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HOSTEL AND PG ACCOMMODATION MANAGEMENT SYSTEM

K. Yethendra Swamy[1], K. Lakshmi [2]

[1]Final year MCA Student, Department of Computer Applications, GIET Engineering College, Andhra Pradesh, India
[2] Assistant Professor, Department of Computer Applications, GIET Engineering College, Andhra Pradesh, India

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Abstract - *The growing movement of students and working professionals to educational and employment hubs has significantly increased the demand for reliable hostel and PG accommodation. However, finding a suitable place to stay often remains a difficult and time-consuming task. Most people still depend on personal references, brokers, social media groups, or multiple physical visits to compare available options. These methods frequently lead to incomplete information, communication gaps, and a lack of transparency during the booking process. As a result, users may struggle to find accommodation that matches their budget, preferred location, and required facilities. The Hostel and PG Accommodation Management System is designed to simplify and modernize this process by providing a centralized digital platform where users can search, compare, and book accommodations with ease. The system offers secure user registration through OTP and email verification, ensuring that only authenticated users can access its services. Advanced search and filtering options allow users to quickly identify suitable rooms based on location, budget, amenities, and availability. The platform also supports real-time communication between tenants and property owners, enabling faster decision-making and reducing misunderstandings. In addition, the system integrates online payment functionality, booking management, instant notifications, and a feedback mechanism that promotes accountability and service improvement. By reducing manual effort and bringing all essential services together in one place, the proposed solution enhances convenience for users while helping property owners manage their listings more effectively. Overall, the project provides a practical, secure, and scalable approach to accommodation management, improving accessibility and creating a smoother experience for everyone involved in the rental process*

Key Words: Hostel Management System, PG Accommodation, Online Booking, OTP Authentication, Real-Time Chat, Payment Integration, Accommodation Management, Web Application.

1. INTRODUCTION

Finding a comfortable and reliable place to stay is one of the first challenges faced by students and working professionals when they move to a new city. Whether it is for higher education, training, or employment, the search for suitable hostel or PG accommodation often involves considerable time, effort, and uncertainty. Many people still depend on brokers, personal contacts, social media groups, or direct visits to multiple locations before making a decision. This process can be frustrating, especially when the available information is outdated, incomplete, or difficult to verify.

With the rapid growth of internet-based services, users expect accommodation-related activities to be faster, more transparent, and easily accessible. However, existing solutions frequently focus only on displaying property listings and often fail to provide essential features such as secure user verification, efficient communication, streamlined booking management, and trustworthy payment support. As a result, users may encounter difficulties in comparing options, contacting property owners, and managing reservations effectively.

The Hostel and PG Accommodation Management System is developed to address these challenges by providing a centralized and user-friendly platform that connects accommodation seekers with property owners. The system enables users to search accommodations based on their preferences, communicate directly with landlords, complete bookings securely, and receive real-time updates regarding room availability and reservations. It also incorporates features such as OTP-based authentication, online payment support, feedback management, and complaint handling to improve reliability and transparency.

By bringing multiple accommodation-related services together into a single platform, the proposed system aims to simplify the overall process, reduce manual effort, and enhance user convenience. The project serves as a practical solution that benefits students, landlords, and administrators while supporting efficient accommodation management in a modern digital environment.

2. METHODOLOGY

The development of this Hostel and PG Accommodation Management System started with understanding the difficulties faced by students and working professionals while searching for accommodation. Many people spend a lot of time contacting property owners, visiting multiple locations, and comparing different options before finding a suitable place. To address these problems, a web-based system was designed to bring all accommodation-related activities onto a single platform.

2.1 Requirement Analysis

The first stage involved identifying the features that users would expect from such a system. Information was collected by observing existing accommodation websites and discussing common issues faced during room searching and booking. Based on these observations, features such as secure registration, room listing, filtering options, online booking, payment support, and communication facilities were selected for implementation.

2.2 Development of Accommodation Services

After defining the requirements, the accommodation management section was developed. Property owners can add room details including rent, location, facilities, availability, and images. These details are stored in the database and can be updated whenever necessary. This helps users view the latest information without depending on brokers or manual enquiries.

2.3 Booking and User Interaction

When users find a suitable room, they can submit a booking request through the system. The booking process is managed digitally, reducing paperwork and saving time. A communication feature is also included so that users and property owners can discuss accommodation details directly through the platform. Notifications are generated whenever important actions such as bookings or payments take place.

