Hospital Management System Documentation

1. Introduction

The Hospital Management System is a Java-based project developed to manage hospital-related records, including information about doctors, patients, and appointments. It uses JDBC to interact with a MySQL database and follows CRUD operations. The system uses a Command Line Interface (CLI) for user interaction and is developed using IntelliJ IDEA.

2. Technologies Used

- Java (Core)

- JDBC (Java Database Connectivity)

- MySQL

- IntelliJ IDEA

3. Modules & Features

1. Doctor Management - Add, update, delete doctor records.

2. Patient Management - Add and view patients.

3. Appointment Management - Link patients and doctors via IDs; book and view appointments.

4. CLI-based Interaction - Menu-driven interface for ease of use.

4. Database Design

Doctor Table: ID (PK), Name, Specialization

Patient Table: ID (PK), Name, Age, Gender, Weight

Appointment Table: ID (PK), Patient_ID (FK), Doctor_ID (FK)

Hospital Management System Documentation

5. Java Classes Overview

- Doctor.java - Defines doctor entity.

- Patient.java - Defines patient entity.

- HospitalManagementSystem.java - Contains main logic.

- Main.java - Entry point of the program.

6. Core Logic & Functionality

Connects to MySQL database using JDBC.

Presents CLI menu for interaction.

Performs add/view actions for patients and doctors.

Validates IDs and checks doctor availability before appointment.

7. System Flow

1. User selects option from CLI.

2. Input is processed by the respective method.

3. JDBC executes SQL queries.

4. Checks availability and confirms appointments.

5. Displays confirmation or error messages.

8. Conclusion & Future Scope

The system effectively manages hospital data using Java and MySQL.

Future improvements may include:

- GUI (JavaFX/Swing)

- Web Interface using Spring Boot

Hospital Management System Documentation

- Authentication & Role-based access

THANK YOU