# Medical Appointment Website - System Requirements

## 1. Overview

The Medical Appointment System is a web-based platform that enables patients to book, manage, and consult with doctors online or offline. It includes features for appointment scheduling, doctor management, secure payments, and real-time communication.

## 2. Core Pages

- Home Page  
- About Page  
- Appointment Page  
- User (Profile / Dashboard) Page  
- Login / Registration Page

## 3. Functional Requirements

### 3.1 Doctor Management

• View list of doctors with specializations, qualifications, and availability.  
• Search and filter doctors by name, specialty, or location.  
• View doctor profile with ratings, experience, and consultation fees.

### 3.2 Appointment System

• Book, reschedule, or cancel appointments.  
• Send confirmation via email or SMS.  
• Manage appointment statuses: Pending, Confirmed, Completed, Cancelled.

### 3.3 Patient Dashboard

• Manage personal profile and medical history.  
• View appointment history and prescriptions.  
• Upload medical reports and view previous consultations.

### 3.4 Admin Panel

• Manage doctors, patients, and appointments.  
• Approve or reject doctor registrations.  
• Dashboard analytics and reports.

## 4. Advanced Features

• Online payment integration using Stripe, SSLCommerz, or bKash.  
• Email and SMS notifications for appointment reminders.  
• Real-time chat and video consultation (Socket.io / WebRTC).  
• Online prescription generation and download.  
• Review and rating system for doctors.

## 5. Non-Functional Requirements

• Security: Role-based access control, data encryption, and secure authentication.  
• Performance: Fast response time and optimized database queries.  
• Usability: Responsive design, intuitive interface, and accessibility.  
• Reliability: Backup and recovery options.  
• Scalability: Support for a growing number of users and appointments.

## 6. Technology Stack

Frontend: React.js, Tailwind CSS  
Backend: Node.js, Express.js  
Database: MongoDB Atlas  
Authentication: JWT, bcrypt  
Payment Gateway: Stripe / SSLCommerz  
Deployment: Vercel / Render / Netlify

## 7. Optional Features

• AI-based symptom checker  
• Health blog section  
• Chatbot for appointment booking  
• Multi-language support  
• Google Maps integration for clinics