DEPARTMENT OF SOFTWARE ENGINEERING

OBJECT ORIENTED SOFTWARE ENGINEERING
LABORATORY MANUAL

<u>CASE STUDY: Real Estate Website</u>

SUBMITTED BY:

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1.	To write Problem Statement for educational website	11/01/2023	
2.	To draw Initial Requirement Document	25/01/1023	
3.	To write Software Requirement Specifications	8/02/2023	
4.	To generate Test Case Matrix	5/04/2023	

Problem Statement

Through this project we aim to simplify the process of searching as well as maintaining a property. We aim help our customers to buy/rent a property according to their specifications as well as help brokers to list and maintain their properties in an organised manner and help them to keep a record of all activities associated with their properties. The existing system has the following limitations:

- Shortage Of Time
- The Increasing Cost Of Overheads
- Restricted Access And Control Over Data
- Communication Is A Two Way Street
- Managing Contacts Is A Big Problem

To overcome the problems we have added the main features to the existing system:

- The most important feature of this system is online exhibiting the properties,

- This saves time to visit at the actual place where the property is located

- The user can have fast interaction with the system by inserting keywords at the respective places, by clicking on the buttons or links etc

Initial Requirement Document (IRD)

Title Of Project	Real Estate Website
Stakeholders involved in capturing requirements	Buyers, brokers, Renters, PG's(renters), Administrator, Supporting staff, Sellers
Techniques used in requirement capturing	Interviews and brainstorming
Name of persons along with Designation	Apara Maity (2K21/SE/36) Aryaman Jain (2K21/SE/38)
Date	25th January,2023
Version	1.0

Consolidated list of initial requirements:
1. A system is to be implemented which runs on every internet browser and software like android, ios and mobile.
2. System should be have separate login, password and sign up for buyers, sellers, brokers, tenants,renters, administrator, and supporting staff.
3. The system should update properties list time to time to avoid confusion.
4. Buyers should be able to Search for property in a specific area.
5. Price trends should be accurate so the buyers have security regarding spending their money.
6. Brokers should have their charts to maintain their records about their deals and add points simultaneously.
7. The system should have a specific section of Locality Insights should give details of the locality to the buyer/ tenant.
8. The system should have the option to search for Property near me i.e the location being searched in should show the properties for sale to the buyers/tenants.
9. Budget should be asked before searching and according to the budget prescribed by user, properties should be displayed.
10. To rent a property, the system should mention details of the Owner.
11. System should mention all the Information and connectivity under the displayed property.
12. The website should show the list of brokers available nearby according to the points.
13. System should show Popular Localities on the suggested page.
14. System should have a separate section for Common Doubts/FAQ's.
15. System should mention Quality of living in the locality under the Property.
16. System should contain Guides to buy a Property should be available for reference to get more information.
17. Buyers/Tenants/Renters should be able to view the properties, their details, guides, FAQ's, search property, Locality Insights, Price trends.
18. Brokers should be able to add or delete a property, maintain their charts and get the list of buyers/ tenants searching for property they are brokering.
19. Supporting staff should be able to view the added or deleted property database, and the FAQ's and answering them.

20. Administrator should view all the database of buyers, brokers, properties and their changes on the website.

Use Case Diagram
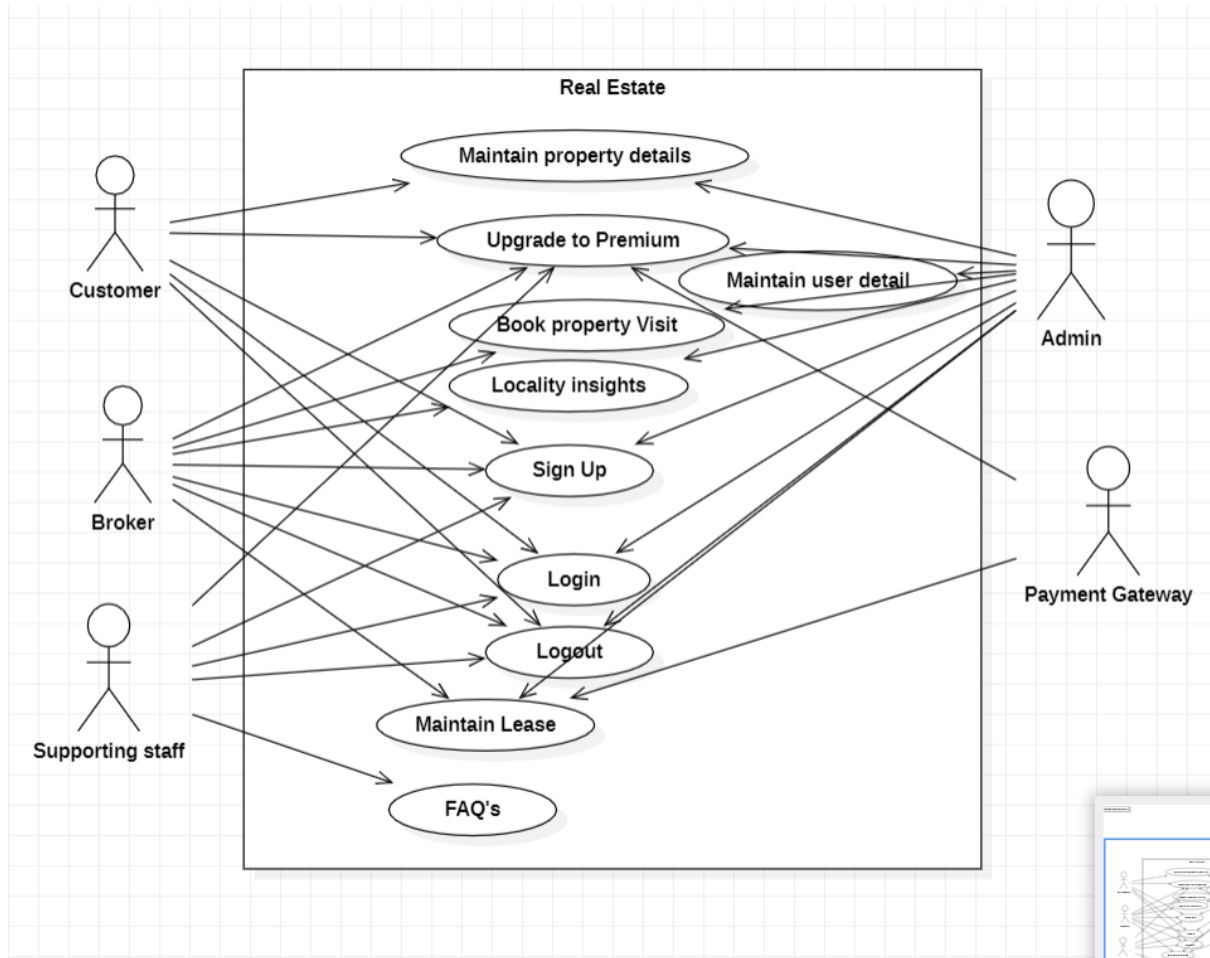
Use Case Description

Use Case Name : Maintain property details

Introduction: This use case documents the steps that the administrator or customer must follow in order to maintain property details and add, update, delete and view property information.
Actors: Customer, Administrator
Precondition: The administrator or customer must be logged into the system before this use case begins.
Postcondition: If the use case is successful, then property details are added, updated, deleted or viewed. Otherwise, the system state is unchanged.

Flow of Events
Basic Flow
1. The system requests that the administrator or customer specify the function he/she would like to perform (either Add a property, Update a property, Delete a property or View a property).

2. Once the administrator or customer provides the requested information, one of the following subflows is executed:
- If the administrator or customer selects "Add a property", the add a property subflow is executed.
- If the administrator or customer selects "Update a property", the update a property subflow is executed.
- If the administrator or customer selects "Delete a property", the delete a property subflow is executed.
- If the administrator or customer selects "View a property", the view a property subflow is executed.

Basic Flow 1: Add a property
The system requests that the administrator or customer enter the property information. This includes:
- Location
- Unique ID
- Price
- Size in sq.feet
- Type
- Construction status

Once the administrator or customer provides the requested information, the property is added to the system.
Basic Flow 2: Update a property
The system requests that the administrator or customer enter the unique ID.

1. The administrator or customer enters the Unique ID
2. The system retrieves and displays the property information.
3. The administrator or customer makes the desired changes to the property information. This includes any of the information specified in the
4. Add a property subflow.
5. Once the administrator or customer updates the necessary information, the system updates the property information with the updated information.

Basic Flow 3: Delete a property
1. The system requests that the administrator or customer specify the unique ID.
2. The administrator or customer enters the unique ID. The system retrieves and displays the required information.
3. The system prompts the administrator or customer to confirm the deletion of the property record.
4. The administrator or customer verifies the deletion.
5. The system deletes the record.

Basic Flow 4: View a property
1. The system requests that the administrator or customer specify the unique ID.
2. The system retrieves and displays the property information.

Alternative Flows
Alternative Flow 1: Invalid Entry

If in the Add a property or Update a property flow, the actor enters invalid descriptor or descriptor empty, the system displays an appropriate error
message. The actor returns to the basic flow and may reenter the invalid entry.

Alternative Flow 2: User Exits

This allows the user to exit at any time during the use case. The use case ends.

Special Requirement
None

Associated Use Cases
None

Use Case Name : Upgrade to premium

Introduction: This use case documents the steps that the administrator/customer/broker must follow in order to upgrade to premium account.

Actors: Administrator, Customer, Broker, Payement gateway

Precondition: The customer/broker must be logged into the system before this use case begins.

Postcondition: If the use case is successful, customer/ broker is able to access premium account. Otherwise, the account status is unchanged.

Flow of Events
Basic Flow:
1. Customer/broker membership number is entered into the system.
2. The system displays information about the current account status of customer/broker.
3. The customer/broker is given option to upgrade to premium acccount.
4. Once payment confirmation is received from Payement gateway, account is upgraded.

Alternative Flows

Alternative Flow 1: Unauthorized Member

If the system does not validate the customer/broker's membership number (due to membership expiry or any other reason), then an error message is flagged and the use case ends.

Alternative Flow 2: Account is already premium

If the customer/broker's account is already premium, an error message shows account already premium and the use case ends.

Special Requirement None

Associated Use Cases Payement gateway

Use Case Name: Sign Up

Introduction
This use case documents the steps taken by the user and the system while signing up.

Actors

Customer, Brokers, Supporting staff, Admin

Precondition

User must have a valid identity for registration.

Postcondition
After successful creation of the user id system will display the login page.

Flow of Events
Basic Flow

The user will first sign up for generating its own user id along with the password and after this user can login to proceed further using user id and password.

Alternative Flows
If sign up fails due to invalid identity then the user can't access the system.

Special Requirement
None

Associated Use Cases
None

Use Case Name: Login

Introduction This use case documents the steps for logging in the system.
Actors Customer, Brokers, Supporting staff,Admin
Precondition User must have a valid user id and password.
Postcondition After successful login the user will be directed to the home page.
Flow of Events **Basic Flow** The user will first login to the system by entering valid user id and password.
Alternative Flows If login fails due to invalid id/ password entered by user then the user can't access the system.
Special Requirement none
Associated Use Cases None

Use Case Name: Logout

Introduction
This use case documents the steps for logging out from the system.

Actors

Customer, Brokers, Supporting staff,Admin

Precondition
There must be an active session.

Postcondition
After successful logout user will be directed to login page/home page.

Flow of Events
Basic Flow
Use case begins when the user clicks on "Logout". The system will move the user session and the user is logged out.

Alternative Flows

None.

Special Requirement

None.

