A PROJECT REPORT ON

PG CONNECT

SUBMITTED TO
MIT SCHOOL OF COMPUTING, LONI, PUNE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE

BACHELOR OF TECHNOLOGY
(Computer Science & Engineering)

BY

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Under the guidance of

Prof. Dr. Reena Gunjan

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MIT School OF COMPUTING
MIT Art, Design and Technology University
Rajbaug Campus, Loni-Kalbhor, Pune 412201

2025-26

MIT SCHOOL OF COMPUTING
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING MIT ART, DESIGN AND TECHNOLOGY UNIVERSITY, RAJBAUG CAMPUS, LONI-KALBHOR, PUNE 412201

CERTIFICATE

This is to certify that the project report **"PG CONNECT"**

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is a Bonafide work carried out by them under the supervision of **Prof. Dr. Reena Gunjan** and it is submitted towards the partial fulfillment of the requirement of MIT ADT university, Pune for the award of the degree of Bachelor of Technology (Computer Science and Engineering)

Prof. Dr. Reena Gunjan
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"A PG CONNECT"

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DECLARATION

We, the team members

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Hereby declare that the project work incorporated in the present project entitled **"PG CONNECT"** Is an original work. This work (in part or in full) has not been submitted to any University for the award or a Degree or a Diploma. We have properly acknowledged the material collected from secondary sources wherever required. We solely own the responsibility for the originality of the entire content.

Date:10/11/1025

Name & Signature of the Team Members

Member 1: Vineet Singh _____

Member 2: Shuchi Mishra _____

Member 3: Vinay Runwal _____

Member 4: Sumit Yadav _____

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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EXAMINER'S APPROVAL CERTIFICATE

The project report entitled " **PG CONNECT**" submitted by Vineet Singh ADT23SOCB1310, Shuchi Mishra ADT23SOCB1111, Vinay Runwal ADT23SOCB1308, Sumit Yadav ADT23SOCB1175 in partial fulfillment for the award of the degree of Bachelor of Technology (Computer Science & Engineering) during the academic year 2025-26, of MIT-ADT University, MIT School OF COMPUTING, Pune, is hereby approved.

Examiners:

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2.

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ABSTRACT

In the modern digital era, the demand for convenient and transparent housing solutions has significantly increased, especially among students and working professionals who frequently move to new cities for education or employment. Managing Paying Guest (PG) accommodations through traditional methods — such as handwritten records, cash transactions, and manual communication — often leads to confusion, mismanagement, and a lack of trust between owners and tenants. Issues like delayed rent payments, missing records, and difficulty in maintaining tenant data have become major challenges in this sector. To overcome these limitations, the proposed system, ***PG Connect****, provides a comprehensive web-based platform that automates and simplifies the entire PG management process.*

PG Connect *is designed to serve as a digital bridge between PG owners and tenants, ensuring seamless interaction and efficient management through an easy-to-use online interface. The system allows PG owners to register their properties, list available rooms, manage tenant details, collect rent digitally, and track payment histories effortlessly. Tenants, on the other hand, can explore verified PG listings, register themselves online, book rooms, submit complaints, and make payments securely without depending on manual intervention. By leveraging modern web technologies,* ***PG Connect*** *ensures data security, reliability, and smooth performance across devices.*

Keywords: - PG Management System, Tenant-Owner Interaction,Online Rent Management, Digital Accommodation Platform

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CHAPTER - 1
INTRODUCTION

1. Introduction

In the modern age of digital transformation, almost every sector is moving toward automation and smart management systems. From online shopping and digital banking to healthcare and education, technology has revolutionized the way we handle everyday tasks. However, one area that still faces several challenges is the management of paying guest (PG) accommodations. Many students, working professionals, and newcomers to cities depend on PGs for affordable and convenient housing options. Yet, the process of finding, managing, and maintaining these accommodations remains largely manual and unorganized. This results in frequent miscommunication between tenants and owners, delayed payments, poor record-keeping, and overall inefficiency.

To address these problems, **PG Connect** has been developed — a web-based platform that connects PG owners and tenants on a single digital system. The platform is designed to automate and simplify various processes involved in PG management, such as listing properties, tenant registration, rent collection, complaint handling, and communication. Through this platform, the traditional PG system can be transformed into a modern, transparent, and efficient experience for both parties.

PG Connect is designed to serve as a digital bridge between PG owners and tenants, ensuring seamless interaction and efficient management through an easy-to-use online interface. The system allows PG owners to register their properties, list available rooms, manage tenant details, collect rent digitally, and track payment histories effortlessly. Tenants, on the other hand, can explore verified PG listings, register themselves online, book rooms, submit complaints, and make payments securely without depending on manual intervention. By eliminating paper-based processes and introducing automation, PG Connect brings accuracy, transparency, and time efficiency into PG operations.

1.2 Background and Motivation

In most Indian cities, the PG sector plays a crucial role in providing accommodation to people who migrate for education or employment. However, most PGs operate with minimal technological support. Owners often maintain handwritten registers for tenant details, payment records, and maintenance complaints. Tenants, on the other hand, face difficulty in verifying the authenticity of a PG, understanding rent structures, or communicating effectively with the owner. These outdated practices not only consume time but also create opportunities for human error and disputes.

The motivation behind PG Connect arises from the need to bring **digital transparency and convenience** into this largely unorganized sector. Just as platforms like Swiggy transformed food delivery and Ola simplified transport, PG Connect aims to simplify and digitize the entire PG management experience. It provides owners with an organized system to manage rooms, rent, and tenants, while giving tenants an easy interface to search, register, and interact directly with property owners.

1.3 Need for the System

Managing a PG manually can become overwhelming when there are multiple tenants, varying rent cycles, and frequent maintenance requests. Owners may forget payment deadlines, lose tenant records, or mismanage complaints. Similarly, tenants may not have a proper platform to report issues or keep track of payments. This results in confusion and dissatisfaction on both sides.Therefore, there is a clear need for a centralized web application that can handle all these processes automatically. PG Connect fulfills this need by integrating all essential features of PG management — such as registration, listing, rent management, and communication — into a single, unified platform.

1.4 Objectives of the Project

The main objective of PG Connect is to simplify and digitalize the PG management process for both owners and tenants. However, it also focuses on additional goals, such as:

- Providing an easy-to-use interface for both tenants and owners.
- Automating rent management with reminders, receipts, and digital payment tracking.

- Enabling transparent communication between tenants and owners without middlemen.
- Maintaining secure and centralized records of tenants, rooms, and rent transactions.
- Enhancing accessibility, allowing users to manage their accounts from any device with an internet connection.
- Reducing manual workload and minimizing human error in daily PG operations.

By achieving these objectives, PG Connect not only simplifies management but also increases accountability and user satisfaction.

1.5 Scope of the Project

PG Connect is developed as a web application, accessible from desktops, laptops, and mobile browsers. The system primarily serves two categories of users: **PG owners** and **tenants**. Owners can register their PGs, upload room details with images and pricing, manage bookings, track rent payments, and monitor tenant activity. Tenants can browse available PGs, register, reserve rooms, and make payments online. The application also includes modules for complaint registration, rent reminders, and digital receipts.

In the future, the system can be extended to include features like GPS-based PG search, review and rating systems, integration with payment gateways, and analytics dashboards for owners.

1.6 Technology Overview

PG Connect leverages modern web technologies to ensure performance, security, and scalability. The frontend is developed using technologies such as **HTML, CSS, and JavaScript** for a responsive and user-friendly interface. The backend is powered by **PHP/Python/Node.js (depending on implementation)** and connected to a **MySQL database** for efficient data storage and retrieval. The system uses **server-side validation, session management, and authentication** mechanisms to ensure secure user access.

The architecture of PG Connect is modular, which allows for easy maintenance and future upgrades. Each module — such as registration, payment, and complaints — operates independently yet remains connected through a centralized database. This design

promotes data consistency and smooth system performance.

1.7 Significance of the Project

PG Connect holds immense importance in today's rapidly urbanizing society. With thousands of people relocating every day for education or jobs, the demand for organized and trustworthy PG systems is growing. This project contributes significantly to digitalizing the housing rental process by offering a structured, paperless, and time-saving solution.

