

**Software Requirements Specifications
For
Hotel Management System (HMS)**

Introduction

Purpose

- **Hotel Management System (HMS)**: is a crucial software app that streamlines reservation, check-in/check-out, and administrative processes, serving as the digital backbone of a hotel to enhance operational efficiency and elevate the guest experience.
- **Efficient Operations**: Streamlines reservation, check-in/check-out, and administrative processes, reducing manual workloads and potential errors.
- **Enhanced Guest Experience**: Facilitates personalized services, ensuring a seamless and positive stay for guests through automation and real-time data processing.
- **Smart Resource Use**: Optimizes room assignments, tracks inventory, and manages billing efficiently.
- **Financial Management**: Facilitates accurate and timely financial reporting, aiding in budgeting, forecasting, and overall financial management for the hotel.
- **Time Savings**: Minimizes time spent on manual tasks, allowing staff to focus on more critical guest interactions and service improvements.



Problem definition

- A problem in a Hotel Management System is any obstacle or issue that disrupts the system's smooth operation, affecting tasks like reservations, check-ins, or data accuracy. These challenges may involve software glitches, user interface difficulties, security concerns, or integration issues with other systems, necessitating resolution for efficient hotel management.



Scope

- We aim to streamline and modernize our operations by transitioning from traditional paper-based workflows to a sophisticated software application. This strategic move not only enhances efficiency but also significantly reduces costs and saves valuable time. By embracing digital transformation, we anticipate increased productivity, improved accuracy, and a more seamless workflow, ultimately leading to a more agile and competitive business environment.

Glossary

Acronyms,
definitions, and
abbreviations.

- **HMS**
 - Hotel Management System
- **SW**
 - Software
- **DB**
 - Data Base

System Requirements

Functional Requirements

- Login and Registration
- Reservation
- Show the available offers
- Add offers on Reservation
- Show requests
- Payment methods (visa-cash-master card)
- Add Rates
- checkout

Non-Functional Requirements

- **Performance:** The system should be responsive and efficient.
- **Reliability:** It must operate consistently and dependably.
- **Security:** Ensure protection against unauthorized access or tampering.
- **Maintenance:** Keep maintenance requirements low.
- **Availability :** The system should be available for use by hotel staff and guests 24/7, with scheduled maintenance periods communicated in advance.
- **Usability:** The user interface should be intuitive and user-friendly, requiring minimal training for hotel staff.

Constraints

- **Budget Constraints** :The development, deployment, and maintenance of the HMS must adhere to a predetermined budget, restricting the allocation of financial resources for the project.
- **Resource Limitations:**
 - Human Resources: Limited availability of skilled personnel for system development, implementation, and ongoing support may impact project timelines and success.
 - Time Constraints: Time limitations may restrict the speed of system development, testing, and deployment, affecting the overall project schedule.

System Users

- **Administrator**
- **Manger**
- **Customers**
- **Employees :**
 - housekeeper
 - Receptionist

System Architecture



Presentation Layer

- The presentation layer in a desktop app consists of the graphical user interface (GUI) elements.
- It handles user input, displays information, and communicates with the application layer.
- Components:
 - Desktop UI Components: Windows, forms, controls for login, reservation, offers, checkout, etc.



Application Layer

- The application layer contains the core logic of the Hotel Management System.
- It processes user input, manages data, and interacts with the data layer.
- Components:
 - Reservation Management Module: Handles reservation logic and availability.
 - User Authentication Module: Manages user login, registration, and authentication.
 - Offers and Rates Module: Manages promotional offers, rates, and their application to reservations.
 - Payment Processing Module: Integrates with payment services for transactions.
 - Request Management Module: Manages and displays reservation requests.



Data Layer (Database)

- The data layer stores and retrieves data related to users, reservations, offers, rates, and other entities.
- Components:
 - Local Database: Stores data locally on the user's machine.

System Architecture (conti)



Security Layer

- The security layer ensures the security of sensitive data within the desktop application.
- It includes authentication, authorization, and encryption mechanisms.
- Components:
 - Authentication Service: Manages user authentication and authorization within the desktop app.



