Final Report

Project Title: HouseHunt: Finding Your Perfect Rental Home

Team ID: LTVIP2025TMID58422

Team Members:

1. Vemanaboina Lakshmiprasanna

2. Adhuri Swetha

1. INTRODUCTION

HouseHunt is a MERN stack-based full-stack web application that serves as a rental platform connecting renters, property owners, and administrators. The platform simplifies property discovery, inquiry, and booking processes while allowing property owners to list and manage properties.

This solution bridges the gap in the real estate rental market by providing a streamlined interface, verified listings, secure login, and seamless communication among all parties involved.

2. IDEATION PHASE

Problem:

Difficulty for renters to find reliable, available rental listings and challenges for property owners to showcase their properties.

Empathy Map & Brainstorm:

We assessed user needs and frustrations, such as outdated listings, non-transparent booking processes, and lack of owner verification. We brainstormed key features to solve these issues, including property filters, real-time updates, and admin moderation.

3. REQUIREMENT ANALYSIS

User Journey:

- ✓ Renter signs up, browses listings, filters results, submits inquiry, and confirms booking.
- ✓ Owner lists properties and updates availability.
- ✓ Admin approves new owners and listings to ensure platform reliability.

Requirements:

- ✓ Functional: Login/Register, List Property, View Listings, Booking System, Role-Based Access
- ✓ Non-Functional: Responsiveness, Performance, Security, Usability

Technology Stack:

- ✓ Frontend: React.js, Tailwind CSS, Bootstrap
- ✓ Backend: Node.js, Express.js
- ✓ Database: MongoDB

4. PROJECT DESIGN

Problem-Solution Fit:
HouseHunt solves core problems by digitizing the traditional rental workflow and ensuring transparency and trust.

Proposed Architecture:

- Presentation Layer: React + Tailwind UI

- Business Logic: Express.js APIs with JWT-based Auth

- Storage: MongoDB with Mongoose schemas

Data Flow Diagram and ER Diagram illustrate the relationship between users, properties, and bookings.

5. PROJECT PLANNING & SCHEDULING

We followed an Agile sprint-based approach:

- ❖ Sprint 1: UI Design + Routing
- ❖ Sprint 2: Backend Setup + Database Models
- ❖ Sprint 3: Auth + Role Management
- ❖ Sprint 4: Listings, Booking Logic
- ❖ Sprint 5: Admin Panel, Testing & Hosting

6. FUNCTIONAL AND PERFORMANCE TESTING

Functional testing was performed on user registration, property listings, filters, and booking confirmation.

Performance testing included stress testing booking load and verifying database response under concurrent users.

Tested on live Netlify deployment.

7. RESULTS

The website is live at:

https://lustrous-rugelach-aa4d9b.netlify.app/

Screens include:

- o Renter Registration/Login
- o Filter Listings
- o Property Detail Page
- o Booking Form
- o Owner Dashboard
- o Admin Approval Panel

8. ADVANTAGES & DISADVANTAGES

Advantages:

- Easy-to-use search and filters
- Real-time availability and booking updates
- Admin approval adds platform integrity

Disadvantages:

- No integrated payment gateway
- No built-in calendar for booking conflict checks

9. CONCLUSION

HouseHunt offers an efficient way to connect renters with verified property owners. The platform demonstrates scalable design and effective use of the MERN stack.
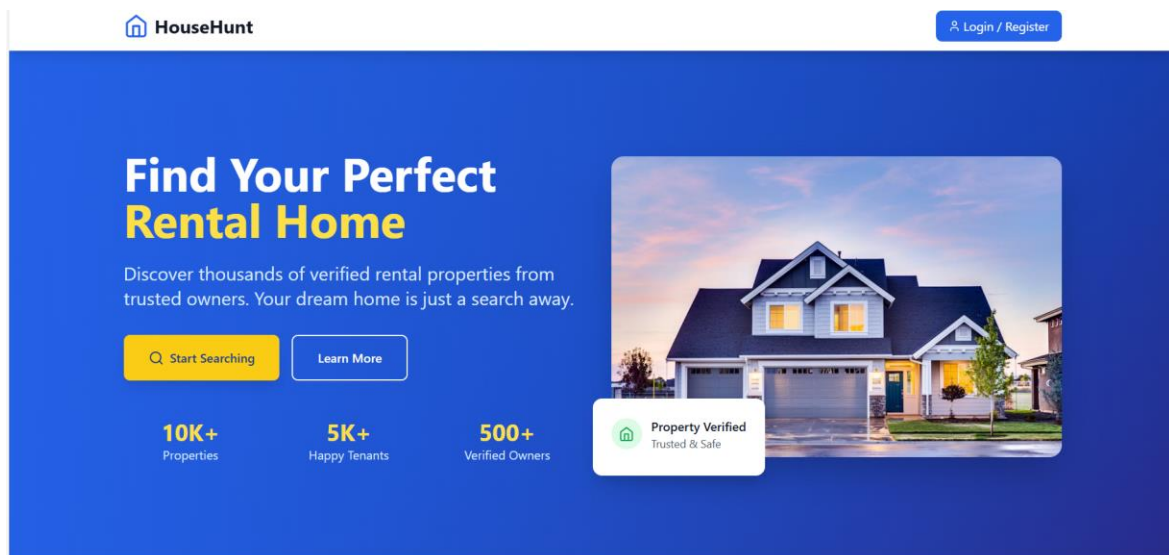
10. FUTURE SCOPE