Associated Use Cases

Use Case Name: Maintain Lease

Introduction
This use case documents the steps for renewing lease.

Actors
Broker, admin, payment gateway

Precondition
User must be logged in the system and select a particular property.

Postcondition

After success, user will be directed back to the home page.

Flow of Events
Basic Flow

If the lease is approved by both the parties, estate transaction can take place.

Basic Flow 1: Renew Lease

If the lease is outdated, the document goes to the broker and he renews it when requested for it.

Basic Flow 2: Forfeit Lease

If the lease is approves by both parties, lease is forfeited.

Alternative Flows

None

Special Requirement

None

Associated Use Cases

Use Case Name: FAQ's

Introduction

This use case documents the steps for solving FAQ's regarding the system.

Actors

Customer, Supporting staff, Broker

Precondition
User must be logged into the system.

Postcondition

User will be directed back to the home page.

Flow of Events
Basic Flow
User will get an option to click on the FAQ section on the website.

Alternative Flows

None

Special Requirement
none

Associated Use Cases

Contents

Software Requirement Specifications

Software Requirement Specification Document

1. Introduction

 1.1 Purpose

Through this project we aim to simplify the process of searching as well as maintaining a property.

1.2 Scope

Dos

- • Provide a clear and comprehensive real estate catalogue.
- • Use responsive design to ensure the website is accessible on a range of devices
- • Provide an easy-to-use interface
- • Allow users to create and manage their own profiles
- • Ensure user data privacy and security
- • Provide excellent customer support to users

Don'ts

- • Do not use overly complicated language or design
- • Do not require unnecessary personal information from users
- • Do not overload the website with too much content
- • Do not have a confusing or difficult-to-use user interface

Benefits

- • Increased accessibility to real estate for low income buyers
- • Flexibility for buyers and sellers.
- • Convenience for both buyers and sellers, as they can participate in sale online from anywhere with an internet connection.

1.3 Definitions, acronyms and abbreviations Definitions:

Real Estate Website: A website that provides access to real estate information to brokers and consumers

Real estate Catalog: A comprehensive list of all available properties offered on the website.

User Profile: A personal account on the website where a user can manage their personal information.

 Customer Support: The assistance provided to users with any technical or customer service issues they may encounter on the website.

Acronyms:
 SRS: Software Requirements Specification UI: User Interface
 UX: User Experience

Abbreviations:
 FAQ: Frequently Asked Questions
 HTTP: Hypertext Transfer Protocol HTML: Hypertext Markup Language CSS: Cascading Style Sheets

1.4 References

a. Software Engineering by K.K. Aggarwal & Yogesh Singh, New Age Publishing House, 3rd Edition, 2008.

b. IEEE Recommended Practice for Software Requirements Specifications— IEEE, Std 830-1998.

c. IEEE Standard for Software Test Documentation—IEEE Std. 829-1998

1.5 Overview

An Online real estate Website (non-interactive) is a website that offers properties to prospective buyers and allows them to be listed by sellers. The website should be user-friendly, responsive, secure, and provide excellent customer support.

2. Overall description

This section provides an overview of the real estate website, including its product perspective, functions, user characteristics, constraints, and dependencies.

2.1 Product perspective

This section describes how the real estate website fits into the larger system or environment in which it operates.

2.1.1 System interfaces

The website should have a smooth integration with with other payement platforms and ID databases.

2.1.2 User interfaces

The user interface should be easy to use, interactive, and aesthetically pleasing. The website should be responsive and provide a seamless experience across all devices and screen sizes. The user interface should include features such as search, filtering, sorting, for ease of use.

2.1.3 Hardware interfaces

The website should be accessible from any device with internet connectivity, including desktops, laptops, tablets, and smartphones. The website should be optimized for performance and load quickly on all devices.

2.1.4 Software interfaces

The website should be developed using a reliable programming language and framework, such as PHP, Python, or Ruby on Rails. The website should integrate with popular web technologies such as HTML5, CSS3, and JavaScript.

2.1.5 Communications interfaces

The website should be able to communicate with external systems and services, such as email services, payment gateways, and social media platforms.

2.1.6 Memory constraints

The a website should be designed to handle a large number of users simultaneously. The website should be optimized for speed and should not have any memory constraints that would limit its performance.

2.1.7 Operations

The website should be easy to maintain, with regular updates and patches to fix any security vulnerabilities or bugs. The website should also be scalable, allowing for the addition of new features and functionality as the website grows.

2.1.8 Site adaptation requirements

The real estate website should be adaptable to different languages and cultures to make it accessible to a broader audience. The website should also be accessible to users with disabilities, complying with international web accessibility standards.

2.2 Product functions

This section of the SRS outlines the core functions and features that the real estate website will provide to its users. These may include functions such as registration, deletion, updation of properties By defining the product functions clearly, the SRS ensures that all stakeholders have a shared understanding of what the system is supposed to do.

2.3 User characteristics

This section of the SRS describes the intended users of the real estate website, including their demographics, income levels and other relevant characteristics. Understanding the characteristics of the users is important for designing a system that meets their needs and is accessible to them. This section also helps stakeholders to identify potential issues or challenges that users may face in using the system.

2.4 Constraints

This section of the SRS identifies any constraints or limitations that may affect the design and development of the real estate website. Constraints may include factors such as budget, time, technical resources, regulatory requirements, and user privacy concerns. By identifying these constraints upfront, stakeholders can better plan and allocate resources to ensure that the system is developed within the defined constraints.

2.5 Assumptions and dependencies

This section of the SRS identifies any assumptions or dependencies that may impact the development or operation of the real estate website. Assumptions are factors that are believed to be true but have not been validated, while dependencies are factors that are outside the control of the development team but are necessary for the system to work. By identifying these factors upfront, stakeholders can better plan for potential risks or issues that may arise during development and operation of the system.

2.6 Apportioning of requirements

This section of the SRS outlines how the product requirements will be prioritized and implemented over time. This may include identifying requirements that are critical for the initial release of the system, as well as requirements that can be deferred to later releases. By apportioning requirements in this way, stakeholders can better plan and allocate resources to ensure that the system is developed and released in a way that meets the needs of its users and stakeholders.
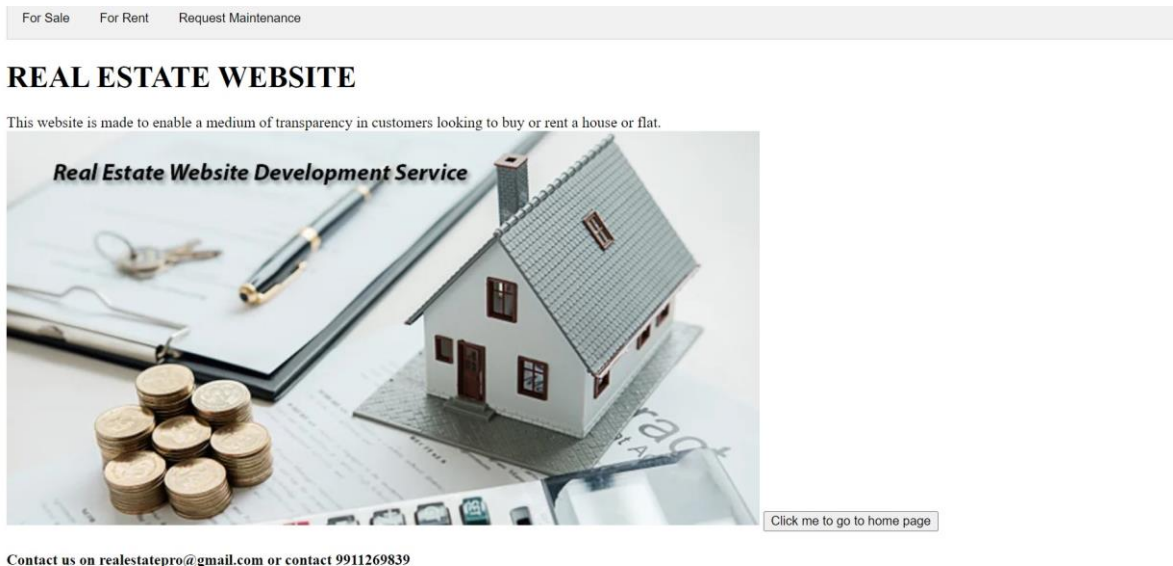
3. Specific requirements

This section of the SRS outlines the detailed requirements that the real estate website must meet to satisfy the needs of its stakeholders. The specific requirements are typically broken down into various sub-sections, as outlined below.

3.1 External interfaces

This section of the SRS describes the interfaces between the real estate website and other external systems or services. These interfaces may include hardware or software systems, such as payment gateways, messaging services, or ID databases.

3.1.1 User Interfaces

1. Home page

For Sale   For Rent   Request Maintenance

REAL ESTATE WEBSITE

This website is made to enable a medium of transparency in customers looking to buy or rent a house or flat.

Real Estate Website Development Service

Click me to go to home page

Contact us on realestatepro@gmail.com or contact 9911269839

3 Login

Login form

Sign in

Sign in with your username and password

Your username [Enter Username]

Your password [Enter Password]
☑ Remember me

Forgot Password?

[Login]

Not a member? Register here!

4 Properties for Sale

PROPERTIES AVAILABLE FOR SALE

Aradhna Apartments

1. Gated community: taking care of safety and security.
2. Multi Tier security system: Immaculate and designed flawlessly for utmost safety.
3. Adequate vehicle parking space.
4. Price starting from 55L(emi available)

Mount Kailash Apartments

1. Gated community: taking care of safety and security.
2. Multi Tier security system: Immaculate and designed flawlessly for utmost safety.
3. Adequate vehicle parking space.
4. Price starting from 2.5Cr(emi available)

5 Properties for Rent

6 Update, Add or Delete a Property

Property name:
[   ]
Address:
[   ]
Property Details:
[   ]
Price:
[   ]
[Submit]

3.2 Functions

This section of the SRS details the specific functions and features that the real estate website must provide to its users. This may include functions such as property registration, documents verification and discussion forums.

3.3 Performance requirements

This section of the SRS outlines the specific performance requirements that the real estate website must meet. These requirements may include factors such as response times, user experience, and system availability.

3.4 Logical database requirements

This section of the SRS describes the requirements for the logical organization and management of data within the real estate website's database. This may include requirements for data storage, retrieval, and security.

3.5 Design constraints

This section of the SRS outlines any constraints or limitations on the design and development of the real estate website.

3.5.1 Standards compliance

This sub-section of the SRS specifies any standards or regulations that the real estate website must comply with. This may include accessibility standards, security standards, or industry-specific regulations.

3.6 Software system attributes

This section of the SRS outlines the desired attributes or qualities of the real estate website's software system. These attributes may include factors such as reliability, availability, security, maintainability, and portability.

3.6.1 Reliability

This sub-section of the SRS specifies the desired level of reliability for the real estate website's software system. This may include requirements for system uptime, error handling, and fault tolerance.

3.6.2 Availability

This sub-section of the SRS describes the desired level of availability for the real estate website's software system. This may include requirements for system uptime, system maintenance, and disaster recovery.

3.6.3 Security

This sub-section of the SRS outlines the desired security features and measures for the real estate website's software system. This may include requirements for data encryption, access control, and user authentication.

3.6.4 Maintainability

This sub-section of the SRS specifies the desired level of maintainability for the real estate website's software system. This may include requirements for code modularity, documentation, and testing.

3.6.5 Portability

This sub-section of the SRS outlines the desired level of portability for the real estate website's software system. This may include requirements for cross-platform compatibility, scalability, and ease of deployment.

