Cecos Univerity

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PROJECT:

HOTEL MANAGEMENT SYSTEM

Hotel Management System

1. Overview

The Hotel Management System (HMS) is a software application designed to automate and manage the daily operations of a hotel. It helps in handling room bookings, customer check-ins and check-outs, billing, and record management efficiently. The system reduces manual work, minimizes errors, and improves overall customer satisfaction.

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2. Introduction

Managing hotel operations manually is time-consuming and prone to errors. The Hotel Management System provides a digital solution to manage hotel activities such as reservations, room availability, customer details, and payments. This system is designed to be user-friendly and reliable, making hotel management more efficient and organized.

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3. Problem Statement

Traditional hotel management methods involve manual record-keeping, which leads to:

- Data redundancy and loss

- Difficulty in tracking room availability

- Billing errors

- Time-consuming check-in and check-out processes

- Poor customer experience

There is a need for an automated system that can handle these tasks accurately and efficiently.

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4. Proposed Solution

The proposed Hotel Management System is a computerized application that:

- Maintains customer and room records

- Automates booking and billing processes

- Tracks room availability in real time

- Generates accurate bills

- Improves efficiency and reduces human error

The system provides a centralized platform for managing hotel operations smoothly.

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5. Functional Requirements

The system should be able to:

1. Add, update, and delete customer records

2. Display available and occupied rooms

3. Book rooms for customers

4. Manage check-in and check-out processes

5. Calculate and generate bills

6. Store and retrieve hotel data securely

7. Allow admin/staff login (if implemented)

6. Non-Functional Requirements

1. **Usability** – The system should be easy to use and understand

2. **Performance** – Quick response time for user actions

3. **Reliability** – The system should work without failure during operations

4. **Security** – Customer data should be protected

5. **Scalability** – The system should support future enhancements

6. **Maintainability** – Easy to update and modify the system

7. Tools & Technologies Used

- Programming Language: Python

- IDE: VS Code

7. **Screenshots of Code Output**

```python
1    """
2    Hotel Management System
3    A comprehensive hotel management application with GUI and database integration
4    """
5
6    import sqlite3
7    import tkinter as tk
8    from tkinter import ttk, messagebox, scrolledtext
9    from datetime import datetime
10   import os
11   |
12   # ==================== DATABASE SETUP ====================
13
14   DB_FILE = "hotel_management.db"
15
16   def init_database():
17       """Initialize the database with required tables"""
18       conn = sqlite3.connect(DB_FILE)
19       cursor = conn.cursor()
20
21       # Create bookings table
22       cursor.execute("""
23           CREATE TABLE IF NOT EXISTS bookings (
24               id INTEGER PRIMARY KEY AUTOINCREMENT,
25               room_no INTEGER NOT NULL,
26               name TEXT NOT NULL,
27               address TEXT,
```

Thunder Hotel Management System   —   □

🏨 Thunder Hotel Management System

Professional Hotel Management Solution

👤 Customer Data	🛏 Room Booking	🏨 Restaurant	🧺 Laundry	🎮 Games	💰 Bill	📋 All Bookings

Customer Information

Full Name *	
Address	
Check-in Date *	2026-01-23
Check-out Date *	2026-01-23

Create Booking

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| 👤 Customer Data | 🛏 Room Booking | 🎎 Restaurant | 🎁 Laundry | 🎮 Games | 💰 Bill | 📄 All Bookings |

Restaurant Menu

Water - Rs 20	23
Tea - Rs 10	43
Breakfast Combo - Rs 90	2
Lunch - Rs 110	0
Dinner - Rs 150	0

Success ✕

ℹ Restaurant bill added!
Total: Rs 1,070.00

[OK]

Booking ID: 1   **Add to Bill**

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| 👤 Customer Data | 🛏 Room Booking | 🎎 Restaurant | 🎁 Laundry | 🎮 Games | 💰 Bill | 📄 All Bookings |

Hotel Bill

Booking ID: 1   **Generate Bill**

```
===========================================
        Thunder HOTEL - BILL RECEIPT
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Customer Details:
    Name: 1
    Address: csddf
    Room No: 1
    Check-in Date: 2026-01-23
    Check-out Date: 2026-01-23
    Room Type: Not selected

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BILL BREAKDOWN:
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```

9. Conclusion

The Hotel Management System successfully automates hotel operations, making them more efficient and reliable. It reduces manual workload, improves accuracy, and enhances customer satisfaction. This project demonstrates the practical use of software systems in real-world hotel management scenarios.