BLG317E Database Systems
Project Proposal

Group Information

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Project Description:

The objective of this project is to design and implement a hotel reservation system. This system will manage hotel operations, including customer bookings, room management, and services, via a comprehensive database and a RESTful API. Users will be able to handle reservations, check room availability and access various hotel services through this platform.

Data Model and Complexity:

The proposed system will be structured around 8 main tables, each designed to capture essential aspects of the hotel's operations:

Customers: Tracks castomer details including ID, name, phone, and email.
Rooms: Details of rooms available such as room ID, type, pricing, and capacity.
Reservations: Information on reservations made including IDs of customers and rooms, check-in, and check-out dates.
Payments: Records of payment transactions linked to reservations.
Employees: Data on hotel staff including their ID, name, position, and contact information.
Room Services: Services offered per room, such as minibar and laundry services, including associated costs.
Complaints: Logs of customer complaints with details about the complaint and the involved customer.
Events: Information on hotel events including event ID, name, date, and participation fee.

Operations and CRUD Requirements:

The project will allow users to perform basic CRUD operations (Create, Read, Update, Delete) on the database. Example API endpoints are as follows:

Data Insertion: Add new customers, reservations, room details, employee information, and service offerings.

Data Retrieval: Retrieve information on room availability, customer reservations, and event schedules.

Data Update: Update existing records for rooms, services, and employee details.

Data Deletion: delete cancelled reservations.

Why a Database is Necessary:

A database is essential for the efficient management of a hotel reservation system due to the need to handle a large volume of diverse data types and the complexity of queries required to retrieve and manage this data effectively. A well-designed database will enable the hotel to provide timely and accurate information to both customers and staff, facilitate smooth operations, and maintain a high level of service quality.