Project Synopsis

Title of the Project

Hotel Management System

Introduction

The Hotel Management System is a software-based application developed to manage and automate the daily activities of a hotel. In traditional hotel systems, most tasks such as room booking, customer record maintenance, billing, and staff management are performed manually. This manual approach is time-consuming, error-prone, and inefficient, especially when handling a large number of guests.

The proposed Hotel Management System provides a centralized and computerized platform that simplifies hotel operations. It manages room reservations, check-in and check-out processes, customer details, billing, and staff records efficiently. The system is developed using **Java** as the front-end programming language and **MySQL** as the back-end database, with **JDBC** used for database connectivity. This ensures secure data storage, quick access, and reliable performance.

Objectives of the Project

The primary objectives of this project are:

- To automate hotel room booking and reservation processes.

- To maintain accurate records of customers, rooms, and availability.

- To reduce manual work and minimize human errors.

- To simplify billing and payment transactions.

- To improve overall hotel operational efficiency.

- To provide secure login access for administrators and hotel staff.

Project Category and Technology

This project falls under the category of **Application Software / Database Management System (DBMS)**. The technologies used in this project include:

- **Programming Language:** Java

- **Database:** MySQL

- **Connectivity:** JDBC

- **Development Tool:** Eclipse IDE

System Description

The Hotel Management System is designed using a modular approach, where each module performs a specific function:

- **Authentication Module:** Provides secure login for admin and staff users.

- **Room Management Module:** Manages room details, room types, pricing, and availability.

- **Customer Management Module:** Stores customer information and booking history.

- **Booking and Reservation Module:** Handles room booking, availability checks, and room allocation.

- **Check-In and Check-Out Module:** Manages guest arrival and departure processes.

- **Billing and Payment Module:** Generates bills and records payment transactions.

- **Staff Management Module:** Maintains staff details, roles, and shift timings.

Database Design

The system uses a relational database consisting of tables such as **Room Type, Rooms, Customers, Booking, Transactions, and Staff**. These tables are connected using primary and foreign keys to maintain data integrity and consistency. The database structure ensures efficient data storage and retrieval.

System Workflow

The logical flow of the system is as follows:
User → Login → Room Search → Booking → Check-In → Check-Out → Billing

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Platform Requirements

Hardware Requirements:

- Intel i5 Processor

- Minimum 16 GB RAM

- 364 GB free hard disk space

Software Requirements:

- Windows Operating System

- Java Programming Language

- MySQL Database Server

- Eclipse IDE

- JDBC Library

Future Scope

The Hotel Management System can be enhanced in the future by:

- Adding online hotel booking through a web portal.

- Integrating online payment gateways.

- Developing a mobile application.

- Introducing QR-based check-in and check-out.

- Implementing AI-based room pricing and automation features.

Conclusion

The Hotel Management System is an efficient and reliable application that automates hotel operations, reduces manual workload, and improves service quality. The use of Java and MySQL makes the system scalable and secure, making it suitable for real-world hotel management.