Hospital Management Database

Introduction

The Hospital Management Database System is designed to simplify and automate hospital operations using SQL. It manages patients, doctors, appointments, and billing efficiently, ensuring data consistency and quick report generation.

Abstract

This project focuses on creating a relational database system to handle hospital workflows including patient admission, doctor allocation, appointment scheduling, visit tracking, and billing. The system ensures smooth data flow between different departments and automates routine administrative processes with triggers and stored procedures.

Tools Used

The project utilizes **MySQL** as the primary database management system and **DBeaver** for database design, visualization, and execution of SQL queries.

Steps Involved in Building the Project

1. Designed relational schema with tables for Patients, Doctors, Appointments, Visits, Services, and Billing.
2. Established relationships between entities ensuring one-to-many mappings where applicable.
3. Inserted sample data for hospital departments, doctors, and patients.
4. Implemented SQL queries and stored procedures such as *generate_bill()* for billing automation.
5. Added triggers for appointment completion and discharge date updates.
6. Generated reports for daily visits, outstanding bills, and patient history.

Conclusion

The Hospital Management Database System offers a reliable and scalable solution for managing hospital operations. By leveraging SQL-based automation, it minimizes manual work and improves efficiency. Future upgrades may include payment tracking, role-based access control, and API integration for external systems.