

Deliverable 1: Hotel Management System

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Programming Patterns

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Hotel Management System

1. Scenario

- The Hotel Room Booking System is designed to automate and manage room reservations, guest check-ins/check-outs, and billing operations for a hotel. The system enables both hotel staff and customers to interact with the hotel's room inventory and other services through our applications

2. Design Paradigm

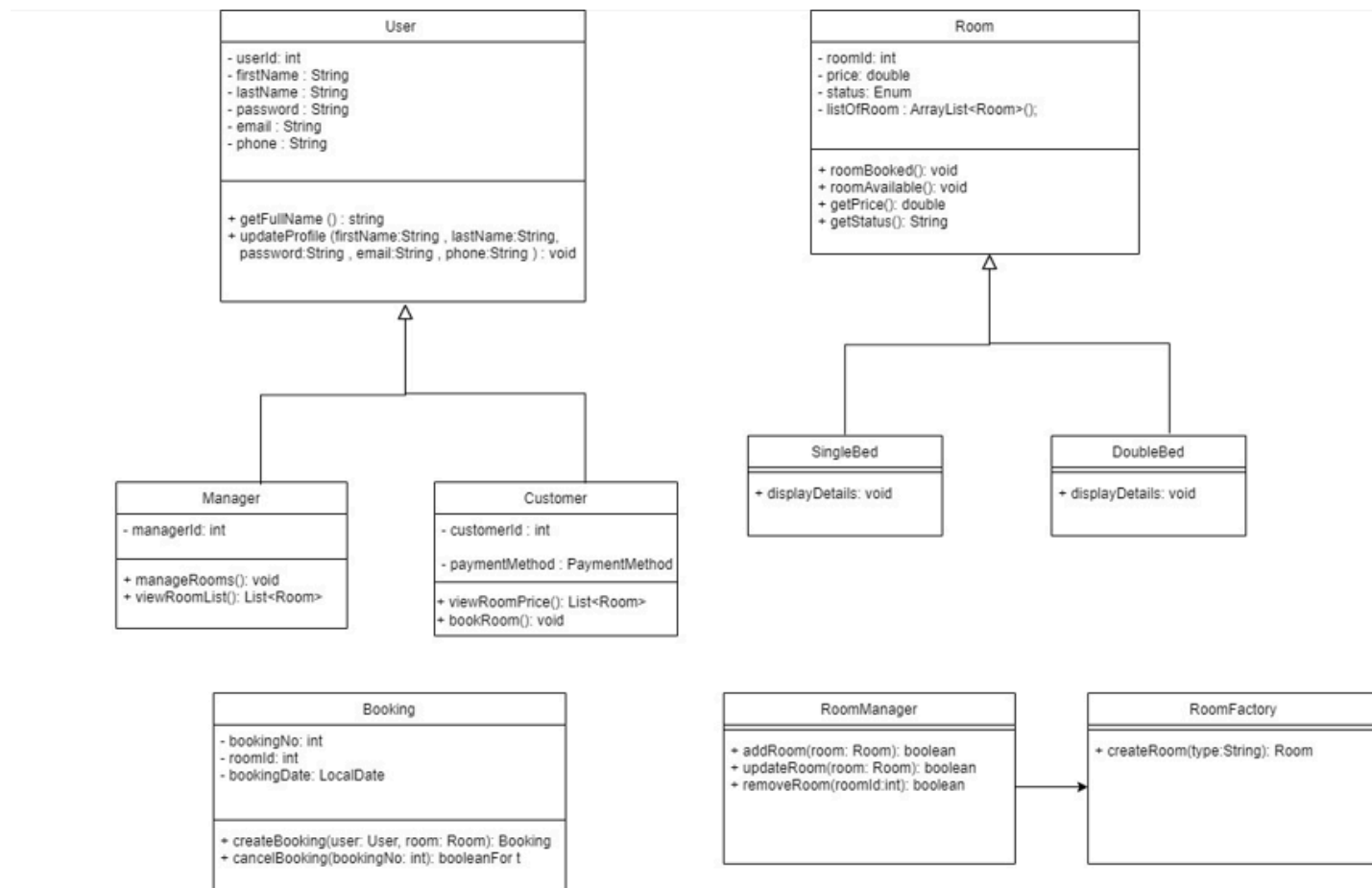
- Staff Features:
 - Room Management: The system allows hotel staff to add, edit, or remove rooms, define room types (single, double, suite), and set their prices
 - Reservation Management: Hotel staff can view all upcoming reservations, check guests in, assign rooms, and update reservation statuses (confirmed, checked-in, checked-out, canceled).
 - View Payment : The staff can view all the payments the guest made
 - Room Status Tracking: Staff can track the status of each room (vacant, occupied, out of service).
- Guest/User Features:
 - Room Search & Booking: Guests can search for available rooms by date range, room type (single, double, suite), and other filters such as price and amenities (Wi-Fi, breakfast included, etc.).
 - Guest Registration: A user-friendly form that collects guest details upon booking, such as name, phone number, email, and identification number. A profile is created for repeat guests, allowing for faster check-ins and easier record keeping.
 - Payment & Invoicing: The guest can make a payment in our system (e.g debit card, credit card)

