

# Hotel Reservation System

## Objective

The goal of this project is to create a relational database system that handles hotel reservations, room availability, guest records, and payment processes. The system will make booking operations smoother, improve room allocation, and enhance the guest experience by bringing all hotel management functions together in one platform.

## Scope of the Project

The system will cover the main processes of a hotel's operations, including guest management, room management, reservation handling, billing, and customer feedback. It will let staff manage reservations in real time, track available rooms, and handle check-in and check-out processes effectively. Guests will be able to book rooms online, view their booking history, and leave reviews about their stay.

## Key Features

### Login and User Authentication

- Role-based access (guests, receptionists, cleaning staff, managers, administrators).
- Guests can register and book rooms online.
- Staff can log in to manage reservations, services, and reports.

### Guest Management

- Maintain guest profiles (personal details, ID/passport, contact info).
- Track history of previous stays, preferences, and feedback.
- Create/update/remove guest records.
- Loyalty program tracking for frequent guests.

### Room Management

- Manage room details (room number, type, price, amenities, capacity).
- Track real-time room availability.
- Manage maintenance status (available, occupied, under cleaning, out of service).

### Reservation System

- Guests can search for available rooms by date, type, price, and amenities.
- Booking for single or multiple rooms.
- Reservation modification (extend stay, change room type) and cancellation.
- Automatic booking confirmation (downloadable or via email).

### Check-in / Check-out Management

- Assign rooms at check-in, issue electronic or printed keys.
- At check-out, automatically update room availability.
- Generate invoices with all room and service charges included.

## Payment Management

- Track payment status (pending, completed, refunded).
- Multiple payment methods: cash, card, bank transfer, online.
- Automatically generate receipts and invoices including rooms and extra services.

## Feedback and Reviews

- Guests can review their stay, room condition, and hotel services.
- Store feedback for quality improvement.
- Reports for managers on guest satisfaction levels.

## Reports and Statistics

- Occupancy rate by room type and season.
- Guest demographics and booking trends.

## Extra Hotel Services

- Manage meal plans (breakfast included, half board, full board).
- Book airport shuttles, taxis, or car rentals.
- Allow guests to request laundry, dry cleaning, or extra cleaning.
- Add service charges automatically to guest invoices.

## Remark

The database model should enable all these features. The minimum required web interface is: Login and User Authentication, Guest Management, Room Management, Reservation System, Check-in / Check-out Management, Payment Management, Feedback and Reviews, and Reports and Statistics. You can make improvements to the system to make it richer. As long as the objectives described above are met, you can show creativity. Doing more will increase your grade through bonus points.

## Required general functionalities

As a pedagogical exercise, the design and implementation of this project should demonstrate your ability to design a database and interact with it. To this end, you will have to ensure that the following minimal requirements are met:

- Add, edit, delete data
- Search and filter data (e.g., available rooms, unpaid invoices).
- Filter data according to relevant criteria
- Show relevant statistics from data, generate reports
- Implement a user interface allowing manipulation of the different features (forms)
- Allow multi-users (registration, connection) (guests, staff, managers, admins).
- Properly design the database, respect the 3NF normalization.

The overall quality of the project and the richness of features will also be appreciated, so you are highly encouraged to go further and make a project of quality.