
SOFTWARE REQUIREMENTS SPECIFICATION

for

PROPERTY MANAGEMENT

Version 1.0

Project Number : P010

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1 Introduction

1.1 Purpose

Defining and describing the functions and specifications of the “Property Management” website is the primary goal of this Software Requirements Specification (SRS). This Software Requirements Specification illustrates, in clear terms, the system’s primary uses and required functionality as specified by our customer. The “Property Management” website is designed to provide the facility to a user to buy or sell/rent his properties such as apartments and rooms also to add projects.

1.2 Intended Audience and Reading Suggestions

This SRS is for developers, project managers, users and testers. Further, the discussion will provide all the internal, external, functional and also non-functional information about “Property Management”.

1.3 Project Scope

This portal is designed to provide the facility, where a customer can easily buy or sell/rent their properties such as apartments rooms and add their projects.

The user can be a buyer or seller or builder. In all cases, the user has to register on this website by filling a registration form. The user will be redirected to the “USER DASHBOARD ” where he/she can see all the notifications on successful login. If the user wants to register a property for selling or renting or wants to build a project, he/she can do so by filling an application form, which will be different for apartment, room and projects. The user can also see all the properties he/she has registered on the details page. They can edit or delete properties registered by them. The owner can also approve or reject the application related to his property. Also, the owner and user can book a meeting for a particular property. The user can see other properties also which are registered in the system on the home page and can provide ratings to it.

A search filter is provided which will search based on different parameters like city/state, price range and property type. The search results will contain the details for each property along with four buttons: Apply, Complaints, Book Meeting and Save for Later. The owner cannot apply or register complaints about his/her property. Users can buy the property or can make the complaint regarding any property or book a meeting with the owner or can save that property for later.

The admin after a successful login will be redirected to the “Admin Dashboard”. The

admin can view the list of all registered users as well as registered properties. The admin manages all the complaints and he/she can also warn the owner if he finds the complaint is valid. Also, the admin can delete the account of any user. Anyone can reach the admin for conveying their messages through the contact us page. There will also be a guide manual page on the website.

