Hotel Management System SRS DOCUMENT

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1 PUBLICATION **0** CITATIONS

SEE PROFILE

Hotel Management System

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SRS DOCUMENT

1 INTRODUCTION

The Hotel Management System is a tool for booking the rooms of Hotel through online by the Customer. It provides the proper management tools and easy access to the customer information.

1.1 Purpose

This Hotel Management System Software Requirement Specification (SRS) main objective is to provide a base for the foundation of the project. It gives a comprehensive view of how the systemis supposed to work and what is to be expected by the end users. Client's expectation and requirements are analyzed to produce specific unambiguous functional and non-functional requirements, so they can be used by development team with clear understanding to build a systemas per end user needs.

This SRS for HMS can also be used for future as basis for detailed understanding on how projectwas started. It provides a blueprint to upcoming new developers and maintenance teams to assist in maintaining and modifying this project as per required changeability.

1.2 Scope of the Project

The HMS project is intended for the reservations for room that can be made through online. It willbe able to automate the various operations of the Hotel. Our Hotel Management System will havethree end users: Customer, Receptionist, and Hotel Manager. Hotel Management System will consists of Booking Management System, DBMS Server, and

Report Generator. Customers will be able to check for room's availability, select the rooms, and pay for the room. Receptionist willhave access to update or modify booking details. Manager will able to view the financial report and able to update room information such as cost and category.

The main goal of this introduced automated HMS software is to simplify every day process of hotel. Day to day Hotels are increasing and they need to automate to provide customer ease of access. It will be able to take care of services to customer in a quick manner. This automation willbe able to replace the drawbacks of large customer information physical files which were difficultto handle. Secure Transaction, quick retrieval of information, ease of use, quick recovery of errors,fault tolerance are some of the benefits that development team will be working on to achieve enduser satisfaction.

1.3 References

- Software Engineering 9th Edition, Ian Sommerville

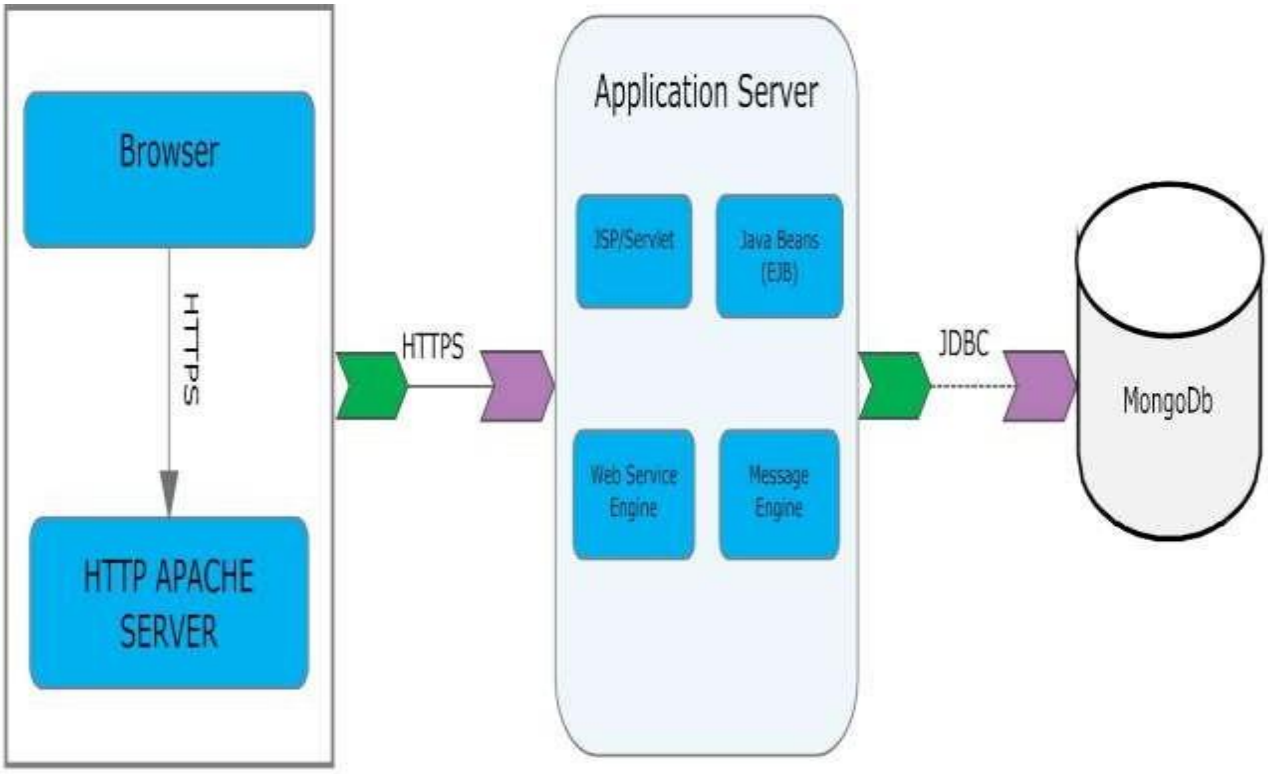
- Mohapatra, H., & Rath, A. K. (2020). Fundamentals of software engineering: designed o provide an insight into the software engineering concepts. BPB Publications.

1.4 Overview

The remaining sections of this documentations describes the overall descriptions which includes product perspective and functions, characteristics of users. It also consists of Assumptions, and Constraints. Overall description is listed in section 2. Section 3 includes Specific Requirements which consists of Functional and Non-functional requirements, External Interface Requirements, Software System Attributes, Performance Requirements, Capacity Requirements, Availability Requirements, Safety Requirements and Requirement Traceability Matrix.

