
SOFTWARE REQUIREMENTS SPECIFICATION

For

Real Estate Listings

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1. Introduction

1.1 Purpose

The main objective of this document is to illustrate the requirements of the project Real Estate Listings. 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 real estate agent and plots. 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 justified.
- Convention for Main title
 - Font face: Times New Roman
 - Font style: Bold
 - Font Size: 14
- Convention for Sub title
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- Convention for body
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1.3 Scope of Development Project

Real Estate Listings is a user-friendly interfaces for creating, editing, and managing property listings. It Support for various property types (residential, commercial, rental)

The project is specifically designed for the use of Real estate agents and user. The product will work as a complete user interface for Real estate listings process and real estate listings usage from ordinary users. Library Management System can be used by any existing or new library to manage its books and book borrowing, insertion and monitoring. It is especially useful for any Buyers use real estate listings to search for properties based on their preferences, such as location, size, price range.

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 Modeling Language
- IDE-> Integrated Development Environment
- SRS-> Software Requirement Specification

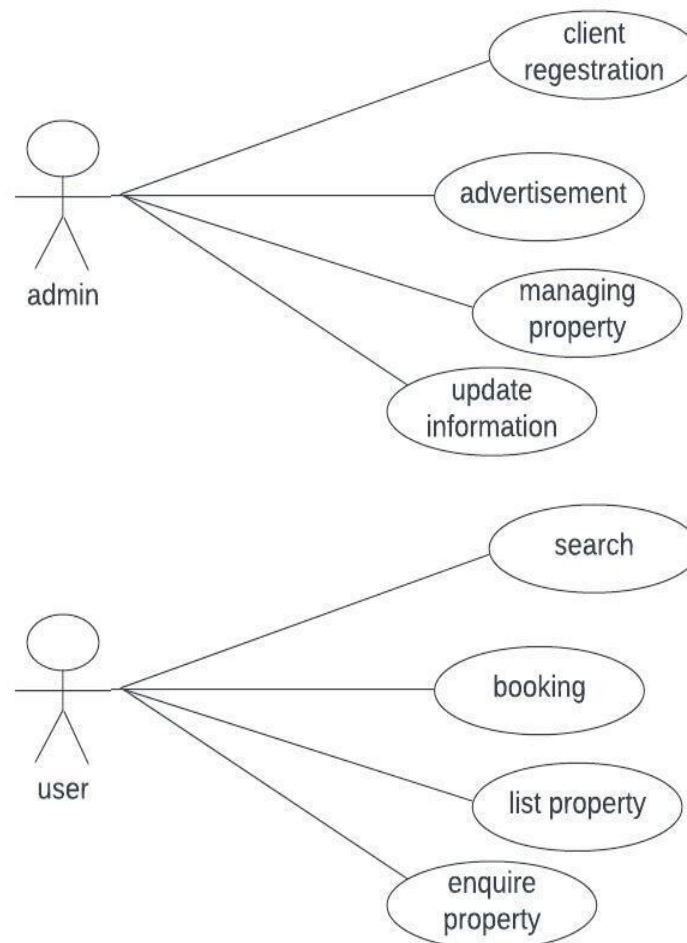
1.5 References

- Real Estate Listings
 - Software Requirements and Specifications: A Lexicon of Practice, Principles and Prejudices (ACM Press) by Michael Jackson
 - Software Requirements (Microsoft) Second Edition By Karl E. Wiegers
 - Software Engineering: A Practitioner's Approach Fifth Edition By Roger S. Pressman
- Websites

2. Overall Descriptions

2.1 Product Perspective

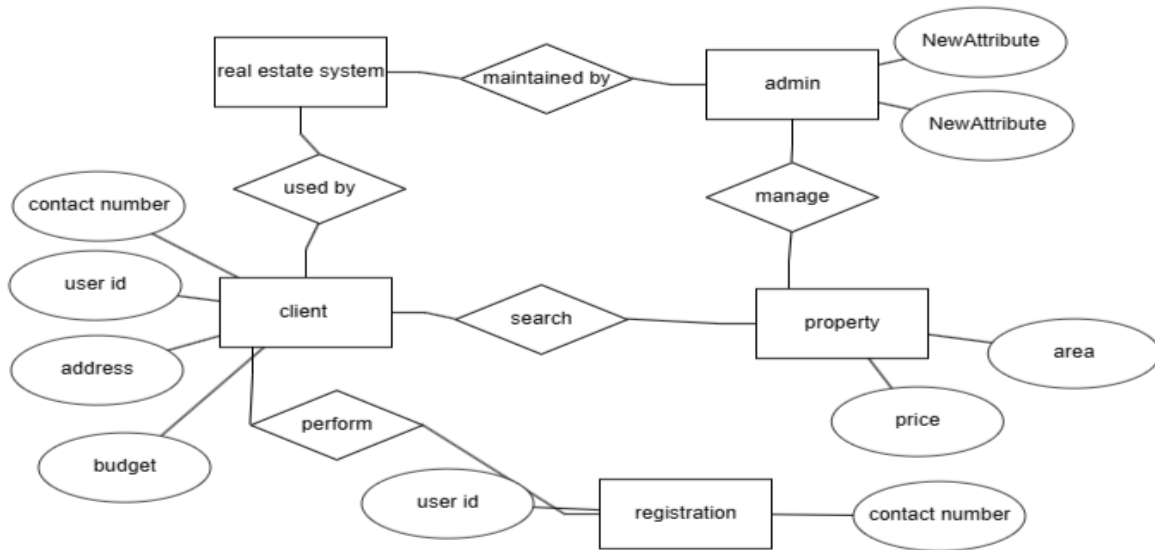
Use Case Diagram of Real Estate Listings



This is a broad level diagram of the project showing a basic overview. The users can be public person.. This System will provide a search functionality to facilitate the search of resources. . Further the agent can add/update the resources and the resource users from the system.The users of the system can request issue/renew/return of books for which they would have to follow certain criteria.

