TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
THAPATHALI CAMPUS

A Project Proposal
On
Care Connect : Hospital Appointment System

Submitted By:

Abasar Paudyal (THA078BCT003)
Anil Banjade (THA078BCT006)
Kohinoor Dallakoti (THA078BCT020)

Submitted To:

Departments of Electronics and Computer Engineering
Thapathali Campus
Kathmandu, Nepal

12th January,2025

1. OBJECTIVES

- To develop an online system that allows patients to book and manage their appointments with hospitals.
- To provide doctors with a clear view of their daily schedules.
- To allow the administrator to view and maintain patient and doctor records.
- To ensure data privacy and security while handling sensitive information.

2. ER DIAGRAM

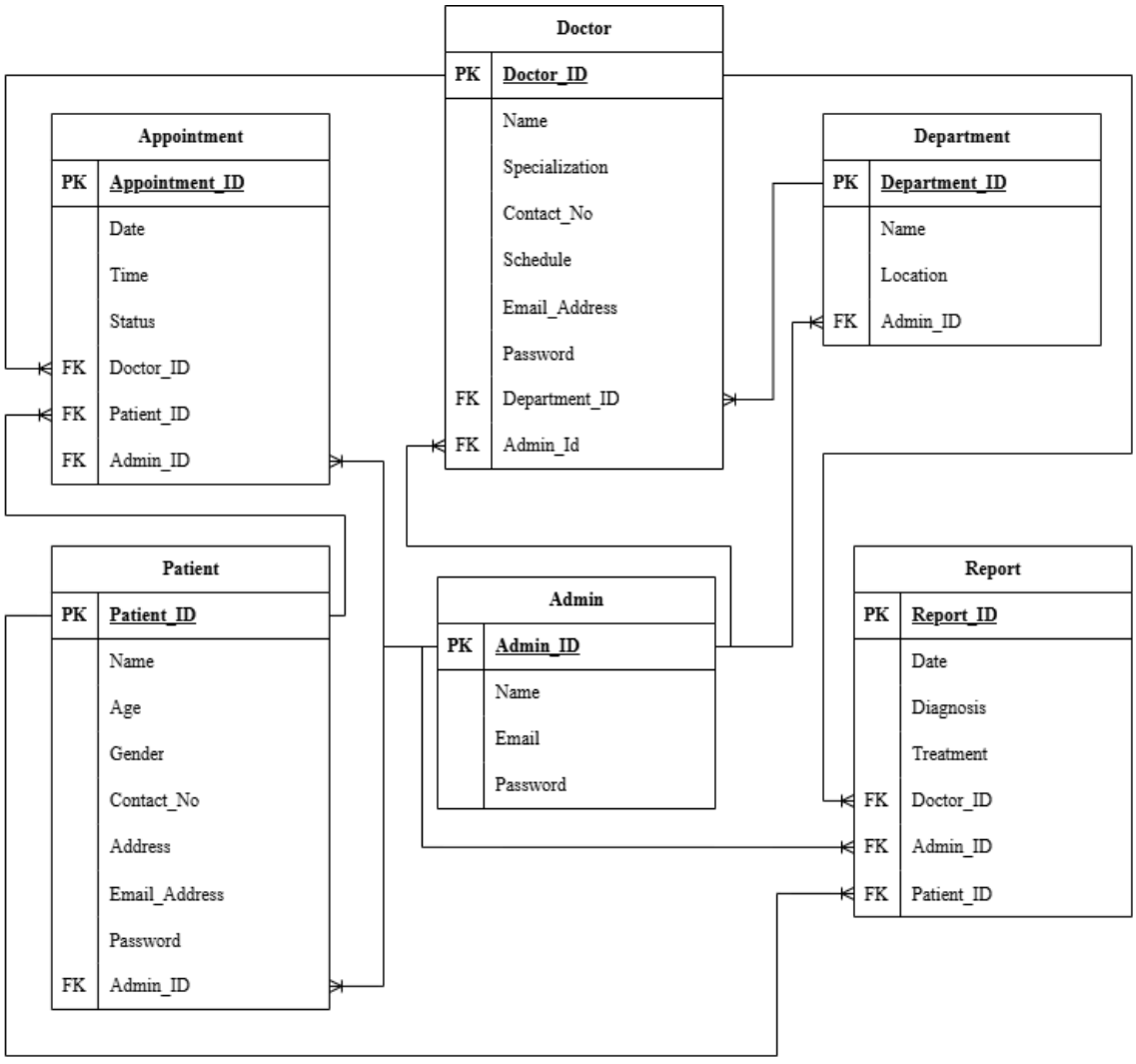

Figure :- ER diagram of Hospital Appointment System Database

3. TECH STACK

3.1. Frontend:

- **Technologies:** HTML5, CSS3, React.js

  These are used for building a responsive and interactive user interface for the system. HTML5 structures the content, CSS3 ensures an appealing layout and responsiveness, while React.js adds interactivity for features like dynamic calendars and appointment booking.