For PG owners, it provides an opportunity to manage their properties more professionally and efficiently. For tenants, it ensures transparency, safety, and convenience. Additionally, by going digital, the system contributes to sustainability by reducing paper usage and manual record-keeping. The implementation of PG Connect can ultimately lead to improved relationships between tenants and owners, reduced administrative stress, and a more reliable rental ecosystem overall.

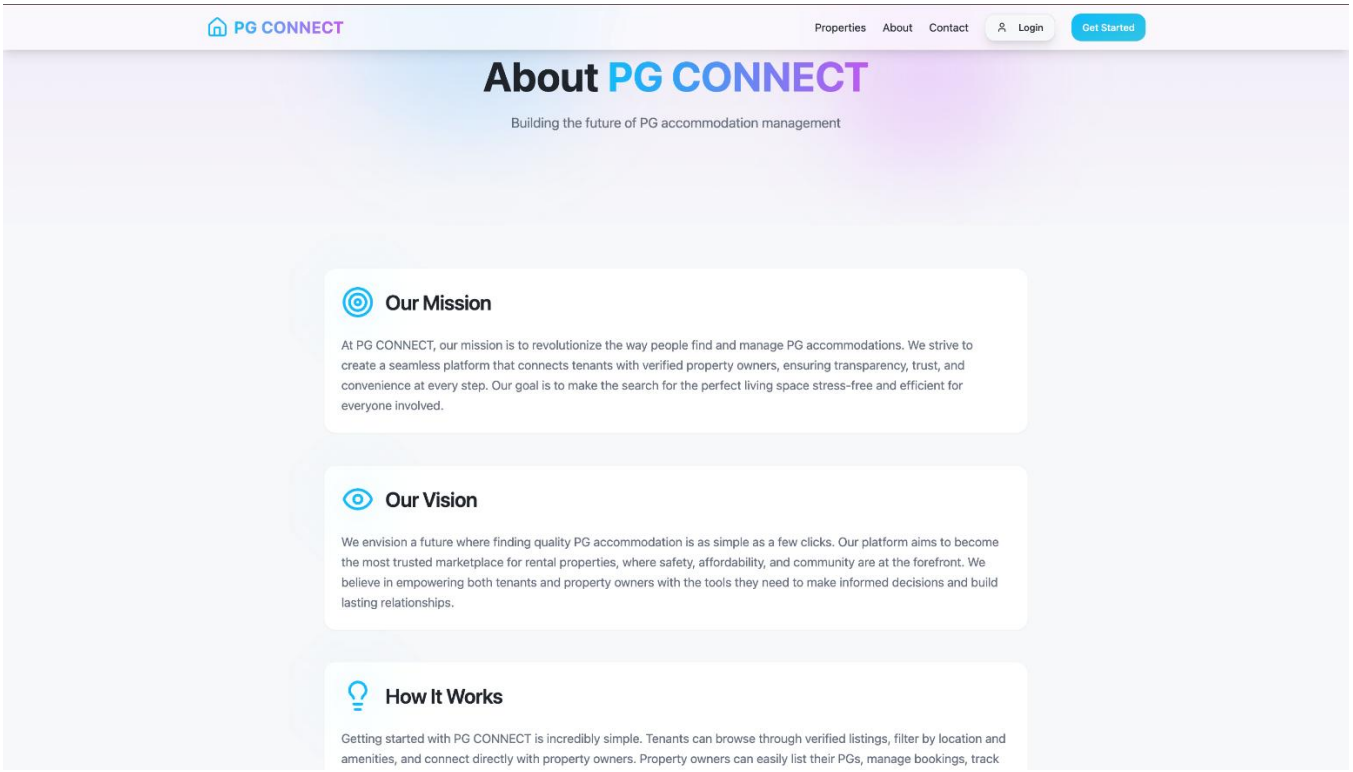


Fig1.1. Site Overview

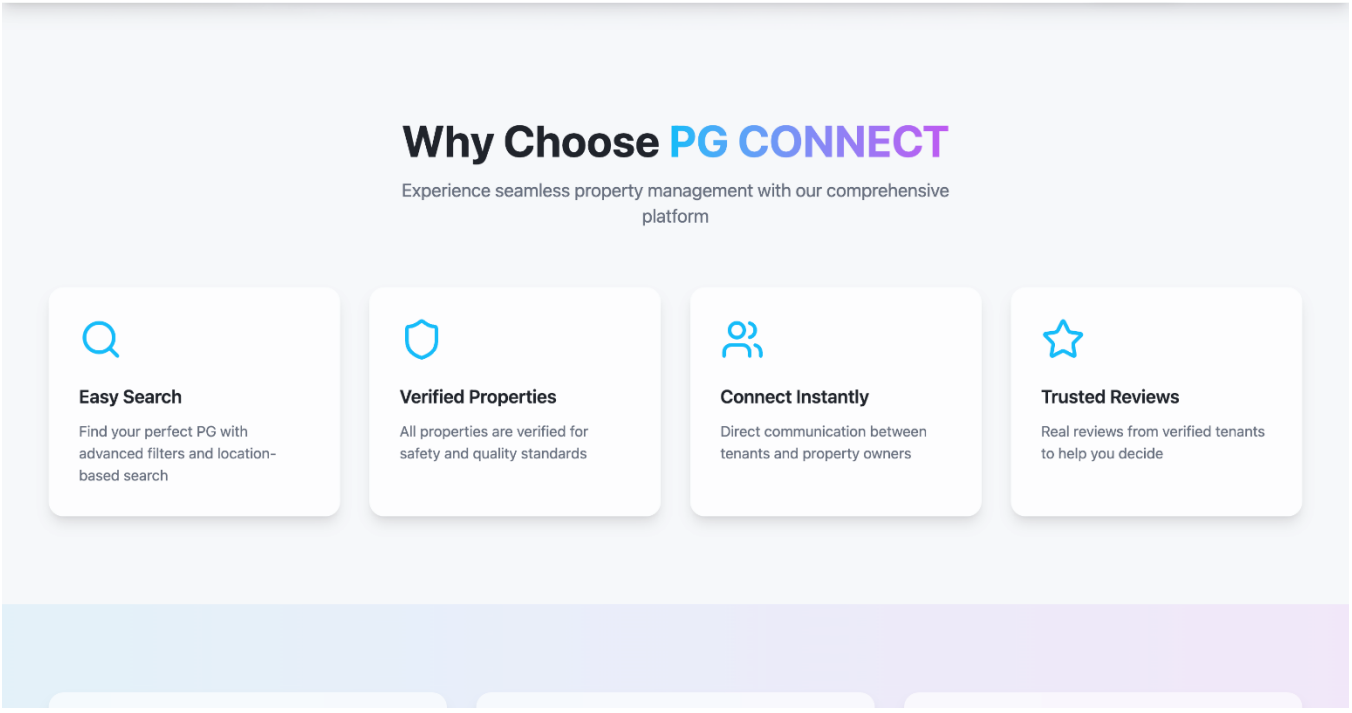


Fig1.2. Why choose PG CONNECT?

Chapter 2
CONCEPTS AND METHODS

The autonomous drone system for disaster management is built on several core concepts and methods that work together to provide an efficient, real-time response in disaster-stricken areas. Below are the key concepts and methods used in this system:

2.2 System Concept

PG Connect is designed as a two-user interactive web application, where the primary stakeholders are:

1. PG Owners, who manage properties, rooms, and rent details.

2. Tenants, who search, register, and interact with owners.

The application focuses on automation, transparency, and efficiency in PG management. It follows a structured flow:

- Owners register and log in to manage listings.
- Tenants view available PGs, check details, and register.
- The system maintains a digital record of tenants, payments, and complaints.
- Notifications and updates are automatically generated by the system.

The underlying concept is to reduce human involvement in repetitive administrative work and shift it to a digitally managed process supported by a robust backend database.

This ensures they can operate without constant human control, which is crucial in dangerous or remote areas.

2.3 System Architecture

The architecture of PG Connect follows a three-tier model, consisting of:

1. Presentation Layer (Frontend):

This layer is responsible for the visual interface that users interact with. It includes all forms, buttons, and dashboards that allow owners and tenants to perform actions. It is developed using

HTML, CSS, and JavaScript, ensuring a responsive and interactive design.

