**Project Development Phase**

**Model Performance Test**

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| Date | 16 July 2025 |
| Team ID | LTVIP2025TMID59690 |
| Project Name | HouseHunt – Rental Property Recommender |
| Maximum Marks | 10 Marks |

**React.js:**

**1. Introduction to React.js:**

React.js is a JavaScript library developed by Facebook for building fast, interactive user interfaces for web and mobile applications. It follows a component-based architecture, which allows developers to break the UI into reusable pieces.

React is part of the MERN stack and is responsible for the frontend (client-side) of the application.

**2. Why React.js Was Used:**

React.js was selected for the project due to:

* Its component-based structure, allowing for modular and maintainable code.
* Virtual DOM for fast rendering and efficient updates.
* One-way data binding ensuring predictable state management.
* Easy integration with third-party libraries (e.g., Axios, React Router, TailwindCSS).
* Strong community support and reusable UI components**.**

**3. How React.js Was Used in the Project:**

In this full stack MERN application, React.js was used to:

* Build user-facing pages such as **Home**, **Login/Register**, **Property Listings**, and **Dashboard**.
* Implement **dynamic routing** using react-router-dom.
* Use **Axios** to fetch and post data to the Express backend APIs.
* Integrate **JWT authentication** for protected routes.
* Apply **conditional rendering** based on user roles (Renter, Owner, Admin).
* Style components using **TailwindCSS** or CSS modules.

**4. Sample Component Snippet:**

import React, { useEffect, useState } from 'react';

import axios from 'axios';

const PropertyList = () => {

const [properties, setProperties] = useState([]);

useEffect(() => {

axios.get('/api/properties/list')

.then(response => setProperties(response.data))

.catch(error => console.error(error));

}, []);

return (

<div className="grid grid-cols-3 gap-4">

{properties.map(property => (

<div key={property.\_id} className="p-4 border rounded">

<h2 className="text-xl font-bold">{property.title}</h2>

<p>{property.location}</p>

<p>₹{property.price}</p>

</div>

))}

</div>

);

};

export default PropertyList;

**7. Conclusion:**

React.js provided a powerful, responsive, and interactive frontend for the HouseHunt MERN stack application. With reusable components, dynamic routing, and efficient state management, it greatly enhanced the user experience and productivity of the development process**.**