3.7 Organizing the specific requirements

This section of the SRS outlines the methodology for organizing the specific requirements according to various factors, such as system mode, user class, objects, features, stimulus, and response.

3.7.1 System mode

This sub-section of the SRS specifies the different system modes or states that the real estate website may operate in, such as login mode, seller mode, administrative mode, buyer mode, broker mode.

3.7.2 User class

This sub-section of the SRS describes the different classes or types of users who will interact with the real estate website, such as sellers/buyers, brokers, administrators.

3.7.3 Objects

This sub-section of the SRS outlines the specific objects or entities within the real estate website's system, such as properties and users.

3.7.4 Feature

This sub-section of the SRS outlines the specific features or functions that the real estate website must provide to its users, such as property registration, property update, deletion and discussion forums.

3.7.5 Stimulus

This sub-section of the SRS specifies the various types of input or stimuli that the real estate website's software system may receive, such as user requests, system alerts, or error messages.

3.7.6 Response

This sub-section of the SRS outlines the specific responses or outputs that the real estate website's software system must provide in response to different types of stimuli, such as displaying property details, sending confirmation messages, or generating error reports.

3.7.7 Functional hierarchy

This sub-section of the SRS outlines the functional hierarchy of the real estate website's software system, such as the different layers of the software architecture or the sequence of operations required to complete specific functions.

3.8 Additional comments

This section of the SRS provides any additional comments or information that is relevant to the development of the real estate website's software system but is not covered by the other sections of the SRS. This may include any concerns or considerations related to the development process, user experience, or system scalability.

4. Supporting information

This section of the SRS provides any additional supporting information that is relevant to the real estate website's software system, such as technical specifications, diagrams, use cases, user manuals, or any other documents that may help to clarify or supplement the requirements outlined in the SRS. It may also include any legal, regulatory, or ethical considerations that need to be taken into account during the development process. The purpose of this section is to provide stakeholders with a comprehensive understanding of the real estate website's software system and to ensure that all necessary information is available for the successful development, implementation, and maintenance of the system.
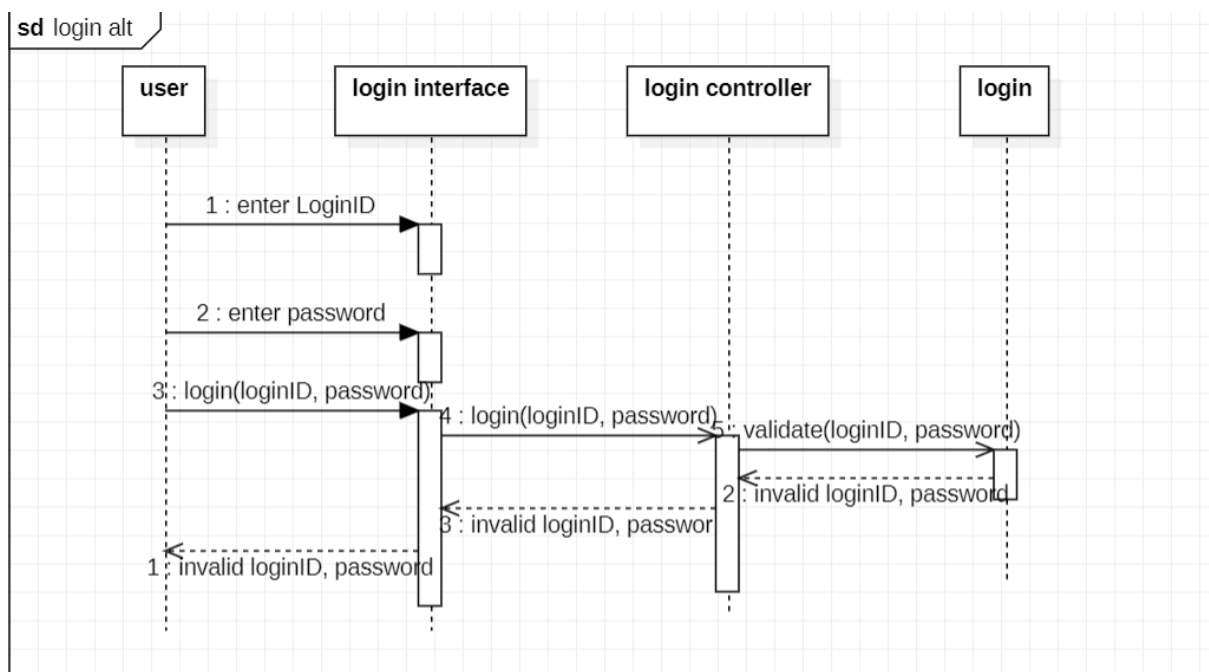
CLASS DIAGRAM
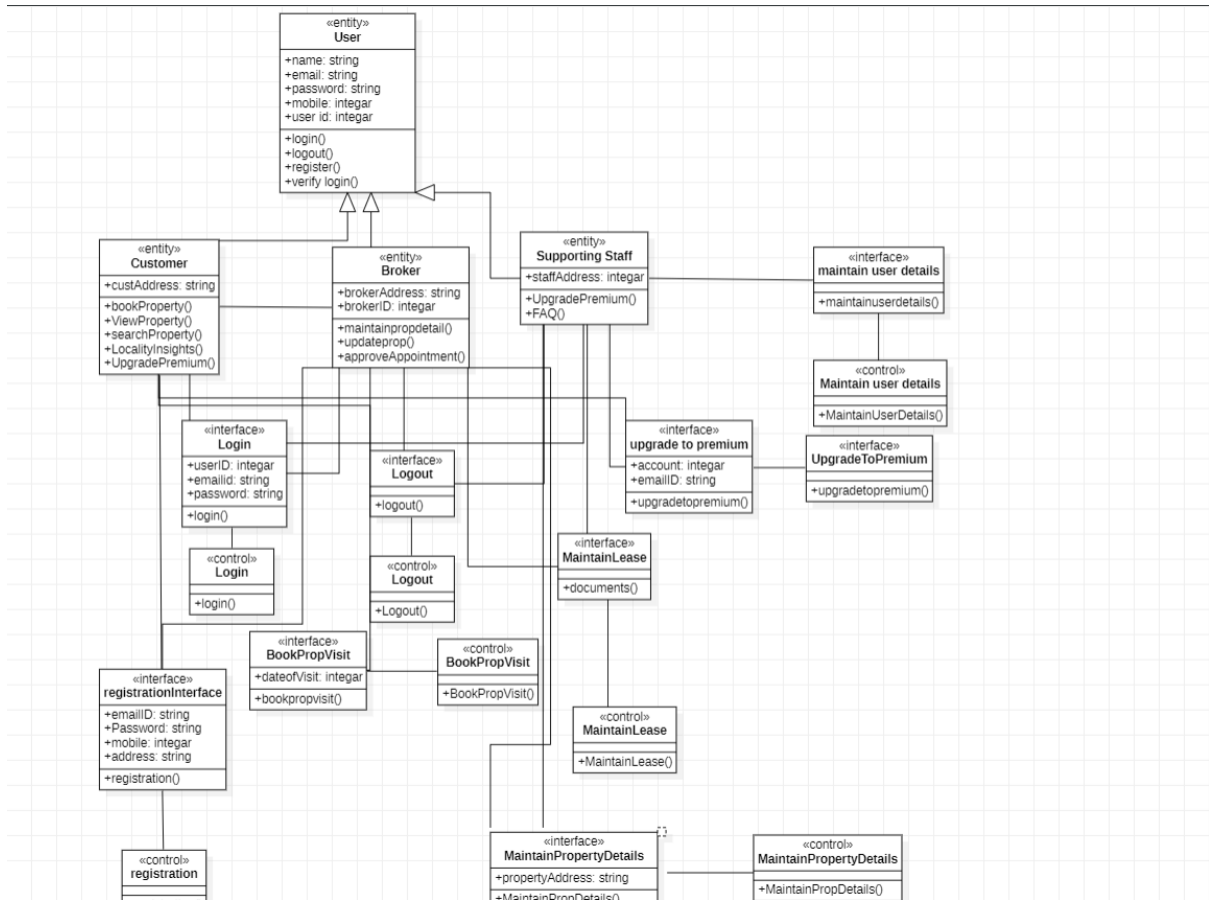
SEQUENCE DIAGRAM