2.4 System Implementation

The application was developed using React.js for the user interface, Node.js and Express.js for backend operations, and MongoDB for data storage. Security was implemented through OTP verification, password encryption, and JWT authentication. After integrating all modules, testing was carried out to verify that the system performed correctly under different scenarios. The final result is a platform that makes accommodation searching and management easier, faster, and more organized.

RESULTS:

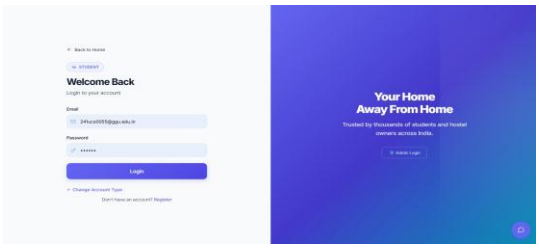

Fig-1: Home Page

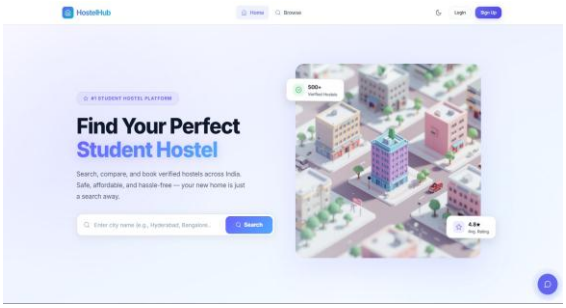

Fig-1.2: Home Page

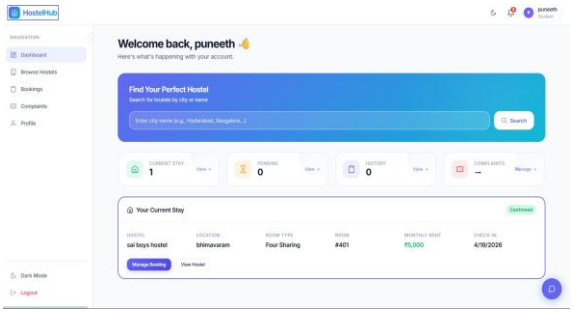

Fig-2: User Dashboard

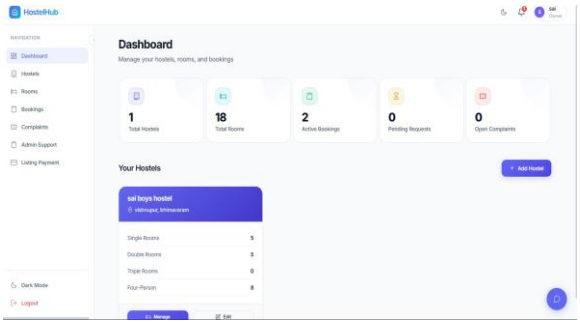

Fig-3: Owner Dashboard

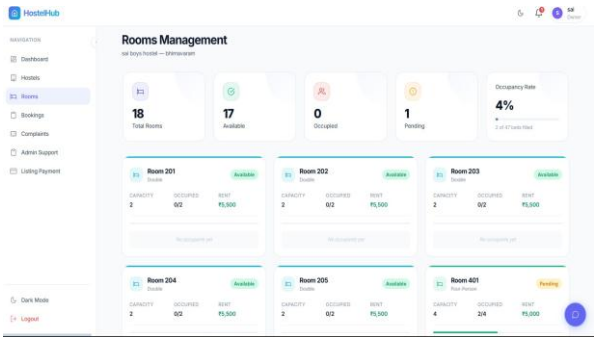

Fig-4: Room Management

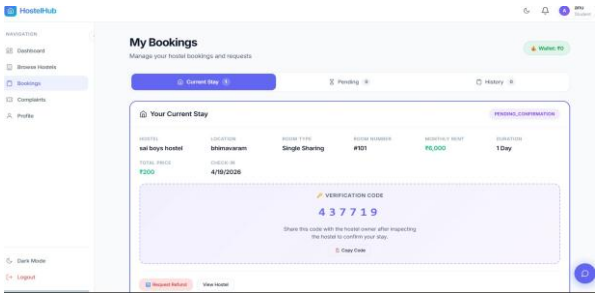

Fig-5: Code Verification

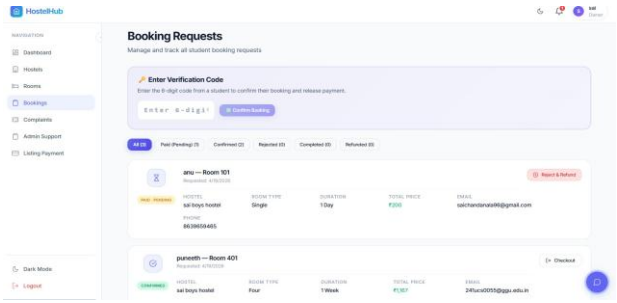

Fig-6: Booking Page

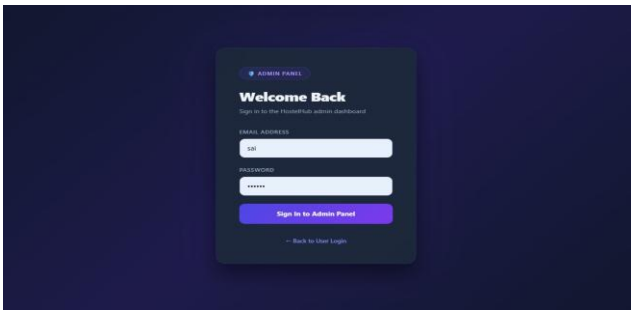

Fig 7: Admin Panel

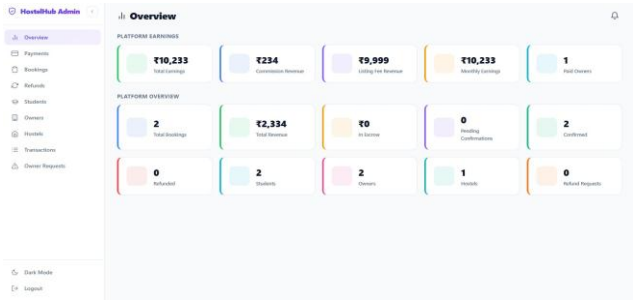

Fig 7.1: Admin Panel

3. DISSCUSSION

The development of the Hostel and PG Accommodation Management System provided valuable insights into the challenges associated with accommodation searching and management. During the study phase, it was observed that many students and working professionals still rely on traditional methods such as personal references, brokers, and direct visits to find suitable accommodation. These methods often consume considerable time and may not always provide reliable or updated information.

The implemented system demonstrates how a centralized digital platform can simplify these activities by bringing together accommodation listings, booking facilities, communication tools, and payment services in one place. Features such as secure authentication, advanced search filters, real-time notifications, and direct interaction between users and property owners contribute to a more convenient and transparent experience.

Throughout the development process, special attention was given to usability and security. Integrating multiple modules into a single platform highlighted the importance of maintaining data consistency and ensuring smooth communication between frontend and backend components. Testing also revealed that users were able to locate accommodation more quickly when filtering options and updated availability information were provided.

