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Rental.com - A Room & PG Finder Web Application

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Abstract

Rental.com is a web-based platform aimed at bridging the gap between students seeking rental accommodation and property owners offering rooms or PGs. With location-based search filters, registration modules, and admin monitoring, the application simplifies the rental process. Developed using HTML, CSS, JavaScript, PHP, and Firebase, this system is scalable and user-friendly. It ensures quick access to verified listings while maintaining data integrity and secure access. Future enhancements include mobile app support and real-time chat.

Keywords: Student Housing, PG Finder, Web Application, Firebase, PHP, Rental Platform, Admin Panel

1. Introduction

In today's academic environment, students frequently relocate to unfamiliar cities for education, facing challenges in finding safe and affordable accommodations. Similarly, house owners often struggle to reach suitable tenants. Traditional methods such as brokers, classifieds, or word-of-mouth are unreliable, time-consuming, and expensive.

Rental.com is designed to provide a secure, efficient, and scalable web platform where students can find accommodation and property owners can list their offerings. The platform incorporates user registration, property listings, search filters, and an admin panel for content management.

2. Literature Review

Previous systems and research in the domain of rental and PG-finding applications include:

1. Smart PG Finder (2021) - PHP, Firebase - Real-time updates, admin panel - No mobile support, no chat
2. Online Rental Management (2020) - Java, MySQL - Owner/tenant modules - No real-time data
3. Location-Based Housing Finder (2021) - Android - GPS, map-based UI - Android only, no admin panel

These studies reinforced the need for a platform like Rental.com with a broader feature set, real-time support, and cross-platform usability.

3. Proposed System

The proposed system includes:

- Frontend: HTML, CSS, JavaScript for UI
- Backend: PHP for server-side logic
- Database: Firebase for real-time data and authentication
- Modules:
 - Student: Search and book listings
 - Owner: List rooms/PGs
 - Admin: Monitor content and users

The platform follows the Waterfall model for its development lifecycle, ensuring structured execution from requirement analysis to deployment.

4. Implementation

Implementation involved the following steps:

- Frontend: User-friendly and responsive layout
- Backend: Secure login/registration, listing management
- Database: MySQL with Firebase integration
- Admin Panel: Manage users, listings, and security

5. Results and Testing

The system was tested across multiple modules:

- Valid login for students and owners
- Validation for empty and duplicate inputs
- Admin approvals and listing removals
- PG search by location and rent

All modules passed their test cases with correct output and no major bugs.

6. Conclusion and Future Scope

Rental.com successfully bridges the gap between students and property owners in a safe, efficient, and digital manner. It provides a cleaner, more organized alternative to traditional methods.

Future Work:

- Mobile application (Android/iOS)
- In-app chat system
- Payment gateway integration
- AI-based suggestions
- Geo-mapping and chatbot support

References

1. W3Schools, HTML Tutorial, <https://www.w3schools.com/html/>
2. Bootstrap Documentation, <https://getbootstrap.com/>
3. MySQL 8.0 Reference Manual, <https://dev.mysql.com/doc/>
4. PHP: Hypertext Preprocessor, <https://www.php.net/>
5. Chacon, Scott & Straub, Ben. Pro Git, Apress, 2014
6. Feldman, Steve. Web Development and Design Foundations with HTML5, Pearson, 2017
7. Nielsen, Jakob. Usability Engineering, Morgan Kaufmann, 1994