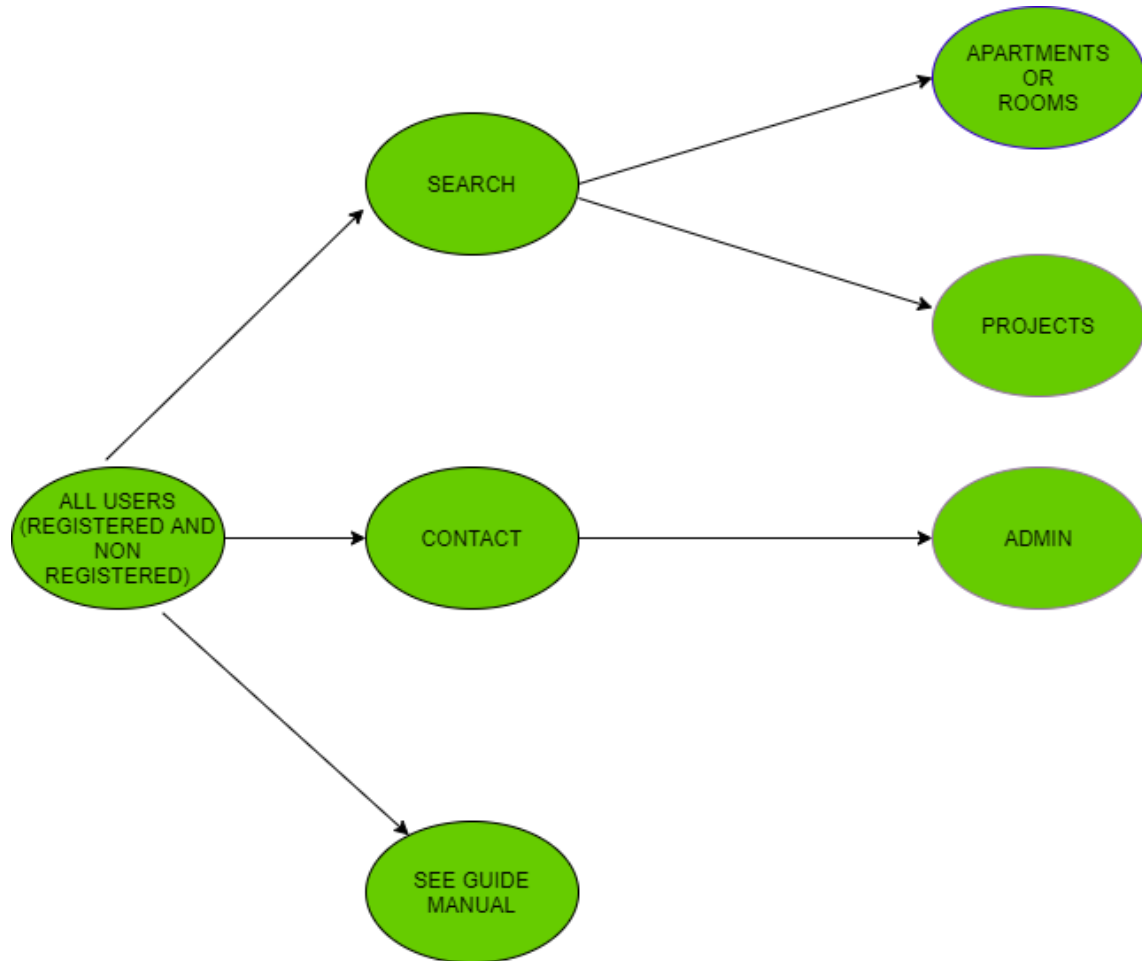


Figure 1.1: Workflow diagram of all users (registered/ not registered)