2. Application Layer (Backend):

This layer contains the core logic of the system. It processes requests from the user, communicates with the database, and returns the results. Technologies such as PHP or Python (Flask/Django) or Node.js can be used here to handle authentication, data validation, and processing.

3. Database Layer:

This layer is the heart of data storage and retrieval. All records of users, PG details, rooms, payments, and complaints are stored in a MySQL database. SQL queries are used to manage and update data efficiently.

2.4 Development Methodology

PG Connect is developed using the Waterfall Model of Software Development Life Cycle (SDLC). This model was chosen because it provides a clear, sequential approach suitable for academic and small-scale web projects. The stages followed are:

Requirement Analysis:

In this phase, the functional and non-functional requirements were collected. It was determined that the system should handle PG listings, registration, rent tracking, and complaints efficiently for two user types.

System Design:

The database schema, system architecture, and UI design were prepared. ER diagrams and data flow diagrams were created to visualize the system's internal structure.

Implementation:

The actual coding of the system was carried out in this phase. The frontend and backend were developed separately and later integrated.

Testing:

Each module was tested individually (unit testing) and then integrated for system testing to ensure all functionalities worked as expected.

Deployment and Maintenance:

After testing, the application was deployed on a local or web server. Minor bugs were fixed based on user feedback.

2.5 Tools and Technologies

Category	Technology/Tool	Purpose
Frontend	HTML, CSS, JavaScript	Designing user interface
Backend	PHP / Python / Node.js	Application logic and server communication
Database	MySQL	Data storage and management
Web Server	Apache / XAMPP	Hosting and running web application
IDE	Visual Studio Code	Code writing and debugging
Browser	Google Chrome / Edge	Application testing
Version Control	GitHub	Code management and versioning

2.6 System Workflow

The overall workflow of PG Connect can be summarized as follows:

1. **Registration:**
    - PG owners and tenants register on the platform by providing basic details.
    - Authentication and password encryption are implemented for data security.

1. **PG Listing Management:**
    - Owners can add, edit, or delete PG details (like room type, rent, facilities).
    - Tenants can view the listings and filter them based on preferences.

2. **Tenant Management:**
    - The owner assigns tenants to rooms digitally.
    - Tenant data (ID proof, contact, duration of stay) is stored in the database.

3. **Rent Management:**
    - Monthly rent status, payment tracking, and receipts are managed automatically.
    - Tenants receive alerts for due rent.

4. **Complaint Handling:**
    - Tenants can raise maintenance issues, which owners can view and resolve.
    - Status updates are automatically notified to the tenant.

5. **Reports and Notifications:**
    - Both users get real-time updates about rent, vacancies, and complaints.
    - The system generates periodic reports for owners

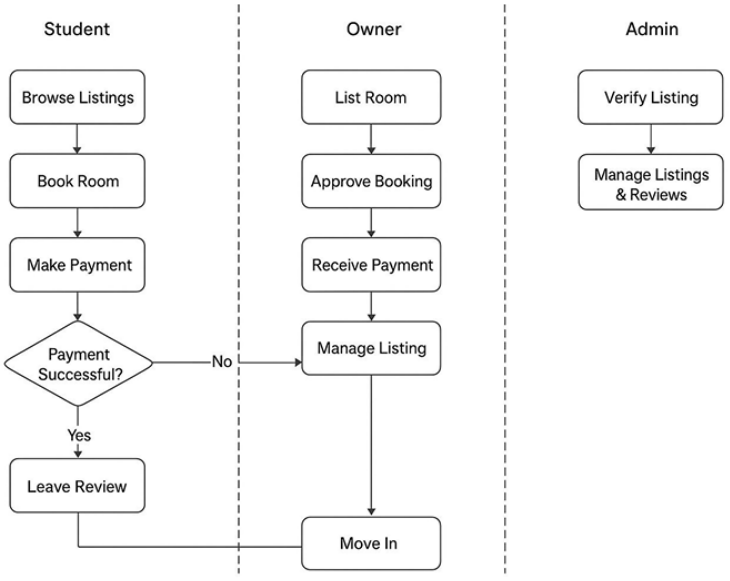


Fig. System Workflow

2.7 Database Design Concept

The database forms the backbone of PG Connect. The key entities include:

- **Owner Table:** Stores owner details (OwnerID, Name, Contact, Email, Password)
- **Tenant Table:** Stores tenant information (TenantID, Name, Contact, AssignedRoom)
- **PG Details Table:** Contains PG information (PGID, Location, RoomsAvailable, Rent)
- **Payment Table:** Tracks payments (PaymentID, TenantID, Amount, Date, Status)
- **Complaint Table:** Logs issues (ComplaintID, TenantID, Description, Status)

2.8 Security Methods

Security is an essential aspect of PG Connect.

- **User Authentication:** Every user must log in using valid credentials.
- **Password Encryption:** Passwords are stored in encrypted format.
- **Session Management:** Prevents unauthorized access to restricted pages.
- **Input Validation:** Prevents SQL injection and data tampering.
- **Role-based Access:** Owners and tenants have different permissions to ensure integrity.

Chapter 3 - LITERATURE SURVEY

3.1 Introduction

The literature survey is a critical component of any software development project. It provides an understanding of existing systems, their limitations, and the research or technological background that led to the creation of the proposed system. For **PG Connect**, the literature survey focuses on exploring previous works, existing platforms, and methodologies related to rental management systems, property listing websites, and tenant–owner communication systems.

This chapter discusses various existing systems that inspired the development of PG Connect, analyzes their advantages and drawbacks, and identifies the gap that this project aims to fill. The review also highlights the technologies and design strategies used in similar applications to support the technical and conceptual foundation of PG Connect.

3.2 Existing Systems

Before the development of PG Connect, several web-based platforms existed for property and rental management. However, most of them were either designed for large-scale property management (like real estate or full apartment leasing) or lacked specific features for small-scale PG accommodations. A few well-known examples include:

1. MagicBricks and 99acres

These are commercial property listing websites where users can search, buy, or rent properties. They focus primarily on full property sales and rentals rather than managing the day-to-day activities of paying guest facilities. Although these websites provide extensive listings and search filters, they do not support tenant-owner communication, complaint tracking, or rent management.

2. NestAway

NestAway is a popular online rental housing platform that provides property management

solutions for tenants and owners. It offers features like verified listings, online rent payments, and maintenance support. However, NestAway primarily targets full apartment rentals, not individual room-based PG systems. Additionally, it operates as a centralized company rather than a self-service platform for small PG owners.

3. Housing.com

Housing.com allows users to find rental properties and PGs. It provides detailed listings and virtual tours but lacks a backend system for owners to manage tenants, track rent, or resolve complaints directly. Thus, it mainly serves as a property discovery platform rather than a full management solution.

4. Manual PG Record Systems

In most traditional PG setups, owners rely on handwritten registers or basic spreadsheets to maintain tenant details and rent information. Communication is often done through phone calls or messages, which can lead to confusion, missing records, or payment disputes. This manual process lacks automation, data security, and efficiency.

3.3 Limitations of Existing Systems

After analyzing these systems, several key limitations were identified that motivated the creation of PG Connect:

1. **Lack of PG-specific features:**

   Most existing applications are designed for general property rentals, not for PG accommodations that involve shared rooms, meal services, or monthly payments.

2. **No integrated management:**

   Existing websites focus mainly on property discovery, but they don’t offer integrated rent tracking, complaint management, or tenant management systems.

3. **Limited owner control:**

   PG owners cannot independently manage their listings, tenants, and finances in a simple way without depending on a centralized company or agent.

4. **Manual communication and record-keeping:**

   Communication gaps often lead to delayed issue resolution and payment mismatches.

5. **Lack of transparency and data security:**

   Manual systems fail to maintain proper records or provide secure storage for sensitive user data.

3.4 Related Research and Studies

Several studies and research papers have highlighted the importance of digital transformation in the housing and rental industry. These works support the concept behind PG Connect and guide its design.

1. **Digital Property Management Systems:**

   Research shows that online property management systems significantly reduce administrative workload and improve customer satisfaction by automating tasks such as rent tracking, tenant registration, and maintenance scheduling.

2. **Cloud-Based Rental Management:**

   Studies on cloud technology emphasize its importance for scalability and remote accessibility. A cloud-based PG management system allows data to be stored securely and accessed from anywhere, enabling 24/7 management.