1. LOGIN USE CASE
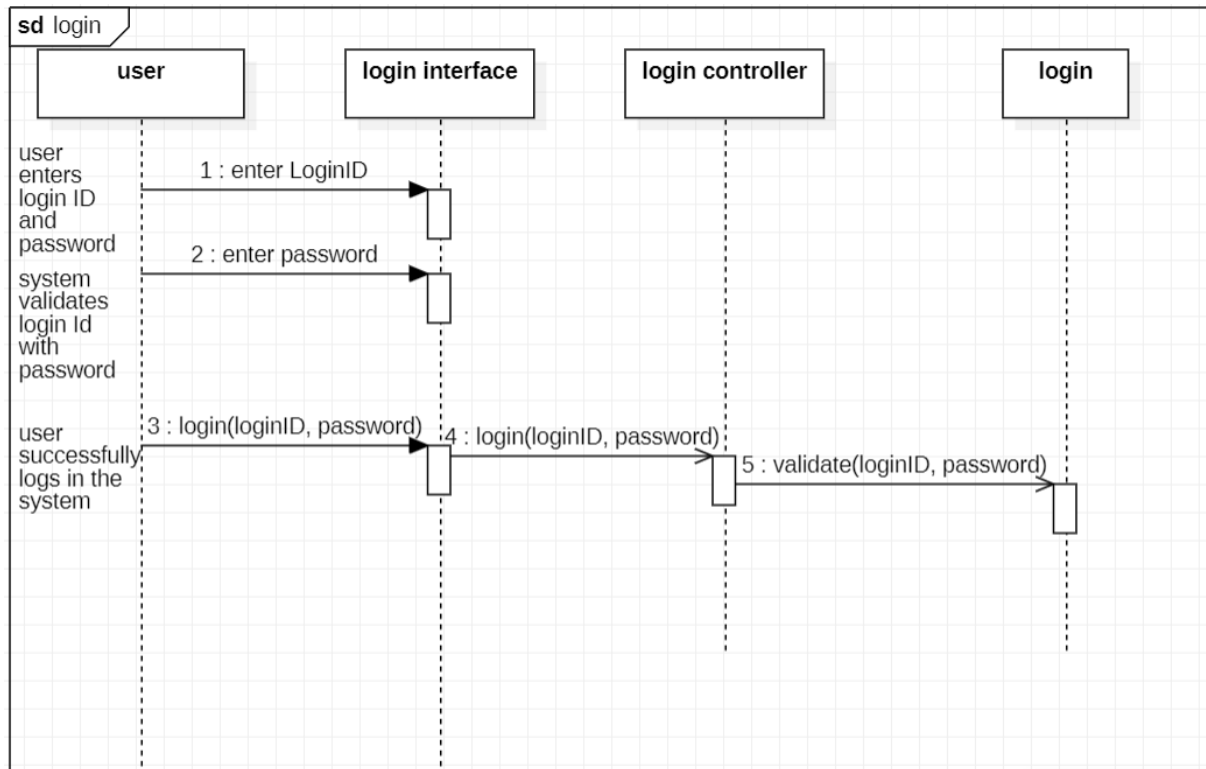
Alternative Flow 1: Invalid Login ID/ Password

2. SIGN UP USE CASE
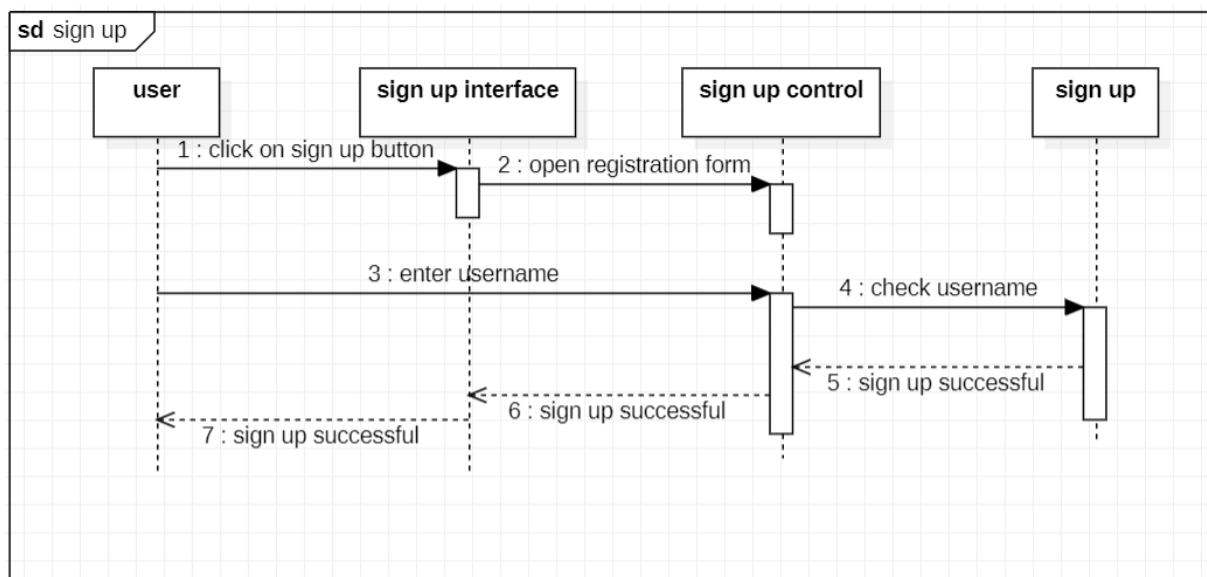
Alternative Flow 1: Invalid Identity

3. LOGOUT

sd logout

| user | logout interface | logout control | logout |
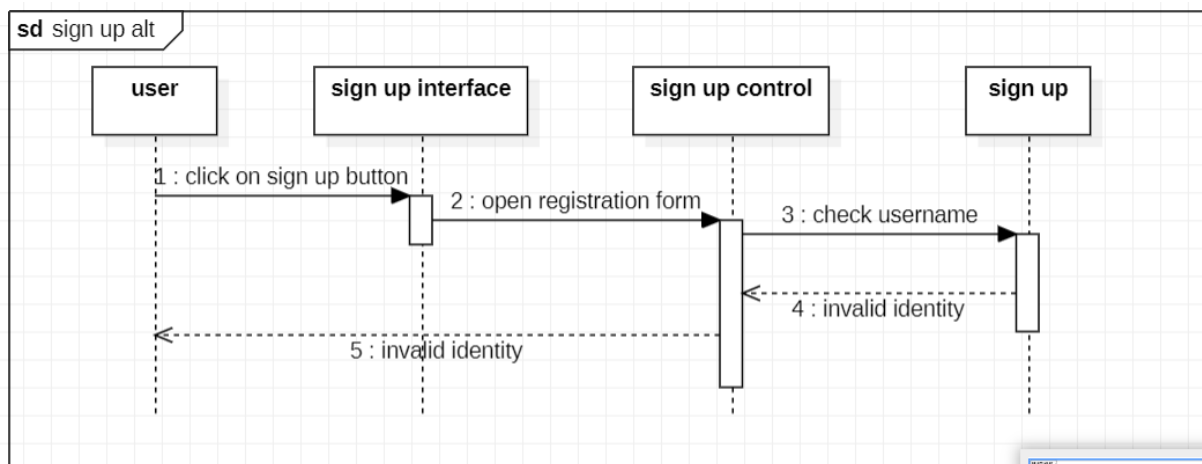
1 : click logout button
2 : logout request
3 : initiate logout
4 : logout accept
5 : logout accept
6 : logout accept
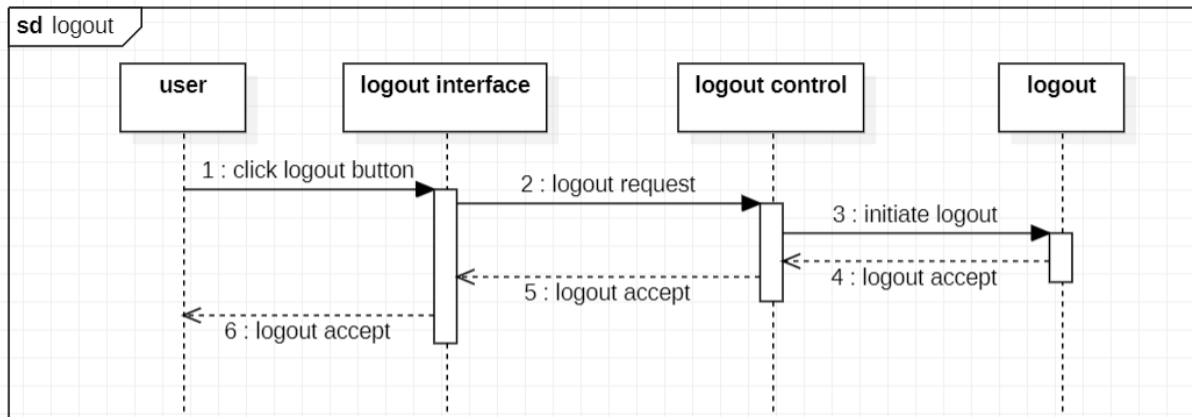
4. MAINTAIN LEASE
Basic 1:renew lease

sd maintain lease basic 1

| broker | lease interface | lease control | lease |

1 : request for forefeit lease
2 : accept request
3 : upload updated lease
4 : lease renewed
5 : lease renewed
6 : lease renewed

Basic 2: forfeit lease

sd maintain lease basic 2

| broker | lease interface | lease control | lease |

1 : request for forefeit lease
1 : accept request
2 : forefeit lease
3 : lease forfeited
5 : lease forfeited
4 : lease forfeited
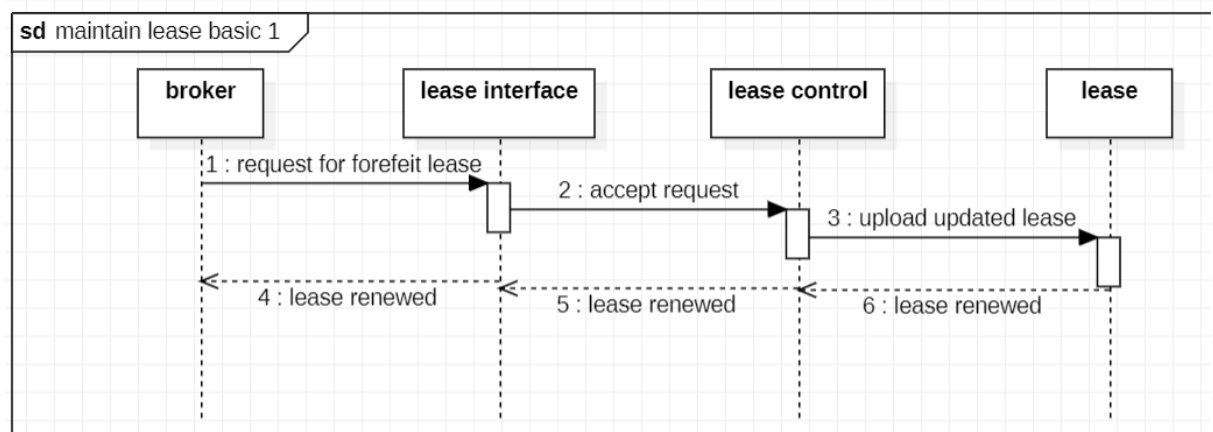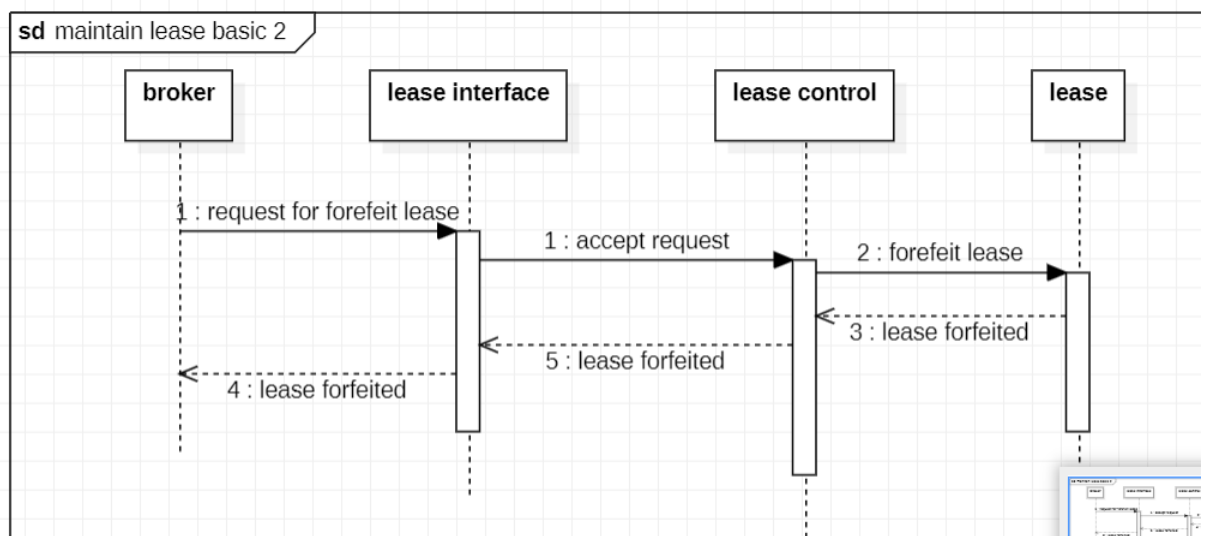
5. MAINTAIN PROPERTY DETAILS
Basic 1: Add a property

