

Phase One High-level System Description

Team #8

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Topic: Hotel Reservation System

Project Aim

The aim of the project is to build a Hotel Reservation DBMS with functionality like the online all-in-one hotel reservation websites. The main emphasis will be managing hotels, their rooms (availability, capacity, etc.), customers and reservation data. DBMS will support transactions such as adding and modifying hotel and room data, managing customer data, making and canceling reservations, payments and leaving any descriptions about hotel or certain rooms. The main end users of the system include customers who will search and book for hotel, room. Staff and managers will be checking reservations, modify room prices, and generate reports, and administrators will manage user permissions, data integrity, and system maintenance.

Basic Operations

The Hotel Reservation DBMS will be capable of performing the following core operations:

1. Managing guest profiles (registration, updates, deletions).
2. Handling hotels and hotel room details, including type, price, and availability.
3. Recording and tracking reservations (booking, modification, cancellation).
4. Managing payments and invoices.
5. Generating reports on occupancy, revenue, and customer activity.

End Users

1. Usual Users (Customers):
 - Browse available hotels with descriptions, prices, and amenities.
 - Make, modify, or cancel reservations.
 - View booking history and payment status.
2. Stakeholders (Hotel Staff & Managers):
 - Access dashboards showing room and hotel occupancy, reservation trends.
 - Manage room pricing and availability based on season or demand.
 - Generate daily, weekly, and monthly performance reports.
3. Admins:
 - Manage user accounts, permissions, and system backups.
 - Manage Hotel information, specifying stakeholders for each hotel.
 - Ensure data integrity, consistency, and system security.
 - Handle maintenance and configuration of the database.

Specific Operations and Data Consistency

- When a guest cancels a reservation, all related data—such as payment details and room status—will be automatically updated.
- If a room is booked, its availability will instantly be marked as “occupied” to prevent double-booking.
- Payment confirmation will automatically trigger invoice generation and record updating.
- Guest information will be automatically linked to all related reservations for accurate tracking.