

- Introduction:

Hotel Management System Report

Executive Summary

The Hotel Management System is a console-based application developed in C++. This project aims to provide a simple and efficient solution for managing hotel room records. The system enables users to perform various operations such as inserting new rooms, searching for rooms, updating room information, deleting rooms, and managing room reservations.

Project Objectives

Efficient Room Management: The system allows hotel staff to efficiently manage room records, keeping track of customer details, allocated dates, and room types.

User-Friendly Interface: The console-based interface provides an intuitive menu system, allowing users to easily navigate and perform desired operations.

Reservation Handling: The system includes features for reserving rooms, checking in guests, checking out guests, and assigning rooms to guests.

Inventory Management: Users can obtain information about the total number of rooms available, facilitating inventory management.

- System Architecture

Classes

Hotel Class:

Encapsulates the entire functionality of the hotel management system.

Utilizes a linked list of room nodes to store and organize room records.

Node Structure:

Represents individual room records within the linked list.

Contains fields for room ID, customer name, allocated date, room type, reservation status, and a pointer to the next node.

Main FunctionThe main function creates an instance of the Hotel class and invokes the menu function, initiating the user interface.

- Functionality

Room Operations

Inserting a New Room:

Users can book a new room by providing necessary details.

Searching for a Room:

Users can search for a room by entering its ID, with the system displaying the room details if found.

Updating Room Information:

Users can modify customer name, allocated date, and room type for existing rooms.

Deleting a Room:

Users can remove a room from the system by providing its ID.

Reservation Management

Reserving a Room:

Users can mark a room as reserved.

Checking In a Guest:

Guests can be checked into reserved rooms.

Checking Out a Guest:

Guests can be checked out from a room.

Assigning a Room to a Guest:

Users can assign a room to a guest by providing necessary details.

Inventory Management

Total Room Count:

The system displays the total number of rooms in the hotel.

Sorting and Display

Sorting Room Records:

Rooms are sorted based on their IDs in ascending order before display.

Displaying Room Records:

Details of all rooms are displayed, providing a comprehensive overview of the hotel's status.

ConclusionThe Hotel Management System project successfully addresses the need for an efficient and user-friendly solution for managing hotel room records. The implemented features cover a range of essential hotel operations, from room creation to guest management. The system's modular design allows for easy expansion and future enhancements.