LAB 1 - HOTEL MANAGEMENT SYSTEM

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AIM - To write the Problem Statement and Software Requirements Specification (SRS) for Hotel Management System.

Problem Statement:

To design a user-friendly hotel management system that caters to the needs of all stakeholders involved in the hotel's operations. The current hotel management system lacks efficiency and effectiveness in managing guest reservations, room allocation, inventory control, and billing. The manual process is time-consuming and error-prone, leading to customer dissatisfaction and revenue loss. The hotel management needs an automated system that can streamline the entire process and improve the guest experience while ensuring accurate and timely billing. The system must provide a user-friendly interface for the staff to manage bookings, room allocations, and inventory control while maintaining data security and privacy. Additionally, the system should be scalable to accommodate the increasing demands of the hotel and integrate with other systems for seamless operations..

Software Requirement Specification (SRS)

1 Introduction:

1.1 Purpose:

The purpose of this document is to provide a detailed description of the Hotel Management System. The document will explain the functional and non-functional requirements of the software system to be developed.

1.2 Scope:

The Hotel Management System is designed to automate and streamline hotel operations. The system will include features such as room booking, check-in and check-out, inventory management, billing, and reporting. The system will be developed to enhance the overall guest experience and improve the efficiency of hotel operations. The development time for the system is estimated to be six months, and the budget for the project is $100,000.

1.3 Overview:

A hotel management system is an automated system designed to manage various aspects of a hotel's operations, including guest reservations, room allocation, inventory control, billing, housekeeping management, reporting, and analytics. It streamlines and simplifies the complex and time-consuming manual processes of hotel management, enabling hotel staff to work more efficiently and effectively.

2 General Description:

The Hotel Management System is designed to cater to the needs of the hotel industry. The software system will provide features that will enhance the overall guest experience and improve the efficiency of hotel operations. The system will have the following features:

- Room Booking: The system will allow guests to book rooms online or at the hotel reception. The system will provide real-time availability of rooms, and guests will be able to select their preferred room type.
- Check-in and Check-out: The system will automate the check-in and check-out process, eliminating the need for manual record-keeping. The system will also keep a record of guest information for future reference.
- Inventory Management: The system will keep track of hotel inventory, including food, beverage, and supplies. The system will generate alerts when inventory levels are low, ensuring that the hotel always has adequate supplies.
- Billing: The system will automate the billing process, including room charges, food, and other services. The system will generate invoices and receipts, and guests will be able to make payments using various payment methods.
- Reporting: The system will generate reports that will provide insights into hotel operations. The reports will include occupancy rates, revenue, and expenses.

The Hotel Management System will cater to the needs of hotels of all sizes and types. The system will be user-friendly and easy to use, ensuring that hotel staff can efficiently perform their duties. The system will provide an exceptional guest experience, ensuring that guests keep coming back to the hotel.

3 Functional Requirements:

The following are the functional requirements of the Hotel Management System:

- Room Reservation and Booking: The system should allow guests to reserve and book rooms online or in-person, and provide a real-time availability calendar to staff.

- Room Allocation: The system should automatically allocate rooms based on guest preferences, availability, and pricing.

- Inventory Management: The system should keep track of inventory levels and generate alerts when supplies are running low.

- Billing and Payment: The system should provide an accurate and timely billing system that includes room charges, food and beverage charges, and other incidental expenses. It should also support various payment methods such as credit cards, cash, and mobile payments.

- Guest Profiles: The system should maintain a database of guest profiles that include their personal information, preferences, and booking history.

- Housekeeping Management: The system should allow staff to manage housekeeping schedules, track room cleaning status, and assign tasks to staff.

4 Interface Requirements:

The Hotel Management System should provide the following interfaces to enable efficient communication between the system and its users:

- A user-friendly interface for hotel staff to manage room reservations, guest check-ins, check-outs, and room availability.
- An interface for the kitchen staff to receive and manage food orders placed by guests.
- An interface for guests to book rooms online or at the hotel reception.
- An interface for guests to make payments using various payment methods, such as credit card or cash.

5 Performance Requirements:

The Hotel Management System should meet the following performance requirements:

- The system should be able to handle a high volume of guest bookings and transactions.
- The system should be able to generate reports quickly and efficiently.
- The system should have a response time of less than 3 seconds for all user interactions.
- The system should be able to handle multiple user sessions simultaneously without any downtime.

6 Design Constraints:

The following design constraints should be considered during the development of the Hotel Management System:

- The system should be developed using a scalable architecture that can accommodate future growth.
- The system should be compatible with commonly used hardware and software platforms.
- The system should be secure and protect guest data and hotel operations from unauthorized access.
- The system should be designed to minimize maintenance requirements and ensure ease of upgrades.

7 Non-Functional Requirements:

The Hotel Management System should meet the following non-functional attributes:

- Security: The system should be secure and protect guest data and hotel operations from unauthorized access.
- Portability: The system should be portable and able to run on different hardware and software platforms.
- Reliability: The system should be reliable and minimize downtime or errors.
- Reusability: The system should be designed to facilitate the reuse of components and modules in future projects.
- Application Compatibility: The system should be compatible with other applications used in the hotel industry.
- Data Integrity: The system should ensure data integrity and accuracy of information.
- Scalability Capacity: The system should be designed to accommodate future growth and scale easily.

8 Preliminary Schedule and Budget:

Schedule:

Requirements gathering and analysis - 2 weeks
System design and architecture - 4 weeks
Development and testing - 16 weeks
Integration and user acceptance testing - 4 weeks
Training and deployment - 2 weeks
Post-deployment support and maintenance – ongoing

Total project duration: 28 weeks (7 months)

Budget:

Salaries and wages for development team - $400,000
Hardware and software costs - $100,000
Training and deployment costs - $30,000
Post-deployment support and maintenance - $60,000 per year

Total project cost: $590,000