Hotel-Management

Overview

This is a desktop-based hotel management application built using Python (Tkinter) and SQLite3. It is designed to help staff manage room availability, reservations, and password-protected access to admin features.

Specifications

Functional Specifications

1. Room Management

   - The system manages five room types:

     – A01–A12: Standard (£50)

     – B01–B11: Deluxe (£75)

     – C01–C10: Executive (£125)

     – D01–D09: Suit (£250)

     – E01–E08: Presidential Suite (£445)

   - Each room has a status: Available or Occupied.

2. Authentication

   - A password system restricts access to administrative features.

   - Passwords are hashed using SHA-256 and stored in a SQLite table.

   - Users can change their password by verifying the old one.

3. Revenue Reporting

   - Users can select a start and end date.

   - The system fetches and displays revenue data for the selected period.

   - Data is presented in a scrollable table (Treeview).

4. Database Initialization

   - On first launch, the system populates the database with all room records.

   - The default password is admin.

Technical Specifications

Item	Specification
Language	Python 3.x
GUI Toolkit	Tkinter (Standard Python Library)
Database	SQLite3
Password Hashing	SHA-256 via `hashlib`
Data Display	`ttk.Treeview` (with vertical scrollbar)
Report Data	Retrieved via custom SQL queries and parsed using Pandas
Room IDs	Fixed-format IDs (e.g., A01, B05, etc.)

Dependencies

Dependency	Purpose	Installation / Availability
Python 3.x	Core programming language	Download Python
Tkinter	GUI framework for creating windows, buttons, inputs	Included with standard Python install
SQLite3	Lightweight local database system	Built-in Python module (`sqlite3`)
hashlib	Used for password hashing (SHA-256)	Built-in Python module
pandas	For handling and displaying tabular data	`pip install pandas`
ttk (from tkinter)	Used for `Treeview` widget in GUI	Included with Tkinter
tkcalendar *(if used)*	For date selection widgets (e.g., `DateEntry`)	`pip install tkcalendar`