Admin Console

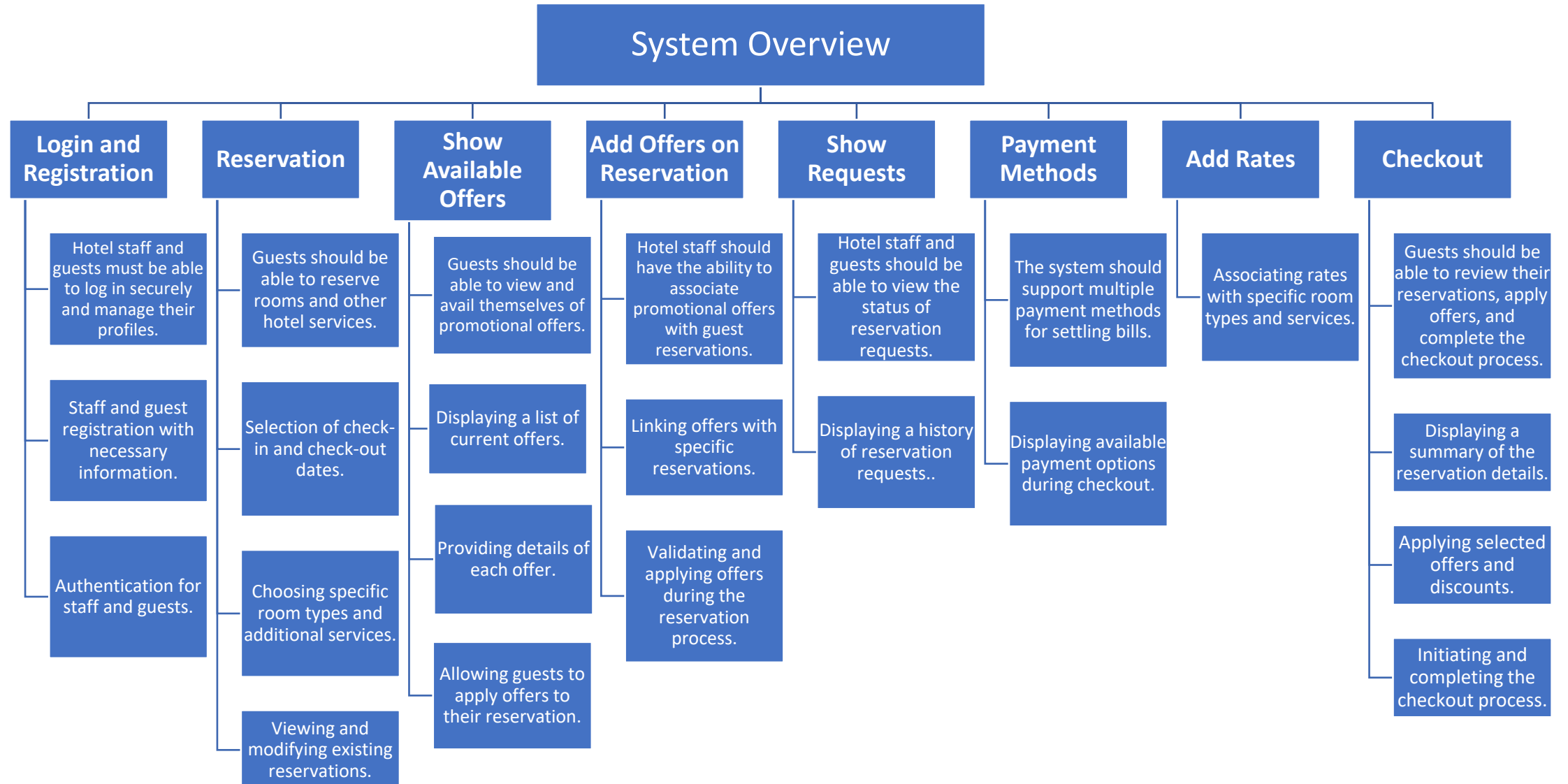
- An administrative console allows authorized personnel to manage system configurations within the desktop app.
- Admin Interface: GUI components for administrators to manage system settings.



