



School Of Computer Science & Engineering
SC2006 Software Engineering

Tutorial Group A29

Group Name

DGJMQZ

Team Members

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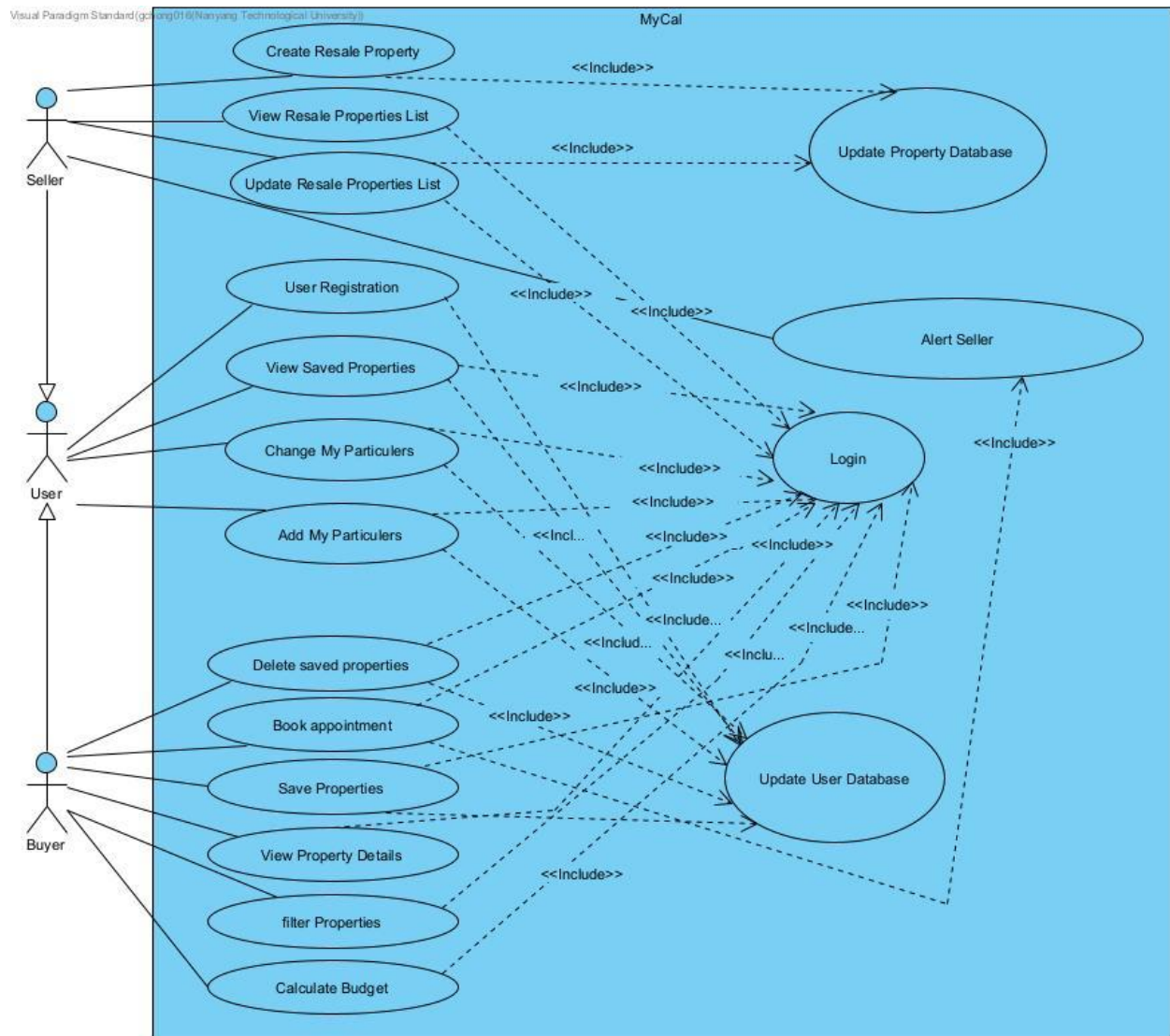
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1. Complete Use Case model

1.1 Use Case Diagram



1.2 Use Case Description

Use Case ID:	U0001		
Use Case Name:	User Registration		
Created By:	Zane	Last Updated By:	
Date Created:	9 Sep 2023	Date Last Updated:	

Actor:	User
Description:	Create a user account
Preconditions:	User must be able to create account
Postconditions:	User now has an account
Priority:	High
Frequency of Use:	Only when the user first accessing the system
Flow of Events:	<ol style="list-style-type: none"> 1. The user enters the information including (email address and password) 2. The user clicks the submit button 3. The system successfully verified the correct user input 4. The system sends an email to the user for verification 5. The user clicks on the link in the email for verification
Alternative Flows:	<p>U0001.AF.S3A: Email in use</p> <ol style="list-style-type: none"> 1. The system sends an alert that there is an account using the same email address 2. The user then keys in a different email address or the user remembers that they already have an account. <p>U0001.AF.S3B: Invalid email (at step 3)</p> <ol style="list-style-type: none"> 1. The system alerts the user that the email they key in an invalid email format <p>U0001.AF.S3C: Invalid password (at step 3)</p> <ol style="list-style-type: none"> 1. The system alerts the user that their password is too simple 2. The user keys in a different password
Exceptions:	<p>U0001.EX.1:</p> <ol style="list-style-type: none"> 1. Invalid email

	2. Invalid password U0001.EX.2: Email has been used
Includes:	-
Special Requirements:	-
Assumptions:	-
Notes and Issues:	-

Use Case ID:	U0002		
Use Case Name:	Login		
Created By:	Zane	Last Updated By:	
Date Created:	9 Sep 2023	Date Last Updated:	

Actor:	User
Description:	Login into the app
Preconditions:	The system must ensure user must have an account
Postconditions:	The system is now able to identify the user
Priority:	High
Frequency of Use:	
Flow of Events:	<ol style="list-style-type: none"> 1. The user key in their Email and password to login 2. The user clicks the login button 3. The system successfully verifies the user login credentials 4. The system redirected the user to the homepage
Alternative Flows:	<p>U0002.AF.S3A: User not found</p> <ol style="list-style-type: none"> 1. The system alerts the user that they may have keyed in the wrong email address 2. The user reenters their email address <p>U0002.AF.S3B: Incorrect password</p> <ol style="list-style-type: none"> 1. The system alerts the user that he/she may have keyed in the wrong password 2. The user reenters the password
Exceptions:	<p>U0002.EX.1:User not found</p> <p>U0002.EX.1: Wrong password</p>
Includes:	-
Special Requirements:	-
Assumptions:	-
Notes and Issues:	

Use Case ID:	U0003		
Use Case Name:	Add Personal Particular		
Created By:	Qingyang	Last Updated By:	
Date Created:	9 Sep 2023	Date Last Updated:	

Actor:	User
Description:	Users providing their personal information to the system
Preconditions:	The user is logged in to the system
Postconditions:	The user's personal particulars are stored in the system
Priority:	High
Frequency of Use:	Once during initial registration or when it needs to be updated
Flow of Events:	<ol style="list-style-type: none"> 1. User selects the "Add Personal Particular" option 2. User provides personal information (nationality, age range, marital status, ownership history, income range, family nucleus, employment status) through a series of drop-down boxes 3. User clicks confirm 4. The personal particular is saved to the database
Alternative Flows:	-
Exceptions:	U0003.EX.1: No internet connection: <ol style="list-style-type: none"> 1. The system displays an error message 2. The system waits for an internet connection U0003.EX.2: Invalid Personal Particular format
Includes:	-
Special Requirements:	-
Assumptions:	-
Notes and Issues:	-

Use Case ID:	U0004		
Use Case Name:	Change Personal Particular		
Created By:	Qingyang	Last Updated By:	
Date Created:	9 Sep 2023	Date Last Updated:	

Actor:	User
Description:	User makes changes to the personal particular
Preconditions:	<ol style="list-style-type: none"> 1. The user is logged in 2. The user has already filled in the personal particular
Postconditions:	The personal particular in the database should be updated
Priority:	Medium
Frequency of Use:	
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on change personal particular 2. User provides personal information to be changed (nationality, age range, marital status, ownership history, income range, family nucleus, employment status) through a series of drop-down boxes 3. The user clicks confirm 4. The changes are saved to the database
Alternative Flows:	
Exceptions:	<p>U0004.EX.1: No internet connection:</p> <ol style="list-style-type: none"> 1. The system displays an error message 2. The system waits for an internet connection <p>U0004.EX.2: Invalid Personal Particular format</p>
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

Use Case ID:	S0001		
Use Case Name:	Create Resale Property Listing		
Created By:	Qingyang	Last Updated By:	
Date Created:	11 Sep 2023	Date Last Updated:	

Actor:	Seller
Description:	Sellers can create and post new resale property listings on the webpage.
Preconditions:	<ol style="list-style-type: none"> 1. The user must be logged in 2. There must be an internet connection
Postconditions:	<ol style="list-style-type: none"> 1. The new resale property listing will be added to the webpage 2. The new resale property listing will be stored in the database
Priority:	High
Frequency of Use:	
Flow of Events:	<ol style="list-style-type: none"> 1. Seller selects the “Create New Resale Property Listing” option 2. The system presents a form for the seller to fill out with details of the resale property 3. Seller provides the details 4. Seller submits the form
Alternative Flows:	
Exceptions:	S0001.EX.1: No internet connection: <ol style="list-style-type: none"> 1. The system displays an error message 2. The system waits for an internet connection
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

Use Case ID:	S0002		
Use Case Name:	Update Resale Property Listing		
Created By:	Qingyang	Last Updated By:	
Date Created:	11 Sep 2023	Date Last Updated:	

