Software Requirements and Design Document

for

Stellar Stays - Hotel Management System

Prepared by

Ambreen Arshad 22i-1308

Fiza Wajid 22i-0809

Athaar Fatima 22i-1166

LEVELS

25/11/2024

Table of Contents

1. Introduction

1.1 Purpose

The purpose of this document is to define the software requirements for the Hotel Management System (HMS) which has a global scope. This system is designed to streamline and manage various operations in a hotel, including room bookings, food orders, housekeeping, and inventory management. The document serves as a reference for the development team and stakeholders to ensure a common understanding of the system's functionalities. This SRS covers the entire system functionality as outlined in the provided use case and class diagrams.

1.2 Product Scope

The Hotel Management System is a comprehensive software solution designed to automate and manage the day-to-day operations of a hotel and associated services. Its primary objectives are to enhance customer experience, improve staff efficiency, and reduce manual errors.

Key features of the system include:

- Customer services such as booking rooms and tables, ordering food, and providing feedback.
- Staff management tasks like managing rooms, generating bills, and handling inventory.
- Administrative capabilities to facilitate gym usage, and handle housekeeping requests.

Our Hotel Management System aligns with modern business strategies by integrating technology to improve efficiency, customer satisfaction, and profitability. It addresses the need for a centralized and automated solution, replacing traditional manual processes.

1.3 Title

Stellar Stays Hotel Management System*: Enhancing Operational Efficiency and Customer Experience*

1.4 Objectives

The main objectives of the Hotel Management System are:

1. To automate and streamline hotel operations such as bookings, orders, and housekeeping.
2. To provide an intuitive and user-friendly interface for customers and staff.
3. To maintain accurate records for inventory, customer feedback, and financial transactions.
4. To enhance customer satisfaction by ensuring quick and efficient service.

1.5 Problem Statement

In traditional hotel operations, a significant amount of time and effort is spent on manual tasks such as booking management, order processing, and inventory tracking. These manual processes are prone to errors, inefficiencies, and delays, leading to reduced customer satisfaction and operational challenges.

This project addresses these issues by introducing an automated hotel Management System that integrates various operations into a single platform. By digitizing these tasks, this hotel Management system eliminates manual errors, speeds up service delivery, and provides valuable insights through reporting features (bill history, feedback etc). The system is not only cost-effective but also scalable, making it feasible for implementation in hotels of varying sizes and types.

2. Overall Description

2.1 Product Perspective

The Hotel Management System (HMS) is a **new, self-contained product** designed to integrate and streamline hotel operations. It consolidates various functionalities into a single software platform, replacing traditional manual processes and outdated, fragmented systems.

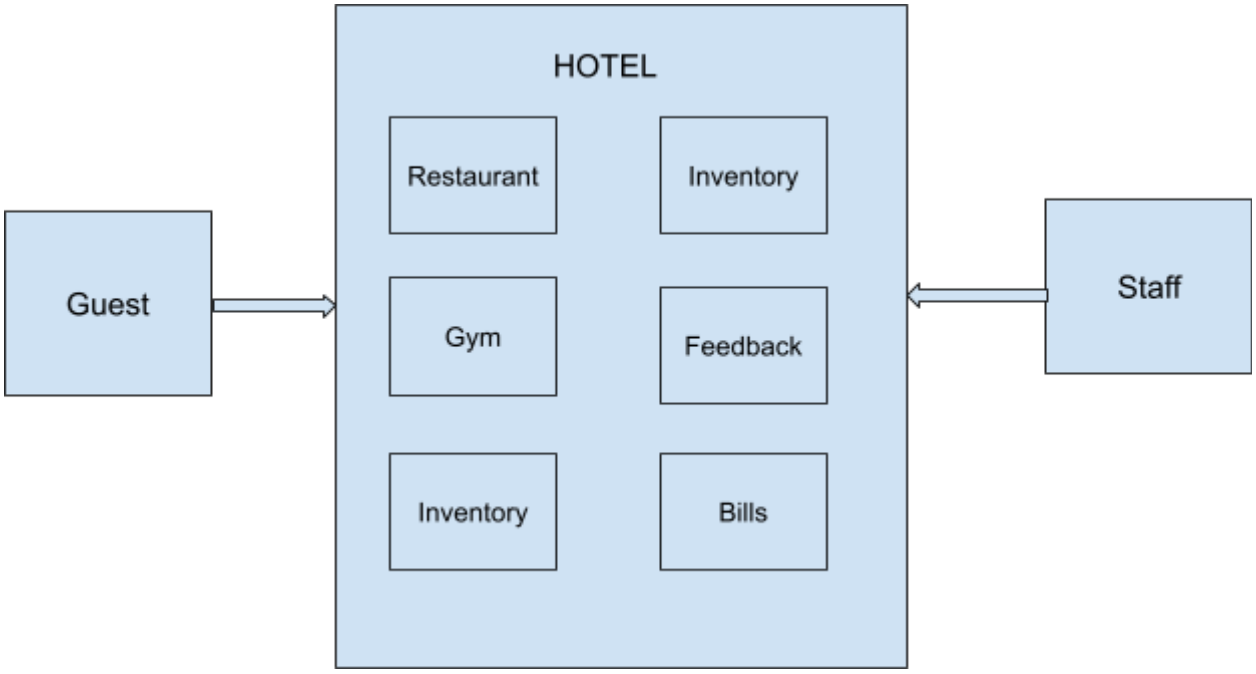
The HMS is intended to function as the core operational system for the hotel, providing seamless interaction between staff, customers, and administrative tasks. It can operate independently or interface with external systems such as payment gateways, reservation platforms, and customer feedback tools.

Context of the System

The HMS is part of a broader restaurant management ecosystem. It interacts with the following components:

- **Customer Interface**: Handles reservations, orders, and feedback via a web or mobile application.
- **Staff Interface**: Manages bookings, housekeeping, inventory, and reporting.
- **External Systems**: Integrates with payment processors.

DIAGRAM:



2.2 Product Functions

The HMS provides the following key functionalities:

For Customers

- **Room Booking / Table Booking**: Allows customers to book rooms or tables based on availability.
- **Food Ordering**: Facilitates menu selection and order placement, both in-room and at tables.
- **Request Housekeeping Services:** Enables Customers to to request any service required in their rooms while they are checked in.
- **Cancel Booking:** Allows customers to cancel the booking they have made for any room or table.
- **Feedback**: Collects customer reviews and stores them for management insights.

For Staff

- **Housekeeping Management**: Enables staff to manage room conditions and stock complementary items.
- **Restaurant Management:** Enables staff to manage and restock Restaurant items.
- **Gym Management:** Enables staff to manage and restock Gym inventory.
- **Inventory Tracking**: Monitors stock levels for kitchen and housekeeping supplies.

Administrative Functions

- **User Management**: Allows administrators to manage staff and user roles.
- **Billing and Payments**: Manages invoices and integrates with payment gateways.

2.3 List of Use Cases

For Guests:

- Check In/ Check Out
- Book Room
- Book Table

- Cancel Booking
- Request Housekeeping services
- Order Food
- Give Feedback
- Make payment

For Staff:

- Manage Rooms
- Handle Restaurant Services
- Handle Gym Services
- Update Inventory
- View Feedback
- Generate / View Bills

2.4 Extended Use Cases

Fully Dressed Use Cases

Use-cases by Fiza

Name: Request housekeeping service

Scope: Hotel Management System
Level: User goal
Primary actors: Guest
Stakeholders and Interests:

Guests: Want to request cleaning/other services for their room.
Housekeeping staff: Needs to be alerted for cleaning or maintenance.
Hotel management: Ensure that customer requests are fulfilled to uphold service standards.

Pre-conditions:

1. Guests are checked into the hotel.
2. Guest's room number is correctly registered.
3. Housekeeping services are available.
4. Housekeeping staff is available.

Post-Conditions:

1. Housekeeping request is successfully submitted.
2. Housekeeping staff are notified and requests are provided based on availability.
3. Guests received confirmation message of their request being submitted.
4. System logs housekeeping visits and marks the room serviced.

Main Success Scenario:

Actor	System
1. Guest access system to request housekeeping service	
	2. System displays housekeeping options (cleaning, restocking)
3. Guest selects a service	
	4. System records request and sends request to the housekeeping staff
5. Guest receives confirmation message	
6. Housekeeping staff complete request	
	7. System updates status of request.

Extensions:

4a. Request already been submitted by the same guest.

4a1. Guests are notified to be patient while their sevice is being handled

Name: Handle Gym Services

Scope: Hotel Management System
Level: User goal
Primary actors: Gym Manager
Stakeholders and Interests:

Gym Manager: Oversees the gym's operation, reports missing or required stock, ensures equipment maintenance, and manages the gym schedule.

Guests: Expect well-maintained equipment, adequate stock, and operational gym facilities during designated hours.

Hotel Manager: Aims to maintain gym facilities as part of a superior guest experience and ensure smooth operations.

Pre-conditions:

1. The gym is operational and stocked with basic amenities and equipment.
2. Gym staff are available during working hours.
3. The system allows the Gym Manager to log and report stock levels and equipment status.

Post-Conditions:

1. Stock reports are successfully updated in the system, and requests for replenishment or maintenance are sent to the respective teams.
2. Equipment needing maintenance is flagged, and the maintenance schedule is updated.
3. Guests continue to have access to fully functional gym services.

Main Success Scenario:

Actor	**System**
1.Gym manager logs into the system to report equipment	
	2.System allows updates for missing stock
3.Gym manager reports missing stock	
	4.System logs the report and notifies the Main manager.
	4.System updates equipment status and stock levels once resolved.
5.Gym Manager reviews updates.	
	6.System confirms all services are operational and reports are closed.

Extensions:

1a. **System Login Failure:**

- **1a1.** Gym Manager is unable to log into the system due to incorrect credentials.
- **1a2.** System prompts the Gym Manager to reset their password or contact technical support.

8a. Duplicate stock report submitted by Gym Manager:

- **8a1.** Gym Manager unintentionally submits a stock replenishment report for items already requested.
- **8a2.** System detects the duplication and prompts the Gym Manager for clarification.
- **8a3.** If confirmed as redundant, the system cancels the duplicate request.

Name: Give Feedback

Scope: Hotel Management System
Level: User goal
Primary actors: Guest
Stakeholders and Interests:

Guests: Wants to provide an overall feedback to the restaurant.
Manager: Interested in gathering feedback to improve quality and customer satisfaction.
Staff: Interested in knowing how their service was perceived to improve their performance.

Pre-conditions:

1. Guests has finished dining/staying and have access to the feedback form
2. Restaurant system for feedback is operational.
3. Guests have not provided the feedback previously for the same experience.

Post-Conditions:

1. Feedback successfully recorded and stored.
2. Feedback is available for management to review.
3. System confirms feedback submission with a confirmation message.

Main Success Scenario:

Actor	**System**
1. Guests request feedback form	
	2. System provides access to form
	3. System displays fields for rating/comment
4. Guests fill in the form	
	5. System verifies if all fields are complete and valid
6. Guests submit the feedback form	
	7. System stored feedback form for future view
	8. System shows a confirmation dialogue

Extensions:

4a. Guests submits empty form

4a1. Guests are asked to fill out the form.

6a. System fails to store feedback due to network error/ system down

6a1. System alert guests that feedback could not be submitted and are asked to resubmit the form

Name: View Feedback

Scope: Hotel Management System
Level: User goal
Primary actors: Staff
Stakeholders and Interests:

Supervisor: Interested in reviewing customer feedback to identify areas for improvement.

Guest: Want their feedback to be acknowledged and considered for improvement.

Staffr: Want to analyze feedback for improving business performance

Pre-conditions:

1. Staff is logged into the system.
2. Feedback entries are submitted by the guests and stored by the system.
3. System is operational and able to retrieve feedback.

Post-Conditions:

1. Staff successfully views feedback
2. Feedback displayed clearly, including ratings and comments.
3. **Main Success Scenario:**

Actor	**System**
1. Staff logs into the system	
	2. System verifies login credentials and grant access
3. Staff navigates to feedback section	
	4. System provides access to feedback section
5. Staff requests to view feedback	
	6. System retrieves stored feedback

	7. System shows list of feedback(sorted)
	8. System ensures feedback is displayed properly
9. Staff reviews the feedback	

Extensions:

1a. Staff enters the incorrect credentials

1a1. Staff is denied access and asked to enter the credentials again

6a.retrieval error from system

6a1. Staff is asked to try again.

7a. no feedback available

7a1. System displays the message of no feedback available

8a. Feedback displayed in unreadable format/missing data

Name: Manage rooms

Scope: Hotel Management System

Level: User goal

Primary actors: Staff

Stakeholders and Interests:

Staff: Needs to ensure that requested housekeeping services are provided.

Guests: expects a well-maintained room with necessary amenities.

Management: wants the room to be prepared efficiently to maintain high guest satisfaction.

Pre-conditions:

1. Staff is logged into the system with appropriate permissions.
2. Room exists in the system's database.
3. The system in operational

Post-Conditions:

The housekeeping service requested by a guest from a room is provided and deleted for requested housekeeping services.

Main Success Scenario:

Actor	**System**
1. Staff logs into the system/	
	2. System authenticates staff credentials

	and grants access to the room management.
3. Staff selectes manage rooms option.	
	4. system displays requested housekeeping services.
5. Staff provides service to the guest.	
	6. System updates the service and deletes it form requested services.

Extensions:

1a. Invalid staff credentials:

1a1. System denies access and prompts the staff to re-enter credentials.

1a2. Staff re-enters valid credentials.

10a. System fails to update the room status:

10a1. System notifies the staff of a technical issue in updating the room status.

10a2. Staff is asked to retry.

Use-Cases by Ambreen

Name: Handle Restaurant Services

Scope: Hotel Management System

Level: User Goal

Primary Actor: Restaurant staff, guests

Stakeholders and interests:

- **Guests:** Want to order food conveniently.
- **Restaurant staff:** Need to be notified of orders serve them promptly.
- **Hotel Management:** Ensures quality service and a good guest experience.

Preconditions:

- The guest is checked into the hotel.

- The restaurant services are available.
- The restaurant staff are logged into the system.

Postconditions:

- The guest's order is recorded.
- Restaurant staff are notified of the order.
- The guest receives confirmation of their order.
- The restaurant service is completed.

Main success scenario:

Actor	**System**
1.The guest accesses the system to order food.	
	2.The system displays the restaurant menu and price.
3.The guest selects items to order.	
	4.The system records the order and sends it to the restaurant staff.
5.The guest receives confirmation of the booking.	
6.The restaurant staff fulfill the order or booking request and the guest is served.	
	7.The system updates the order table.

Extensions:

- **3a.** The guest orders items in a negative number
  - **3a1.** The guest is notified to enter valid quantity.

Name:Update inventory

Scope: Hotel management system

Level:Supporting process
Primary actor:Hotel staff(Inventory manager)
Stakeholders and Interests:

- **Inventory Manager:** Ensures that inventory records are up to date.
- **Restaurant and Housekeeping Staff:** Need access to accurate inventory information.
- **Hotel Management:** Requires inventory data for efficient operations and cost control.

Preconditions:

- The inventory system is operational.
- The inventory manager is logged into the system.

Postconditions:

- Inventory levels are updated.
- The system logs the update.
- Staff members are notified of any significant changes (e.g., low stock).

Actor	**System**
1.The inventory manager logs into the system.	
	2.The system displays current inventory levels.
3.The inventory manager selects an item to update.	
4.The inventory manager enters the new quantity.	
	5.The system updates the inventory record.
	6.The system notifies relevant staff members of the update.
	7.The system logs the inventory update.

Extensions:

- **1a**. Inventory manager enters invalid credentials:
    - **1a1**. The manager is prompted to re-enter the credentials.
- **3a.** The inventory manager selects an item that doesn't exist.

    - **3a1**. The system prompts the manager to verify the item or add a new one.
- **4a.** The system fails to update the inventory.
    - **4a1.** The manager is prompted to retry or contact technical support.

Name: Make payment

Scope: Hotel Management System

Level: User goal

Primary Actor: Guest

Stakeholders and Interests:

- **Guests:** Want to settle bills for services or room stays smoothly.
- **Hotel Management:** Ensures payments are processed efficiently to maintain revenue flow.
- **Accounting Staff:** Need access to accurate payment records for financial reporting.

Preconditions:

- The guest has ordered food or completed a stay.
- The payment system is operational.
- The guest has sufficient funds for payment.

Postconditions:

- The payment is successfully processed.
- The system logs the transaction.
- A receipt is issued to the guest.

Actor	**System**
1.The guest accesses the system to make a payment.	
	2.The system displays the guest's outstanding balance.
3.The guest selects a payment method.	
	4.The system processes the payment.

5.The guest receives confirmation and a receipt.	
	6.The system updates the payment status.

