**HOSTEL MANAGEMENT SYSTEM DOCUMENTATION**

This project is a hostel management system built using Python, SQLite database, and TKinter for graphical user interface. It allows CRUD operations (Create, Read, Update, Delete) on hostel records while ensuring data security through a login authentication system. The hostel records including student information, room allocation, visitor entry logging, in/out leave applications and approval, error and exception handling.

**FEATURES**

**1. User authentication**: Restrict access to authorized users.

**FIELDS:** Username ,password

**SECURITY:** Passwords are hashed before storing in the database.

**PROCESS**

Checks entered credentials against the database.

On success, redirects to the dashboard.

On failure, shows an error dialog.

**2. Main .py / dashboard .py:** Main application window after successful login.

Contains buttons to navigate to:

Allocate room

View student

Add visitor

Log In-time / Out-time

Apply for leave

**3. Database.py:** Database connection and setup logic.

Creates requires tables if they don't exist:

users, students, inout, visitors, leave-app

Uses SQLite's connect () method and safe transactions.

**4. Allocate\_room.py**: Allows hostel staff to add student details and assign rooms.

**Fields:** Student name, Room No.,Contact No.

**Validations**: Ensures all fields are filled.

**5. Student\_info.py:** Displays student information based on their ID.

**Fetches**: Name, Room, Contact

**6. Visitor\_log.py:** Adds visitors to the database for a student.

**Fields:** Student ID, Visitor Name

**Automatically logs**: Current timestamp

**7. Inout.py**: Tracks students' entry and exit times.

**Log In-Time**: Inserts a new record with time.

**Log Out-Time:** Updates the same record

**8. Leave\_applocation.py:** Submits leave requests

**Fields**: Student ID, Reason, From Date, To Date

FEATURES SUMMARY

|  |  |
| --- | --- |
| FEATURE | DESCRIPTION |
| Login system | Authenticated access with password hashing |
| Student management | Add / view student info and room allocation |
| Visitor log | Record visitor name and visit time |
| In / out time | Trck when students leave/ enter hostel |
| Leave application | Students can apply for leave with dates |

**9. Exception handling:** Each modules includes try....except blocks to catch

Database errors

invalid inputs(e.g., empty fields, wrong ID)

**10. UI Design**

**Background**: Light blue

**Font:** Arial, size 11-12

**Buttons:** Styled with ttk. Button

Layout: Grid-based layout for neat alignment

**11. How to run**

Install python or pycharm

Run main.py

Login with:

**Username**= Tee kay

**Password=** tk