SOFTWARE REQUIREMENTS SPECIFICATION

For

Real Estate Listings

Prepared by:-

TEAM 15

-SARAVANA PRABAHAR MV

-SANJITH S

-THIRUMALAIVASAN P

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 property details and client inquiries .The main purpose of this project is to maintain easy listing 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
  - Font face: Times New Roman
  - Font style: Bold
  - Font Size: 12
➤ Convention for body
  - Font face: Times New Roman
  - Font Size: 12

1.3 Scope of Development Project

Real Estate Listing system is a simple system for managing real estate listings, property details, and client inquiries. Real estate agents can post property listings, and clients can inquire about properties.

The project is specifically designed for the use of property dealers and clients. The product will work as a complete user interface for Real Estate management process and find property details from ordinary users. Real Estate Listing System can be used by any Property Agents and clients to manage property inquiring, agent details, contact information. It is especially useful for any property agents, sellers who want to sell their property and clients who need to inquiry about the property.

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
- ➢ Books
  - • Software Requirements and Specifications: A Lexicon of Practice, Principles and Prejudices (ACM Press) by Michael Jackson
  - • Software Requirements (Microsoft) Second EditionBy Karl E. Wiegers
  - • Software Engineering: A Practitioner's Approach Fifth Edition By Roger S. Pressman
- ➢ Websites
  - • **https://www.slideshare.net/senthilasq/srs-documentation**
  - • **https://www.coursehero.com/file/53977714/SRS-Sample-1doc/**

2. Overall Descriptions
2.1 Product Perspective
Use Case Diagram of Real Estate Listing System

This is a broad level diagram of the project showing a basic overview. The users can be either staff or student.. This System will provide a search functionality to facilitate the search of resources. This search will be based on various categories viz. book name or the ISBN. Further the library staff personnel can add/update the resources and the resource users from 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 Listing System
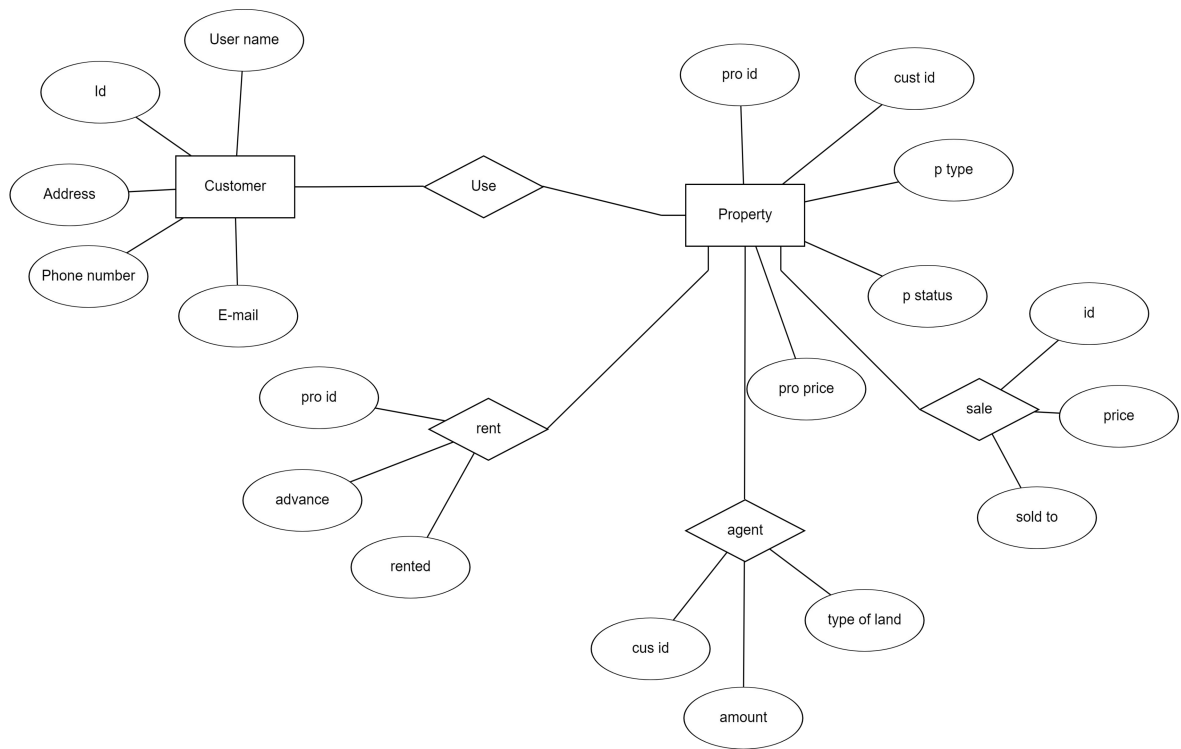
2.3 User Classes and Characteristics

The system provides different types of services based on the type of users [Agents/Clients]. The Real Estate Agents can post the property and Clients can inquiry about the property.

The client can be a public who wants to buy a property for their own or be an investor.

The features that are available to the Real Estate Agent are:-
  ➢ A agent can post a details of the property.
  ➢ Can post the Images of the property.
  ➢ Can add the price of the property.
  ➢ Can add the type of property (residential/commercial)
  ➢ Add the contact information for the client to inquiry.
  ➢ Edit the information of already posted property.

The features that are available to the Clients are:-
  ➢ Can view the different images of the property.
  ➢ Can view the price of the property.
  ➢ Can create an client user account.
  ➢ Can view the details of that property.
  ➢ Can put an inquiry to the agent.
  ➢ Can view the contact information of the Agent.

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 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 information of all clients, agents and properties must be stored in a database that is accessible by the system.
  ➢ The system should have more storage capacity and provide fast access to the database
  ➢ The system should support quick transactions
  ➢ The Real Estate Listing System is running 24 hours a day
  ➢ Clients may access from any computer that has Internet browsing capabilities and Internet connection

➢ Clients 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 (admins) 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 Real Estate admin System
➢ Any update regarding the property by the agent 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, selecting property for viewing information and contact the respective agents for inquiring. Now the output will be visible when the user requests the server to get details of the property in the form of image, details of the property and the contact information about the agent.

3. External Interface Requirement
3.1 GUI
The software provides good graphical interface for the client and the administrator can operate on the system, performing the required task such as post, update, viewing the details of the property.
➢ It allows client to view the total description of the property.
➢ It also allows the agent to post and update the property details
➢ 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 client 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 bar:-
The client or enter can enter the type and location of the property he is looking for ,then he can search for the property he/she needed.

Categories View:-
Categories view shows the categories property available and provides ability to the admin to add/edit or delete category from the list.

Client's View:-
Client should be able to view the particular property he/she is interested and also able to do inquiry about the property.

Admin's Control Panel:-
This control panel will allow Admin to add/remove users; add, edit, or remove a resource. And manage contact options.

Agent's Post Panel:-
This panel will allow Agent to make an post about the property details to the clients

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 property details by the agent.
➤ 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 Requirement
The proposed system that we are going to develop will be an accurate and trustable resource. Therefore, it is expected that the database would perform functionally all the requirements that are specified by the client.
➤ The performance of the system should be fast and accurate
➤ Real Estate Listing System shall handle expected and non-expected errors in ways that prevent loss in information. 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 posts and users without any fault

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 agents , clients and admin who act as administrator to maintain the system. The admin's 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, Agent, Abbreviation, Acronym, Assumptions; B: Business rules; C: Class, 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.