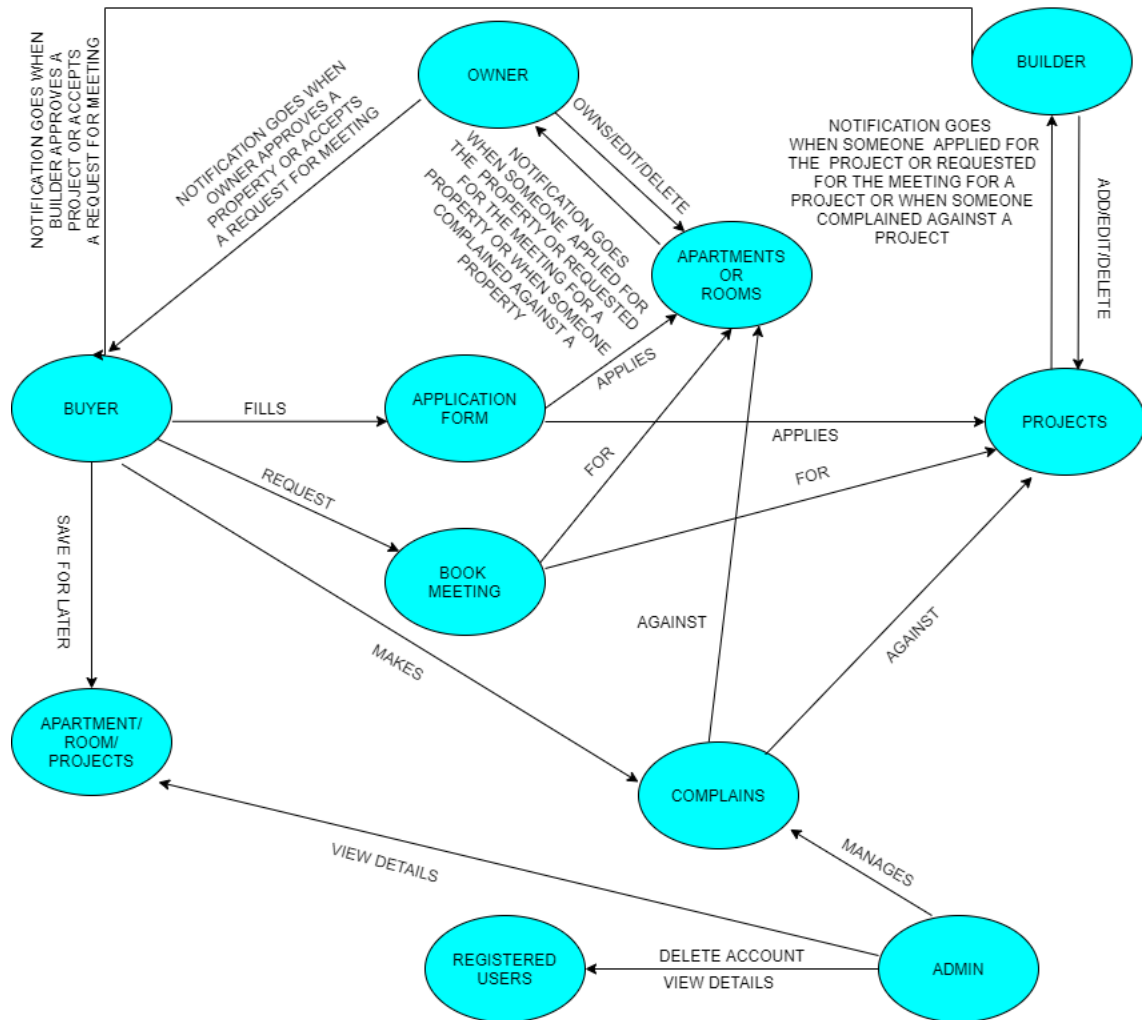


Figure 1.2: Workflow diagram of registered users

2 Overall Description

This section includes details about what is and is not expected of the "Property Management" website in addition to which cases are intentionally unsupported and assumptions that will be used in the creation of the "Property Management" website.

2.1 Product Perspective

It is an online property website that supports several functions for both the user and admin's management. The website must be available to anyone on any browser like Firefox, Google Chrome, Internet Explorer etc.

2.2 User Classes and Characteristics

"Property Management" has basically 2 types of users.

- User
 - Owner
 - Buyer
 - Builder
- Admin

The Admin is required to manage all functionalities of the website.

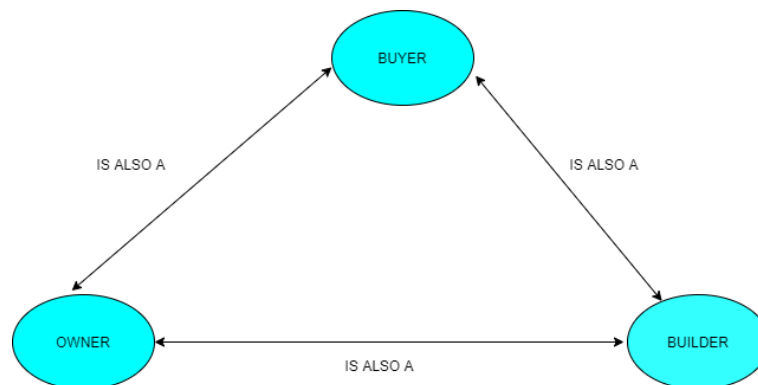


Figure 2.1: Users

2.3 Product Functions

Property Management provides the following list of functions:-

Authentication Functionalities:

- Login/Register Functionality - A user has a username (unique across all users), password (no restrictions), email address (unique across all users) and mobile no. Anyone may sign up for a customer account.
- Password encryption - Before the password is stored in the database, it is converted into encrypted form which will protect the data from unauthorized users.

User Functionalities:

A user can provide ratings to the properties. A user can be a buyer, seller and builder. The owner cannot buy his/her property. There are no restrictions on the number of properties to be registered or bought. When the user is an owner -

- To register the property, the owner has to fill a form, which is different for both apartment and room. The form contains details of the property. After filling the form the entries are stored in the database and will be displayed on the home page on search.
- The owner can see all the details of the properties registered by him/her on the details page. There are separate details pages for rooms and apartments. The owner can edit the details or delete the property.
- An approval page where the user can see details of all the buyers' who have registered for his/her property. The owner can approve or reject the application.
 - The owner can also approve the request to book a meeting with the buyer for a particular property.

When the user is the buyer-

- A search filter is provided, where the buyer can search the property based on different parameters like city/state, price range or property type.
- To buy a property or make any complaint or save the property for later, he/she needs to be logged in the website.
- The search result displayed contains all the information of the properties according to his/her interest. Each property has four buttons along with the information:
 - APPLY BUTTON :- By clicking on this button a buy property form for that particular property will open. The buyer will have to fill in his/her information in that form.
 - COMPLAINT BUTTON: By clicking on the this button a complaint form for that particular property will open. The buyer can make complaints against the property.

