# **Design Doc**

# 1. Project Overview

## **Purpose:**

The purpose of this application is to assist users, particularly international students and remote workers, in managing their apartment searches by aggregating listings from multiple sources into a single platform where they can compare features, book tours, and make informed decisions about rentals.

# **Target Users:**

- International students looking for convenient housing options near universities.
- Remote workers interested in finding optimal living spaces that suit their mobile lifestyle.
- Relocation consultants who manage housing options for multiple clients.

# 2. System Architecture

#### Frontend:

- **Technology:** React.js
- State Management: Redux for managing global state across the app.
- Routing: React Router for navigation between different components/pages.

#### Backend:

- Technology: Node.js with Express.js
- API: RESTful APIs to facilitate front-end and back-end communication.
- **Authentication:** Implementation of JWT (JSON Web Tokens) for secure user authentication.

#### Database:

- Technology: MongoDB
- Details: To store user profiles, apartment listings, preferences, and booking details.

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#### **Additional Tools:**

- Vite: Used for optimizing the development and build process.
- CSS Framework: Tailwind CSS for utility-first styling to accelerate UI development.

# 3. Core Features

## **Apartment Listing Management:**

- Users can input, update, and manage apartment listings they find.
- Integration of an intuitive interface to add and edit listings with ease.

#### Search and Filter:

- Advanced search options to filter apartments by price, location, amenities, etc.
- Customizable filters based on user preferences.

### **Comparison Tool:**

- Feature to compare multiple apartments side-by-side.
- Comparative analysis based on customizable parameters like price, amenities, and distance to key locations.

## **Tour Booking System:**

- Integrated scheduling tool for booking apartment tours.
- Calendar view to manage and schedule tours.

#### **User Dashboard:**

- Personal dashboard for managing searches, saved listings, and scheduled tours.
- Notifications and alerts on new listings or changes in selected apartments.

### 4. User Roles

#### **General User:**

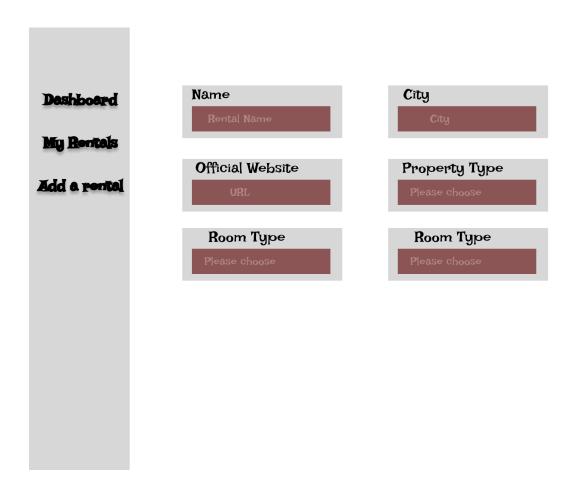
- Can register and login.
- Manage apartment listings, book tours, and access comparison tools.

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# Admin:

- Monitor and manage user activities.
- Handle site-wide settings and approve or remove listings as needed.

# 5. Mock



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