Another important observation was the positive impact of feedback and complaint management features. These functions encourage accountability and help improve trust among users. While the current system successfully addresses many common accommodation-related issues, there is still scope for further enhancement through intelligent recommendation systems, mobile applications, and additional automation features.

Overall, the project demonstrates how modern web technologies can be used to improve accommodation management and provide a more organized experience for both tenants and property owners.

4. CONCLUSIONS

The Hostel and PG Accommodation Management System was developed with the objective of making the accommodation search and booking process simpler, faster, and more reliable. The project successfully combines essential services such as user registration, accommodation listing, booking management, secure payments, communication, and feedback handling within a single platform. By reducing dependence on manual processes and scattered sources of information, the system helps users make accommodation decisions with greater confidence and convenience.

The implemented solution provides benefits to students, working professionals, landlords, and administrators by improving accessibility and reducing the effort involved in managing accommodation-related activities. Security measures such as OTP verification, password encryption, and authenticated access further strengthen the reliability of the platform.

The project also demonstrates the practical application of modern web development technologies in solving real-world problems. The completed system meets its intended objectives and offers a foundation for future improvements. Additional features such as AI-based accommodation recommendations, location-aware services, mobile application support, and enhanced analytics can be incorporated in future versions to further improve user experience and system efficiency.

In conclusion, the project presents a practical and effective solution for hostel and PG accommodation management, helping bridge the gap between accommodation seekers and property owners through a secure and user-friendly digital platform.

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