2 OVERALL DESCRIPTION

2.1 Product Perspective



2.2 Product Functions

Our Product General functions are:

- Customer Registration
- Check for Availability Of Rooms
- Display the Rate
- Confirmation Of Booking
- Email Notification
- Payment
- Set Room Details
- Manage Booking Details
- Generate Report
- Customer Service

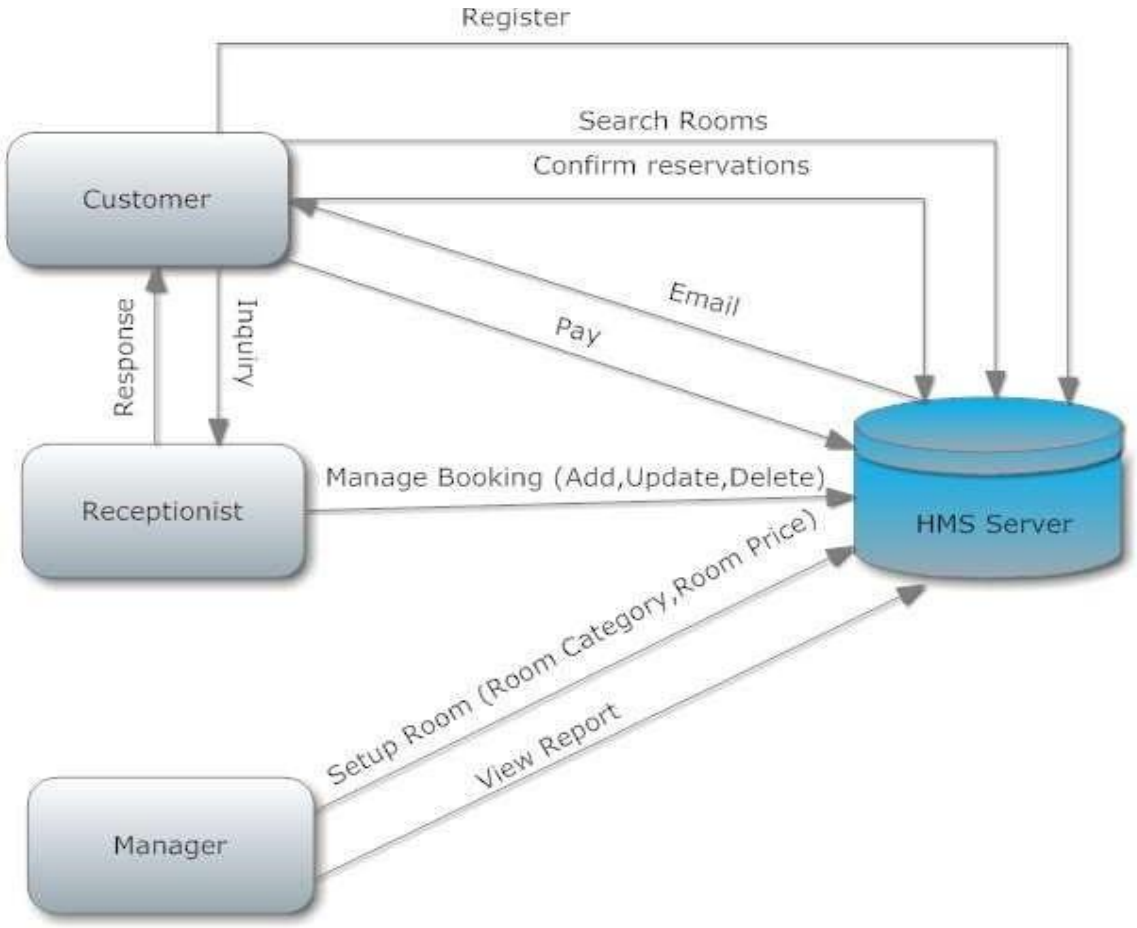


Figure 2.2 System Architecture

2.3 User Characteristics

There are 3 user Levels in our Hotel Management System:

A. Hotel Manager

B. Receptionist

C. Customers

Hotel Manager

Manager have every access to the hotel system. Manager is solely responsible for managing hotelresources and staffs. Manager can view any report such as financial report, customer information,booking information, and room information, analyze them and take the decision accordingly. Manger is required to have experience on managing hotel previously, and have base knowledge ofdatabase and application server.

Receptionist

Hotel Receptionist sole purpose is to provide the quality customer service. She have least access than manager. She can manage the booking details. She can search for availability of rooms, add the customer, confirm the booking, and update the booking details. Manager of hotel would probably want the receptionist who have good communication skills and command over English language. She should have basic IT Knowledge.

Customer

Customer are vital part of the system. Customer have access to view the vacant room informationand price range. They should be able to confirm the booking and cancel it if necessary. Customers have access to customer service desk portal to forward their inquiry. Customer should at least be capable to use the web UI interface.

2.4 Constraints

I. **Memory:** System will have only 10GB space of data server.

II. **Language Requirement:** Software must be only in English.

III. **Budget Constraint:** Due to limited budget, HMS is intended to very simple and just forbasic functionalities. UI is going to be very simple.

IV. **Implementation Constraint:** Application should be based on Java only.

V. **Reliability Requirements:** System should sync frequently to backup server in order toavoid the data loss during failure, so it can be recovered.

2.5 Assumption and Dependencies

It is assumed that system developed will work perfectly that's going to be developed under the Windows OS, and Apache Server with Mongo DB database. If incase of any difficulties, SRS should be flexible enough to change accordingly.

3 SPECIFIC REQUIREMENTS

3.1 External Interface Requirements

3.1.1 User Interfaces

The user interface for system shall be compatible to any type of web browser such as MozillaFirefox, Google Chrome, and Internet Explorer.

3.1.2 Software Interfaces

Web Server

- **Apache Tomcat Server , OS**

(Windows)Database Server

- **Mongo DB, OS**

(Windows)Development End

- **J2EE,Java,JSP,Servlet,HTML,XML,JavaScript, OS(Window**

3.2 Functional Requirements

3.2.1 Registration

FR1. The Customer should be able to register with their details

FR2. The system should record following customer details into member database.

Name

Email

Passwor

d

Address

DOB

FR3. The system shall send verification message to email

3.2.2 Logging In

FR4. The system should verify the customer email & password against the member databasewhen logging in

FR5. After login, member should be directed to Home screen

3.2.3 Reservation

FR6. The system should enable customer to check for availability of rooms

FR7. The system should display rate for all rooms

FR8. The system should allow customer to confirm or cancel the booking

FR9. The system should record booking details into database

3.2.4 Receptionist Access

FR10. The system should allow Receptionist to update, add or delete booking information

FR11. The system should provide customer desk portal access to receptionist for providingresponse to customer inquiry

3.2.5 Manager Access

FR12. The system should generate financial and customer report for manager

FR13. The system should enable manager full modification access to customer ,booking androom information

3.2.6 Payment Management System

FR14. The system should allow customer to pay bill via online using credit or debit card

3.3 Non-Functional Requirements

Performance Requirements

Time it takes for the system to respond

Response time is one of the most important performance requirements to consider when creating the Hotel Booking System. The system must be able to respond promptly to the user's inputs and requests; any delays between the user's inputs and the system's response (if necessary) should be kept to a minimal, for example, while retrieving customer information for a booking.