- Payment Gateway Integration (e.g., Stripe/PayPal)
- Chat System for Renter-Owner Communication
- Calendar Integration for Booking Conflict Resolution
- Mobile App Deployment

11. APPENDIX

Live Demo:

https://lustrous-rugelach-aa4d9b.netlify.app

SCREENSHOTS:

Search Properties

Location
City, State

Min Price
$0

Max Price
10000

Bedrooms
Any

Type
All Types

☐ Furnished   ☐ Pet Friendly   ☐ Parking
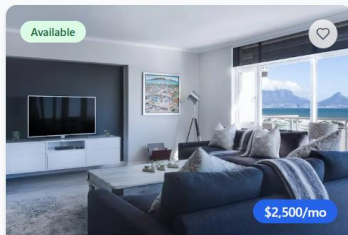
🔍 Search Properties

🏠 HouseHunt   👤 Login / Register

Featured Properties (6 properties)

Available
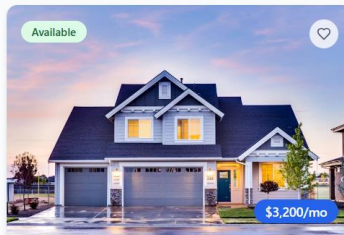$2,500/mo

Modern Downtown Apartment
📍 New York, NY

Beautiful 2-bedroom apartment in the heart of downtown with stunning city views, modern...

🛏 2 bed   🛁 2 bath   ☐ 1200 sqft

🚗 Parking   Furnished

View Details

Available
$3,200/mo

Cozy Family House
📍 Los Angeles, CA

Spacious 3-bedroom house perfect for families, featuring a large backyard, modern kitchen, and qui...

🛏 3 bed   🛁 2 bath   ☐ 1800 sqft

🚗 Parking   🐾 Pet Friendly

View Details

Available
$1,800/mo

Studio Loft in Arts District
📍 Chicago, IL

Trendy studio loft in the vibrant arts district with exposed brick walls, high ceilings, and creative...

🛏 1 bed   🛁 1 bath   ☐ 800 sqft

Furnished

View Details

🏠 HouseHunt   👤 Login / Register

Modern Downt...
📍 New York, NY

Cozy Family House   ✕

$3,200/month   Available

📍 456 Oak Avenue, Los Angeles, CA 90210

🛏 3 Bedrooms   🛁 2 Bathrooms   ☐ 1800 sqft

Contact Owner

Bob Smith
bob@example.com

Please log in as a renter to contact the owner

Email: bob@example.com

Description

Spacious 3-bedroom house perfect for families, featuring a large backyard, modern kitchen, and quiet neighborhood setting.

Amenities

🌱 Backyard   🚗 Garage

🔥 Fireplace   🔍 Modern Kitchen

🪵 Hardwood Floors

🚗 Parking   🐾 Pet Friendly

Luxury Penthou...

$950/mo

Welcome Back

Sign in to your account

Account Type

Renter - Looking for a place

Email Address

Password

Sign In

Don't have an account? **Sign up**

Demo credentials:
Renter: alice@example.com / password123
Owner: bob@example.com / password123
Admin: admin@househunt.com / admin123

$2,500/mo

Modern Downtown Apartment

New York, NY

Beautiful 2-bedroom apartment in the heart of downtown with stunning city views, modern...

2 bed | 2 bath | 1200 sqft

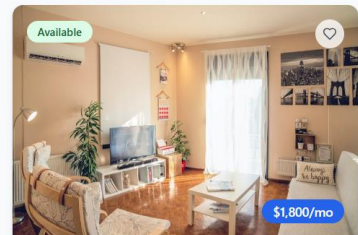Parking   Furnished

View Details

Available

$5,500/mo

$1,800/mo

Studio Loft in Arts District

Chicago, IL

Trendy studio loft in the vibrant arts district with exposed brick walls, high ceilings, and creative...

1 bed | 1 bath | 800 sqft

Furnished

View Details

Available

$950/mo

$2,100/mo

HouseHunt

Login / Register

Create Account

Join HouseHunt today

Account Type

Renter - Looking for a place

| Renter - Looking for a place |
| Owner - Listing properties |
| Admin - Platform management |

Email Address

Phone Number

Password

Create Account

Already have an account? **Sign in**

Demo credentials:
Renter: alice@example.com / password123
Owner: bob@example.com / password123
Admin: admin@househunt.com / admin123

$2,500/mo

Modern Downtown Apartment

New York, NY

Beautiful 2-bedroom apartment in the heart of downtown with stunning city views, modern...

2 bed | 2 bath | 1200 sqft

Parking   Furnished

View Details

Available

$1,800/mo

Studio Loft in Arts District

Chicago, IL

Trendy studio loft in the vibrant arts district with exposed brick walls, high ceilings, and creative...

1 bed | 1 bath | 800 sqft

Furnished

View Details

Available