The Islamia University of Bahawalpur

Department of Information Technology

SOFTWARE REQUIREMENTS SPECIFICATION

(SRS DOCUMENT)

for

<Hotel Booking System>

Version 1.0

By

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Revision History

Name	Date	Reason for changes	Version
Sharjeel Abid	2025-12-05	Initial draft	1.0

Application Evaluation History

Comments (by committee) ***include the ones given at scope time both in doc and presentation**	**Action Taken**

Supervised by

<Mam Kainat>

Signature ________________

Introduction

The Hotel Booking System is a web-based solution designed to automate and streamline the process of searching, reserving, and managing hotel rooms for both customers and hotel staff. This document describes the functional and non-functional requirements of the system, outlining how it replaces traditional manual methods such as phone calls and in-person bookings with a faster, secure, and user-friendly digital platform.

Purpose

The purpose of the Hotel Booking Management System is to provide a streamlined, efficient, and user-friendly platform that automates the entire hotel reservation process for both customers and hotel staff. The system enables customers to easily search for rooms, make secure bookings, complete online payments, and manage their reservations without manual assistance. For hotel administrators, it offers tools to manage room availability, update room details, track bookings, and handle customer interactions.

Scope

The Hotel Booking System is a web-based application that enables customers to search for available hotel rooms based on location, date, and preferences, make secure reservations, and manage their bookings. It includes features such as user registration, booking management, payment processing, and customer reviews. For hotel staff, it provides an administrative panel to manage room availability, bookings, and customer interactions. The system aims to reduce manual work, enhance operational efficiency, and improve customer experience. It excludes features like flight bookings, event management, multi-language support, and integration with external hotel chains..

Overall description

Product perspective

The Hotel Booking System is a new web application designed to replace inefficient manual booking processes (e.g., phone calls, emails, or in-person reservations). It is not part of an existing product line but is built to serve both small boutique hotels and potentially scalable to larger chains in future iterations.

Operating environment

OE-1: The system shall operate correctly on the following web browsers: Microsoft Edge (latest version), Firefox (latest version), Google Chrome (latest version), and Safari (latest version).

OE-2: The system shall be accessible on devices including desktops, tablets, and smartphones with a minimum screen resolution of 320x480 pixels.

OE-3: The system shall be hosted on a cloud server with Node.js (version 16.x or later) and My SQL (version 8.0 or later) as the database management system.

OE-4: The system requires a stable internet connection with a minimum speed of 5 Mbps for

Design and implementation constraints

- **CO-1**: The system shall use MySQL (version 8.0) as the database engine to leverage its robustness and compatibility with the project's technology stack.
- **CO-2**: The front-end shall be developed using React.js (version 18.2) to ensure a responsive and modular user interface.
- **CO-3**: The back-end shall be developed using Node.js (version 16.x) to support scalable and efficient server-side operations.
- **CO-4**: Payment processing shall integrate with Stripe and PayPal APIs to ensure secure and reliable transactions.