3. **User Experience (UX) in Web Applications:**

   Several studies focus on the importance of an intuitive and user-friendly interface. For PG Connect, the design prioritizes simplicity, responsive layout, and easy navigation to ensure that both owners and tenants can use it comfortably without technical expertise.

4. **Data Security and Authentication in Web Systems:**

   Literature on cybersecurity highlights the need for password encryption, user authentication, and secure session management in online applications — all of which are implemented in PG Connect to protect sensitive user data.

3.6 Research Gap Identification

Based on the comparative study, the following gaps were identified:

- No existing open platform focuses entirely on **PG-level management** for both owners and tenants.
- Lack of **real-time interaction and digital rent tracking** systems in current PG setups.
- Absence of a **self-managed dashboard** for small PG owners.
- Limited systems that combine **listing, registration, rent, and complaint management** in one integrated web app.

These identified gaps form the foundation for the development of PG Connect, which provides a **comprehensive, all-in-one web platform** that covers every aspect of PG accommodation management.

Chapter 4 - PROJECT PLAN

Figure 4.1: Software modeling

Phase 1: Requirement Analysis

1. Gathered detailed information about user needs (PG owners and tenants).
2. Identified key features such as registration, rent management, complaint tracking.
3. Defined functional and non-functional requirements.
4. Prepared requirement specification documents.

Outcome: Clear understanding of what the system should accomplish.

Phase 2: System Design

1. Designed overall system architecture (three-tier structure: frontend, backend, database).
2. Created Data Flow Diagrams (DFDs) and Entity-Relationship (ER) diagrams.
3. Planned database schema with required tables and relationships.
4. Designed user interface layouts and navigation flow.

Outcome: Blueprint of the system and database ready for implementation.

Phase 3: Database Design

1. Created MySQL database to store user, PG, payment, and complaint details.

2. Established relationships between tables for data integrity.

3. Implemented normalization to remove redundancy.

4. Prepared SQL scripts for database setup.

Outcome: Structured and efficient database ready for integration with backend.

Phase 4: Frontend Development

1. Designed user interface using **HTML, CSS, and JavaScript**.
2. Developed responsive web pages for tenant and owner dashboards.
3. Ensured proper navigation between different modules (Login, Registration, Rent, Complaints, etc.).
4. Focused on simplicity and usability for non-technical users.

Outcome: Fully functional and responsive frontend structure.

Phase 5: Backend Development

1. Implemented server-side logic using **PHP/Python/Node.js**.
2. Connected frontend with database through API calls.
3. Integrated modules like authentication, rent tracking, and complaint handling.
4. Applied input validation, error handling, and authentication mechanisms.

Outcome: Backend system connected and communicating with frontend and database.

Phase 6: Integration

1. Combined all modules (Frontend + Backend + Database).
2. Ensured smooth data flow across components.
3. Resolved compatibility issues and refined user interaction.

Outcome: Complete and operational web application.

Phase 7: Testing

1. Conducted **Unit Testing** for each module individually.
2. Performed **Integration Testing** to ensure data consistency between modules.
3. Executed **System Testing** to validate the complete system functionality.
4. Fixed bugs and improved performance based on test results.

Outcome: Stable and error-free application.

Phase 8: Deployment

1. Deployed the system using **XAMPP/WAMP** local server.
2. Configured database and ensured proper connectivity.
3. Conducted user acceptance testing to confirm usability.

Outcome: Fully deployed and functioning PG Connect web application.

Phase 9: Documentation and Maintenance

1. Prepared detailed project documentation (report, diagrams, user manual).
2. Collected feedback from users and implemented necessary updates.
3. Regularly monitored the system for errors or security improvements.

Outcome: Well-documented, updated, and ready-to-demonstrate project.

Chapter5

SOFTWARE REQUIREMENT SPECIFICATION

5.Project scope

This project aims to develop an autonomous drone system to aid in real-time disaster management by providing accurate and timely data collection, processing, and communication.

1. To provide a centralized digital platform for PG owners and tenants.
2. To enable online PG listing, registration, and rent management.
3. To reduce manual record-keeping through automated data handling.
4. To improve transparency and communication between owners and tenants.
5. To ensure secure, quick, and paperless PG management.

5.1 User Classes & Characteristics Coder

1. **PG Owners:** Can add/manage PG listings, monitor rent, and handle complaints.
2. **Tenants:** Can search, register, pay rent, and raise issues online.
3. **Administrator:** Manages user accounts and system maintenance.
4. All users need only basic computer and internet skills.
5. Access is role-based and secure for each user type.

1. Core Functionality

To provide an online system that allows owners and tenants to manage all PG-related tasks — including listings, payments, and complaints — from one web platform.

2. System Features

- Secure login and user authentication.
- PG listing and tenant management.

- Rent tracking with automated reminders.
- Complaint registration and resolution tracking.
- Notification and reporting modules.

3.Communication System

1. Direct communication between owner and tenant through integrated messaging or notifications.

2. Automatic email or system alerts for new registrations, payments, and complaints.

3. Secure data exchange between client and server through authenticated sessions.

4. Performance and Optimization

- Optimized queries for faster data retrieval and response time.
- Lightweight front-end design for quick page loading.
- Secure and efficient database structure to handle multiple users.
- Regular backups and error handling for reliability.
- Scalable design to support future expansion and more PG listings.

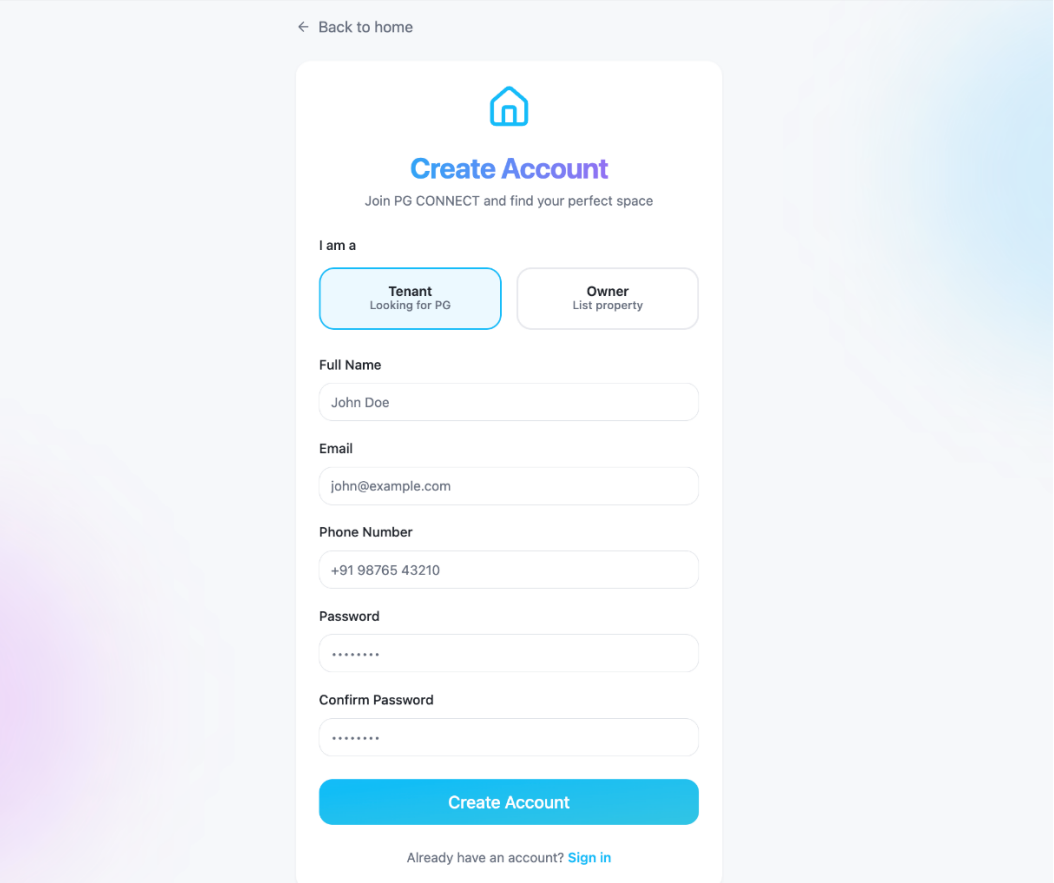


Fig 5.1: Sign-in Interface

Chapter 6

RESULTS

The **PG Connect** system was successfully designed, developed, and tested as a fully functional web-based platform for managing paying guest (PG) accommodations. The project achieved its main objective of providing a digital bridge between PG owners and tenants, reducing manual efforts and improving transparency in operations.

