HOTEL MANAGEMENT SYSTEM USING PYTHON AND DJANGO

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Abstract
This paper presents the design and implementation of a Hotel Management System developed using Python and Django framework. The system automates hotel operations such as room booking, customer management, check-in and check-out, and billing. It improves accuracy, reduces manual workload, and enhances service efficiency. The web-based application is suitable for small and medium-scale hotels and also appropriate for diploma-level academic projects.

Keywords— Hotel Management System, Python, Django, Web Application, Database Management

I. INTRODUCTION
Hotel operations involve managing reservations, customer records, room availability, and billing. Manual systems are inefficient and prone to errors. With the growth of information technology, web-based management systems have become essential. This project focuses on developing a hotel management system using Django that provides centralized and secure data handling.

II. OBJECTIVES
The main objectives of the system are:
• Automate room booking and allocation
• Maintain customer information
• Generate accurate bills
• Reduce paperwork
• Improve service efficiency

III. SYSTEM ARCHITECTURE
The system follows a client-server architecture. Users access the application through a web browser. Requests are processed by the Django server, which performs business logic and communicates with the database to store and retrieve information. The frontend is developed using HTML, CSS, and Bootstrap.

IV. MODULE DESCRIPTION
Admin Module: Manages rooms, staff accounts, and reports.
Staff Module: Handles customer registration, bookings, and billing.
Booking Module: Allocates rooms and maintains booking history.
Billing Module: Calculates charges and generates bills.

V. TECHNOLOGIES USED

Python is used as the backend programming language. Django framework provides MVC architecture and security features. HTML, CSS, and Bootstrap are used for frontend design. SQLite or MySQL is used for database management.

VI. ADVANTAGES

- Fast and reliable booking process
- Secure data storage
- Reduced human errors
- Easy report generation

VII. LIMITATIONS

- No online payment gateway
- Requires internet or local server
- Limited to small-scale hotels

VIII. FUTURE SCOPE

Future enhancements may include online booking, payment integration, mobile application support, cloud deployment, and customer feedback systems.

IX. CONCLUSION

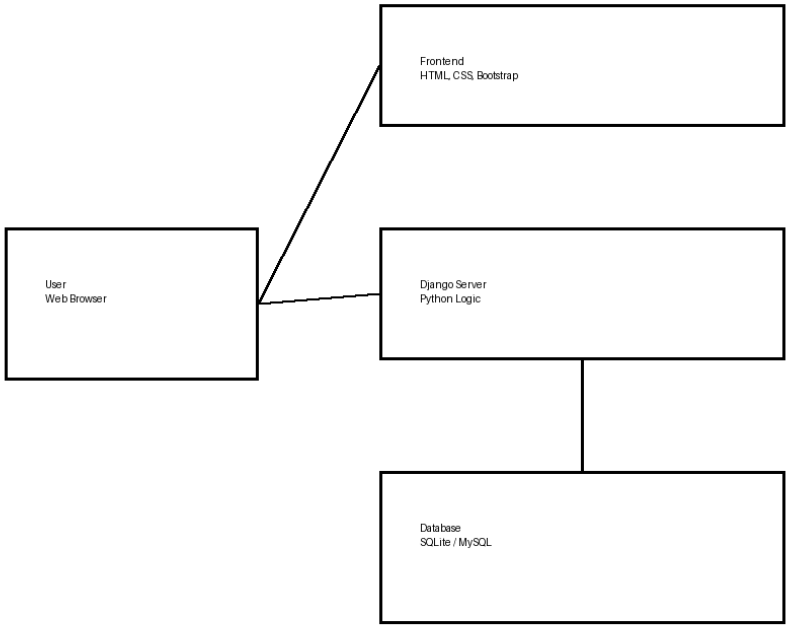
The Hotel Management System using Python and Django provides an efficient solution for automating hotel operations. The system is suitable for diploma final year projects and can be enhanced for real-world commercial applications.

REFERENCES

[1] Django Official Documentation
[2] Python Software Foundation
[3] Database Management System Concepts
[4] Web Application Development Guides

III(A). SYSTEM ARCHITECTURE DIAGRAM

Figure 1 shows the system architecture of the Hotel Management System.



III(B). FLOWCHART OF SYSTEM

Figure 2 shows the step-by-step working flow of the Hotel Management System.