CO-1: The system shall use the current corporate standard Oracle database engine

Requirement identifying technique

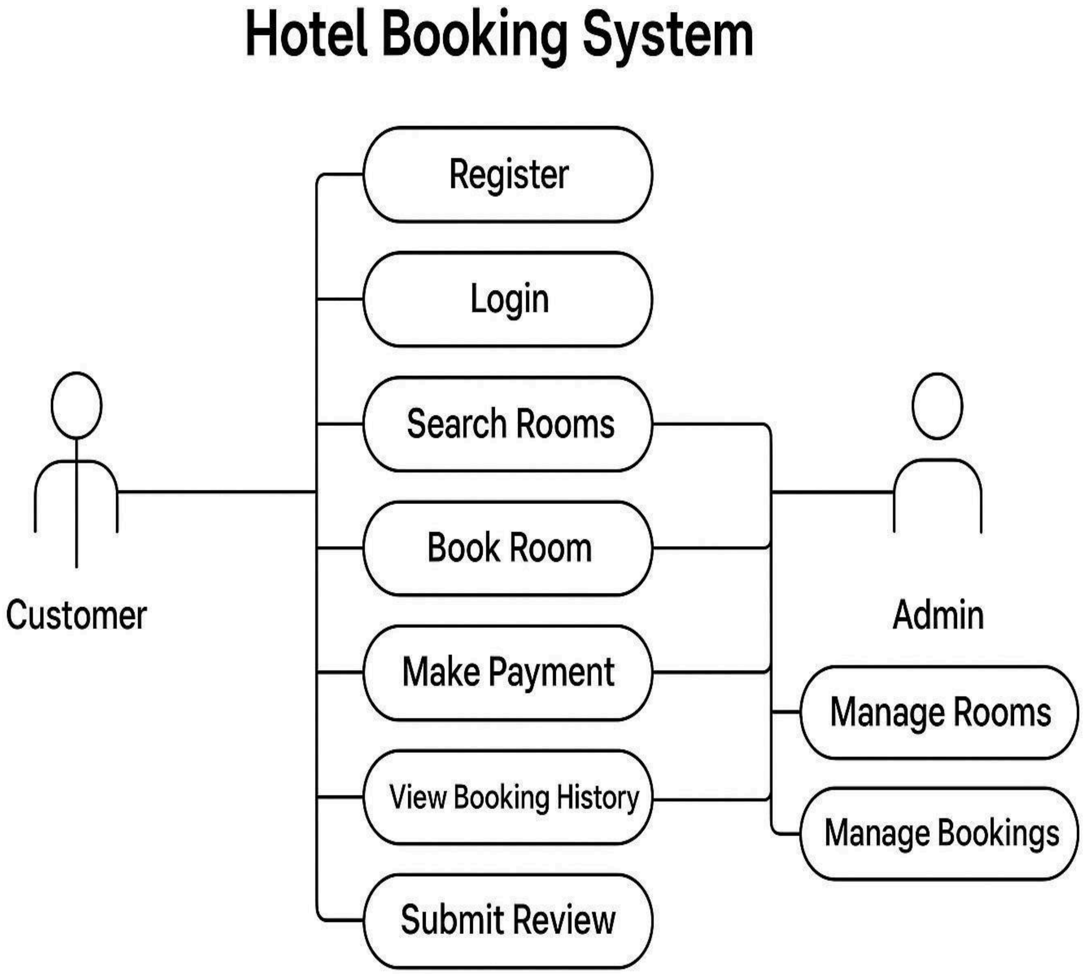
The requirements for the Hotel Booking System are identified using the Use Case technique, suitable for interactive end-user applications. This approach captures user interactions with the system to derive functional requirements.

Use case diagram

A use case diagram will be created using MS Visio to represent the interactions between actors (Customer, Admin) and the system. Key use cases include:

- Customer: Register, Login, Search Rooms, Book Room, Make Payment, View Booking History, Submit Review.
- Admin: Manage Rooms, Manage Bookings, View Reports.

(Note: The diagram is to be created in MS Visio as per the project requirements and is not included in this text-based SRS.)



Use case description

Below is a detailed use case for booking a room, following the provided template.

Table 5 Show the detail use case template

Feature1: User Registration

Field	Description
Use Case ID	UC-1
Use Case Name	User Registration
Actors	Customer
Description	Customer creates an account by providing email, password, and personal details.
Trigger	Customer clicks “Register”.
Preconditions	None
Post conditions	Account is created and stored; user can log in.
Normal Flow	1. Customer opens registration form. 2. Enters name, email, password, phone. 3. System validates input. 4. System checks if email is unique. 5. System creates user account. 6. Customer receives welcome email.
Exceptions	**E1:** Email already exists → System shows error. **E2:** Weak password → System shows rules.
Business Rules	BR-4: Email must be unique.
Assumptions	Users will enter correct personal details.

Feature2: Login

Field	Description
Use Case ID	UC-2
Use Case Name	Login
Actors	Customer, Admin
Description	User enters login credentials to access the system.
Trigger	User clicks “Login”.
Preconditions	User must be registered.
Post conditions	User session begins; dashboard loads.
Normal Flow	1. User enters email and password. 2. System verifies credentials. 3. System logs in user. 4. User is redirected to dashboard.
Exceptions	Invalid credentials → System shows error.
Assumptions	User remembers password.

Feature3: Search Room

Field	Description
Use Case ID	UC-3
Use Case Name	Search Rooms
Actors	Customer
Description	Customer searches rooms using location, dates, and preferences.
Trigger	Customer enters search filters.
Preconditions	User must be logged in.
Post conditions	System displays available rooms.
Normal Flow	1. User enters city, dates, room type, guests. 2. System checks availability. 3. System displays rooms with details.
Exceptions	No rooms available → System shows “No results”.
Business Rules	BR-1: Only available rooms should be shown.
Assumptions	Dates entered are valid.

