**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

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| Date | 26-05-2025 |
| Team ID | LTVIP2025TMID56105 |
| Project Name | HouseHunt: Finding Your Perfect Rental Home |
| Maximum Marks | 4 Marks |

**🏗️ Technical Architecture – HouseHunt**

The HouseHunt platform is built using the MERN stack and follows a well-structured 3-tier architecture, supporting role-based operations for renters, property owners, and admins.

**🧱 Architecture Layers:**

* **Presentation Layer:**Built with React.js, this layer supports dynamic UI rendering, client-side routing, and role-based dashboards (Renter, Owner, Admin).
* **Business Logic Layer:**Developed using Node.js and Express.js, it handles all backend logic including API processing, authentication, inquiry management, listing updates, and user control.
* **Data Layer:**MongoDB stores all application data including users, property listings, booking inquiries, and admin activity.

**📊 Table-1: Components & Technologies**

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| --- | --- | --- | --- |
| **S. No.** | **Component** | **Description** | **Technology** |
| 1 | User Interface | Web UI for renters, owners, and admins | React.js, JavaScript, CSS |
| 2 | Application Logic – 1 | Inquiry handling, user auth, routing | Node.js, Express.js |
| 3 | Application Logic – 2 | Admin panel, owner dashboard, property management | React.js (components), Node.js |
| 4 | Database | Stores users, properties, bookings, favorites | MongoDB |

**⚙️ Table-2: Application Characteristics**

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **Characteristic** | **Description** | **Technology** |
| 1 | Open-Source Frameworks | Frontend and backend using modern JS-based stacks | React.js, Node.js, Express.js |
| 2 | Scalable Architecture | Modular 3-tier design with token-based access control | RESTful APIs, JWT, MongoDB |

**📚 References**

* [**React.js Documentation**](https://reactjs.org/)
* **Node.js Best Practices**
* **JWT Authentication Reference**
* [**MongoDB Official Documentation**](https://www.mongodb.com/docs/)
* [**How to Draw Useful Architecture Diagrams**](https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d)