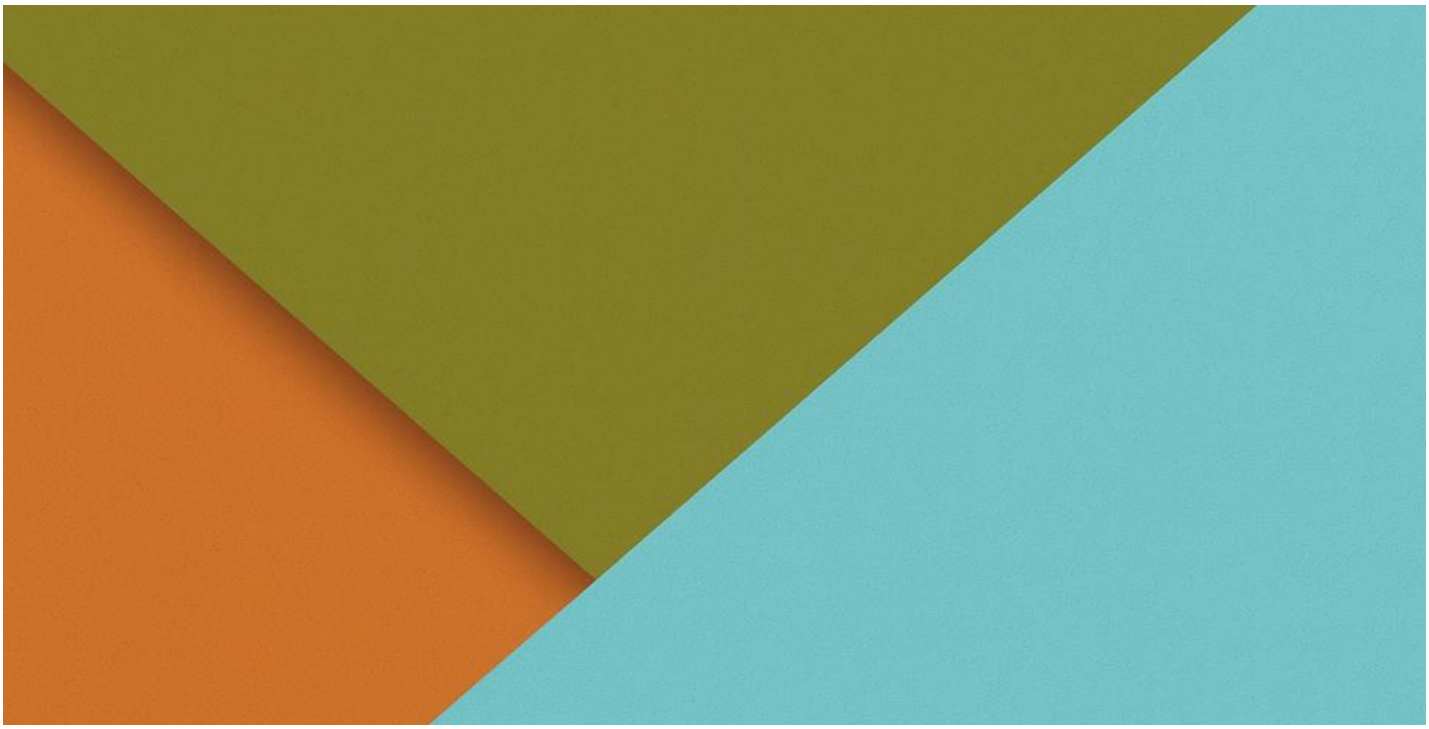

Hospital Management System

29.11.2025

Presented By : Varnika Nalla
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About Me

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Project Overview

Hospital Management System is an interactive web application designed to streamline hospital operations and healthcare delivery. It supports multiple users with different roles, including administrators, doctors, and patients. Administrators have complete authority over doctor management, patient records, and appointment oversight.

Key Roles & Features:

- **Admin Role:** Administrators have full control over creating and managing doctor profiles, viewing all patient records, monitoring appointments across the system, and managing user accounts. They can add doctors with specializations, departments, and credentials, search for any user or appointment, and maintain overall system configuration.
- **Doctor Role:** Doctors can create and manage their weekly availability schedules, view assigned patient appointments, conduct consultations with diagnosis and prescription entry, and access complete patient medical histories. They can mark appointments as completed or cancelled and provide comprehensive treatment records.
- **Patient Role:** Patients can self-register or log in to explore available doctors and departments, search doctors by specialization, book appointments based on real-time availability, view their appointment history, and access their complete treatment records with prescriptions and diagnosis.

