Software Requirement Specification(SRS)

Problem Statement:

Many hotels struggle to efficiently manage their operations due to the lack of an effective software system and understaffed infrastructure. Manual processes for managing reservations, room assignments, billing and payments, inventory, and reporting can lead to errors, inefficiencies, and reduced customer satisfaction. Therefore, there is a need for a reliable and user-friendly hotel management system that can automate and streamline these processes, improve the accuracy and efficiency of operations, and enhance the overall guest experience.

1. Introduction:

1.1. **Purpose of this Document:** The software requirement specification (SRS) for the hotel management system outlines the functional and non-functional requirements for a system that is capable of managing all aspects of a hotel's operations. This document is intended for the developers who will be responsible for designing and implementing the software.

1.2. **Scope of this document** – The scope of the hotel management system includes the following functionalities:

User Management: The system will manage user accounts for staff and customers.

Reservation Management: The system will manage hotel room reservations, including the ability to check room availability, reserve rooms, modify and cancel reservations, and track payment and deposit information.

Room Management: The system will manage hotel rooms, including the ability to assign rooms to guests, track room occupancy, manage room cleaning and maintenance schedules, and track room availability.

Billing and Payment Management: The system will manage guest billing and payment information, including the ability to generate invoices, track payments, and generate financial reports.

Inventory Management: The system will manage hotel inventory, including the ability to track inventory levels, reorder inventory, and generate reports on inventory usage and availability.

Reporting: The system will generate various reports, including financial reports, occupancy reports, inventory reports, and customer feedback reports.

The system will be designed to be scalable, secure, and easy to use. The system will be compatible with various hardware and software configurations, including different operating systems, browsers, and devices. The system will be able to handle a large number of users and transactions, with fast response times and minimal downtime.

1.3. **Overview** – The hotel management system is a software system that will be used to manage all aspects of a hotel's operations, including reservations, room management, billing and payments, inventory, and reporting. The system will provide a user-friendly interface that will allow hotel staff to manage their operations efficiently and effectively.

2 General description:

The hotel management system is a software system designed to manage all aspects of a hotel's operations. The system will provide a user-friendly interface for managing reservations, room assignments, billing and payments, inventory, and reporting. The system will be used by hotel staff to efficiently and effectively manage their operations.

The system will be designed to manage user accounts for staff and customers, with staff accounts having access to the management functions of the system and customer accounts having limited access to view and manage their own reservations. The system will be able to check room availability, reserve rooms, modify and cancel reservations, and track payment and deposit information.

The system will also manage hotel rooms, including the ability to assign rooms to guests, track room occupancy, manage room cleaning and maintenance schedules, and track room availability. The system will manage guest billing and payment information, including the ability to generate invoices, track payments, and generate financial reports. The system will also manage hotel inventory, including the ability to track inventory levels, reorder inventory, and generate reports on inventory usage and availability.

In addition to these functionalities, the system will be able to generate various reports, including financial reports, occupancy reports, inventory reports, and customer feedback reports. The system will be designed to be scalable, secure, and easy to use. It will be compatible with various hardware and software configurations, including different operating systems, browsers, and devices. The system will be able to handle a large number of users and transactions, with fast response times and minimal downtime.

3 Functional Requirements:

User Management:
The system must be able to manage user accounts for staff and customers. Staff accounts must be able to access the management functions of the system, while customer accounts will have limited access to view and manage their own reservations.

Reservation Management:
The system must be able to manage hotel room reservations, including the ability to check room availability, reserve rooms, modify and cancel reservations, and track payment and deposit information.

Room Management:
The system must be able to manage hotel rooms, including the ability to assign rooms to guests, track room occupancy, manage room cleaning and maintenance schedules, and track room availability.

Billing and Payment Management:
The system must be able to manage guest billing and payment information, including the ability to generate invoices, track payments, and generate financial reports.

Inventory Management:
The system must be able to manage hotel inventory, including the ability to track inventory levels, reorder inventory, and generate reports on inventory usage and availability.