Efficiency of the System

For a system like this, efficiency is critical; during peak demand periods, the system should be able to always perform at its highest level. Efficiency, in this context, refers to how the system leverages the inputs from the users to generate the output. In some ways, even though a system produces an output, it can still be considered inefficient if the input to output ratio is negative.

Fast Loading

Along with reaction times, the system's loading speeds must be quick. Users should not have to wait significant amounts of time to have access to information within the system.

3.4 Performance Requirements

NF1. Data in database should be updated within 2 seconds. **NF2.** Query results must return results within 5 seconds **NF3.** Load time of UI Should not take more than 2 seconds **NF4.** Login Validation should be done within 3 seconds

NF5. Response to customer inquiry must be done within 5 minutes.

3.5 Security Requirements

NF6. All external communications between the data's server and client must be encrypted

NF7. All data must be stored, protected or protectively marked.

NF8. Payment Process should use HTTP over Secure protocol to secure the payment transactions

3.6 Safety Requirements

NF9. Database should be backed up every hour.

NF10. Under failure, system should be able to come back at normal operation under an hour.

3.7 Capacity Requirements

NF11. Not more than 10,000 members to be registered

NF12. System need to handle at least 20 transactions during peak hours.

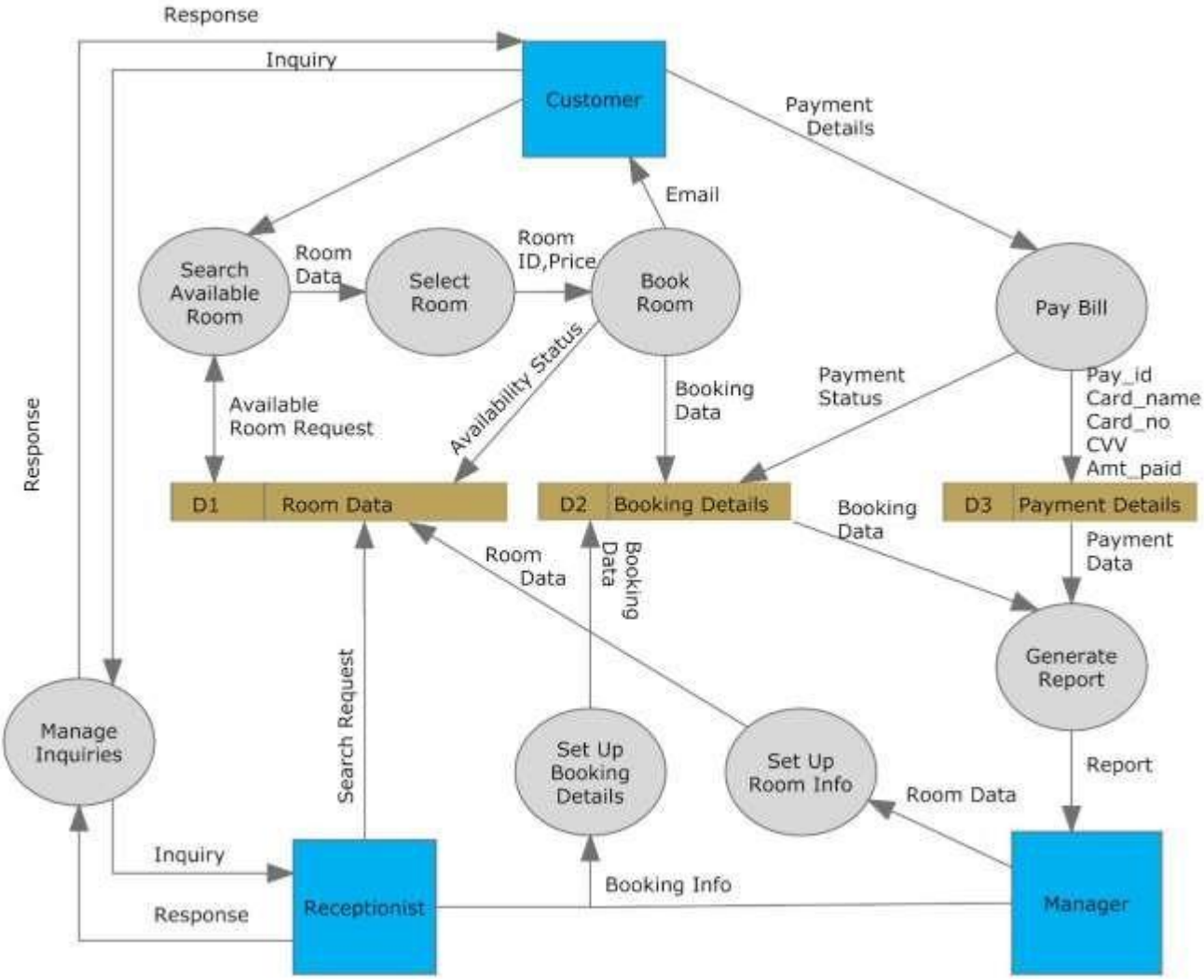
3.8 Software System Attributes

- **Correctness**: This system should satisfy the normal regular Hotel Management operationsprecisely to fulfill the end user objectives
- **Efficiency:** Enough resources to be implemented to achieve the particular task efficientlywithout any hassle.
- **Flexibility**: System should be flexible enough to provide space to add new features and tohandle them conveniently
- **Integrity:** System should focus on securing the customer information and avoid datalosses as much as possible
- **Portability:** The system should run in any Microsoft windows environment.
- **Usability:** The system should provide user manual to every level of user.