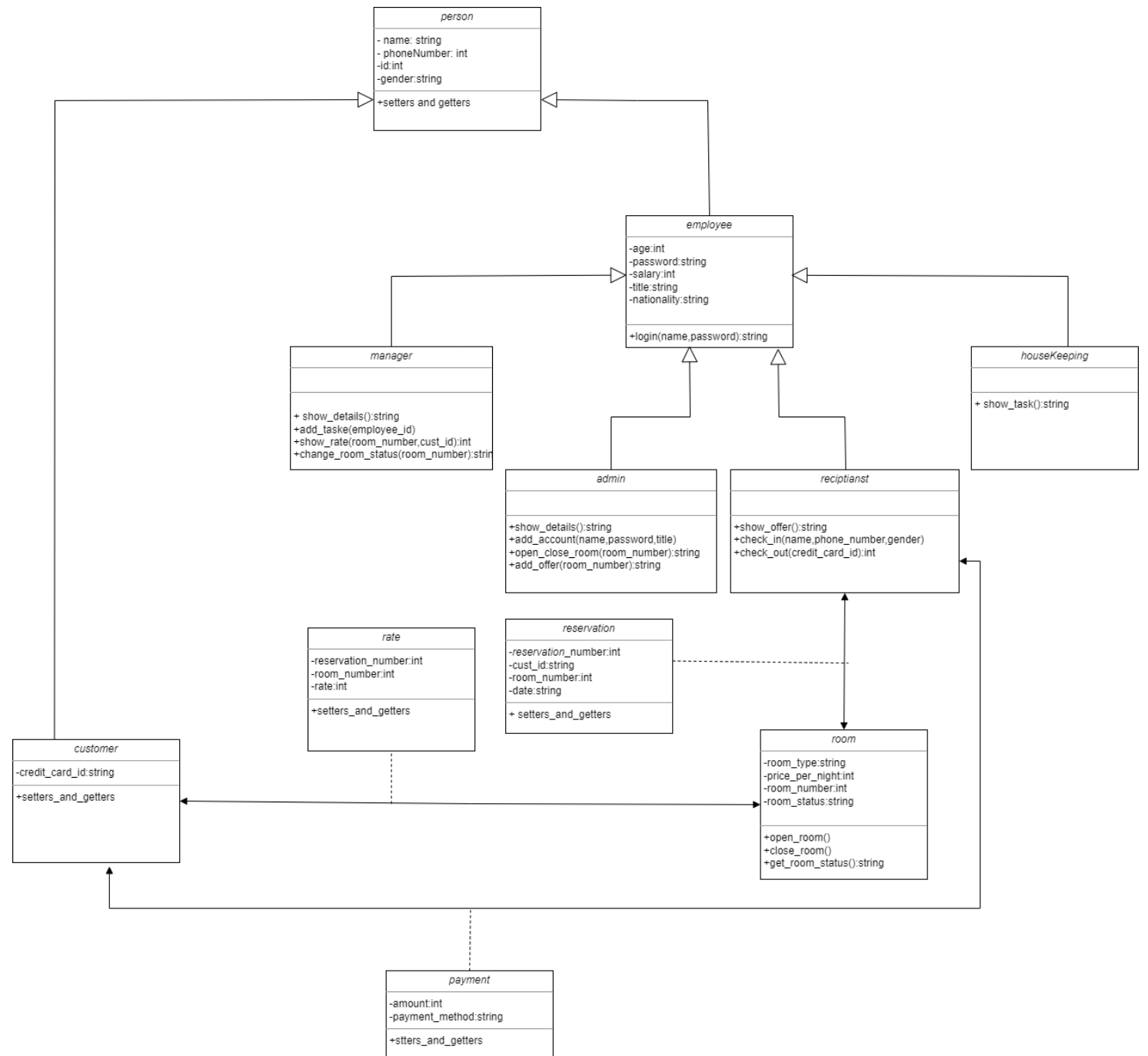
Infrastructure Layer

- The infrastructure layer includes the necessary hardware and software components to support the desktop application.
- Components:
 - Local Machine: Where the desktop application is installed.
 - Local Database Server: Manages data storage and retrieval locally.

