# Software Requirements Specification - Clinic Appointment Booking System

Requirements Analysis

## 1. Project Overview

### 1.1 Title

Hospital Appointment Booking System (HABS)

### 1.2 Purpose

The system is designed to help patients book medical appointments online with doctors. It will also help doctors manage their time and allow hospital administrators to monitor bookings easily.

### 1.3 Goals

• Allow patients to book, reschedule, or cancel appointments online.  
• Help doctors organize their schedules and confirm appointments.  
• Notify patients and doctors about any changes.  
• Reduce waiting time at hospitals.  
• Keep clear records of all appointments.

## 2. Feasibility Study

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| --- | --- |
| Type | Explanation |
| Technical Feasibility | The system can be developed using common technologies like HTML, CSS, JavaScript, PHP/Python, and a MySQL database. |
| Economic Feasibility | The cost is affordable because it only needs basic tools and hosting. |
| Operational Feasibility | Doctors, patients, and staff can easily learn to use the system through any browser or smartphone. |
| Legal Feasibility | The system will keep all patient information private and secure, following data protection laws. |
| Schedule Feasibility | The project can be completed within 8 to 12 weeks. |

## 3. Information Gathering

To understand what the system should do, information can be collected from:

|  |  |  |
| --- | --- | --- |
| Source | Information Needed | Method Used |
| Patients | How they currently book appointments and problems they face | Interviews / Questionnaires |
| Doctors | Their daily schedule and how they handle appointments | Interviews |
| Hospital Admin | Hospital policies and data management | Observation / Discussion |
| IT Staff | Technical setup, security, and support | Discussion |

## 4. System Requirements

### 4.1 Functional Requirements

1. User Registration and Login – Patients and doctors can create accounts and log in securely.  
2. Book Appointment – Patients can see available doctors, choose a date and time, and book appointments.  
3. Manage Appointments – Patients can view, cancel, or reschedule bookings; doctors can approve, reject, or reschedule.  
4. Doctor Schedule Management – Doctors can set available days and times.  
5. Notifications and Alerts – The system sends messages or emails when appointments are booked, approved, or canceled.  
6. Admin Dashboard – Admin can manage users, view system reports, and monitor activity.

### 4.2 Non-Functional Requirements

|  |  |
| --- | --- |
| Requirement | Description |
| Performance | Pages and actions should load within 2–3 seconds. |
| Security | All passwords and data are encrypted. Only authorized users can access the system. |
| Usability | The interface should be simple and easy to use for everyone. |
| Availability | The system should be available 24/7 online. |
| Reliability | The system should run smoothly with little or no downtime. |
| Scalability | It should be easy to add more hospitals or doctors in the future. |
| Maintainability | The code should be easy to update and fix when needed. |

## 5. System Functions

• Patient – Register, login, book, view, cancel, and reschedule appointments.  
• Doctor – Set availability, approve, or reject appointments.  
• Admin – Manage users, system data, and generate reports.

## 6. Humans as Information Sources

Humans are the main source of information for this system. These include:  
• Patients – Explain what booking problems they face.  
• Doctors – Provide their availability and preferences.  
• Hospital Admin – Describe the hospital’s current process.  
• IT Team – Share technical requirements and security needs.

## 7. Tools for Documenting Requirements

• SADT (Structured Analysis and Design Technique) – Helps describe how the system works in a structured way.  
• PSL/PSA (Problem Statement Language / Analyzer) – Used to check for missing or conflicting requirements.  
• Ada-based Methods – Focus on structured, reliable analysis (mainly for advanced or safety-critical systems).  
In modern projects, UML tools like Draw.io or Lucidchart can also be used.

## 8. Conclusion

The Hospital Appointment Booking System will make hospital operations smoother by:  
• Allowing patients to book appointments anytime.  
• Helping doctors manage their schedules more efficiently.  
• Reducing waiting times and paperwork.  
• Improving communication between patients, doctors, and hospital staff.  
  
A well-analyzed and clearly defined requirement specification will ensure the system is developed correctly and meets user needs.