sd SequenceDiagram1

broker	property interface	control	add

1 : request for add property

2 : enter property details

3 : verify details

4 : add details

5 : save details

6 : saved succesfullt
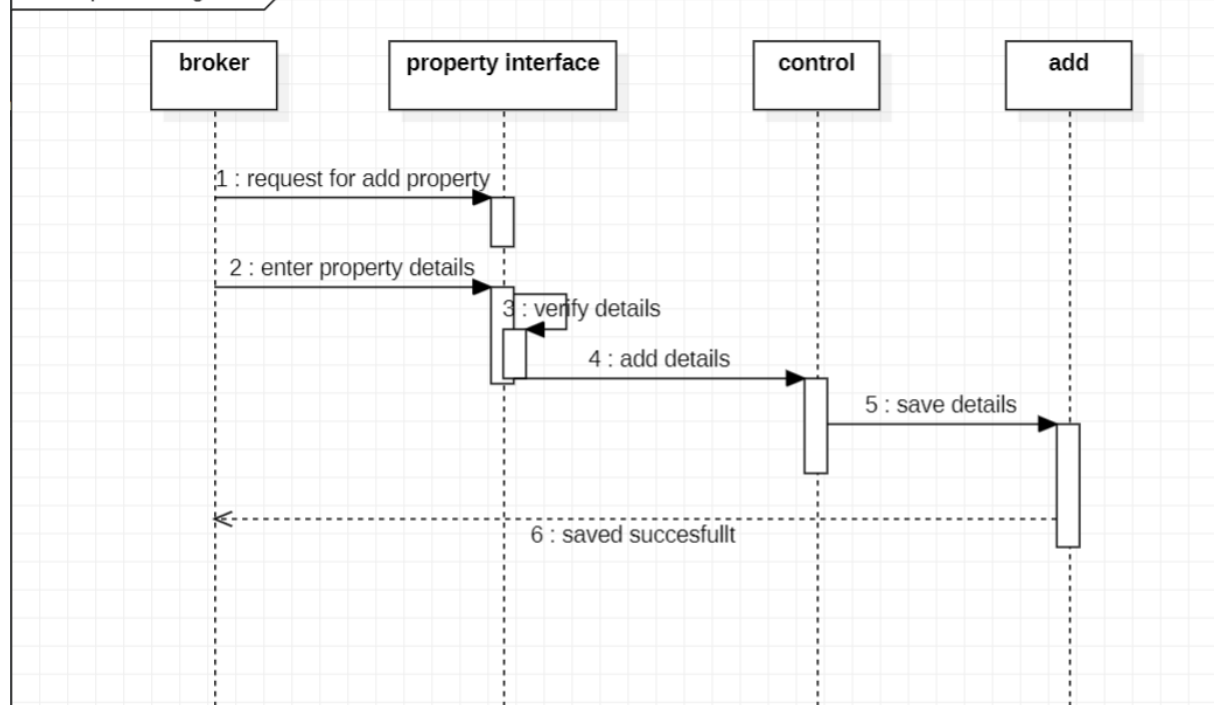
Basic 2: delete a property

sd SequenceDiagram1

broker	property interface	control	delete

1 : request for removal of property

2 : enter property ID

3 : verify ID

4 : identify property

5 : delete property

6 : saved deleted
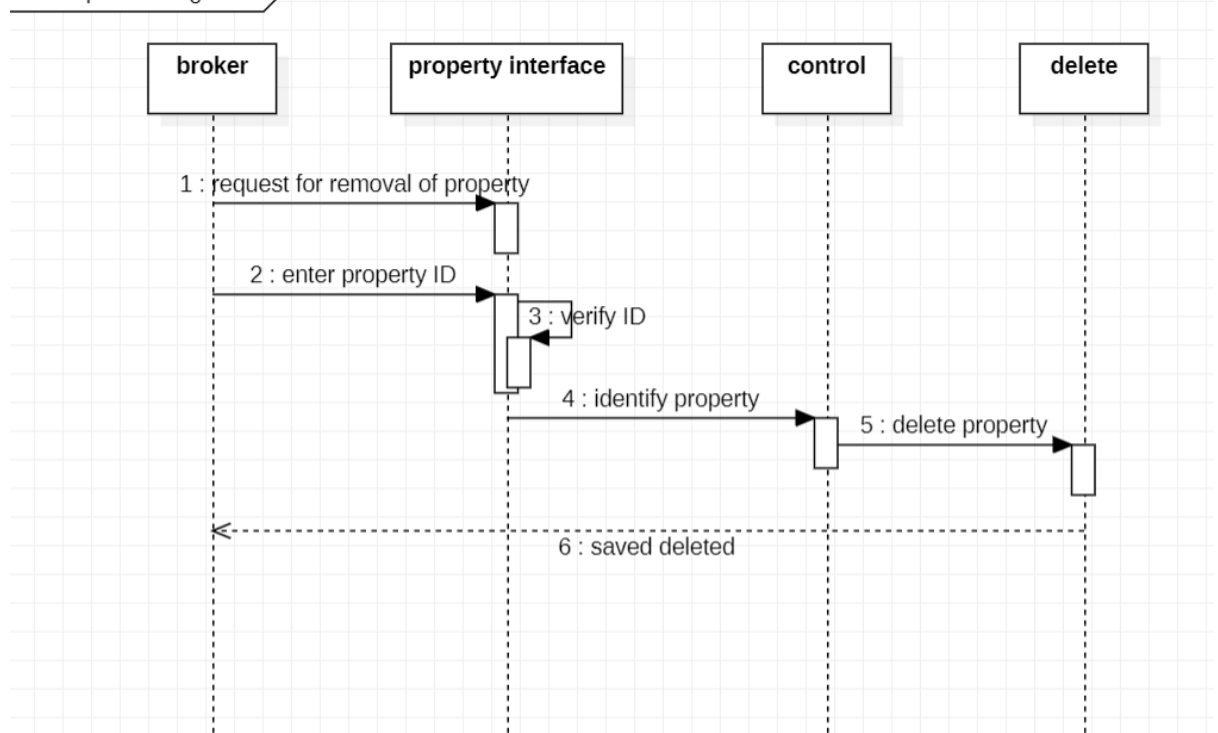
Basic 3: update a property

sd SequenceDiagram1

| broker | property interface | control | update |

1 : request for update property

2 : update property details

3 : verify updated details

4 : update details

5 : save updated details

6 : saved succesfully
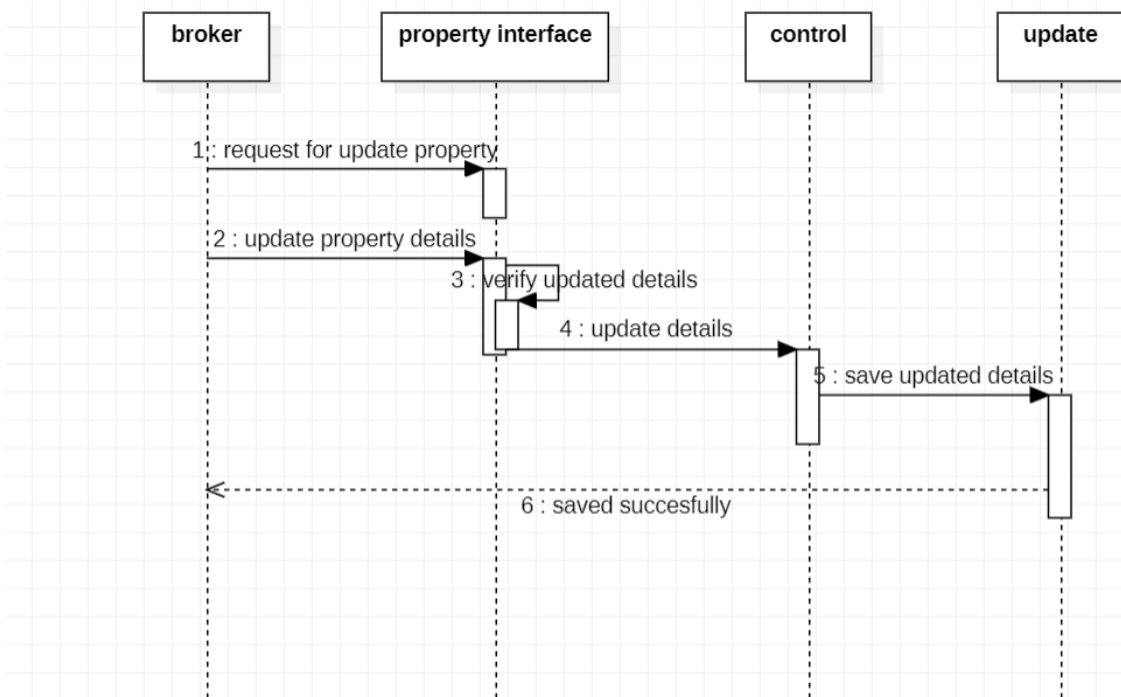
Basic 4: view a property

sd SequenceDiagram1

| broker | property interface | control | view |

1 : request for property

2 : provide ID

3 : Verify ID

4 : fetch property data

5 : Display details
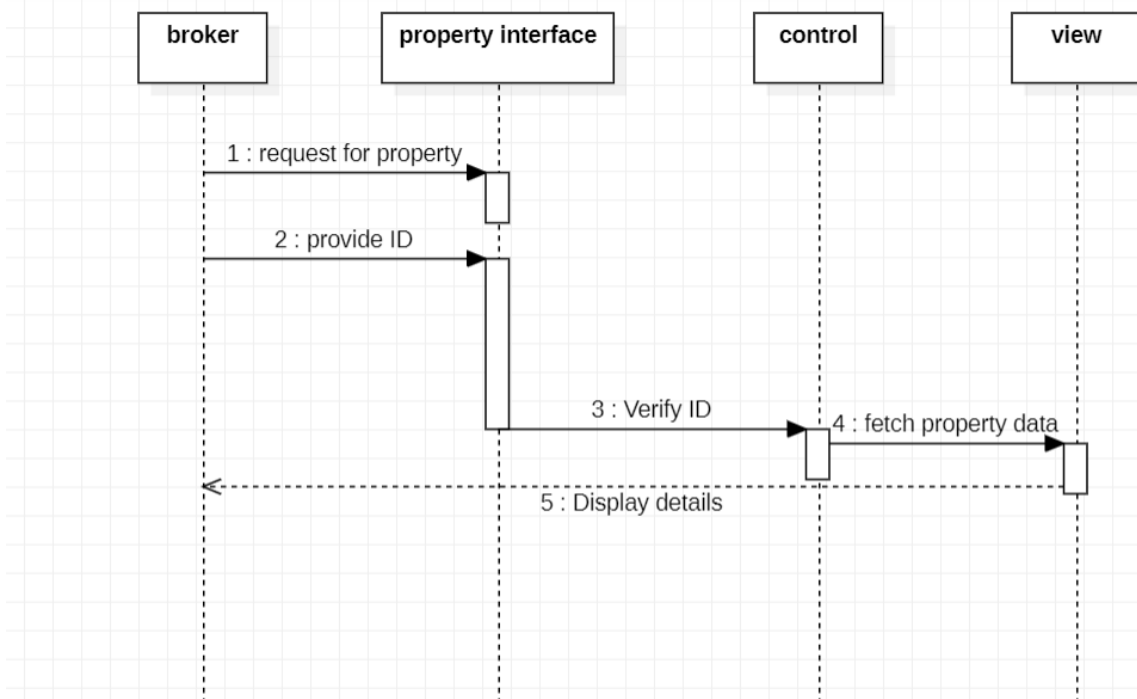
Alternate flow 1: invalid entry

broker	property interface	control	add

1 : request for add property

2 : enter property details

3 : verify details

4 : add details

5 : save details

6 : invalid entry
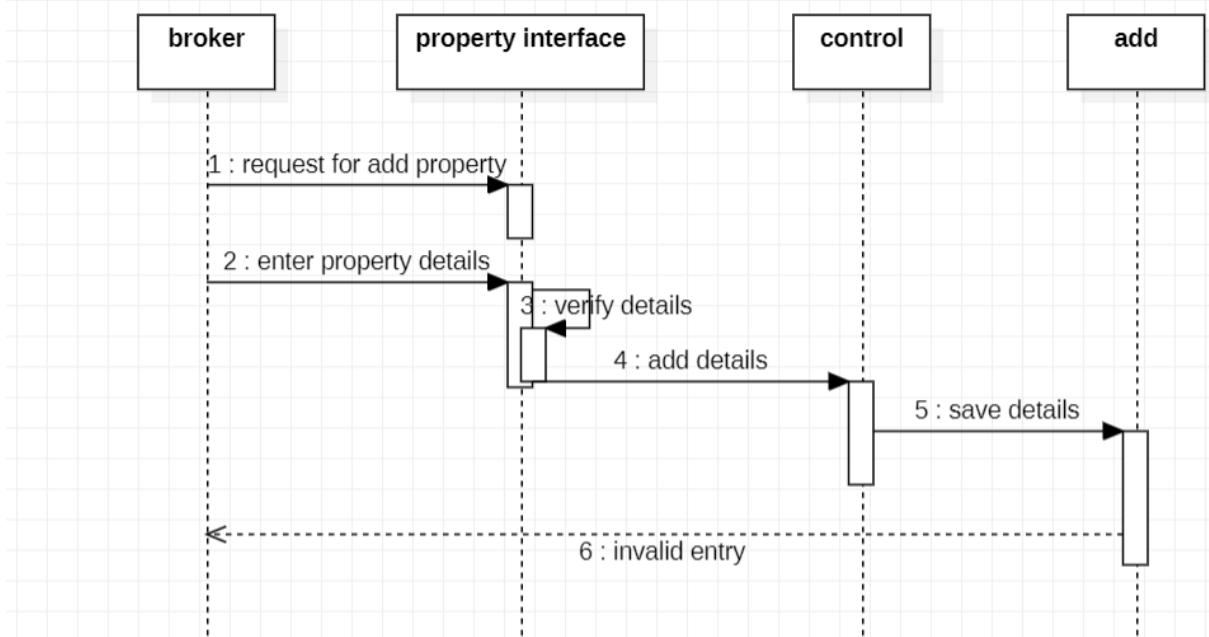
Alternate flow 2: user exits