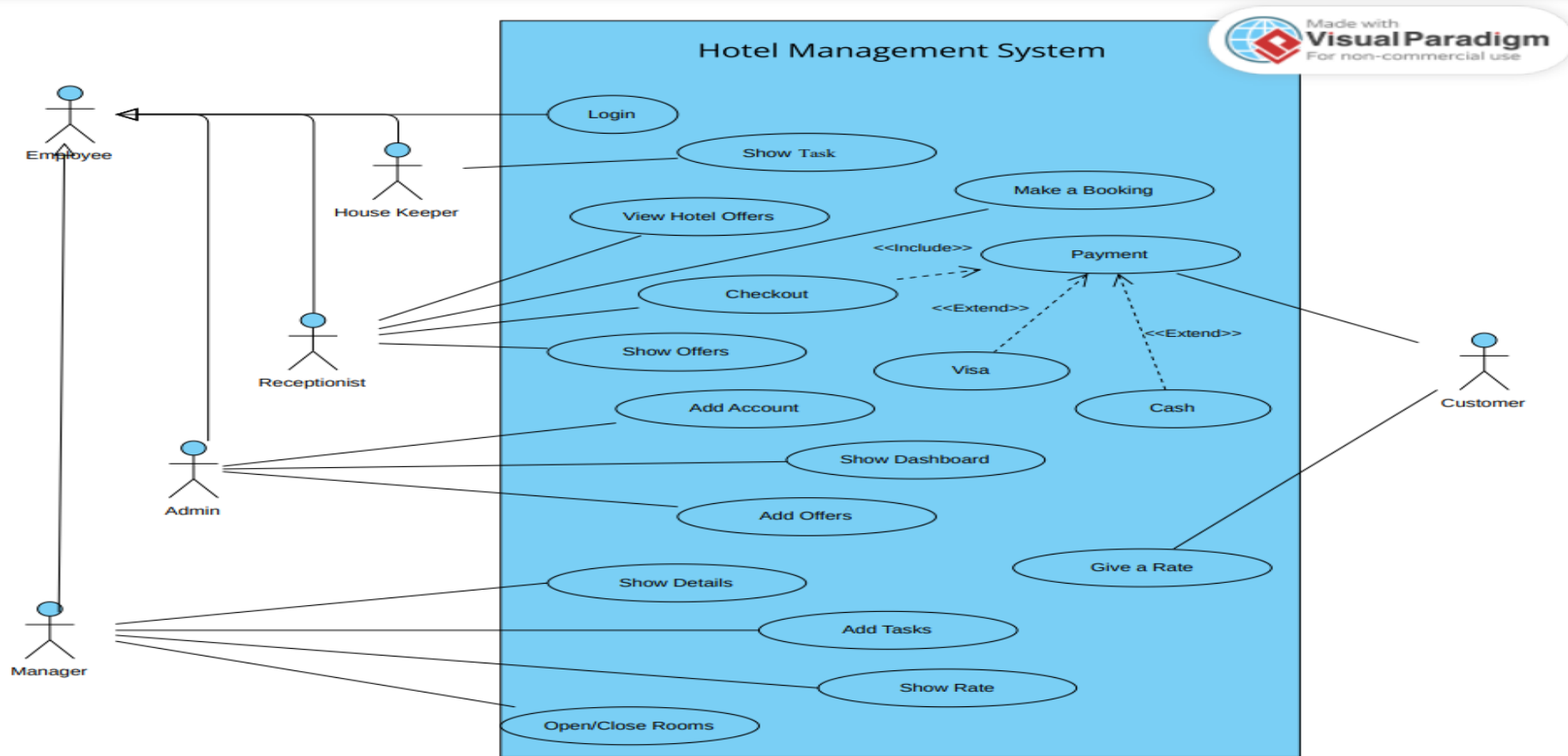
Software Requirements an specifications



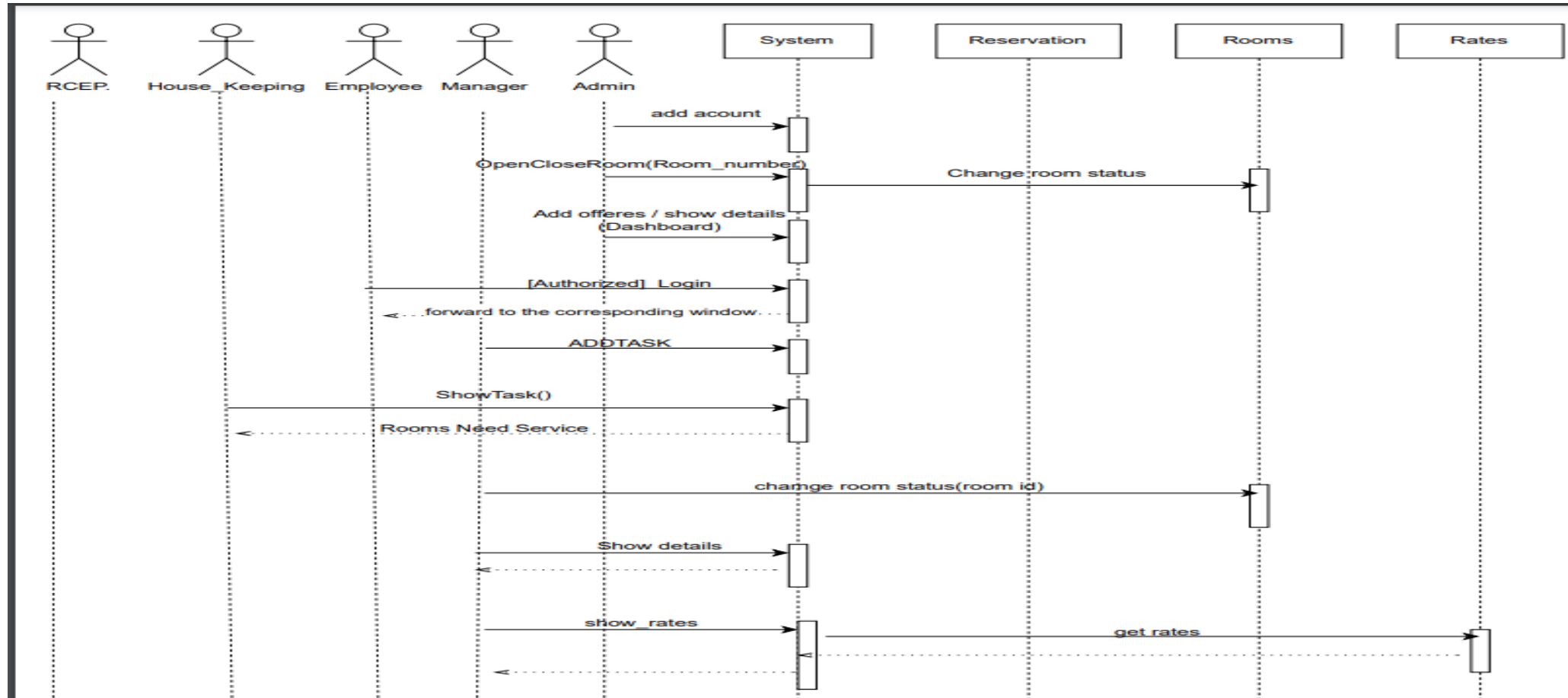
Class Diagram



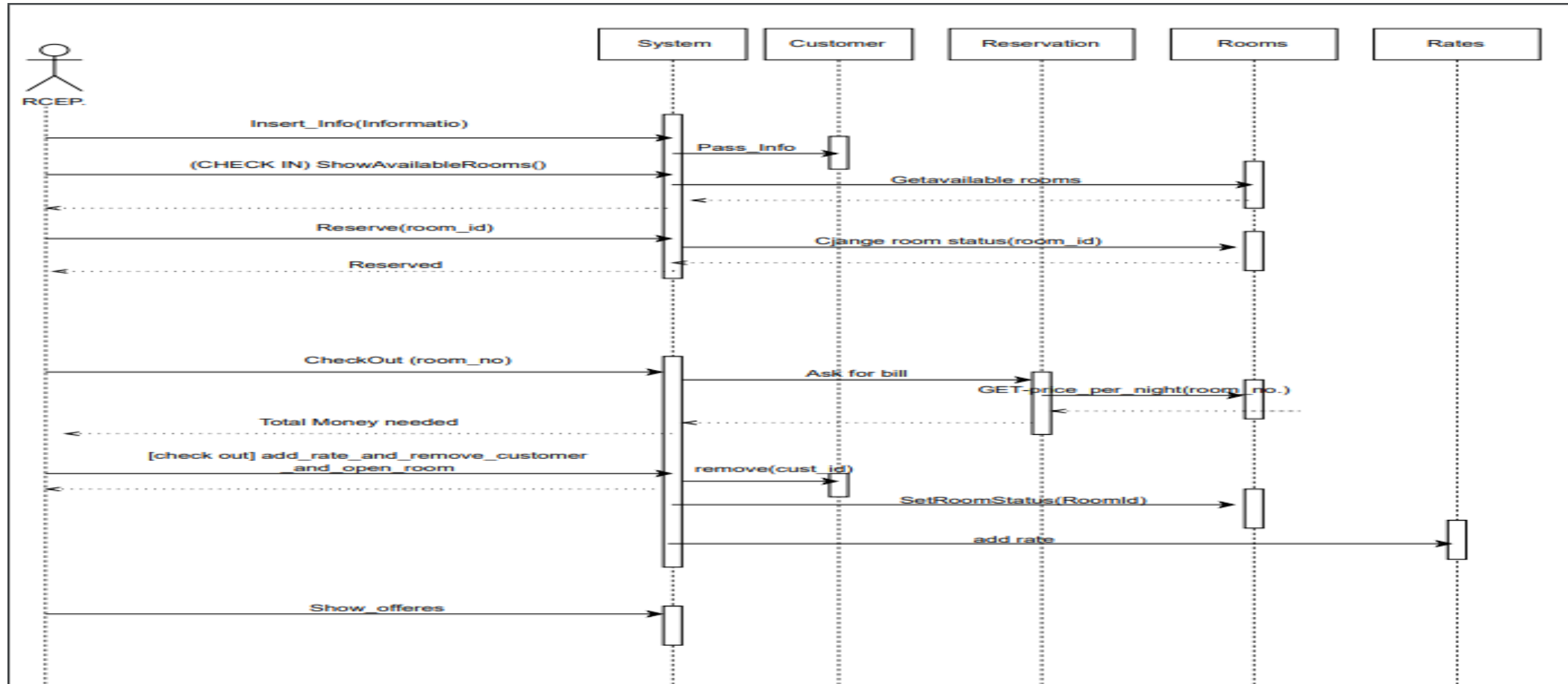
Use Case Diagram



Sequence Diagram



Sequence Diagram(Conti)



Login page

- Each of administrator, manager, and other employees have individual accounts to access and log in to our system.



Royal Hotel

Hello, Welcome!

username :

password :

Enter

ADMIN

- The administrator has the capability to showcase dashboards encompassing client, employee, and guest information, as well as an overview of the total number of rooms

Admin



Dashboard

Add Account

Add Offer

Logout

Royal Hotel

All Rooms : 5

Reserved : 3

Free : 2


Total Employees : 4

Total Guests : 4

ADMIN

- The administrator is authorized to create a new account for a new employee.

Admin



[Dashboard](#)
[Add Account](#)
[Add Offer](#)
[Logout](#)

Royal Hotel

Name :

Password :

Age :

Gender :

☐ Male ☐ Female

Nationality :

Phone No :

Title :


Salary :

[Confirm](#)

ADMIN

- The administrator has the authority to add offers to reservations.

Admin



Dashboard

Add Account

Add Offer

Logout

Royal Hotel

Offer Details :


7 days, 20% discount

submit

Manager

- Show Current Customer Details

Manager



Show Details

Add Tasks

Show Rate

Rooms


Logout

| | name | phone_number | gender | room_number | rese |
|---|---------------|--------------|--------|-------------|------|
| ▶ | Alice Johnson | 999888 | Female | 104 | 05/0 |
| | Charlie Brown | 111333 | Male | 105 | 12/0 |
| | tamer | 123654 | Male | 101 | 26/1 |

Manager

- The manager is capable of assigning tasks to housekeepers.

Manager



Show Details

Add Tasks

Show RateRoomsLogout

Employee Id

Task Name


Assign

| | emp_id | password | name | age | salary |
|---|--------|----------|-------|-----|--------|
| ▶ | 3 | pass | ahmed | 28 | 55000 |
| * | | | | | |

