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# **SOFTWARE REQUIREMENTS SPECIFICATION**

**For**

**Real Estate Listings**

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## 1.2 Purpose

The main objective of this document is to illustrate the requirements of the project Real Estate Listing. The document gives the detailed description of the both functional and non-functional requirements proposed by the client. The purpose of this project is to provide a friendly environment to maintain the details of Seller and client. The main purpose of this project is to maintain easy circulation system using computers and to provide different reports. This project describes the hardware and software interface requirements using ER diagrams and UML diagrams.

### 1.2 Document conventions

- Entire document should be satisfies:
- Convention for main title
  - Font face : Times new roman
  - Font style : Bold
  - Font size : 14
- Convention for sub title
  - Font face : Times new roman
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- Convention for body
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### 1.3 Scope of development project

Real Estate listing is basically updating the manual land or property into an internet-based application so the user can able to find their desire or required property or land and able to communicate with Seller.

The project is specifically designed for a land and property agent and the client or user. This product will work as complete user interface for agent and land or property description and view the complete details of a property. This software can be used by any existing and new Seller to manage their details and description for the properties. It is useful for a people who need to sale their small land.

The project can be easily implemented under various situations. We can add new features as and when we require, making reusability possible as there is flexibility in all the modules. The language used for developing the project is Java as it is quite advantageous than other languages in terms of performance, tools available, cross platform compatibility, libraries, cost (freely available), and development process.

### 1.4 Definitions, Acronyms and Abbreviations

JAVA -> platform independence  
SQL-> Structured query Language  
ER-> Entity Relationship  
UML -> Unified Modelling Language  
IDE-> Integrated Development Environment  
SRS-> Software Requirement Specification

### 1.5 References :

- Books
- Websites

## 2 Overall Descriptions

Use Case Diagram of Library Management System

## **2.1 Product Perspective**

## **2.2 Product Function**

## **2.3 User Classes and Characteristics**

The system provides different types of services based on the type of users [User/Seller]. The Librarian will be acting as the controller and he will have all the privileges of an administrator. The member can be either a student or staff of the university who will be accessing the Library online.

The features that are available to the User are:-

- A user can able to login and able to track their previous history
- Can able to view the property documents
- Can able to view the details of a seller
- Can able to filter based on their requirements
- Can search for a particular area
- Can put a request for the new area
- Can view the land issued of seller to him

The features that are available to the Seller are:-

- Can able to sell the land or property to the user
- Edit the information of the property
- Can check the no of views of their land or property
- Can able to check the feedback
- Add land or property details to the database

## **2.4 Operating Environment**

The product will be operating in windows environment. The Real Estate listing system is a website and shall operate in all famous OS like windows, macOS, Linux etc. The only requirement to use this online product would be the internet connection.

The hardware configuration include Hard Disk: 40 GB, Monitor: 15” Colour monitor, Keyboard: 122 keys. The basic input devices required are keyboard, mouse and output devices are monitor, printer etc.

## **2.5 Assumptions and Dependencies**

The assumptions are:-

- The coding should be error free
- The system should be user-friendly so that it is easy to use for the users
- The information of all users and land details must be stored in a database that is accessible by the application
- The system should have more storage capacity and provide fast access to the database
- The system should provide search facility and support quick transactions
- The Real Estate listing System is running 24 hours a day

Internet connection

- Users must have their correct usernames and passwords to enter into their online accounts and do actions

The dependencies are:-

- The specific hardware and software due to which the product will be run
- On the basis of listing requirements and specification the project will be developed and run
- The end users (admin) should have proper understanding of the product
- The system should have the general report stored

## 2.6 Requirement

Software Configuration:-

This software package is developed using java as front end which is supported by sun micro system. Microsoft SQL Server as the back end to store the database. Operating System: Windows NT, windows 98, Windows XP Language: Java Runtime Environment, Net beans 7.0.1 (front end) Database: MS SQL Server (back end)

Hardware Configurations:-

Processor : intel i5 Dual core CPU

Hard Drive : 40 GB

RAM : 256 MB or more

## 2.7 Data Requirements :-

The inputs consist of the query to the database and the output consists of the solutions for the query. The output also includes the user receiving the details of their accounts. In this project the inputs will be the queries as fired by the users like create an account, selecting land and putting into account. Now the output will be visible when the user requests the server to get details of their account in the form of land descriptions.

## 3 External Interface Requirements :-

### 3.1 GUI

The software provides good graphical interface for the user and the administrator can operate on the system, performing the required task such as create, update, viewing the details of the book.

- It allows user to view quick reports like recent views of an seller.
- It provides stock verification and search facility based on different criteria.
- The user interface must be customizable by the administrator
- All the modules provided with the software must fit into this graphical user interface and accomplish to the standard defined
- The design should be simple and all the different interfaces should follow a standard

## Template

- The user interface should be able to interact with the user management module and a part of the interface must be dedicated to the login/logout module

### Login Interface:-

In case the user is not yet registered, he can enter the details and register to create his account. Once his account is created he can 'Login' which asks the user to type his username and password. If the user entered either his username or password incorrectly then an error message appears.

