

## 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: 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: 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.