- SAVE FOR LATER BUTTON:- By clicking on the this button the property will get bookmarked and then will be displayed on his/ her dashboard.
- BOOK MEETING BUTTON: By clicking on this button, user can book a meeting for that property.
- The user shall be provided with a list of all other registered users, and he/she will be able to send then friend requests, which would then allow them to view the properties which that particular friend has applied to and/or has been allotted, enabling the user to make similar choices.

When the user is a builder-

- He/she can add the project by filling a form. The form contains details of the project. After filling the form the entries are stored in the database and then displayed on the home page on search.

Admin Functionalities:

- The admin can see the list of all registered users and their information.
- The admin can see the list of all registered properties.
- Admin manages all the complaints. He/she can warn the owner if required or can also delete the property of that owner. Admin can also delete the account of the user.
- The admin can handle the messages request sent to his/her personal email through the Contact-Us page.

Other Functionalities:

- If the buyer applies for the property, a notification goes to the property owner.
- If the owner approves the application of any buyer, a notification goes to that buyer.
- When the admin warns the owner of any particular complaints, a notification goes to that owner.
- When the buyer requests for the booking a meeting, then notification goes to the owner and after acceptance of the request, a notification goes to the buyer.
- If any user wants some help, then he or she can contact the admin by filling a short Contact-Us form.
- Anyone can read the Guide Manual in case they need any help for performing any functionalities.

2.4 Operating Environment

The website will be operated in any Operating Environment - Mac, Windows, Linux etc. The system is designed to function within a web browser in different sizes of screen i.e Laptops, PCs, Tablet and mobile phones. To implement this cross-platform portability, the system is built using HTML5, CSS3, Bootstrap4 and JavaScript rather than a native language of a particular platform.

This simply means that the web browser must support HTML5, CSS3, Bootstrap4 and Javascript to run this software. The system should be able to detect the screen size of the device and optimize the user interface for that specific screen size. MySQL will be used to communicate with the backend servers that store and deal with the data. This platform will use flask for the backend.

2.5 Design and Implementation Constraints

On the homepage, there is a search filter which will display the results on successful search. Guide manual where anyone can find the guidelines related to applying for the property, registering for the property, adding projects, making complaints, approving property etc. Each search result has four buttons: Apply, Complaints, Save for Later and Book a Meeting.

Login and Register page- where both user and admin can log in or register

User Dashboard- It contains all the links where the user can go like- details page where he can edit or delete properties, approval page, property registration form page. Also, all the notifications are displayed on the user dashboard.

Admin Dashboard- It contains all the links where the admin can go like the complaints page, details page, etc.

The site shall also have the constraint that a user may only have **15 properties** in their Save for Later section.

Also, when a particular user has 5 complaints against their properties, the Admin will proceed to delete their account.

3 System Features

The main part of this website is to provide the facility to buy or sell/rent properties such as apartments and rooms to the user.

3.1 Description and Priority

Property Management should have various features. All the features are necessary for the software. Some of them are the main while some are secondary.

The features with priority up to down are-

1. User Registration : The user should be able to register for an account so that he/she can log in and use the software.

Acceptance Test : Creating an Account Given that a person is a member of a specific property management's list of clients, he/she will be able to create a login ID based on their email address as well as a password that will eventually be entered into the login page so that users will be able to use the features of the software.

2. User Login: Users should be able to log in to their account to access the software functionality.

Acceptance Test : Logging In The user has supplied a valid email address and the corresponding password associated with that email address when they submit their login request then they should be presented with the protected features of the software.

3. Property Registration: Users should be able to register the property with necessary details so that buyers can see the property details and decide which one suits them their interest.

Acceptance test : Registering property Users supply the details associated with the property so that whenever a buyer searches for the property they would be able to see all the properties options available and compare it accordingly.

4. Records: Admin must have access to all the records like details of the user and the property registered by the particular user.

Acceptance test : Keeping clients records A different dashboard will be there for the admin so that he can access all the records of clients and details of their registered properties.

5. Edit/Update: Users should be able to edit/update the details if they haven't entered it properly during registration so that the software works better.