Actor:	Seller
Description:	Sellers can edit and update the details of their existing resale property listings on the webpage.
Preconditions:	<ol style="list-style-type: none"> 1. The seller must be logged in 2. The seller must have existing resale property listings on the webpage 3. There must be an internet connection
Postconditions:	<ol style="list-style-type: none"> 1. The database will be updated with the new resale property details 2. The webpage will display the updated resale property listing
Priority:	High
Frequency of Use:	
Flow of Events:	<ol style="list-style-type: none"> 1. Seller selects the "Manage Resale Properties" option. 2. The system displays a list of the seller's existing resale property listings. 3. Seller selects the specific resale property listing they want to update. 4. Seller makes the necessary updates. 5. Seller submits the updated form.
Alternative Flows:	
Exceptions:	<p>S0002.EX.1: No internet connection:</p> <ol style="list-style-type: none"> 1. The system displays an error message 2. The system waits for an internet connection
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

Use Case ID:	S0003		
Use Case Name:	View Resale Property Listing		
Created By:	Qingyang	Last Updated By:	
Date Created:	11 Sep 2023	Date Last Updated:	

Actor:	Seller
Description:	Sellers can view their existing resale property listings
Preconditions:	1. The seller must be logged in
Postconditions:	1. Resale property listings must be visible
Priority:	Median
Frequency of Use:	
Flow of Events:	<ol style="list-style-type: none"> 1. The seller click on “View Resale Property Listing” 2. The system displays all the resale properties posted by the seller
Alternative Flows:	
Exceptions:	S0003.EX.1: No internet connection: <ol style="list-style-type: none"> 1. The system displays an error message 2. The system waits for an internet connection
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

Use Case ID:	S0004		
Use Case Name:	Delete Resale Property Listing		
Created By:	Qingyang	Last Updated By:	Geng Yang
Date Created:	11 Sep 2023	Date Last Updated:	20 Sep 2023

Actor:	Seller
Description:	The seller deletes existing resale property
Preconditions:	<ol style="list-style-type: none"> 3. The seller must be logged in 4. The resale property must exist in the database
Postconditions:	<ol style="list-style-type: none"> 1. The resale property must be dropped from the database 2. The webpage will no longer display the property
Priority:	Median
Frequency of Use:	
Flow of Events:	<ol style="list-style-type: none"> 1. The seller clicks on delete resale property 2. The system drops the project from the database
Alternative Flows:	
Exceptions:	<p>S0004.EX.1: No internet connection:</p> <ol style="list-style-type: none"> 1. The system displays an error message 2. The system waits for an internet connection
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

Use Case ID:	B0001		
Use Case Name:	Filter		
Created By:	Zane	Last Updated By:	Geng Yang
Date Created:	9 Sep 2023	Date Last Updated:	19 Sep 2023

Actor:	Buyer
Description:	Filter for available houses for rent
Preconditions:	1. The Buyer must be logged in
Postconditions:	1. The System must display a list of available houses
Priority:	Median
Frequency of Use:	every time the user looking for house
Flow of Events:	<ol style="list-style-type: none"> 1. The buyer key in the info of the house they want to buy(e.g town name) 2. If one or more houses are found, the system displays the list of available houses for rent
Alternative Flows:	B0001.AF.S2: If no houses are found <ol style="list-style-type: none"> 1. The system displays a message saying that it cannot find a house that fits the description 2. Return to Step 1
Exceptions:	B0001.EX.1:No internet connection: <ol style="list-style-type: none"> 1. The system displays an error message 2. The system waits for an internet connection
Includes:	-
Special Requirements:	-
Assumptions:	-
Notes and Issues:	-

Use Case ID:	B0002		
Use Case Name:	Pricing Calculation		
Created By:	Qingyang	Last Updated By:	Geng Yang
Date Created:	9 Sep 2023	Date Last Updated:	19 Sep 2023

Actor:	Buyer
Description:	To calculate the estimated budget and view eligible grants
Preconditions:	The user is logged to the system The user has entered personal particulars
Postconditions:	The user receives an estimated budget and a list of eligible grants
Priority:	High
Frequency of Use:	-
Flow of Events:	<ol style="list-style-type: none"> 1. User select “Pricing Calculation option” 2. User selects flat-type, preferred location, storey level, lease commencement date, and monthly household income ceiling through drop-down boxes 3. If User has cash savings and CPF savings, User enters cash savings and CPF savings 4. User submits the information 5. The system calculates the estimated budget, lists eligible grants, and displays the budget after grant price reduction
Alternative Flows:	B0002.AF.S3: If User has no cash savings and CPF savings <ol style="list-style-type: none"> 1. Return to Step 4
Exceptions:	B0002.EX.1: No internet connection: <ol style="list-style-type: none"> 1. The system displays an error message 2. The system waits for an internet connection
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

Use Case ID:	B0003		
Use Case Name:	Save Favorite Property		
Created By:	Qingyang	Last Updated By:	
Date Created:	9 Sep 2023	Date Last Updated:	

Actor:	Buyer
Description:	Allow user to save their preferred property
Preconditions:	The user is logged in to the system
Postconditions:	The user's saved property is stored in the system
Priority:	Low
Frequency of Use:	
Flow of Events:	<ol style="list-style-type: none"> 1. User selects the "Save To Favourite" option 2. The system displays the message "Saved to favourite"
Alternative Flows:	
Exceptions:	B0003.EX.1: No internet connection: <ol style="list-style-type: none"> 1. The system displays an error message 2. The system waits for an internet connection
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

Use Case ID:	B0004		
Use Case Name:	View Saved Property		
Created By:	Qingyang	Last Updated By:	
Date Created:	9 Sep 2023	Date Last Updated:	

Actor:	Buyer
Description:	View the property the user saved
Preconditions:	The user is logged into the system
Postconditions:	-
Priority:	Low
Frequency of Use:	
Flow of Events:	3. User click on My Favourite 4. User could see each of his/her saved property
Alternative Flows:	
Exceptions:	B0004.EX.1: No internet connection: 1. The system displays an error message 2. The system waits for an internet connection
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

Use Case ID:	B0005		
Use Case Name:	Delete Saved Property		
Created By:	Qingyang	Last Updated By:	
Date Created:	9 Sep 2023	Date Last Updated:	

Actor:	Buyer
Description:	Delete the property the user saved
Preconditions:	The user is logged into the system
Postconditions:	-
Priority:	Low
Frequency of Use:	-
Flow of Events:	5. User click on My Favourite 6. User could see each of his/her saved property 7. The user clicks on delete saved property 8. The system drops the saved property from the database
Alternative Flows:	
Exceptions:	B0005.EX.1: No internet connection: 1. The system displays an error message 2. The system waits for an internet connection
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

Use Case ID:	B0006		
Use Case Name:	View Property Details		
Created By:	Qingyang	Last Updated By:	
Date Created:	12 Sep	Date Last Updated:	

Actor:	Buyer
Description:	Users can view the details of each property
Preconditions:	The user must be logged in to the system
Postconditions:	The user is presented with the detailed information of the property
Priority:	Median
Frequency of Use:	
Flow of Events:	<ol style="list-style-type: none"> 1. User navigates to the webpage and select the property he is interested in 2. The system should call the map API from Google to retrieve the location 3. The system retrieve and display the detail of the property
Alternative Flows:	
Exceptions:	B0006.EX.1: No internet connection: <ol style="list-style-type: none"> 1. The system displays an error message 2. The system waits for an internet connection
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

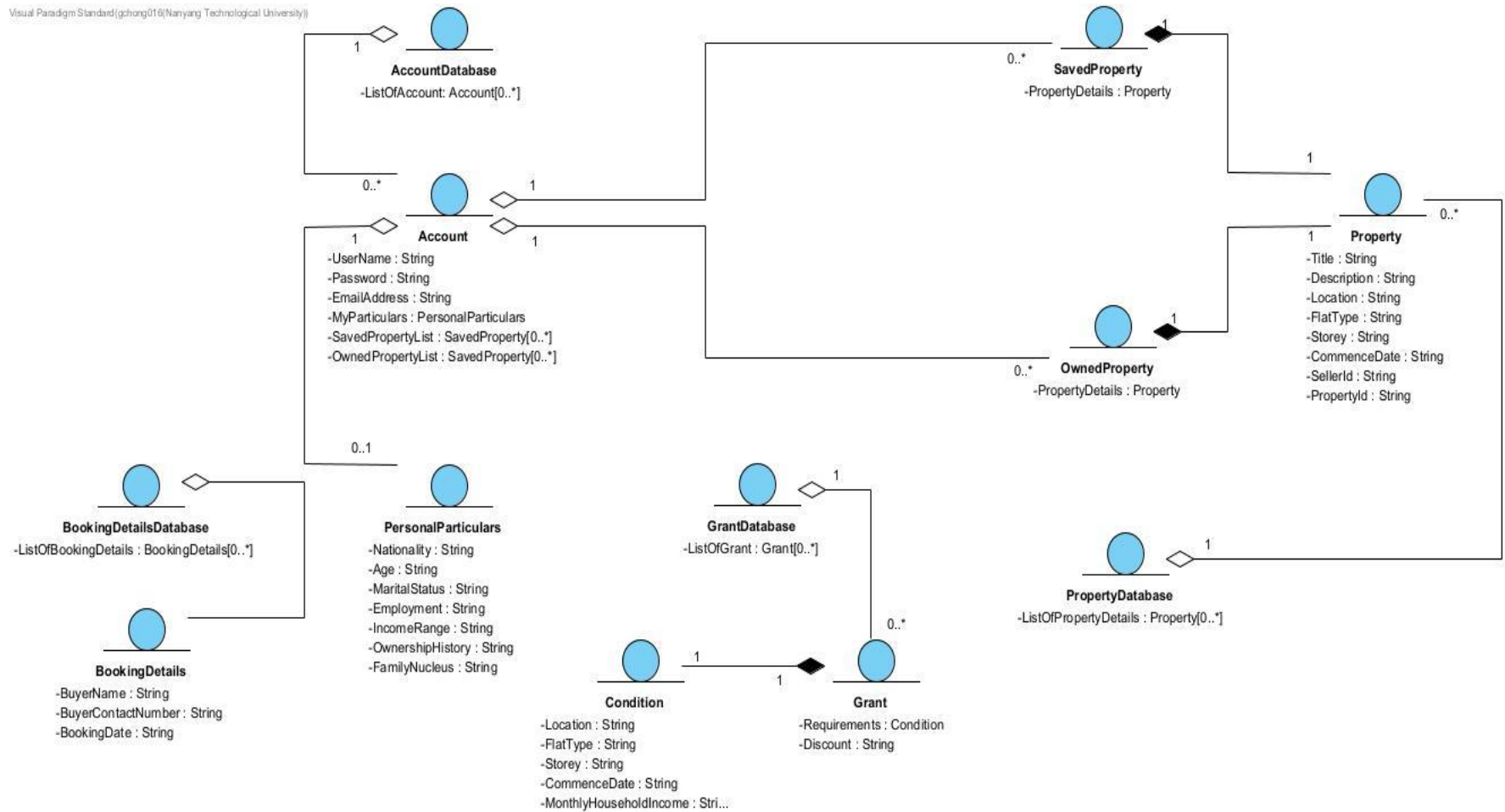
Use Case ID:	B0007		
Use Case Name:	Booking and Contact		
Created By:	Zane	Last Updated By:	Geng Yang
Date Created:	9 Sep 2023	Date Last Updated:	11/01/23

