**Health Clinic Management System (HCMS)**

**SRS**

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**SOFTWARE REQUIREMENTS SPECIFICATION**

**(SRS)**

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**INTRODUCTION**

This system is designed to improve patient and clinic staff experiences through seamless appointment scheduling, management, and communication.

By leveraging modern technologies, the system ensures efficiency, accuracy, and user satisfaction

* 1. **PURPOSE**

The purpose of this project is to develop an **integrated system for a multi-specialty clinic** that includes all medical disciplines while offering an **online registration system** for patients. The system aims to enhance patient experience, improve operational efficiency, and ensure seamless access to healthcare services.

* 1. **Scope**

The project involves designing and developing a comprehensive digital solution for a **Health Clinic Management System (HCMS)**, streamlining internal operations, and facilitating interaction between patients and doctors. The project includes the following components:

* **Online Registration:**
* **Patient Registration:** Enables patients to create accounts and book appointments easily.
* **Notifications:** Sends reminders about scheduled visits or updates.
  + **Payment Module:** Integration with various payment gateways (credit cards, debit cards)

 Fee structure and billing generation

 Payment processing and receipts

* **Development Sides:**
  + **Desktop application**:
  + Administrative dashboard for doctors and reception staff.
  + Comprehensive control panel to track appointments and medical records
* **Requirement:**

**Patient Management:**

* Patient registration.
* Appointment scheduling and reminders.
* Medical history and prescription tracking.

 **Doctor Management:**

* **Medical Records Management:** System for storing and updating patient files.
* **Reports and Analytics:** Providing performance insights to improve service quality.
* **Integrated Tools:**
  + **Monitoring System:** To track system performance and services
  + **GPS Integration:** For providing navigation directions to the clinic.
  + **Analytics Dashboard:** To monitor booking trends and clinic performance
  1. **Definitions, Acronyms, And Abbreviations**

 **HCMS:** Health Clinic Management System

 **SRS:** Software Requirements Specification

* 1. **References**

Write all citations referenced in the project documents

* 1. **Overview**

Write an overview of SRS document

[sections and short description for each section]

**OVERALL DESCRIPTION**

Health Clinic Management System is a software application designed to streamline the process of scheduling and managing appointments for clinics. The system's primary purpose is providing an easy-to-use platform for managing appointments and patients’ information.

This system aims to fix challenges such as overbooking, missed appointments, and lack of communication between patients and doctors and Nurses. By offering features like online appointment booking, real-time doctor availability updates, and automated notifications, the system ensures a seamless experience for all users.

The clinic appointment booking system will work in different environments, including mobile devices and web browsers, making it available to users anytime, anywhere.

**2.1 Product Perspective**

**Health Clinic Management System** is a software solution that fits into the clinic's existing operations. It works with different systems and components, such as:

**Management Systems**:

To retrieve and update doctor availability, patient records, and clinic schedules.

**Patient Databases:**

This database serves as the primary source for accessing patient records, ensuring that healthcare providers have timely and secure access to necessary data for effective treatment and care, it includes:

Personal Information such as contact details, and medical insurance.

Medical History that contains previous diagnoses, treatments, allergies, and any ongoing cases.

Appointment Logs, which record all patient appointments, including the doctor seen, date, and time.

**Notification Systems**:

To send SMS or email reminders for upcoming appointments or cancellations.

This system is designed to enhance the overall operational efficiency of clinics by reducing manual errors, providing real-time updates, and ensuring a smoother communication flow between patients and clinic staff. It is dependent on reliable internet connectivity, up-to-date databases, and secure data exchange protocols to ensure its functionality and security in handling sensitive healthcare information.

**2.2 Product Features**

**Core Features:**

1. Patient Registration:
   * Allow patients to create accounts with their personal and medical information.
   * Enable secure login and profile management.
2. **Appointment Scheduling:**
   * Display available appointment slots for each doctor.
   * Allow patients to book, reschedule, or cancel appointments.
   * Prevent double booking by managing real-time availability.
3. **Doctor Management:**
   * Enable clinic staff to register doctors and their specialties.
   * Set and manage doctors' schedules and availability.
4. **Medical Record Integration:**
   * Link appointments with patients’ medical records for easy updates.

**Additional Features:**

1. **Multi-Clinic Support:**
   * Manage appointments across multiple branches of a clinic.
2. **Feedback Collection:**
   * Allow patients to rate their appointment experience and provide feedback.
3. **Payment Integration (Optional):**
   * Enable online payment for consultation fees during booking.
4. **Chat Support:**
   * Provide real-time assistance for patients.
   1. **User Classes and Characteristics**

**1. Patients:**

Role:

* Primary users who book and manage their appointments.
* Characteristics:
* Wide range of Data (Age, Education, Health Problem).

Needs and Preferences:

* Intuitive and simple user interface for easy navigation.
* Notifications and reminders to avoid missing appointment.

**2. Doctors:**

Role:

* Healthcare providers who manage their schedules and view patient information.

Needs and Preferences:

* Quick access to schedules and patient details.
* User-friendly system to update availability and notes.
  1. **Operating Environment**
* **Desktop Application:**
  + **Operating System:** Windows 10 and above.
  + **Hardware Requirements:** Minimum 4GB RAM, 64-bit processor, and 512MB free disk space.
  + **Development Framework:** Designed for desktops, specifically optimized for Windows.
  1. **Design and Implementation Constraints**
* **Programming Language:** Python
* **GUI Framework:** Tkinter in Python
* **Deployment:** Desktop-based executable file (.exe).
* **Database:** SQLite3 for local storage of patient and billing data.
* **Network Requirements:** Does not require internet connectivity unless integrating cloud storage or backup features.
* **Protocol / Standards:**
  + Must adhere to **Windows UI Standards** for a consistent user experience.
  + Navigation should support both mouse and keyboard inputs.
* **Device Dependency:** Runs exclusively on desktop or laptop computers.
  1. **User Documentation**

This section provides detailed user manuals and tutorials tailored for different user groups, including patients, clinic staff, and administrators.  
The documentation will include step-by-step guides, FAQs, and video tutorials to ensure smooth onboarding and effective use of the system.

* 1. **Assumptions and Dependencies**
  + This section outlines the assumptions and dependencies critical to the operation of the system.
* Assumptions:
* The clinic operates every workday, and the system will function accordingly during these periods.
* Users (patients and staff) have access to the internet and compatible devices to interact with the system.
* Dependencies:
* The system's operations rely on a stable and secure network connection for real-time updates and communication.
* All functionalities of the product depend on the availability and proper functioning of the database for storing and retrieving critical data.