

## Genworx.AI - Full Stack with DevOps & AI&ML Track

**Training Track** : Full Stack with DevOps & AI&ML

**Module** : Project Development

**Project Title** : Hotel Booking System

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### **Problem Definition:**

The Hotel Booking System is designed for a single hotel to manage its room bookings, payments, check-ins and customer reviews. The system enables admin and users (customers) to interact efficiently with the hotel's daily operations and services.

The problem the system aims to solve is to provide a centralized management platform for a single hotel. This includes handling:

- Room bookings, ensuring customers can book rooms with accurate availability.
- Managing payments, ensuring secure transactions and tracking of booking payments.
- Customer reviews and feedback, giving users the ability to rate and review rooms.

### **Functionalities:**

The **Hotel Booking System** should meet the following functionalities:

#### **Customer-Side Requirements:**

- User registration and login.
- Search and filter functionality.
- Secure payment processing.
- Booking confirmation and cancellation

#### **Admin-Side Requirements:**

- Admin dashboard with analytics
- Booking and room status management
- Revenue tracking and reporting
- User access control
- Report Management
- Feedback Management
- Content Management

### **User Roles:**

#### **1. User (Customer):**

- A guest or customer who wants to book a room in the hotel.
- Can make bookings, pay for reservations, and leave reviews.

#### **2. Admin:**

- A hotel administrator responsible for managing the hotel's operations.
- Can add and remove users, manage rooms, bookings, payments, and generate reports.

### **Modules identified:**

#### **1. User Management Module**

**Function:** Allows customers to register, login, view available rooms, make bookings,

make payments, and leave reviews.

**User Role:** User (Customer), Admin

##### **Key Features:**

- Register and login
- Browse rooms
- Make bookings
- Make payments
- Provide feedback and reviews

#### **2. Room Management Module**

**Function:** Allows admins to add/remove room details (type, price, availability), view and modify room status.

**User Role:** Admin

##### **Key Features:**

- Add/edit room details (number, price, type)
- Manage room availability (booked, available, under maintenance)

#### **3. Booking Management Module**

**Function:** Manages booking details (customer, room, date range), updates booking status, and allows for room reservations.

**User Role:** User (Customer), Admin

**Key Features:**

- Book rooms based on availability
- View current bookings
- Manage booking status (confirmed, cancelled)

**4. Payment Management Module**

**Function:** Manages payments associated with bookings (payment methods, payment status).

**User Role:** User (Customer), Admin

**Key Features:**

- Process payments via multiple methods
- Track payment status (pending, completed)
- Refund transactions if required

**5. Check-In/Check-Out Management Module**

**Function:** Manages the process of user check-ins and check-outs, updating room status.

**User Role:** Admin

**Key Features:**

- Check-in users when they arrive
- Check-out users when they depart
- Update room status after check-out (available/cleaning required)

**6. Review & Feedback Module**

**Function:** Allows users to rate and review rooms they have stayed in.

**User Role:** User (Customer), Admin

**Key Features:**

- Leave ratings (stars) and feedback for rooms
- View reviews of rooms before booking

**User Roles in Modules:****User (Customer)**

**Access:** Booking, Payment, Feedback

**Responsibilities:**

- Register/login to the system
- View available rooms
- Book rooms based on availability
- Make payments for booked rooms
- Leave feedback and rate rooms

## **Admin**

**Access:** All modules (Room Management, Booking Management, Payment Management, Feedback Management , Reports)

**Responsibilities:**

- Manage users (add, remove, update)
- Manage rooms (add, edit, delete rooms)
- Monitor bookings and payments
- Generate and view system reports