Extensions:

- **4a**. The payment fails due to insufficient funds.
    - **4a1**. The system notifies the guest of the failure and allows them to retry with another method.

Name: Check in/out

Scope: Hotel Management System
Level: User goal
Primary Actor: Guest
Stakeholders and Interests:

- **Guests:** Want to check in and check out quickly and efficiently.
- **Hotel Staff:** Need to manage room availability and guest records efficiently.
- **Hotel Management:** Ensures guest satisfaction and room utilization.

Preconditions:

- Rooms are available for check-in.
- The guest has a valid reservation (for check-in) or an existing record (for check-out).

Postconditions:

- The guest is successfully checked in or out.
- Room availability is updated.
- The system logs the transaction.

Actor	**System**
1.The guest accesses the system to check in or out.	
	2.The system verifies the guest's reservation or stay details.
3.The guest confirms their check-in or out request.	

	4.The system updates the guest record and room availability.

Extensions:

- **2a**. The system cannot verify the guest's reservation.
    - **2a1**. The guest is shown an error that he is not verified.
- **4a**. The system fails to update room availability.
    - **4a1**. The guest is notified of the error.

Name: Book/Reserve room

Scope: Hotel Management System

Level: User goal

Primary Actor: Guest

Stakeholders and Interests:

- **Guests:** Want to book rooms according to their preferences.
- **Hotel Staff:** Need to manage room availability efficiently.
- **Hotel Management:** Ensures that rooms are booked optimally for revenue.

Preconditions:

- Rooms are available for booking.
- The guest has valid personal information.

Postconditions:

- The room is successfully reserved.
- The system logs the booking.
- The guest receives a confirmation.

Actor	**System**
1.The guest accesses the system to book a room.	
	2.The system displays available rooms.
3.The guest selects a room and enters their	

details.	
	4.The system confirms the reservation.
5.The guest receives confirmation and booking details.	
	6.The system logs the reservation.

Extensions:

- **2a**. No rooms are available.
    - **2a1**. The guest is notified and offered alternative dates.
- **4a**. The system fails to reserve the room.
    - **4a1**. The guest is prompted to retry or contact the hotel for assistance.

Use-cases by Athaar

🌟 Name: Order Food

Scope: Hotel Management System
Level: User goal
Primary Actor: Guest
Stakeholders and Interests:

- **Guests:** Want to order food quickly and conveniently from their rooms.
- **Hotel Staff:** Need to manage food orders and ensure timely delivery.
- **Restaurant Management:** Ensures that food orders are processed efficiently to maintain customer satisfaction and optimize resources.

Preconditions:

- The guest is checked-in into the system.
- The menu is available and up-to-date.
- The kitchen is operational and has the ordered items in stock.

Postconditions:

- The food order is successfully placed.
- The system logs the order.
- The guest receives confirmation of their order.

Actor	**System**

1.The guest accesses the food ordering system.	
	2.The system displays the menu options.
3.The guest selects items and specifies the quantity.	
4.The guest confirms the order and provides delivery details (if necessary).	
	5.The system processes the order and sends it to the restaurant staff.
	6. The guest receives a confirmation of the order with estimated delivery time.
	7.The system logs the order for record-keeping and billing.

Extensions:

4a. Some selected items id or quantity is invalid.

- **4a1.** The system notifies the guest to enter valid quantity and id.

6a. The system fails to process the order due to a technical issue.

- **6a1.** The guest is prompted to retry or contact the hotel staff for assistance.

⭐ Name: Book Table

Scope: Hotel Management System
Level: User goal
Primary Actor: Guest
Stakeholders and Interests:

- **Guests:** Want to book tables for dining at preferred times.
- **Restaurant Staff:** Need to manage table availability and reservations efficiently.
- **Restaurant Management:** Ensures that tables are booked optimally to maximize customer satisfaction and revenue.

Preconditions:

- The guest is logged into the system.
- Tables are available for booking.

- The guest has valid personal information.

Postconditions:

- The table is successfully reserved.
- The system logs the booking.
- The guest receives a confirmation of the reservation.

Actor	System
1.The guest accesses the table booking system.	
	2.The system displays available dining times and table options.
3.The guest selects a preferred date, time, and table.	
	4.The system verifies the availability of the selected table and time.
5.The guest confirms the reservation and provides any additional details (e.g., number of guests, special requests).	
	6.The system processes the reservation.
	7.The guest receives confirmation of the table reservation with details.
	8.The system logs the reservation for record-keeping.

Extensions:

2a. No tables are available at the selected time.

- **2a1.** The system notifies the guest and offers alternative times or dates.

4a. The system fails to verify availability.

- **4a1.** The guest is prompted to retry or contact restaurant staff for assistance**.**

5a. The guest changes their mind about the reservation.

- **5a1.** The guest can modify their reservation before final confirmation.

⭐ Name: Cancel Booking

Scope: Hotel Management System
Level: User goal
Primary Actor: Guest
Stakeholders and Interests:

- **Guests:** Want to cancel their bookings when necessary without penalties if within the cancellation policy.
- **Hotel Staff:** Need to manage cancellations efficiently to maintain room availability.
- **Hotel Management:** Ensures that cancellation policies are enforced and that revenue is managed effectively.

Preconditions:

- The guest is logged into the system.
- The guest has an existing booking that is eligible for cancellation.

Postconditions:

- The booking is successfully canceled.
- The system logs the cancellation.
- The guest receives confirmation of the cancellation.

Actor	**System**
1.The guest accesses their booking details.	
	2.The system displays the guest's current bookings.
3.The guest selects the booking they wish to cancel.	
	4.The system verifies that the booking is eligible for cancellation (based on policy).
5.The guest confirms the cancellation request.	
	6.The system processes the cancellation.
	7.The guest receives confirmation of the booking cancellation.

Extensions:

6a. The system fails to process the cancellation due to a technical issue**.**

- **6a1.** The guest is prompted to retry or contact hotel staff for assistance.

5a. The guest changes their mind about canceling.

- **5a1.** The guest can cancel the cancellation process before final confirmation.

⭐ Name: Generate Bills

Scope: Hotel Management System
Level: User goal
Primary Actor: Hotel Staff
Stakeholders and Interests:

- **Hotel Staff:** Want to ensure accurate billing for guests based on their stay and additional services used.
- **Guests:** Expect clear and transparent bills reflecting their usage and charges.
- **Hotel Management:** Aims to maintain financial accuracy and optimize revenue collection.

Preconditions:

- The guest has completed their stay or is checking out.
- All services used by the guest have been recorded in the system.

Postconditions:

- The bill is successfully generated and presented to the guest.
- The system logs the billing information for record-keeping.

Actor	**System**
1.The hotel staff member accesses the billing system.	
	2.The system displays a list of checked-out guests or guests ready for billing.

3.The staff member selects a guest to generate the bill for.	
	4.The system retrieves the guest's stay details and additional services used.
5.The staff member reviews the charges and applies any discounts or adjustments.	
	6.The system calculates the total bill amount and generates the bill.
7.The staff member presents the bill to the guest for review.	
	8.The system allows the guest to review the bill and request clarifications if needed.
9.The staff member processes the payment for the bill.	
	10.The system confirms payment and issues a receipt.
	11. The system logs the billing transaction for record-keeping.

Extensions:

2a. No guests are available for billing.

- **2a1.** The system notifies the staff member that there are no guests ready for billing.

6a. The system fails to calculate the total bill.

- **6a1.** The staff member is prompted to check for errors in the recorded services.

8a. The guest disputes a charge on the bill.

- **8a1.** The staff member reviews the charge and provides clarification or adjusts the bill if necessary.

⭐ Name: Generate Reports

Scope: Hotel Management System
Level: User goal
Primary Actor: Hotel Management
Stakeholders and Interests:

- **Hotel Management:** Wants to analyze performance metrics to make informed decisions.
- **Hotel Staff:** Requires access to reports for operational insights and improvements.
- **Investors/Stakeholders:** Expect regular reports on hotel performance and profitability.

Preconditions:

- The hotel management is logged into the system.
- Data for generating reports is available and up-to-date in the system.

Postconditions:

- The report is successfully generated and available for review.
- The system logs the report generation activity.

Actor	**System**
1.The hotel management accesses the reporting system.	
	2.The system displays available report templates (e.g., occupancy, revenue, customer feedback).
3.The management selects the type of report to generate.	
	4.The system prompts for any specific parameters (e.g., date range, room types).
5.The management enters the required parameters and confirms the request.	
	6.The system processes the request and compiles the report data.
	7.The system generates the report and displays it for review.
8.The management reviews the report and can choose to export or print it.	

	9. The system logs the report generation activity for future reference

Extensions:

2a. No reports are available for the selected criteria.

- **2a1.** The system notifies the management and suggests adjusting the parameters.

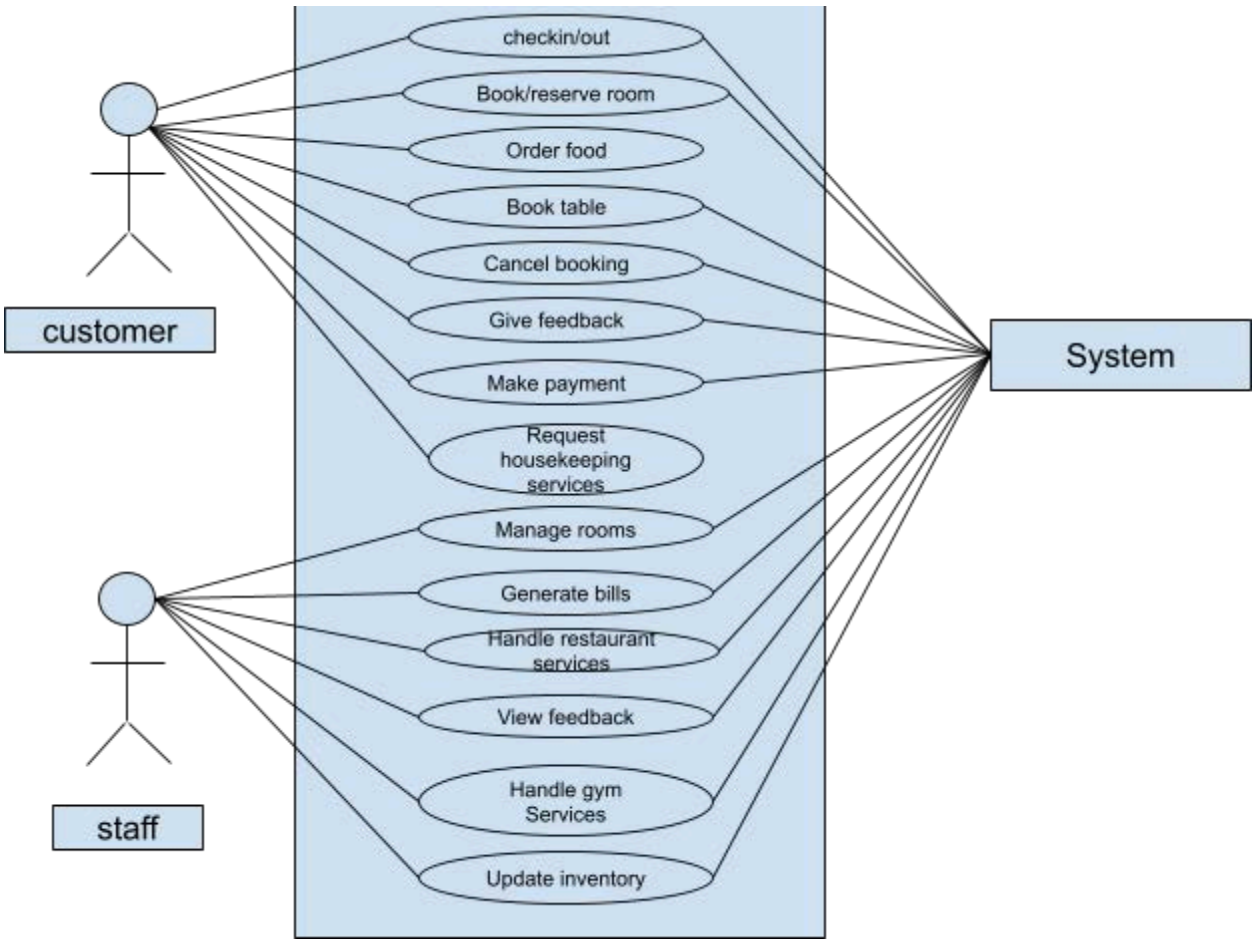
6a. The system fails to generate the report due to data errors.

- **6a1.** The management is prompted to verify data integrity or contact support for assistance.

8a. The management wants to save the report for future reference.

- **8a1.** The system provides options for exporting the report in various formats (e.g., PDF, Excel).

2.5 Use Case Diagram



3. Other Nonfunctional Requirements

3.1 Performance Requirements

- The system must respond to user actions (e.g., placing an order, booking a room, or generating a report) within **2 seconds** under normal load conditions.
- Inventory updates, report generation, and room availability status must be processed within **5 seconds**, even during peak system usage.
- The system's design should allow for future enhancements to handle multiple concurrent users. This may include database optimization, API enhancements, and load-balancing mechanisms.
- The system must maintain **99.9% availability**, excluding scheduled maintenance. This ensures the single user can rely on the system for uninterrupted operation during working hours.

3.2 Safety Requirements

Safeguards:

1. **Data Backup and Recovery**:
    - HMS implements an automatic data backup system to securely store data at regular intervals.
2. **Input Validation**:
    - It uses input validation to ensure all data entered by users is within acceptable and safe parameters.
    - It displays meaningful error messages to guide users in case of invalid inputs.
3. **Transaction Logging**:
    - It records every significant action (e.g., data modifications, deletions) in the database implemented.
4. **Fail-Safe Mechanisms**:
    - If an error occurs, the system reverts to a safe state rather than attempting to continue operations in an unstable environment.
5. **Access Control**:
    - It Implements multi-level us*er authentication and restricts sensitive actions to authorized personnel.*

3.3 Security Requirements

Authentication: All users must be authenticated using **unique credentials** (e.g., username and password, with optional two-factor authentication for administrative roles).

Role-Based Access Control: System features must be restricted based on user roles (e.g., customer, staff, admin).

Data Encryption: Sensitive data, such as payment information and user credentials, must be encrypted.

3.4 Software Quality Attributes

Reliability: The system operates without failure under normal load.

Usability: The interface follows **intuitive design principles**, allowing new users to complete tasks without formal training within **15 minutes**.

Maintainability: The codebase follows **modular design principles** to allow updates and bug fixes with minimal impact on other components.

Testability: All features are tested, with a test coverage of at least **90%**.

Portability: The system must run on multiple operating systems, including **Windows**, **macOS**, and **Linux**.

3.5 Business Rules

Role Restrictions:

- Only **staff** can access the management module.
- Customers can only modify or cancel their own bookings or request services.

Payment Policy: All bookings are paid at checkout if the user is an authenticated guest with a valid room / table booking.

Feedback Visibility: Feedback submitted by customers must only be visible to the staff.

