

Full Stack Development with MERN

HouseHunt: Finding Your Perfect Rental Home

1. Introduction

HouseHunt is a MERN Stack rental property application that allows users to browse, list, and book homes for rent online.

1.1 Purpose:

To streamline the rental process by connecting property owners with renters through a modern, user-friendly web application.

2. Ideation Phase

2.1 Problem Statement:

Finding rental properties is often time-consuming and unorganized. There is no centralized, user-focused platform for easy home renting.

2.2 Empathy Map Canvas:

- Renters: Struggle to find suitable, verified rental properties
- Owners: Lack of simple tools to list and manage their properties
- Admins: Need to manage listings and users effectively

2.3 Brainstorming:

- Property listing & search
- Owner and renter roles
- Admin management panel
- Secure login and booking process

3. Requirement Analysis

3.1 Customer Journey Map:

Signup/Login → Browse Listings → View Details → Book Home → Track Booking Status

3.2 Solution Requirements:

- Multi-role authentication (Admin, Owner, Renter)
- Property management and approvals
- Booking system with status updates

3.3 Technology Stack:

- Frontend: React.js, Tailwind CSS
- Backend: Node.js, Express.js
- Database: MongoDB
- Authentication: JWT (planned), bcrypt
- API Testing: Postman

4. Project Design

4.1 Problem-Solution Fit:

This solution meets the need for a centralized and reliable rental platform.

4.2 Proposed Solution:

A role-based web application for Renters, Owners, and Admins, providing rental property listing and booking capabilities.

4.3 Solution Architecture:

Frontend (React) → Backend API (Express) → MongoDB (Database)

5. Project Planning & Scheduling

Week	Task
1	Requirements & Planning
2	UI Design
3	Frontend Development
4	Backend Development
5	Integration & Testing
6	Final Submission

6. Functional and Performance Testing

- Performance Tools: Postman, Browser DevTools
- API Response Time: Optimized under 200ms
- MongoDB Queries: Indexed for performance

7. Results

- User Registration & Login (Role Based)

HOUSEHUNT

Home Login Register

Sign up

Renter Full Name/Owner Name

Email Address

Password

User Type

SIGN UP

Have an account? Sign In

Property Listing and View - Booking Form & Approval

HOUSE HUNT

Hi Rohan [Log Out](#)

[ALL PROPERTIES](#) [BOOKING HISTORY](#)

Booking ID	Property ID	Tenant Name	Phone	Booking Status
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Admin Dashboard for Property

HOUSE HUNT

Hi Rohan [Log Out](#)

[ALL PROPERTIES](#) [BOOKING HISTORY](#)

Filter By:

All Ad Types ▾

All Types ▾

No Properties available at the moment.

8. Advantages & Disadvantages

Advantages:

- Easy rental browsing and booking
- Owner-specific dashboards - Admin controls for approval

Disadvantages:

- No integrated payment system yet
- SMS/Email notification system pending

9. Conclusion

HouseHunt is a user-friendly, scalable MERN stack application that connects property owners and renters efficiently, saving time and effort for both.

10. Future Scope

- JWT-based full authentication
- Payment gateway integration
- Deployment on cloud platforms
- Mobile App version (React Native)
- Notification system (email/SMS)