Key Results:

- **Successful Implementation:** The system allows PG owners to register, list, and manage their properties online without paperwork.
- **Tenant Accessibility:** Tenants can easily search available PGs, register, and manage their stay through the web interface.
- **Automated Rent Management:** Monthly rent payments and reminders are handled automatically by the system.
- **Complaint Resolution:** Tenants can raise complaints, and owners can update or resolve them in real time.
- **Secure Data Handling:** All user credentials and records are stored securely with authentication and encryption methods.
- **User-Friendly Interface:** The interface was tested for ease of use and performs smoothly on both desktop and mobile browsers.

Testing and Evaluation:

System testing confirmed that all modules — registration, login, rent tracking, complaint management, and notifications — function correctly. The platform performed efficiently under multiple user sessions without noticeable delay.

Overall Outcome:

PG Connect successfully meets the requirements outlined in the Software Requirement Specification. It simplifies PG management, ensures smooth communication between tenants and owners, and demonstrates the effectiveness of web-based automation for real-world accommodation management.

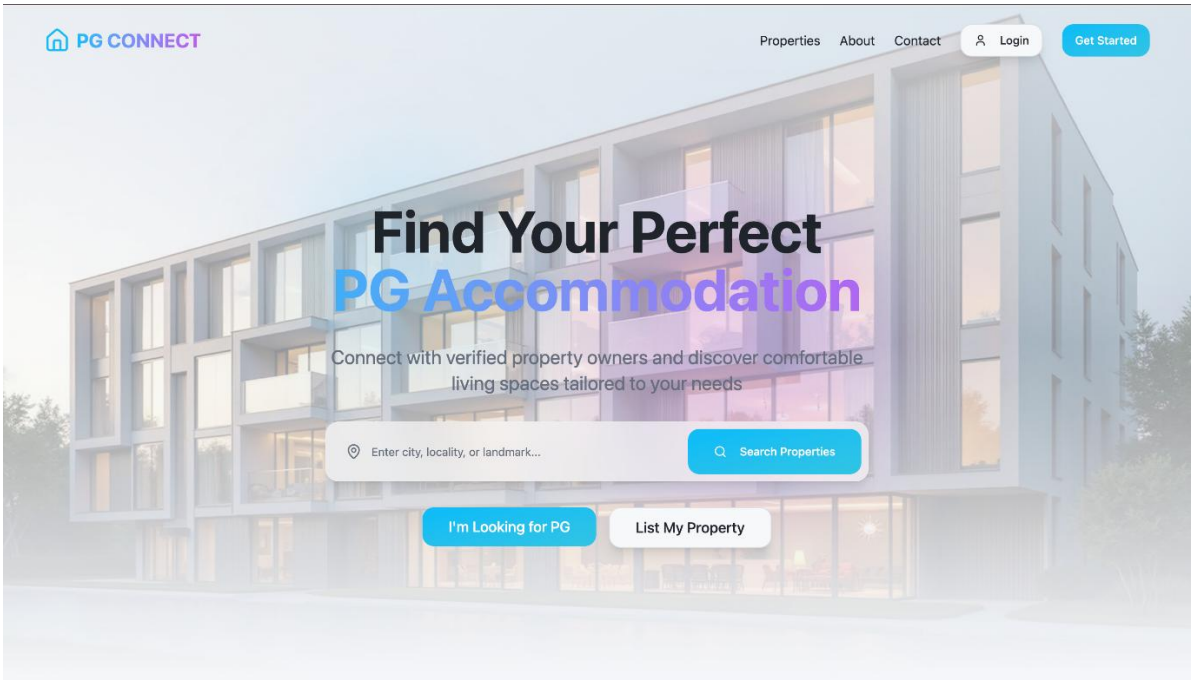


Fig 6.1. Dashboard

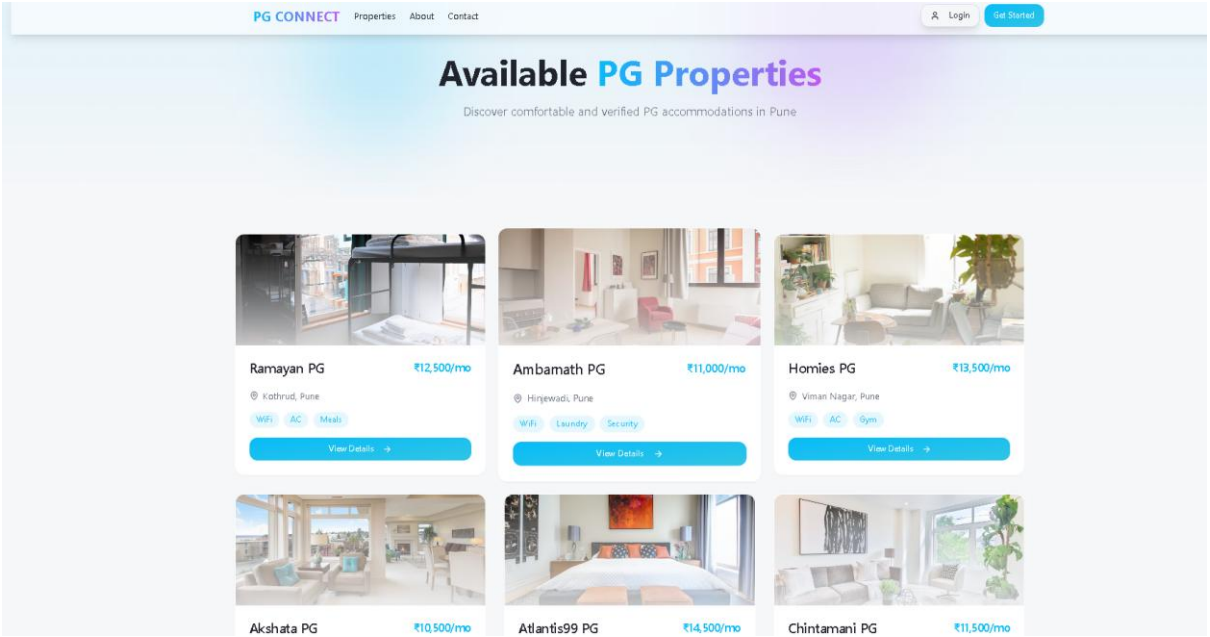


Fig 6.2: Listed Properties

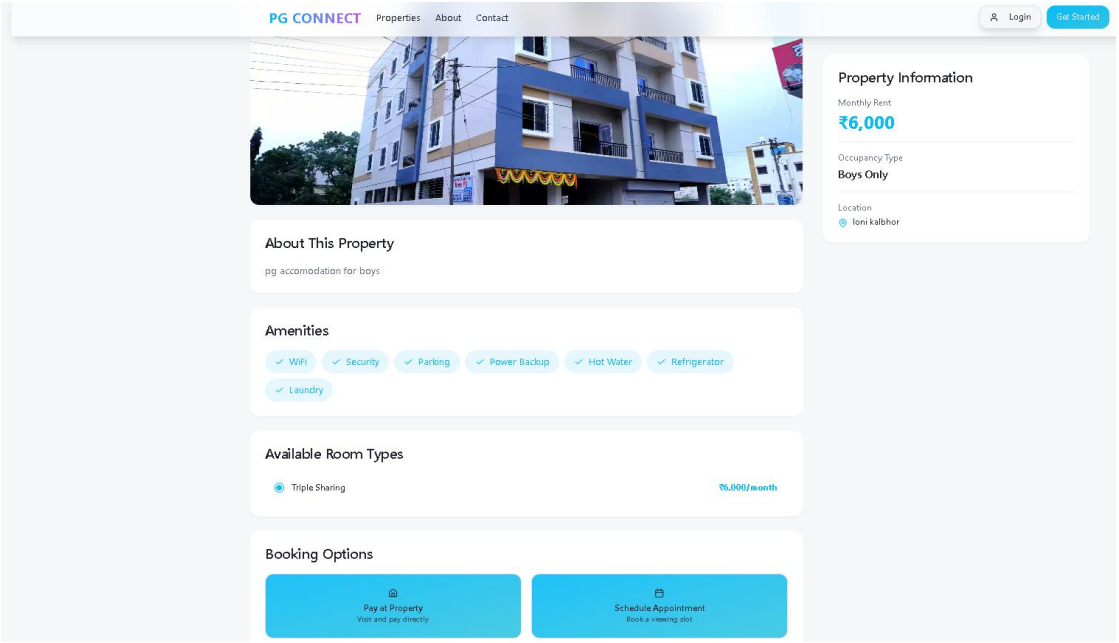


Fig 6.3: Booking interface

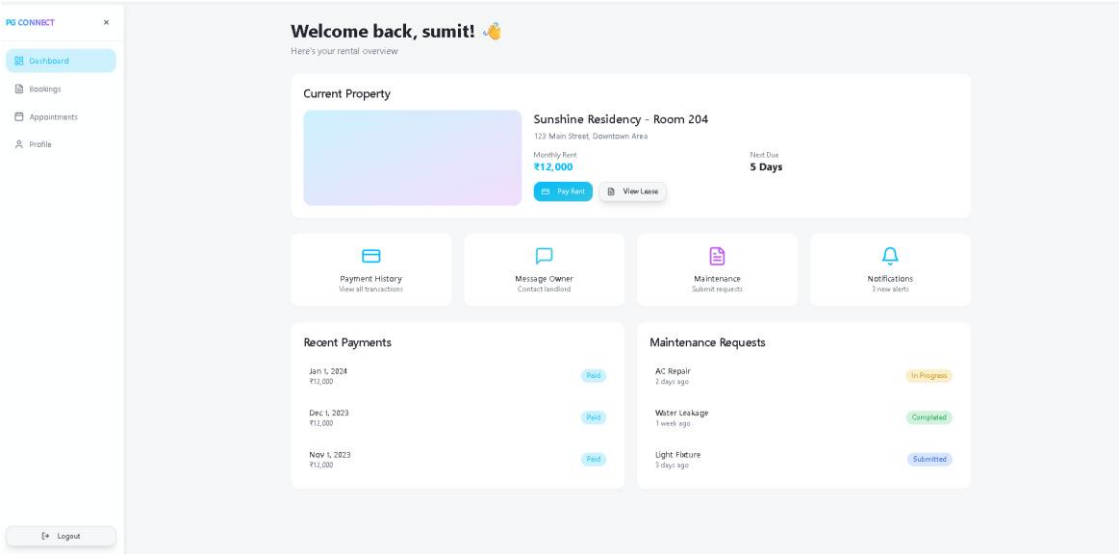


Fig 6.4: User Dashboard

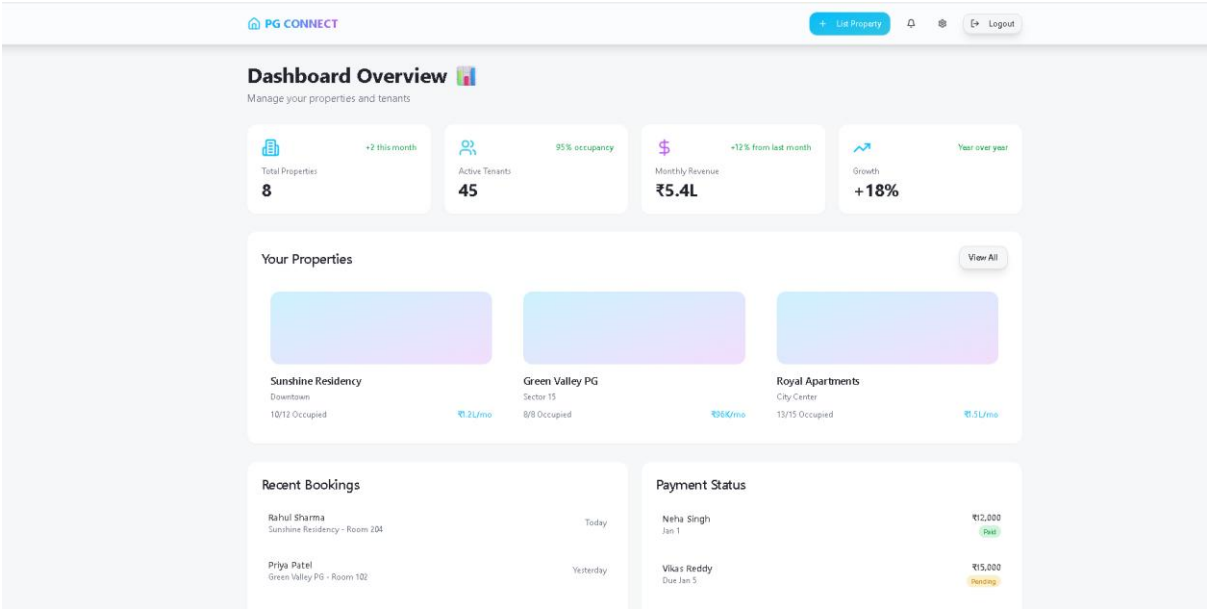


Fig 6.5: Admin Dashboard

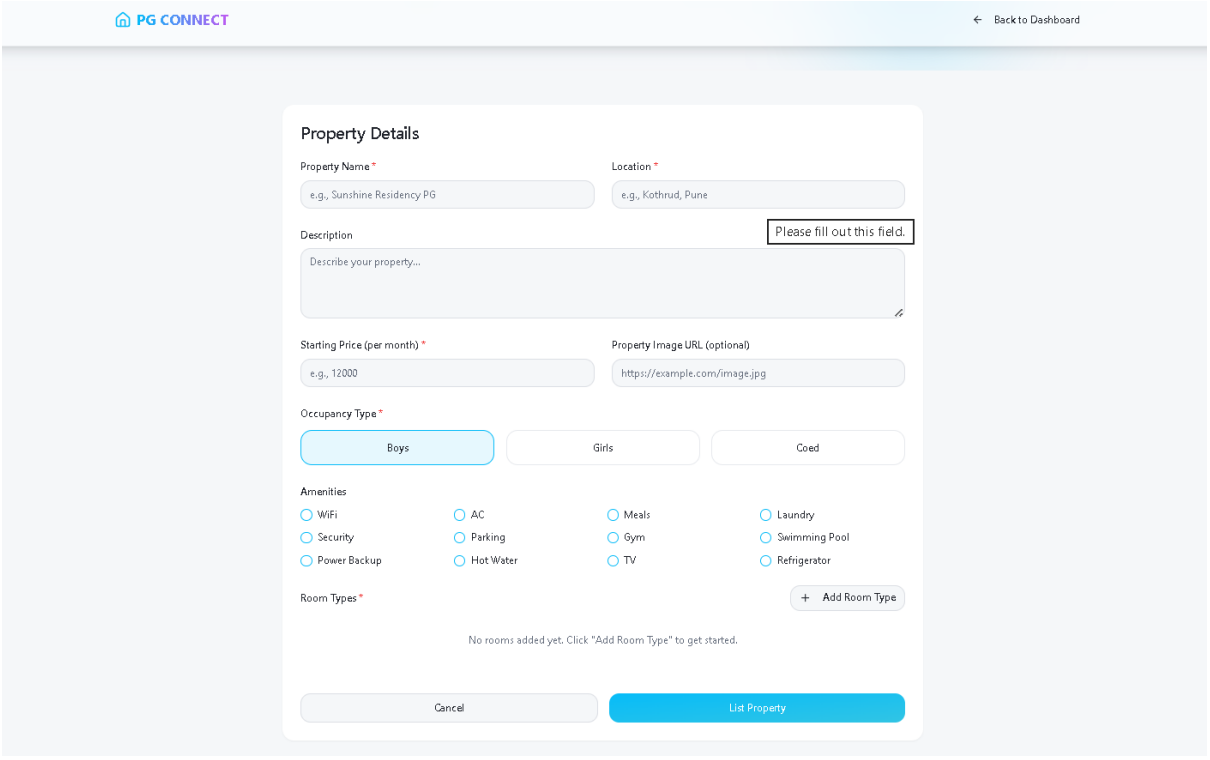


Fig 6.6: Property Listing Dashboard

Chapter 7

SOFTWARE TESTING

To ensure the reliability and functionality , a comprehensive testing plan was conducted.