3.2. Backend:

- **Framework:** Django (Python)

  Django is a robust and scalable backend framework that simplifies web development with built-in features like authentication, database management, and an admin panel. It is secure and ideal for managing sensitive data like patient records in a hospital appointment system.

3.3. Database:

- **PostgreSQL:**

  A powerful and reliable relational database system for securely storing and managing patient, doctor, and appointment records. PostgreSQL is highly scalable and supports advanced querying, making it suitable for complex data requirements.

3.4. Tools:

- **ERD Design Tool:** drawi.io
- **IDE:** VS Code

4. FEATURE AND PAGES

4.1. Features

The hospital appointment system provides a user-friendly platform for managing appointments and patient records. The Home Page offers an overview of the system with quick access to login and registration. Users log in securely with role-based access for patients, doctors, and admins. The Dashboard serves as the central hub, where patients can book and manage appointments via a dynamic calendar showing doctor availability. Doctors can view schedules, update availability, and manage appointments. The system ensures secure storage and retrieval of patient records, maintaining data accuracy and privacy, while the logout feature ensures session security.

4.2. Pages

4.2.1. Home Page:

- Displays an overview of hospital services and quick navigation options.
- Includes links for login and registration.

4.2.2. Login Page:

- Allows role-based access for patients, doctors, and administrators.
- Verifies credentials and directs users to their respective dashboards.

4.2.3. Dashboard:

- **For Patients:**
  - View upcoming and past appointments.
  - Book new appointments by selecting a doctor, date, and time.
  - Access an interactive calendar displaying doctor availability.

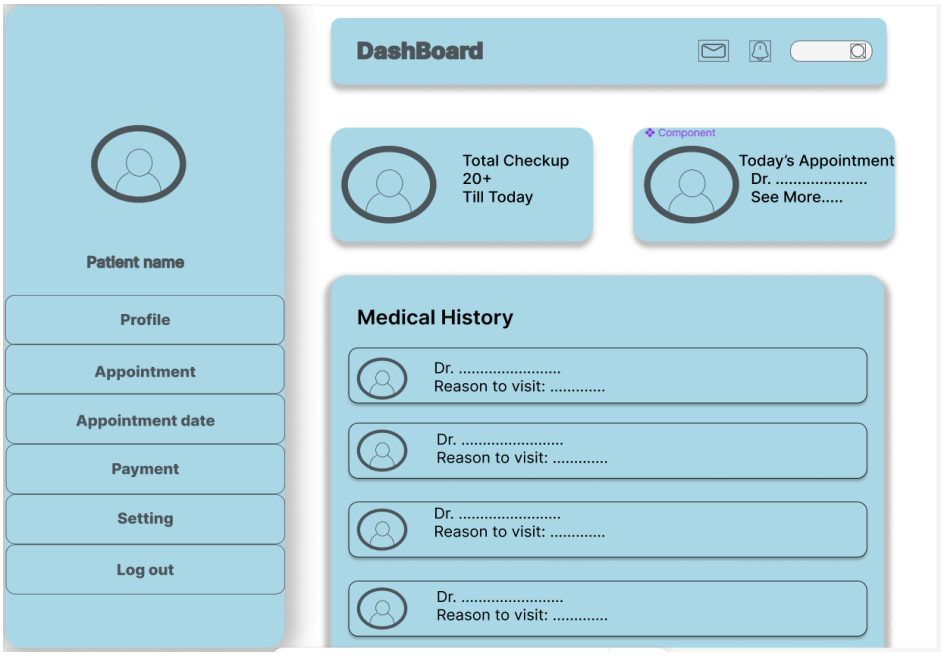

Figure :- Dashboard for Patient

- **For Doctors:**
  - View daily, weekly, or monthly schedules.
  - Update availability and manage appointment statuses.