Actor:	Buyer and seller
Description:	
Preconditions:	User must be logged into the system and had selected the house the user interested in
Postconditions:	
Priority:	High
Frequency of Use:	
Flow of Events:	<ol style="list-style-type: none"> 1. The buyer click contact seller 2. The system prompts the buyer to confirm 3. The system prompts the buyer to key in the desired meeting date 4. The buyer keys in the date 5. The system prompts the buyer to confirm the date 6. The system then notifies the seller with the buyer's contact info
Alternative Flows:	<ol style="list-style-type: none"> 1. The user clicks no upon prompting for confirmation <ol style="list-style-type: none"> a. The system goes back to the previous page
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

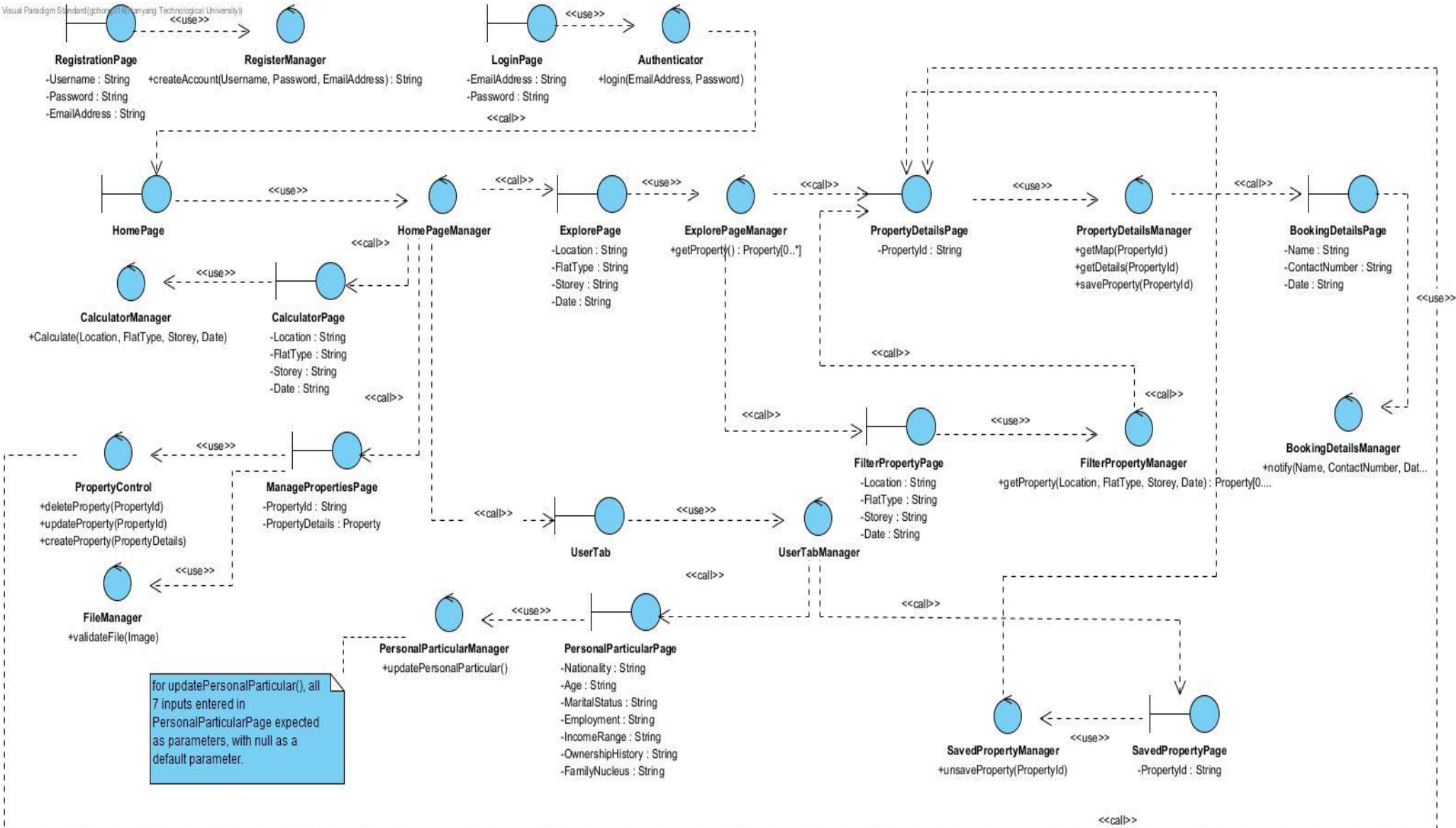
2. Class Diagram

2.1 Class diagram of entity classes

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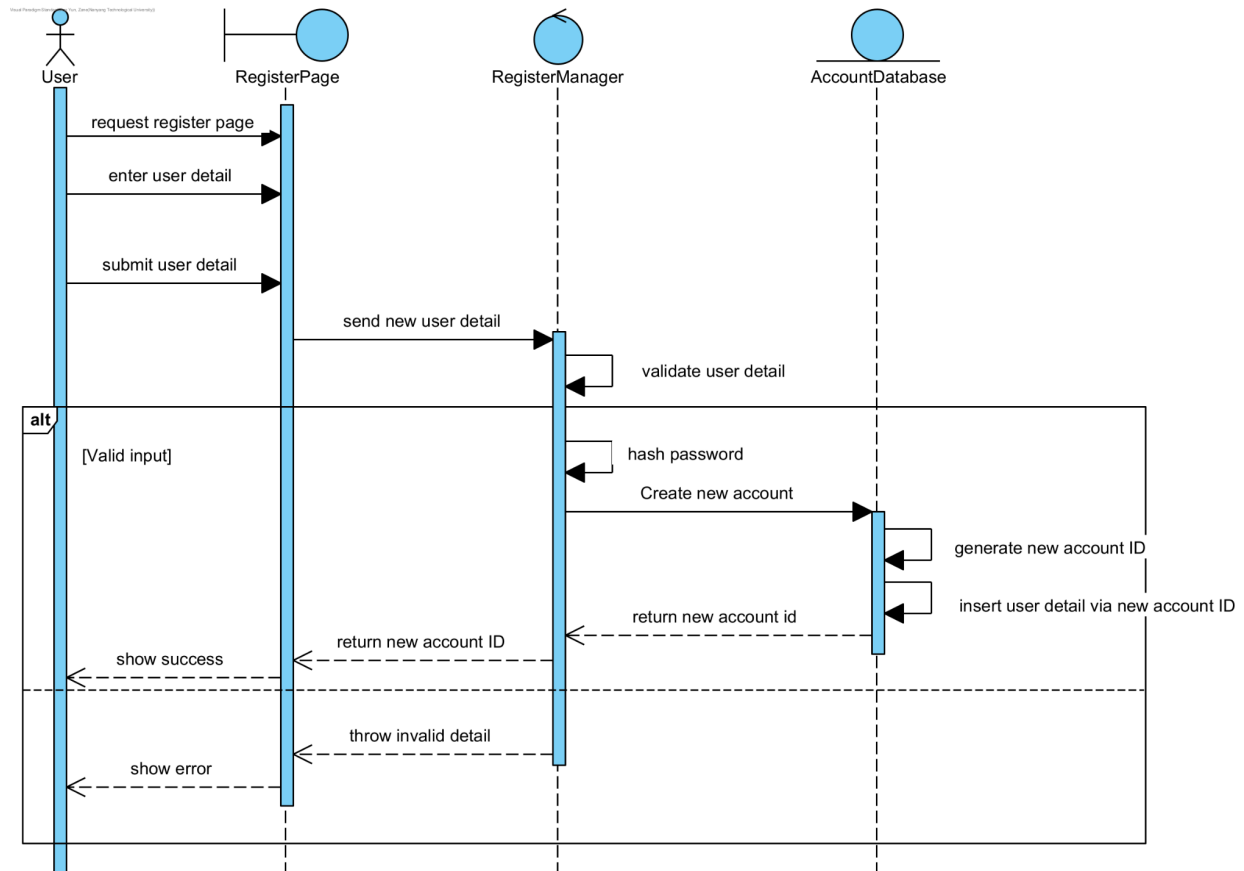