Manager

- The manager is able to display the rates provided by our customers

Manager



Show Details

Add Tasks

Show Rate

Rooms

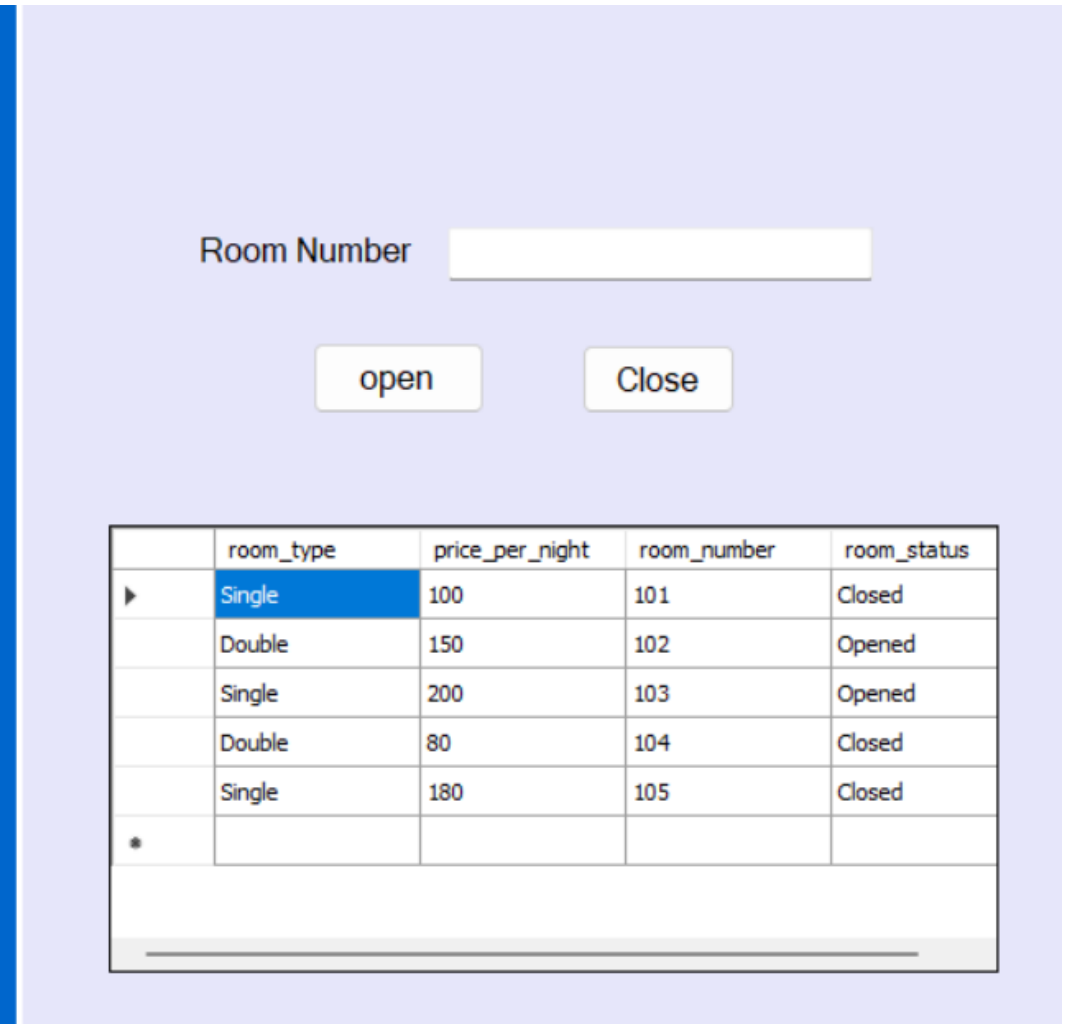
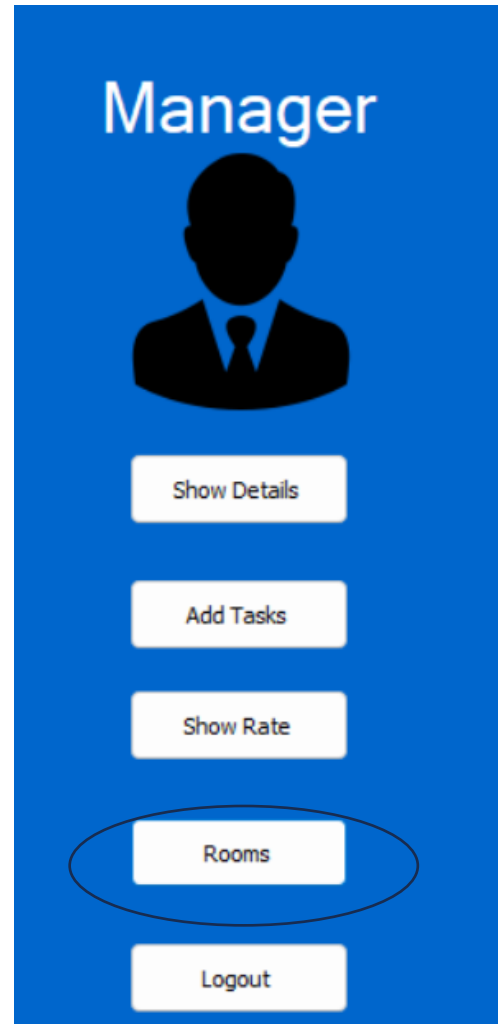
Logout

RATE

| | reservation_number | rate |
|---|--------------------|------|
| ▶ | 1 | 4 |
| | 2 | 5 |