Reporting:
The system must be able to generate various reports, including financial reports, occupancy reports, inventory reports, and customer feedback reports.

4 Interface Requirements:

The system shall provide a user-friendly interface for hotel staff and customers to access and manage their information.
Hardware Interface: The system shall be compatible with different hardware configurations, including desktops, laptops, tablets, and smartphones.
Software Interface: The system shall be compatible with different operating systems, including Windows, Mac OS, and Linux, and with different web browsers such as Google Chrome, Mozilla Firefox, and Microsoft Edge.

Communication Interface: The system shall use standard communication protocols such as HTTP, HTTPS, and TCP/IP for transmitting data over the internet.
External Interface: The system shall be able to integrate with third-party systems such as payment gateways and inventory management systems.

5 **Performance Requirements:**

Response Time: The system shall provide a response time of less than 2 seconds for any user action.
Availability: The system shall be available 24/7 with a maximum of 1 hour of downtime per month for maintenance purposes.
Capacity: The system shall be able to handle a minimum of 1000 concurrent users and a minimum of 500 room reservations per day.
Security: The system shall be designed to prevent unauthorized access to data and provide protection against hacking attempts.

6 **Design Constraints:**

Compatibility: The hotel management system must be compatible with various hardware and software configurations, including different operating systems, browsers, and devices.

Security: The system must be designed with security in mind, including measures to prevent unauthorized access, protect against hacking attempts, and ensure the privacy of customer data.

Scalability: The system must be designed to handle a large number of users and transactions, with the ability to scale up or down as needed.

Usability: The system must be easy to use, with a user-friendly interface that can be easily navigated by hotel staff and guests.

Performance: The system must be able to respond quickly to user actions, with fast response times and minimal downtime.

Accessibility: The system must be accessible to people with disabilities, including support for screen readers and keyboard navigation.

Legal Compliance: The system must comply with relevant legal regulations and industry standards, such as the General Data Protection Regulation (GDPR) and Payment Card Industry Data Security Standard (PCI DSS).

Cost: The system must be designed within a reasonable budget, with cost-effective solutions that do not compromise on functionality, security, or performance.

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7 **Non-Functional Attributes:**

Usability:

The system must be easy to use and navigate, with an intuitive user interface that allows staff to quickly access the information they need.

Performance

The system must be able to handle a large number of users and transactions, with fast response times and minimal downtime.

Security:

The system must be secure, with measures in place to prevent unauthorized access and protect sensitive information such as guest billing and payment data.

Scalability:

The system must be able to scale to meet the needs of a growing hotel, with the ability to add new rooms, staff members, and inventory as needed.

Compatibility:

The system must be compatible with various hardware and software configurations, including different operating systems, browsers, and devices.

8 **Preliminary Schedule and Budget:**

Preliminary Schedule:

The development of a hotel management system can take several months to a year, depending on the complexity of the project and the size of the development team. The following is a tentative schedule for the project:

Requirements Gathering: 2-4 weeks
System Design: 4-6 weeks
Development: 16-20 weeks
Testing and Quality Assurance: 4-6 weeks
Deployment and User Training: 2-4 weeks
Total Estimated Time: 28-40 weeks

Note that this is a preliminary schedule and can vary depending on the specific requirements and scope of the project.

Preliminary Budget:

The budget for the development of a hotel management system can vary significantly depending on various factors, such as the complexity of the system, the size of the

development team, and the location of the development team. The following is a rough estimate of the budget required for the project:

Requirements Gathering: $10,000 - $20,000
System Design: $20,000 - $40,000
Development: $100,000 - $200,000
Testing and Quality Assurance: $20,000 - $40,000
Deployment and User Training: $10,000 - $20,000
Total Estimated Budget: $160,000 - $320,000

Note that this is a rough estimate and the actual budget can vary depending on the specific requirements and scope of the project. It is recommended to consult with a software development company or a project manager to get a more accurate estimate of the budget required for the project.