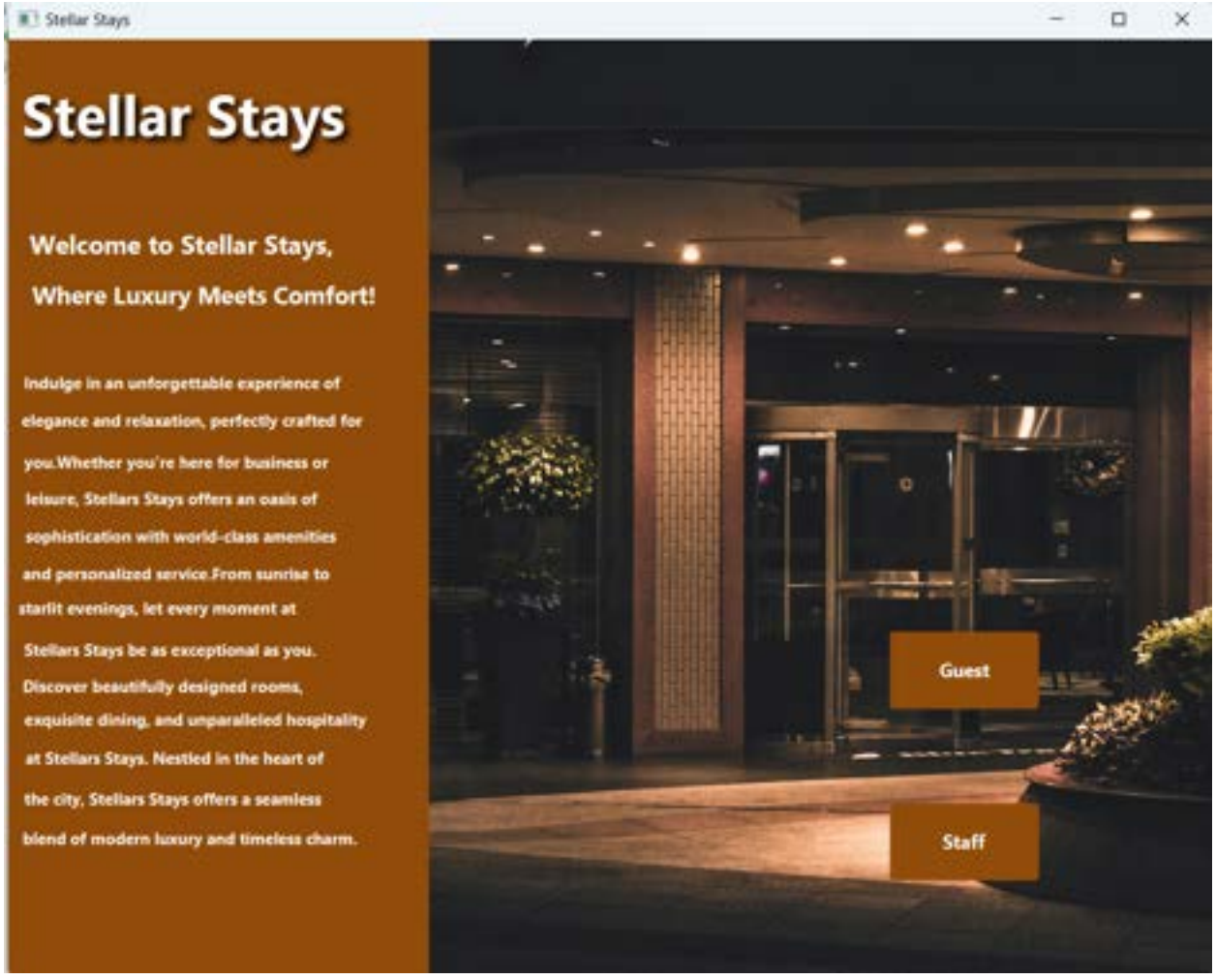
3.6 Operating Environment

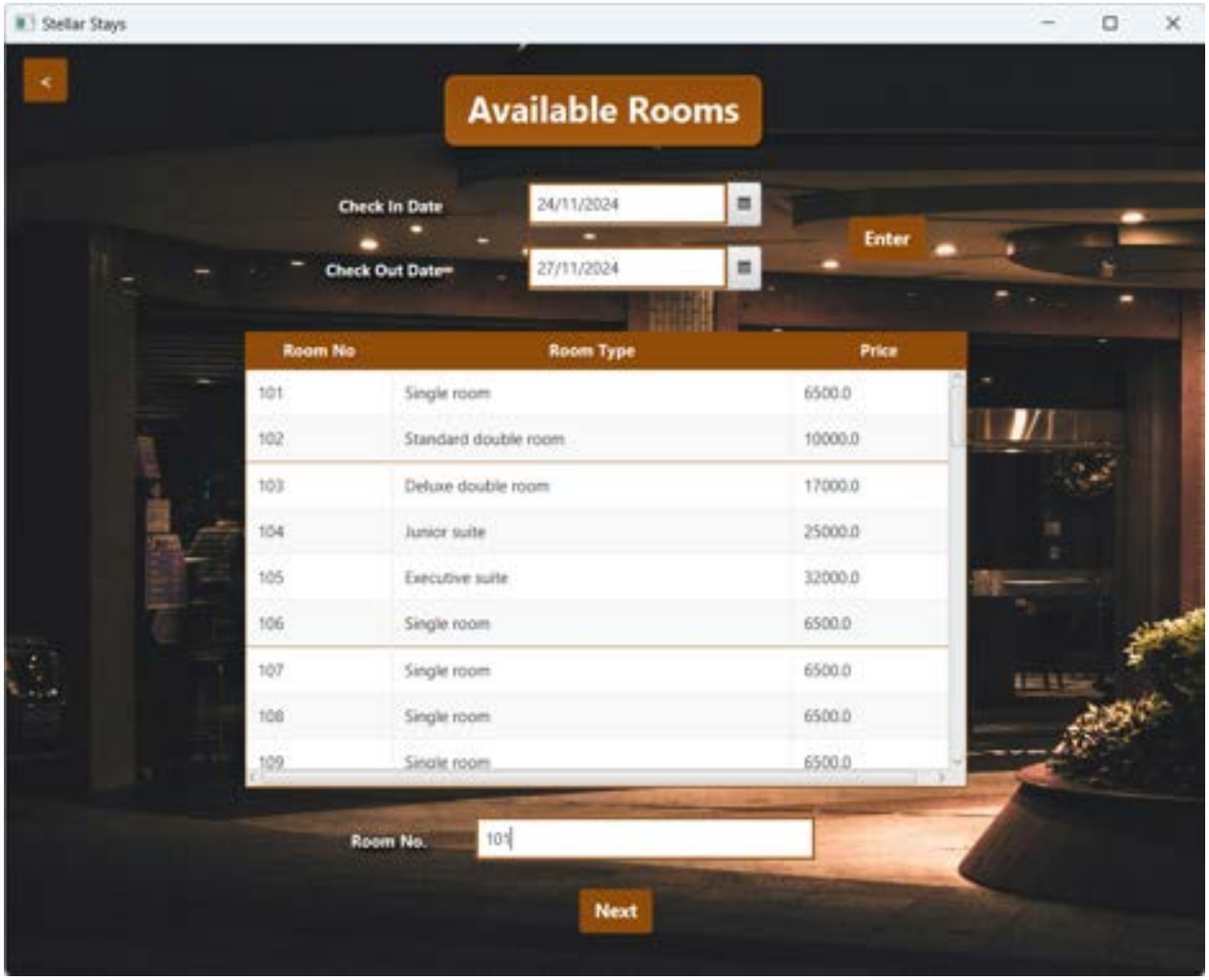
Operating Environment

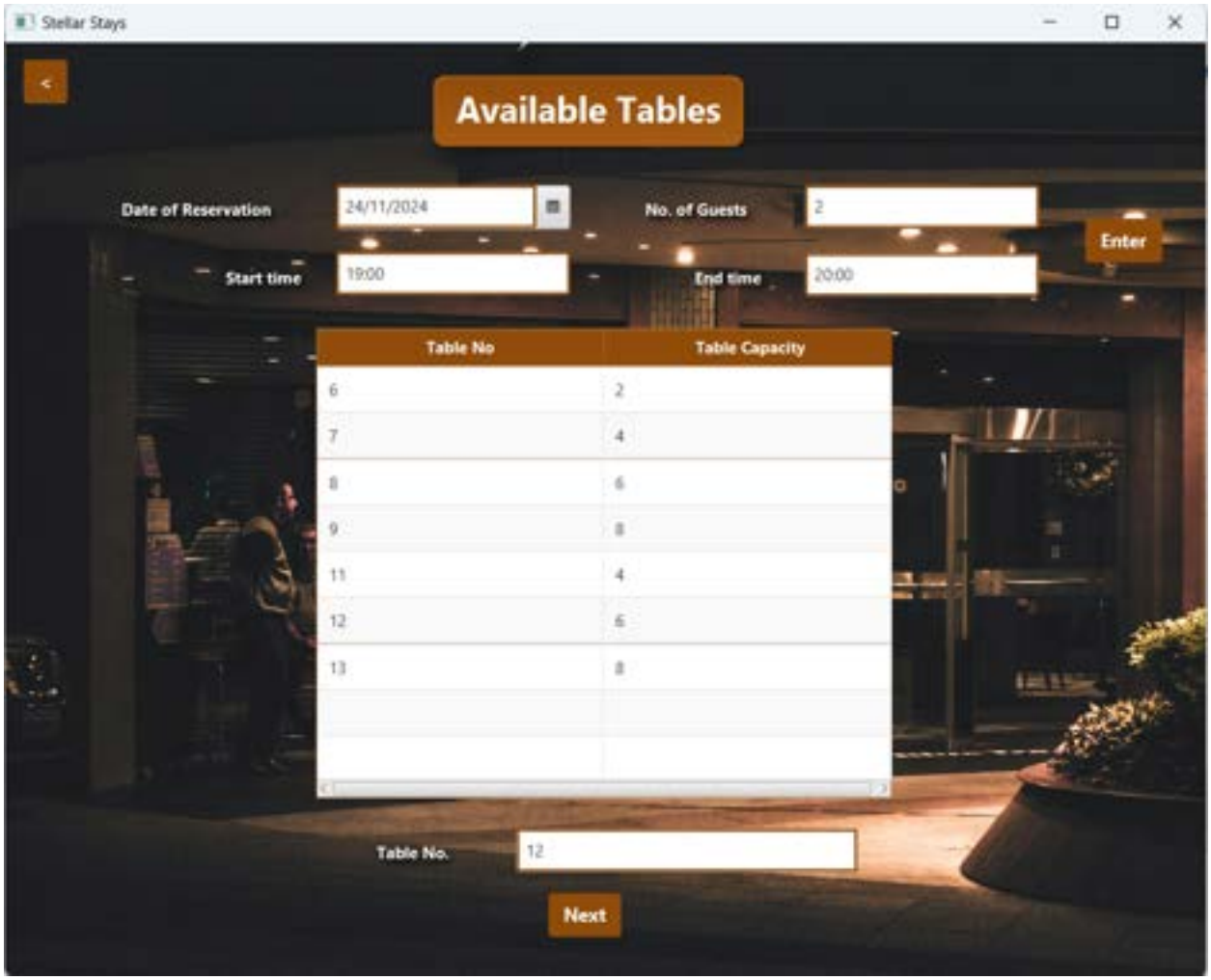
1. **Hardware Platform:**
    - **Device Name:** LAPTOP-JP9NMJD7
    - **Processor:** AMD Ryzen 5 5500U with Radeon Graphics, 2.10 GHz
    - **RAM:** 8.00 GB (7.33 GB usable)
    - **System Type:** 64-bit operating system, x64-based processor
2. **Operating System:**
    - **Edition:** Windows 11 Home Single Language
    - **Version:** 23H2
    - **OS Build:** 22631.4317
3. **Software Development Environment:**
    - **Programming Language:** Java
    - **Integrated Development Environment (IDE):** Eclipse
    - **Frameworks/Libraries:**
        - JavaFX (for building user interfaces)
        - Scene Builder (for designing JavaFX interfaces visually)
    - **Database:** Microsoft SQL Server (for database management)

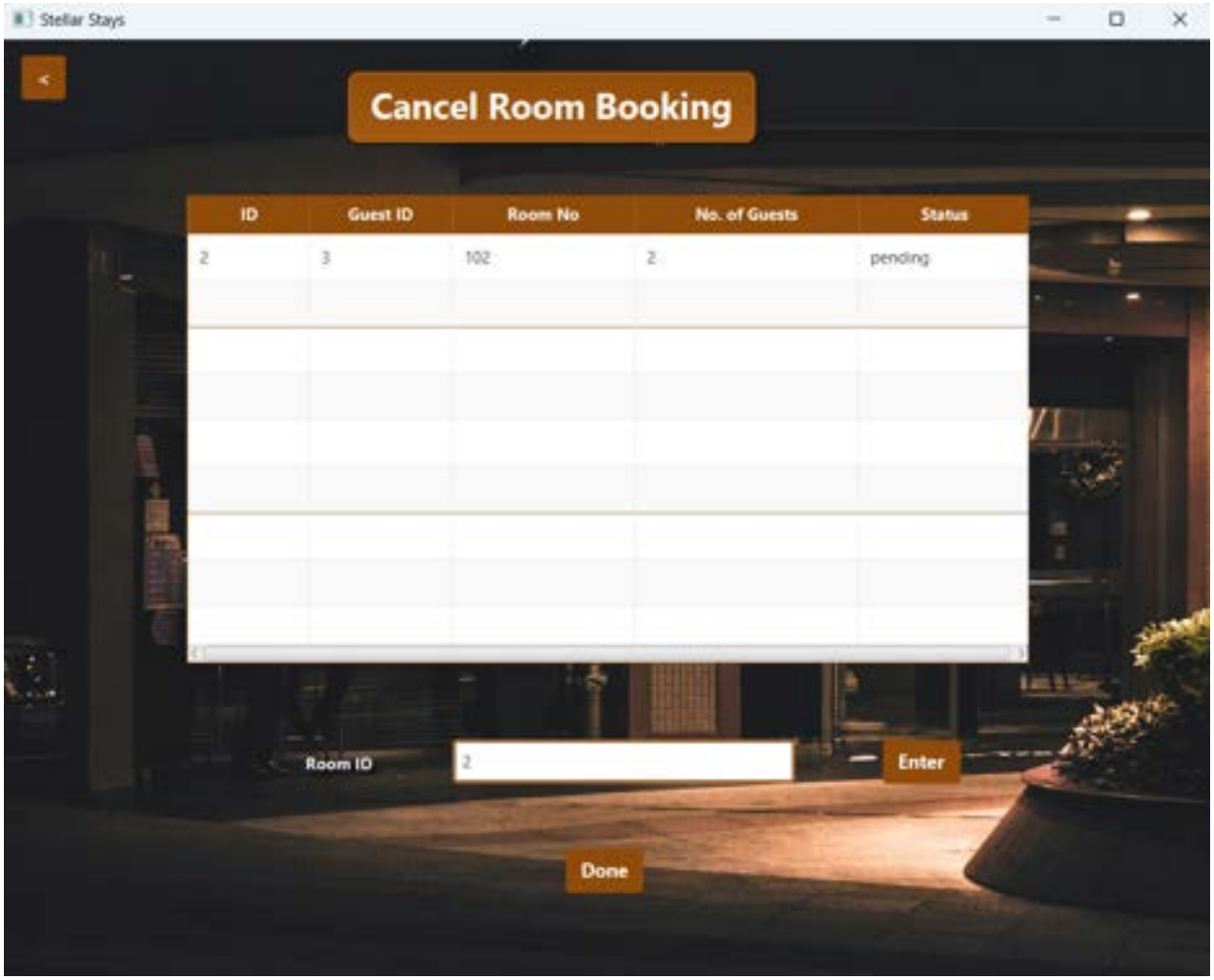
4. **Compatibility Considerations:**
    - The software must operate smoothly in the specified environment, ensuring compatibility with:
        - Windows, MacOS, Linux operating system.
        - JavaFX for GUI rendering.
        - Microsoft SQL Server for database connectivity.

