**HouseHunt : Finding Your Perfect Rental Home**

**Documentation**

# Introduction

**Project Title:**

HouseHunt: Finding Your Perfect Rental Home

**Team ID:** **LTVIP2025TMID57406**

**Team Size:4**

Team Leader: Kotta Keerthi

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**Purpose:**

To help users find the ideal rental home based on personal preferences and budget.

To simplify communication between tenants and property owners.

To provide data-driven recommendations for renters.

make house hunting faster, smarter, and more reliable.

**Goals:**

Build a user-friendly interface with map and filter-based search.

Implement backend logic to fetch and sort rental listings from multiple sources.

Ensure mobile responsiveness and fast performance.

**Key Features:**

Smart Filters: Search by price, location, amenities, and more.

Map Integration: View listings on an interactive map.

Chat System: In-app chat between tenant and owner.

Alerts: Notify users when matching properties are listed.

AI Recommendations: Suggest homes based on user behavior.

**Prerequisites**

* Software & Tools
* Node.js & Express (Backend)
* MongoDB (Database)
* React (Frontend)
* Tailwind CSS
* Map API (e.g., Google Maps or Mapbox)
* Firebase or Socket.io (for chat and notifications)

# Project Objectives

* Know fundamental concepts and techniques used form web programming.
* Gain a broad understanding of data.
* Have knowledge of pre-processing the data/transformation techniques on outliers and some visualization concepts.

# Project Flow

* 1. User visits the site and sets their preferences
* 2. Backend fetches listings from database.
* 3. Listings are filtered using smart search criteria.
* 4. Results are shown with map-based interface.
* 5. Users can mark favorites, chat, or get alerts for new listings.
* Splitting data into train and test
* Frontend: React + Tailwind CSs
* **Architecture Overview**
* Frontend: React + Tailwind CSS
* Backend: Node.js + Express.js
* Database: MongoDB
* Hosting: Vercel/Netlify for frontend, Render/Heroku for backend

**Features in Action**

*Real-time Filtering using city, locality, rent range*

*Recommendation System based on feedback & search history*

*Map Pinning with hover details*

*In-app Chat between renters & owners*

**Testing & Deployment**

Manual and unit testing for core modules

Deployed using Vercel (frontend) & Render (backend)

MongoDB Atlas for cloud DB

**FUTURE SCOPE**

Add voice-based search

AR/VR house tours

Subscription model for premium listings

Integrate rental agreements and KYC verificatioc

Challenges and Solutions

* **Inconsistent Data:** Listings varied in format and quality.  
  ✅ *Solved by data cleaning, validation, and API-based enrichment.*
* **Lack of Personalization:** Users struggled to find homes matching their needs.  
  ✅ *Solved with smart filters and a recommendation system.*
* **Outdated Listings:** Homes were shown as available but were already rented.  
  ✅ *Solved with real-time data sync and auto-updates.*
* **Poor Location Visualization:** Users couldn’t assess neighborhood easily.  
  ✅ *Solved with interactive maps and commute-based search.*
* **Mobile Inaccessibility:** Platform didn’t work well on phones.  
  ✅ *Solved with responsive, mobile-first design.*

**Conclusion**

HouseHunt successfully simplifies the rental home search by providing clean, updated listings, personalized recommendations, and an intuitive, map-based user experience. By addressing key challenges like data inconsistency, outdated listings, and mobile usability, it offers a reliable and user-friendly platform to help users find their ideal rental home with ease.

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