**Final Report**

**Project Title:**

**HouseHunt: Finding Your Perfect Rental Home**

**1. INTRODUCTION**

**1.1 Project Overview**

HouseHunt is a full-stack web application built using the MERN stack to simplify the rental process for both property owners and tenants. It allows renters to browse verified listings, filter by amenities, and request bookings, while owners can list properties and manage requests. Admins oversee user and listing approvals.

**1.2 Purpose**

To bridge the gap between property owners and renters by providing a centralized, easy-to-use digital platform that improves transparency, speeds up the rental process, and minimizes fraud.

**2. IDEATION PHASE**

**2.1 Problem Statement**

Finding rental homes involves multiple hurdles: unreliable listings, lack of verified information, and difficulty communicating between owners and tenants. HouseHunt solves these by providing a verified, user-friendly rental platform.

**2.2 Empathy Map Canvas**

**Think & Feel:** "Is this listing trustworthy?"  
**See:** Scattered information, unverified listings  
**Say & Do:** "I wish there was a simple rental app!"  
**Hear:** Complaints about scams and delays  
**Pain:** Inconvenience, wasted time, uncertainty  
**Gain:** Convenience, speed, verified listings

**2.3 Brainstorming**

* Verified user onboarding
* Property images & filters
* Booking requests
* Admin approvals
* Feedback and ratings

**3. REQUIREMENT ANALYSIS**

**3.1 Customer Journey Map**

1. Renter visits website
2. Searches/filter homes
3. Requests booking
4. Owner approves/rejects
5. Admin monitors activity
6. Property is booked

**3.2 Solution Requirement**

* Three roles: Renter, Owner, Admin
* Secure login and signup
* Property management system
* Booking workflow
* Dashboard for all users

**3.3 Data Flow Diagram**

**Frontend → Backend → MongoDB**  
User interactions are sent via REST API to Express.js backend, which handles business logic and interacts with the database.

**3.4 Technology Stack**

* **Frontend:** React.js, Tailwind CSS
* **Backend:** Node.js, Express.js
* **Database:** MongoDB with Mongoose
* **Others:** JWT, bcryptjs, Multer, CORS, dotenv

**4. PROJECT DESIGN**

**4.1 Problem Solution Fit**

A structured platform reduces dependency on brokers, improves transparency, and speeds up the rental process for both parties.

**4.2 Proposed Solution**

An all-in-one platform for home rental with authenticated users, property listings, booking requests, and admin moderation.

**4.3 Solution Architecture**

* Client (React)
* Server (Node.js + Express)
* Database (MongoDB)  
  All layers communicate via RESTful APIs with secure endpoints.

**5. PROJECT PLANNING & SCHEDULING**

**5.1 Project Planning**

| **Phase** | **Duration** | **Team Member(s)** |
| --- | --- | --- |
| Requirement Analysis | 3 days | All |
| Frontend Development | 3 days | All |
| Backend Development | 3 days | All |
| Testing & Debugging | 3 days | All |
| Final Review | 3 days | All |

**6. FUNCTIONAL AND PERFORMANCE TESTING**

**6.1 Performance Testing**

Tested with multiple user roles and simulated booking operations. Response time under 500ms for most endpoints. Frontend loads in under 2s.

**7. RESULTS**

**7.1 Output Screenshots**

* Homepage
* Login/Register
* Owner Dashboard
* Renter Booking Page
* Admin Panel

(*Screenshots to be attached in final document*)

**8. ADVANTAGES & DISADVANTAGES**

**Advantages:**

* Secure login system
* Streamlined rental process
* Admin verification ensures data integrity

**Disadvantages:**

* No native mobile app yet
* Internet access required

**9. CONCLUSION**

HouseHunt provides a reliable and intuitive platform for home rental needs. It ensures a smoother experience for renters, owners, and admins by digitizing the rental workflow.

**10. FUTURE SCOPE**

* Add chat feature between renter and owner
* Launch mobile application (React Native)
* Integrate payment gateway for rent transactions
* Implement property recommendation using ML

**11. APPENDIX**

**Source Code (if any):**  
Included in GitHub Repository

**Dataset Link:**  
Not applicable (data is user-generated)