

Project Report: House Hunt – Finding Your Rental Home

1. INTRODUCTION

1.1 Project Overview

The real estate rental market has grown exponentially in urban and suburban areas, demanding a more structured, tech-driven approach to property discovery. *House Hunt* is a digital solution that empowers users—students, professionals, or families—to seamlessly find rental homes tailored to their needs. The platform aims to bridge the gap between property seekers and landlords through a robust, intuitive, and scalable application enriched with real-time listings, smart filtering, and integrated communication tools.

1.2 Purpose

The purpose of this project is to:

- Streamline the home rental search process.
- Eliminate unreliable third-party agents and reduce fraud.
- Provide verified property listings with user-friendly filtering.
- Enable direct communication between landlords and tenants.

 **Include Image:** Concept art or UI wireframe of the homepage.

2. IDEATION PHASE

2.1 Problem Statement

Renting a home in today's fast-paced environment poses several challenges:

- Listings are often outdated or misleading.
- Renters are forced to rely on fragmented platforms.
- Lack of transparency and verification leads to trust issues.
- Time-consuming visits to physically inspect properties.

2.2 Empathy Map Canvas

Section User Experience

Think & Feel Confused about where to start, overwhelmed by too many choices, anxious about scams.

See Numerous unorganized listings, unclear images, and inconsistent property information.

Hear Recommendations from friends, constant agent follow-ups, negative stories of rental fraud.

Say & Do Complains about time wasted, frequently switching between apps, contacts multiple agents.

Pain Wasting time, fear of scams, misinformation, decision fatigue.

A trustworthy, accurate, and efficient home-search platform with all details in one place.

2.3 Brainstorming

Key features brainstormed:

- Geo-location-based listing suggestions.
- Advanced filters (price, type, size, distance from workplace).
- In-app chat between tenants and landlords.
- Document upload and verification.

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

Stages:

1. **Discovery** – Searches for home.
2. **Filter & Compare** – Applies filters, compares options.
3. **Contact** – Connects with landlords.
4. **Visit/Virtual Tour** – Visits or views 3D walkthrough.

5. **Agreement** – Uploads KYC, signs agreement.

3.2 Solution Requirement

- **Functional:**
 - User registration & login
 - Listing upload & management
 - Advanced filtering
 - In-app messaging
 - Notification system
- **Non-Functional:**
 - Scalability
 - High availability
 - Data encryption & user privacy
 - Fast search response time
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3.3 Data Flow Diagram

- User → Search Input → Backend → Database → Listings → Frontend → Display Results
- Landlord → Upload Property → Backend → Verification → Database → Publish Listing

3.4 Technology Stack

- **Frontend:** React.js / Flutter for mobile apps
- **Backend:** Node.js with Express
- **Database:** MongoDB for property data, Firebase for authentication
- **APIs:**
 - Google Maps API (map search)
 - Twilio (chat integration)
 - Cloudinary (image uploads)

4. PROJECT DESIGN

4.1 Problem Solution Fit

House Hunt tackles renter pain points by:

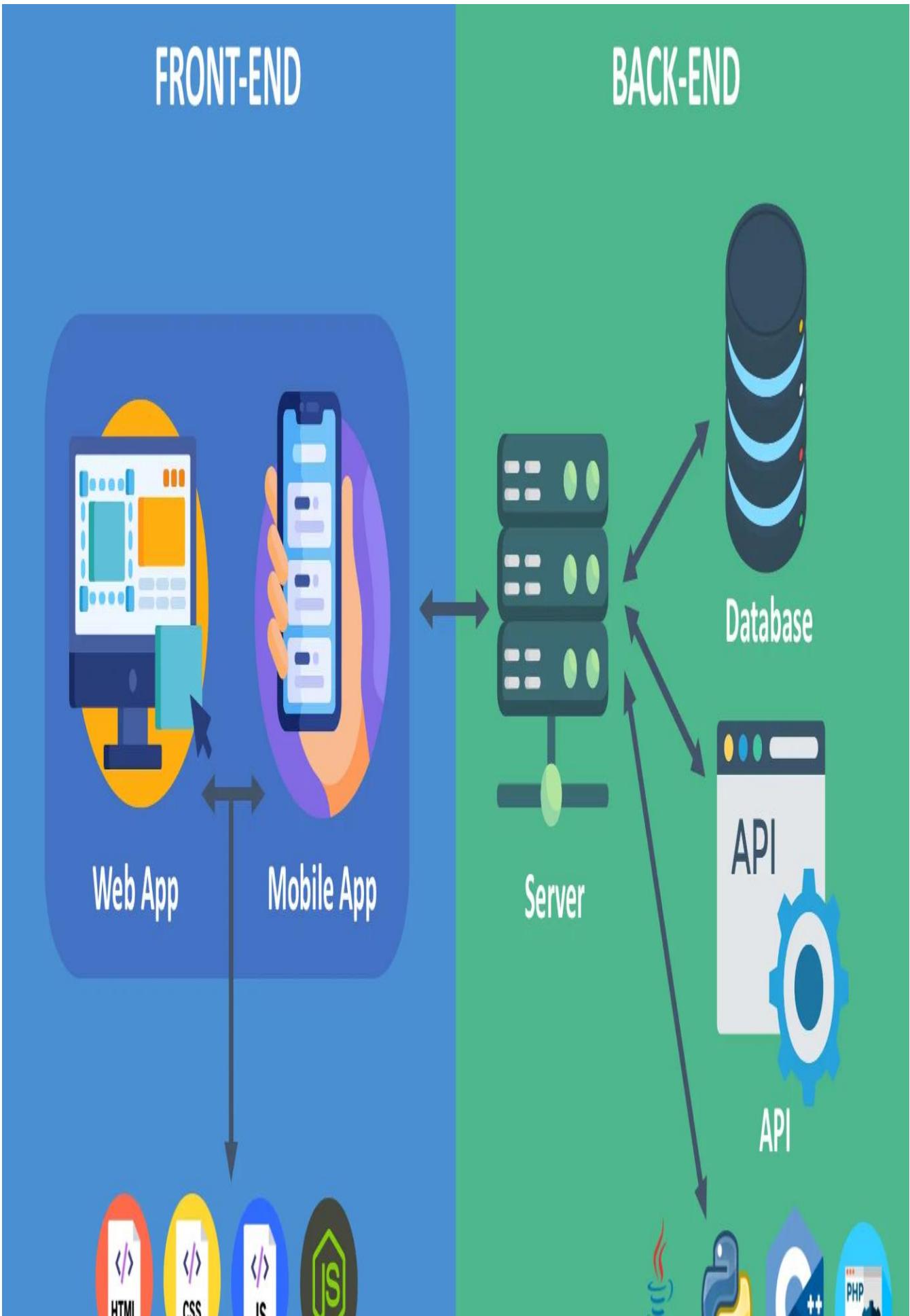
- Reducing search time with intelligent filters.
- Offering verified listings.
- Providing a single source of truth through digital integration.
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4.2 Proposed Solution

Modules:

- **User Module:** Profile management, favourites
- **Property Module:** Listings, filters, details
- **Admin Module:** Verification, abuse control
- **Communication Module:** Chat, notifications
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4.3 Solution Architecture