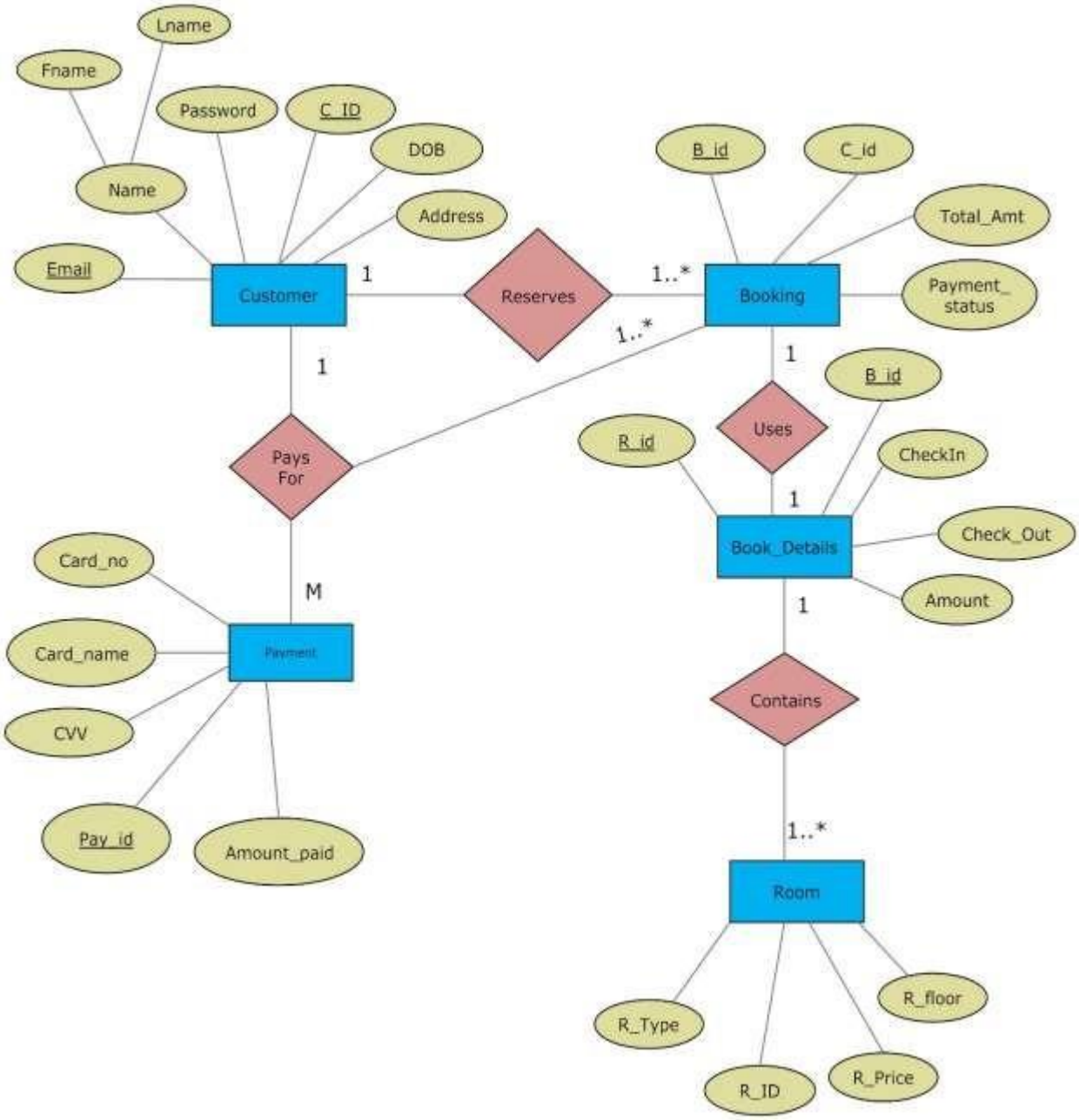
- **Testability:** The system should be able to be tested to confirm the performance and clientsspecifications.
- **Maintainability:** The system should be maintainable.