7. System Design Diagrams

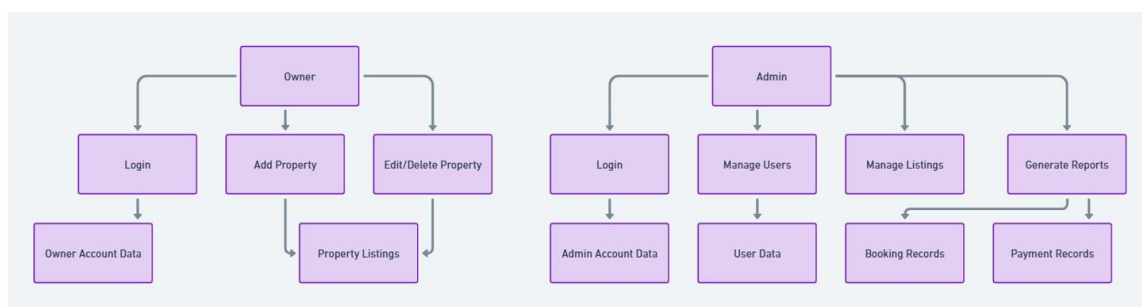


Figure 1: Functional Flow for Owner and Admin

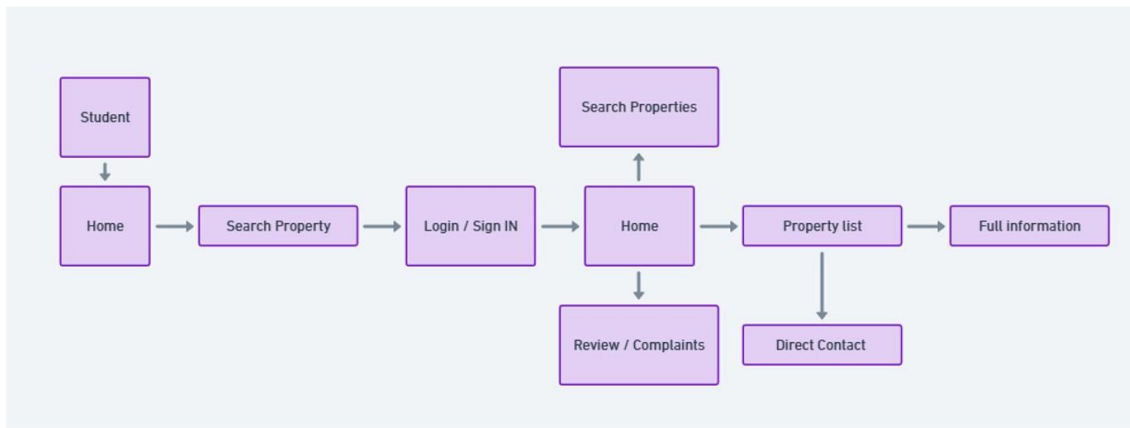


Figure 2: Functional Flow for Student Side

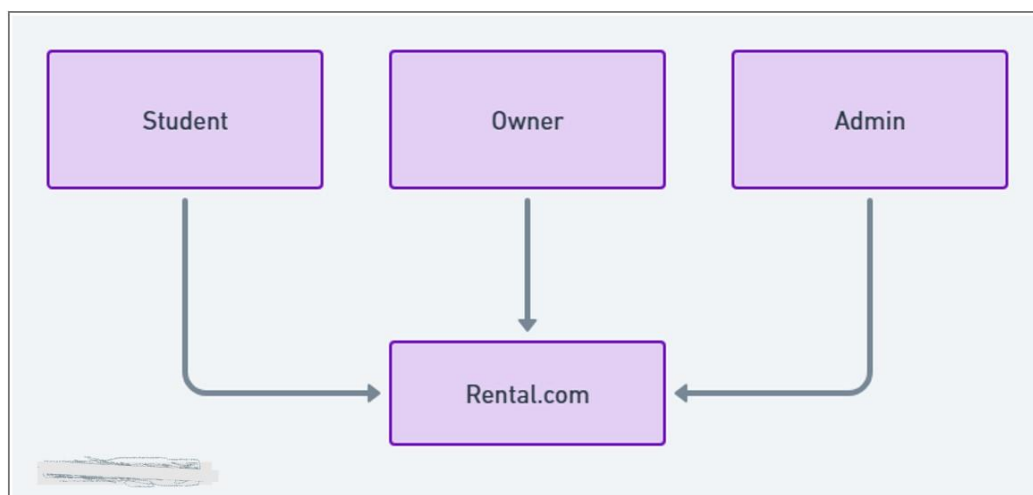


Figure 3: Overall System Architecture of Rental.com