broker	property interface	control

1 : request for property

2 : property identified

3 : user exits

4 : user wants to exit
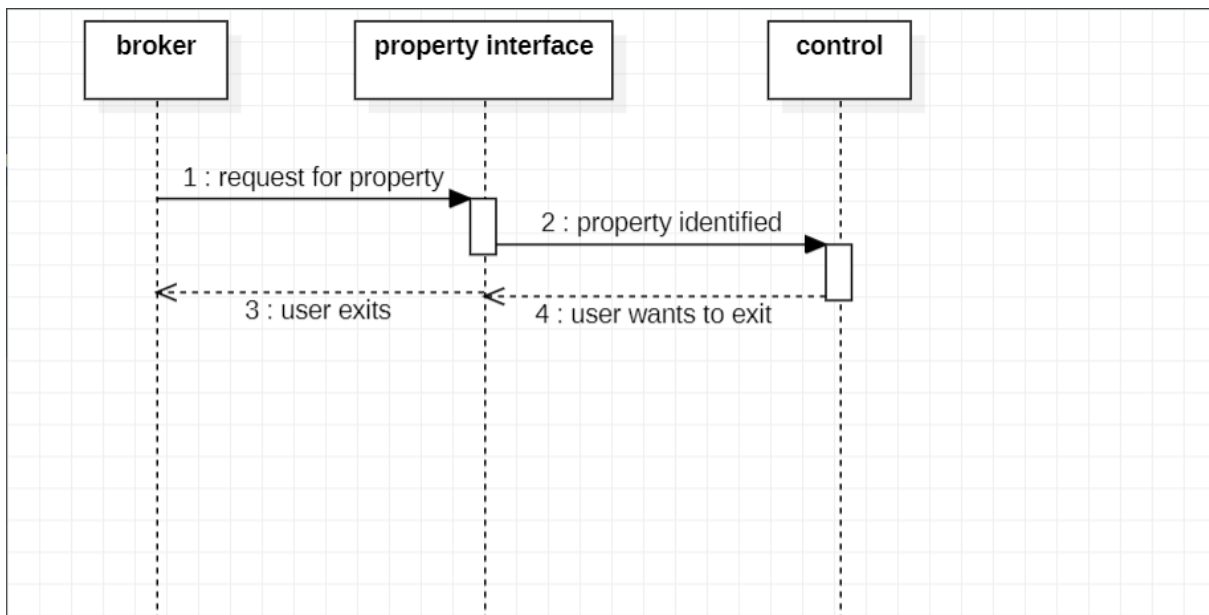
ACTIVITY DIAGRAM

1. LOGIN
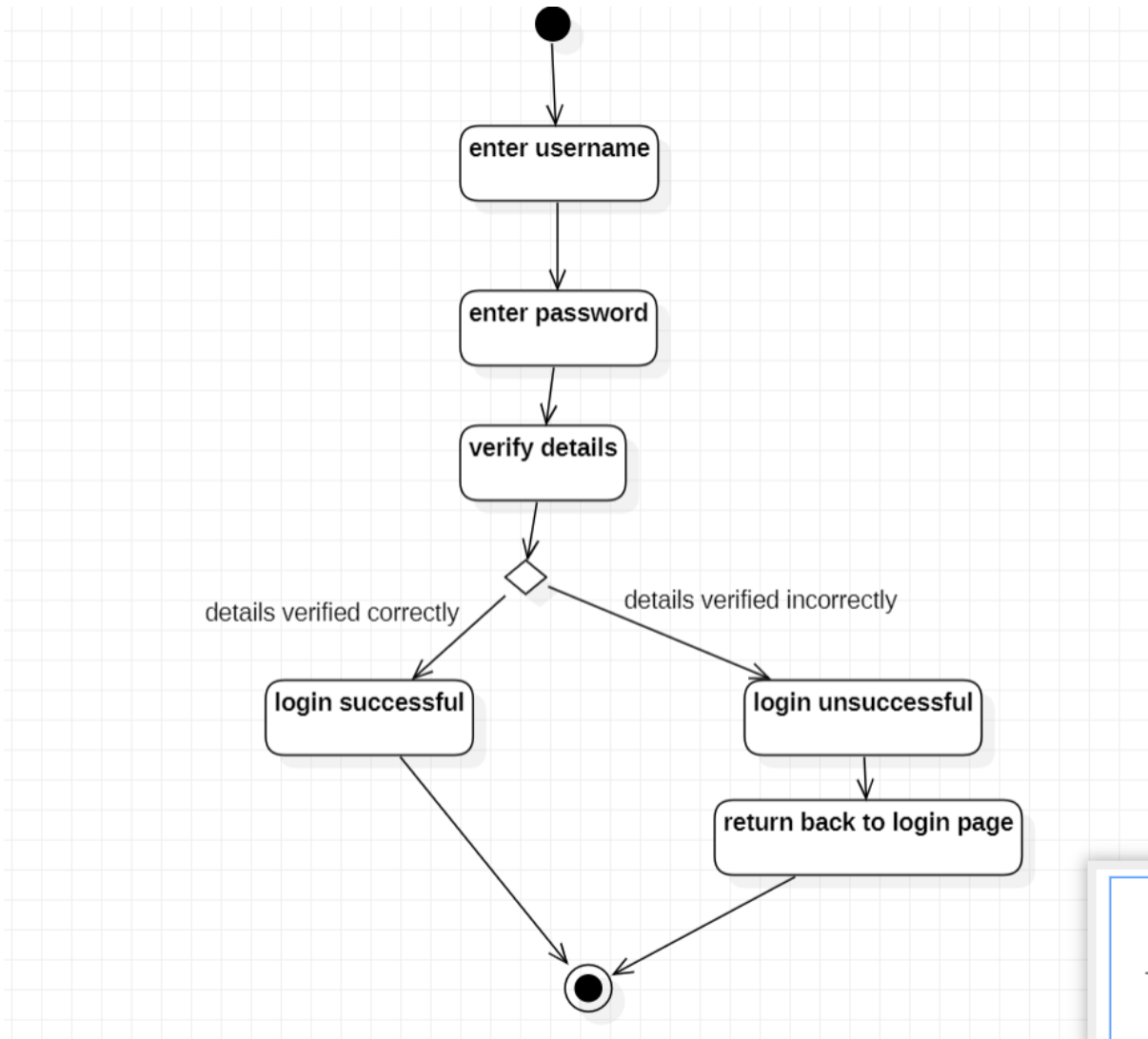
2. MAINTAIN PROPERTY DETAILS

3. MAINTAIN LEASE
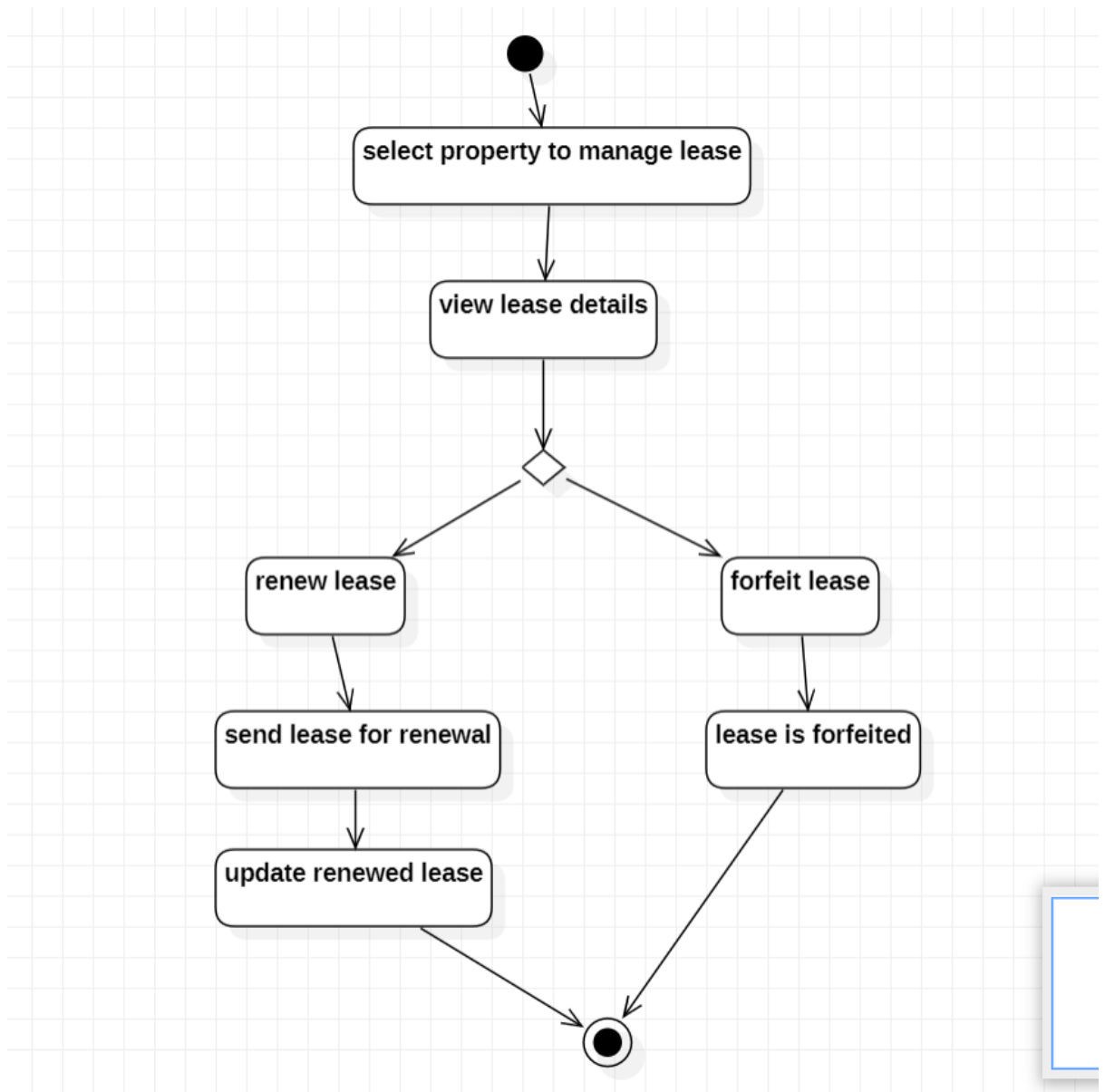
Statechart Diagrams

1. REQUEST MAINTENANCE
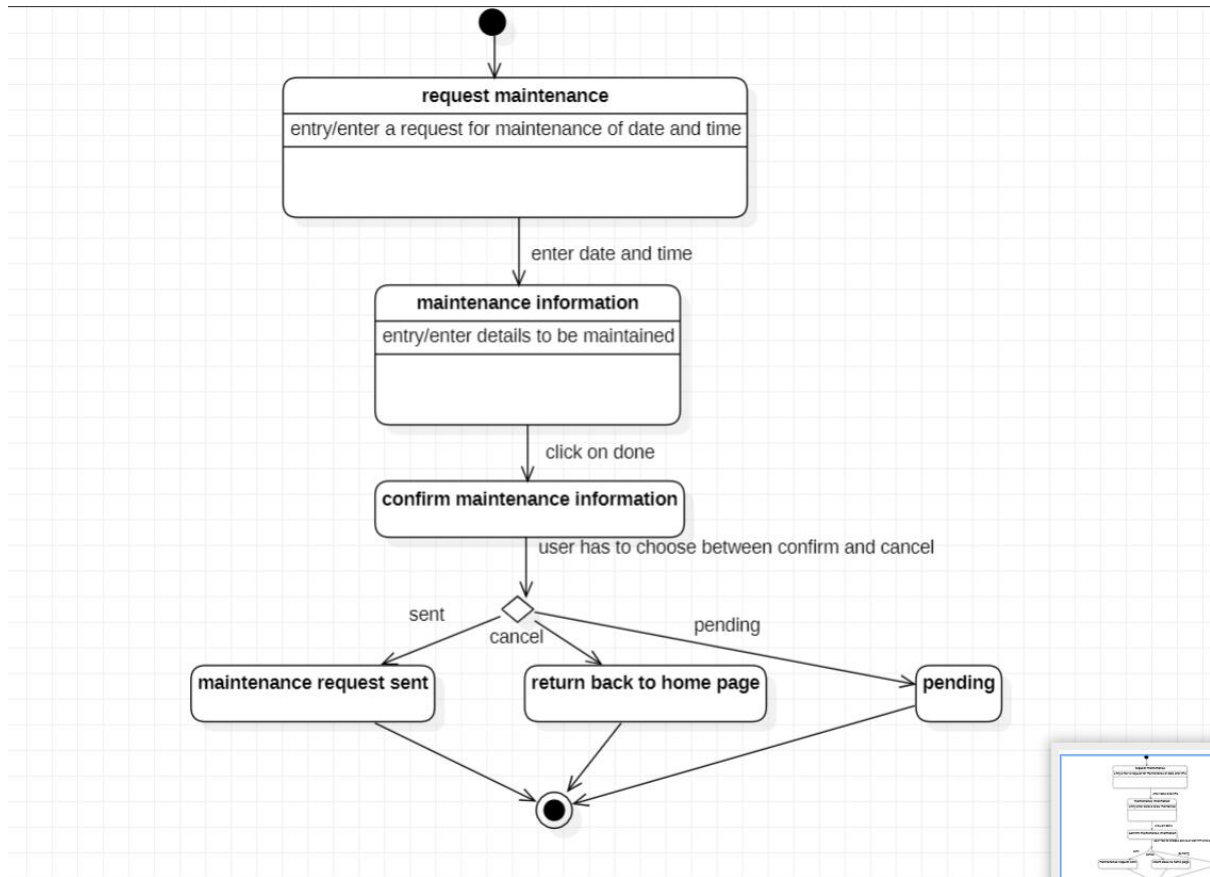
2. SIGN UP
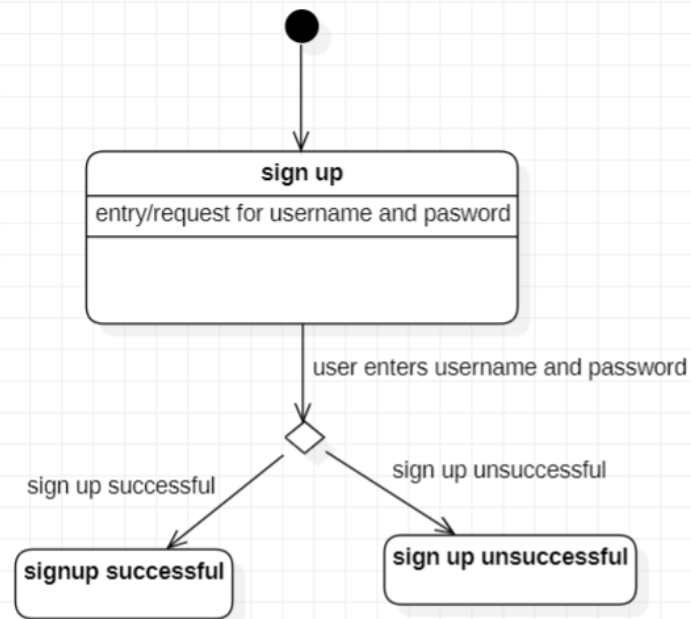
3. REGISTRATION
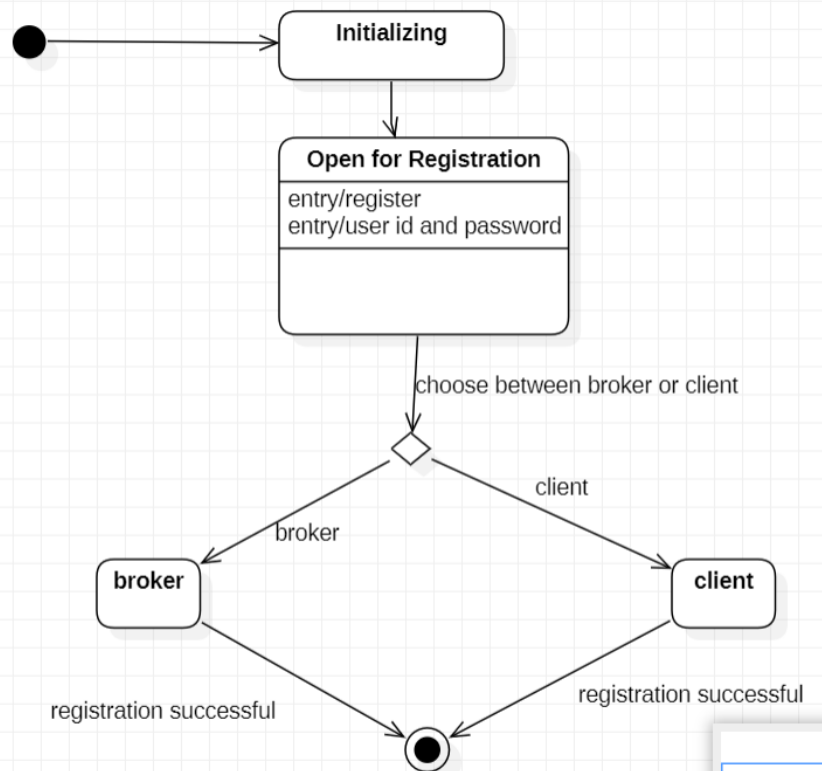
Test Case Matrix

1. Login

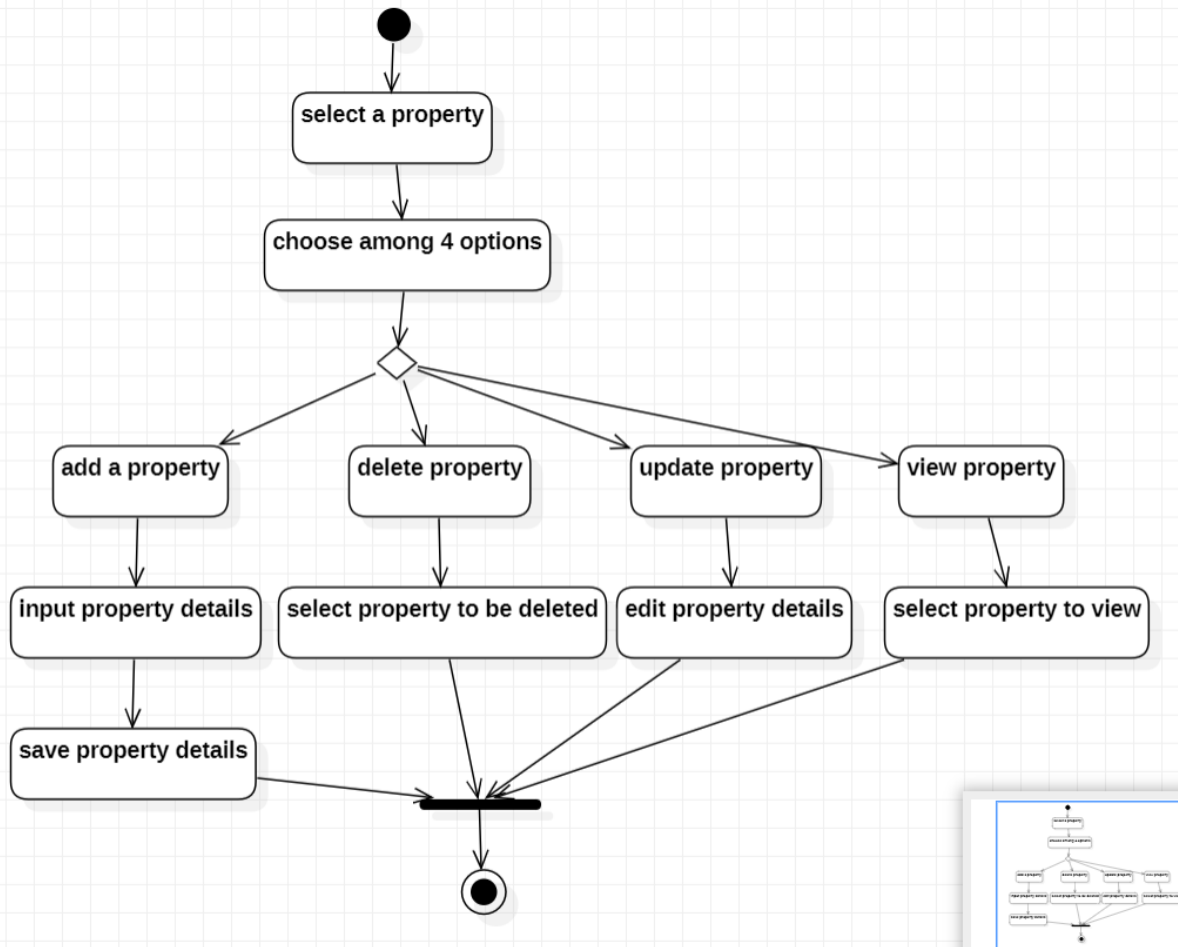| Test Case ID	Scenario name and description	Input 1 Login ID	Input 2 Password	Expected output	remarks
TC1	Scenario 1-Login	12345678	abc123	User allowed to login	-
TC2	Scenario 2-Login alternative flow: invalid entry	123	abc123	Login ID invalid	Login ID not in specified format which is 11 characters
TC3	Scenario 2-Login alternative flow: invalid entry	12345689	abc123	Login ID invalid	Login ID does not exist in database
TC4	Scenario 2-Login alternative flow: invalid entry	12345678	c34	Password invalid	Password not in specified format which is less than 4 characters
TC5	Scenario 2-Login alternative flow: invalid entry	12345678	s34	Password invalid	Password does not exist in the database
TC6	Scenario 2-Login alternative flow: invalid entry	1223	s2	Login ID and passsword	Login ID and password not in the specified format.
TC7	Scenario 3-User exits	*	*	User comes out of the system	-

2. TEST CASE MATRIX- MAINTAIN PROPERTY

