Software Requirements Specification

Hotel Reservation Management System

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1. Introduction

1.1 Purpose

This document defines the requirements for the Hotel Reservation Management System. The system will allow guests to search for available rooms, make reservations, and process payments, while administrators will manage room availability and reservations.

1.2 Document Conventions

This document follows the IEEE 830 standard for software requirements specifications.

1.3 Intended Audience and Reading Suggestions

This document is intended for developers, testers, project managers, and stakeholders involved in the development of the Hotel Reservation Management System.

1.4 System Scope

The system provides an online platform for hotel reservations. It includes a guest portal for bookings and an administrative dashboard for managing reservations and rooms.

2. Overall Description

2.1 Product Perspective

The system is a standalone web application designed to streamline the booking process and reduce overbooking issues.

2.2 Product Functions

- Search for available rooms
- Make a reservation
- Process payments securely
- Manage room availability
- Generate reports

2.3 User Characteristics

- Guests: Users who book hotel rooms
- Administrators: Hotel staff who manage reservations

2.4 Constraints

- The system must comply with GDPR and online payment security regulations.
- The system should be accessible via web and mobile browsers.

2.5 Assumptions and Dependencies

- The system requires an internet connection.
- Payment processing depends on third-party services - Stripe.

3. Specific Requirements

3.1 Functional Requirements

1. The system shall allow guests to create an account.
2. The system shall enable guests to search for available rooms by date.
3. The system shall allow guests to make reservations and process payments.
4. The system shall allow guests to cancel not paid reservations.
5. The system shall send confirmation emails upon successful booking.
6. The system shall enable administrators to manage room availability.
7. The system shall provide a reporting tool for hotel management.

3.2 Non-Functional Requirements

1. The system shall process payments within 5 seconds.
2. The system shall handle up to 1000 concurrent users.
3. The system shall encrypt sensitive data to ensure security.
4. The system shall be available 99.9% of the time.

3.3 Use Case Descriptions

Use Case 1: Guest Makes a Reservation

Actors: Guest, System

Preconditions: The guest has an active account.

Steps:

1. The guest searches for available rooms.
2. The guest selects a room and enters booking details.
3. The guest proceeds with payment.

Use Case 2: Guest Cancels a Reservation

Actors: Guest, System

Preconditions: The guest has an existing reservation.

Steps:

1. The guest logs into their account.
2. The guest navigates to their booking history.
3. The guest selects a reservation to cancel.
4. The system processes the cancellation and updates room availability.

Use Case 3: Administrator Manages Room Availability

Actors: Administrator, System

Preconditions: The administrator has system access.

Steps:

1. The administrator logs into the system.
2. The administrator navigates to the room management panel.
3. The administrator adds, edits, or removes rooms from availability.
4. The system updates the availability status in real-time.

Use Case 5: Administrator Generates Reports

Actors: Administrator, System

Preconditions: The administrator has system access.

Steps:

1. The administrator logs into the system.
2. The administrator navigates to the reports section.
3. The administrator selects report criteria (e.g., reservations per month, cancellations).
4. The system generates the report and presents it for review or download.