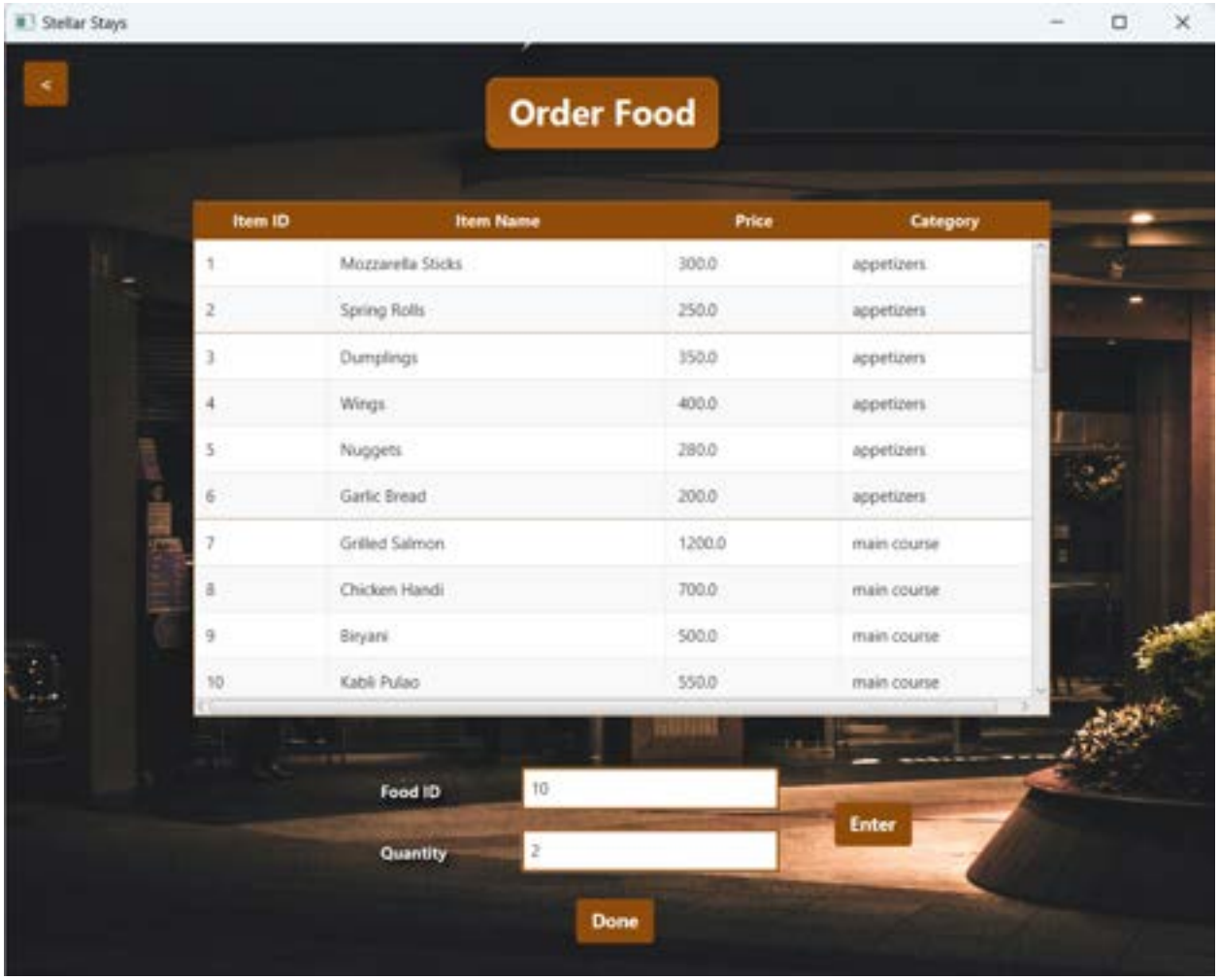
3.7 User Interfaces

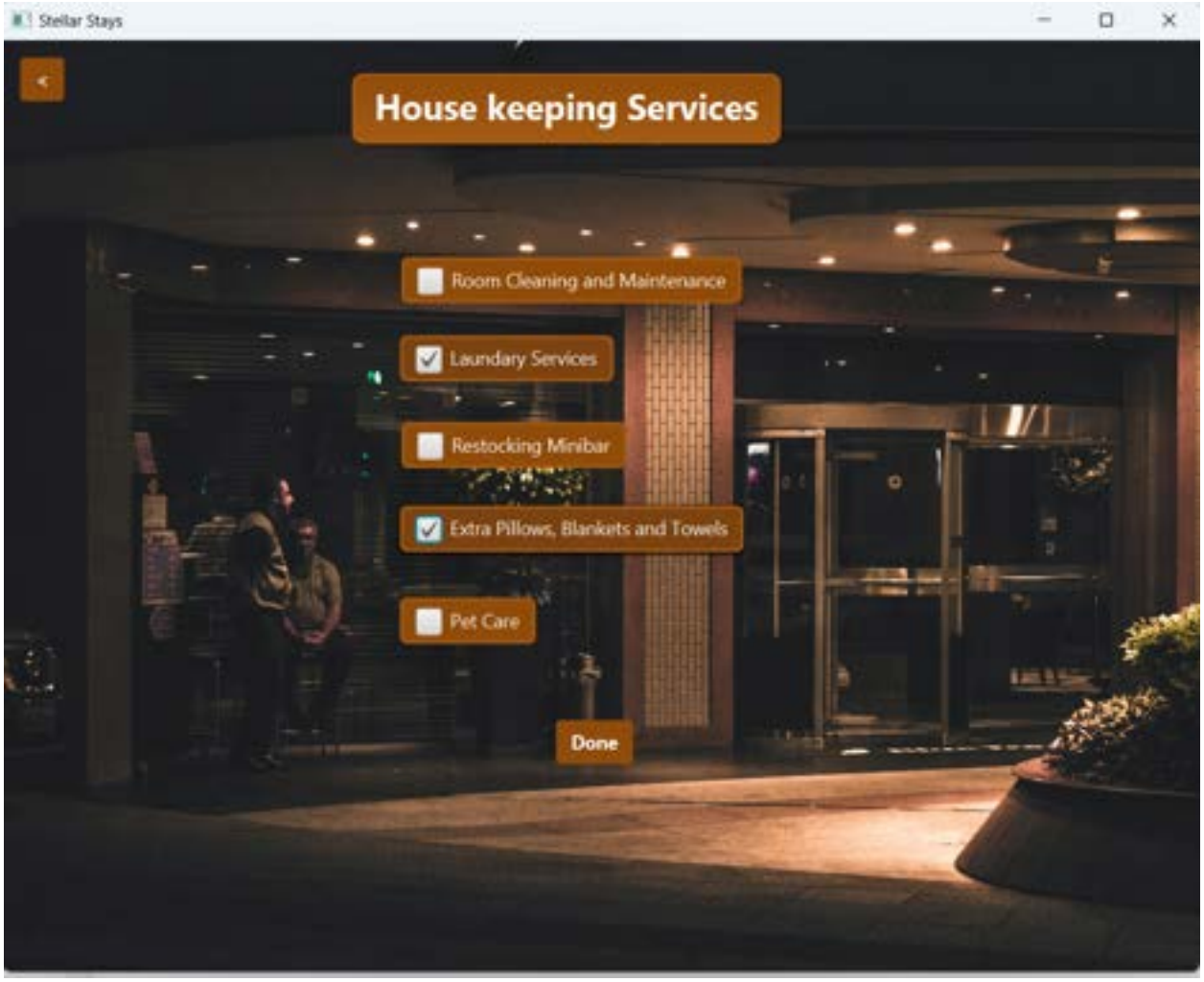


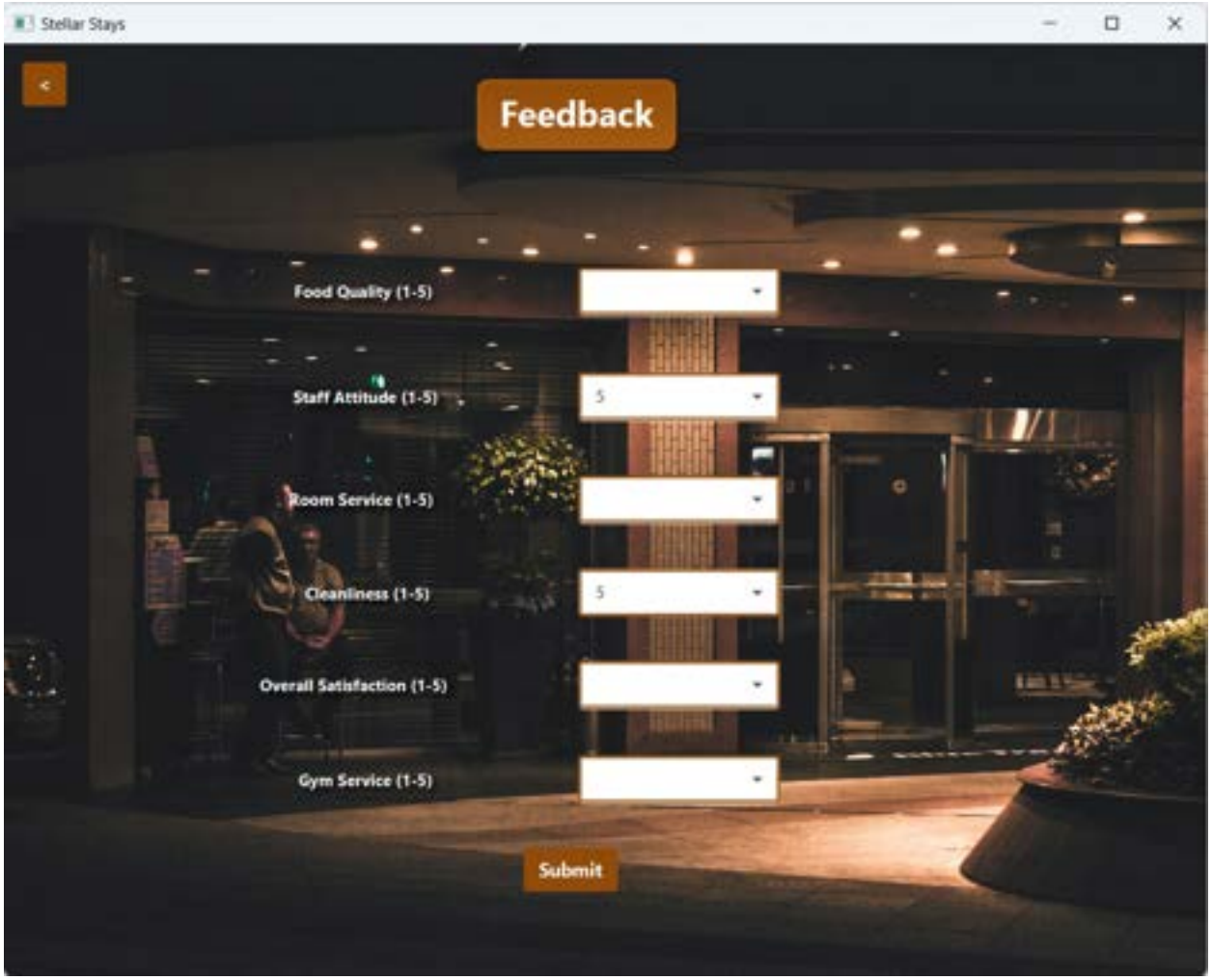

Stellar Stays
Available Rooms
Check In Date
24/11/2024
Check Out Date*
27/11/2024
Enter
Room No
Room Type
Price
101
Single room
6500.0
102
Standard double room
10000.0
103
Deluxe double room
17000.0
104
Junior suite
25000.0
105
Executive suite
32000.0
106
Single room
6500.0
107
Single room
6500.0
108
Single room
6500.0
109
Single room
6500.0
Room No.
Next

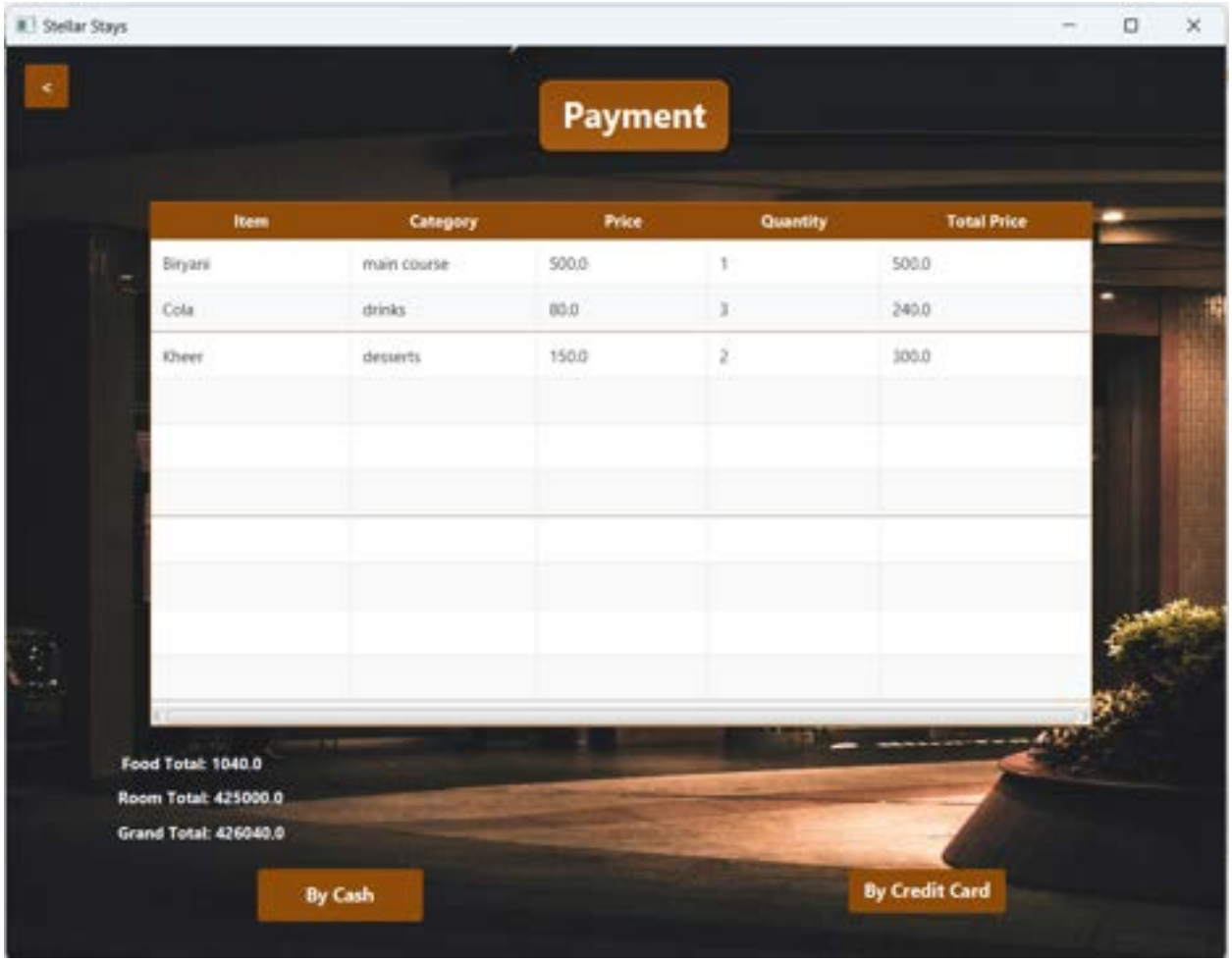

Stellar Stays
Available Tables
Date of Reservation
24/11/2024
No. of Guests
2
Enter
Start time
19:00
End time
20:00
Table No
Table Capacity
6
2
7
4
8
6
9
8
11
4
12
6
13
8
Table No.
12
Next

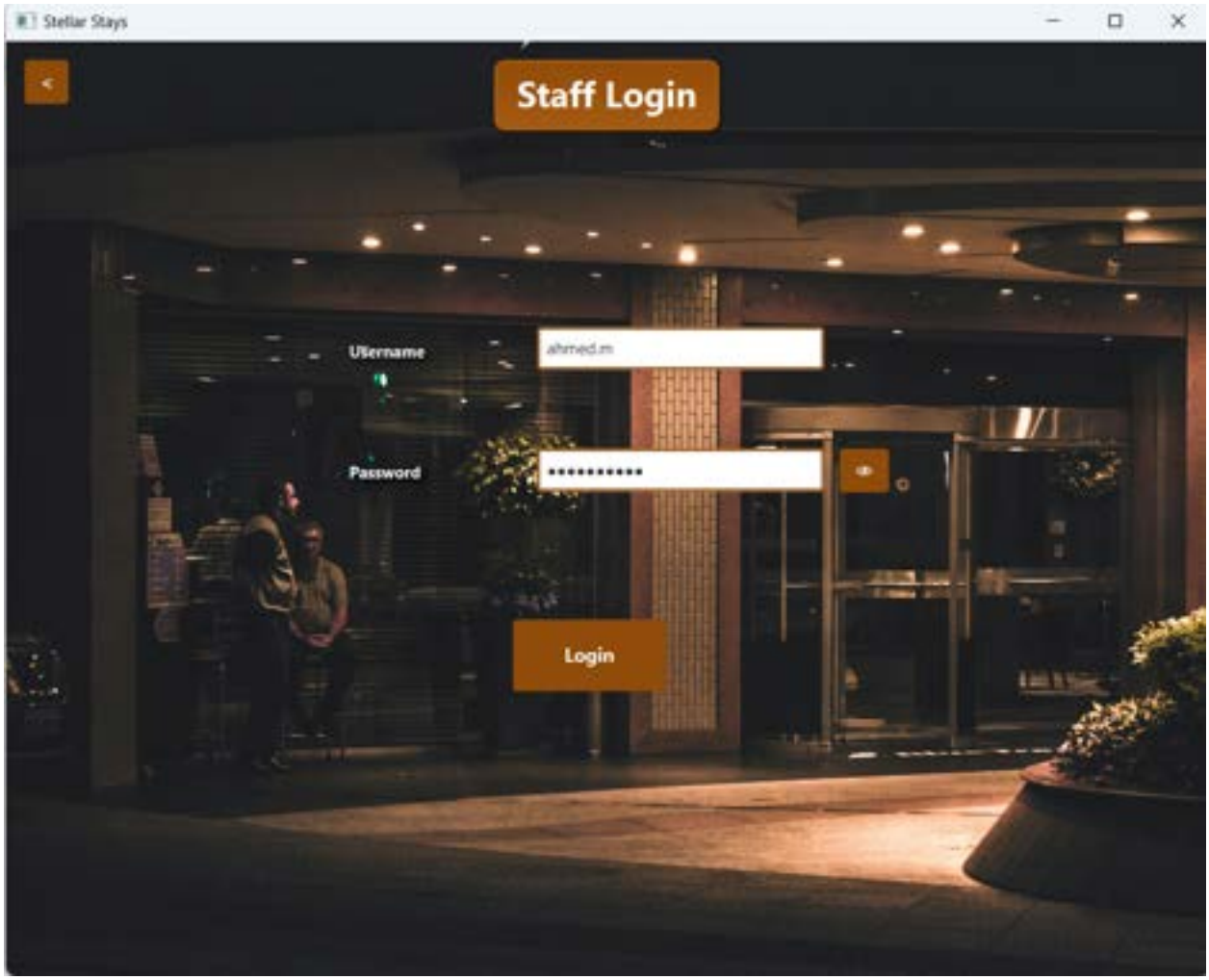

Stellar Stays
<
Cancel Room Booking
ID
Guest ID
Room No
No. of Guests
Status
2
3
102
2
pending
Room ID
2
Enter
Done