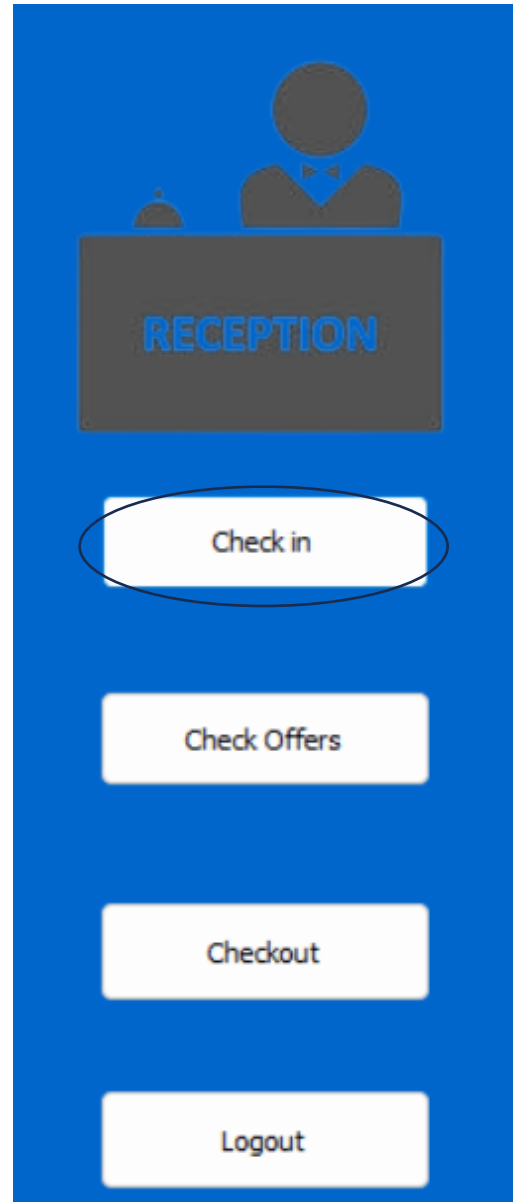
Manager

- The manager is authorized to access and secure any hotel rooms as needed for maintenance purposes, including opening or closing rooms for repairs or upkeep



Receptionist

- The receptionist is empowered to create new reservations for customers, including the check-in process.



26 December 2023



Customer Name :

Phone Number:

Room Type :

☐ Male

☐ Female

Available Rooms :

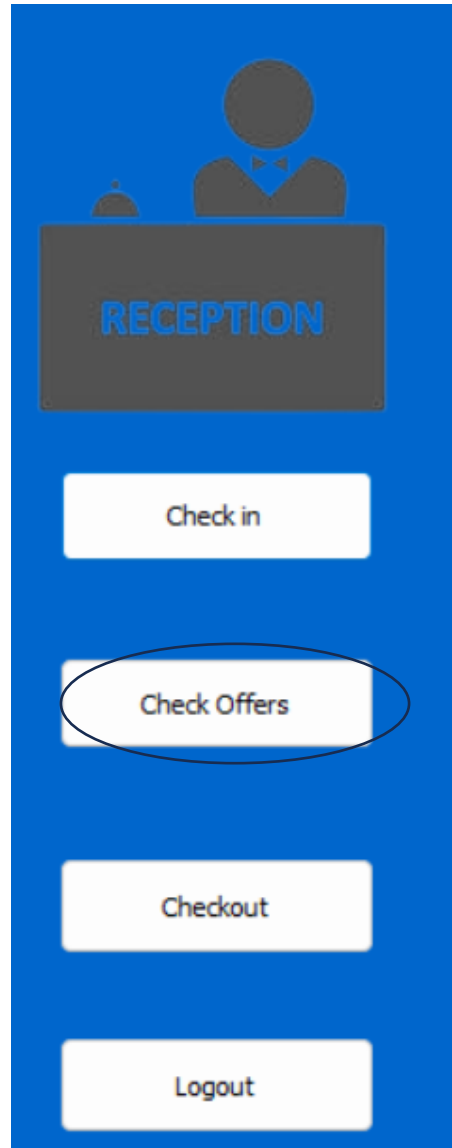
| | room_type | price_per_night | room_number |
|---|-----------|-----------------|-------------|
| ▶ | Single | 100 | 101 |

Room Number :