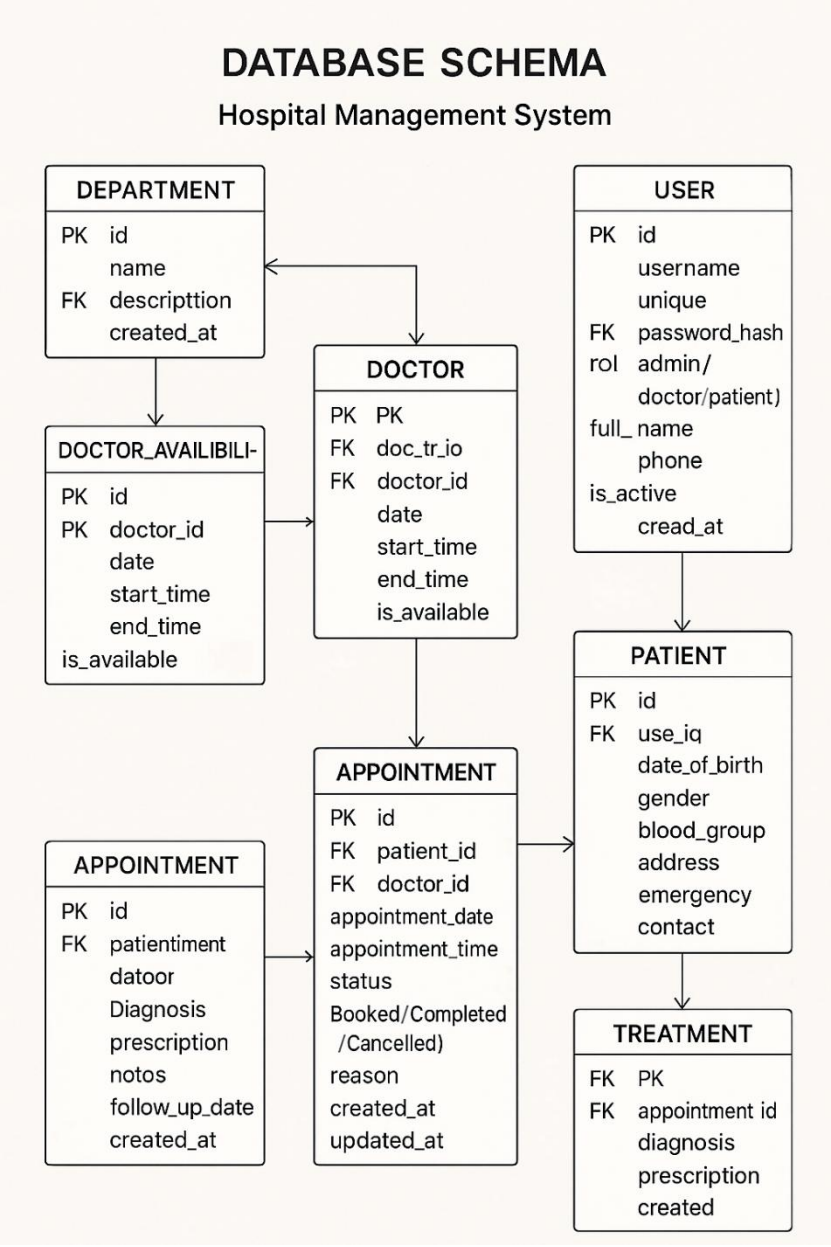
Core Functionalities:

- **Admin Dashboard:** Provides comprehensive tools for managing doctors, patients, and appointments, along with user management capabilities.
- **Doctor Dashboard:** Allows doctors to set availability for the next 7 days, view upcoming appointments for the week and day, complete patient consultations with diagnosis and prescriptions, access patient medical history, and manage appointment statuses.
- **Patient Dashboard:** Enables patients to navigate across departments and available doctors, view doctor profiles with qualifications and availability, book appointments

TECHNOLOGIES USED

- **Flask**: A lightweight Python web framework for building the backend.
- **Jinja2**: A templating engine for generating dynamic HTML templates.
- **SQLAlchemy**: Used for database management, providing an ORM for interacting with the database.
- **SQLite**: A lightweight disk-based database for storing application data.
- **HTML/CSS/JavaScript**: Used for structuring, styling, and adding interactivity to web pages.

DB Schema


DATABASE SCHEMA
Hospital Management System
DEPARTMENT
PK id
name
FK descripttion
created_at
DOCTOR_AVAILIBILI-
PK id
PK doctor_id
date
start_time
end_time
is_available
DOCTOR
PK PK
FK doc_tr_io
FK doctor_id
date
start_time
end_time
is_available
USER
PK id
username
unique
FK password_hash
rol admin/
doctor/patient)
full_ name
phone
is_active
cread_at
PATIENT
PK id
FK use_iq
date_of_birth
gender
blood_group
address
emergency
contact
APPOINTMENT
PK id
FK patient_id
FK doctor_id
appointment_date
appointment_time
status
Booked/Completed
/Cancelled)
reason
created_at
updated_at
APPOINTMENT
PK id
FK patientiment
datoor
Diagnosis
prescription
notos
follow_up_date
created_at
TREATMENT
FK PK
FK appointment id
diagnosis
prescription
created

THANK-YOU

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