### Search:-

The User can enter the location where he/she wishes to buy an property based on that the system will short the property and display.

### Categories View:-

Categories view shows the categories of land or property like residential/commercial available and provides ability to the seller to add/edit or delete category from the list.

## 4 System Features

The users of the system should be provided the surety that their account is secure. This is possible by providing:-

- User authentication and validation of members using their unique member ID
- Proper monitoring by the administrator which includes updating account status, land description and updating the documents for the land.
- Proper accountability which includes not allowing a member to see other member's account. Only administrator will see and manage all member accounts

## 5 Other Non-functional Requirements

### 5.1 Performance Requirements

The real estate listing system must respond swiftly, loading search results in 1 second and full property details in 3 seconds. It should handle 1000 concurrent users during peak times, support a 20% growth, and maintain 99.9% uptime. Mobile responsiveness and efficient error handling are crucial, addressing varying network conditions.

- The performance of the system should be fast and accurate

- System shall handle expected and non-expected errors in ways that prevent loss in information and long downtime period. Thus it should have inbuilt error testing to identify invalid username/password
- The system should be able to handle large amount of data. Thus it should accommodate high number of details of land and property.

## **5.2 Safety Requirements**

The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup so that the database is not lost. Proper UPS/inverter facility should be there in case of power supply failure.

## **5.3 Security Requirement**

- System will use secured database
- Normal users can just read information but they cannot edit or modify anything except their personal and some other information.
- System will have different types of users and every user has access constraints
- Proper user authentication should be provided
- No one should be able to hack users' password
- There should be separate accounts for admin and members such that no member can access the database and only Seller has the rights to update the database.

## **5.4 Requirement attributes**

- There may be multiple admins creating the project, all of them will have the right to create changes to the system. But the members or other users cannot do changes
- The project should be open source
- The Quality of the database is maintained in such a way so that it can be very user friendly to all the users of the database
- The user be able to easily download and install the system

## **5.5 Business Rules**

A business rule is anything that captures and implements business policies and practices. A rule can enforce business policy, make a decision, or infer new data from existing data. This includes the rules and regulations that the System users should abide by. This includes the cost of the project and the discount offers provided. The users should avoid illegal rules and protocols. Neither admin nor member should cross the rules and regulations.

## 5.6 User Requirements

The users of the real estate listing system comprise property seekers and real estate agents, with the latter functioning as administrators responsible for system maintenance. Property seekers are assumed to possess basic computer and internet browsing skills. In contrast, administrators are expected to have a deeper understanding of the system's intricacies, allowing them to address issues arising from potential data loss, power outages, and other unforeseen events.

The admin provides certain facilities to the users in the form of:-

- Backup and Recovery
- Forgot Password
- Data migration i.e. whenever user registers for the first time then the data is stored in the server
- Data replication i.e. if the data is lost in one branch, it is still stored with the server
- Auto Recovery i.e. frequently auto saving the information
- Maintaining files i.e. File Organization
- The server must be maintained regularly and it has to be updated from time to time

## 6 Other Requirements

### 6.1 Data and Category Requirement

Various user categories exist within the real estate listing system, including property owners, real estate agents, administrators, and prospective tenants or buyers. Access rights are tailored based on the user's category, delineating permissions accordingly. For instance, administrators possess comprehensive privileges such as modifying, deleting, and appending property data. Conversely, users, excluding administrators and property owners, are limited to retrieving information from the database

### 6.2 Appendix

A: Admin, Abbreviation, Acronym, Assumptions; B: Books, Business rules; C: Class, Client, Conventions; D: Data requirement, Dependencies; G: GUI; K: Key; S: Seller; B: Buyer; N: Non-functional Requirement; O: Operating environment; P: Performance, Perspective, Purpose; R: Requirement, Requirement attributes; S: Safety, Scope, Security, System features; U: User, User class and characteristics, User requirement;

### 6.3 Glossary

The following are the list of conventions and acronyms used in this document and the project as well:

- Administrator: A login id representing a user with user administration privileges to the software
- User: A general login id assigned to most users
- Client: Intended users for the software
- SQL: Structured Query Language; used to retrieve information from a database
- SQL Server: A server used to store data in an organized format

- Layer: Represents a section of the project
- User Interface Layer: The section of the assignment referring to what the user interacts with directly
- Application Logic Layer: The section of the assignment referring to the Web Server. This is where all computations are completed
- Data Storage Layer: The section of the assignment referring to where all data is recorded
- Use Case: A broad level diagram of the project showing a basic overview
- Class diagram: It is a type of static structure diagram that describes the structure of a system by showing the system's cases, their attributes, and the relationships between the classes
- Interface: Something used to communicate across different mediums
- Unique Key: Used to differentiate entries in a database

## **6.4 Class Diagram**