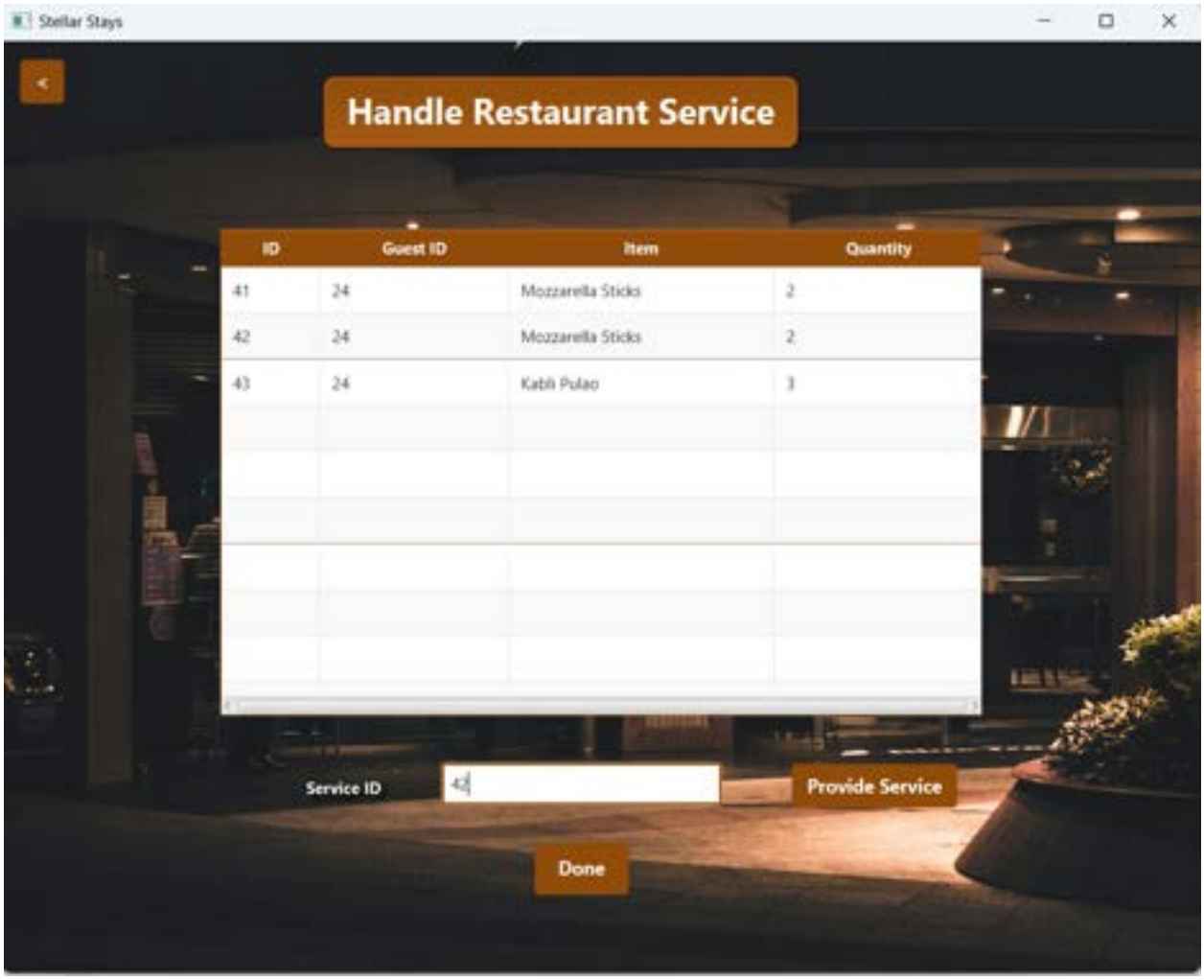

Stellar Stays
<
Order Food
Item ID
Item Name
Price
Category
1
Mozzarella Sticks
300.0
appetizers
2
Spring Rolls
250.0
appetizers
3
Dumplings
350.0
appetizers
4
Wings
400.0
appetizers
5
Nuggets
280.0
appetizers
6
Garlic Bread
200.0
appetizers
7
Grilled Salmon
1200.0
main course
8
Chicken Handi
700.0
main course
9
Biryani
500.0
main course
10
Kabli Pulao
550.0
main course
Food ID
10
Quantity
2
Enter
Done

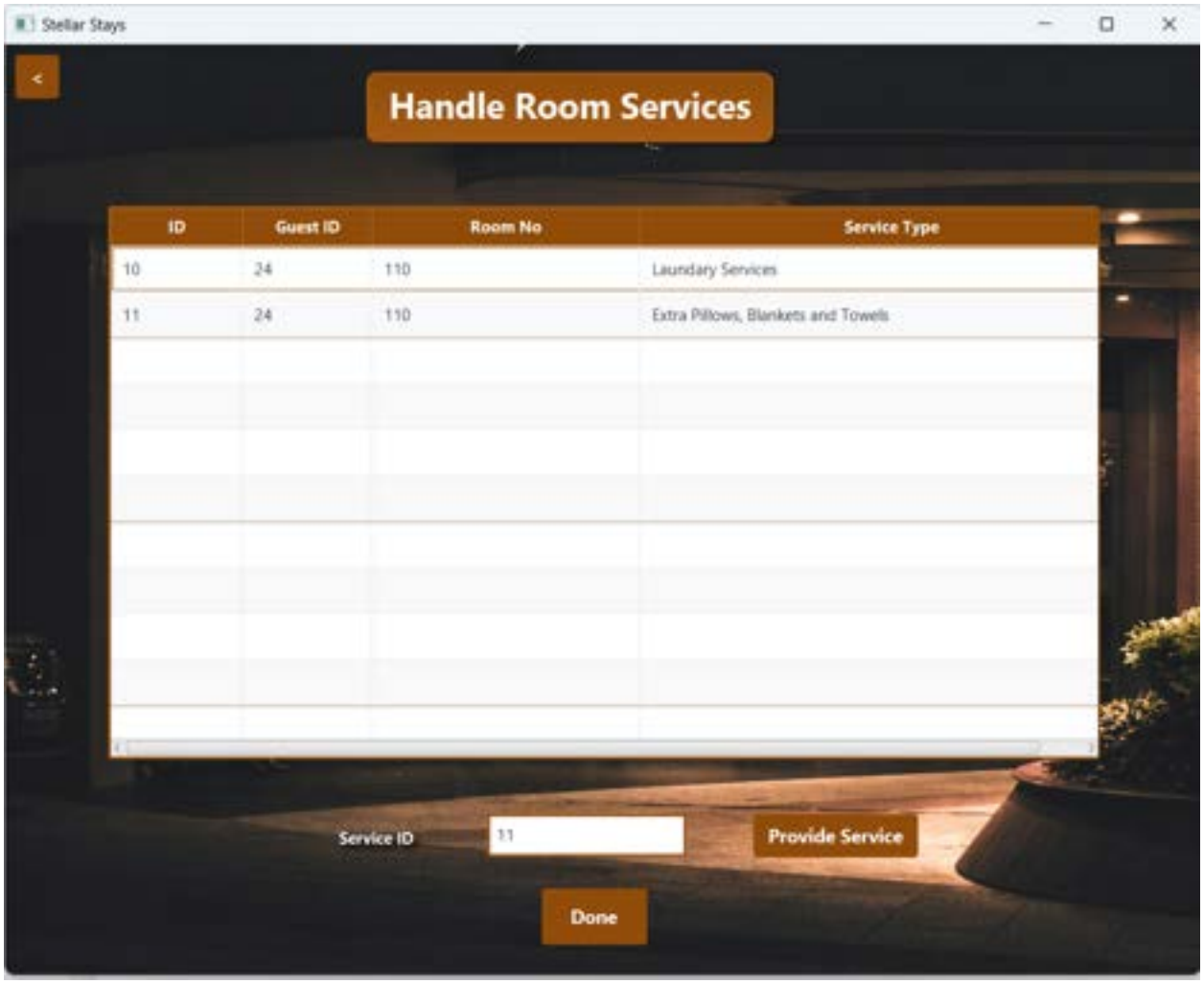

Stellar Stays
House keeping Services
Room Cleaning and Maintenance
Laundary Services
Restocking Minibar
Extra Pillows, Blankets and Towels
Pet Care
Done

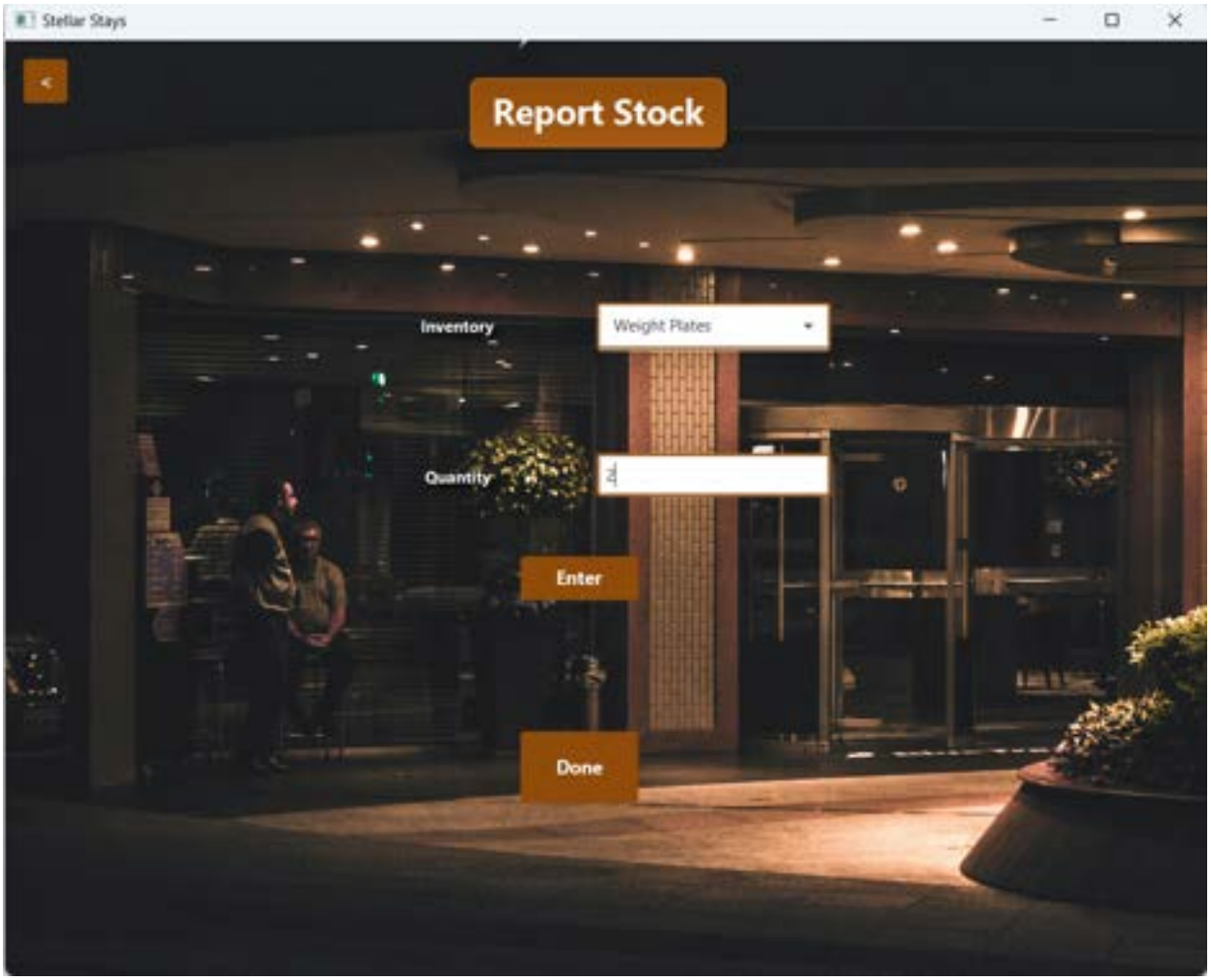

Stellar Stays
<
Feedback
Food Quality (1-5)
Staff Attitude (1-5)
5
Room Service (1-5)
Cleanliness (1-5)
5
Overall Satisfaction (1-5)
Gym Service (1-5)
Submit

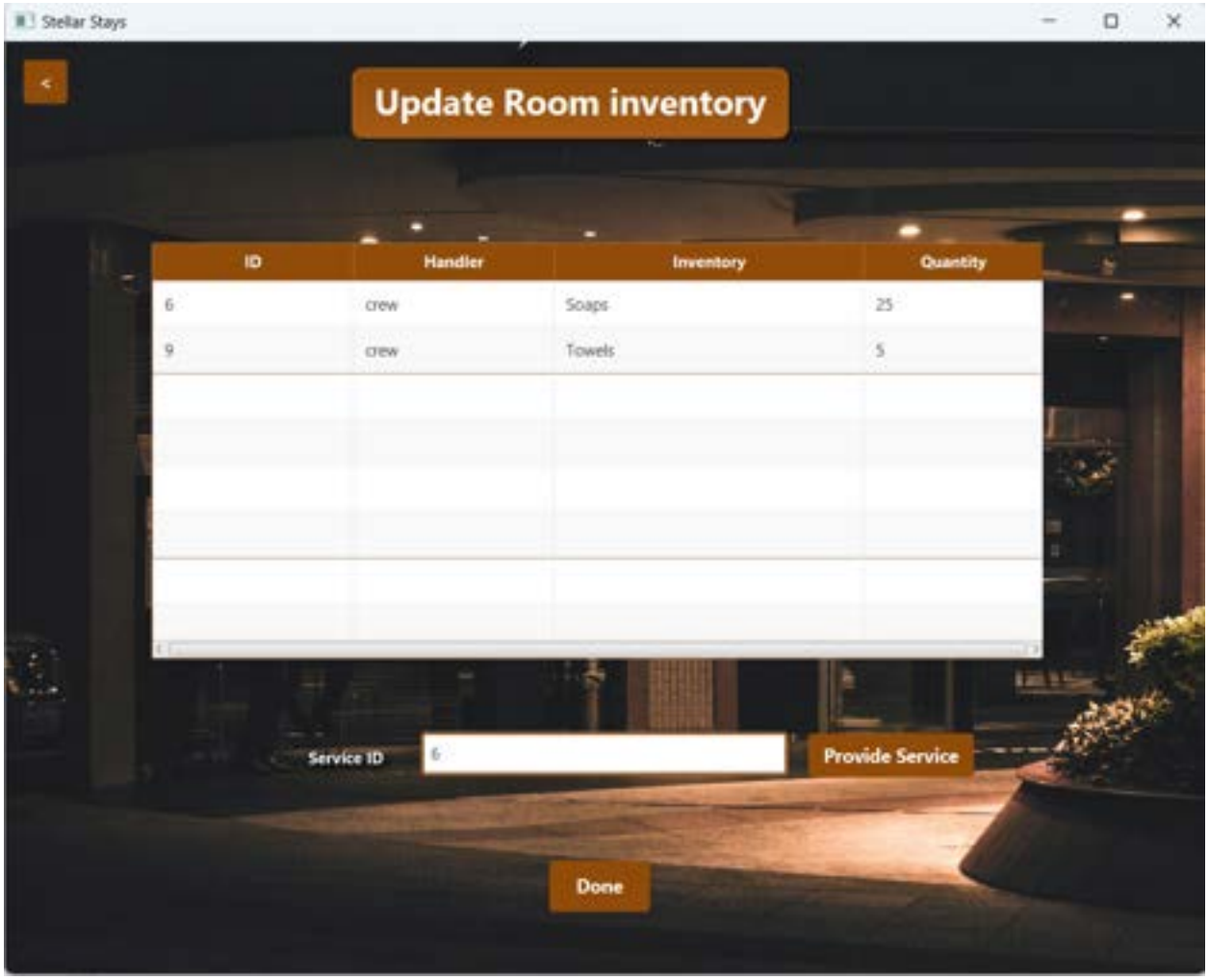

Stellar Stays
<
Payment
Item
Category
Price
Quantity
Total Price
Biryani
main course
500.0
1
500.0
Cola
drinks
80.0
3
240.0
Kheer
desserts
150.0
2
300.0
Food Total: 1040.0
Room Total: 425000.0
Grand Total: 426040.0
By Cash
By Credit Card