Acceptance Test : Providing access for edit/update Users have the power to edit/update details entered by them at any time.

6. Listing Property: Users must be able to view the properties registered at the portal so that they can buy/rent it.

Acceptance test : Providing a list of properties with necessary information Users can search properties through different available search filters like city, state, max/min price etc to compare it accordingly.

7. Apply Option: Users must be able to apply for the property they are interested to buy.

Acceptance Test: Applying for the selected property By clicking on the apply button, users have to fill out a property form for that particular property. Buyer must be logged in to their account to apply for the property.

8. Complaints Option: Users must be able to complain about the property if there are some issues.

Acceptance Test: Complaining problems with the property By clicking on the complaints button, users have to fill out a complaints form for that particular property. Users must be logged in to their account to complain about the property.

9. Notifications: Property owners must get a notification if someone applies for their registered property.

Acceptance Test: Notifications regarding property Whenever someone applies for any property, then the property owner must know about that person, so they will get a notification on their dashboard and after contacting them the property owner can sell or give it on rent if he wants.

10. Booking a meeting Option: Users must be able to create a request for booking a meeting for the particular property if they need to discuss it.

Acceptance Test: Booking a meeting for a particular property By clicking on the book a meet button, users have to fill out a form for that particular property. Users must be logged in to their account to book the meeting about the property.

11. Save Property for Later option: Users can bookmark the property if they don't want to apply for the same at that time. They don't need to search for that property again, it will be visible on one of the pages in their dashboard.

Acceptance Test: It will be visible on one of the pages in their dashboard.

12. Contact-Us form: Anyone can reach the admin for conveying their messages by filling this form.

Acceptance Test: Person will get the auto-reply mail that their message is reached to the admin.

3.2 Functional Requirements

The “ Property Management” website requires:

Front-End - HTML5, CSS3, JavaScript.

Database - MySQL

Framework - Flask, Bootstrap4

Language - Python

4 EXTERNAL INTERFACE REQUIREMENTS

4.1 User Interfaces

We will be making a highly responsive website which will be working on every device where you can access via browser.

4.2 Hardware Interfaces

We are going to deploy our software on a system which has good storage, processor etc..

4.3 Software Interfaces

We are going to make our software such that it works on every system irrespective of what their operating system. We will be taking care of the software interface as long as it meets hardware interface requirements.

5 Other Nonfunctional Requirements

Nonfunctional Requirements (NFRs) define system attributes such as security, reliability, performance, maintainability, scalability, and usability. They serve as constraints or restrictions on the design of the system across the different backlogs.

5.1 Performance Requirements

For the development of “Property Management”, HTML5, CSS3, Bootstrap4, JavaScript, Python, Flask and MySQL are used. Following are the key performance requirements :-

- Pages should load faster (i.e within 2 seconds).
- Search results should be displayed in less time (i.e within 1 second).
- Login/Logout must not take more than 1 seconds.

5.2 Security Requirements

Unregistered users can enter the website, however, their access will be greatly limited. They may only search for and view the property registered in the database of the website, but to buy or rent one, or to put a property up for sale or rent, they need to be registered users. One particular user of a section only can perform his/her particular actions. The following security standards should be followed :

- Login operation should be performed using transport layer security (HTTPS).
- All user passwords should be encrypted using one-way hash algorithms in the database.
- All input fields should be validated for SQL injection scenarios and HTML reserved words scenarios. Input should be sanitized before sending them to the upstream systems.

5.3 Maintainability

- Back-up: The system offers the efficiency for data back-up.
- Errors: The system will track every mistake as well as a log of it.

5.4 Reliability

Availability: The system is available all the time.

5.5 Software Quality Attributes

In the development phase, testing and conferences of users is continued, so that the quality of the software is maintained and all the requirements are fulfilled.

Database, logical and also UI test is required.

5.6 Business Rules

"PROPERTY MANAGEMENT" is for putting up a user's property such as rooms and apartments on sale/rent and for purchase or leasing it to another user. It saves working time and pressure.

6 Other Requirements

"PROPERTY MANAGEMENT" needs maintenance as it is a long process software. It will need re-factoring and further the requirements can be changed as the field is changing frequently.