

a.

Use Cases

SC2006: Software Engineering

Version 1.0 approved

Prepared by Luu Minh Thang

Nanyang Technological University

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Revision History

Name	Date	Reason For Changes	Version
Luu Minh Thang	5/9/2024	Update docs	1.0
Luu Minh Thang	2/9/2024	Create docs	1.0

Use cases template

Use Case ID:			
Use Case Name:			
Created By:		Last Updated By:	
Date Created:		Date Last Updated:	

Actor:	
Description:	
Preconditions:	
Postconditions:	
Priority:	
Frequency of Use:	
Flow of Events:	
Alternative Flows:	
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

Use cases

Use Case ID:	A01		
Use Case Name:	Login		
Created By:	Luu Minh Thang	Last Updated By:	Luu Minh Thang
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	User
Description:	Users log into the system by providing their username and password.
Preconditions:	The user has an account.
Postconditions:	The user is authenticated and redirected to the home page.
Priority:	High
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. User opens the login page. 2. User enters username and password. 3. The system checks the username and password. 4. The system verifies the username - password combination in the system database. 5. If all credentials are valid, the system redirect to the home page.
Alternative Flows:	<ol style="list-style-type: none"> 2.1. If the username or password is wrong, the application notifies this to the user via an error “Incorrect Username or Password”. 2.2. The application return to the login screen.
Exceptions:	<p>Case 1: User forgot their password</p> <ol style="list-style-type: none"> 1. The user clicks “Forgot password” 2. The system queries from the database to check the user’s email address. 3. The system sends the link to the email address for updating the password. 4. User can follow the link to update their password. <p>Case 2: Many attempts:</p> <ol style="list-style-type: none"> 1. After three failed attempts, the system blocks the user for ten minutes. 2. The system will prompt “Press ‘Forgot Password’ if you have forgotten”
Includes:	None
Special Requirements:	None
Assumptions:	The user has internet access.
Notes and Issues:	None

Use Case ID:	A02		
Use Case Name:	Create Account		
Created By:	Luu Minh Thang	Last Updated By:	Luu Minh Thang
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	User
Description:	New users can create an account by providing the required details.
Preconditions:	The user does not have an account.
Postconditions:	The user's account is created and they are logged in automatically.
Priority:	Very High
Frequency of Use:	Very Low
Flow of Events:	<ol style="list-style-type: none"> 1. The user selects the "Create Account" option. 2. The user fills in the required fields: email, password, contact information, name, date of birth, and current living place. 3. The system verifies email availability. 4. The user accepts the terms and conditions. 5. The account is created and the user is redirected to the Profile Page.
Alternative Flows:	<ol style="list-style-type: none"> 3.1. If username exists, show " User already exists". 3.2. Go back to step 2
Exceptions:	None
Includes:	None
Special Requirements:	Email verification
Assumptions:	None
Notes and Issues:	None

Use Case ID:	A03		
Use Case Name:	Forgot Password		
Created By:	Luu Minh Thang	Last Updated By:	Tran Viet Khoa
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	User
Description:	Users who forgot their password can have it reset via email.
Preconditions:	The user must have an active account. The user must have an email address associated with the user's account only.
Postconditions:	The user receives an email with instructions to reset their password.
Priority:	High
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. User selects the "Forgot Password" option. 2. User enters their email address. 3. System checks if the email is associated with an existing account. 4. If yes, an email is sent with password reset instructions.
Alternative Flows:	<ol style="list-style-type: none"> 3.1. System cannot match the email address provided by user with the associated email address 3.2. System shows "Email is not registered with this account" 3.3. Go back to step 2
Exceptions:	Show the message "User not found" if the system cannot retrieve it from the database
Includes:	None
Special Requirements:	Email system functionality
Assumptions:	User has access to their email.
Notes and Issues:	None

