**Software Requirements Specification**

**For Real Estate Listing Portal**

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**1. Introduction**

**1.1 Purpose**

The Real Estate Listing Portal aims to provide an interactive and efficient platform for real estate agents and buyers to list, search, and communicate regarding properties. The system will streamline property listings, search filters, messaging, and analytics to improve the experience for all users.

**1.2 Intended Audience**

This document is intended for developers, project managers, stakeholders, and testers involved in the design, development, and maintenance of the Real Estate Listing Portal.

**1.3 Project Scope**

The system will allow agents to list properties, buyers to search and filter listings, and both parties to schedule viewings and communicate securely. It will also provide agents with a dashboard for tracking leads and analytics.

**1.4 Definitions, Acronyms, and Abbreviations**

* **Agent**: A user who lists properties for sale or rent.
* **Buyer**: A user who searches and inquires about properties.
* **Dashboard**: An interface displaying analytics and leads tracking.
* **API**: Application Programming Interface.

**1.5 References**

* W3Schools CSS Tutorial – <https://www.w3schools.com/css/>
* W3Schools Bootstrap Tutorial – <https://www.w3schools.com/bootstrap5/>
* HTML Color Codes (HTML Color Codes) – <https://htmlcolorcodes.com/>

**2. Overall Description**

**2.1 Product Perspective**

The system is a web-based application that facilitates real estate transactions. It integrates search functionality, listing management, user authentication, and messaging features.

**2.2 Product Features**

* User authentication for agents and buyers.
* Property listing creation and approval process.
* Advanced search and filter options.
* Appointment scheduling for property viewings.
* Messaging system between agents and buyers.
* Analytics and lead tracking dashboard for agents.

**2.3 User Classes and Characteristics**

* **Agents**: Create and manage property listings.
* **Buyers**: Search, filter, and inquire about listings.
* **Administrators**: Oversee approvals and platform management.

**2.4 Operating Environment**

* **Frontend**: Built using modern web technologies (React, Angular, or Vue.js).
* **Backend**: Node.js, Django, or similar frameworks.
* **Database**: MySQL, PostgreSQL, or MongoDB.
* **Devices**: Compatible with desktop, tablets, and mobile devices.

**2.5 Design and Implementation Constraints**

* Compliance with real estate regulations.
* Secure user authentication and data protection.
* Scalability to accommodate growing users and listings.

**3. System Features**

**3.1 User Authentication**

* Agents and buyers can register, log in, and authenticate securely.
* Secure password management using encryption.

**3.2 Property Listing Creation and Approval Workflow**

* Agents can create listings with images, descriptions, and prices.
* Admins can review and approve listings before publishing.

**3.3 Advanced Search and Filter Features**

* Buyers can search based on location, price, property type, and amenities.
* Sorting options based on relevance, price, or listing date.

**3.4 Appointment Scheduling for Viewings**

* Buyers can request appointments for property visits.
* Agents can manage their available time slots.

**3.5 Messaging System Between Buyers and Agents**

* Secure in-platform messaging to facilitate communication.
* Notifications for new messages and responses.

**3.6 Dashboard for Analytics and Leads Tracking**

* Agents can track inquiries, views, and leads for their listings.
* Reports on property performance and buyer engagement.

**4. External Interface Requirements**

**4.1 User Interfaces**

* Login and registration screens.
* Property listing and search interfaces.
* Appointment scheduling and messaging interfaces.

**4.2 Hardware Interfaces**

* The system runs on standard web-enabled devices (PCs, tablets, and smartphones).

**4.3 Software Interfaces**

* Integration with third-party map services for location-based search.
* Secure API connections for payment processing (if applicable).

**4.4 Communication Interfaces**

* Email notifications for property inquiries and appointment confirmations.
* API-based communication between frontend and backend services.

**5. Other Nonfunctional Requirements**

**5.1 Performance Requirements**

* The platform must support at least 1000 concurrent users.
* Response time for property search should not exceed 2 seconds.

**5.2 Security Requirements**

* Secure authentication using OAuth or JWT tokens.
* Data encryption for user and property details.

**5.3 Usability Requirements**

* The interface should be intuitive and responsive.
* Accessibility features should be included for users with disabilities.

**5.4 Scalability Requirements**

* The system should support increasing numbers of listings and users.
* Load balancing mechanisms should be in place.

**6. Other Requirements**

* The system should comply with local real estate regulations.
* Data backup mechanisms should be implemented.