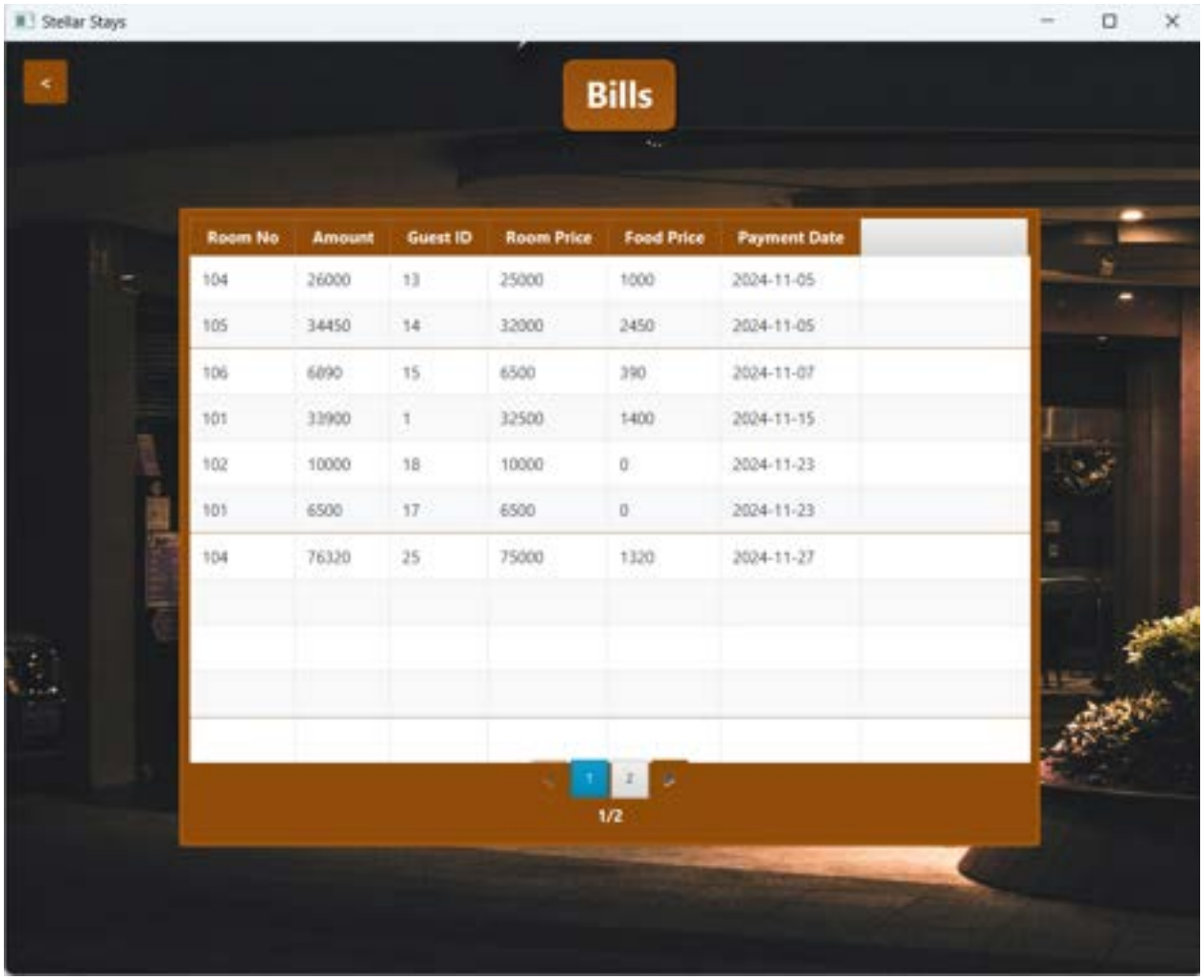

Stellar Stays
Staff Login
Username
ahmed.m
Password
Login

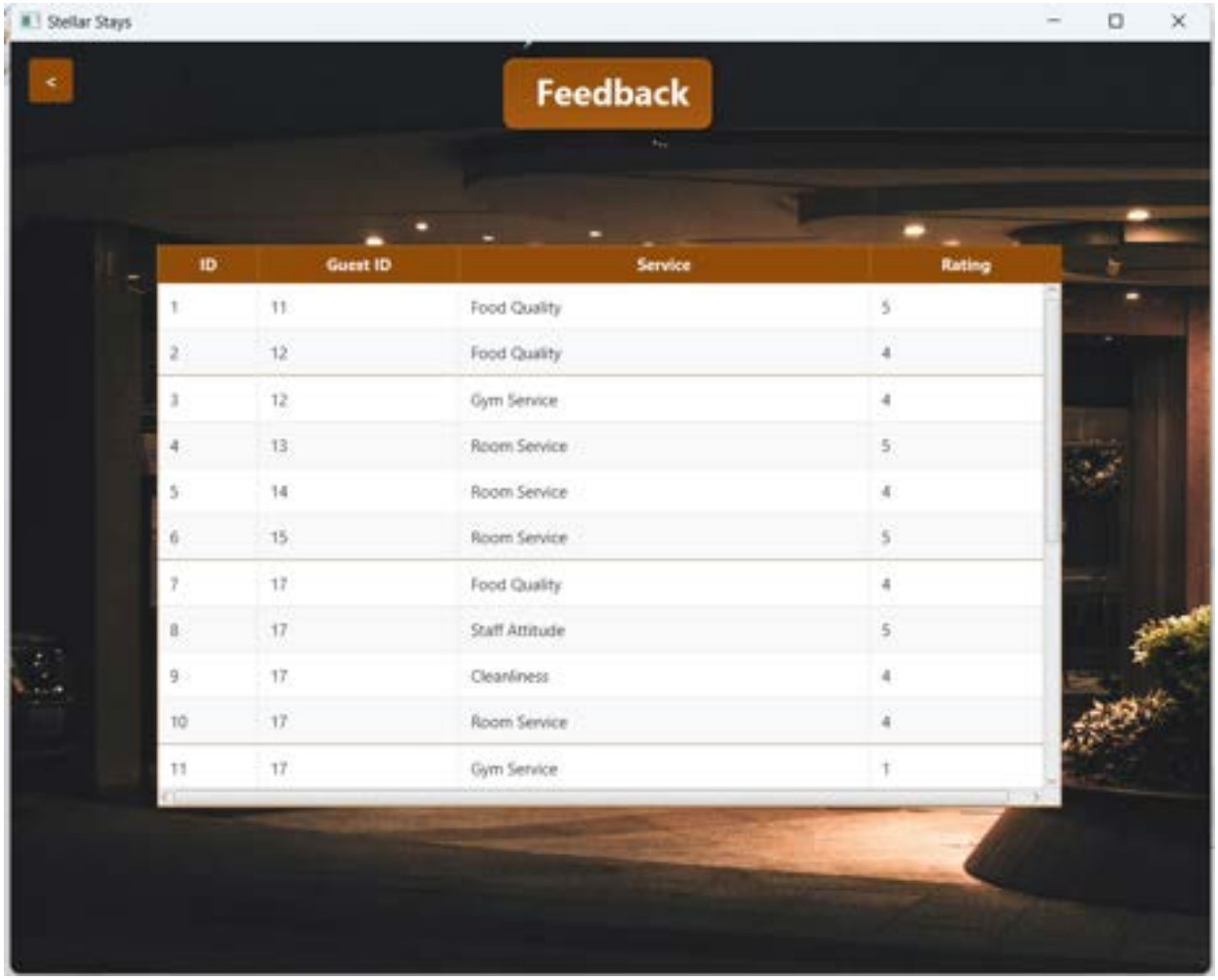

Stellar Stays
Handle Restaurant Service
ID
Guest ID
Item
Quantity
41
24
Mozzarella Sticks
2
42
24
Mozzarella Sticks
2
43
24
Kabli Pulao
3
Service ID
42
Provide Service
Done

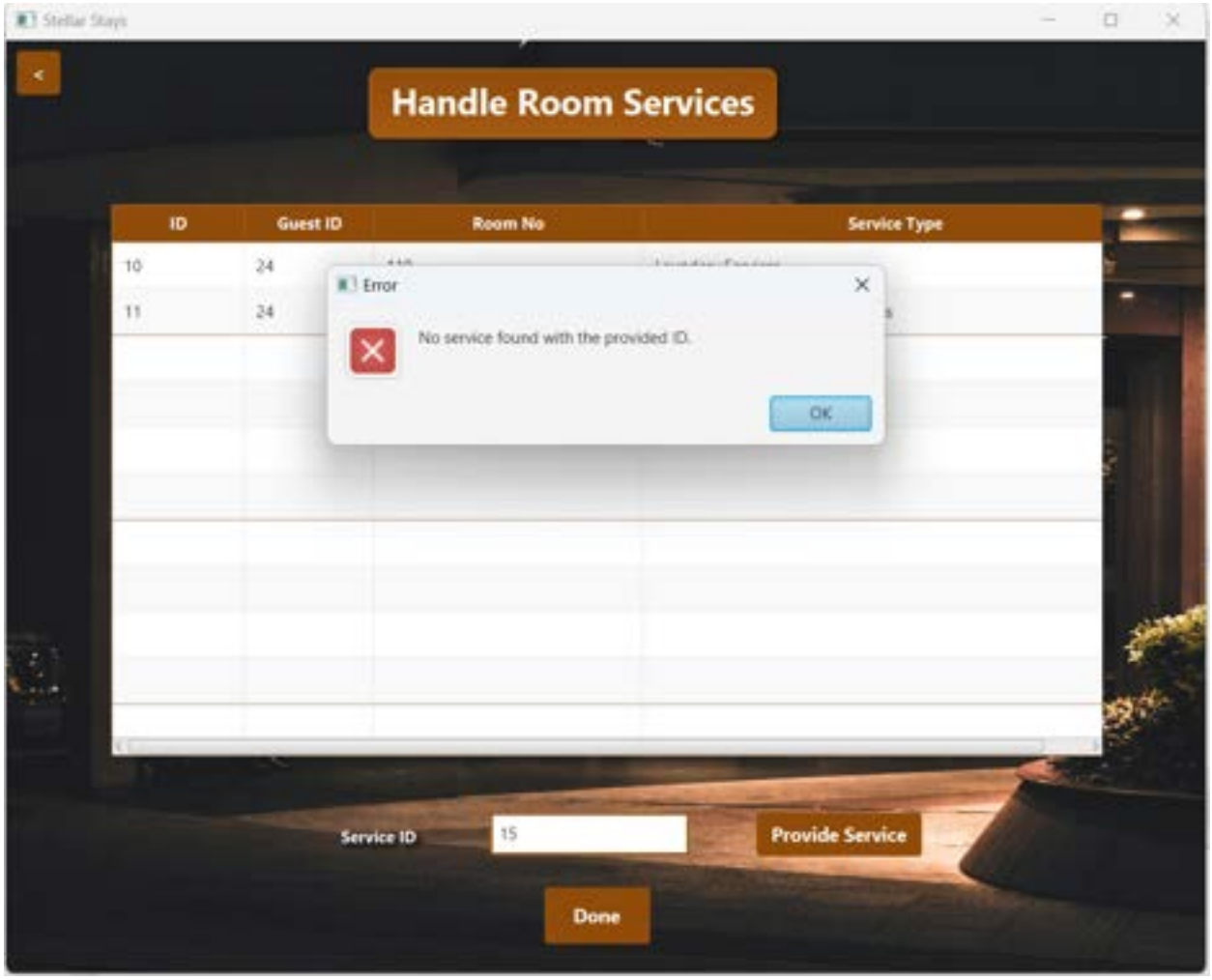

Stellar Stays
<
Handle Room Services
ID
Guest ID
Room No
Service Type
10
24
110
Laundary Services
11
24
110
Extra Pillows, Blankets and Towels
Service ID
11
Provide Service
Done