Use Case ID:	A04		
Use Case Name:	Manage Profile		
Created By:	Luu Minh Thang	Last Updated By:	Tran Viet Khoa
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	User
Description:	Users can view and edit their profile information, including their preferences and joined groups.
Preconditions:	The user is logged in.
Postconditions:	Changes to the profile are saved and updated in the database as well as displayed on the app.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> 1. User navigates to the profile page. 2. User selects the "Edit Profile" option. 3. User selects the section that they want to update (area, activity preferences, preferred language, email, password and username). 4. System displays a "Save" button as user makes changes to their profile. 5. System prompts user to select new preferences. 6. User selects new preferences. 7. User saves changes by clicking "Save". 8. User's profile is updated in the database and changes are reflected in the app.
Alternative Flows:	<ol style="list-style-type: none"> 6.1.1. If user changes username and new username already exists, display "Username already exists". 6.1.2. System prompts user to enter another username until username is unique. 6.2.1. If user changes email address and new email address already exists, display "This email address is used". 6.2.2. System prompts user to enter another email address until email address is unique. 6.3.1. If user changes password, system prompts user to enter both current password and new password. 6.3.2.2. If current password is not correct, display the message "Password is incorrect". 6.3.2.2. If new password is not of length of at least 8, display the message "New password needs to contain at least 8 characters". 6.3.3. System prompts user to enter current password and new password until current password is correct and new password is at least 8 character long. 6.3.4. Go to step 8.

Exceptions:	<ol style="list-style-type: none">1. When new username already exists, display “Username already exists”.2. When user changes email address and new email address already exists, display “This email address is used”.3. When current password is not correct, display the message “Password is incorrect”.4. When new password is not of length of at least 8, display the message “New password needs to contain at least 8 characters”.
Includes:	None
Special Requirements:	User is logged in
Assumptions:	User provides accurate information in the best interest of user.
Notes and Issues:	None

Use Case ID:	A05		
Use Case Name:	Explore Facilities		
Created By:	Luu Minh Thang	Last Updated By:	Tran Viet Khoa
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	User
Description:	Users can view a list of facilities, filtered by preferences and location.
Preconditions:	The user is logged in and their preferences are updated.
Postconditions:	The user views all available facilities, sorted by distance to user and matched preferences.
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 2. User navigates to the Explore page. 3. System selects from database all facilities that can match user's preferences and sorts them by distance to user. 4. System displays all selected facilities. 5. User selects a facility from the list displayed. 6. System display detailed information about each facility selected by user.
Alternative Flows:	<ol style="list-style-type: none"> 4.1.1. User searches for facilities by name. 4.1.2. System filters all initially selected facilities by user's search key and displays a new sorted list of facilities. 4.2.1. User filters facilities by maximum distance, neighbourhood and activities available. 4.2.2. System filters all initially selected facilities by user's choices and displays a new sorted list of facilities. 4.3. Go back to step 4.
Exceptions:	<ol style="list-style-type: none"> 1. If the list of facilities filtered automatically by system and manually by user is empty, displays "The list is empty".
Includes:	None
Special Requirements:	Location access
Assumptions:	User has enabled location services.
Notes and Issues:	None

Use Case ID:	A06		
Use Case Name:	View Interest Groups		
Created By:	Luu Minh Thang	Last Updated By:	Syed Abu Thahir
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	User
Description:	Users can view a list of interest groups available in their area.
Preconditions:	The user is logged in. The user must have a profile with area and activity preferences already set. There must be interest groups available in the user's area.
Postconditions:	The user views available interest groups. The user can view group details (group name, activity type, location, etc.). The user can proceed to join the group if they are not already a member.
Priority:	High
Frequency of Use:	Very high
Flow of Events:	<ol style="list-style-type: none"> 1. User navigates to the community page. 2. The system retrieves and displays a list of interest groups available in the user's area. 3. The user can filter the list by group name, activity type, or location. 4. The user selects a group to view details. 5. The system shows the group's detailed information (e.g., activity type, area, number of members). 6. The user can choose to join (if not already a member).
Alternative Flows:	<p>4.1.1. If there are no interest groups in the user's area or based on their preferences, the system displays a message like "No groups available in your area".</p> <p>4.1.2. System will suggest the user to create a new group.</p>
Exceptions:	<ol style="list-style-type: none"> 1. If the system fails to retrieve the list of groups, an error message is displayed, and the user is prompted to retry.
Includes:	None
Special Requirements:	None
Assumptions:	The database of interest groups is regularly updated.
Notes and Issues:	None