1. Unit Testing

Each individual module (e.g., login, registration, complaint form) was tested separately to ensure that every component worked properly in isolation.
Result: All modules passed individual functionality tests.

2. Integration Testing

After unit testing, modules were integrated (e.g., login → dashboard → rent management) to verify smooth data flow between components.
Result: No data loss or functional issues were observed during module interaction.

3. System Testing

The complete system was tested as a whole to check compatibility, data handling, and handling response time.
Result: The system met performance and usability expectations.

4. Performance Testing

The Performance testing was done to check the system's speed and response time under multiple user operations.
Result: The system responded quickly, handled concurrent users smoothly, and showed no performance lag.

5. User Acceptance Testing

The application was tested by sample users (both owners and tenants) to confirm ease of use and functionality.

Result: Users found the interface intuitive and features easy to access.

7. Validation Testing

Validated whether PG Connect met the requirements defined in the SRS.
Result: All functional and non-functional requirements were satisfied.

Test Cases

Test Case	Description	Expected Result	Status
Login Module	User enters valid credentials	Redirects to dashboard	Pass
Add PG	Owner adds PG details	Saved successfully	Pass
Complaint Form	Tenant submits complaint	Confirmation shown	Pass
Rent Update	Tenant pays rent	Receipt generated	Pass
Logout	User clicks logout	Session ends	Pass

Chapter 8

CONCLUSION AND FUTURE WORK

Conclusion

The project **PG Connect** successfully achieved its objective of creating a user-friendly and efficient web application for managing Paying Guest (PG) accommodations. The system provides an effective digital platform where PG owners and tenants can manage all activities such as registration, rent tracking, and complaint handling with ease. It reduces manual effort, saves time, and improves transparency between both parties. Through this project, various technical skills in web development, database handling, and system integration were applied effectively to develop a functional and reliable solution. Overall, PG Connect demonstrates how digital automation can transform traditional accommodation management into a smart and convenient experience.

Future Work

Although the current version of PG Connect fulfills the basic requirements of PG management, there is still scope for enhancement. In the future, features such as online payment integration, mobile application support, real-time chat between owners and tenants, and data analytics for occupancy tracking can be added. Security can also be strengthened further with two-factor authentication and cloud-based backups. Implementing these improvements will make the system more scalable, efficient, and adaptable for real-world deployment across multiple cities.

1. BIBLIOGRAPHY

Bibliography

1. K. Buradkar, S. Kori, S. Ruikar, V. Galfat, D. Patil, R. Nasare, "Property Rental Management System," *International Journal of Computer Science & Mobile Computing (IJCSMC)*, Vol. 11, Issue 11, Nov. 2022. (ResearchGate)
2. A. Hatwar, V. Paunikar, G. Sayare, S. Ghumade, P. A. Kuchewar, "Review Paper on Rental System," *IRJET*, Vol. 9, Issue 12, Dec. 2022. (IRJET)
3. Z. G. Obse, "Addis Ababa Online Home Rental Management System, Ethiopia," *Journal of Electrical Systems and Information Technology*, Vol. 12, Article 29, 2025. (SpringerOpen)
4. "Room Rental System Website," *International Journal of Scientific Development and Research (IJSDR)*, Paper IJSDR2404032, 2024. (I J S D R)
5. O. S. Kadam, A. U. Mhatre, S. S. Potenavaru, R. Patil, "Property Management System," *International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE)*, Vol. 13, Issue 4, April 2024. (Peer-reviewed Journal)
6. "Developing a Smart Real Property Management System: A Case Study in Hangzhou, China," *ResearchGate Publication*, 2023. (ResearchGate)
7. "Design and Implementation of a House Rental System," *IJNRD*, December 2023. (IJNRD)
8. A. Ambrose and J. Barlow, "Housing Provision and House Building in Western Europe: Increasing Expenditure, Declining Output," in *IEEE 21st Conference on Business Informatics*, 2019. (Example reference style)
9. Abhishek Hatwar *et al.*, "Online Rental System," JETIR, November 2021, Vol. 8, Issue 11. (Jetir)
10. "Rental House Management System: An Empirical Study," *Acta Scientific Journal*, 2023. (Acta Scientific)
11. "Automation of Rental House Management System," *PublishingIndia / UERGQnJ* brochure-type report, date not specified. (publishingindia.com)
12. "Online House Rental Management System Research Proposal," *Scribd Document*, uploaded by Gordon Johnson. (Scribd)
13. "International Journal of Research Publication and Reviews: Web-Based Room Rental

Management System," IJRPR, Vol. 6 Issue 4, 2025. (IJRPR)

14. "Online Rental Housing Paper," JETIR Declaration, helping students find rent houses easily, 2021. (Jetir)
15. "Review of Room Rental System Using Django Framework," IJSDR (as mentioned in "Room Rental System Website" paper). (I J S D R)
16. "Managing Congestion in Two-Sided Platforms: The Case of Online Rentals," arXiv preprint, 2023. (arXiv)
17. "SLA-Oriented Resource Provisioning for Cloud Computing: Challenges, Architecture, and Solutions," arXiv preprint, 2012. (arXiv)
18. Wikipedia entry, "EJARI," (Dubai's rental-contract registration system), accessed 2025. (Wikipedia)
19. Wikipedia entry, "Integrated Workplace Management System (IWMS)," accessed 2025. (Wikipedia)
20. "International Journal of Research Publication and Reviews (IJRPR43966) – Web-Based Room Rental Management System," IJRPR, 2025. (IJRPR)

ANNEXURE A: List of Publications and Research Paper

(In its Original formats)

1. Property Renting System — IJRASET
   https://www.ijraset.com/research-paper/property-renting-system (IJRASET)

2. Rental Property Management System — IJARSCT, Paper12482.pdf (IJARSCT)

3. Streamlining Rental Property and Equipment Processes: Design and Evaluation of an SMS Notification Solution — IJARSCT (IJARSCT)

4. Property Management System — IJARCCE (Property Management System) (Peer-reviewed Journal)

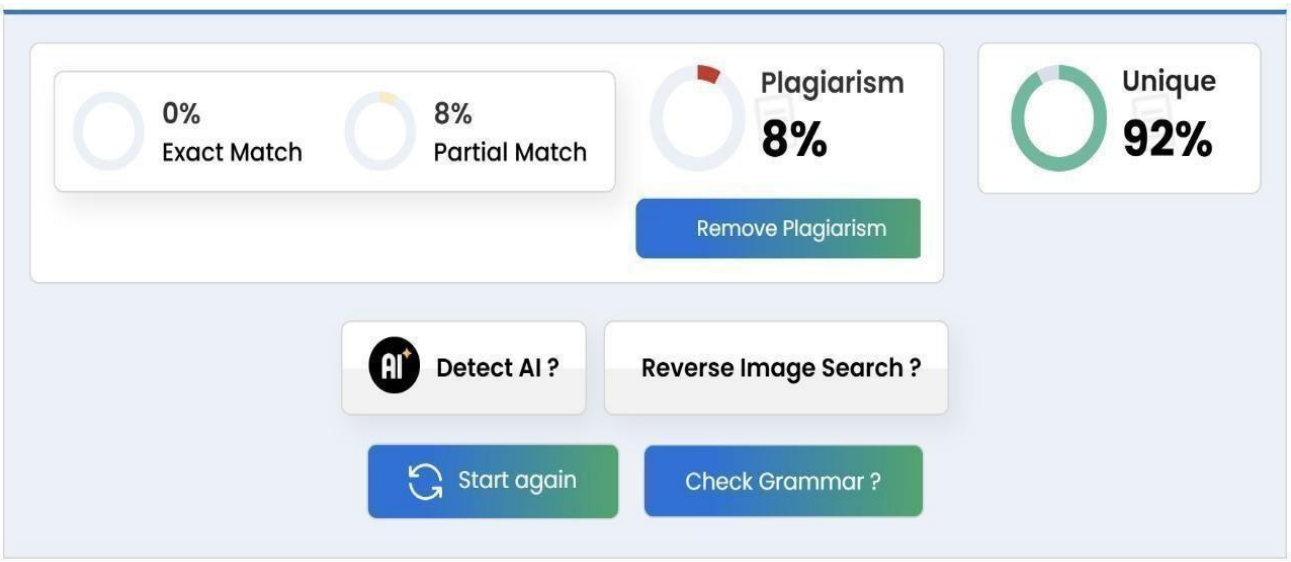
5. Apartment Rental Management System for Real-Time Transaction and Task Organization — IJMRA (ijmra.in)