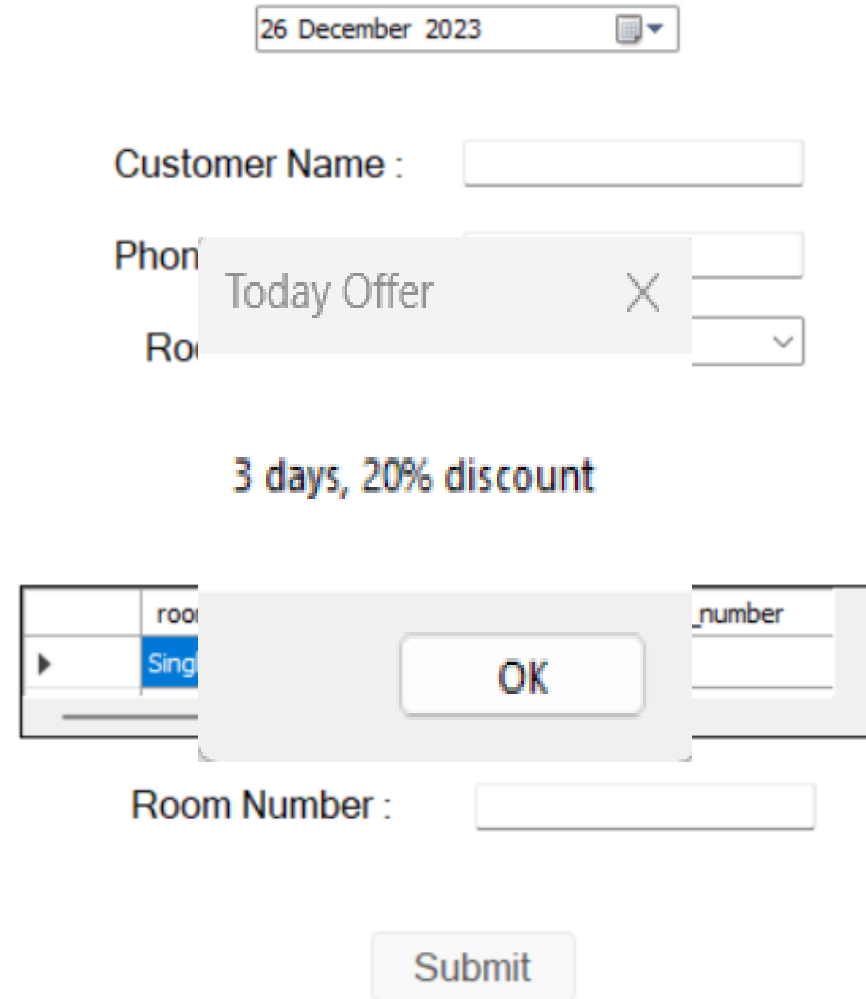
Submit

Receptionist

- The receptionist has the ability to check and apply offers.



A vertical blue sidebar interface for a receptionist. At the top is a dark grey silhouette of a person in a suit with a bow tie, standing behind a dark grey reception desk. The word "RECEPTION" is written in blue capital letters on the front of the desk. Below the desk are four white rectangular buttons stacked vertically: "Check in", "Check Offers" (which is circled with a black oval), "Checkout", and "Logout".

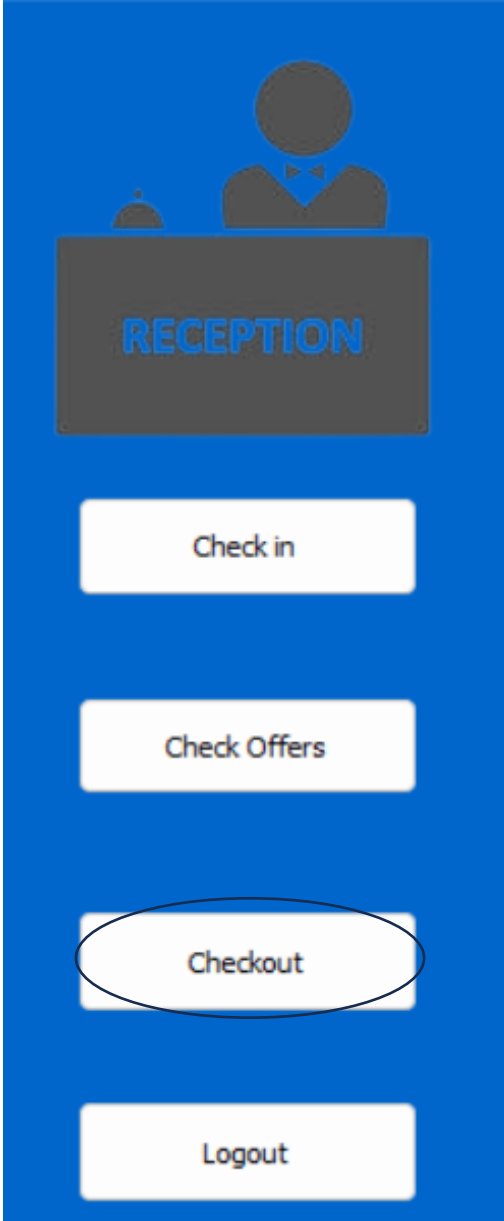


A form for customer information with a date selector at the top showing "26 December 2023". Below are input fields for "Customer Name :", "Phone :", and "Room :". A grey modal overlay is positioned over the "Phone" and "Room" fields, displaying "Today Offer" with a close button (X) and "3 days, 20% discount". Below the modal is a table with columns "room" and "_number", containing a row with "Sing" and an empty cell. An "OK" button is centered over the table. At the bottom are "Room Number :" and "Submit" fields.

| room | _number |
|------|---------|
| Sing | |

Receptionist

- The receptionist is responsible for processing check-outs for customers.



RECEPTION

Check in

Check Offers

Checkout

Logout

Room Number :

Reservation num :

Stayed days :

Receipt :

Guest's Rate :

Payment Method

☒ Cash ☐ Credit Card

Get Bill

Paid :

Rest :

Confirm

GitHub Link

https://github.com/AhmedAbdElgleel/hotel_management

Team Members

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