Use Case ID:	A07		
Use Case Name:	Join group		
Created By:	Luu Minh Thang	Last Updated By:	Syed Abu Thahir
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	User
Description:	This use case describes how a user can join an existing interest group in their area. The user selects a group from a list of available groups and clicks the "Join Group" button to become a member of that group.
Preconditions:	The user is logged in and has found a group of interest. The user must have an account with area and activity preferences set. There must be at least one interest group available in the user's area or activity preferences.
Postconditions:	The user becomes a member of the selected group. The group is added to the user's profile under "My Groups." The user receives notifications related to the group, such as upcoming meet-ups.
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. The user navigates to the "Community Page". 2. The system displays a list of available interest groups 3. The user browses through the list and selects a group of interest. 4. User clicks on the "Join Group" button associated with the selected group. 5. The system adds the user to the group. 6. The group is updated in the user's profile under "My Groups." 7. The system confirms the successful group membership by showing a confirmation message (e.g., "You have successfully joined the group").
Alternative Flows:	<ol style="list-style-type: none"> 4.1. If the user has already joined the group, the "Join Group" button is replaced with a message like "You are already a member of this group." 5.1. If the group has reached its maximum membership capacity, the system disables the "Join Group" button and displays a message like "This group is full."
Exceptions:	None
Includes:	None
Special Requirements:	User logged in
Assumptions:	The app is updated with the latest group information and availability.

Notes and Issues:	None
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Use Case ID:	A08		
Use Case Name:	Leave Group		
Created By:	Luu Minh Thang	Last Updated By:	Syed Abu Thahir
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	Users
Description:	This use case describes the process of a user leaving a group they are a member of. The user removes themselves from the group, and the group no longer appears in their profile under "My Groups."
Preconditions:	The user must be logged into the app. The user must already be a member of at least one group. The group must be visible under "My Groups" in the user's profile.
Postconditions:	The user is no longer a member of the group. The group is removed from the user's profile under "My Groups", but their RSVP status for any events remains unchanged. The user stops receiving notifications related to that group, including meet-up reminders and updates except to the ones they RSVPed "Yes".
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. The user navigates to their profile or the "Community Page." 2. The user accesses "My Groups" to view a list of groups they are a member of. 3. The user selects the group they want to leave. 4. The system displays the group's page, including a "Leave Group" button. 5. The user clicks the "Leave Group" button. 6. The system prompts the user to confirm the action (e.g., "Are you sure you want to leave the group?"). 7. The user confirms by clicking "Yes." 8. The system removes the user from the group. 9. The group is no longer displayed under "My Groups" in the user's profile. 10. The system displays a confirmation message (e.g., "You have successfully left the group").
Alternative Flows:	7.1. If the user clicks "No" or closes the prompt, the leave process is canceled, and the user remains in the group.
Exceptions:	None
Includes:	None
Special Requirements:	None

Assumptions:	The group information and membership records are up to date and correctly synchronized across all system modules.
Notes and Issues:	None

Use Case ID:	A09		
Use Case Name:	Create Group		
Created By:	Luu Minh Thang	Last Updated By:	Luu Minh Thang
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	User
Description:	Users can create a new interest group.
Preconditions:	The user is logged in and has identified a need for a new group.
Postconditions:	A new interest group is created and pending approval by an administrator.
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. User navigates to the community page and clicks on the "Create New Group" button. 2. The system displays the form with the group details: activity type, residential area, group name, and description. 3. User fills out the form with the group details: activity type, residential area, group name, and description. 4. The system validates if the group details are similar to any other group details in the database . 5. The system submits the group for approval by an administrator. 6. If the administrator approves the proposal, then the notification will be sent to all users if they are in the same areas. 7. The group details will be saved to database.
Alternative Flows:	<ol style="list-style-type: none"> 4.1 If the group details are matched with any group details in the database, display “ Activity already existed.” 6.1: If the administrator does not approve the proposal, then the proposal will be deleted.
Exceptions:	None
Includes:	None
Special Requirements:	Administrator approval
Assumptions:	None
Notes and Issues:	None

Use Case ID:	A10		
Use Case Name:	Create Meet-Up		
Created By:	Luu Minh Thang	Last Updated By:	Syed Abu Thahir
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	User
Description:	This use case describes how a user can create a meet-up event for an interest group they are part of. The user provides details like date, time, location, and description, and the system schedules the event for the group.
Preconditions:	The user must be logged into the app. The user must be a member of the interest group for which they want to create a meet-up. There must be no conflicting meet-ups or events at the same time for the user within that group or other groups.
Postconditions:	A new meet-up is created for the group. The meet-up is added to the group's meet-up schedule and visible to all group members. Notifications are sent to group members informing them about the new meet-up. The creator can manage (modify or cancel) the meet-up later.
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. User navigates to the interest group page and clicks on the "Schedule Meet-Up" button. 2. User fills out the meet-up form with the date, time, location, 'Link to Existing Event' button and description. 3. Selecting "Link to Existing Event" displays to the user a list of events from EventFinda database which they can choose from to link to their event. 4. The system checks for any scheduling conflicts <ol style="list-style-type: none"> a. if the user has already RSVPed to another meet-up at the same time b. if another meet-up at the same time is scheduled within the interest group. 5. If no conflicts are found, the system saves the meet-up details and schedules the event. 6. The meet-up is added to the group's meet-up list and becomes visible to all group members. 7. The system sends notifications to all group members about the newly scheduled meet-up. 8. The system displays a confirmation message to the user (e.g., "Meet-up successfully created").

