**Test Plan Document**

**Project Title:** HealthHub

**Document Title:** Test Plan

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**1. Introduction**

**1.1 Purpose:** The purpose of this document is to outline the test plan for HealthHub, detailing the types of testing to be performed, test cases, and the tools and frameworks to be used.

**1.2 Scope:** This document covers all types of testing to be performed for HealthHub, including unit testing, integration testing, system testing, and user acceptance testing (UAT).

**2. Types of Testing**

**2.1 Unit Testing:**

* Tests individual units of code for correctness.
* Example: Testing the user authentication module.

**2.2 Integration Testing:**

* Tests the integration of different modules.
* Example: Testing the interaction between the patient management module and the database.

**2.3 System Testing:**

* Tests the complete system to ensure it meets the requirements.
* Example: Testing the complete flow from user registration to booking an appointment.

**2.4 User Acceptance Testing (UAT):**

* Tests the system from the end user's perspective to ensure it meets their needs.
* Example: Conducting user testing sessions with patients and doctors.

**3. Test Cases**

**3.1 Detailed Test Cases for Each Module:**

**User Authentication:**

* **Test Case 1:** Register a new user.
  + **Preconditions:** User is not already registered.
  + **Steps:**
    1. Navigate to the registration page.
    2. Fill in registration details.
    3. Submit the form.
  + **Expected Result:** User account is created, and the user is logged in.
* **Test Case 2:** Login with valid credentials.
  + **Preconditions:** User is registered.
  + **Steps:**
    1. Navigate to the login page.
    2. Enter valid email and password.
    3. Submit the form.
  + **Expected Result:** User is logged in and redirected to the dashboard.
* **Test Case 3:** Login with invalid credentials.
  + **Preconditions:** User is registered.
  + **Steps:**
    1. Navigate to the login page.
    2. Enter invalid email or password.
    3. Submit the form.
  + **Expected Result:** Error message is displayed.

**Patient Management:**

* **Test Case 1:** Create a new patient record.
  + **Preconditions:** User is logged in as a doctor.
  + **Steps:**
    1. Navigate to the patient management page.
    2. Click "Add Patient."
    3. Fill in patient details.
    4. Submit the form.
  + **Expected Result:** Patient record is created.
* **Test Case 2:** Update a patient record.
  + **Preconditions:** Patient record exists.
  + **Steps:**
    1. Navigate to the patient management page.
    2. Select a patient record.
    3. Edit patient details.
    4. Submit the form.
  + **Expected Result:** Patient record is updated.
* **Test Case 3:** Delete a patient record.
  + **Preconditions:** Patient record exists.
  + **Steps:**
    1. Navigate to the patient management page.
    2. Select a patient record.
    3. Click "Delete."
  + **Expected Result:** Patient record is deleted.

**Appointment Booking:**

* **Test Case 1:** Book an appointment.
  + **Preconditions:** User is logged in as a patient.
  + **Steps:**
    1. Navigate to the appointment booking page.
    2. Select a doctor and available time slot.
    3. Confirm the appointment.
  + **Expected Result:** Appointment is created, and a confirmation is sent.
* **Test Case 2:** Update an appointment.
  + **Preconditions:** Appointment exists.
  + **Steps:**
    1. Navigate to the appointments page.
    2. Select an appointment.
    3. Edit appointment details.
    4. Submit the form.
  + **Expected Result:** Appointment is updated.
* **Test Case 3:** Cancel an appointment.
  + **Preconditions:** Appointment exists.
  + **Steps:**
    1. Navigate to the appointments page.
    2. Select an appointment.
    3. Click "Cancel."
  + **Expected Result:** Appointment is canceled.

**Telemedicine Consultation:**

* **Test Case 1:** Start a video consultation.
  + **Preconditions:** Both patient and doctor are logged in.
  + **Steps:**
    1. Navigate to the telemedicine page.
    2. Start the consultation.
  + **Expected Result:** Video call is established.
* **Test Case 2:** End a video consultation.
  + **Preconditions:** Video consultation is in progress.
  + **Steps:**
    1. Click "End Consultation."
  + **Expected Result:** Video call ends.
* **Test Case 3:** Record notes during a consultation.
  + **Preconditions:** Video consultation is in progress.
  + **Steps:**
    1. Enter notes in the sidebar.
    2. Save the notes.
  + **Expected Result:** Notes are saved to the patient's record.

**Medical Records:**

* **Test Case 1:** Upload a medical record.
  + **Preconditions:** User is logged in as a doctor.
  + **Steps:**
    1. Navigate to the medical records page.
    2. Click "Upload Record."
    3. Select a file and upload.
  + **Expected Result:** Medical record is uploaded.
* **Test Case 2:** View a medical record.
  + **Preconditions:** Medical record exists.
  + **Steps:**
    1. Navigate to the medical records page.
    2. Select a record to view.
  + **Expected Result:** Medical record is displayed.
* **Test Case 3:** Export a medical record to PDF.
  + **Preconditions:** Medical record exists.
  + **Steps:**
    1. Navigate to the medical records page.
    2. Select a record to export.
    3. Click "Export to PDF."
  + **Expected Result:** Medical record is exported to PDF.

**4. Testing Tools and Frameworks**

**4.1 List of Tools and Frameworks:**

* **Unit Testing:** Jest, Mocha
* **Integration Testing:** Postman, Cypress
* **System Testing:** Selenium, Cypress
* **User Acceptance Testing:** UserTesting.com, In-house user testing sessions