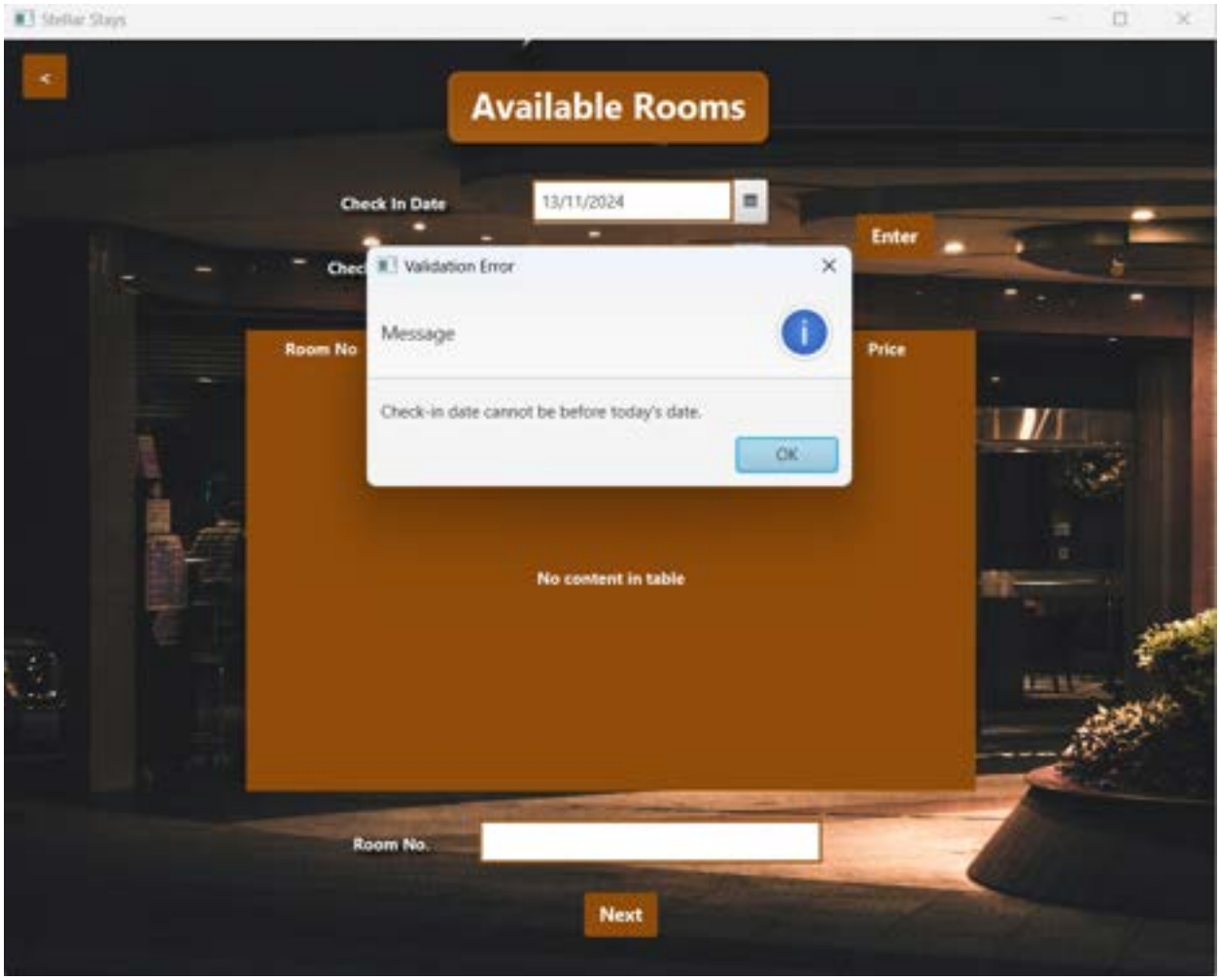

Stellar Stays
Report Stock
Inventory
Weight Plates
Quantity
4
Enter
Done

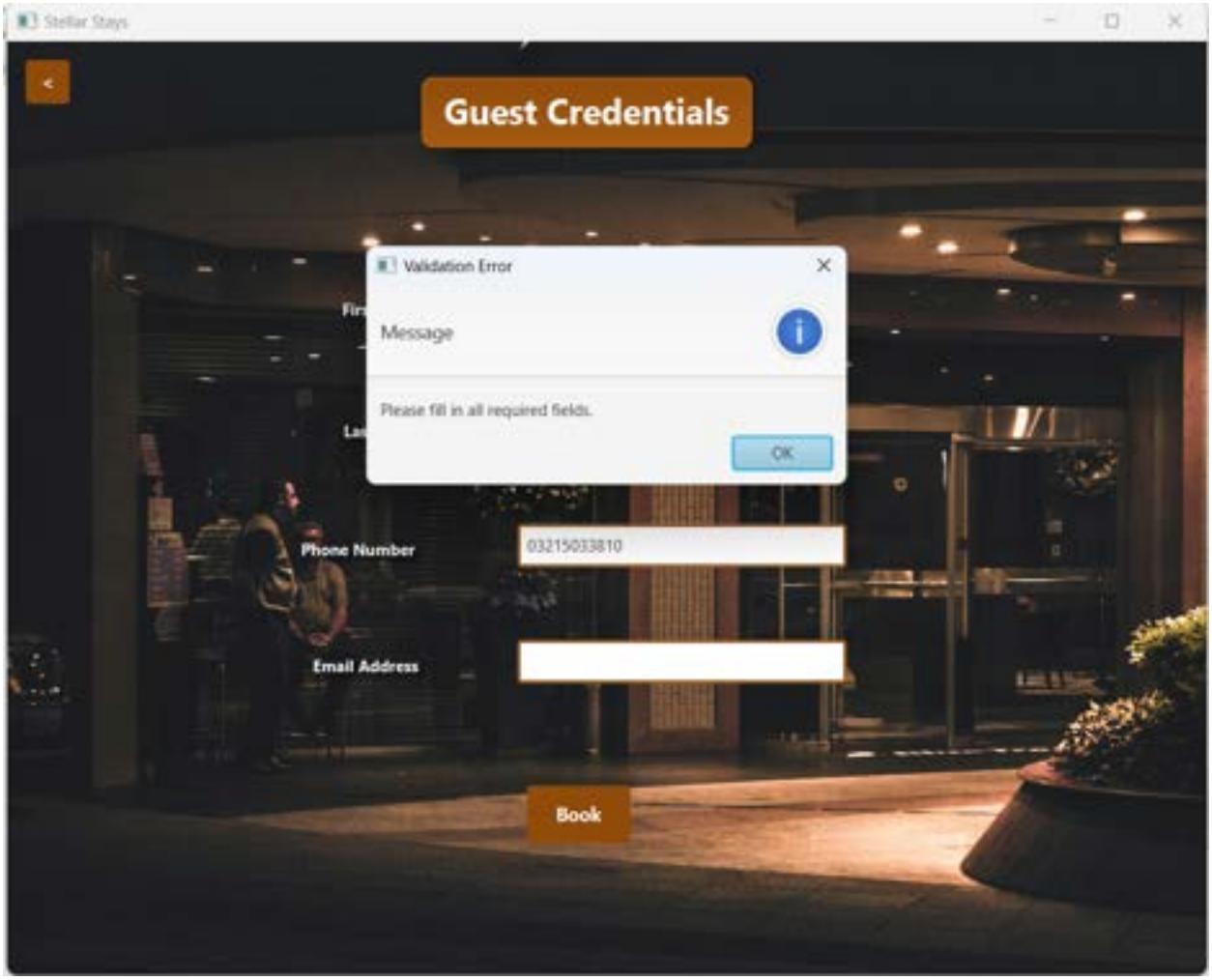

Stellar Stays
<
Update Room inventory
ID
Handler
Inventory
Quantity
6
crew
Soaps
25
9
crew
Towels
5
Service ID
6
Provide Service
Done

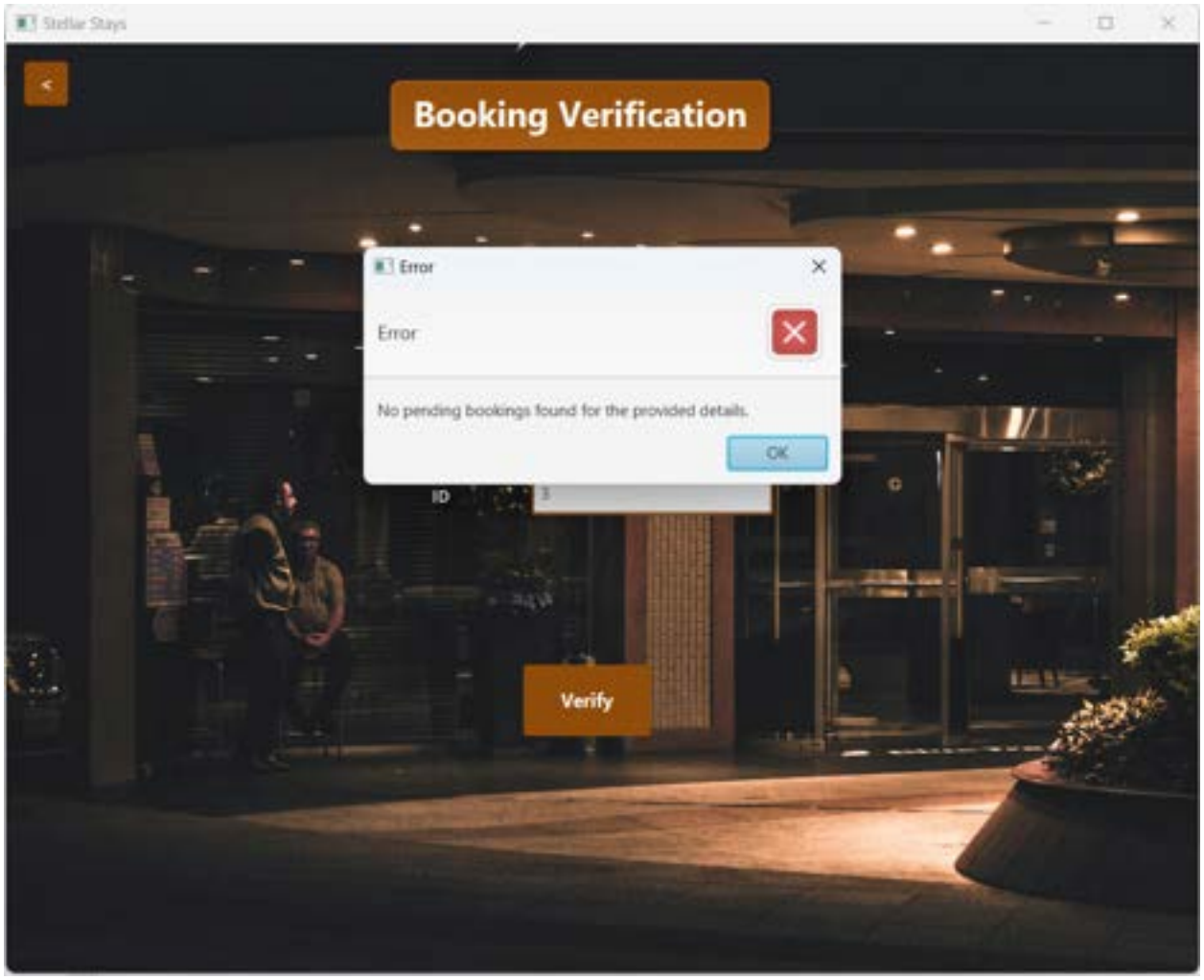

Stellar Stays
<
Bills
Room No
Amount
Guest ID
Room Price
Food Price
Payment Date
104 26000 13 25000 1000 2024-11-05
105 34450 14 32000 2450 2024-11-05
106 6890 15 6500 390 2024-11-07
101 33900 1 32500 1400 2024-11-15
102 10000 18 10000 0 2024-11-23
101 6500 17 6500 0 2024-11-23
104 76320 25 75000 1320 2024-11-27
1
2
1/2

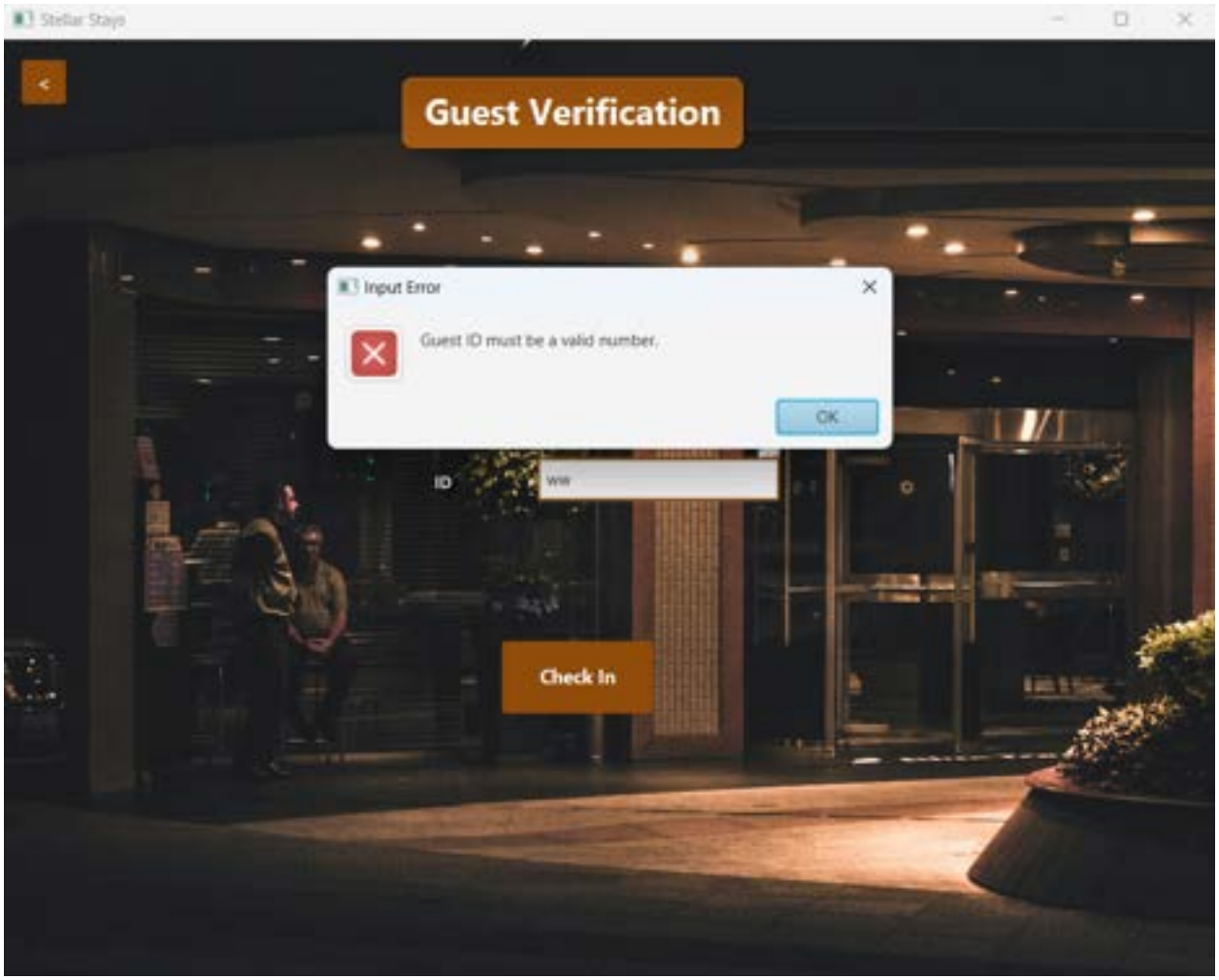

Stellar Stays
<
Feedback
ID
Guest ID
Service
Rating
1 11 Food Quality 5
2 12 Food Quality 4
3 12 Gym Service 4
4 13 Room Service 5
5 14 Room Service 4
6 15 Room Service 5
7 17 Food Quality 4
8 17 Staff Attitude 5
9 17 Cleanliness 4
10 17 Room Service 4
11 17 Gym Service 1


Stellar Stays
Handle Room Services
ID
Guest ID
Room No
Service Type
10
24
11
24
Error
No service found with the provided ID.
OK
Service ID
15
Provide Service
Done

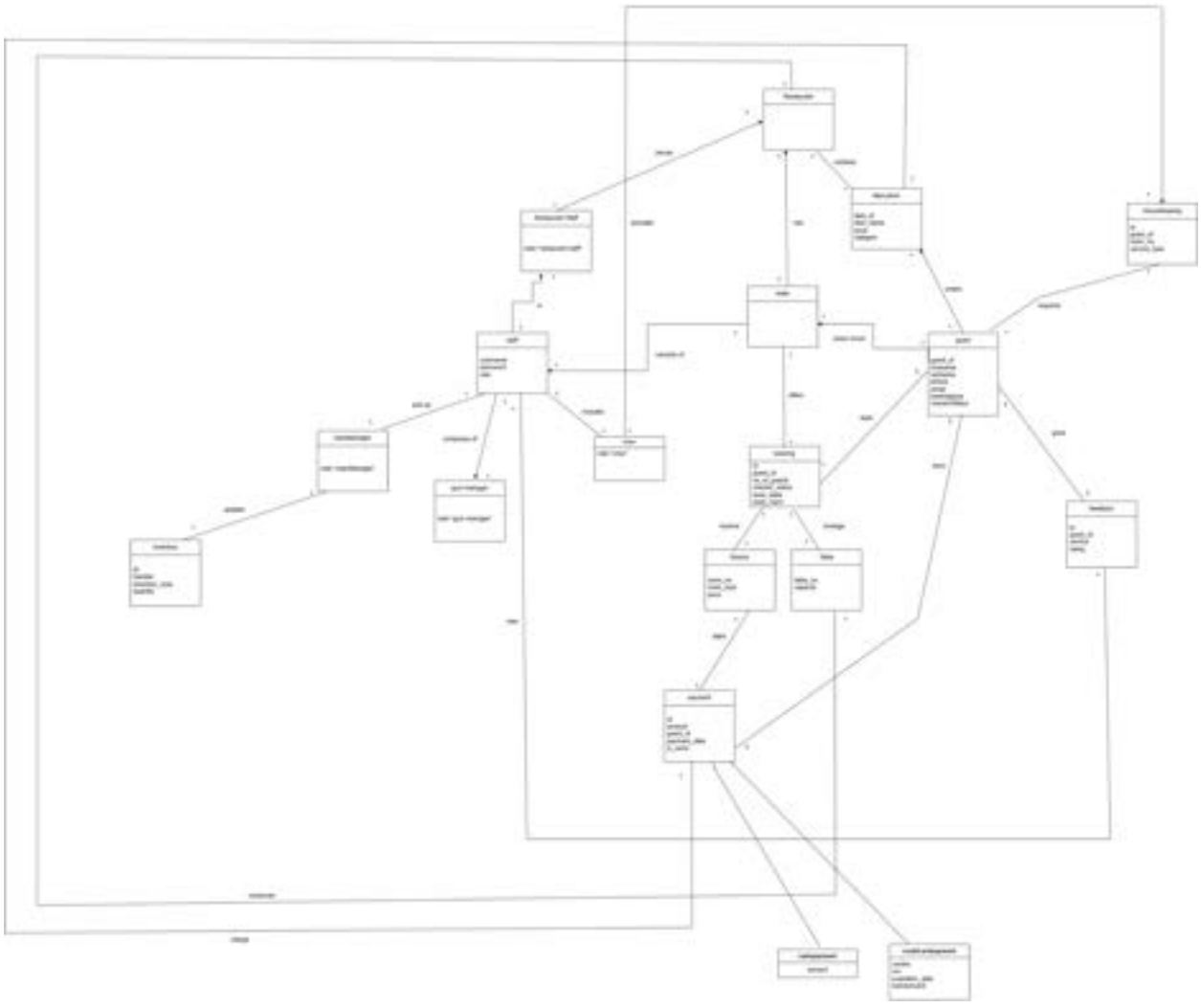

Stellar Stays
<
Available Rooms
Check In Date
13/11/2024
Enter
Validation Error
Message
Check-in date cannot be before today's date.
OK
Room No
Price
No content in table
Room No.
Next


Stellar Stays
Guest Credentials
Validation Error
Message
Please fill in all required fields.
OK
Phone Number
03215033810
Email Address
Book

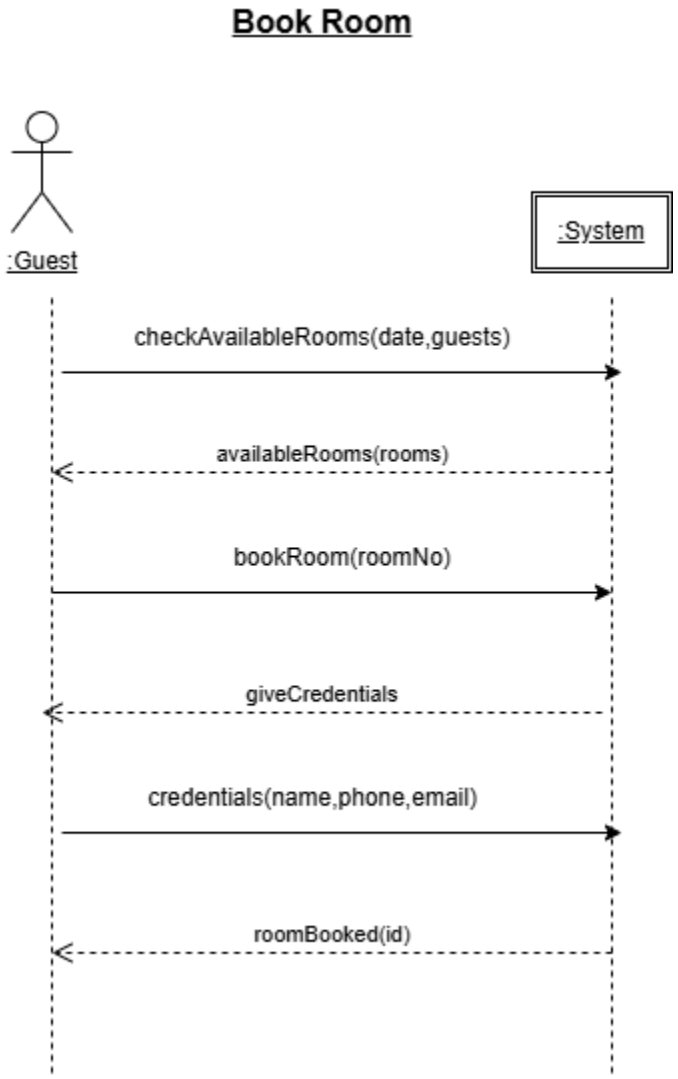

Stellar Stays
Booking Verification
Error
Error
No pending bookings found for the provided details.
OK
ID
Verify