Test case ID	Scenario and description	Input 1: Property ID	Input 2: Address	Input 3: Property description	Update confirmed	Deletion confirmed	Expected result	Remarks (if any)
TC1	Scenario 1- Add a property	Valid input	Valid input	Valid input	n /a	n /a	property is added successfully	
TC2	Scenario 2- Add a property alternative flow :Invalid entry	Invalid input	Valid /invalid input	Valid /Invalid input	n /a	n /a	Invalid property id	property code is not in the specified format.
TC3		Valid input	Invalid input	Valid /invalid input	n /a	n /a	Invalid address	description is not in the
TC4		Valid input	Valid	input invalid	n /a	n /a	Invalid description	Incorrect format
TC5	Scenario 3- Add a property alternative flow :property id already exists	Valid input	Valid /invalid input	Valid /invalid input	n /a	n /a	property id already exists	The property with the same code is already present in the database
TC6	Scenario 4- Add a property alternative flow :User exits	Valid /invalid input	Valid /invalid input	Valid /invalid input	n /a	n /a	User is allowed to exit and returns to the Main menu	
TC7	Scenario 5- Update a property	Valid input	Valid input	Valid input	Yes	n /a	property is updated successfully	
TC8	Scenario 6- Update a property alternative flow :Invalid entry	Valid input	Invalid input	Valid /invalid input	n /a	n /a	Invalid property address	property address is not in the specified format .
TC9		Valid input	Valid input	Invalid input	n /a	n /a	Invalid description	description is not in the specified format .

