RoomMate – The Ultimate Hostel Manager

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1. Introduction

Problem Identified :

- Inefficient management of hostel accommodation.

- Difficulty in tracking student information and room availability.

Solution Proposed :

- **Automated Student Management:** Simplifies the process of entering, editing, and viewing student details, reducing manual errors.
- **Efficient Room Allocation:** Enables smooth and organized room assignments, improving space utilization.
- **Centralized Data Access:** Allows easy access to all student and room records in one place, enhancing overall administrative efficiency.
- **Enhanced Security**: With admin-only login, it ensures secure handling of sensitive student and accommodation data.

2. Objectives

- **<u>Authentication and Authorization:</u>** Implement secure login admins.

- **<u>Student Information Management:</u>** Maintain records of student details such as personal information, contact details, and room assignment.

- **<u>Database Management:</u>** Ensure efficient data storage and retrieval using MySQL.

- **<u>Room Allocation and Management:</u>** Enable the admin to allocate rooms to students. Track room availability and occupancy status.

3. Technology Stack

1. **Frontend:**
   Developed using Java Swing for the user interface.

2. **Database:**:
   MySQL for storing and managing data.

3. **IDE:**

   Built and tested in Visual Studio Code.

4. **Libraries:**

   Utilizes MySQL Connector/J 9.0.0 for database connectivity.

4. Scope

- **Designed for Hostel Administration:**

Tailored specifically for hostel management, focusing on automating student and room-related tasks.

- **Limited to Admin Login Only:**

Restricted to authorized admin users, ensuring secure access and management of sensitive data.

- **Focus on Managing Student Details and Room Allocations:**

Enables efficient handling of student records and room assignments, with real-time room availability tracking.

5. Feature /Functionality

- **Key Features:**

- **Admin Login:**
  Provides secure, restricted access for administrators.
- **Enter Student Details**:
  Allows input of student data and room allocations.
- **Edit Student Details**:
  Enables modification of existing student records.
- **View Student Details**:
  Displays information of all registered students.
- **View Allocated Rooms Details**:
  Shows room assignments and related details.

6. Outcome of Project

- **<u>Improved Efficiency:</u>**

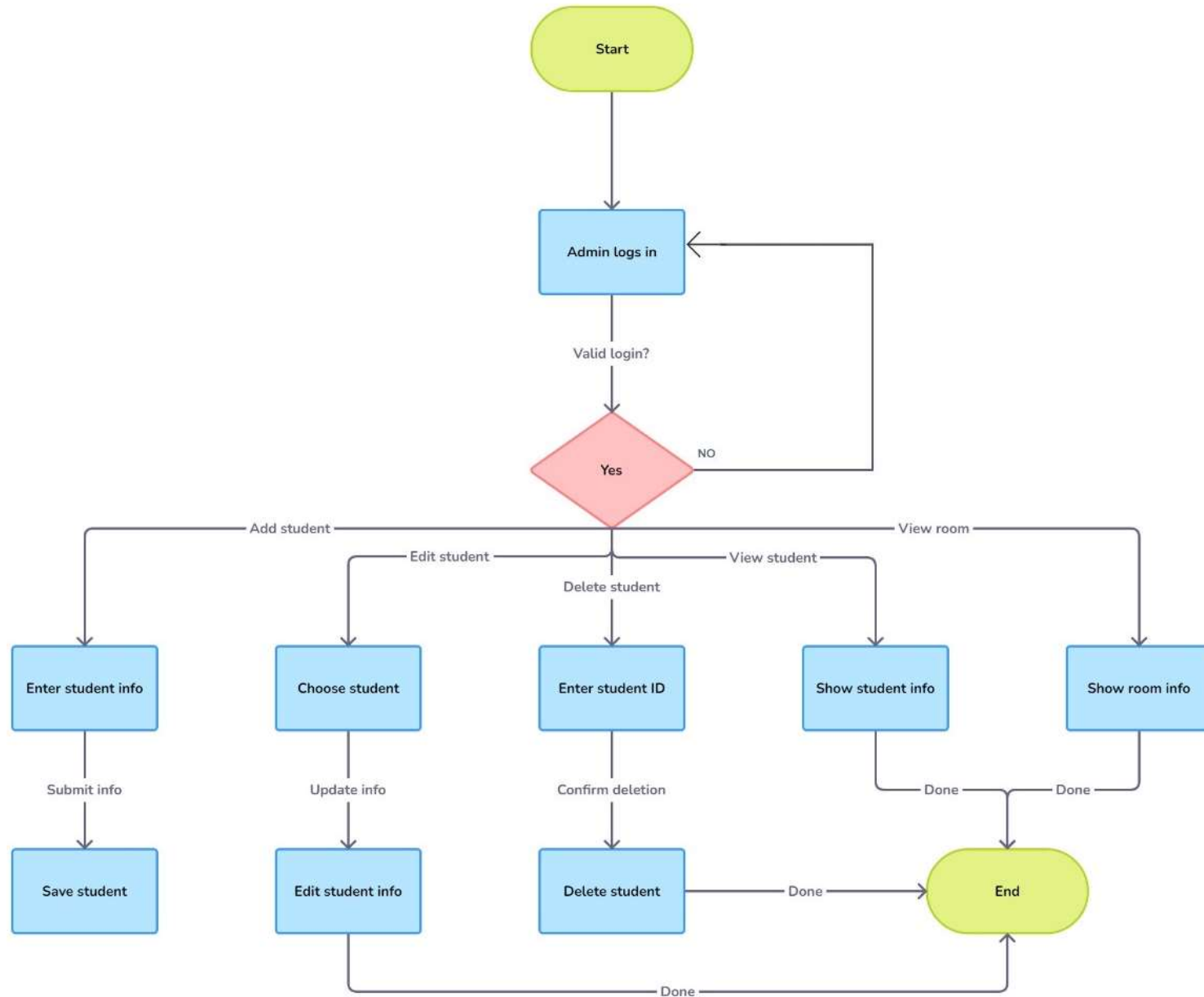Streamlines student accommodation management processes.

- **<u>Centralized Database</u>**:

Admin can check available rooms

- **<u>Better Room Management:</u>**

Enhances tracking and handling of room allocations.

7. Block Diagram

Thank You !!