**Health Care System Documentation**

**Project Overview**

The Health Care System is a web-based application that automates the manual process of booking doctor appointments. It aims to provide an efficient way for patients to book appointments, doctors to manage their schedules, and administrators to handle system configurations and reporting.

**Project Details**

**Project Name:**

Health Care System

**Technology Stack:**

* **Programming Language:** Python
* **Framework:** Django
* **Database:** PostgreSQL
* **Frontend Technologies:** HTML, CSS, JavaScript, Bootstrap

**Vision:**

To create a doctor-patient management system that automates appointment booking improves data management, and enhances service quality.

**System Architecture**

**Modules:**

1. **Admin Module**
   * **Dashboard:** View the total number of registered doctors and specializations.
   * **Manage Specializations:** Add, update, or delete specializations.
   * **View Doctor List:** View and manage doctor profiles and their appointments.
   * **Search Doctor:** Locate doctors by their mobile numbers.
   * **Generate Reports:** Create reports based on doctor registration or appointment data within a date range.
   * **Manage Website Content:** Update the "About Us" and "Contact Us" pages.
2. **Doctor Module**
   * **Manage Appointments:** Approve, cancel, or complete appointments.
   * **Search Appointments:** Search appointments using the patient name or appointment number.
   * **Patient List:** Access patient details and prescribe medicines or recommend tests.
   * **Generate Reports:** View appointment details for a specific period.
   * **Update Profile:** Modify personal information and credentials.
3. **User (Patient) Module**
   * **Home Page:** Display a welcome page with instructions.
   * **View appointment: Search, and view appointment details.**
   * **Book Appointment:** Submit an appointment request with details like name, contact information, and preferred date.
   * **Check Appointment Status:** View the status of existing appointments using an appointment number or name ‘accepted, canceled’.
   * **Update Profile:** Modify personal information and credentials.

**UML Diagrams**

**Use Case Diagram:**

**A diagram of a medical procedure

Description automatically generated**

**Sequence Diagram:**

**A diagram of a software project

Description automatically generated**

**Class Diagram:**

**Activity Diagram:**

**A diagram of a flowchart

Description automatically generated**

**Architecture Diagram:**

**A diagram of a medical record

Description automatically generated**

**Functional Requirements**

1. **Admin Functionalities:**
   * Manage doctor profiles
   * Specializations.
   * View and generate reports.
   * Update website content.
2. **Doctor Functionalities:**
   * View and manage appointments.
   * Update profiles.
   * Access and update patient records.
3. **User Functionalities:**
   * Book and check appointments.
   * Search
   * View home page.

**Non-Functional Requirements**

1. **Performance:**
   * The system should handle concurrent appointment requests without significant delay.
2. **Security:**
   * User data should be encrypted.
   * Access control must ensure role-based permissions.
3. **Scalability:**
   * The system should support an increasing number of users and appointments.
4. **Usability:**
   * The interface should be user-friendly and responsive.

**Test Cases**

**1. Booking an Appointment**

* **Input:** Valid user details and appointment date.
* **Expected Output:** Appointment is created, and confirmation message is displayed.

**2. Invalid Date for Appointment**

* **Input:** Past date for an appointment.
* **Expected Output:** Error message: "Please select a date in the future for your appointment."

**3. Doctor Dashboard View**

* **Input:** Doctor logs into the system.
* **Input:** Admin logs into the system
* **Expected Output:** Dashboard displays appointment statistics.
* **Expected Output:** Wrong email or password.

**3. Search**

* **Input:** Specializations and doctor’s name.
* **Expected Output:** Display search results (doctor details or appointment information).
* **Expected Output: Wrong message** like "No results found" or "Invalid
* Appointment ID."
* **Input:** Appointment Id
* **Expected Output:** wrong message if the id not found

**Conclusion**

The Health Care System streamlines the process of booking and managing doctor appointments. With its automated features, secure data handling, and user-friendly interface, it significantly improves efficiency and user satisfaction.