TC10	Scenario 7-Update a property alternative flow :property not found	Valid input	n /a	n /a	n /a	n /a	property not found	property with the specified ID does not exist in the database .
TC 11	Scenario 9-Update a property alternative flow :User exits	Valid /invalid input	Valid /invalid input	Valid /invalid input	n /a	n /a	User is allowed to exit and returns to the Main menu	
TC12	Scenario 10-Delete a property	Valid input	n /a	n /a	n /a	Yes	property is deleted successfully	
TC13	Scenario 11-Delete a property alternative flow :property not found	Valid input	n /a	n /a	n /a	property not found	property with the specified ID does not exist in the database .	
TC14	Scenario 12-Delete a property alternative flow :Delete cancelled	Valid input	n /a	n /a	No	Main screen of property appears	User does not confirm the delete operation .	
TC 15	Scenario 13-Delete a property alternative flow :Deletion not allowed	Valid input	n /a	n /a	n /a	Deletion not allowed	property is already issued .	
TC16	Scenario 14-Delete a property alternative flow :User exits	Valid/invali d input	n /a	n /a	n /a	User is allowed to exit and returns to the Main menu		
TC 17	Scenario 15-View a property Valid input	Valid input	n /a	n /a	n /a	property is displayed successfully	The property details are displayed	
TC 18	Scenario 16-View a property alternative flow	Valid input	n /a	n /a	n /a	property not found	property with the specified ID does not	

	:property not found							exist in the database

TEST CASE MATRIX WITH ACTUAL VALUES- MAINTAIN PROPERTY

Test case ID	Scenario and description	Input 1: Property ID	Input 2: Address	Input 3: Property description	Update confirmed	Deletion confirmed	Expected result	Remarks (if any)
TC1	Scenario 1- Add a property	HR3141461	Oakwood apartmentB24, sector 26 Gurgaon	2BHK	n /a	n /a	property is added successfully	
TC2	Scenario 2- Add a property alternative flow :Invalid entry	I234qwed	vy2i	456vv	n /a	n /a	Invalid property id	property code is not in the specified format.
TC3		HR3141461	542562er	34y5	n /a	n /a	Invalid address	description is not in the
TC4		DEL523454	K87 Rose lane Saket	yh65	n /a	n /a	Invalid description	Incorrect format
TC5	Scenario 3- Add a property alternative flow :property id already exists	KA5432345	62ab42	3BHK	n /a	n /a	property id already exists	The property with the same code is already present in the database
TC6	Scenario 4- Add a property alternative flow :User exits	HR3141461	vse56	235va	n /a	n /a	User is allowed to exit and returns to the Main menu	
TC7	Scenario 5- Update a property	PB1101461	B56 sector 5 Rohini	5BHK	Yes	n /a	property is updated successfully	

TC8	Scenario 6-Update a property alternative flow :Invalid entry	HR314146 1	luyfgyug	3BHK	n /a	n /a	Invalid property address	property address is not in the specified format .
TC9		JH877564 61	K76 Tulip lane Saket	luhiuh3	n /a	n /a	Invalid description	description is not in the specified format .
TC1 0	Scenario 7-Update a property alternative flow :property not found	MP314146 1	n /a	n /a	n /a	n /a	property not found	property with the specified ID does not exist in the database .
TC 11	Scenario 9-Update a property alternative flow :User exits	qf5fcfa	Valid /invalid input	2BHK	n /a	n /a	User is allowed to exit and returns to the Main menu	
TC1 2	Scenario 10-Delete a property	BH488146 1	n /a	n /a	n /a	Yes	property is deleted successfull y	
TC1 3	Scenario 11-Delete a property alternative flow :property not found	HR345232 3	n /a	n /a	n /a	property not found	property with the specified ID does not exist in the database .	
TC1 4	Scenario 12Delete a property alternative flow :Delete cancelled	BH488146 1	n /a	n /a	No	Main screen of property appears	User does not confirm the delete operation .	
TC 24	Scenario 13Delete a property alternative flow :Deletion not allowed	TN563456 3	n /a	n /a	n /a	Deletion not allowed	property is already issued .	
TC2 5	Scenario 14Delete a property alternative	GO886155 3	n /a	n /a	n /a	User is allowed to exit and returns to		

	flow :User exits					the Main menu	
TC 26	Scenario 15-View a property Valid input	MP7786256	n /a	n /a	n /a	property is displayed successfully	The property details are displayed
TC27	Scenario 16-View a property alternative flow :property not found	HR5289884	n /a	n /a	n /a	property not found	property with the specified ID does not exist in the database

SIGNUP-

Test Case ID	Scenario Name & Description	Input 1 (Name)	Input 2 (Phone)	Input 3 (Email)	Input 4 (Password)	Input 5 (Confirm Password)	Expected Output	Remarks
TC001	Basic Flow: Successful signup	Valid input	Valid input	Valid input	Valid Input	Valid Input	User should be able to register successfully	Valid input data
TC002	Alternate Flow: Invalid name	Invalid Input	Valid input	Valid input	Valid input	Valid input	User should not be able to register and should see an error message indicating that the name field does not accept special characters or numbers	-
TC003	Alternate Flow: Weak password	Valid Input	Valid input	Valid input	Invalid Input	Valid Input	User should not be able to register and should see an error message indicating that the password should be at least 8 characters long and contain at least one uppercase letter, one lowercase letter, one number, and one special character	-

							Expected Result	
TC004	Alternate Flow: Passwords don't match	lid Input	alid put	Valid nput	id Input	valid Input	User should not be able to register and should see an error message indicating that the password and confirm password fields should match	-
TC005	Alternate Flow: Existing user	Valid Input	alid put	valid nput	id Input	alid Input	User should not be able to register and should see an error message indicating that a user with the same email already exists	-
TC006	Alternate Flow: Invalid phone number	Valid Input	valid put	Valid nput	id Input	alid Input	User should not be able to register and should see an error message indicating that the phone number should be at least 10 digits long	-
TC007	Alternate Flow: Invalid email	Valid Input	alid put	nvalid nput	id Input	alid Input	User should not be able to register and should see an error message indicating that the email address is invalid	-

TC008	Alternate Flow: Missing required field	lid Input	alid put	Invalid nput	id Input	alid Input	User should not be able to ister and should see an error nessage indicating that the email field is required	-
TC009	Alternate Flow: Missing optional field	id Input	alid put	Valid nput	id Input	alid Input	ser should be able to register ccessfully even if the location field is left empty	

Signup with values-

Test Case ID	Scenario Name & Description	Name	Phone	Email	Password	Confirm Password	Expected Output	Rem arks
TC001	Basic Flow: uccessful signup	bcdef«	34567890	Seabc ef21@gmail.com	Password@123	Password@123	User should be able to register successfully	input data

TC002	rnate Flow: Invalid name	abcdef	34567890	bcdef21@gmail.com	assword@123	ssword@123	ser should not be able to register and hould see an error message indicating the name field does not accept special characters or numbers	-
TC003	Alternate Flow: Weak password	abcdef	34567890	ocdef21@gmail.com	pass123	pass123	User should not be able to register and should see an error message cating that the password should be at least 8 characters long and contain at st one uppercase letter, one lowercase letter, one number, and one special character	-
TC004	Alternate Flow: swords don't match	abcdef	34567890	ocdef21@gmail.com	assword@123	ssword@456	r should not be able to register and uld see an error message indicating the password and confirm password fields should match	-
TC005	rnate Flow: Existing user	abcdef	34567890	ocdef21@gmail.com	assword@123	ssword@123	r should not be able to register and uld see an error message indicating a user with the same name & email already exists	-

TC006	rnate Flow: Invalid phone number	abcdef	2345678	bcdef21@gmail.com	assword@123	ssword@123	r should not be able to register and uld see an error message indicating the phone number should be at least 10 digits long	-
TC007	rnate Flow: Invalid email	abcdef	34567890	abcdef21@gl.com	assword@123	ssword@123	r should not be able to register and uld see an error message indicating that the email address is invalid	-
TC008	rnate Flow: Missing required field	abcdef	34567890	-	assword@123	ssword@123	r should not be able to register and uld see an error message indicating that the email field is required	-
TC009	nate Flow: Terms of use not accepted	abcdef	34567890	ocdef21@gmail,com	assword@123	ssword@123	r should not be able to register and uld see an error message indicating t the terms of use must be accepted	-
TC010	rnate Flow: Cancel registration	abcdef	34567890	ocdef21@gmail,com	assword@123	ssword@123	User should be able to cancel the gistration process and return to the home page	-

TC011	ernate Flow: Reset egistration form	abcdef	34567890	cdef21@gmail,com	assword@123	ssword@123		

Maintain lease-

Test case ID	Scenario and description	Property ID	Amount	Update confirmed	Deletion confirmed	Expected result	Remarks (if any)
TC1	Renew lease	valid	valid	yes	n/a	Lease is updated	
TC2	Renew lease, alternate flow: invalid input	invalid	Valid/invalid	n/a	n/a	Invalid id	Entered id is invalid
TC3	Forfeit lease	valid	n/a	n/a	yes	Lease record is deleted	Deletion successful

Test case ID	Scenario and description						Expected result	Remarks (if any)
TC4	Forfeit lease, alternate flow: invalid input	invalid	n/a	n/a	n/a		Invalid id	Entered id is invalid
TC5	Check lease	invalid	n/a	n/a	n/a		Invalid id	Entered id is invalid

Maintain lease with values-

Test case ID	Scenario and description	Property ID	Amount	Update confirmed	Deletion confirmed	Expected result	Remarks (if any)
TC1	Renew lease	DEL@265	35,000	yes	n/a	Lease is updated	
TC2	Renew lease, alternate flow: invalid input	DELA67B	35,000	n/a	n/a	Invalid id	Entered id is invalid
TC3	Forfeit lease	CAL@110	n/a	n/a	yes	Lease record is deleted	Deletion successful

TC4	Forfeit lease, alternate flow: invalid input	11NDJ	n/a	n/a	n/a	Invalid id	Entered id is invalid
TC5	check	546466	n/a	n/a	n/a	Invalid id	Entered id is invalid