2.2 Product Function

Entity Relationship Diagram of Real Estate Listings



The Online Real Estate Listings provides online real time information about the plots available in the Real Estate and the user information. The main purpose of this project is to reduce the manual work. This software is capable of managing Book Issues, Returns, Calculating/Managing Fine, Generating various Reports for Record-Keeping according to end user requirements. The Librarian will act as the administrator to control members and manage books. The member's status of issue/return is maintained in the library database. The member's details can be fetched by the librarian from the database as and when required. The valid members are also allowed to view their account information.

2.3 User Classes and Characteristics

The system provides different types of services based on the type of users [Member/Agent]. The Agent will be acting as the controller and he will have all the privileges of an administrator. The member can be a public person of the who will be accessing the Realestate listings online.

The features that are available to the realestate agents are:-

- Represent property sellers and help them create effective listings.
- Manage a portfolio of listings for properties they represent.
- Assist buyers in finding properties that meet their requirements.
- Communicate with both buyers and sellers throughout the transaction process.
- Manage a comprehensive inventory of properties through listings.
- Use listings for marketing and promotional purposes.
- Analyze performance metrics of listings and adjust strategies accordingly.

The features that are available to the Members are:-

- Can view the different categories of lands available in the Realestate
- Can view the List of properties available in each category
- Can own an account in the Realestate Listings.

- Can Save and track favorite properties.
- Communicate agents for inquiries
- Can search and filtering options to find properties that match their criteria.

2.4 Operating Environment

The product will be operating in windows environment. The Real Estate Listings is a website and shall operate in all famous browsers, for a model we are taking Microsoft Internet Explorer, Google Chrome, and Mozilla Firefox. Also it will be compatible with the IE 6.0. Most of the features will be compatible with the Mozilla Firefox & Opera 7.0 or higher version. The only requirement to use this online product would be the internet connection.

The hardware configuration include Hard Disk: 40 GB, Monitor: 15" Color 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 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 Listings is running 24 hours a day
- Users may access from any computer that has Internet browsing capabilities and 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
- The information of all the users must be stored in a database that is accessible by the Library System
- Any update regarding the book from the library is to be recorded to the database and the data entered should be correct

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 Configuration:-

Processor: Pentium(R)Dual-core CPU

Hard Disk: 40GB

RAM: 256 MB or more

2.7 Data Requirement

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, 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 time, date and which books are currently in the account.

3. External Interface Requirement

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 plots.

- It allows user to view quick reports like Book Issued/Returned in between particular time.
- 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:-

Allows users to refine search results based on various criteria such as price range, property type, and location.

Categories View:-

Categories view shows the categories of plots available and provides ability to the agent to add/edit or delete category from the list.

Agent Control Panel:-

This control panel will allow Agent to add/remove users; add, edit, or remove a resource. And manage lending options.

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
- User-friendly interfaces for creating and editing property listings.
- Support for various property types (residential, commercial, rental).
- Tools for managing and updating existing listings.

5. Other Non-functional Requirements

5.1 Performance Requirement

Performance requirements for a real estate listings platform are crucial to ensure that the system meets user expectations in terms of speed, responsiveness, and scalability. Here are key performance requirements for a real estate listings system

- The performance of the system should be fast and accurate
- Real Estate Listings 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
- Ensure efficient communication with external services

5.2 Safety Requirement

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 admin 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 Requirement

The users of the system are members and Agents who act as administrator to maintain the system. The members are assumed to have basic knowledge of the computers and internet browsing. The administrators of the system should have more knowledge of the internals of the system and is able to rectify the small problems that may arise due to disk crashes, power failures and other catastrophes to maintain the system. The proper user interface, user manual, online help and the guide to install and maintain the system must be sufficient to educate the users on how to use the system without any problems.

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

There are different categories of users namely teaching staff, Librarian, Admin, students etc. Depending upon the category of user the access rights are decided. It means if the user is an administrator then he can be able to modify the data, delete, append etc. All other users except the Librarian only have the rights to retrieve the information about database. Similarly there will be different categories of books available. According to the categories of books their relevant data should be displayed. The categories and the data related to each category should be coded in the particular format.

6.2 Appendix

A: Admin, Abbreviation, Acronym, Agent, Assumptions; B: Business rules; C: Client, Conventions; D: Data requirement, Dependencies; G: GUI; K: Key; M: Member; 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

A class is an abstract, user-defined description of a type of data. It identifies the attributes of the data and the operations that can be performed on instances (i.e. objects) of the data. A class of data has a name, a set of attributes that describes its characteristics, and a set of operations that can be performed on the objects of that class. The classes' structure and their relationships to each other frozen in time represent the static model. In this project there are certain main classes which are related to other classes required for their working. There are different kinds of relationships between the classes as shown in the diagram like normal association, aggregation, and generalization. The relationships are depicted using a role name and multiplicities. Here 'Librarian', 'Member' and 'Books' are the most important classes which are related to other classes.