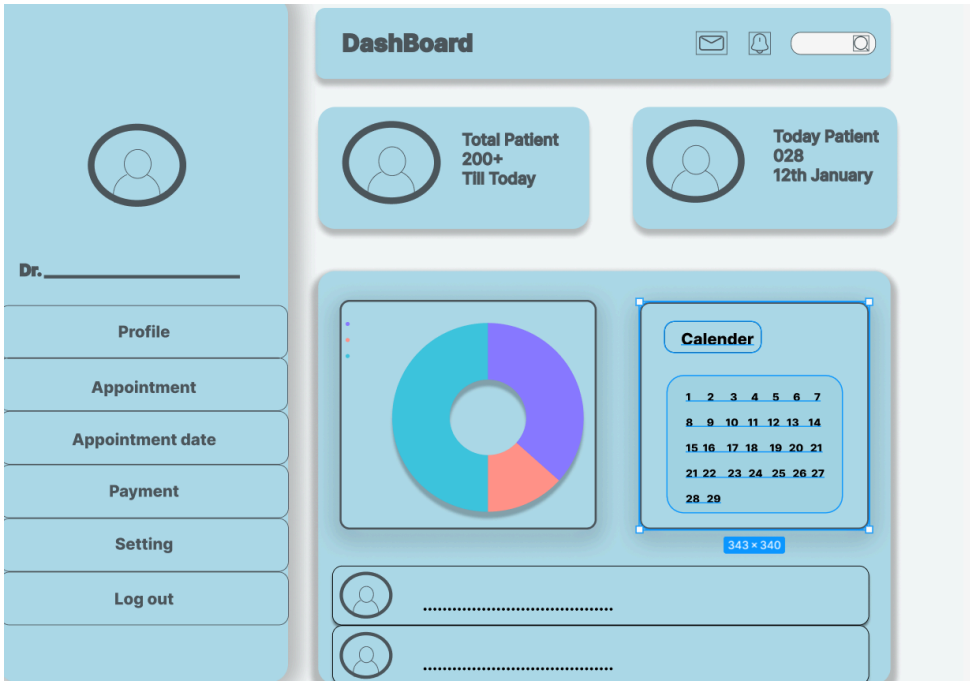

Figure :- Dashboard for doctor

- **For Admin:**
    - View system status, manage doctors, patients, and appointments, and configure system settings.

4.2.4. Appointment Page:

- Allow patients to easily select a doctor, choose an available time slot from an interactive calendar and update their schedules with real-time availability.

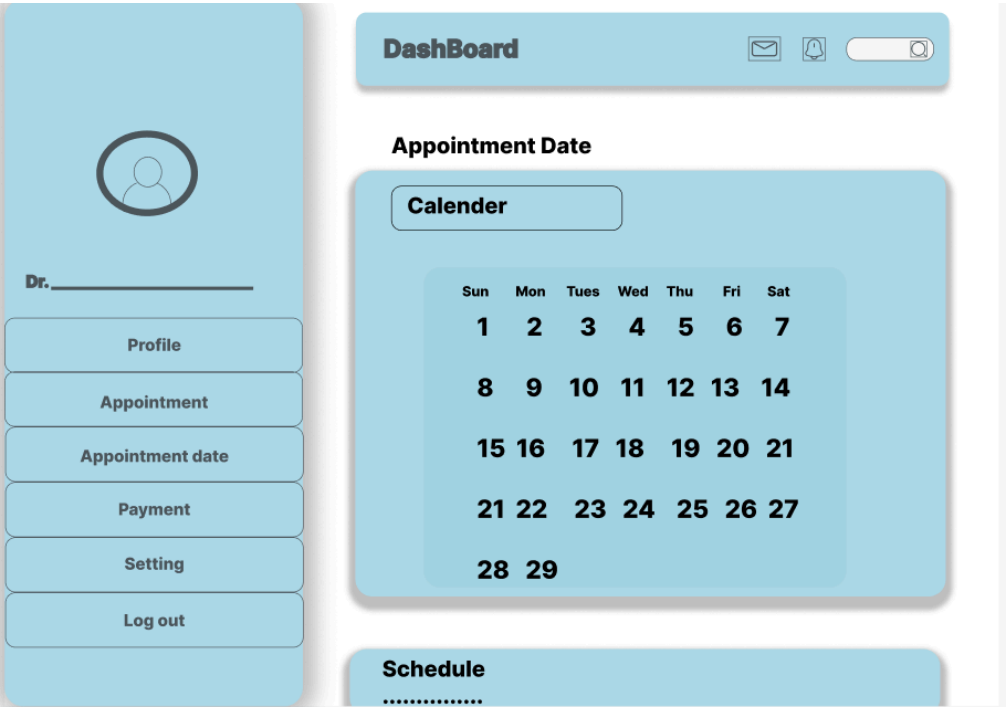

Figure :- Appointment page

4.2.5. Patient Records Page:

- Securely stores and displays patient details, appointment history, and related information.

5. EXPECTED OUTCOMES

The hospital appointment system was developed to simplify the process of booking appointments and generally improve operational efficiency. On the other hand, it gives patients and doctors a single dashboard where they can easily manage their schedules, minimizing miscommunication and scheduling conflicts. The interactive calendar guarantees real-time updates so that patients can make informed decisions in booking appointments. Doctors have an organized view of their schedules, which helps them manage their workload effectively. A secure database will ensure that the records of patients are private and accurate to gain the trust of the users. Generally, the system will significantly reduce manual work, improve data management, and provide a smooth experience for all parties involved.