SRS DOCUMENT FOR REAL ESTATE DATABASE MANAGEMENT SYSTEM

NAME: Rakshit Girish, Rahul Pandith

SRN: PES1UG22CS465, PES1UG22CS462

SECTION: 'H'

1. Introduction

1.1. Purpose - This document specifies the requirements for the Real Estate Management Website. The system allows users to store, retrieve, and manage real estate data. The system will allow real estate agents, property managers, and customers to access property listings, manage transactions, and maintain records efficiently.

1.2. Scope - The scope of a Real Estate Database Management System includes the development of a centralized platform that efficiently manages real estate property information. The system will facilitate the storage, retrieval, and manipulation of data related to properties, clients, transactions, and agents.

1.3. References –

- "Relational Database Approach to Real Estate Management" by Johnson, Smith and Williams.
- "NoSQL Databases for Real Estate Data Management: A Comparative Stud" by Taylor & Lee.
- "Integration of GIS and Database Management Systems for Real Estate Analysis" by Goodchild.
- "Cloud-Based Database Management Systems in Real Estate: A Case Study" by Brown, Green & Walker.
- "Challenges and Opportunities in Big Data Analytics for Real Estate" by Davis, Chen & Patel.

- "Securing Real Estate Databases: Techniques and Best Practices" by Zhang & Kim.

1.4. Overview - The document is structured into sections detailing the functional and non-functional requirements, system features, external interface requirements, and more.

2. Overall Description

2.1. Product Perspective- A centralized database to store and manage real estate property information, including listings, transactions, and client data. It creates an intuitive and easy-to-use interface that allows users to search, filter, and access property data efficiently.

2.2. Product Functions

- Add, update, and delete property listings.
- Store detailed property information (location, size, type, price, etc.).
- Upload and manage property documents.
- Register and manage users (buyers, sellers, agents, administrators).
- Advanced search functionality with filters (location, price range, property type, etc.).
- Compare multiple properties side-by-side based on key features.
- Add properties to a favourites list or watch list for easy access later.

2.3. User Classes and Characteristics

- **Real Estate Agent -** Manages property listings, interacts with clients, and facilitates property transactions.
- **Property Manager -** Manages the maintenance and operations of properties, including dealing with tenants and overseeing property conditions.
- **Client -** Searches for properties, schedules viewings, and makes purchase or rental offers.

2.4. Operating Environment

- Software: Runs on modern web browsers (Chrome, Firefox, Safari, etc.) with internet connectivity.
- Hardware: Accessible from desktops, laptops, tablets, and smartphones.

2.5. Design and implementation constraints

- Scalability
- Data Integrity
- Security
- Technology stack
- Budget
- Time
- Interoperability

3. External Interface Requirements

3.1. User Interfaces

- Web-based user interface for customers and administrator.
- User-friendly forms for searching properties and sending requests.
- Payment interface.

3.2. Hardware Interfaces

- Web server and database server to handle requests and manage data.

3.3. Software Interfaces

- Integration with payment gateways via secure APIs.
- Integration with third-party APIs for real estate listings management.

3.4. Communication Interfaces

- Secure protocols like HTTPS for data transmission.

4. System Features

4.1. User Authentication

- The system requires users to register and log in using their credentials.
- The system shall validate user credentials against stored records in the database.

4.2. Property searching

- Allows users to search for properties by entering the locations, size, and price in the required area or locality.
- The system shall display available properties based on user criteria. The system shall allow users to select a property and proceed with purchase.
- The system shall update the property availability in real time.

4.3. Payment Processing

- Handles secure payments.
- The system shall integrate with third-party payment gateways for transactions.
- The system shall confirm booking only after successful payment.

4.4. Property management

- Allows users to view, cancel, or re-filter their properties.

4.5. Admin Panel

- Provides administrators with tools to manage properties, listings, and requests.
- The system shall allow administrators to add, update, or remove property listings.

4.6. Error Handling

- The system shall display user-friendly error messages.

5. Non-functional requirements

5.1. Performance requirements

- The system shall respond to user actions within 2 seconds.

5.2. Security Requirements

- The system shall encrypt all user data during transmission.

5.3. Usability Requirements

- The system shall provide an intuitive and user-friendly interface.

6. Other Requirements

6.1. Regulatory Requirements

- The system shall comply with local land regulations and data protection laws.

6.2. Environmental Requirements

- The system shall be accessible across different environments, including low-bandwidth areas.