

Hotel Management System

Documentation:

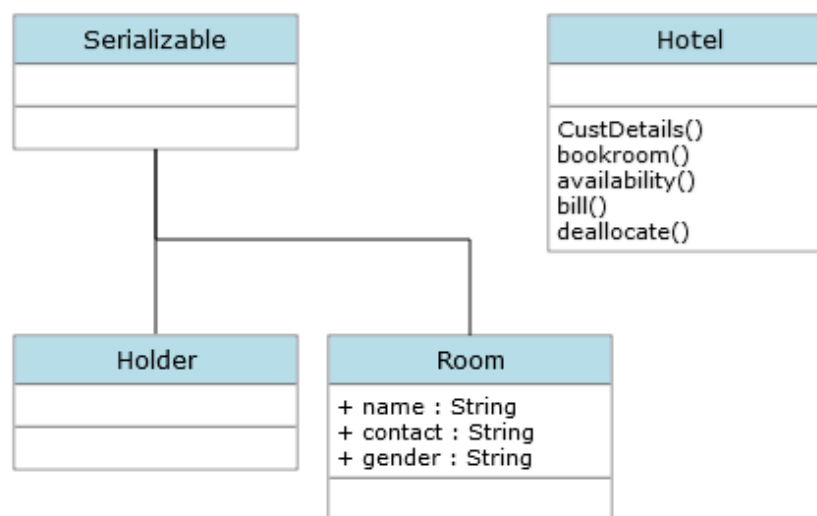
1. Introduction:

The hotel management system project is a software application designed to streamline and automate the management processes of a hotel.

2. System Design and Functionality:

- Room management: Allows hotel staff to manage room inventory, including adding new rooms, updating room availability status, and assigning rooms to guests.
- Reservation management: Allows hotel staff to create, modify, and cancel room reservations for guests, and view reservation details.
- Check-in/Check-out management: Allows hotel staff to manage guest check-in and check-out processes, including updating room availability status, capturing guest information, and generating bills.

3. UML Design:



4. Implementation:

The program provides the following functionalities:

- Display room availability,
- Book a room,
- Checkout a room,
- Exit the program.

The program uses object serialization to store and retrieve the hotel room booking data. The program defines three types of rooms :Standard, Luxury, and Deluxe, and uses a holder class to store the details of all the rooms.

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The NotAvailable class is a custom exception that is thrown when a room is not available for booking.

The holder class is a serializable class that contains three arrays of Room objects, one for each type of room. The write class is a thread that writes the contents of the holder object to a file using object serialization.

The program first checks if a backup file exists. If the backup file exists, the program reads the data from the file and initializes the hotel_ob object of the holder class. If the backup file does not exist, a new hotel_ob object is created.

The main method then presents the user with the menu of options and prompts the user to enter their choice. Depending on the user's choice, the program either displays the availability of rooms, books a room, or checks out a room. The program also prompts the user to continue or exit the program.

The CustDetails method takes in customer details and assigns them to a specific type of room depending on the value of i (1-3) and room number rn.

The bookroom method takes in the room type as input and prompts for the room number based on available rooms. It then calls CustDetails to assign customer details to the specified room. If the room is already occupied, it throws a NotAvailable exception.

The availability method takes in the room type as input and counts the number of available rooms of that type by checking the relevant array in hotel_ob.

The bill method calculates the bill amount for a given room number rn and room type rtype based on the type of the room.

5. Tools and packages used:

- Language: Java
- UML Design: Figma
- Development Environment: Netbeans and IntelliJ IDEA
- Packages used: java.io.File, java.io.Serializable, java.util.Scanner.
- Version Control: Git

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