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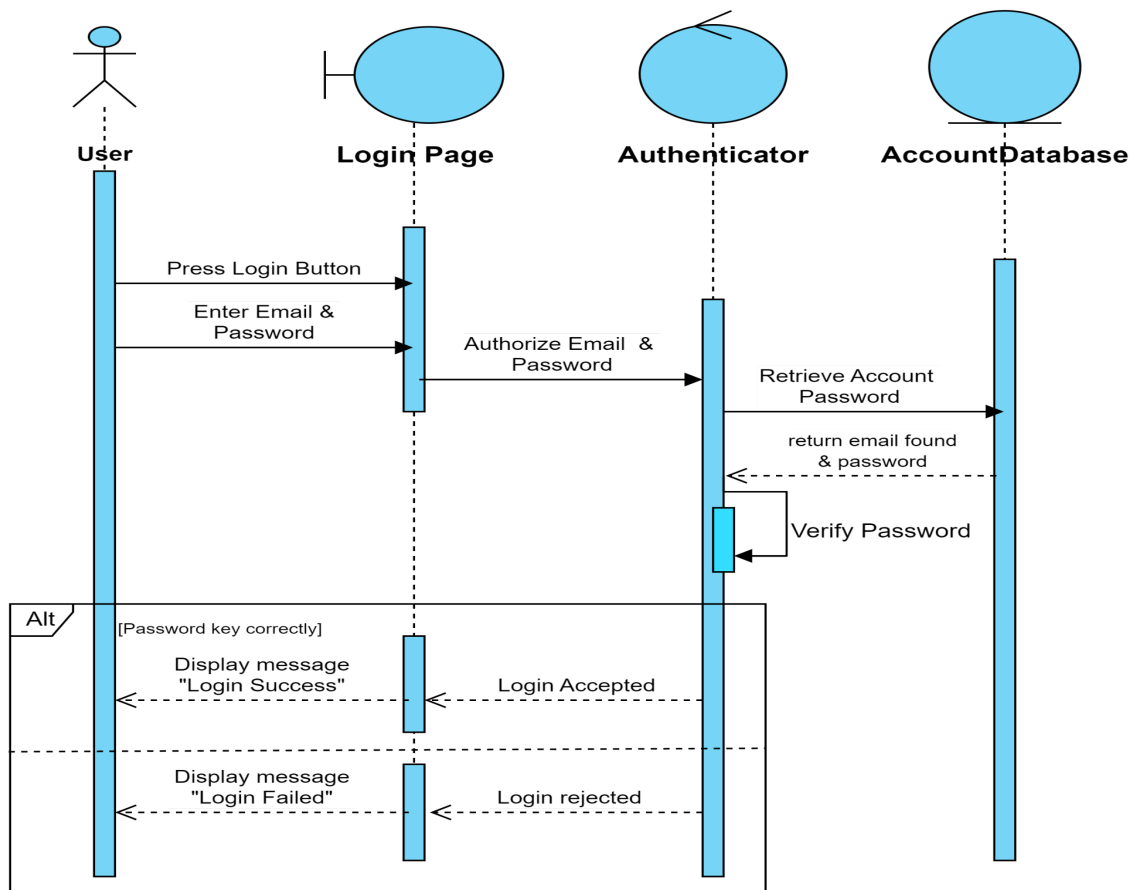


3. Sequence Diagram of Use Cases

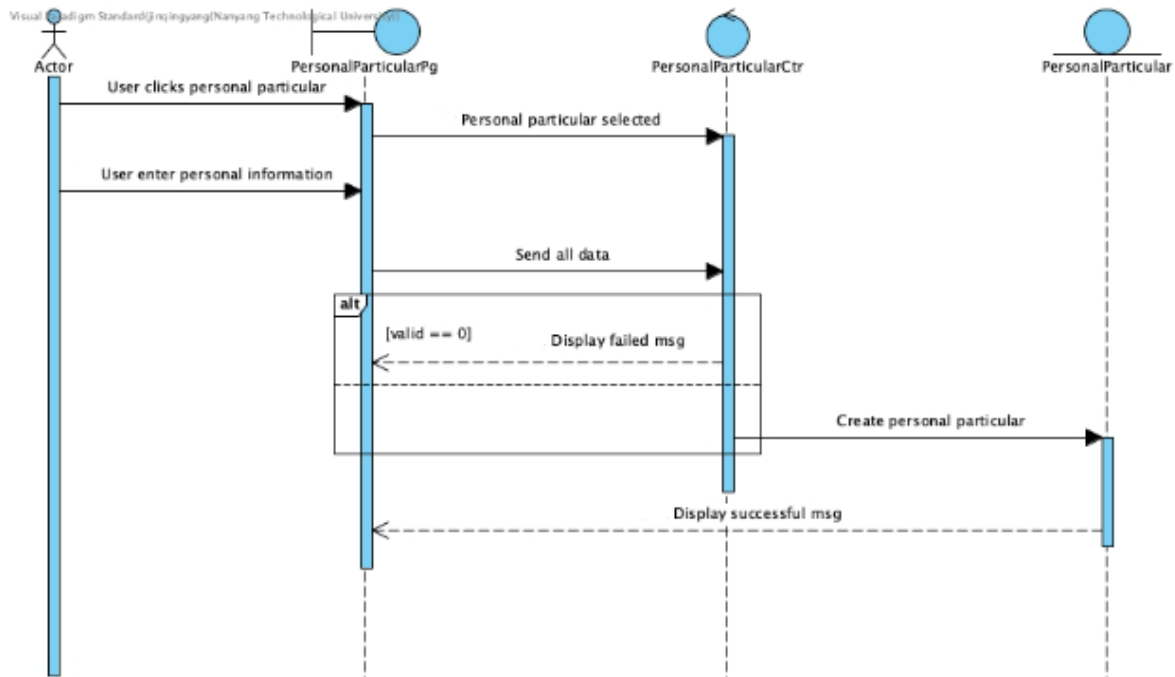
3.1 User Register



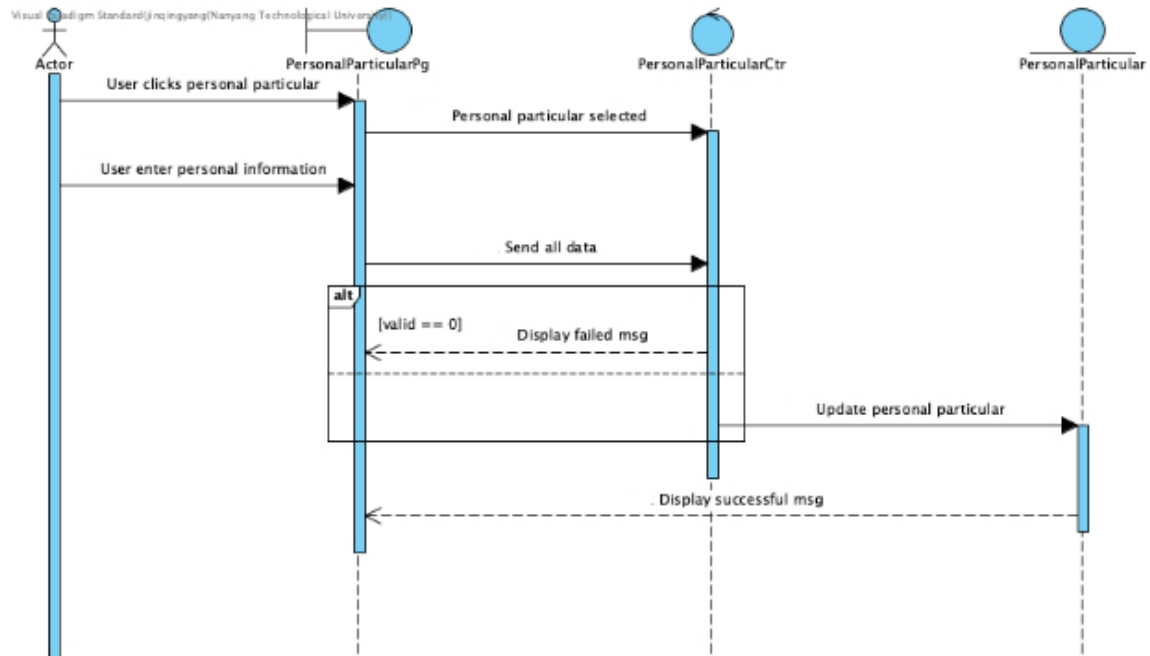
3.2 User Login



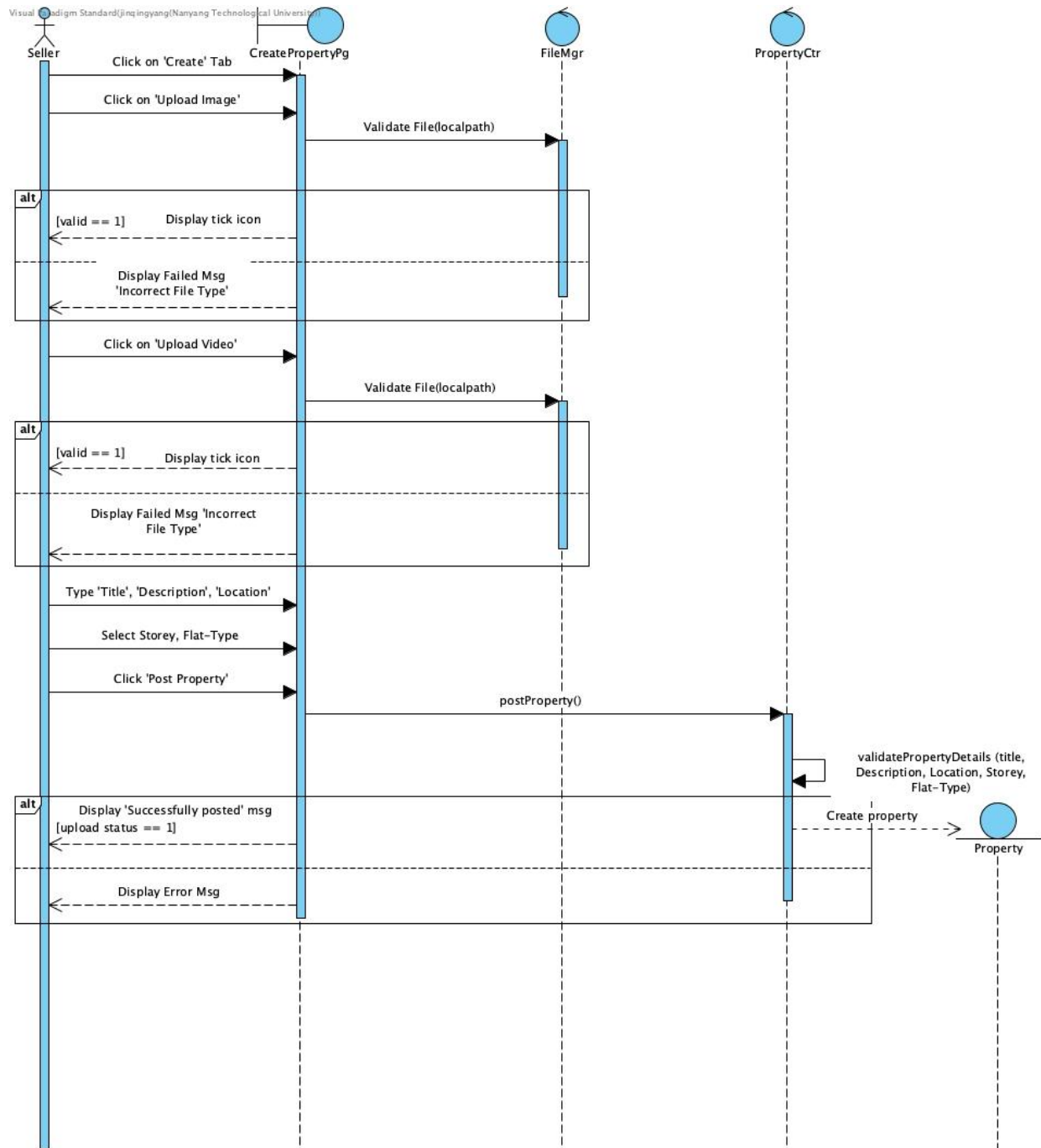
3.3 Add Personal Particulars



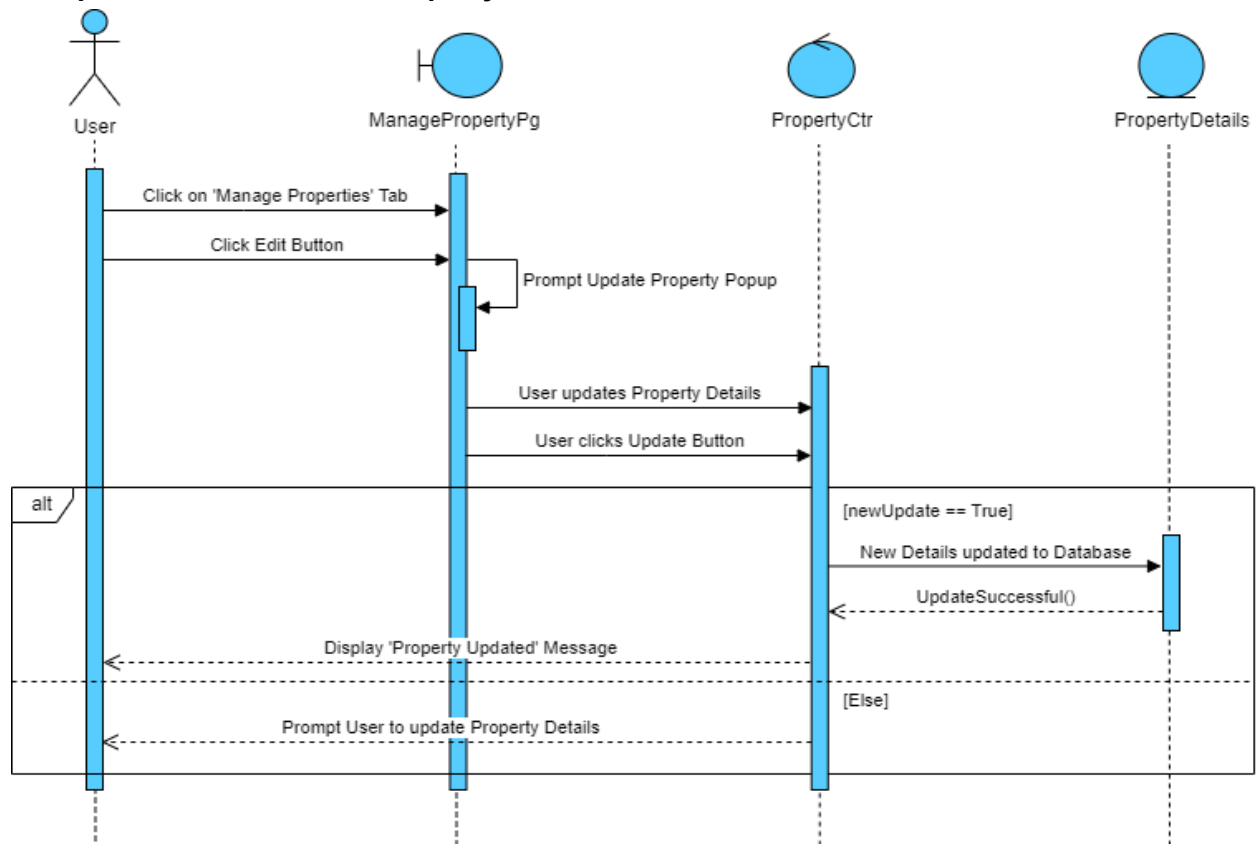
3.4 Change Personal Particulars



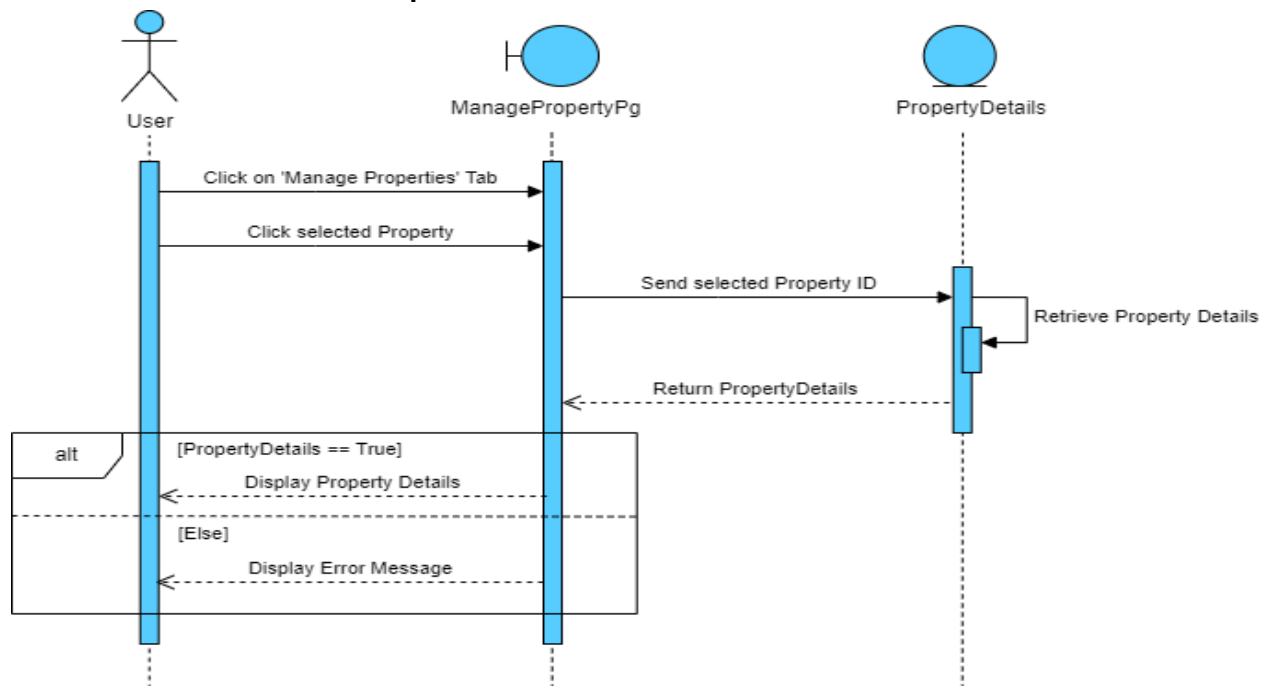
3.5 Seller posts a new Property



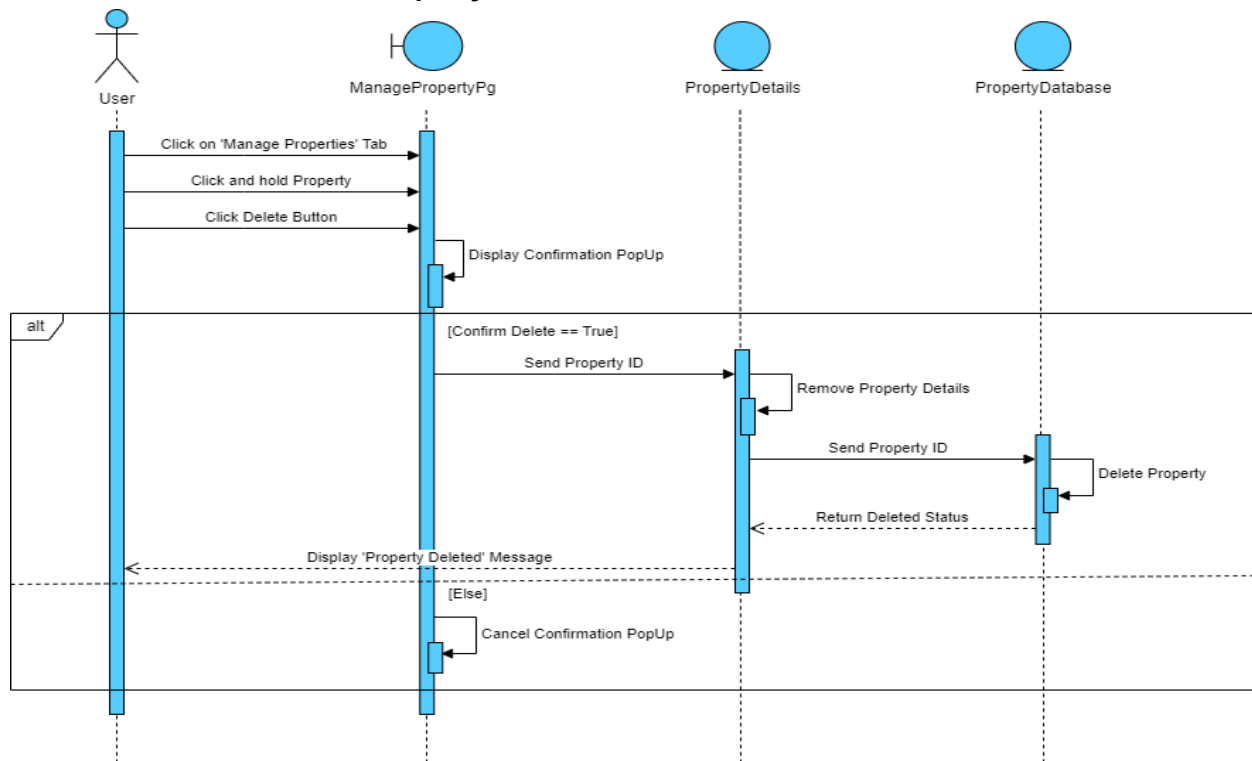
3.6 Update Seller's Resale Property



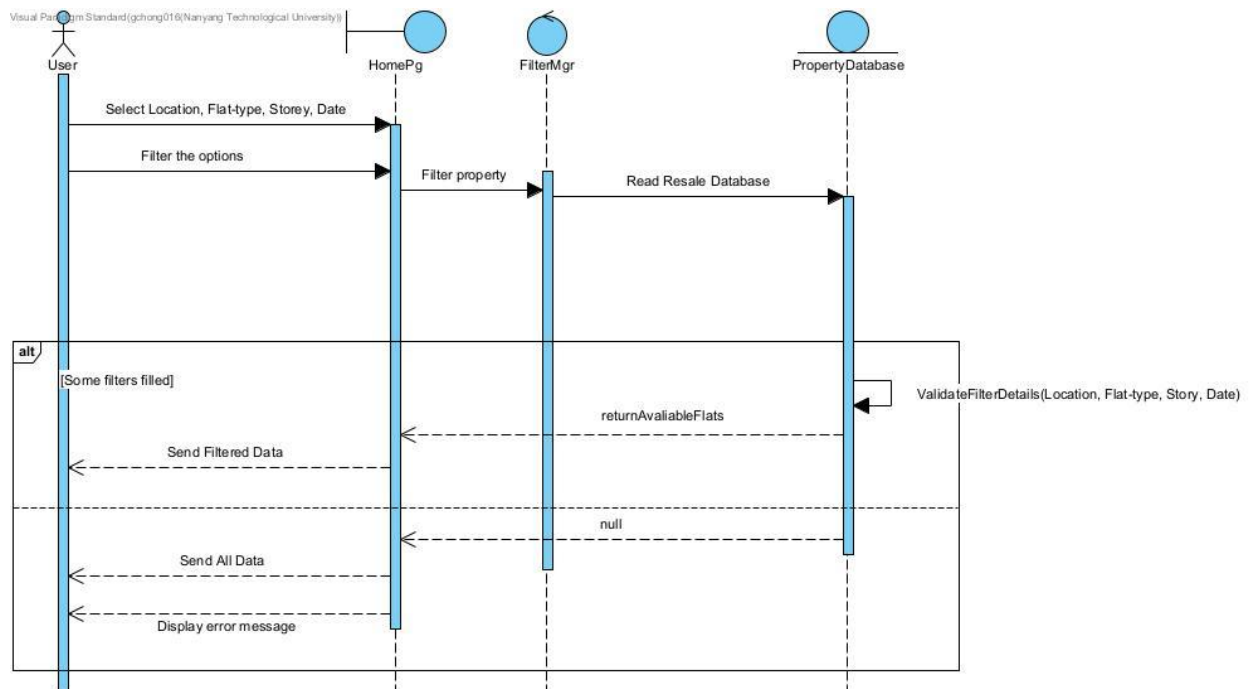
3.7 View Sellers's Resale Properties



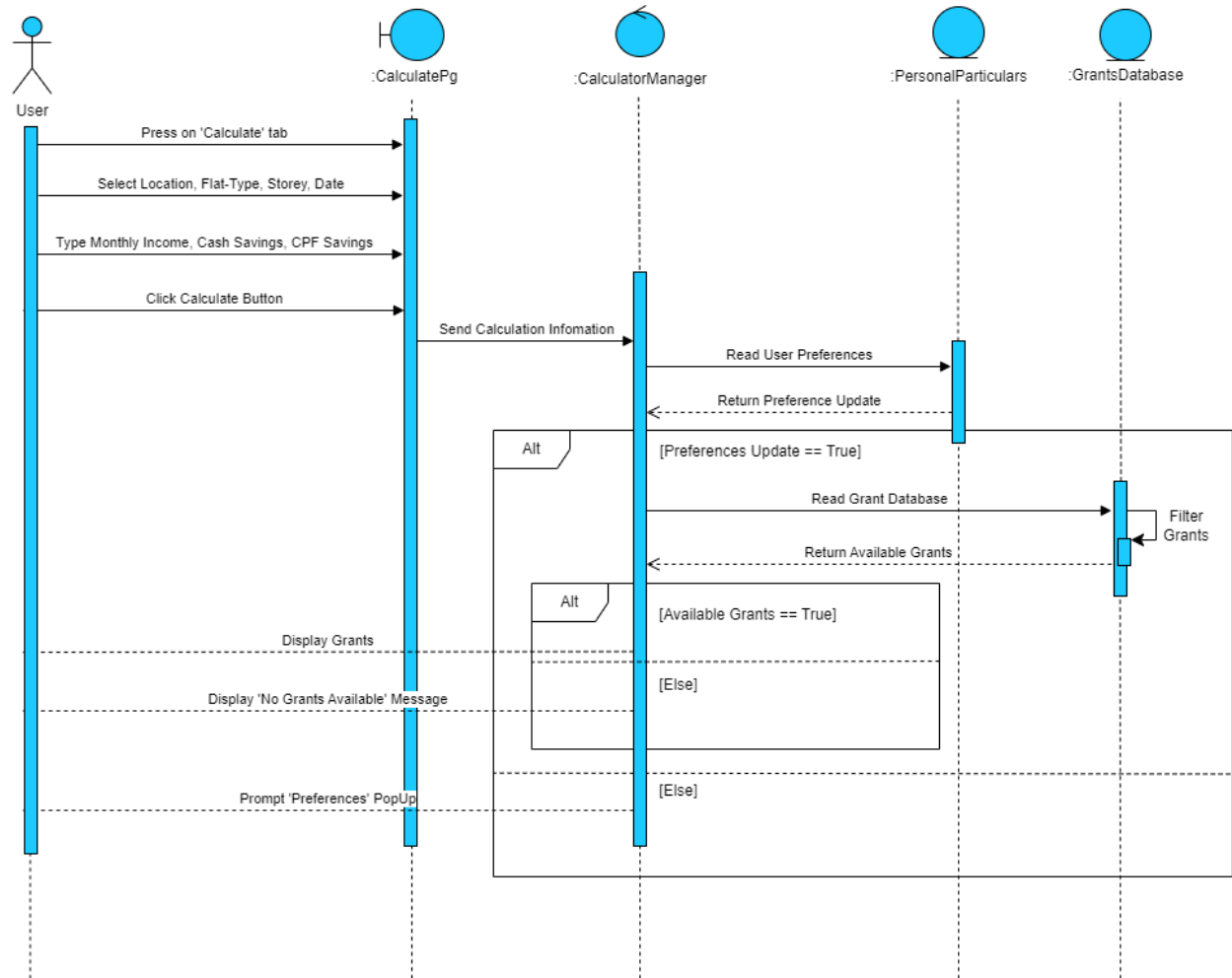
3.8 Delete Seller's Resale Property



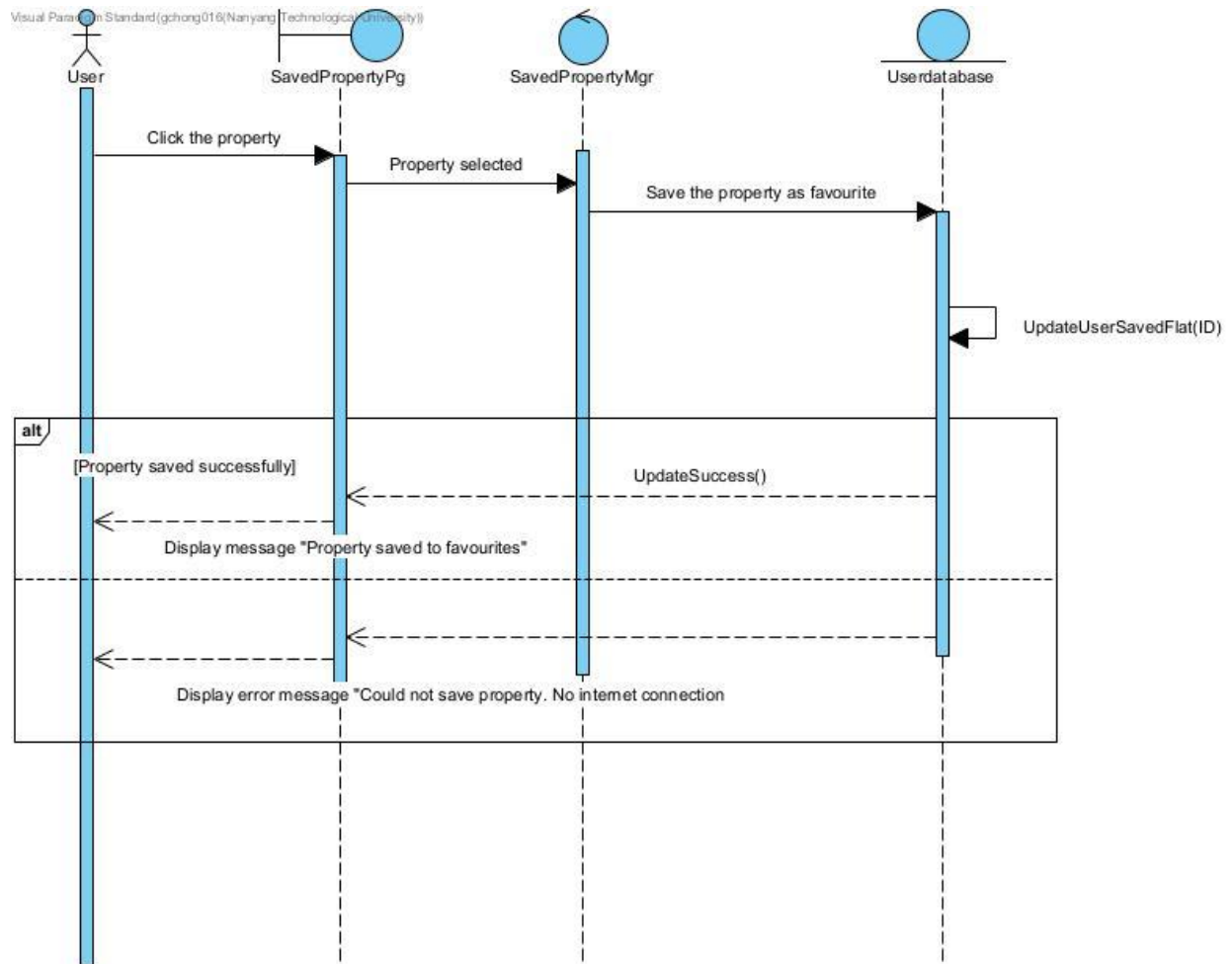
3.9 Filter Search



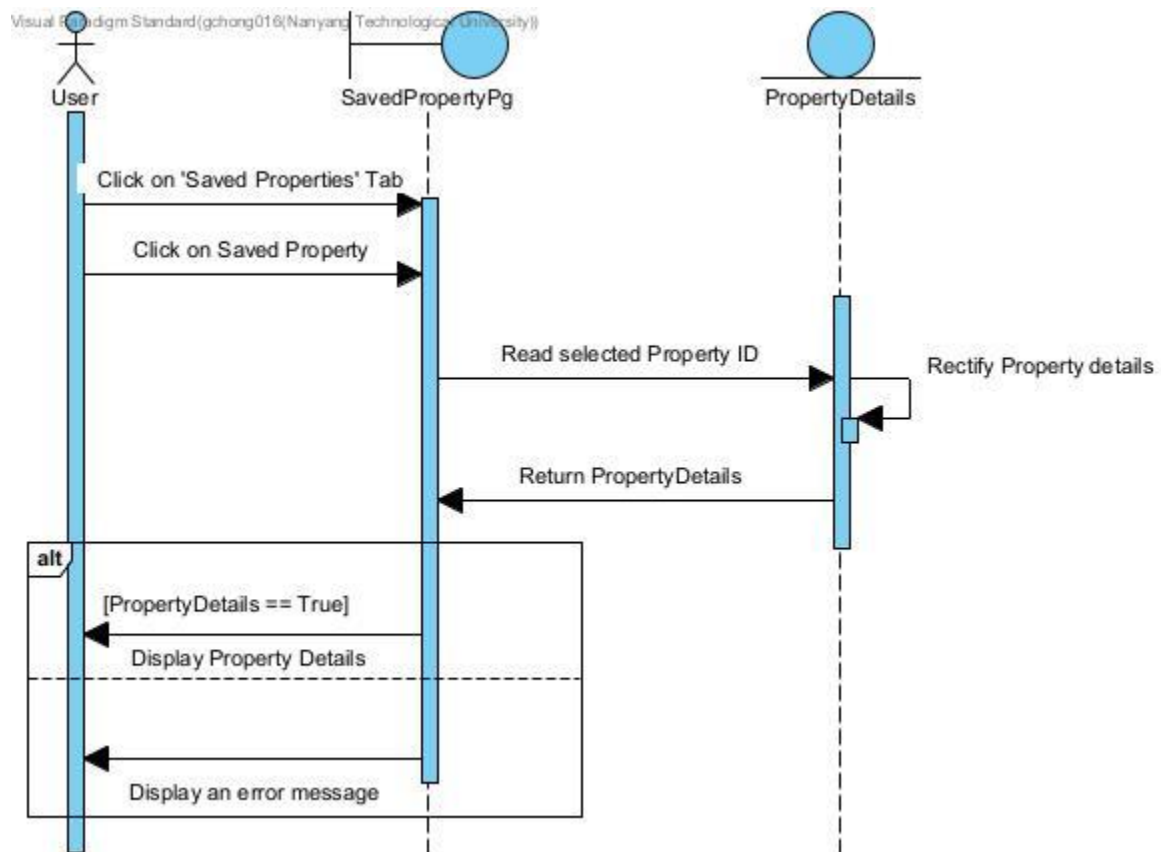
3.10 Pricing Calculator



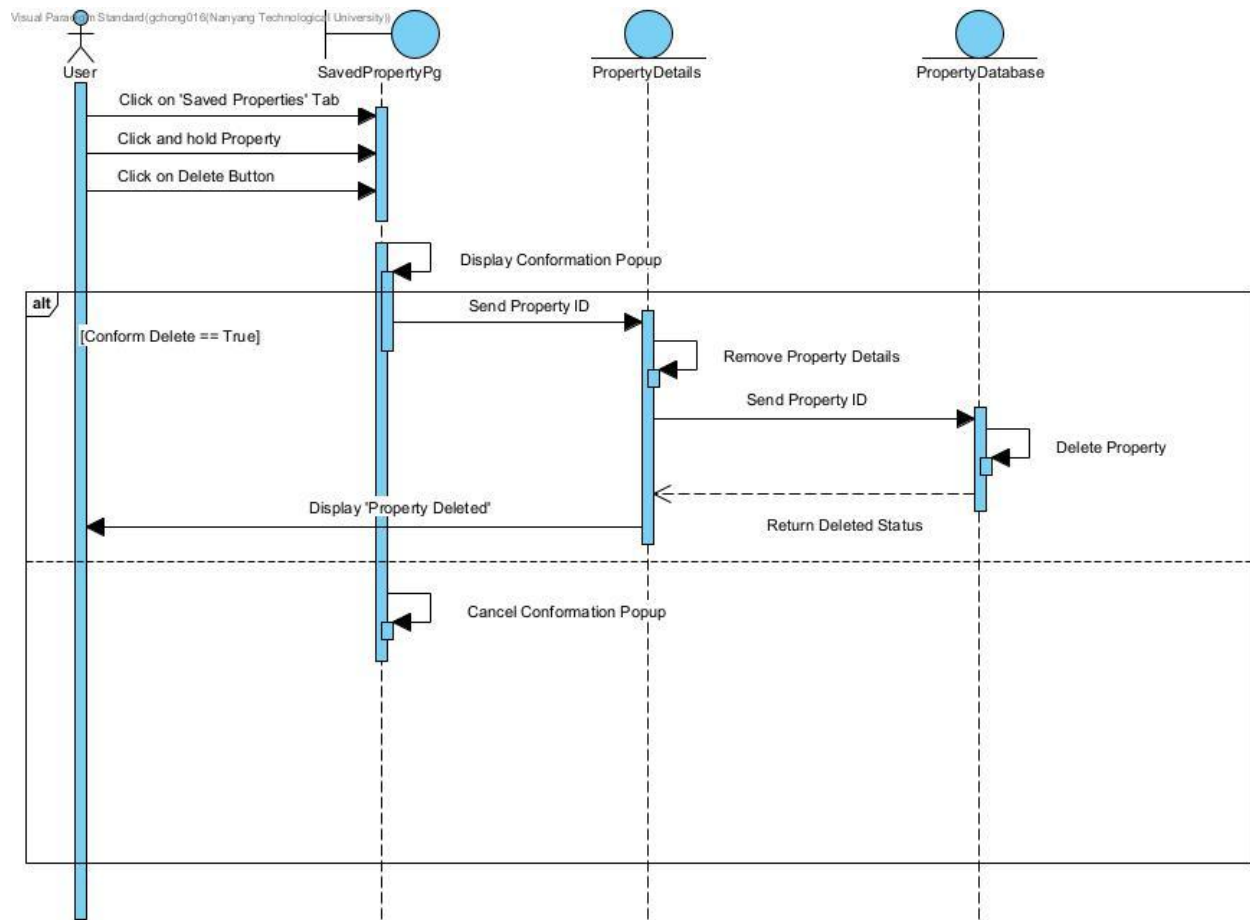
3.11 User saves a Property



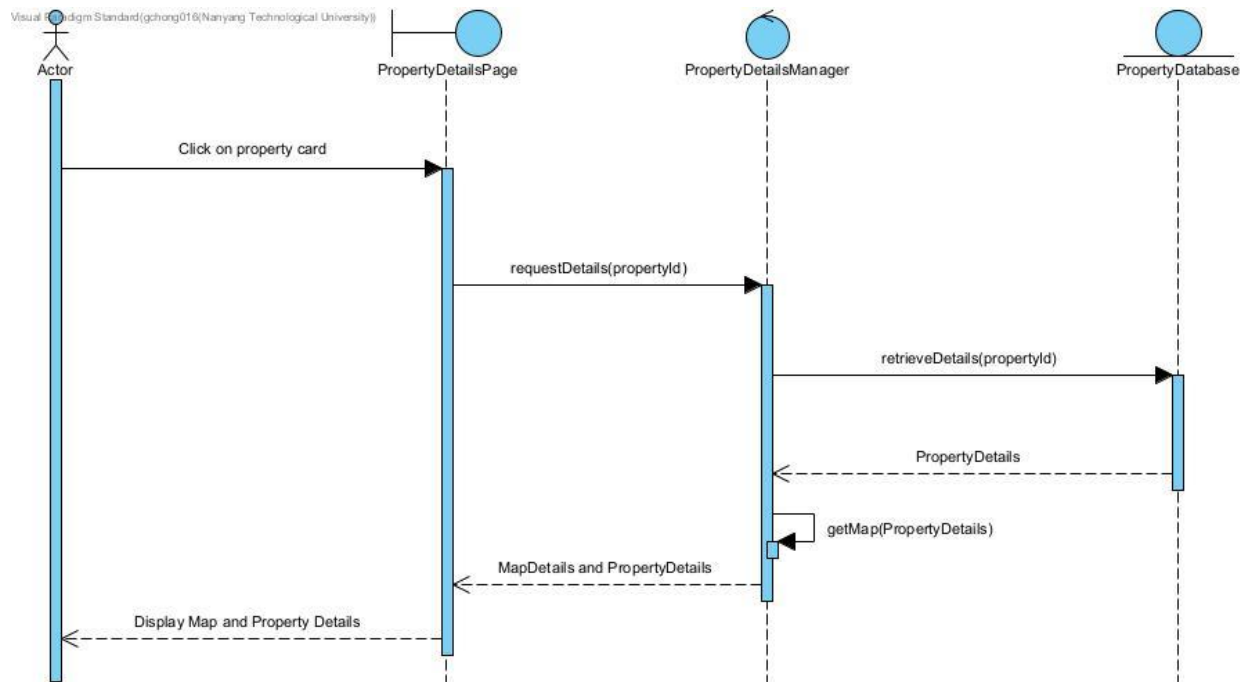