Feature4: Book Room

Field	Description
Use Case ID	UC-4
Use Case Name	Book Room
Actors	Customer
Description	Customer books a hotel room by selecting dates, number of guests, and confirming payment.
Trigger	Customer clicks “Book Now”.
Preconditions	User is logged in, room is available for selected dates.
Post conditions	Booking is stored in the system and confirmation is shown to the customer.
Normal Flow	1. User selects room. 2. Chooses dates & guests. 3. System calculates charges. 4. User confirms booking. 5. System saves booking.
Exceptions	Room unavailable → System shows error. Invalid payment → Booking not completed.
Business Rules	BR-1: Booking requires valid dates. BR-2: Room cannot be double-booked.

Feature5: Payment Processing

Field	Description
Use Case ID	UC-5
Use Case Name	Payment Processing
Actors	Customer, Payment Gateway
Description	System processes payment using Stripe or PayPal.
Trigger	Customer clicks “Pay Now”.
Preconditions	Room selected; customer logged in.
Post conditions	Booking is confirmed; payment recorded.
Normal Flow	1. Customer selects payment method. 2. System redirects to Gateway. 3. Gateway validates details. 4. Payment successful. 5. System confirms booking.
Exceptions	Payment fails → System prompts retry.
Business Rules	BR-2: Payment must be completed within 15 minutes.
Assumptions	Payment gateway is available.

Feature6: Submit Review

Field	Description
Use Case ID	UC-6
Use Case Name	Submit Review
Actors	Customer
Description	Customer submits a review after completing a stay.
Trigger	Customer clicks “Add Review”.
Preconditions	Booking checkout date has passed.
Post conditions	Review stored in system.
Normal Flow	1. User selects completed booking. 2. Enters rating & comments. 3. System saves review.
Exceptions	Attempt before checkout date → System blocks submission.
Business Rules	BR-5: Reviews only allowed after checkout.

Functional Requirements

This section describes the functional requirements of the system expressed in natural language style, organized by feature.

Functional Requirement 1:User Registration

Identifier	FR-1
Title	User Registration
Requirement	The Customer shall be able to register by providing their email, password, and personal details (name, phone number).
Source	Project Scope Document - Module 1: User Authentication and Profile Management
Rationale	Allows users to create accounts for booking rooms and managing their reservations securely.
Business Rule(if required)	BR-4. Email addresses must be unique for each user.
Dependencies	None
Priority	High

Functional Requirement 2: Room Search

Identifier	FR-2
Title	Room Search
Requirement	The Customer shall be able to search for available rooms by specifying location, dates, and preferences (e.g., room type, number of guests).
Source	Project Scope Document - Module 2: Room Search and Booking
Rationale	Enables users to find rooms that match their requirements efficiently.
BusinessRule(if required)	BR-1. Bookings can only be made for available rooms on the selected dates.
Dependencies **Priority**	FR-1 (User must be logged in to search for rooms) High

Functional Requirement 3: Payment Processing

Identifier	FR-3
Title	Payment Processing
Requirement	When the Customer confirms a booking, the system shall process the payment securely using Stripe or PayPal.
Source	Project Scope Document - Module 3: Payment Gateway Integration
Rationale	Ensures secure and convenient payment transactions for room bookings.
Business Rule(if required)	BR-2. Payment must be completed within 15 minutes, or the room reservation will be released.
Dependencies	FR-2 (Room must be selected before payment)
Priority	High

Functional Requirement 4: Admin Room Management

Identifier	FR-4
Title	Admin Room Management
Requirement	The Admin shall be able to add, update, or remove room details (e.g., availability, price, type) in the system.
Source	Project Scope Document - Module 4: Booking Management (Admin Panel)
Rationale	Allows hotel staff to manage room inventory and ensure accurate availability for customers.
Business Rule(if required)	None
Dependencies	None
Priority	High

Functional Requirement 5:Customer Feedback

Identifier	FR-5
Title	Customer Feedback
Requirement	The Customer shall be able to leave a review and rating for their stay after completing a booking.
Source	Project Scope Document - Module 5: Customer Feedback and Reviews
Rationale	Enables customers to provide feedback, helping hotels improve service quality.
Business Rule(if required)	BR-5. Reviews can only be submitted after the booking's check-out date.
Dependencies	FR-3 (Booking must be completed to leave a review)
Priority	Medium

Non-Functional Requirements

Usability

- **USE-1**: The system shall allow Customers to complete a room search and booking with no more than 5 interactions (clicks or inputs).
- **USE-2**: The interface shall be intuitive, with tooltips for all major actions to assist first-time users

Performance

- **PER-1**: 95% of room search queries shall return results within 3 seconds over a 5 Mbps or faster internet connection.
- **PER-2**: The system shall handle up to 100 concurrent users without performance degradation.

References

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