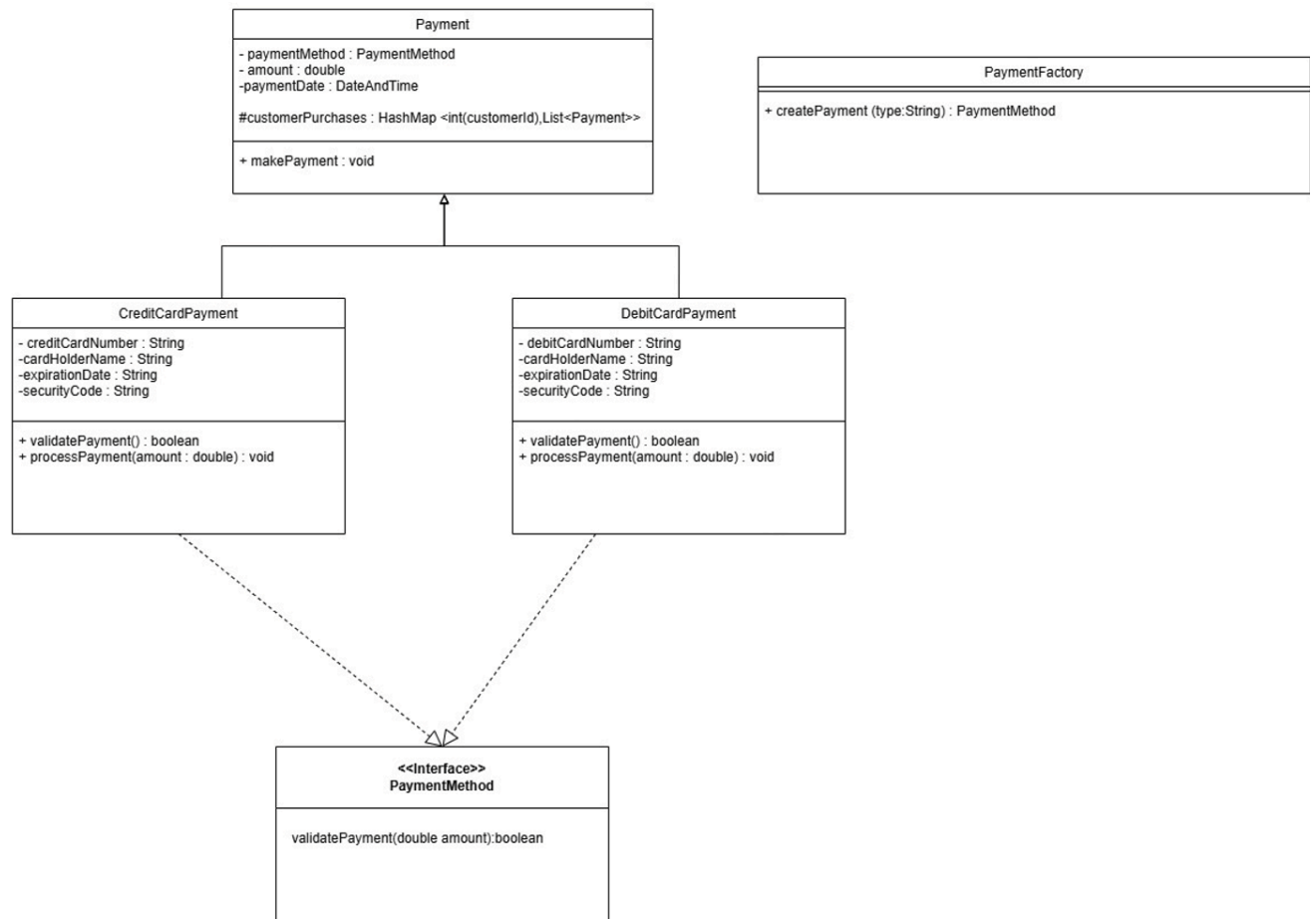
3. Expected Output

- User Actions:
 - Guests can search available rooms by date, room type, or price range.
 - Guests can book a room, modify their reservation, and pay online.