6. Enhancing House Rental Management System through User Ccentric Design … — IRJET Vol. 12 Issue 04 (irjet.com)

7. Inefficient Record Management for House Rental Agents and Landlords (Cloud-based mobile rental management) — IRJIET (irjiet.com)

8. Towards a Trustworthy Rental Market: A Blockchain-Based Housing System Architecture — MDPI Electronics journal (mdpi.com)

ANNEXURE B: Plagiarism Report



ANNEXURE C: Project Tracker

Project Development and Completion Tracker

Porject ID:	TYCORES05	Class -TY-CORE-5	TYCORE05 & TYAIA03	Percentage of Project Completion:	100%	Copyright Status:	In Progress	Technnology Transfer:	-Select-	
Project Domain (Don't Add New)	Web Development (Full Stack)		Student In...	Map Sustainable Development Goal: (Don't add New)	11 Sustainable Cities and Communities	Paper Publication Status:	Prepared	Acheivements:	_Type Your Answer_ 1. 2.	
Enter Problem Statement	Managing PG accommodations manually is time-consuming and error prone. Owners struggle with tracking tenants, rent, and complaints, while tenants face issues of communication and transparency. A digital system					GitHub Link:	https://github.com/vineetsingh-007/PG	Meeting Count	10	

	Enrollment N	Name of Studnets	Class	Contact Number	Email ID	Tech Skill 1	Tech Skill 2	Tech Skill 3	Global Certification 1	Global Certification 2
Project Development Student Team Memebers	ADT23SOCB1310	Vineet Singh	TY-CORE-5	8318328101	vineetsingh68220@gmail.com					
	ADT23SOCB1111	Shuchi Mishra	TY-CORE-5	9696260223	shuchimishra2020@gmail.com					
	ADT23SOCB1308	Vinay Runwal	TY-CORE-5	8446450382	runwalvinay2005@gmail.com					
	ADT23SOCB1175	Sumit Yadav	TY-CORE-5	7972692252	sumityadav73397@gmail.com					
Project Guide	Dr. Reena Gunjun									
Industry Mentor										

	Review Date	Comment by Jury/ Mentor	Reivew Link		Technology Stack	1	2	3	4	5
Reivew-1	19/08/25	make ui more catchy			Front-end (Client-side)					
Reivew-2	11/10/25	deploy it for more areas			Back-end (Server-side):					
Review-3					Database Layer:					
					Development Tools:					
					Deployment and Infrastructure:					
					Specialization Inlinement:					

Epic:	AI-DRIVEN CROP DISESASE DETECTION
Story 1:	PG listing and location-based search: Allow students to search PGs and hostels near MIT-ADT with filters for rent, distance, and amenities.
Story 2:	Real-time availability and booking: Provide live PG availability status with instant booking or contact options.
Story 3:	student interaction and review system: Enable users to chat with owners, share reviews, and rate PGs for authenticity and transparency.
Task1:	Design student registration and login layout with database configuration.
Task2:	Develop home and search page with Google Maps integration near MIT-ADT.
Task3:	Create PG listing module with filters (rent, amenities, distance).
Task4:	Questionnaire for chatbot
Task5:	Implement booking/contact owner feature with form and validation.
Task6:	Add review and rating functionality for students.
Task7:	Deploy website on Firebase Hosting.

Acceptance Criteria	
1	Registration form works with valid input checks.
2	Secure login using email and password.
3	Users can search and view PGs near MIT-ADT.
4	Owners can add and update PG details and Booking and contact features work properly.

Sprint No.	Task Name	Sub Tasks	Task Status	Assigned To	Assigned Date	Deadline	Start Date	Completion Date	Completion Status
Sprint 1	Topic Selection & Requirement Gathering	Brainstorming app concept	Complete	ineetvinay,sumit,shuch	2025/08/18	2025-08-24	2025-08-17		100%
18th Aug 2025		Content & feature analysis	Complete	vineet,vinay	2025-08-23	2025-08-27	2025-08-22		100%
29th Aug 2025		Problem Statement Finalization	Complete	umit,shuchi,vinay,vinee	**2025-09-02**	**2025-10-04**	**2025-10-02**		100%
		objective and scope definition	Complete	shuchi,vinay	**2025-09-04**	**2025-10-06**	**2025-10-05**		100%
Sprint 2	UI/UX Design and wireframing	Create user flow and wireframe	Complete	vineet,sumit	**2025-10-08**	**2025-10-09**	**2025-10-08**		100%
1st Sep 2025		Design app screens in Figma (H	Complete	vinay,shuchi	**2025-10-09**	**2025-10-11**	**2025-10-09**		100%
14th Sep 2025		Define color palette & typograp	Complete	shuchi,sumit	**2025-10-09**	**2025-10-11**	**2025-10-09**		100%
		Prepare logo and app theme	Complete	vineet	**2025-10-09**	**2025-10-11**	**2025-10-09**		100%
Sprint 3	Frontend & Backend Development	Set up project structure and dat	Complete	vineet,vinay	**2025-10-09**	**2025-10-12**	**2025-10-10**		100%
22nd Sep 2025		Implement login & registration r	Complete	vinay,sumit	**2025-10-09**	**2025-10-12**	**2025-10-10**		100%
5th Oct 2025		Develop PG listing and search by	Complete	shuchi,vineet	**2025-10-10**	**2025-10-12**	**2025-10-10**		100%
		Integrate Google Maps API	Complete	vineet,vinay	**2025-10-10**	**2025-10-12**	**2025-10-10**		100%
Sprint 4		Add room images, facilities, and	Complete	sumit,vinay	**2025-10-10**	**2025-10-11**	**2025-10-10**		100%
6th Oct 2025	Advanced Functionality & Tes	Feature of Pay at Property	Complete	sumit,vineet,vinay	**2025-10-10**	**2025-10-16**	**2025-10-11**		100%
17th Oct 2025	Deployment and Evaluation	Implement contact owner chat f	Complete	vineet,sumit	**2025-10-10**	**2025-10-16**	**2025-10-11**		100%
		Perform app testing (unit + UI),C	Complete	shuchi,sumit,vinay,vineet	**2025-10-10**	**2025-10-16**	**2025-10-11**		100%

Publication Details

Sr. No	Paper Title	Name of Journal	Year	Authors	URL	DOI	Volume	Page no.	Publisher
1									
2									

Patent Details

Sr. No.	Title	Inventors	Application No.	Patent Number	Filing Country	Subject Category	Filing Date	Publication Date	Publication Status
1									

Copyright Details

Sr. No.	Title of work	Name of Applicants	Registration No.	Dairy Number	Date	Status			
1									

Event and Participations Details

Sr. No.	Name of Event	Type of Event	Date	Type of Participation	Details of Prize won				
1									
2									

Add Weekly Meetings Details [Minimum 12 meetings]

Meeting No.	Date	Attendees with commas	nda points with comr	Action Items	Assigned to	itus (click if completed)		
1	08/14/2025	shuchi,vineet,vinay,sumit	topic disccues	all	@<email address>	☑		
2	8/28/2025	vinay, vineet	structure development			☑		
3	9/18/2025	shuchi,vineet,vinay,sumit	websit overview			☑		
4	10/9/2025	shuchi,vineet,vinay,sumit	CA2 discussion			☑		
5	10/13/2025	Vineet,vinay,shuchi,sumit	User Interface			☑		
6	10/18/2025	sumit,vinay,vineet	deployment region			☑		
7	11/3/2025	vineet,sumit,shuchi,vinay	research paper			☑		
8	11/5/2025	shuchi,vinay,sumit,vineet	all documents			☑		
9	11/7/2025	vineet,shuchi,vinay,sumit	verification			☑		
10	11/9/2025	sumit,vineet,vinay,shuchi	report and project verification			☑		