Project Design Phase

Problem – Solution Fit Template

Date	27 June 2025
Project Name	Docspot: Seamless Appointment Booking For Health
Team ID	LTVIP2025TMID58589

1.Problem

Patients often face difficulties in booking doctor appointments due to outdated systems, lack of doctor availability information, no real-time scheduling, and long waiting times. Healthcare providers struggle to manage patient flow and appointment data efficiently. Admins require oversight to maintain system efficiency and reduce scheduling conflicts.

2. Solution

Docspot offers a streamlined, web-based platform enabling patients to browse doctors by specialty, check availability, and book appointments instantly. Healthcare providers can manage appointments via intuitive dashboards, while admins ensure smooth operation through oversight and conflict resolution tools.

3. Unique Value Proposition

- Real-time doctor availability and verified profiles
- End-to-end appointment booking and reminders
- Intelligent search filters (specialty, location, availability)
- Admin-controlled system with analytics and conflict resolution

4. Target Users

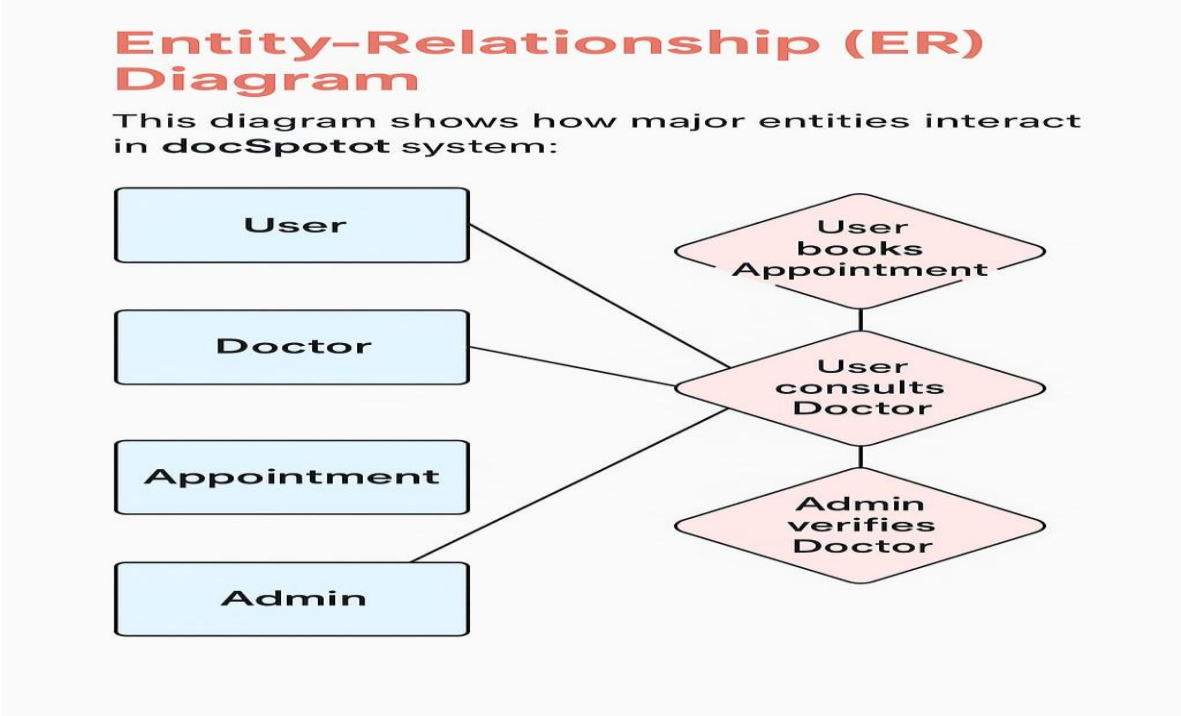
- **Patients**: Individuals seeking timely and convenient doctor appointments
- **Healthcare Providers**: Clinics, hospitals, and individual practitioners
- **Admins**: Healthcare IT staff and system moderators

5. Benefits

- Reduces appointment delays and missed consultations
- Enables easy discovery of available healthcare professionals
- Enhances transparency and system efficiency for both patients and providers