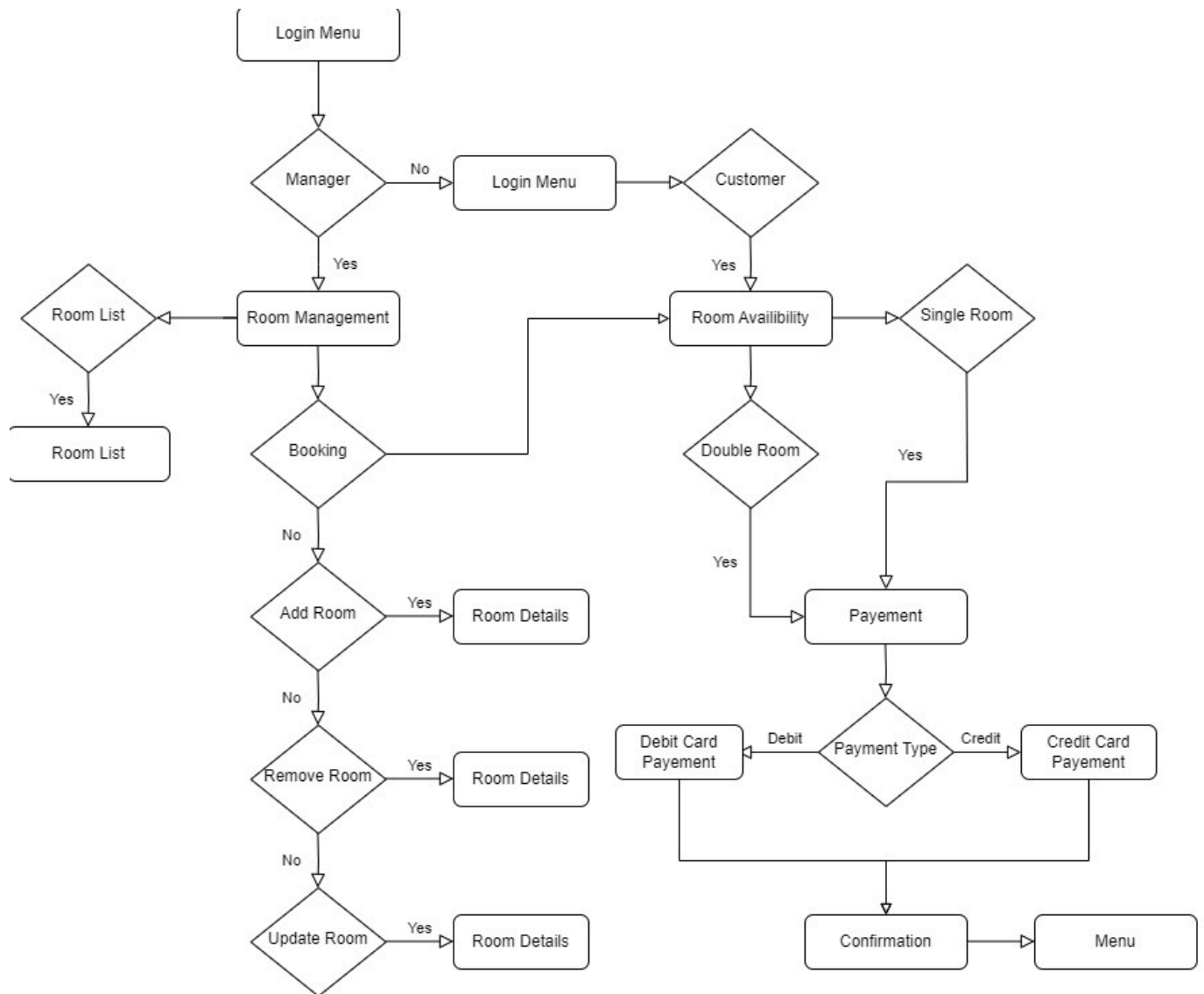
- Hotel staff can manage reservations, process check-ins, check-outs, and generate invoices.
- Admins can add, update, or remove room information, manage rates, and generate reports on occupancy and revenue.
- System Output:
 - Displays available rooms and updates the availability
 - Calculates and generates invoices for reservation
 - Provides updates on room status (vacant, occupied, cleaning, out of service).
 - Generates management reports for hotel performance, including occupancy rates, income, and guest statistics.

Class Diagram





FlowChart:



ERD:

