



TCP2201 Project

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by <Group 19>

Lecture Section: TC2V

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1 Introduction

With our reliance on technology growing stronger and stronger each day, almost everything in our lives is being digitalized. In the same way most people only book hotels online nowadays, more people are using the internet to look for or sell properties. In order to not be left behind, we have a duty to keep up with the evolution of the world. An online rental management system makes a lot of sense as it saves a lot of time, prevents miscommunication and it is much more efficient compared to the traditional ways.

An online rental system is a rental system software that provides various services in renting a property for property owners, agents and potential tenants. We created this software with the intention of giving a better experience for said users while maintaining the same usage with the traditional ways of renting. Before technology, potential tenants would have to call up agents or meet them in person to learn about the properties. Most people have strict work schedules and are unable to find any free time to show up in person. Other than that, on some occasions, the agents might make mistakes on the phone such as giving the wrong price or the wrong property with what the tenants are looking for. With this software, those tedious problems can be solved. In other words, we're trying to minimize any human-to-human interactions as much as possible, especially in times of a pandemic. Tenants can now view any of their preferred properties at their own leisure. All the agents and owners have to do is enter the data accordingly to list their properties. A better organization can improve the quality of service given to the tenants and reduce the workload for agents and owners. It is a win-win solution on both sides.

Our system is called xSmarthomes and it consists of only 4 user types which are administrator, property agent, owner and potential tenant. First of all, the functions of the administrator are to create accounts for any user type. The administrator also has the ability to delete any accounts. The administrator can also add properties, edit, delete and leave comments on any of the properties and sort the list of properties such as type of property and owner. Next, the property agent and owner can register an account and upload property. The property agent and owner can also edit the details of their properties if they want to. The property agent and owner can change the status of their property to active or inactive, with inactive meaning that the property has been taken by a tenant and it will be hidden from the property list. The property agent and owner can view the list of properties according to their preferences. Other than that, the potential tenant can register an account and edit their profile of the account. The potential tenant can also view the list of properties according to

their preferences. All in all, our system will be following these requirements to ensure the sustainability and efficiency of the system.

2 Work Distribution

Member	Program	Report
Chang See Jie	<ul style="list-style-type: none">• Agent & Owner• GUI	<ul style="list-style-type: none">• Use Case Diagram• UML Class Diagram
Loo Chen Zhi	<ul style="list-style-type: none">• Admin (Manage Property)	<ul style="list-style-type: none">• Introduction• Sample Output Screen
Tee Ming Yuan	<ul style="list-style-type: none">• Tenant	<ul style="list-style-type: none">• Sequence Diagram
Vizeard Yeow	<ul style="list-style-type: none">• Admin (Manage Account)	<ul style="list-style-type: none">• State Diagram

3 Use Case Diagram

3.1 Combined

Figure 3.1.1 shows the use case diagram for the combination of all actors in this online rental management system, which are *New User*, *Tenant*, *Agent or Owner* and *Administrator*. Agent/Owner is extended from the tenant and administrator is extended from agent/owner since they are having some common use cases.

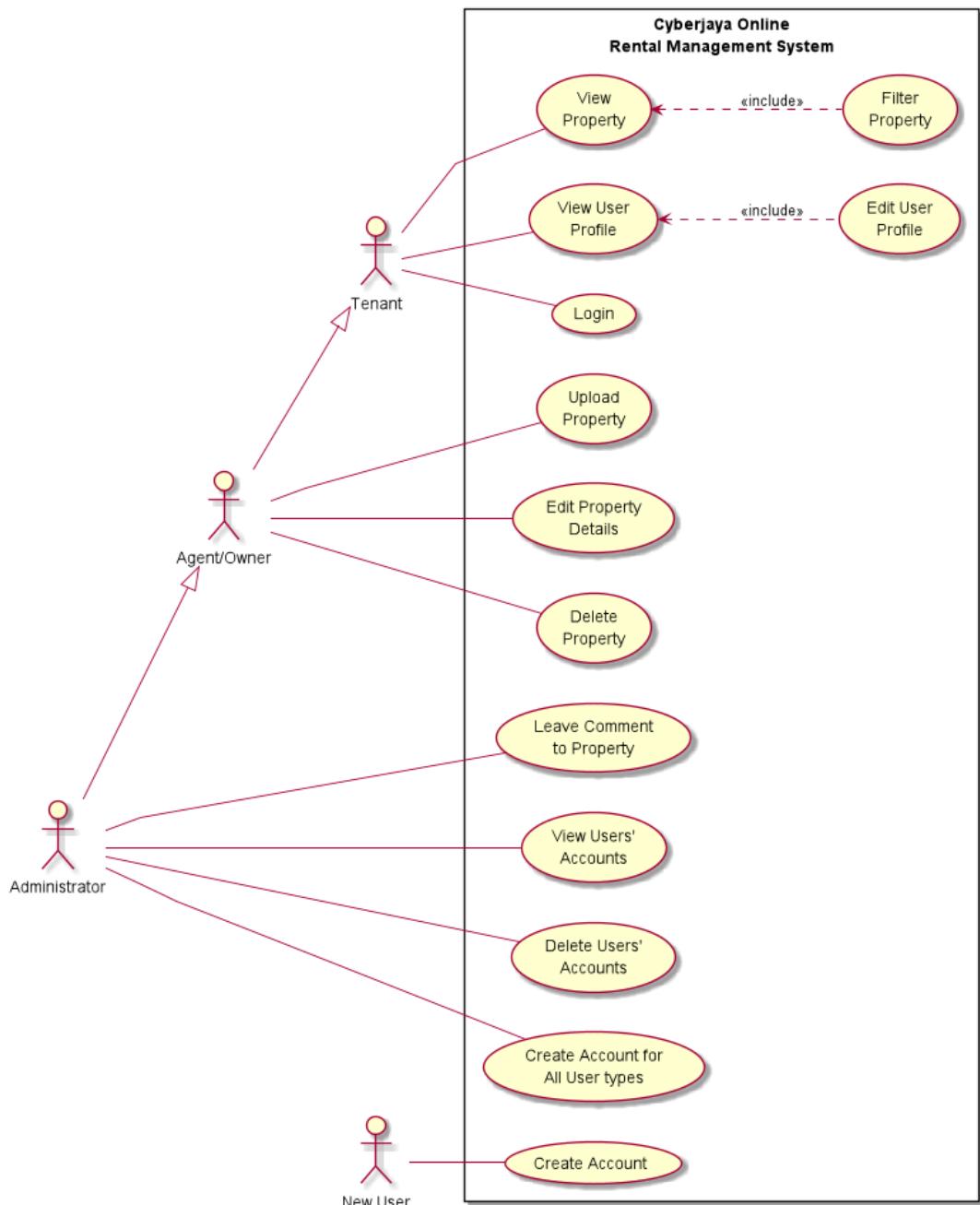


Figure 3.1.1 Combined Use Case Diagram

3.2 New User

A new user can create an account in this system in order to proceed with more functions. But a new user is not allowed to register as an administrator.

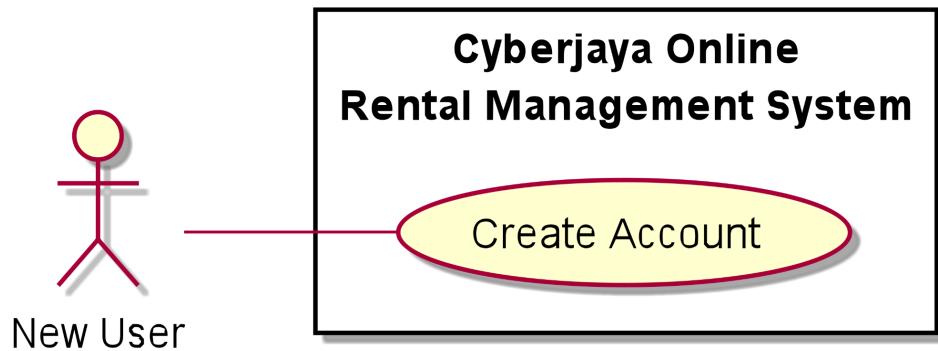


Figure 3.2.1 New User Use Case Diagram

3.3 Tenant

Tenants after logging in into this system can view property, the filter function is included to filter a range of properties based on the criteria. Tenants can also view their own user profiles and can edit the details.

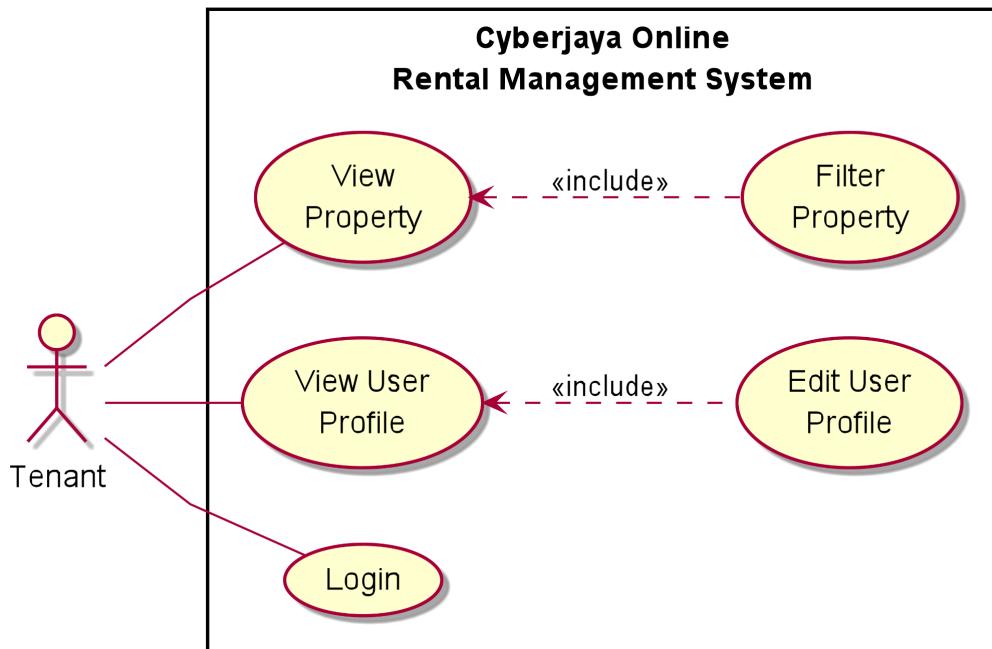


Figure 3.3.1 Tenant Use Case Diagram

3.4 Agent/Owner

Agent/Owner have the same use cases with tenants which are login, view property, filter property, view user profile and edit user profile. Other than these, they could also upload property, edit property details and delete their own property.

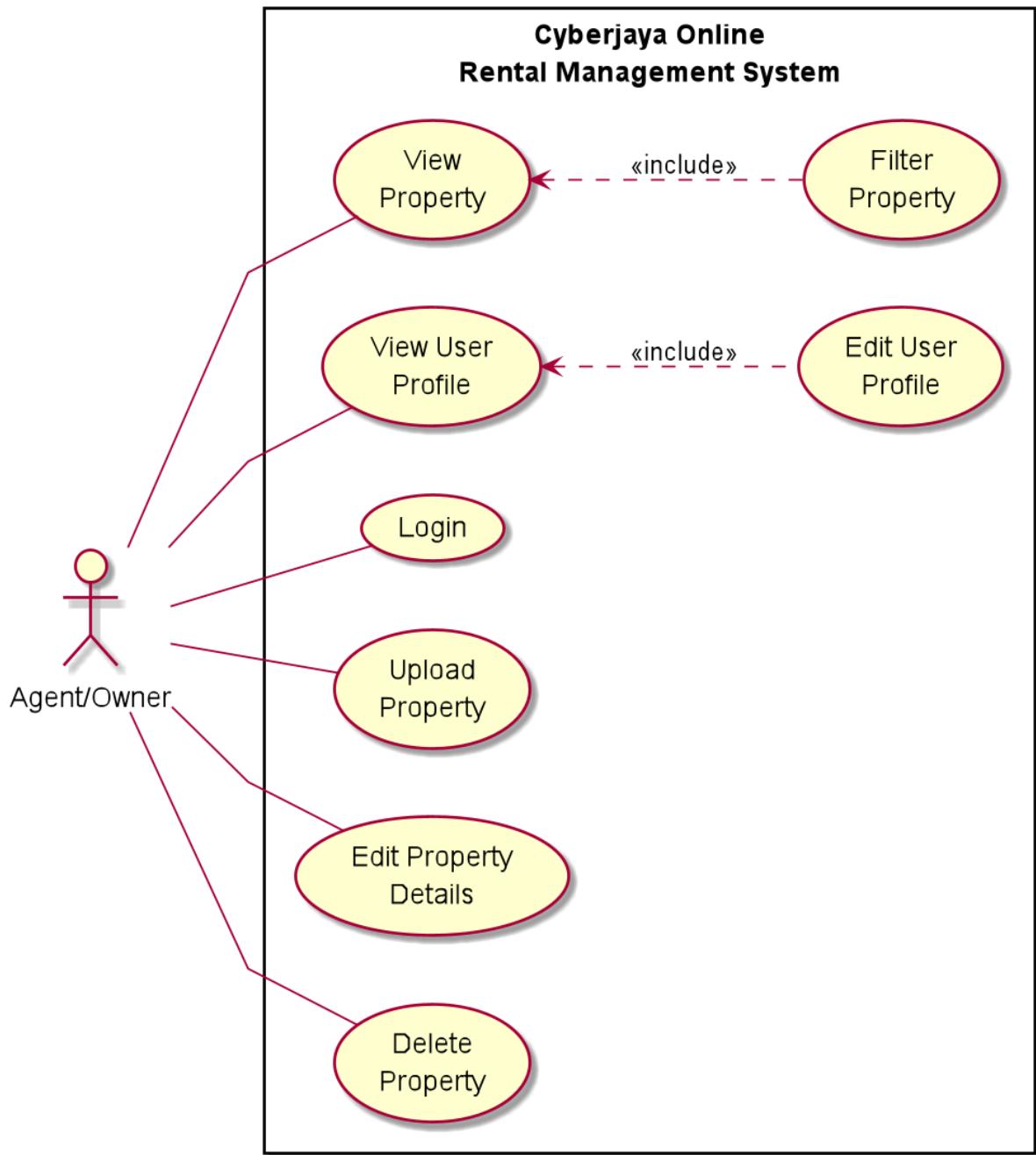


Figure 3.4.1 Agent/Owner Use Case Diagram

3.5 Administrator

Administrator has full access to this system, including all use cases agent/owner have, plus leave a comment to property, manage all users' accounts by viewing all users' accounts, delete an account and create a new account for any user type.

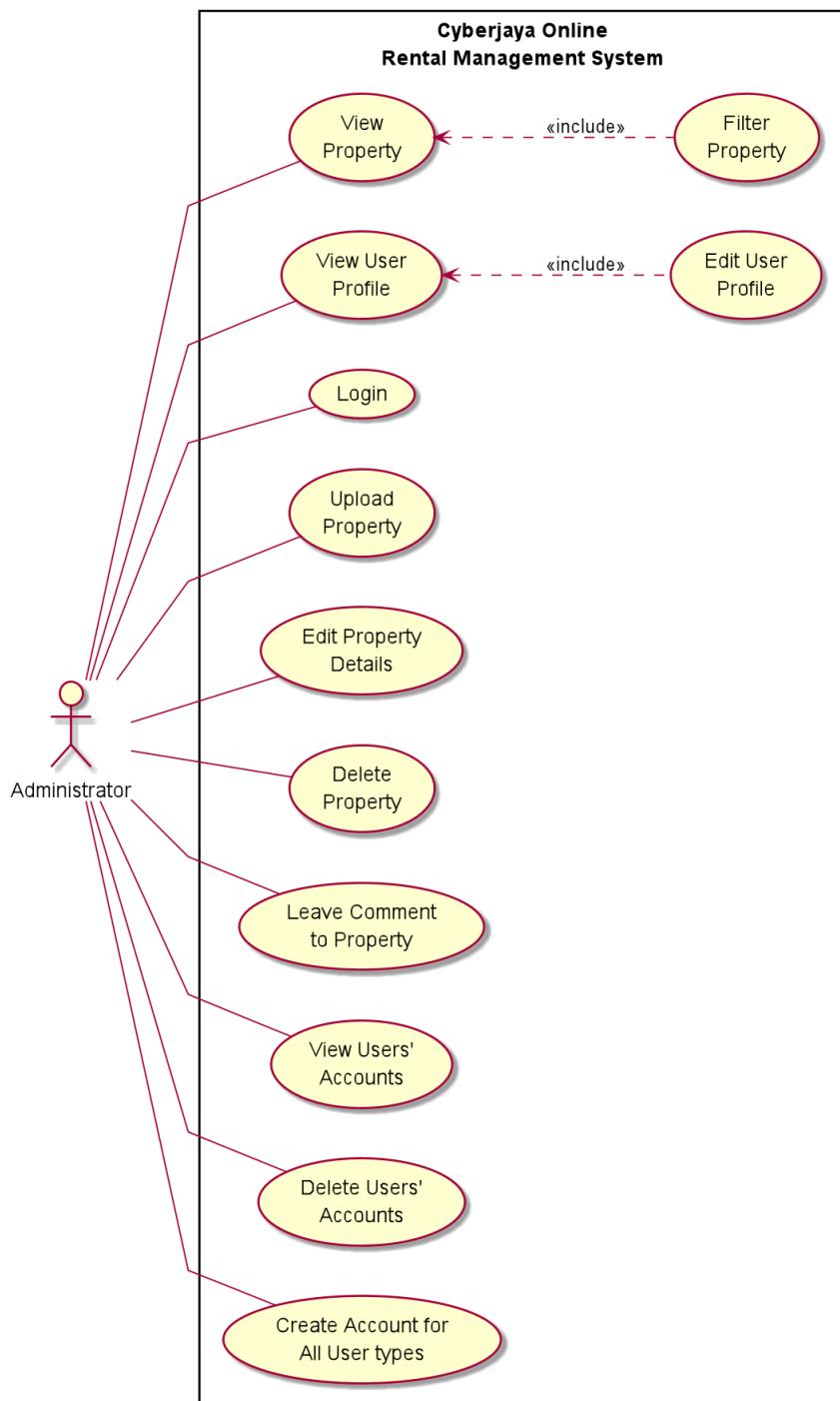


Figure 3.5.1 Administrator Use Case Diagram

4 UML Class Diagram

4.1 Tenant

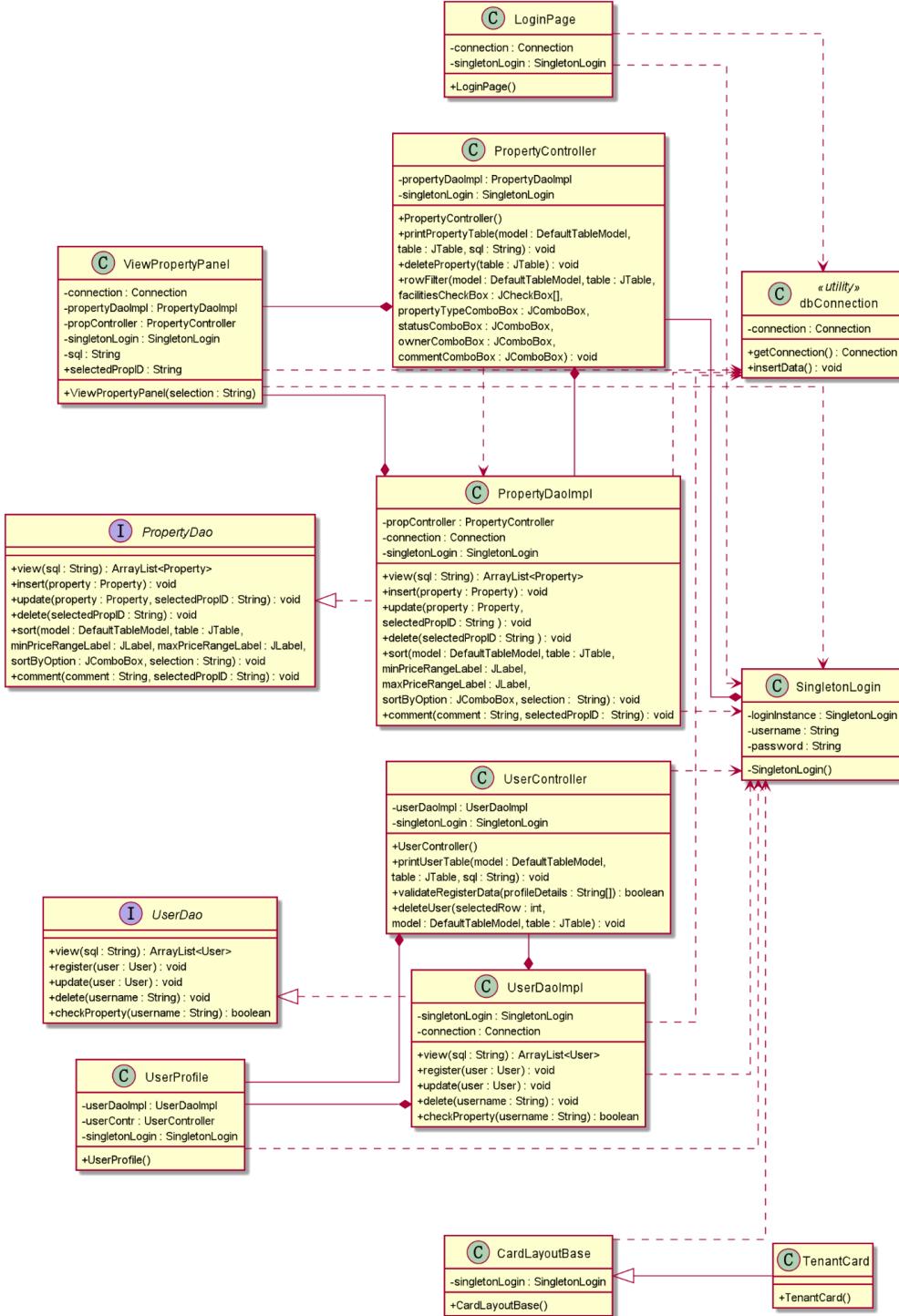


Figure 4.1.1 Tenant UML Class Diagram [Full Image](#)

4.2 Agent/Owner

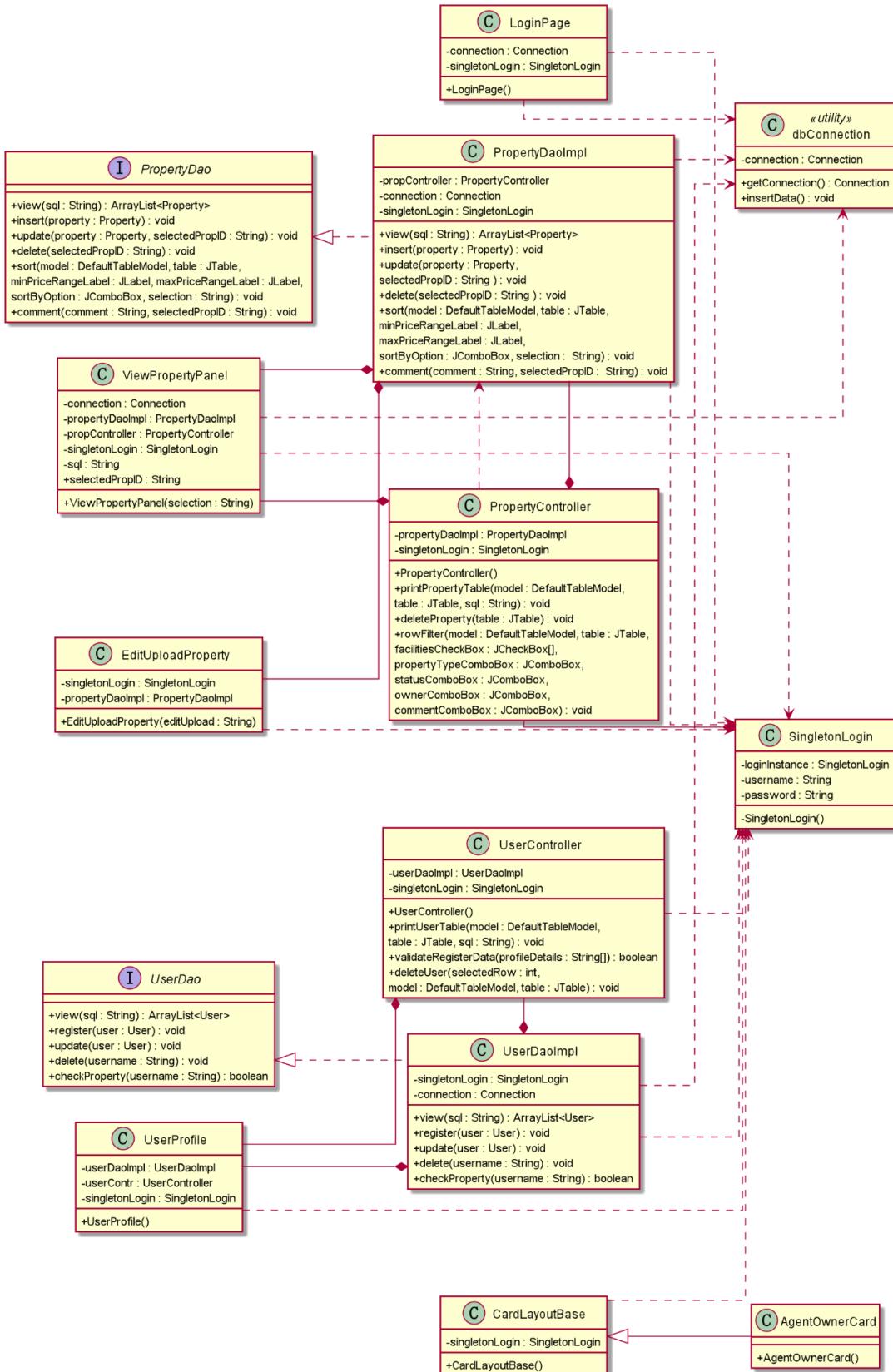


Figure 4.2.1 Agent/Owner UML Class Diagram [Full Image](#)

4.3 Administrator

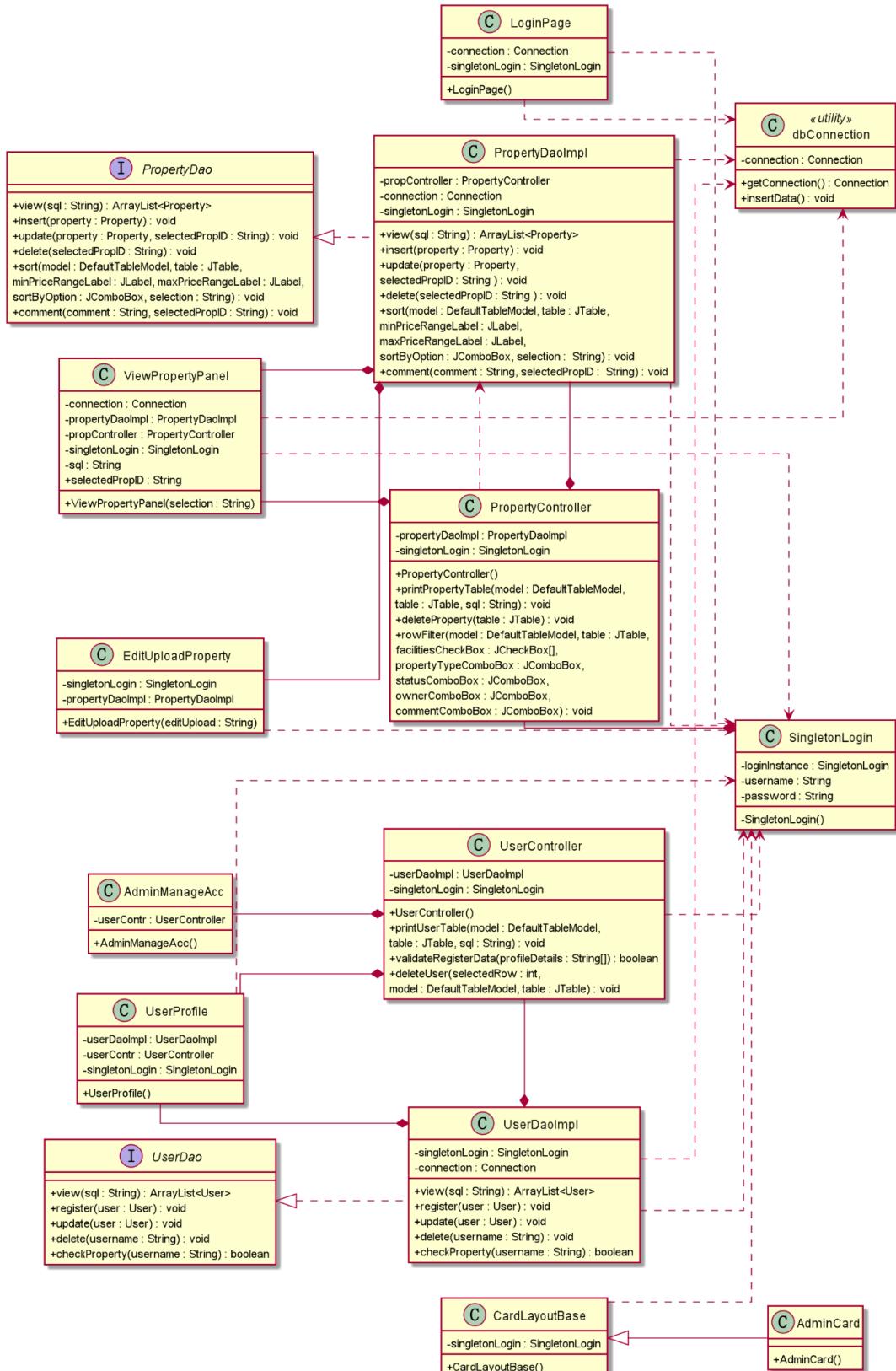


Figure 4.3.1 Administrator UML Class Diagram [Full Image](#)

5 Sequence Diagram

5.1 New User

5.1.1 Create Account

1. New users clicking the register button on the login page will show the Account Registration page.
2. New users can create an account as Tenant / Agent / Owner on this page.
3. After filling in all the details, the data will be sent for validation.
4. If validation is successful, the account will be successfully created; else, an error message will be shown.

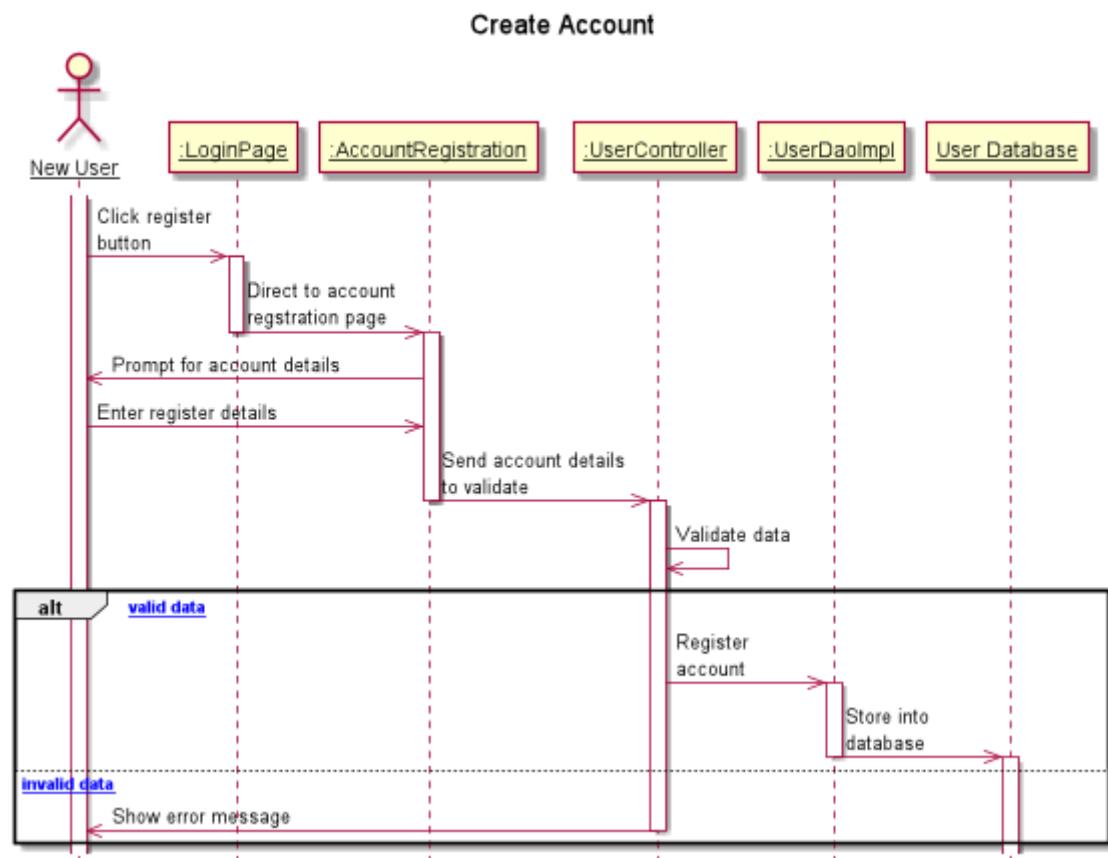


Figure 5.1.1.1 New User Create Account Sequence Diagram

5.2 Tenant/Agent/Owner/Administrator

5.2.1 Login

1. Users have to enter username, password, choose user type to login.
2. The system will retrieve entered data and verify by comparing the ID, password and user type.
3. If the data is valid, then the system will redirect to the homepage according to their user type; else, the system will show an error message and go back to the login.

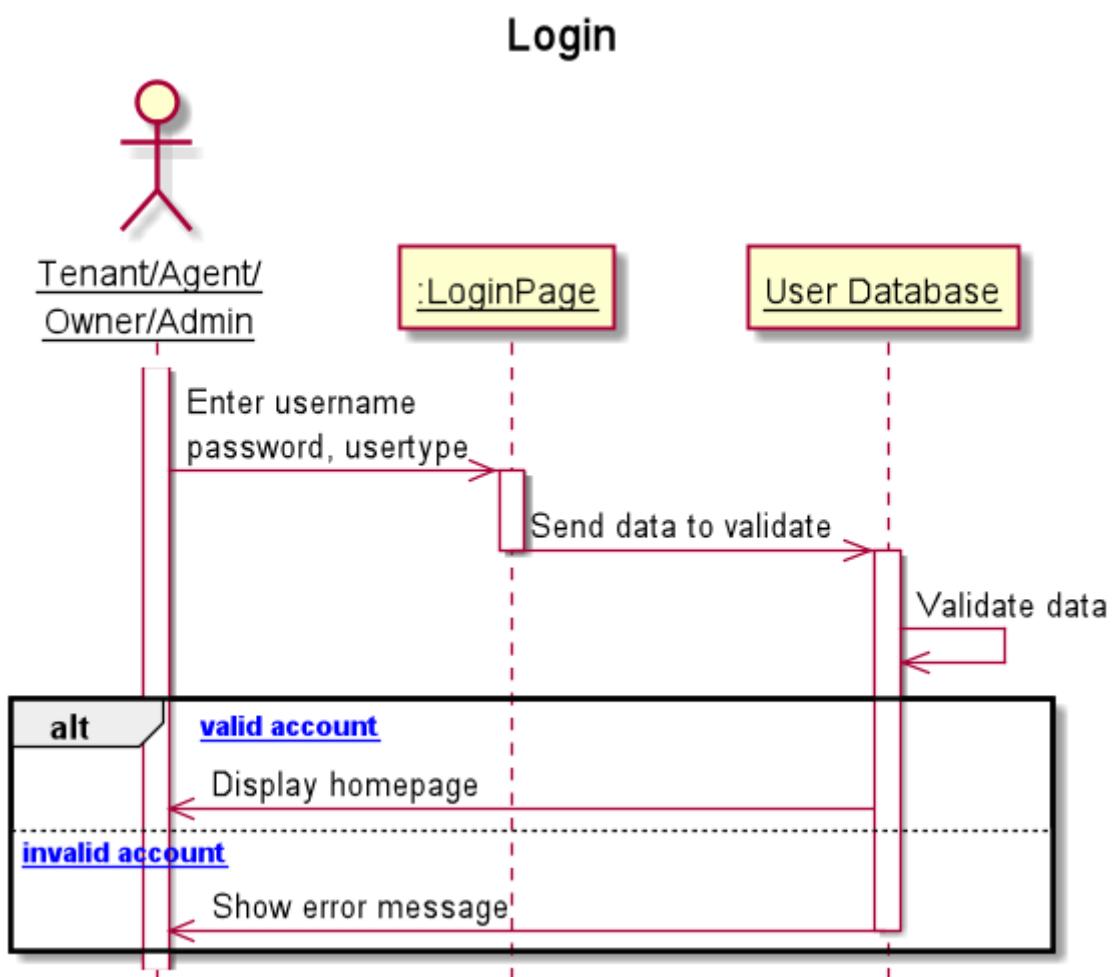


Figure 5.2.1.1 Tenant/Agent/Owner/Administrator Login Sequence Diagram

5.2.2 View & Edit User Profile

1. Users click the profile tab to view their user profile.
2. The system will show the profile details to the users.
3. Users can click the edit button to edit their user profiles.

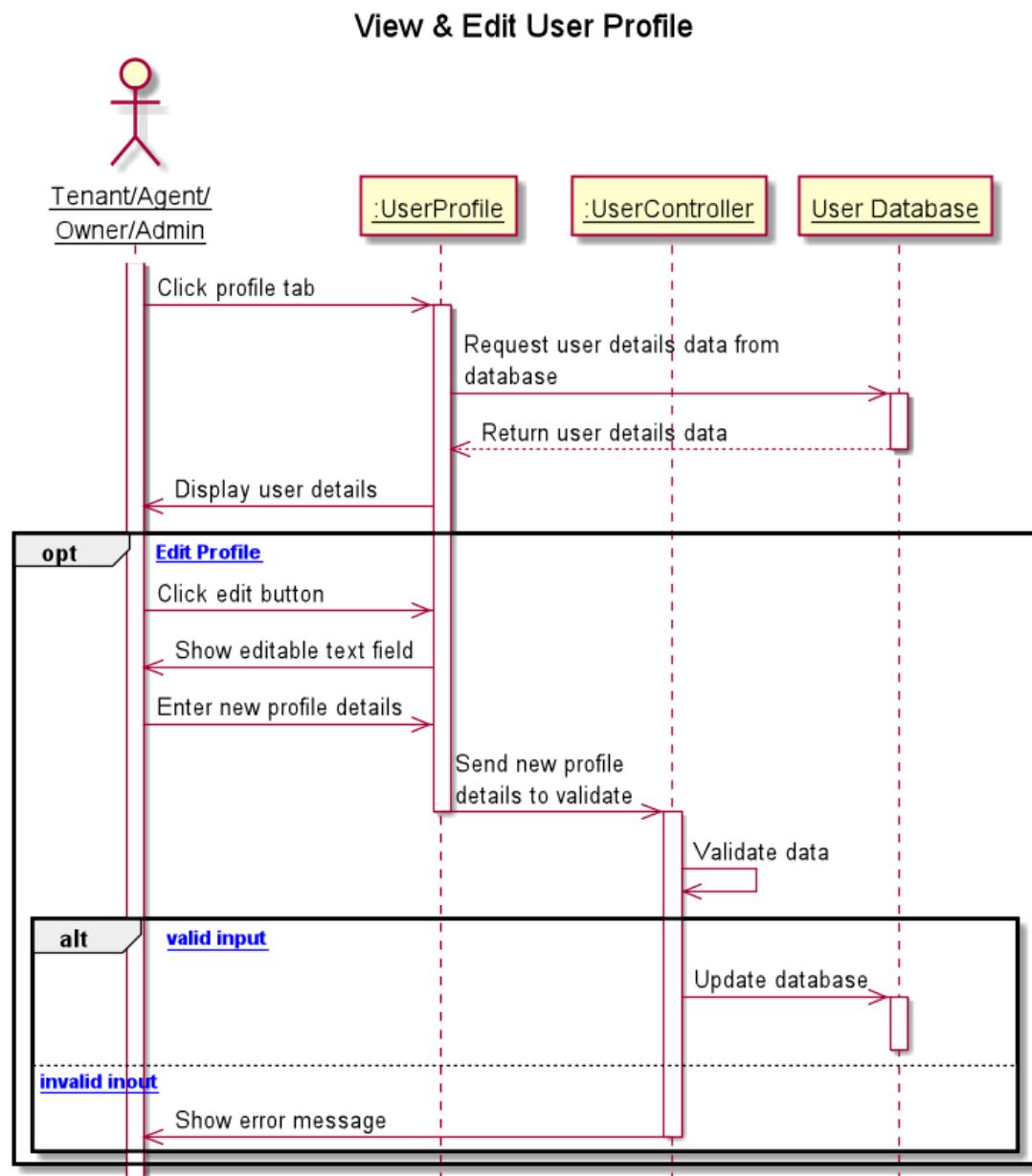


Figure 5.2.2.1 Tenant/Agent/Owner/Administrator View and Edit User Profile Sequence Diagram

5.2.3 View & Filter Property

1. Users click the Property tab to view the property list.
2. Users can filter the property list.

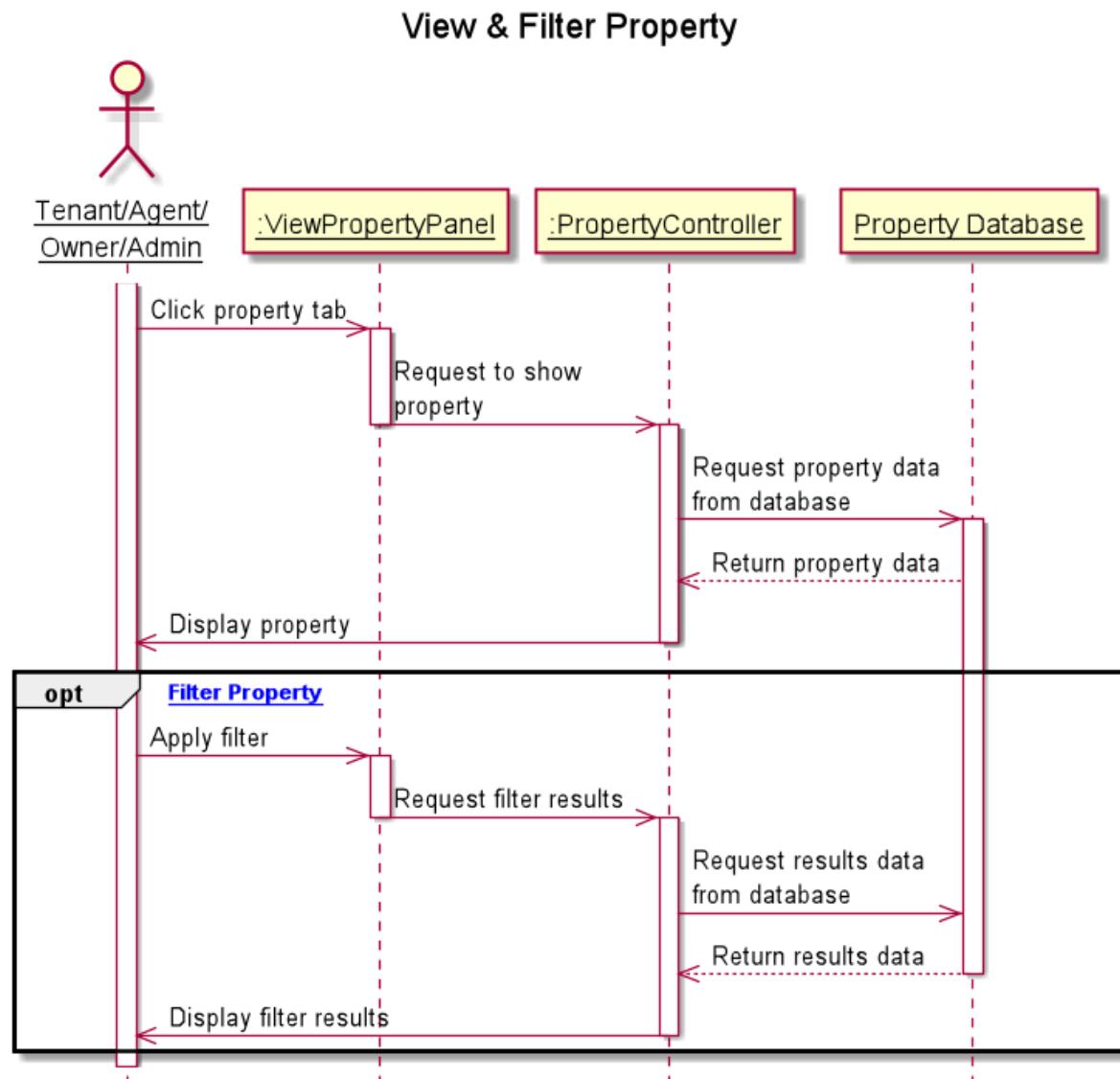


Figure 5.2.3.1 Tenant/Agent/Owner/Administrator View and Filter Property Sequence Diagram

5.3 Agent/Owner/Administrator

5.3.1 Upload Property

1. By clicking on the upload button, the system will show an Upload Property page.
2. Users have to enter property details to upload the property into the database.

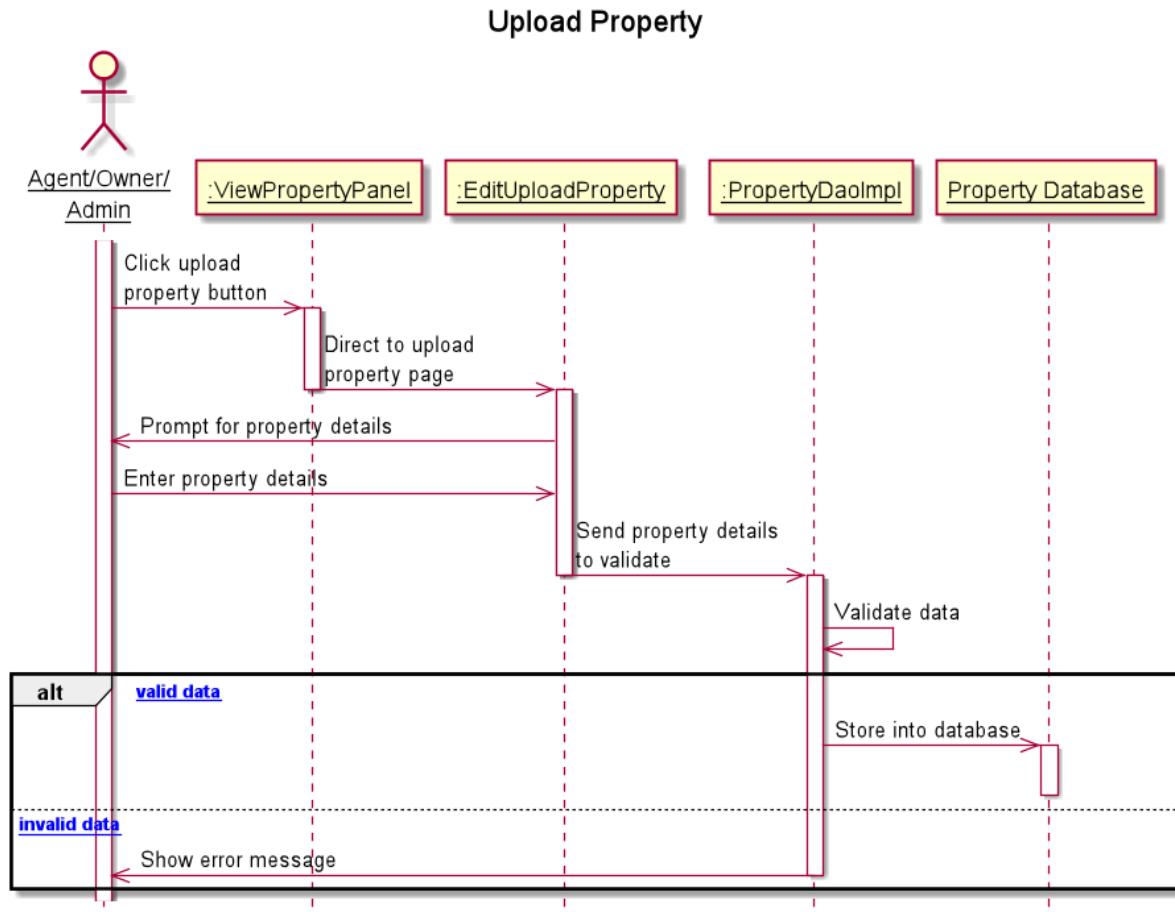


Figure 5.3.1.1 Agent/Owner/Administrator Upload Property Sequence Diagram

5.3.2 Edit Property

1. Users can select a property and click the edit button.
2. After clicking on the edit button, the system will show an Edit Property page with the original data of that selected property.
3. Users can change the property details then click the save button to update.
4. The system will update the new details into the database.

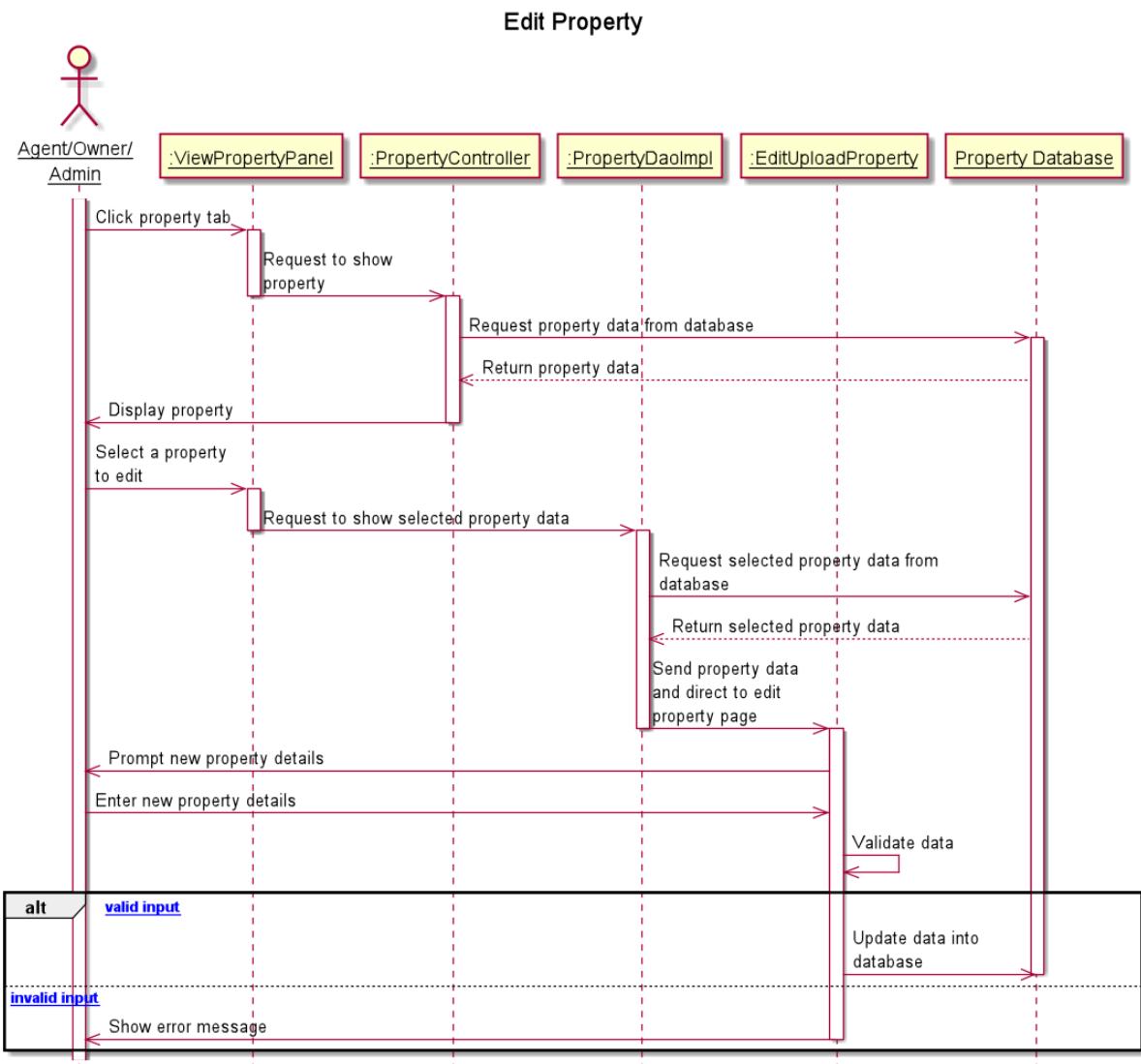


Figure 5.3.2.1 Agent/Owner/Administrator Edit Property Sequence Diagram

5.3.3 Delete Property

1. Users select a row of properties and click the delete button.
2. After clicking on the delete button, the system will show a confirmation dialogue.
3. If the user clicks yes, the selected property will be deleted from the database; else, remain unchanged.

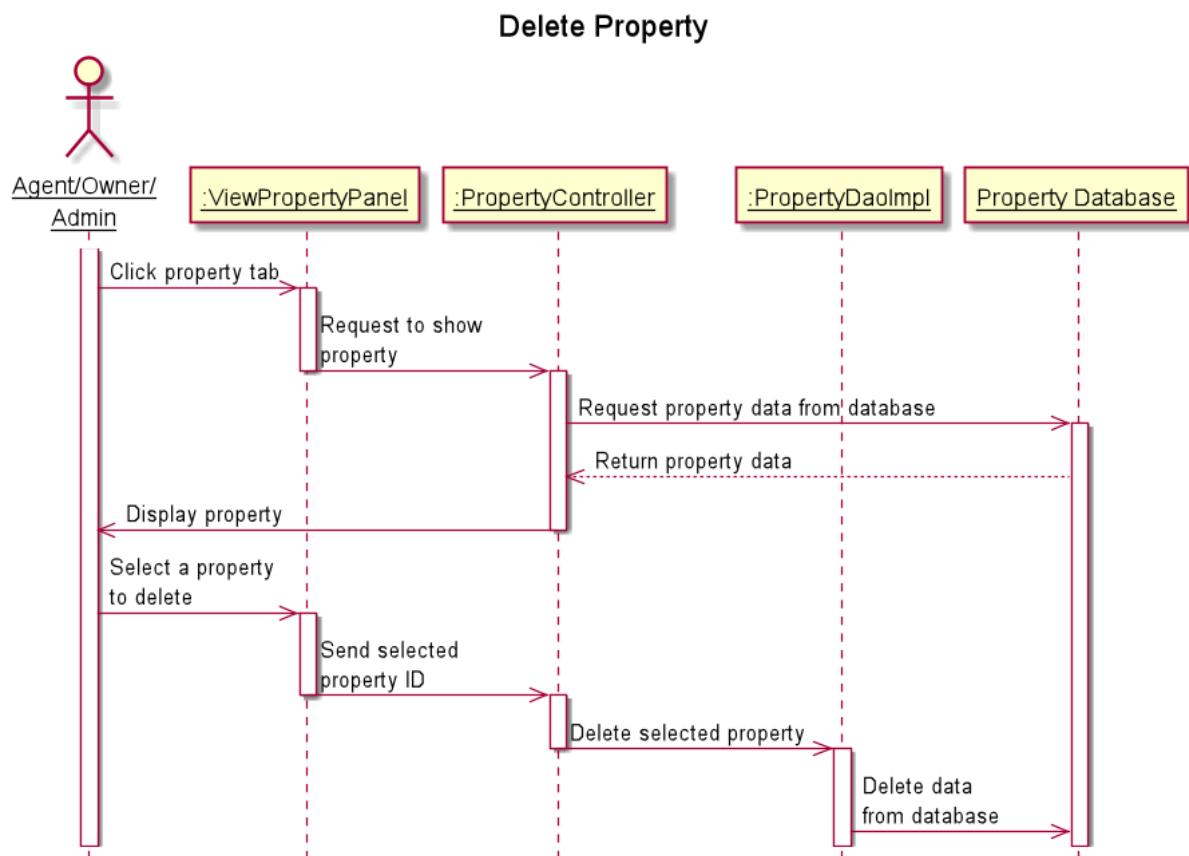


Figure 5.3.3.1 Agent/Owner/Administrator Delete Property Sequence Diagram

5.4 Administrator

5.4.1 Leave Comment to Property

1. Administrator can select a row of properties and click the comment button.
2. After clicking on the comment button, the system will show a comment text area.
3. Users can enter a comment and click the send button.
4. The system will update the comment into the database.

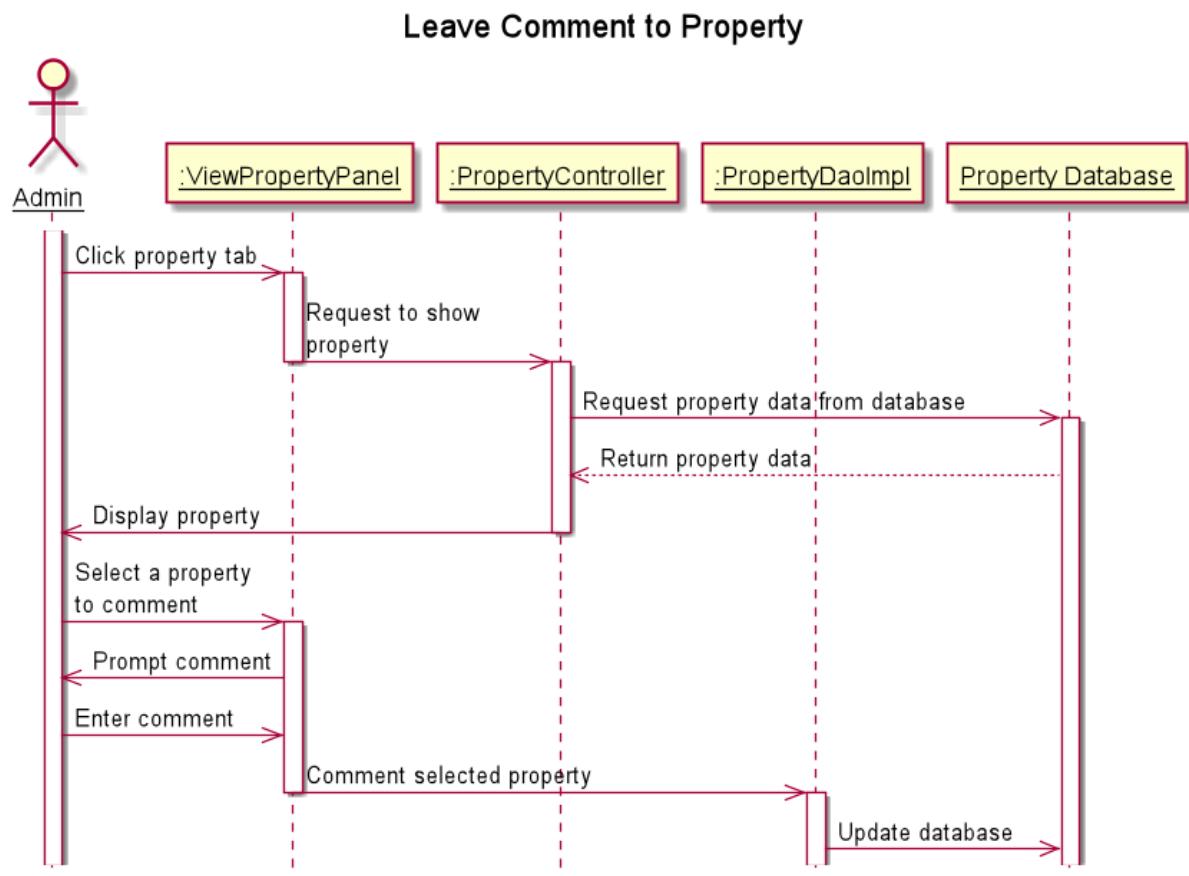


Figure 5.4.1.1 Administrator Leave Comment to Property Sequence Diagram

5.4.2 View Users' Accounts

1. Administrator can view all users' accounts on the Manage Account page.
2. Filtering accounts setting in terms of user types is provided on this page.

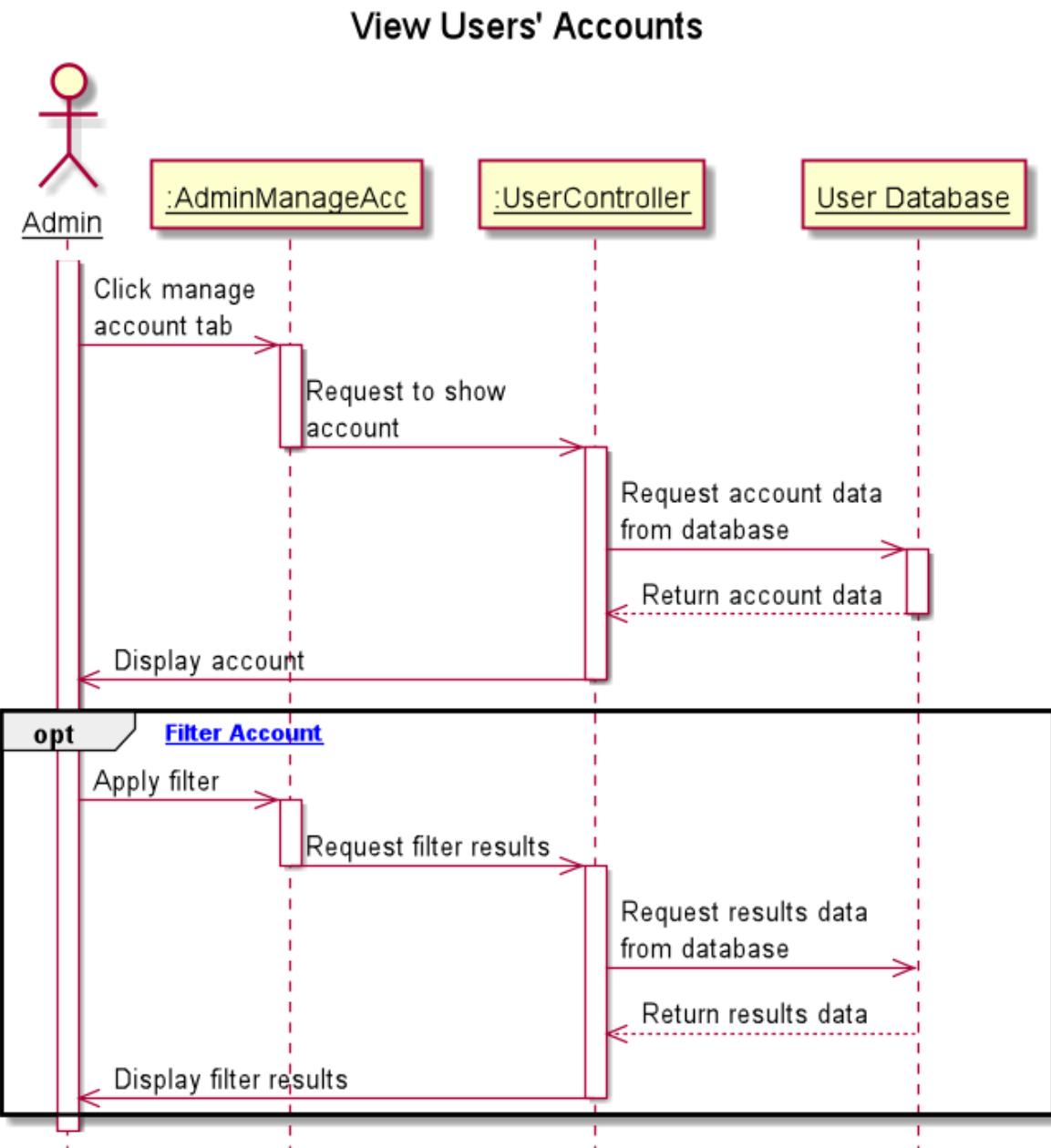


Figure 5.4.2.1 Administrator View Users' Accounts Sequence Diagram

5.4.3 Delete Users' Accounts

1. Administrator selects a row of user accounts then clicks the delete button.
2. The system will show a confirmation dialogue.
3. If the Administrator clicks on the yes button, the system will delete the user account from the database.

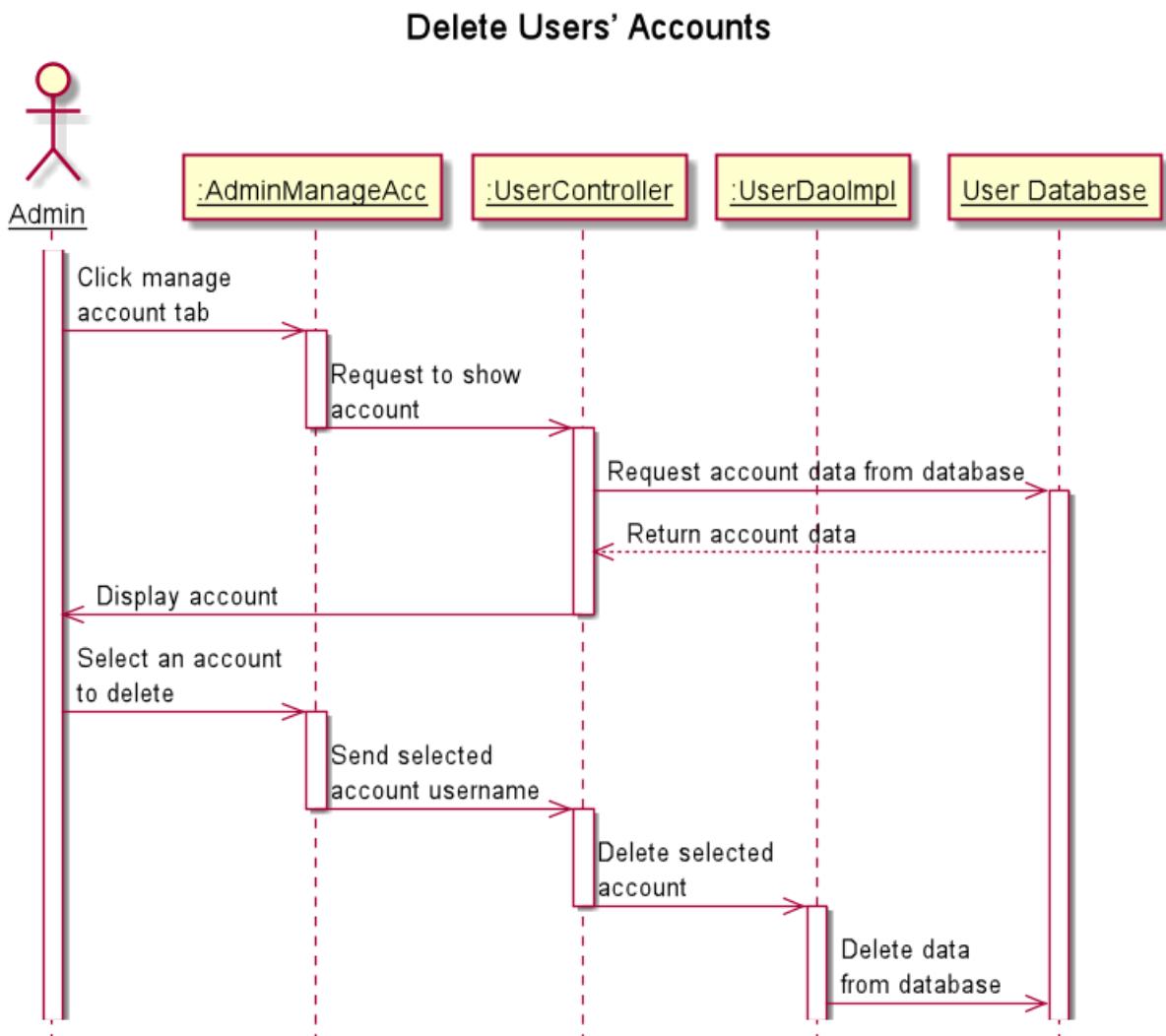


Figure 5.4.3.1 Administrator Delete Users' Accounts Sequence Diagram

5.4.4 Create Account for All User Types

1. An Account Registration window will be shown Administrator after clicking on the create account button.
2. Administrators can create accounts for any type of user.

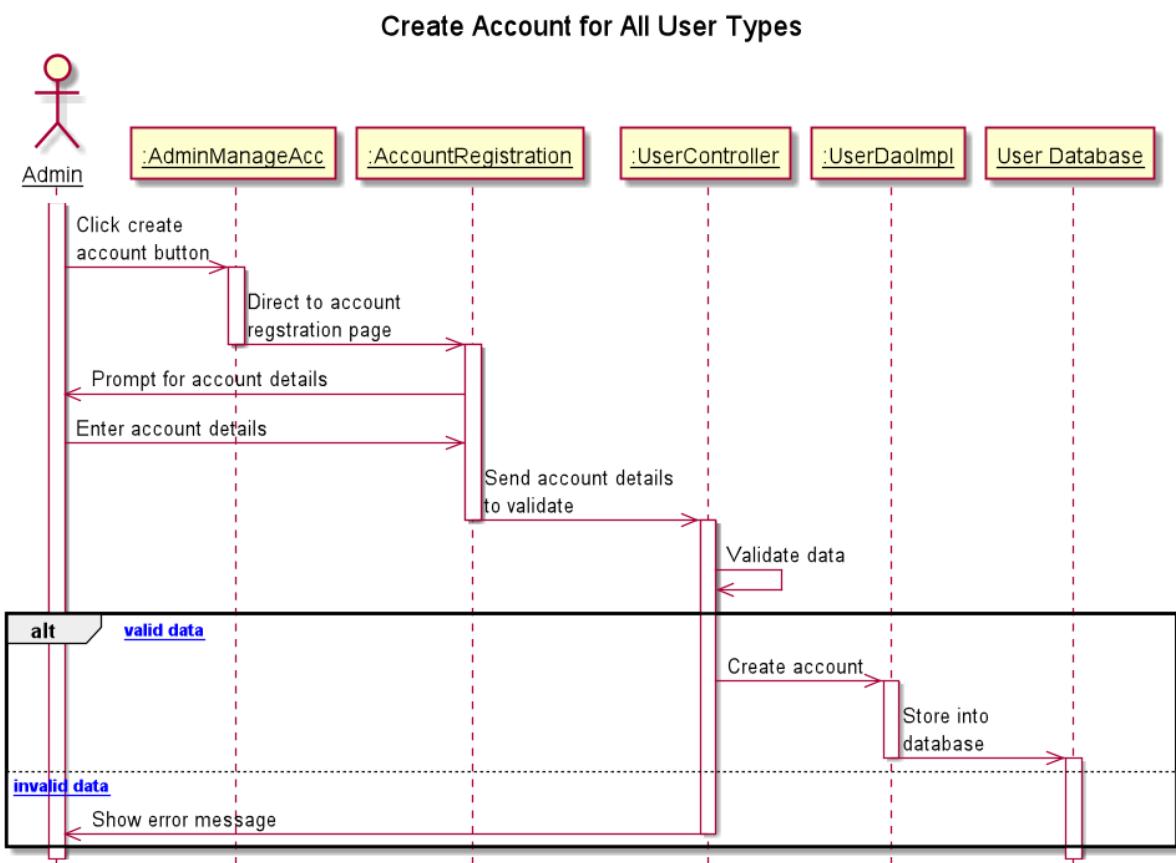


Figure 5.4.4.1 Administrator Create Account for All User Types Sequence Diagram

6 State Diagram

6.1 Tenant

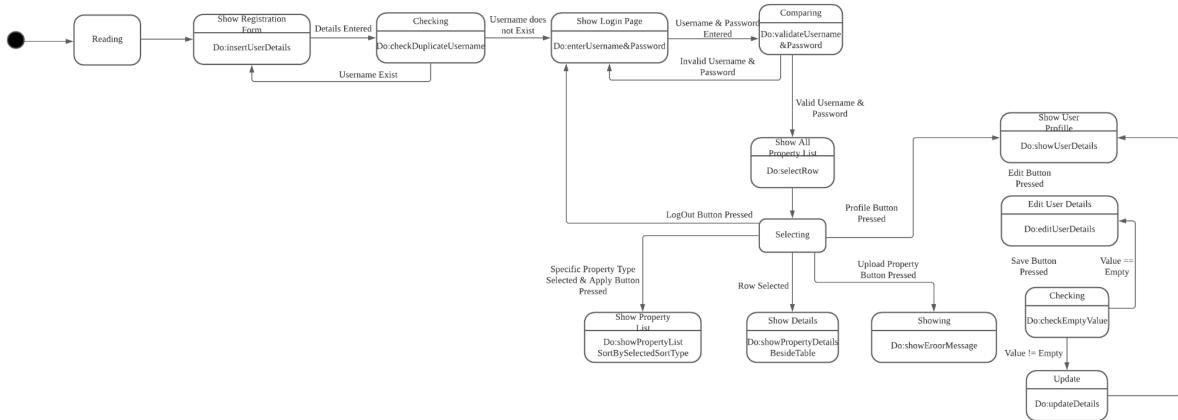
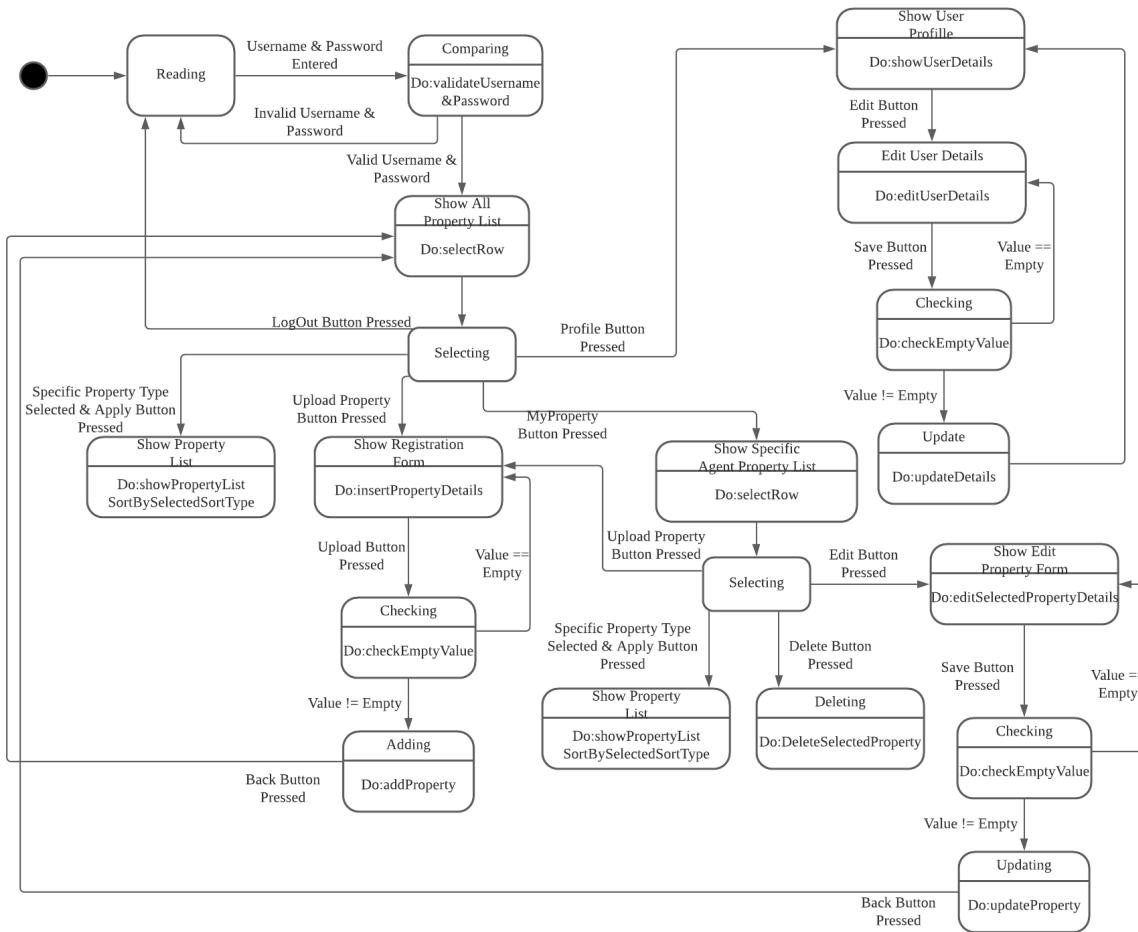


Figure 6.1.1 Tenant State Diagram [Full Image](#)

6.2 Agent



6.2.1 Agent State Diagram [Full Image](#)

6.3 Owner

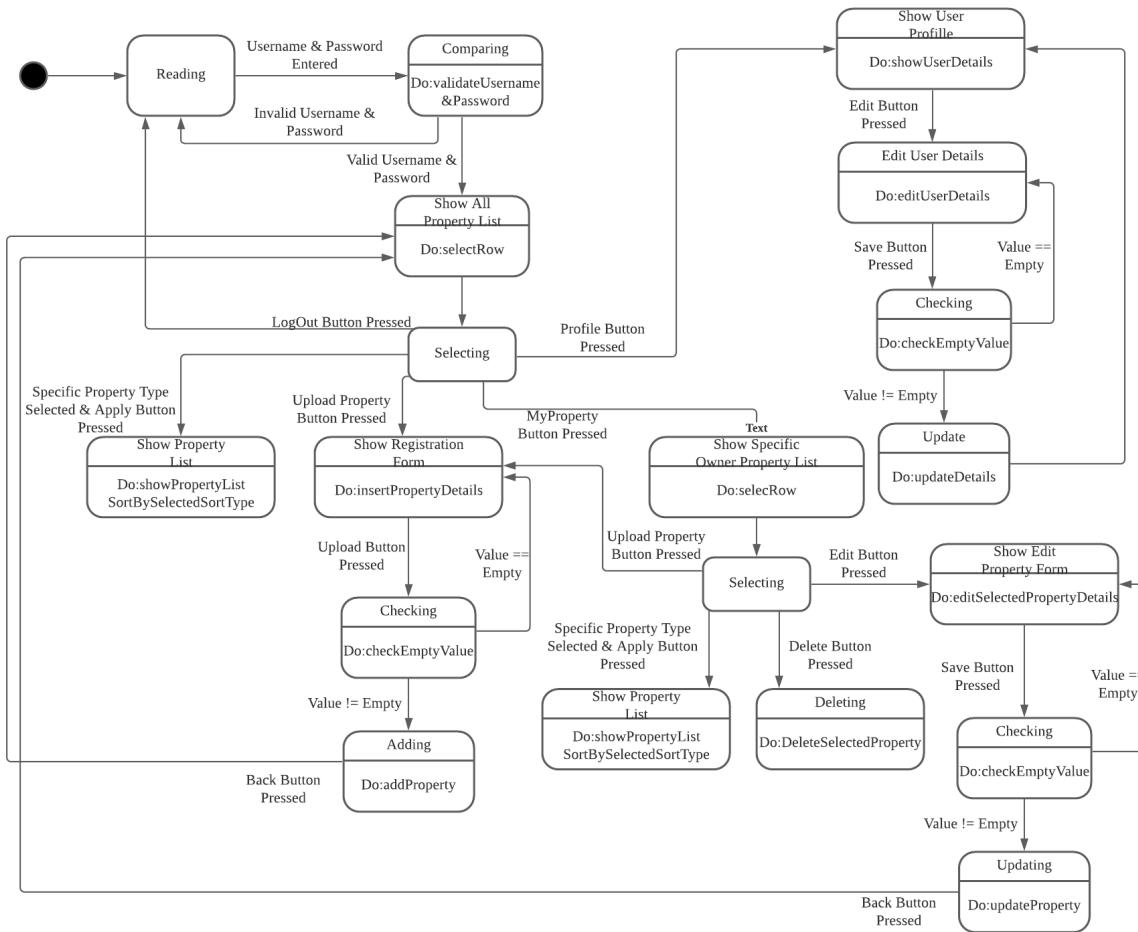


Figure 6.3.1 Owner State Diagram [Full Image](#)

6.4 Administrator

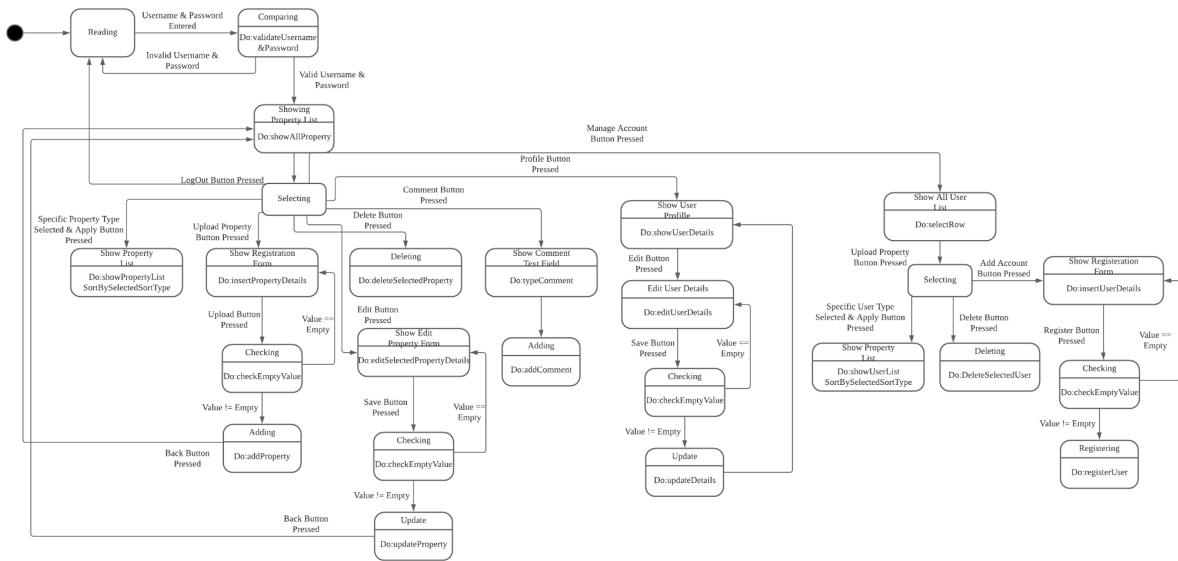


Figure 6.4.1 Administrator State Diagram [Full Image](#)

7 Sample Output Screen

7.1 Login & Registration

Once starting this system, a login page will be displayed as shown in Figure 7.1.1. Users have to enter username, password and select user type to login. A new user can click on the *Register* button to create an account. There is no *Admin* option on the registration page since a new user is not allowed to do that.

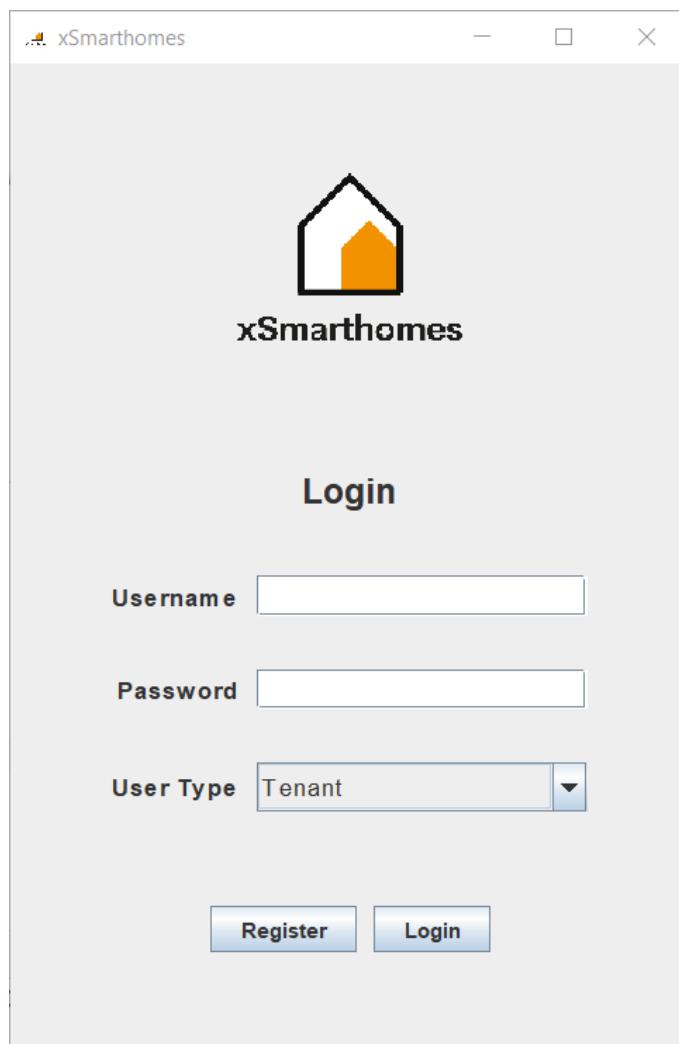


Figure 7.1.1 Login page.

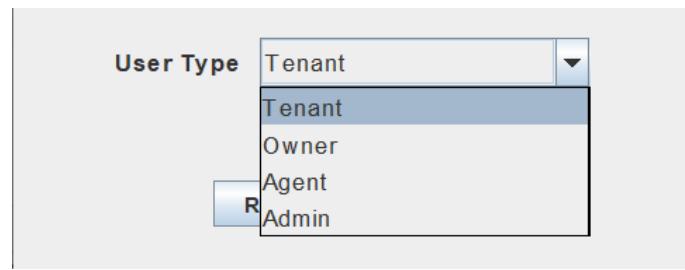


Figure 7.1.2 Login user type selection.

A screenshot of the "Registration" page from the "xSmarthomes" application. The title bar shows the application name. The page has a "BACK" button at the top left. The main heading is "Registration" with the sub-instruction "Please fill in all the details." Below are seven input fields: "Username", "Password", "First Name", "Last Name", "Phone Number", "Email", and "User Type". Each field has a corresponding text input box. The "User Type" field contains a dropdown menu with the same four options as Figure 7.1.2, with "Tenant" selected. At the bottom right is a "Register" button.

Figure 7.1.3 New user registration page.



Figure 7.1.4 New user registration user type selection.

7.2 Homepage

Every user will be directed to a homepage containing different tabs according to their user types. In the upper right corner, the user type and username of the user will be shown.

The screenshot shows a web-based application interface for managing properties. At the top, there are two tabs: 'Property' (highlighted in blue) and 'Profile'. Below the tabs is a search/filter section with fields for 'Facilities' (Gym, Basketball Court, Air Conditioner, Badminton Court, Swimming Pool, Playground), 'Property Type' (All Property Types, Sort By Default), 'Comment', 'Owner', 'Min Price' (0), and 'Max Price' (100000). There are also dropdowns for 'Any Comments' and 'All Owners'. An 'APPLY' button is located at the bottom right of the filter area. Below the filter is a table titled '20 results' containing 30 rows of property data. The columns include ID, Name, Room(s), Bathroom(s), Property Type, Address, and Rental. Examples of properties listed include Cyberjaya, Isle of Kamaras @ Setia E., Mirage By The Lake, Laurel @ Laman main View, HYVE SOHO Suites Cyberjaya, Taman Pinggiran Cyberjaya, Cyberia Crescent 1, Cyberia SmartHomes, Ceria Residences, Aspen @ Garden Residence, Solstice @ Pegaea, Mozart in Symphony hills, The Place @ Cyberjaya, Tamarind Suites @ Cyberjaya, LakeFront Residence @ C., Sejati Residences @ Cyberjaya, Centrus SoHo 1 @ Cyberjaya, Cyberia SmartHomes, Liu Li Garden, and Schumann Symphony Hill. The rental prices range from RM 300 to RM 4200.

Figure 7.2.1 Tenant homepage with *Property* tab and *Profile* tab.

The screenshot shows a web-based application interface for managing properties. At the top, there are three tabs: 'Property' (highlighted in blue), 'My Property' (highlighted in green), and 'Profile'. Below the tabs is a search/filter section with fields for 'Facilities' (Gym, Basketball Court, Air Conditioner, Badminton Court, Swimming Pool, Playground), 'Property Type' (All Property Types, Sort By Default), 'Comment', 'Owner', 'Min Price' (0), and 'Max Price' (100000). There are also dropdowns for 'Any Comments' and 'All Owners'. An 'APPLY' button is located at the bottom right of the filter area. Below the filter is a table titled '20 results' containing 30 rows of property data. The columns include ID, Name, Room(s), Bathroom(s), Property Type, Address, and Rental. The data is identical to the tenant homepage, listing various properties like Cyberjaya, Isle of Kamaras @ Setia E., etc.

Figure 7.2.2 Agent/Owner homepage with *Property* tab, *My Property* tab and *Profile* tab.

xSmartHomes

Hi, Admin admin! LOGOUT

Property Manage Account Profile

Filter

Facilities:

- Gym Basketball Court
- Air Conditioner Badminton Court
- Swimming Pool Playground

Property Type: All Property Types **Sort By:** Sort By Default **Status:** Any Status **Min Price:** 0 **Max Price:** 100000

Comment: Any Comments **Owner:** All Owners

APPLY

+ Upload Property

30 results

ID	Name	Room(s)	Bathroom(s)	Property Type	Address	Rental
1	Cyberjaya	5	7	Single Storey	JALAN GR 1/6, CASSIA ...	4200
2	Isle of Kamares @ Setia E...	3	3	Townhouse	Isle of Kamares, Setia Eco...	3500
3	Cassia @ Garden Reside...	6	7	Double Storey	Cyberjaya, Sepang, Selan...	3150
4	Mirage By The Lake	3	5	Double Storey	Persiaran Tasik, Cyberjaya...	2800
5	Laurel @ Laman main View	4	3	Double Storey	Jalan LV 4 , Cyberjaya, Se...	2400
6	HYVE SOHO Suites Cybe...	1	1	Others	HYVE SOHO Suites Jalan ...	1100
7	Lakefront Residence @ C...	6	7	Bungalow	LakeFront Residence Per...	6500
8	Cassia @ Garden Reside...	7	7	Double Storey	Cyberjaya, Sepang, Selan...	3000
9	Taman Pinggiran Cyberja...	3	2	Single Storey	Taman Pinggiran Cyberja...	1350
10	Cyberia Crescent 1	1	5	Townhouse	Jalan Fauna 1 OFF Persia...	380
11	Cyberia SmartHomes	1	3	Townhouse	Persiaran Multimedia, Cyb...	400
12	Cyberia SmartHomes	4	3	Townhouse	Persiaran Multimedia, Cyb...	2200
13	Ceria Residences, Cyber...	5	5	Double Storey	Persiaran Sepang Persiar...	3000
14	Aspen @ Garden Reside...	7	7	Bungalow	Cyberjaya, Sepang, Selan...	15000
15	Maple Residence @ Lame...	4	4	Double Storey	Jalan LV4, Cyberjaya, Sep...	2450
16	Solstice @ Pagaea	1	1	Condominium	Persiaran Bestari, Cyber ...	900
17	Mozart in Symphony hills ...	5	4	Single Storey	Jalan Mozart, Mozart, Sym...	4000
18	The Place @ Cyberjaya	1	1	Condominium	1-1 Jalan Teknokrat 1/1, ...	800
19	Ceria Residences, Cyber...	5	5	Double Storey	Persiaran Sepang Persiar...	2400
20	Tamarind Suites @ Cyber...	1	1	Others	Tamarind Square, Cyberja...	1000

COMMENT DELETE EDIT

Figure 7.2.3 Administrators homepage with *Property* tab, *Manage Account* tab and *Profile* tab. It comes with more functional buttons compared with other user types as shown in the bottom right corner.

7.3 View Property

In the *Property* tab, all properties will be shown in a tabular format. Users can do filter settings over the filter toolbar in order to find properties more quickly. Administrators can view both active and inactive properties while other user types are only able to view active.

The screenshot shows a software interface for managing properties. At the top, there are tabs for 'Property' and 'Profile'. Below the tabs is a 'Filter' section with checkboxes for 'Facilities' (Gym, Basketball Court, Air Conditioner, Badminton Court, Swimming Pool, Playground) and dropdowns for 'Property Type' (All Property Types), 'Sort By' (Sort By Default), 'Comment' (Any Comments), 'Owner' (All Owners), 'Min Price' (0), and 'Max Price' (100000). An 'APPLY' button is located at the bottom right of the filter area. To the right of the filter, there is a 'Property Details' panel for a selected property named 'Cyberia Crescent 1'. The details include: Price: 380; Number of Room(s): 1; Number of Bathroom(s): 5; Address: Jalan Fauna 1 OFF Persiaran Multimedia, Cyberjaya, Cyberjaya, Sepang, Selangor; Property Type: Townhouse; Facilities: Air Conditioner, Gym, Swimming Pool, Playground; Comment: -; Contact: tee to know more about this property, 0133355668, tee@gmail.com. Below the filter and details panel is a table listing 20 results, each with columns: ID, Name, Room(s), Bathroom(s), Property Type, Address, and Rental. Some rows are highlighted in blue. At the bottom right of the main content area are 'DELETE' and 'EDIT' buttons.

ID	Name	Room(s)	Bathroom(s)	Property Type	Address	Rental
1	Cyberjaya	5	7	Single Storey	JALAN GR 1/6 ...	4200
2	Isle of Kamar...	3	3	Townhouse	Isle of Kamar...	3500
4	Mirage By The L...	3	5	Double Storey	Persiaran Tasik...	2800
5	Laurel @ Laman...	4	3	Double Storey	Jalan LV 4, Cybe...	2400
6	HYVE SOHO Sui...	1	1	Others	HYVE SOHO Sui...	1100
9	Taman Pinggiran...	3	2	Single Storey	Taman Pinggiran...	1350
10	Cyberia Crescent 1	5	5	Townhouse	Jalan Fauna 1 O...	380
12	Cyberia SmartHo...	4	3	Townhouse	Persiaran Multi...	2200
13	Cena Residence...	5	5	Double Storey	Persiaran Sepan...	3000
14	Aspen @ Garden...	7	7	Bungalow	Cyberjaya, Sepa...	15000
16	Solstice @ Pagaea	1	1	Condominium	Persiaran Bestari...	900
17	Mozart in Symp...	5	4	Single Storey	Jalan Mozart, Mo...	4000
18	The Place @ Cy...	1	1	Condominium	1-1 Jalan Teknok...	800
20	Tamarind Suites...	1	1	Others	Tamarind Squar...	1000
22	LakeFront Resid...	4	3	Condominium	LakeFront Resid...	1700
25	Sejati Residence...	7	7	Bungalow	No. 3 & 5 Jalan...	10000
26	Centrus SoHo 1...	1	1	Others	Lingkaran Cyber...	900
27	Cyberia SmartHo...	4	3	Condominium	Persiaran Multi...	1500
28	Liu Li Garden, S...	4	4	Single Storey	Liu Li Garden, S...	3000
30	Schumann, Sym...	5	4	Townhouse	Cyberjaya, Sela...	3800

Figure 7.3.1 Property details panel will show if any of the properties have been selected.

The screenshot shows a software interface for managing properties. At the top, there are tabs for 'Property', 'My Property', and 'Profile'. Below the tabs is a 'Filter' section with checkboxes for 'Facilities' (Gym, Basketball Court, Air Conditioner, Badminton Court, Swimming Pool, Playground) and dropdowns for 'Property Type' (All Property Types), 'Sort By' (Sort By Default), 'Status' (Any Status), 'Comment' (Any Comments), 'Min Price' (0), and 'Max Price' (100000). An 'APPLY' button is located at the bottom right of the filter area. Below the filter is a table listing 4 results, each with columns: ID, Name, Room(s), Bathroom(s), Property Type, Address, and Rental. The properties listed are: LakeFront Residence @ C., Cyberia SmartHomes, Solstice @ Pagaea, and The Place @ Cyberjaya. At the bottom right of the main content area are 'DELETE' and 'EDIT' buttons.

ID	Name	Room(s)	Bathroom(s)	Property Type	Address	Rental
7	LakeFront Residence @ C.	6	7	Bungalow	LakeFront Residence Pers...	6500
12	Cyberia SmartHomes	4	3	Townhouse	Persiaran Multimedia, Cyb...	2200
16	Solstice @ Pagaea	1	1	Condominium	Persiaran Bestari, Cyber...	900
18	The Place @ Cyberjaya	1	1	Condominium	1-1 Jalan Teknokrat 1/1, C...	800

Figure 7.3.2 Agent/Owner view my property page will only show properties that are uploaded on their own no matter which status they are.

The screenshot shows the xSmarthomes software interface. At the top, there are tabs for 'Property', 'Manage Account', and 'Profile'. On the right, it says 'Hi, Admin admin!' and has a 'LOGOUT' button. Below the tabs is a 'Filter' section with checkboxes for 'Facilities' (Gym, Basketball Court, Air Conditioner, Badminton Court, Swimming Pool, Playground), dropdowns for 'Property Type' (All Property Types, Sort By Default, Any Status), and input fields for 'Min Price' (0) and 'Max Price' (100000). There are also dropdowns for 'Comment' (Any Comments) and 'Owner' (All Owners). A blue 'APPLY' button is at the bottom of the filter area.

Property Details

A property named 'Ceria Residences, Cyberjaya' is selected. The details shown are:

- Price:** 3000
- Number of Room(s):** 5
- Number of Bathroom(s):** 5
- Address:** Persiaran Sepang Persiaran Sepang, Cyberjaya, Sepang, Selangor
- Property Type:** Double Storey
- Facilities:** Air Conditioner, Badminton Court, Basketball Court, Gym, Swimming Pool
- Comment:** -
- Contact:** Carmen to know more about this property. carmen@gmail.com 0133355666

Below the details, there is a note: 'Comment to Property 12' followed by a text area and three buttons: 'SEND', 'DELETE', and 'EDIT'.

ID	Name	Room(s)	Bathroom(s)	Property Type	Address	Rental
1	Cyberjaya	5	7	Single Storey	JALAN GR 1/6 ...	4200
2	Isle of Kamares ...	3	3	Townhouse	Isle of Kamares ...	3500
3	Cassia @ Garde ...	6	7	Double Storey	Cyberjaya, Sepa...	3150
4	Mirage By The L ...	3	5	Double Storey	Persiaran Tasik ...	2800
5	Laurel @ Laman ...	4	3	Double Storey	Jalan LV 4, Cyber...	2400
6	HYVE SOHO Su ...	1	1	Others	HYVE SOHO Su ...	1100
7	LakeFront Resid ...	6	7	Bungalow	LakeFront Resid ...	6500
8	Cassia @ Garde ...	7	7	Double Storey	Cyberjaya, Sepa...	3000
9	Taman Pinggiran ...	3	2	Single Storey	Taman Pinggiran ...	1350
10	Cyberia Crescen ...	1	5	Townhouse	Jalan Fauna 1 O ...	380
11	Cyberia SmartHo ...	1	3	Townhouse	Persiaran Mutuan ...	400
12	Cyberia SmartHo ...	4	3	Townhouse	Persiaran Mutuan ...	2200
13	Ceria Residence ...	5	5	Double Storey	Persiaran Sepan...	3000
14	Aspen @ Garde ...	7	7	Bungalow	Cyberjaya, Sepa...	15000
15	Maple Residenc ...	4	4	Double Storey	Jalan LV4, Cyber...	2450
16	Solstice @ Paga ...	1	1	Condominium	Persiaran Bestar...	900
17	Mozart in Symph ...	5	4	Single Storey	Jalan Mozart, Mo...	4000
18	The Place @ Cy ...	1	1	Condominium	1-1 Jalan Tekno ...	800
19	Ceria Residence ...	5	5	Double Storey	Persiaran Sepan...	2400

Figure 7.3.3 Administrators can comment on a property by clicking on the *Comment* button and a text area will appear.

7.4 Upload & Edit Property

By clicking on the *Upload Property* and *Edit* button, this system will redirect the user to the following pages. Users have to fill in all the fields in order to submit the form. Administrators have more control over the owner of the property.

The screenshot shows a web-based application window titled 'xSmarthomes'. At the top left is a 'BACK' button. The main title is 'Upload Property' with a sub-instruction 'Please fill in all details.' Below this are several input fields:

- Name: A text input field.
- Number of Rooms: An input field with a value of '0'.
- Number of Bathrooms: An input field with a value of '0'.
- Property Type: A dropdown menu set to 'Townhouse'.
- Rental: An input field with a value of '0'.
- Address: A text input field.
- Status: Radio buttons for 'Active' (selected) and 'Inactive'.
- Facilities: A group of checkboxes for 'Gym', 'Swimming Pool', 'Air Conditioner', 'Badminton Court', 'Basketball Court', and 'Playground'.
- At the bottom right is a blue 'UPLOAD' button.

Figure 7.4.1 Agent/Owner upload property page. All fields are default blank.

The screenshot shows a web-based application window titled 'xSmarthomes'. At the top left is a 'BACK' button. The main title is 'Edit Property' with a sub-instruction 'Please fill in all details.' Below this are several input fields, many of which contain sample data:

- Name: A text input field containing 'Solstice @ Pagaea'.
- Number of Rooms: An input field with a value of '1'.
- Number of Bathrooms: An input field with a value of '1'.
- Property Type: A dropdown menu set to 'Condominium'.
- Rental: An input field with a value of '900'.
- Address: A text input field containing 'Persiaran Bestari, Cyber 11, Cyberjaya, Sepang, Selangor'.
- Status: Radio buttons for 'Active' (selected) and 'Inactive'.
- Facilities: A group of checkboxes for 'Gym', 'Swimming Pool', 'Air Conditioner', 'Badminton Court', 'Basketball Court', and 'Playground'.
- At the bottom right is a blue 'SAVE' button.

Figure 7.4.2 Agent/Owner edit property page. It comes with original data of the selected property.

xSmarthomes

Upload Property

Please fill in all details.

Name:

Number of Rooms: 0 Number of Bathrooms: 0

Property Type: Townhouse

Rental: 0

Address:

Status: Active Inactive

Owner: carmen
carmen
fa
lim
loo
loony
sia
tee

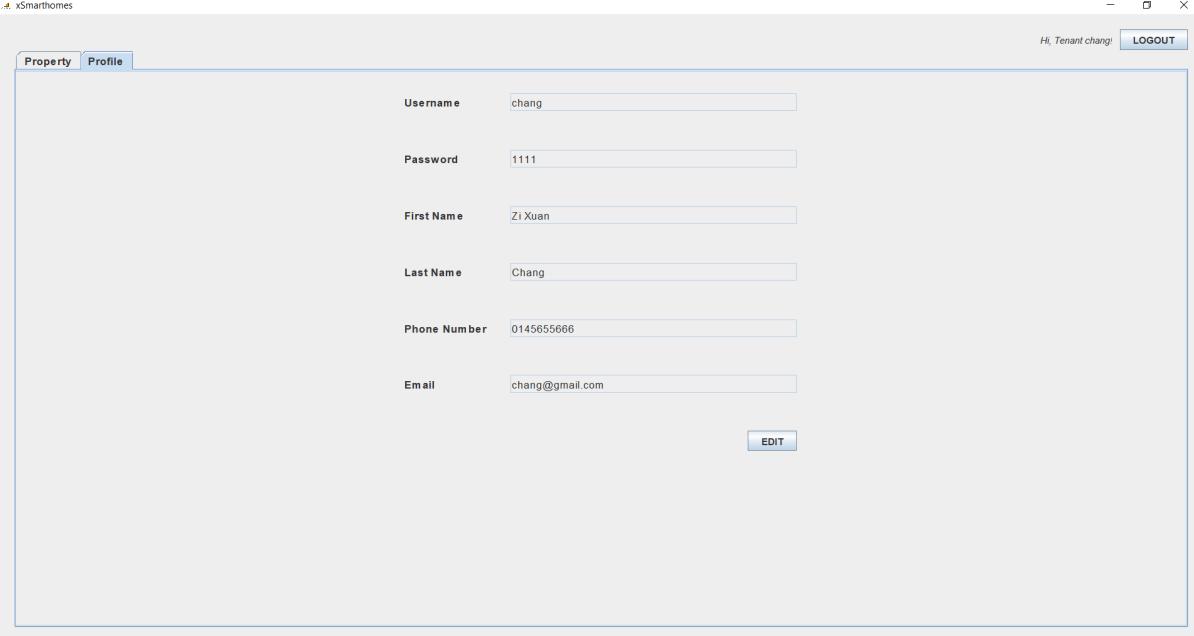
Facilities:

<input type="checkbox"/> Gym	<input type="checkbox"/> Badminton Court
<input type="checkbox"/> Swimming Pool	<input type="checkbox"/> Basketball Court
<input type="checkbox"/> Air Conditioner	<input type="checkbox"/> Playground

Figure 7.4.3 Administrators can select an owner while editing and uploading a property.

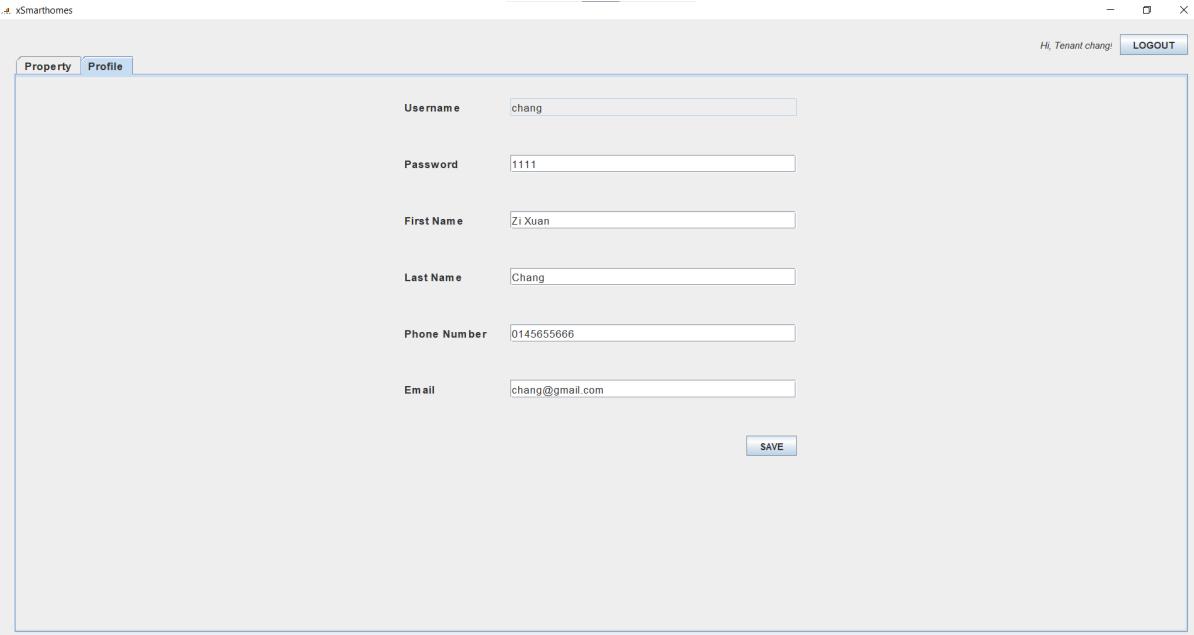
7.5 Profile

Switching to the *Profile* tab will show the profile page. Every user is allowed to edit their own profile but the username cannot be changed.



A screenshot of a web application window titled "xSmarthomes". The window has tabs at the top: "Property" and "Profile", with "Profile" being the active tab. In the top right corner, there is a greeting "Hi, Tenant chang!" and a "LOGOUT" button. The main content area contains six form fields: "Username" (value: "chang"), "Password" (value: "1111"), "First Name" (value: "Zi Xuan"), "Last Name" (value: "Chang"), "Phone Number" (value: "0145655666"), and "Email" (value: "chang@gmail.com"). Below these fields is a blue "EDIT" button. The entire window has a light gray background.

Figure 7.5.1 User details with uneditable fields if only in view mode. Click on the *Edit* button to start editing.



A screenshot of the same web application window as Figure 7.5.1, but with the "Edit" button clicked, changing the view mode to "edit". The "EDIT" button has turned gray and now says "SAVE". The "Username" field is now a standard text input field containing "chang". All other fields—Password, First Name, Last Name, Phone Number, and Email—are also now standard text input fields, allowing for modification. The rest of the interface remains the same, including the tabs, greeting, and logout button.

Figure 7.5.2 Text fields turn editable except for the username field.

7.6 Manage Account

Only administrators have the right to view and manage other users' accounts and create accounts as an administrator.

The screenshot shows a Windows application window titled 'xSmarthomes'. At the top, there are tabs: 'Property', 'Manage Account' (which is selected), and 'Profile'. On the right side, there are buttons for 'LOGOUT' and a user greeting 'Hi, Admin admin!'. Below the tabs is a 'Filter' dropdown set to 'All User Types' and a '+ Add Account' button. A message '10 results' is displayed above a table. The table has columns: Username, Password, First Name, Last Name, Phone Number, Email, and User Type. The data is as follows:

Username	Password	First Name	Last Name	Phone Number	Email	User Type
admin	admin	admin	admin	0123456789	admin@admin.com	Admin
carmen	1111	Tan	Carmen	013355666	carmen@gmail.com	Agent
chang	1111	Zi Yuan	Chang	0145655666	chang@gmail.com	Tenant
fa	1111	Fa Fa	Lim	0135668866	fafa@hotlook.com	Agent
lim	1111	Jia Wei	Lim	987654321	jiawei@gmail.com	Owner
loo	1111	Xuan Kai	Loo	013454566	loo@yahoo.com	Owner
loony	1111	Loony	Tan	012545844	loony@hotmail.com	Agent
sia	1111	Annie	Sia	01546546	annie@yahoo.com	Agent
tee	1111	Wei Jie	Tee	013355666	tee@gmail.com	Agent
viz	1111	Viz	Tan	0134445666	viz@gmail.com	Tenant

At the bottom right of the main window, there is a message 'Please select the row you wish to be deleted and press the delete button.' followed by a 'DELETE' button.

Figure 7.6.1 Administrators manage account page with a table of users' accounts details.

The screenshot shows the same 'xSmarthomes' application window as Figure 7.6.1. The 'Manage Account' tab is selected. A registration window titled 'Registration' is overlaid on the main window. The registration window contains fields for 'Username', 'Password', 'First Name', 'Last Name', 'Phone Number', 'Email', and 'User Type' (with a dropdown menu showing 'Tenant'). Below these fields is a 'Register' button. In the background, the main window shows the same user list and table as Figure 7.6.1. A message 'Please select the row you wish to be deleted and press the delete button.' is visible at the bottom right of the main window, along with a 'DELETE' button.

Figure 7.6.2 A registration window will pop up once clicking on the *Add Account* button.

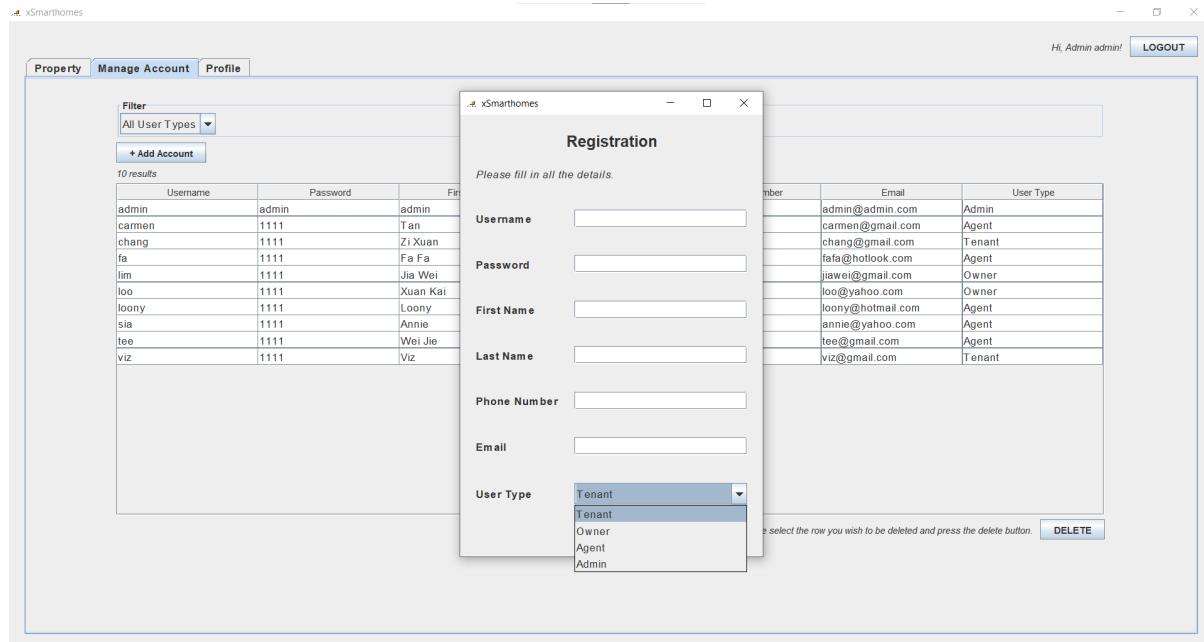


Figure 7.6.3 Administrators can create accounts for any user type.