Hostel Management System

Introduction

This project is a Hostel Management System developed using C++. It is designed to manage various aspects of a hostel, including room allocations, cleaning services, and billing.

Features

1. **Room Management**: Allows changing room details.
2. **Cleaning Service Management**: Enables selection of cleaning services for rooms.
3. **Bill Calculation**: Calculates the total bill based on room type and services selected.
4. **File Handling**: Saves and loads room details to/from a file.

Files

- `main.cpp` : Contains the source code for the project.
- `rooms.txt` : Stores room details. (Created only when you chose to save the room details)
- `README.md` : This file.
- `Proposal.pdf` : Detailed project proposal.

Installation

1. Clone the repository.
2. Compile the `main.cpp` file using a C++ compiler.

   ```
   1    g++ main.cpp -o hostel_management
   ```

3. Run the executable.

   ```
   1    ./hostel_management
   ```

Usage

1. **Change Room**: Update room details.
2. **Cleaning Service**: Select cleaning service for a room.
3. **Calculate Bill**: Compute the bill for a room based on its type and services.
4. **Save Room Details**: Save all room details to a file.
5. **Load Room Details**: Load room details from a file.

Contributing

Contributions are welcome. Please fork the repository and create a pull request.

Authors

- [Your Team Name]

Hostel Management System Proposal

Objective

The objective of this project is to develop a comprehensive Hostel Management System using C++. This system will streamline the management of hostel room allocations, cleaning services, and billing processes.

Team Members

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Project Scope

Problem Statement

Managing a hostel involves various administrative tasks, including room assignments, maintenance requests, and billing. Manual management can be prone to errors and inefficiencies. This project aims to automate these processes to ensure smooth and efficient hostel management.

Project Features

1. **Room Management**: Facilitates the changing of room details including type, village, block, floor, unit, and room number.
2. **Cleaning Service Management**: Allows selection and management of cleaning services for rooms.
3. **Billing System**: Automatically calculates the total bill based on room type and additional services selected.
4. **Data Persistence**: Saves and loads room details to/from a file to ensure data is not lost between sessions.

Project Deliverables

1. **Proposal Document**: Detailed project proposal in PDF format.
2. **Flowchart**: A flowchart illustrating the project logic and flow, created using draw.io.
3. **PowerPoint Presentation Slides**: Slides detailing the project, including:
   - Group name and member details.
   - Project introduction and background.
   - Detailed project description.
   - Source code and sample outputs/screenshots.
4. **Source Code**: Fully developed and commented C++ code, showcasing various C++ concepts such as selections, loops, arrays, files, and functions.
5. **Live Demonstration**: A 10-15 minutes presentation followed by a Q&A session in week 11 or 12.

Project Implementation

The project is implemented in C++, leveraging the following concepts:

- **Selections and Loops**: For menu navigation and repeated operations.
- **Arrays**: To manage multiple rooms.
- **File Handling**: To persist room details between sessions.
- **Functions**: For modular and maintainable code.

Timeline

1. **Week 1-2**: Project planning and initial setup.
2. **Week 3-4**: Development of core features.
3. **Week 5-6**: Testing and debugging.
4. **Week 7-8**: Documentation and flowchart creation.
5. **Week 9-10**: Final touches and preparation for the presentation.
6. **Week 11**: Submission and presentation.

Conclusion

This project will significantly improve the efficiency and accuracy of hostel management, providing a reliable and user-friendly system for administrators.