Entity-Relationship (ER) Diagram

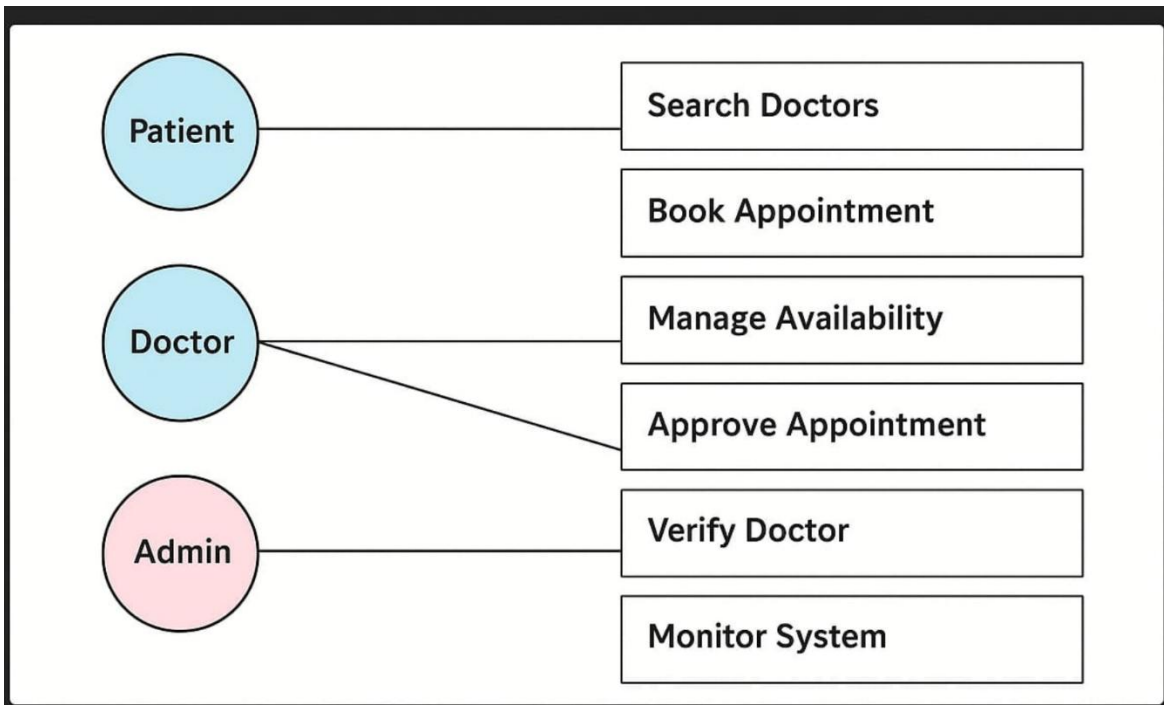
This diagram shows how major entities interact in the **Docspot** system:



- **Users** can be patients or doctors.
- **Patients** can book appointments with doctors
- **Doctors** can manage their available slots.
- **Admins** verify doctor credentials and oversee booking workflows.

Use Case Diagram

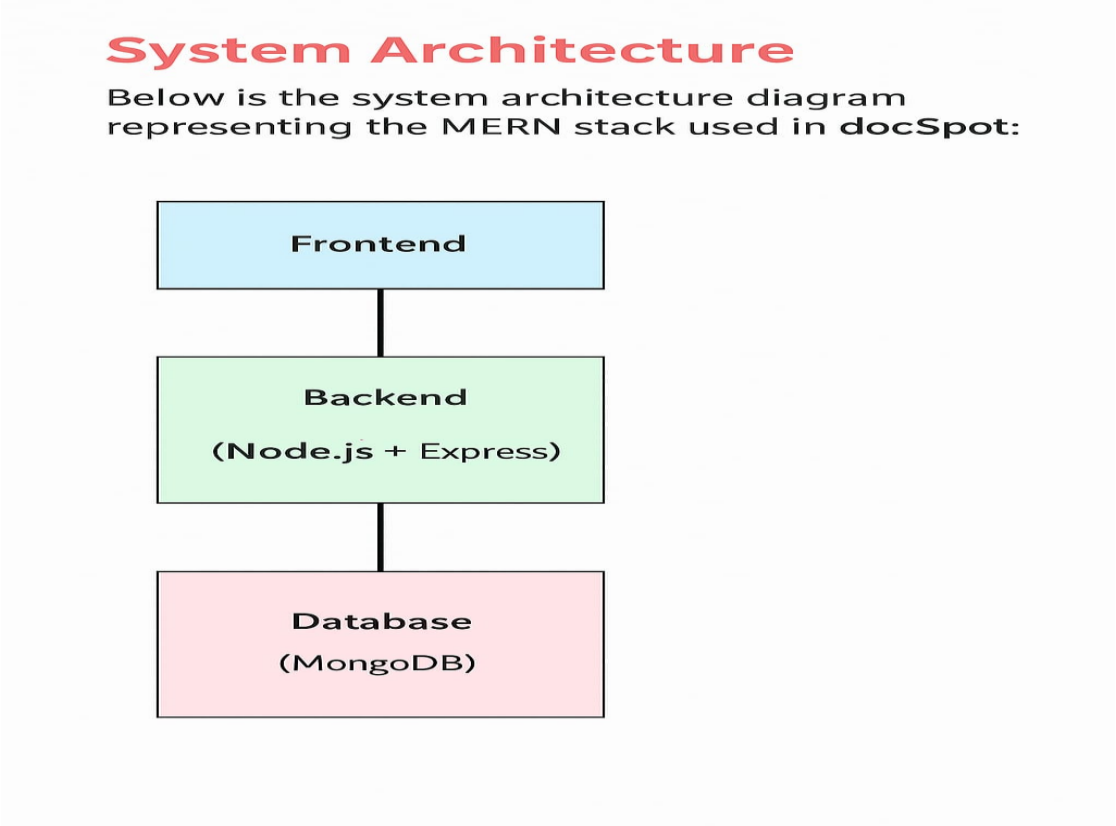
This use case diagram shows how renters, owners, and admins interact with the system:



- **Patients:** can search doctors and book appointments.
- **Doctors:** can manage availability and approve appointments.

System Architecture

Below is the system architecture diagram representing the MERN stack used in **Docspot: Seamless Appointment Booking for Health**:



- **Frontend**: Built using React.js and styled with Material UI (MUI) and Bootstrap for an intuitive and responsive patient-doctor interface.
- **Backend**: Developed using Node.js and Express.js, handling appointment scheduling, user management, and health service APIs.
- **Database**: MongoDB stores data for users, appointments, doctors, and health records.
- **Communication**: Axios is used for seamless RESTful API communication between frontend and backend.