APPENDIXES

DATA FLOW DIAGRAM



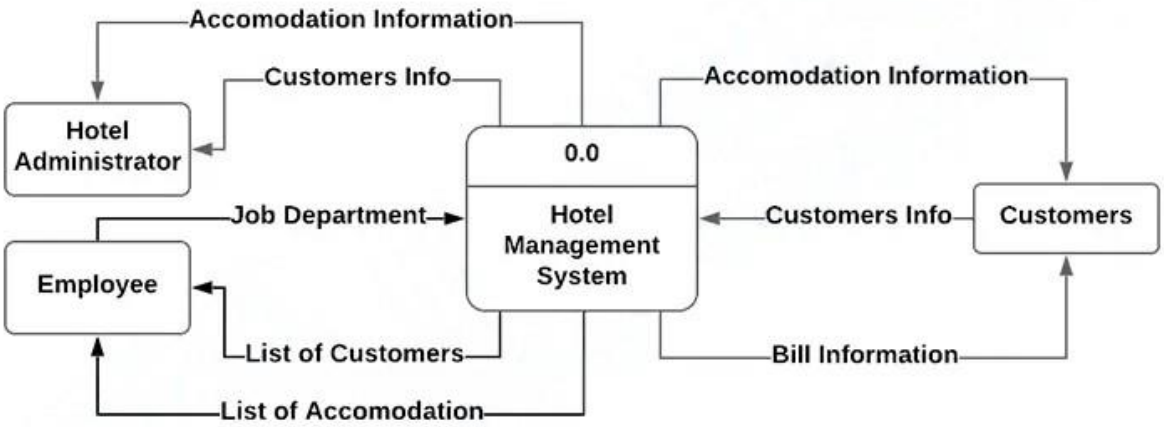
ENTITY RELATIONSHIP DIAGRAM



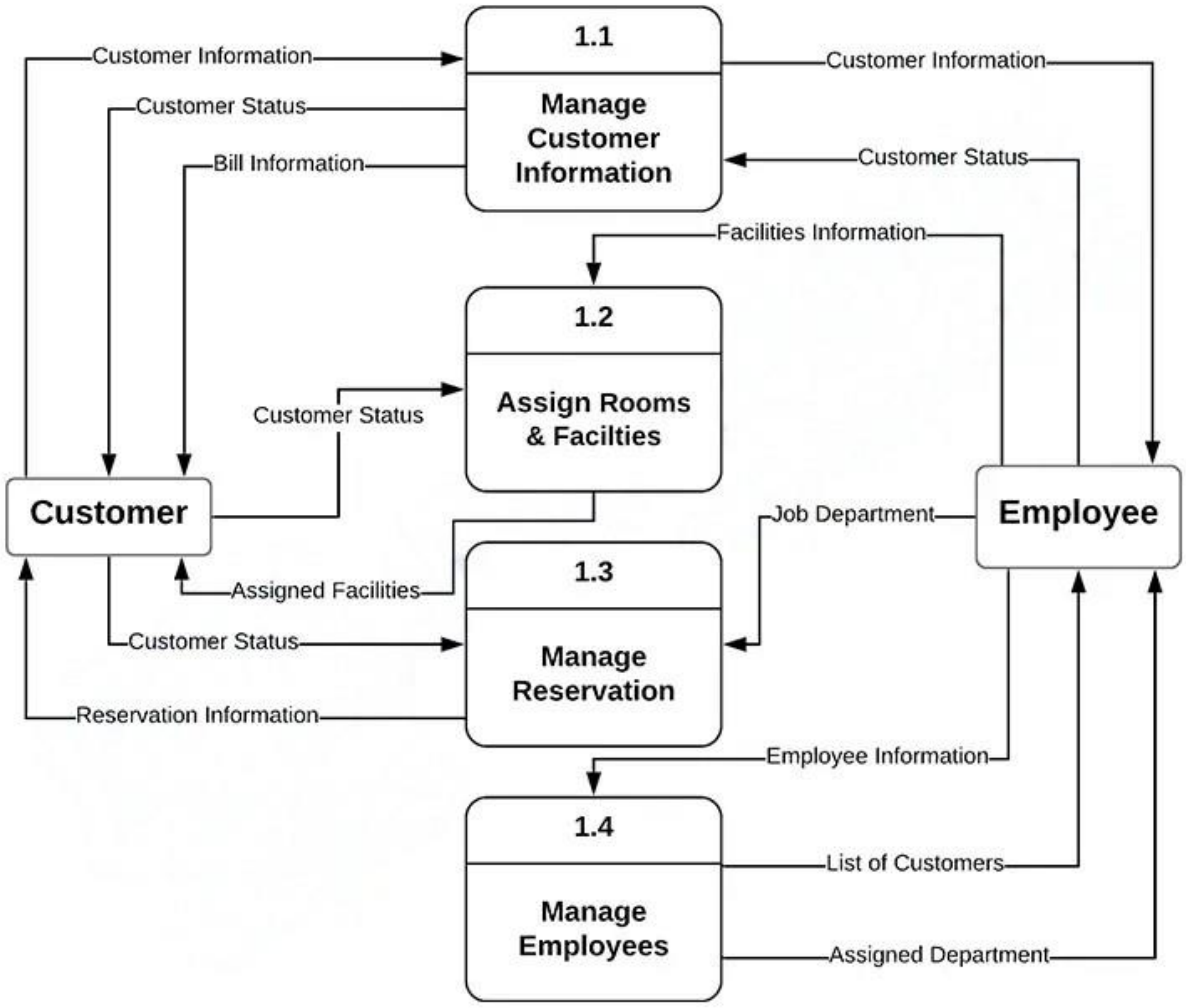
DESIGNING (Object Oriented Approach)

1. DATA FLOW DIAGRAMS (DFD):

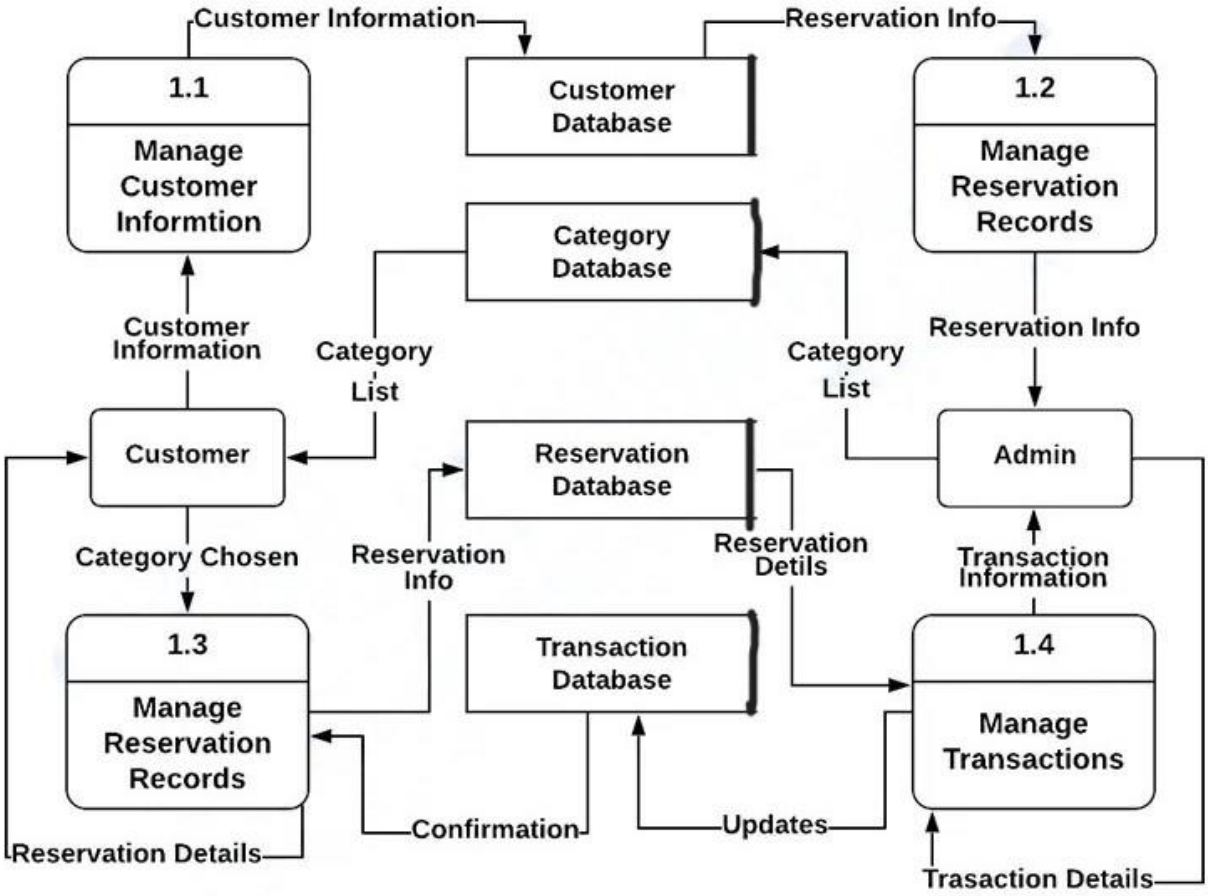
(a) Level 0 DFD:



