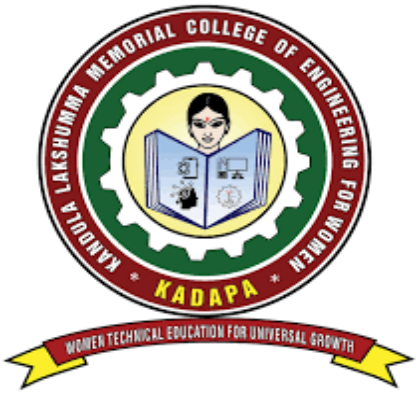
A PROJECT REPORT

ON

“HOUSEHUNT”

Submitted in partial fulfillment of

Computer science and Engineering



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CERTIFICATE

This is certified that Project entitled "**HOUSEHUNT"** which is submitted by Sayyad Mubeena(223H1A0577),Nadindla Kushida(233H5A0501),P Hema Chandu(223H1A0569),Ramaraju Manasa Preethi(223H1A0572),Rajanala Ganga Bhavani(223H1A0571) of B.Tech Final year, Computer Science and Engineering, Kandula lakshmamma memorial college of Engineering, for the award of the B.Tech, is a bonafide record of work carried out by them under guidance of **M V Rathnamma.**

The content of this project has not been submitted to any university or institute for award of any degree or diploma.

ABSTRACT

Project Title: HouseHunt: Finding Your Perfect Rental Home

The HouseHunt project is a web-based rental home management system designed to simplify the process of searching, listing, and booking rental properties. The system provides an online platform for renters to find suitable houses based on location, rent, and amenities, while property owners can list and manage their properties efficiently. An admin module is included to verify owners and manage system activities, ensuring security and reliability.

This project is developed using the MERN stack (MongoDB, Express.js, React.js, and Node.js), which enables a scalable, secure, and user-friendly web application. The proposed system reduces manual effort, saves time, and eliminates the dependency on brokers. It also provides a centralized platform for rental property management, making the process transparent and efficient for all users.

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HOUSEHUNT: FINDING YOUR PERFECT RENTAL HOME

1.Abstract

HouseHunt is a web-based rental home management system designed to help users find rental properties easily and help owners manage their properties efficiently. The system allows users to search for rental houses, view details, send booking requests, and communicate with property owners. Admin manages user approvals and system operations. This project is developed using the MERN stack (MongoDB, Express.js, React.js, Node.js).

2.Introduction

Finding a rental house is often difficult due to lack of proper information and manual processes. Traditional methods like brokers and local advertisements are time-consuming and costly. The HouseHunt system aims to provide a digital platform where renters can easily search for houses and owners can list their properties online.

2.1Purpose of the Project

The purpose of this project is to develop an online platform for rental property listing, searching, and booking management.

2.2 Scope of the Project

- Users can register and login
- Property owners can list houses
- Renters can search and book houses
- Admin manages approvals and system security

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3. System Overview

The HouseHunt system is a client-server based web application. It consists of three main modules:

1. User Module
2. Owner Module
3. Admin Module

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4. Functional Requirements

4.1 User Module

- User registration and login
- Search rental properties
- View property details (price, location, rooms, amenities)
- Send booking requests
- View booking status

4.2 Owner Module

- Owner registration and login
- Add, edit, and delete property listings
- Approve or reject booking requests

- Update property availability

4.3 Admin Module

- Approve owner registrations
- Manage users and properties
- Monitor system activities
- Ensure platform security and policies

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5. Non-Functional Requirements

- Security: User authentication and data protection
- Performance: Fast search and response time
- Scalability: System can handle multiple users
- Usability: Simple and user-friendly interface

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6. System Architecture

The system follows a **Client-Server Architecture** using MERN stack:

- **Frontend:** React.js, HTML, CSS, Bootstrap
- **Backend:** Node.js, Express.js
- **Database:** MongoDB

6.1 Architecture Diagram (Description)

User (Browser) → React Frontend → Express/Node Backend → MongoDB Database

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7. Software and Hardware Requirements

7.1 Software Requirements

- Operating System: Windows/Linux/Mac
- Frontend: React.js, HTML, CSS, JavaScript
- Backend: Node.js, Express.js
- Database: MongoDB
- Tools: VS Code, Postman, Browser

7.2 Hardware Requirements

- Processor: Intel i3 or above
- RAM: Minimum 4GB (8GB recommended)
- Hard Disk: 20GB free space
- Internet connection

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8. Module Description

8.1 User Registration Module

Allows new users to create an account by providing email, username, and password.

8.2 Login Module

Authenticates users using username and password.

8.3 Property Listing Module

Owners can add property details such as address, rent, rooms, photos, and description.

8.4 Search Module

Users can search properties based on location, rent range, and number of rooms.

8.5 Booking Module

Users can send booking requests to property owners and track booking status.

8.6 Admin Module

Admin verifies owners and manages system activities.

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9. Database Design

9.1 Tables / Collections

User Collection

- userId
- name
- email
- password
- role (user/owner/admin)

Property Collection

- propertyId
- ownerId
- location
- rent
- rooms
- description
- availability

Booking Collection

- bookingId
- userId

- propertyId
- status

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10. Implementation Details

10.1 Frontend Implementation

The frontend is developed using React.js for building interactive user interfaces. Bootstrap is used for responsive design.

10.2 Backend Implementation

Node.js and Express.js are used to create REST APIs for user management, property management, and booking operations.

10.3 Database Implementation

MongoDB is used to store user, property, and booking data.

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11. Testing

11.1 Unit Testing

Each module is tested individually.

11.2 Integration Testing

Frontend and backend integration is tested.

11.3 System Testing

The complete system is tested with real user scenarios.

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12. Advantages

- Easy property search
- Reduces dependency on brokers

- Saves time and cost
- Secure and centralized platform

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13. Limitations

- Requires internet connection
- Limited to registered users
- No online payment feature (can be added in future)

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14. Future Enhancements

- Online rent payment gateway
- Mobile application version
- Chat system between user and owner
- AI-based property recommendations

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15. Conclusion

The HouseHunt system provides a digital solution for rental property management. It simplifies the process of searching and booking rental homes. The system is efficient, user-friendly, and scalable for future enhancements.

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16. References

1. MERN Stack Documentation
2. MongoDB Official Documentation
3. React.js Official Website
4. Node.js and Express.js Documentation