3.12 View Saved Property



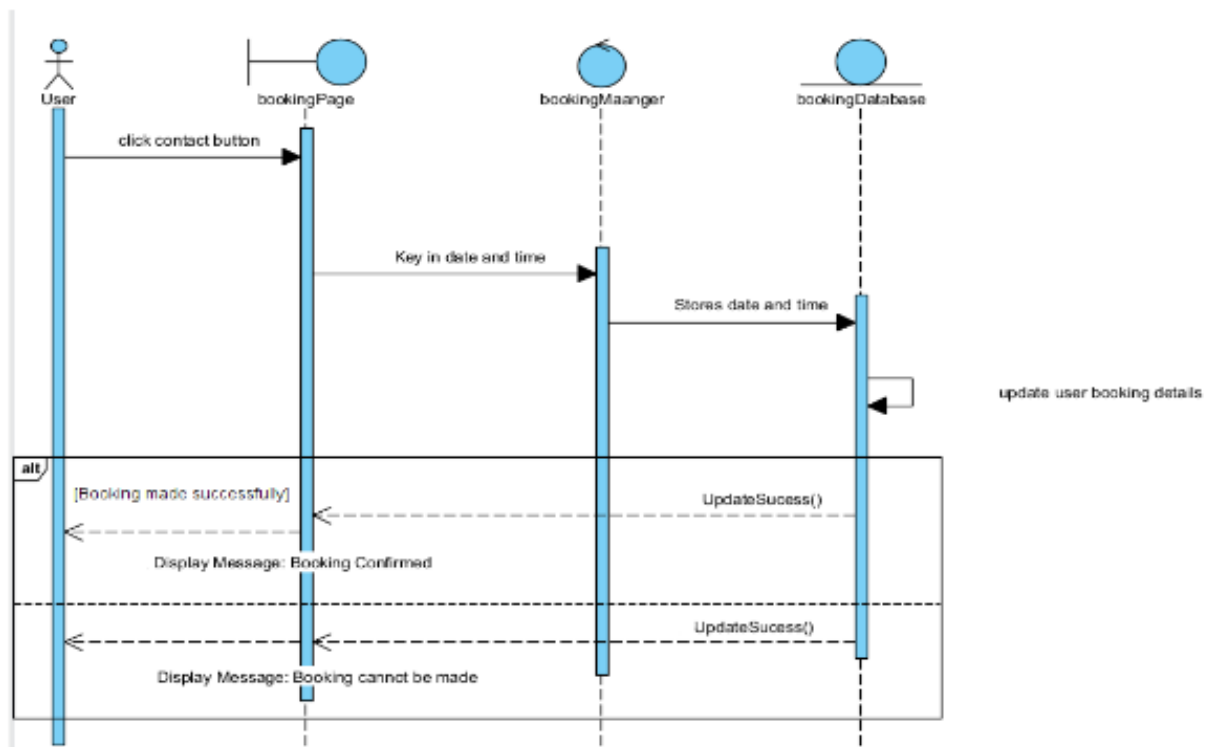
3.13 Delete Saved Property



3.14 View Property Details

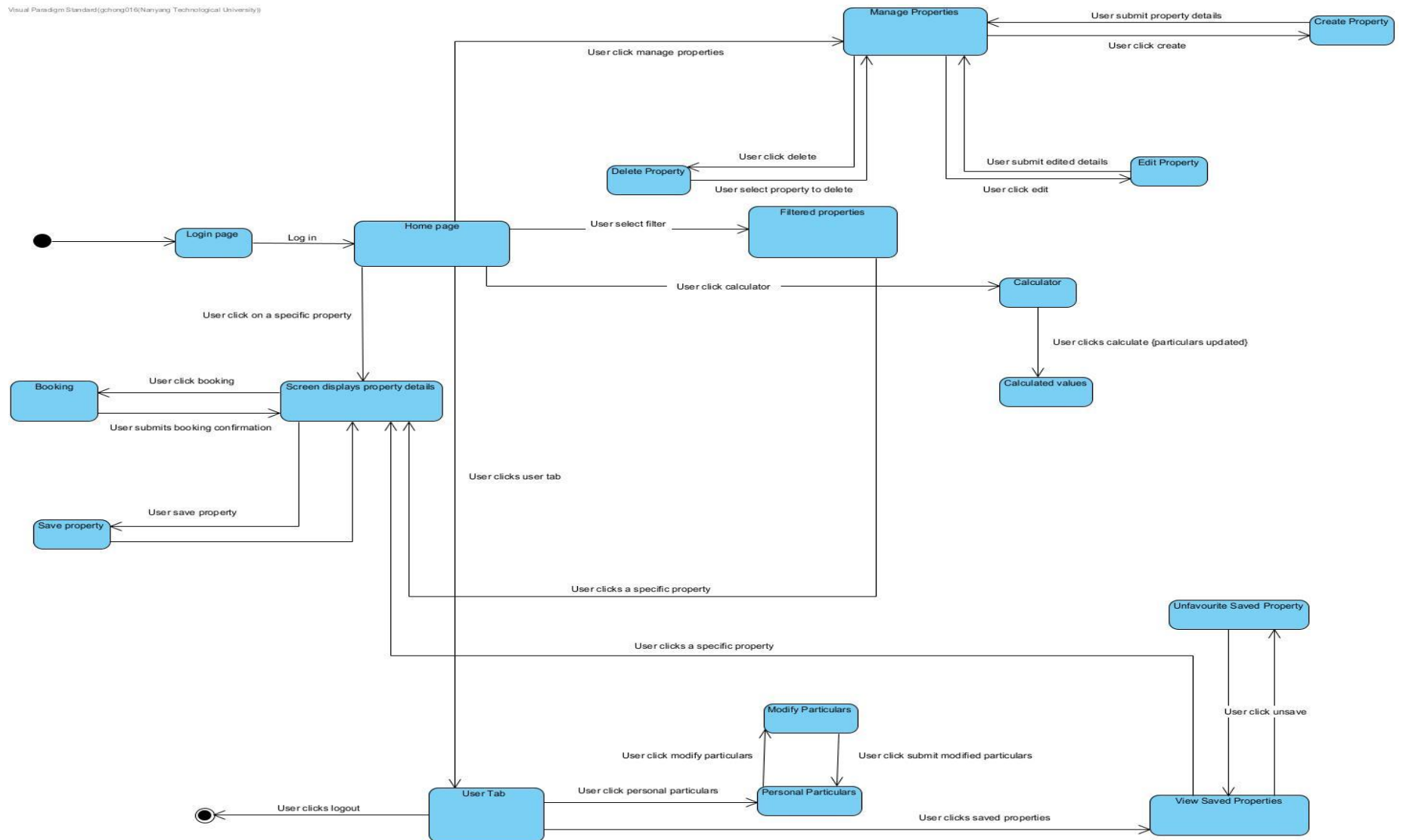


3.15 Booking



4. Initial Dialog Map

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4. System Architecture