(b) Level 1 DFD:

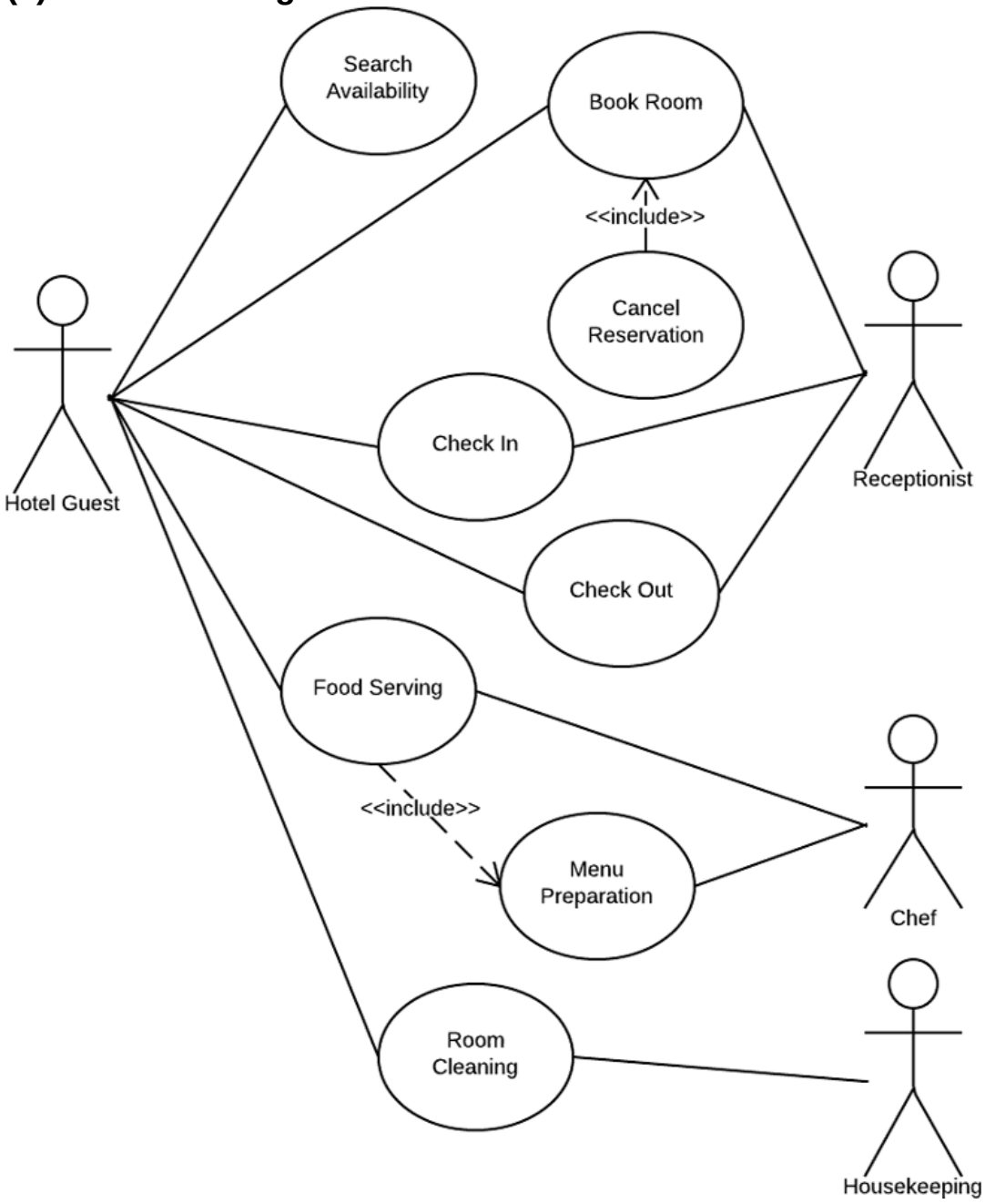

1.1
Manage Customer Information
1.2
Assign Rooms & Facilties
1.3
Manage Reservation
1.4
Manage Employees
Customer
Employee
Customer Information
Customer Status
Bill Information
Customer Information
Customer Status
Facilities Information
Customer Status
Assigned Facilities
Job Department
Customer Status
Reservation Information
Employee Information
List of Customers
Assigned Department

(c)Level 2 DFD:

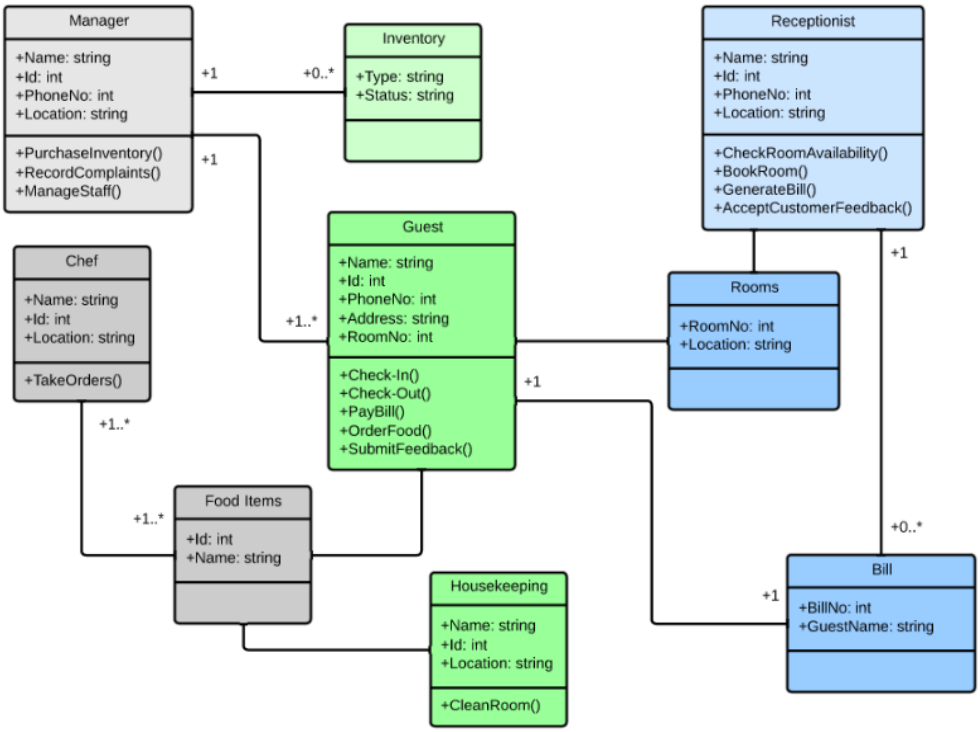

Customer Information
Reservation Info
1.1
Manage Customer Informtion
Customer Database
1.2
Manage Reservation Records
Category Database
Customer Information
Category List
Category List
Reservation Info
Customer
Reservation Database
Admin
Category Chosen
Reservation Info
Reservation Detils
Transaction Information
1.3
Manage Reservation Records
Transaction Database
1.4
Manage Transactions
Confirmation
Updates
Reservation Details
Trasaction Details

UML Diagrams:

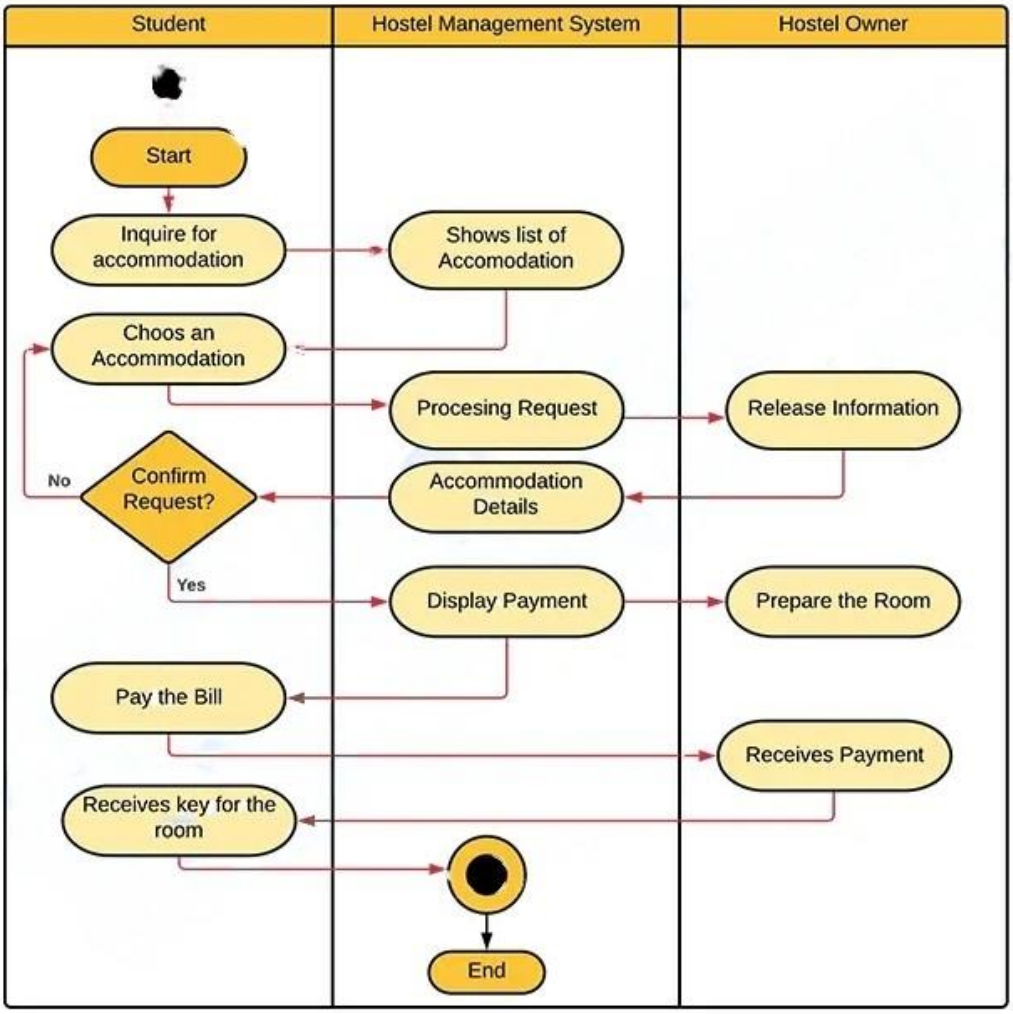
(a) Use Case Diagram:



