missing components	The section is rendered correctly with all images and design features displayed	Pass
User experiences slow internet connection	The system may not load some images or features due to connection issues	Some images or features may fail to load or take longer to appear	Pass

2.6. Test Case 6: Navigating Test2

TEST INFORMATION			
User Story	As a user, I want to navigate between different pages of the website without errors or broken links.	Pre-requisites	The website must be fully loaded, and the user must be logged in.
Test Case Identifier	TC06	Test Description	Verify that the user can navigate between different sections of the website, and all links are functional.
RESULT SUMMARY			
All tested navigation links (Home, Appointment, and Scheduling) functioned as expected, successfully directing the user to the correct pages without errors. Additionally, the system handled invalid page requests appropriately, displaying a custom 404 error page when the user tried to access a non-existent page.			

RESULT DETAILS			
User Input	Input Specification (Expected Result)	Output Specification	Pass/Fail
User clicks on the "Home" link in the navigation bar	The system directs the user to the Home page	The Home page loads successfully without errors	Pass
User clicks on the "My Info" link in the navigation bar	The system directs the user to the My Info page	The My Info page loads successfully without errors	Pass
User clicks on the "Appointment" section link	The system directs the user to the Allergies section	The Appointment page loads successfully without errors	Pass
User tries to access a page that doesn't exist	The system redirects the user to a custom 404 error page	A "404 - Page Not Found" error is displayed	Pass

2.7. Test Case 7: Physician Note Test

TEST INFORMATION			
User Story	As a physician, I don't want to leave overly long notes, as this would require too much time to read through later. I prefer to keep notes brief to quickly review and understand the essential information about the patient	Pre-requisites	The user is logged into the system, has accessed the Patient Appointment page, and has selected a patient.
Test Case Identifier	TC07	Test Description	Verify that the character limit in the notes section is enforced, preventing the user from entering more than 100 characters.
RESULT SUMMARY			

All characters were accepted correctly until reaching the 100-character limit. Once the limit was reached, no further characters could be added, and the remaining character count displayed 0, indicating the limit had been reached. The test passed successfully, confirming the character limit enforcement

RESULT DETAILS			
User Input	Input Specification (Expected Result)	Output Specification	Pass/Fail
Doctor types fewer than 100 characters in the notes section	The system allows the doctor to continue typing until the 100-character limit.	The note is successfully entered without any restrictions.	Pass
Doctor types exactly 100 characters in the notes section	The system allows exactly 100 characters in the notes section.	The note is successfully saved with exactly 100 characters.	Pass
Doctor attempts to type more than 100 characters in the notes section	The system prevents typing beyond 100 characters.	The system stops accepting further input, keeping the character limit at 100.	Pass
Doctor tries to save a note with 100 characters and reload the page to verify if it's retained	The system saves the 100-character note and displays it upon reloading the page.	The 100-character note remains intact after reloading.	Pass
Doctor inputs various characters (letters, numbers, symbols) to verify limit functionality	The system accepts all character types but still enforces the 100-character limit.	The note field accepts mixed characters up to the 100-character limit.	Pass

2.8. Test Case 8: Appointment Filtering & Sorting Test

TEST INFORMATION			
User Story	As a patient, I want to be able to filter and sort my appointments on the "My Appointments" page so that I can easily find the appointments I'm looking for.	Pre-requisites	User is logged in as a patient. The "My Appointments" page is displayed with a list of appointments.
Test Case Identifier	TC08	Test Description	Verify that the user can filter appointments by physician.
RESULT SUMMARY			
All filtering and sorting options functioned as expected. No issues were encountered during testing			

RESULT DETAILS

User Input	Input Specification (Expected Result)	Output Specification	Pass/Fail
Click on the "Physician" filter dropdown and select "Physician X"	Only appointments with "Physician X" are displayed	Only appointments with "Physician X" are displayed	Pass
Click on the "Date" filter and enter a start date of "2024-10-01" and an end date of "2024-10-31"	Only appointments within the month of October are displayed	The appointment list is updated to show only appointments within the specified date range	Pass
Click on the "Date" column header	Appointments are sorted by date in ascending order (oldest to newest)	The appointment list is updated, and the appointments are displayed in ascending order by date	Pass
Click on the "Date" column header again	Appointments are sorted by date in descending order (newest to oldest)	The appointment list is updated, and the appointments are displayed in descending order by date	Pass