Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	31/06/2025
Team ID	LTVIP2025TMID46284
Project Name	Househunt: finding your perfect rental home
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

The technical architecture of our House rent app follows a client-server model, where the frontend serves as the client and the backend acts as the server.

TECHNICAL ARCHITECTURE

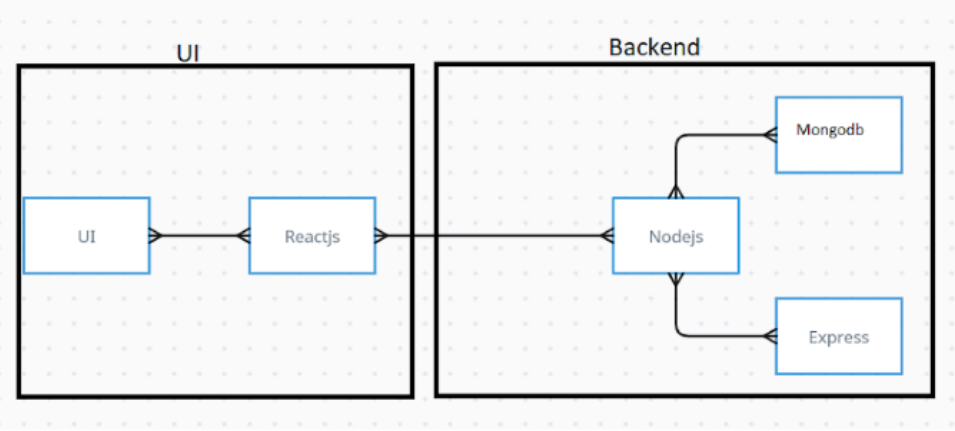

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1	User Interface	Web interface for Renter, Owner, Admin	HTML, CSS, JavaScript, React.js, Antd
2	Application Logic-1	Handles client-side routing and UI states	React.js
3	Application Logic-2	Handles backend routing and REST APIs	Node.js, Express.js
4	Application Logic-3	Authentication, CRUD for bookings and properties	JWT, bcryptjs, MongoDB Mongoose
5	Database	Houses renters, owners, bookings, property details	MongoDB (NoSQL)
6	Cloud Database	Can be hosted on MongoDB Atlas	MongoDB Atlas (Optional)
7	File Storage	For image uploads of rental properties	Multer, Local Filesystem
8	External API-1	Maps, address geolocation	Google Maps API (optional integration)
9	External API-2	Email alerts / push notifications	Firebase Cloud Messaging (optional)
10	Infrastructure	Deployment and hosting	Localhost for dev, can be Docker/Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	MERN stack, Axios, Antd, Bootstrap, Moment.js	React.js, Express.js, MongoDB, Node.js
2	Security Implementations	Password encryption, JWT for session control, Role-based access	bcryptjs, JWT, dotenv, CORS
3	Scalable Architecture	Tiered design with modularity to plug microservices in future	MERN, REST APIs, Docker (optional)
4	Availability	Can be hosted on cloud with load balancers, Node clustering	Express.js with PM2, MongoDB Replica Sets
5	Performance	Optimized API calls, database indexing, caching planned	Axios, Mongoose indexing, Lazy loading