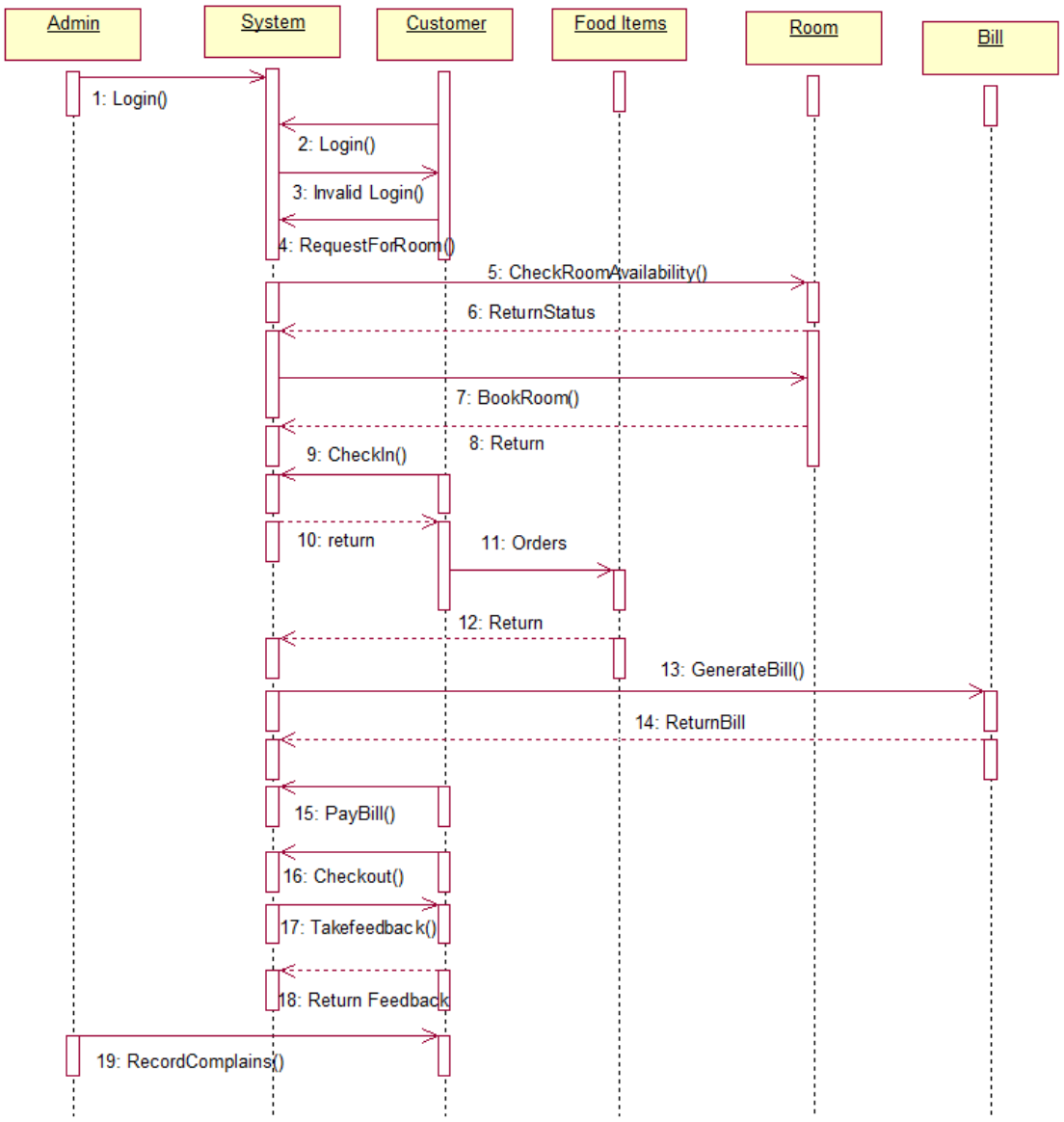
(b) Class Case Diagram:



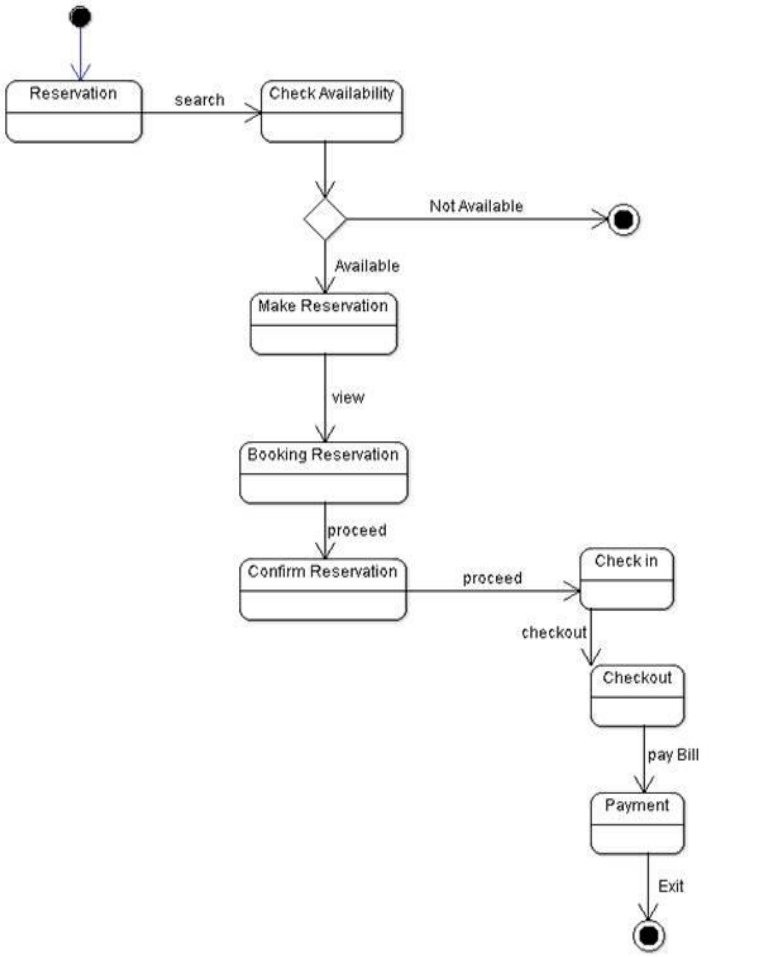
(c) Activity Diagram:



(d) Sequence Diagram:



(e) State Chart Diagram:



Statechart diagram for hotel management system

TESTING

Test Case ID	Test Case Description	Test Steps	Expected Result	Pass/Fail
TC-001	User Login	1. Launch the application.	Login page is displayed.	
		2. Enter valid username and password.	User is logged in.	
		3. Click the "Login" button.	Dashboard is displayed.	
TC-002	Room Reservation	1. Navigate to the "Reservations" section.	Reservations page is displayed.	
		2. Enter guest details and select room.	Reservation is created.	
		3. Click "Save Reservation."	Reservation is saved.	
TC-003	Check-in Process	1. Select a reserved room.	Room is marked as occupied.	

		2. Enter guest check-in details.	Guest is checked in.	,,
		3. Click "Check-In" button.	Guest check-in is confirmed.	
TC-004	Check-out Process	1. Select an occupied room.	Room is marked as vacant.	
		2. Perform guest check-out.	Guest is checked out.	
		3. Click "Check-Out" button.	Guest check-out is confirmed.	
TC-005	Billing and Payment	1. Navigate to the "Billing" section.	Billing page is displayed.	
		2. Select a guest's bill.	Bill details are shown.	
		3. Enter payment details and process payment.	Payment is successfully processed.	
TC-006	Report Generation	1. Access the "Reports" section.	Reports page is displayed.	

		2. Generate a daily occupancy report.	Report is generated successfully.	
TC-007	Browser Compatibility Testing	1. Access the system using various browsers.	System functions correctly.	
TC-008	Performance and Load Testing	1. Simulate multiple users making reservations.	System handles load effectively.	
TC-009	Security Testing	1. Attempt unauthorized access.	Unauthorized access is denied.	