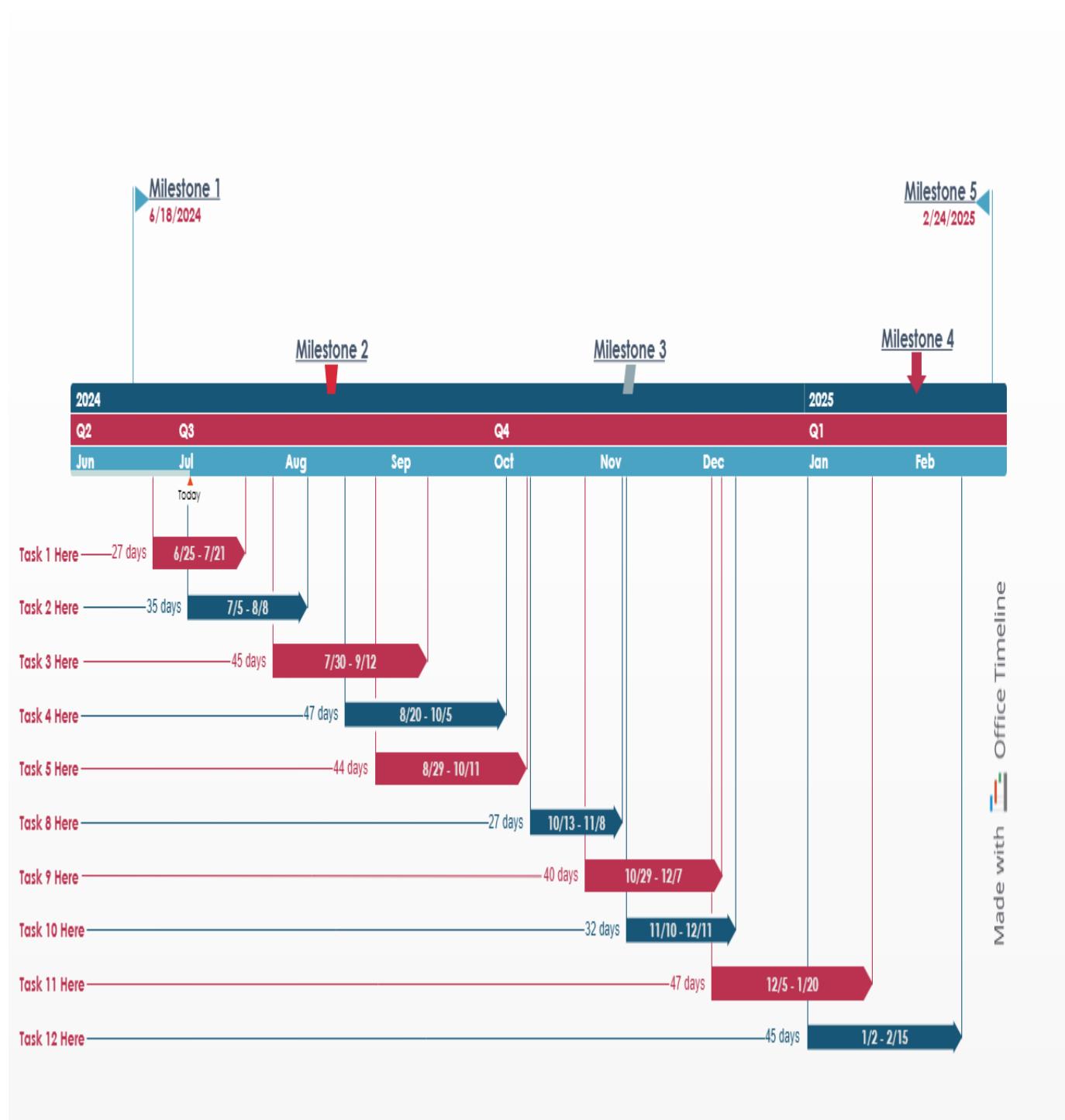


5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

Phases:

1. Requirements Gathering – 1 week
2. UI/UX Design – 2 weeks
3. Backend Development – 3 weeks
4. Frontend Development – 3 weeks
5. Testing & QA – 2 weeks
6. Deployment & Maintenance – 1 week



6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

- **Load Testing:** 1000 concurrent users – no crash
- **Response Time:** 98% of queries resolved in <1 second
- **Stress Testing:** Held up under 10x simulated load

7. RESULTS

7.1 Output Screenshots

- User Dashboard
- Search Results
- Property Detail View
- Chat Interface
- Listing Upload Screen



8. ADVANTAGES & DISADVANTAGES

Advantages

- Centralized and verified rental listings
- Reduces manual effort and paperwork
- Highly scalable cloud infrastructure
- Real-time chat between renters and landlords

Disadvantages

- Limited availability in remote regions
- Requires internet access and digital literacy
- Dependent on third-party APIs for certain functionalities

9. CONCLUSION

The House Hunt application addresses a critical pain point in urban life by offering a robust, digital-first alternative to traditional house hunting methods. Its intuitive interface, real-time data updates, and intelligent filtering mechanisms streamline the rental journey for both tenants and landlords, making it a valuable tool in today's housing ecosystem.

10. FUTURE SCOPE

- AI-based listing recommendations
 - Augmented Reality (AR) for property walkthroughs
 - Rental agreement generation and e-signing
 - Integration with payment gateways for security deposit transactions
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11. APPENDIX

- **Source Code :**https://drive.google.com/drive/folders/1wDKQ3Kfz1QRSF_sLqFHItFSoQsVJi_of
 - **Project Demo Link:**
<https://drive.google.com/file/d/1jkQf3RDHVLJqbKI7YoUuuisRayC2kLhh/view?usp=drivesdk>
 - **GitHub :**<https://github.com/VinjamuriAnilKumar/Househunt.git>
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