Overview of Software Requirements for Online Doctor Appointment Application

Objectives

The primary objectives of the Online Doctor Appointment Application are:

- To provide a user-friendly interface for patients to book appointments with doctors.
- To allow doctors to manage their schedules and patient appointments effectively.
- To ensure secure handling of patient data and medical records.
- To facilitate communication between patients and healthcare providers.
- To provide notifications and reminders to patients and doctors about upcoming appointments.

Requirements

The scope of the Online Doctor Appointment Application includes:

- User Registration and Authentication: Allowing new users (patients and doctors) to sign up and existing users to log in securely.
- Profile Management: Enabling users to manage their personal and medical profiles.
- Appointment Scheduling: Providing functionality for patients to view available time slots and book appointments.
- Doctor Availability Management: Allowing doctors to set their available hours and manage their appointment slots.
- Notifications and Reminders: Sending automated notifications and reminders via email/SMS to users regarding their appointments.
- Payment Integration: Facilitating online payments for consultations where applicable.
- Search Functionality: Enabling patients to search for doctors based on specialization, location, and availability.
- Patient Feedback and Ratings: Allowing patients to rate and provide feedback on their consultations.
- Reports and Analytics: Providing doctors and administrators with insights and reports on appointment statistics and user engagement.

Non-Functional Requirements

- Usability: The system should have an intuitive interface for easy navigation by patients and doctors.
- Reliability: The system must be stable and available 24/7 to accommodate appointment bookings at any time.
- Security: Patient information must be securely stored and transmitted to ensure confidentiality.
- Performance: The system should be able to handle multiple concurrent users without significant degradation in performance.
- Scalability: The system should be scalable to accommodate future expansion and increased user load.

User Roles

The application will cater to the following user roles:

- Patients: Individuals seeking medical consultations who can book, reschedule, and cancel appointments, manage their profiles, and provide feedback on their consultations.
- Doctors: Medical professionals who can manage their appointment schedules, view patient profiles, and receive feedback.
- Administrators: Users responsible for overseeing the system's operation, managing user accounts, handling disputes, and ensuring compliance with regulations.

Key Features

Feature 1: Book an Appointment

- Feature: Book an Appointment
- As a patient,
- I want to book an appointment with a doctor,
- So that I can receive medical consultation at a convenient time.

- Scenario: Successfully book an appointment
- Given I am logged in as a patient
- And I am on the doctor's profile page

- When I select an available time slot
- And I click on the "Book Appointment" button
- Then I should see a confirmation message
- And I should receive a confirmation email with appointment details

- Scenario: Attempt to book an already booked slot
- Given I am logged in as a patient
- And I am on the doctor's profile page
- When I select a time slot that has already been booked by another patient
- And I click on the "Book Appointment" button
- Then I should see an error message indicating the slot is unavailable

Feature 2: Reschedule an Appointment

- Feature: Reschedule an Appointment
- As a patient,
- I want to reschedule my appointment,
- So that I can change my appointment to a more convenient time.

- Scenario: Successfully reschedule an appointment
- Given I am logged in as a patient
- And I have an upcoming appointment
- When I navigate to my appointments page
- And I select the appointment I want to reschedule
- And I choose a new available time slot
- And I click on the "Reschedule" button
- Then I should see a confirmation message
- And I should receive an email with the updated appointment details

- Scenario: Attempt to reschedule to an unavailable slot
- Given I am logged in as a patient
- And I have an upcoming appointment
- When I navigate to my appointments page
- And I select the appointment I want to reschedule
- And I choose a new time slot that is already booked
- And I click on the "Reschedule" button
- Then I should see an error message indicating the slot is unavailable

Feature 3: Receive Appointment Notifications

- Feature: Receive Appointment Notifications
- As a patient, I want to receive notifications about my appointments,
- So that I am reminded of upcoming consultations.

- Scenario: Receive a confirmation email upon booking an appointment
- Given I am logged in as a patient
- And I have successfully booked an appointment
- Then I should receive an email with the appointment confirmation and details

- Scenario: Receive a reminder notification for an upcoming appointment
- Given I am logged in as a patient
- And I have an appointment scheduled for the next day
- Then I should receive a reminder email and SMS notification about the appointment

- Scenario: Receive a cancellation notification
- Given I am logged in as a patient
- And I have canceled my appointment
- Then I should receive an email confirming the cancellation and details

Feature 4: User Management

- Scenario: User registration
- Given the user is on the registration page
- When the user provides valid registration details
- And submits the registration form
- Then the system should create a new user account
- And send a verification email to the user
- And redirect the user to the login page

- Scenario: Email verification
- Given the user receives a verification email
- When the user clicks on the verification link
- Then the system should verify the user's email address

- And activate the user account

- Scenario: User login
- Given the user is on the login page
- When the user enters valid login credentials
- And submits the login form
- Then the system should authenticate the user
- And redirect the user to the dashboard

- Scenario: Forgot password
- Given the user is on the login page
- When the user clicks on the "Forgot Password" link
- And enters their email address
- And submits the form
- Then the system should send a password reset link to the user's email
- And display a confirmation message

- Scenario: Reset password
- Given the user receives a password reset link
- When the user clicks on the link
- And enters a new password
- And submits the form
- Then the system should update the user's password
- And redirect the user to the login page

Feature 5: Doctor Management

- Scenario: Doctor availability management
- Given the doctor is logged in
- When the doctor navigates to the availability management page
- And sets their working hours and availability status
- Then the system should update the doctor's schedule accordingly
- And notify the doctor of any appointment requests during available hours

- Scenario: Search for doctors
- Given the user is on the search page

- When the user enters search criteria such as specialty, location, or doctor's name
- And submits the search form
- Then the system should display a list of matching doctors
- And allow the user to view doctor profiles and schedule appointments

. Performance Requirements

- The application should meet the following performance benchmarks:
- Scalability: Able to handle an increasing number of users and appointments without performance degradation.
- Reliability: High availability with minimal downtime.
- Response Time: Quick response times for booking and managing appointments, ideally within a few seconds.