Stellar Stays
Guest Verification
Input Error
Guest ID must be a valid number.
OK
ID
ww
Check In

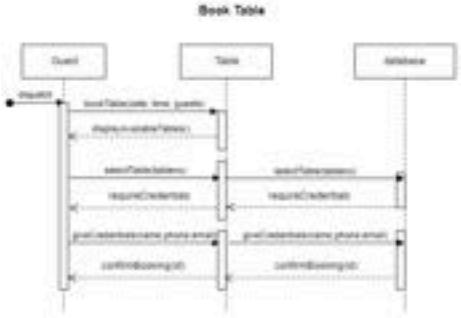
4. Domain Model

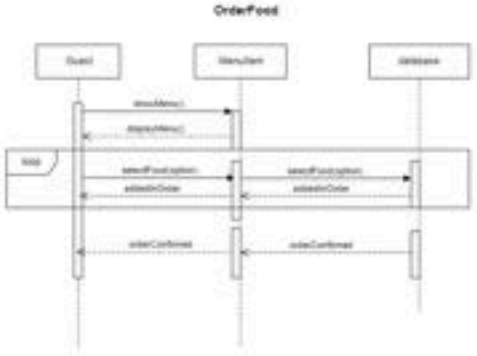


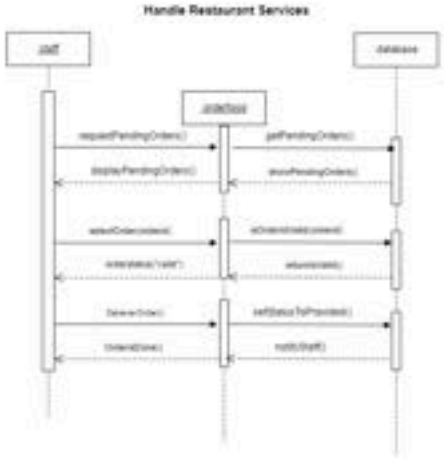
5. System Sequence Diagram

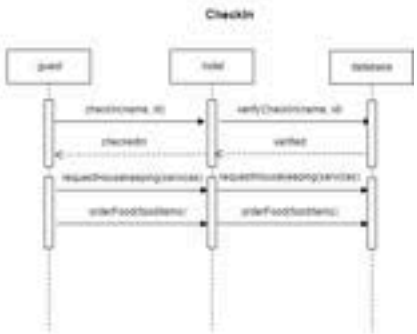


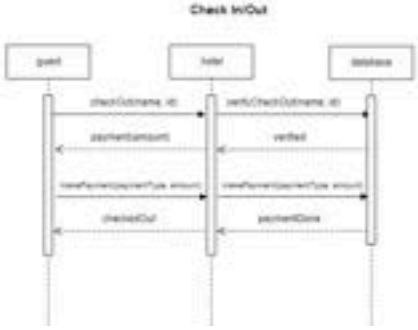
6. Sequence Diagram



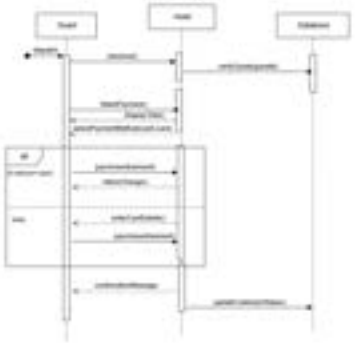








Make Payment



Manage Rooms

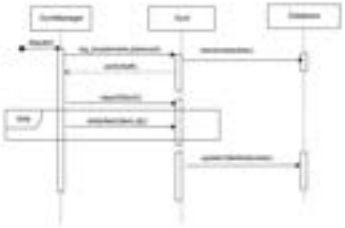
View Feedback

View Bill

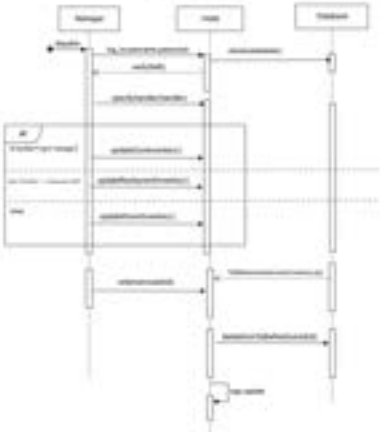
Book Room

Cancel Booking

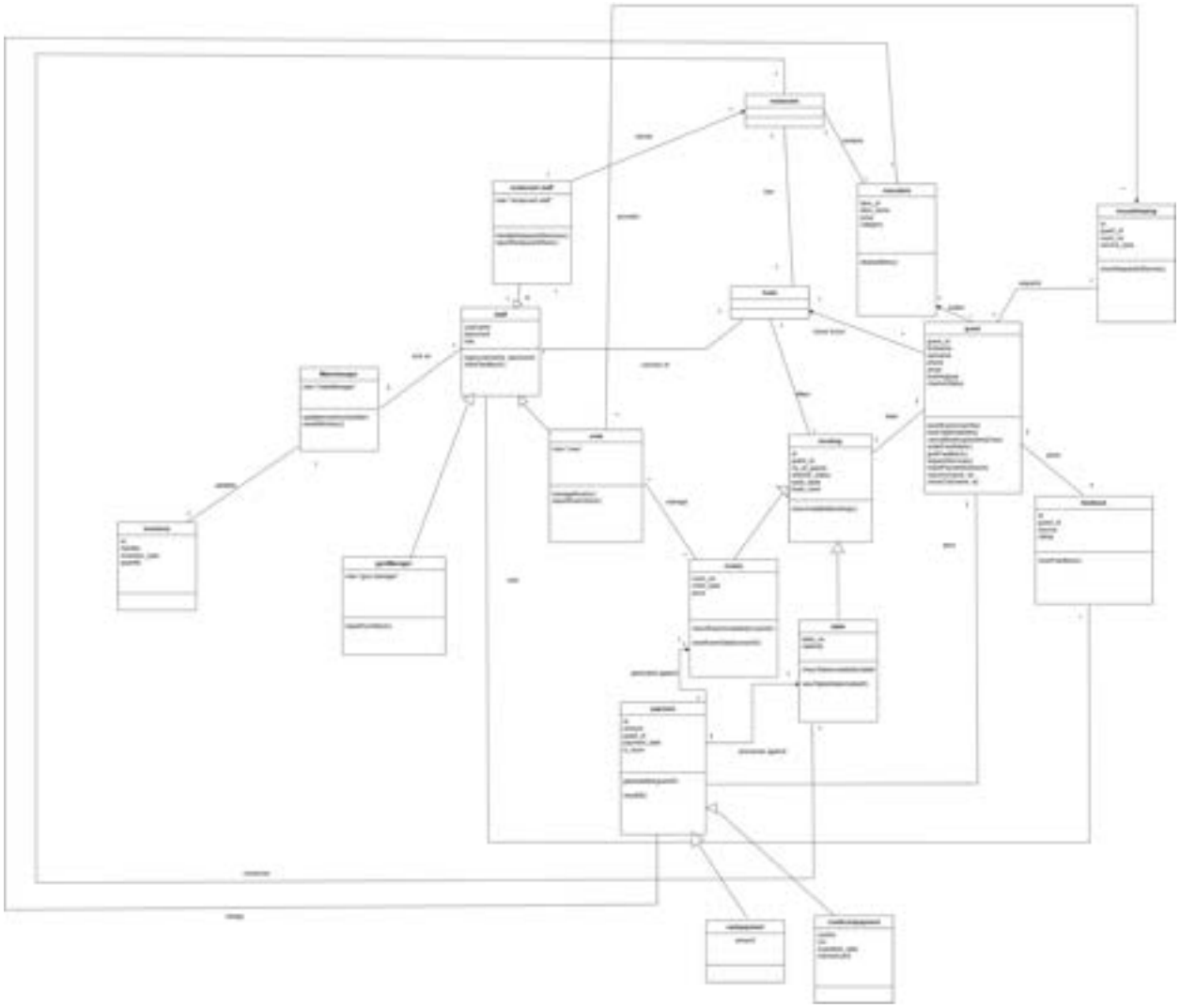
Handle Gym Services



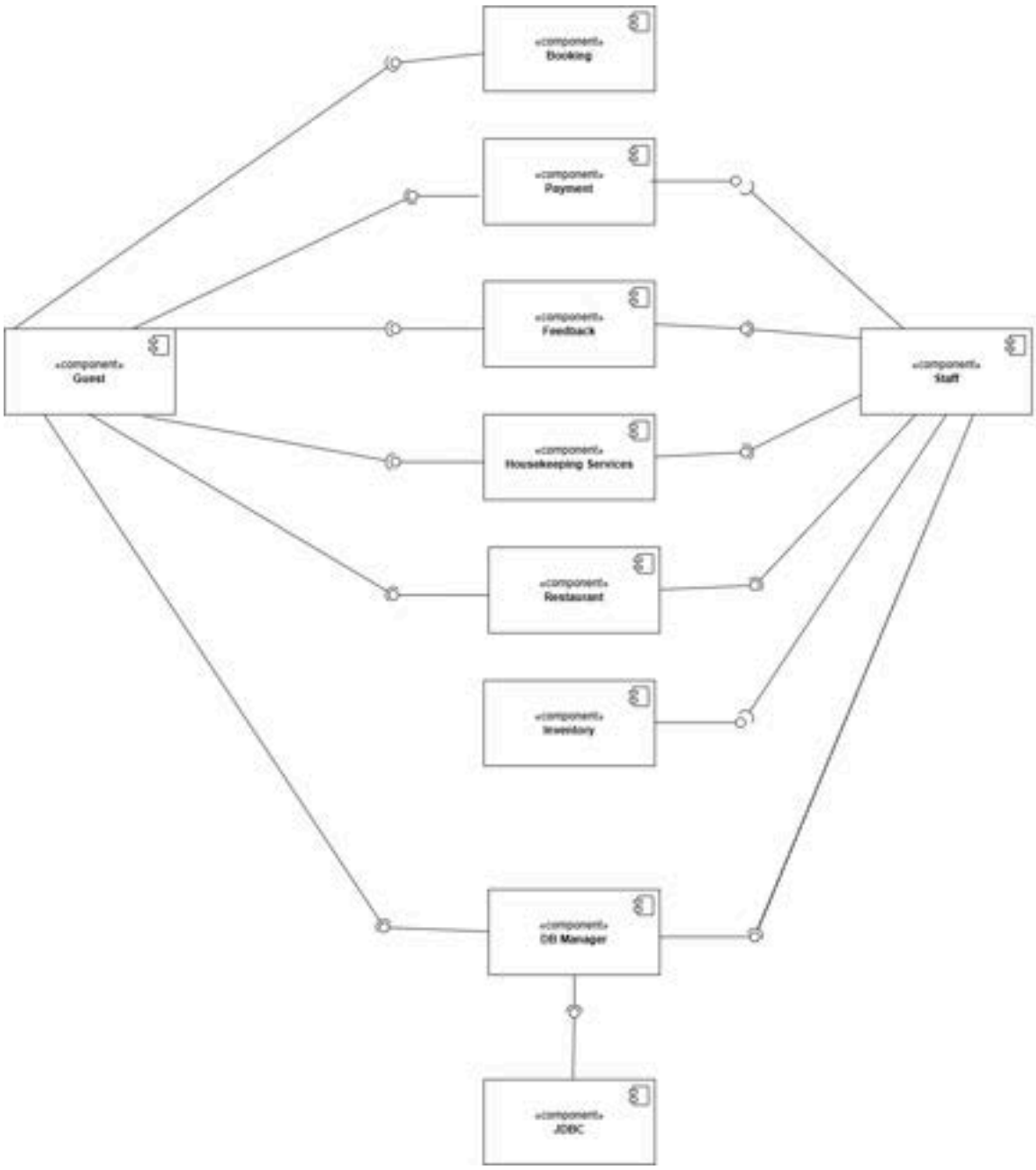
Update Inventory



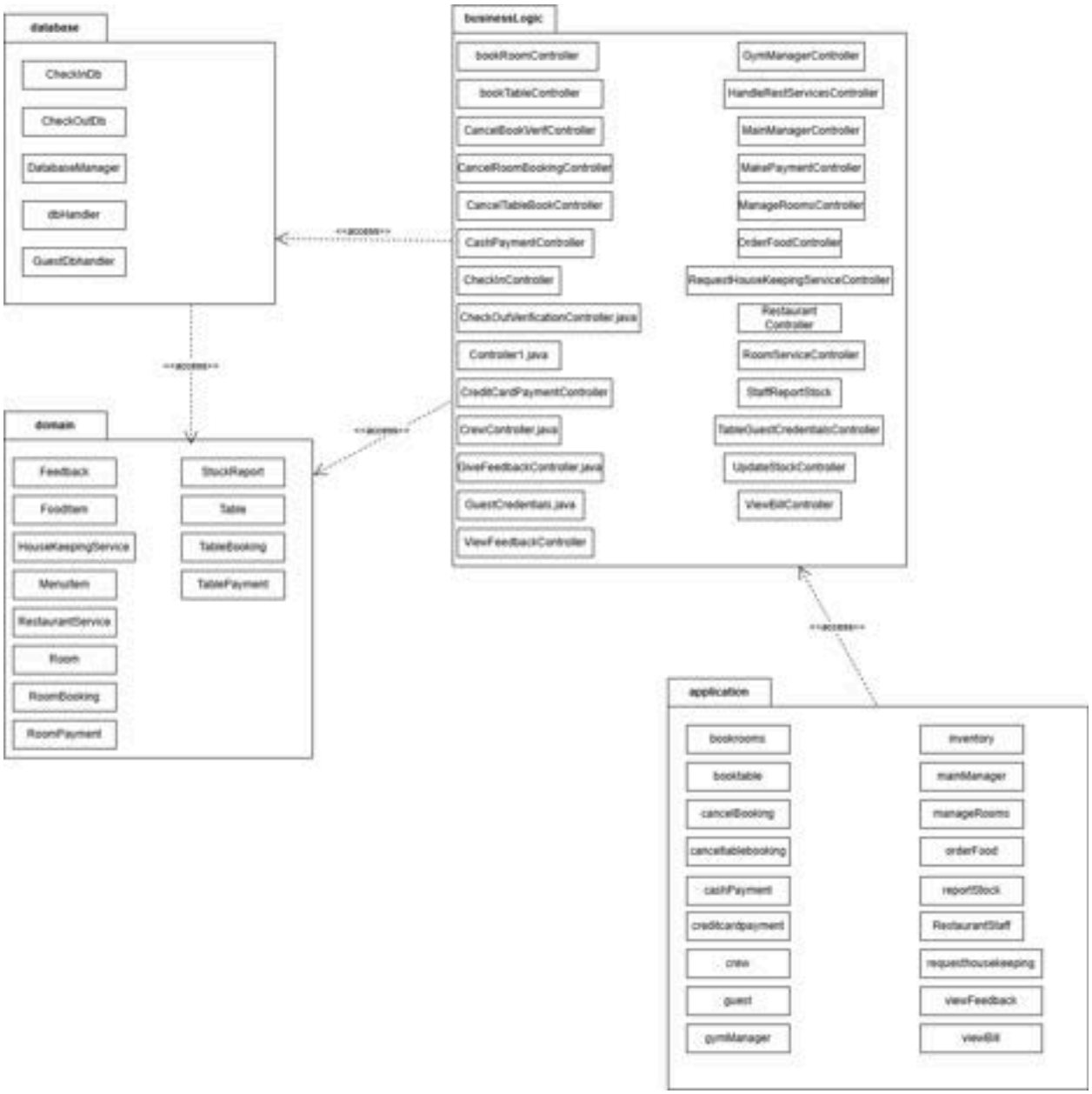
7. Class Diagram



8. Component Diagram



9. Package Diagram



10. Deployment Diagram