Alternative Flows:	4.1. If the user does not fill in all required fields (e.g., missing date or location), the system prompts the user to complete the form before proceeding. 5.1. If the system detects a scheduling conflict (e.g., the user has RSVP'd to another meet-up at the same time), the system displays a warning and prevents the meet-up creation until the conflict is resolved.
Exceptions:	None
Includes:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Use Case ID:	A11		
Use Case Name:	Join Meet-Up		
Created By:	Luu Minh Thang	Last Updated By:	Syed Abu Thahir
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	User
Description:	This use case describes how a user can join a meet-up that has been scheduled within a group they belong to. By joining, the user RSVPs for the event, and the system tracks the user's attendance.
Preconditions:	<p>The user must be logged into the app.</p> <p>The user must be a member of the interest group where the meet-up has been scheduled.</p> <p>The meet-up must exist and not have been canceled.</p> <p>The user must not have a scheduling conflict with another meet-up they have already RSVPed to.</p>
Postconditions:	<p>The user's RSVP is recorded for the meet-up.</p> <p>The meet-up is displayed in the user's profile under "My Meet-Ups."</p> <p>The system notifies the user and group members of the RSVP status.</p> <p>The system ensures the user is notified about any updates to the meet-up.</p>
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. The user navigates to the group page and views the list of scheduled meet-ups. 2. The user selects a meet-up they wish to join. 3. The system displays the details of the meet-up, including the date, time, location, and description. 4. User selects their RSVP status: "Yes" or "No". 5. The system checks if there is any scheduling conflict (e.g., if the user has already RSVP'd to another meet-up at the same time). 6. The system updates the user's RSVP status. 7. If the user RSVPs "Yes", the event is added to their profile page. 8. Notifications are sent to the user and other group members, indicating the updated attendance for the meet-up.
Alternative Flows:	6.1. If the system detects a conflict with another meet-up the user has already RSVP'd to, it displays a warning message (e.g., "You have already RSVP'd to a meet-up at this time") and prevents the RSVP.
Exceptions:	None
Includes:	None

Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Use Case ID:	A12		
Use Case Name:	Receive Notifications		
Created By:	Luu Minh Thang	Last Updated By:	Luu Minh Thang
Date Created:	2/9/2024	Date Last Updated:	19/9/2024

Actor:	Users
Description:	This use case describes how a user receives notifications about upcoming meet-ups to which they have RSVPed 'Yes', group creation approvals or rejections, and when they have a certain number of RSVPs to a meet-up they created.
Preconditions:	<p>The user must be logged into the app.</p> <p>The user must have enabled these notifications.</p> <p>The user should have set their location in their profile to receive notifications about new interest groups in their area.</p> <p>The user should have joined one or more interest groups to receive notifications about meet-up events.</p> <p>The user should have RSVPed 'Yes' to meet-ups in interest groups that they have joined to receive a notification reminder when it is upcoming, or a notification when meet-up details are modified.</p> <p>The user should have submitted a request to create a new group through the app to receive the approval or rejection notification.</p> <p>The user should have created a meet-up event in an interest group that they have joined to receive notifications about the number of RSVPs the meet-up received.</p>
Postconditions:	The user receives notifications as per their notification settings.
Priority:	Very Low
Frequency of Use:	Very High
Flow of Events:	<ol style="list-style-type: none"> 1. The system sends the following notifications to the user <ol style="list-style-type: none"> a. Notification when a new interest group has been created in the area they set as their residential area. b. Notification when a new meet-up event has been created in a group they joined. c. Reminders for events that they have RSVPed 'Yes' to, 24 hours in advance and a certain fixed number of hours before the event, as configured by the user or 3 by default. d. Modifications in meet-ups to which they have RSVPed e. Approval or rejection messages for interest groups that they sent a request to create, depending on the outcome of the request response. f. Notification that the user's created meet-up event has received a certain fixed number of RSVPs, as configured by the user or 5 by default.

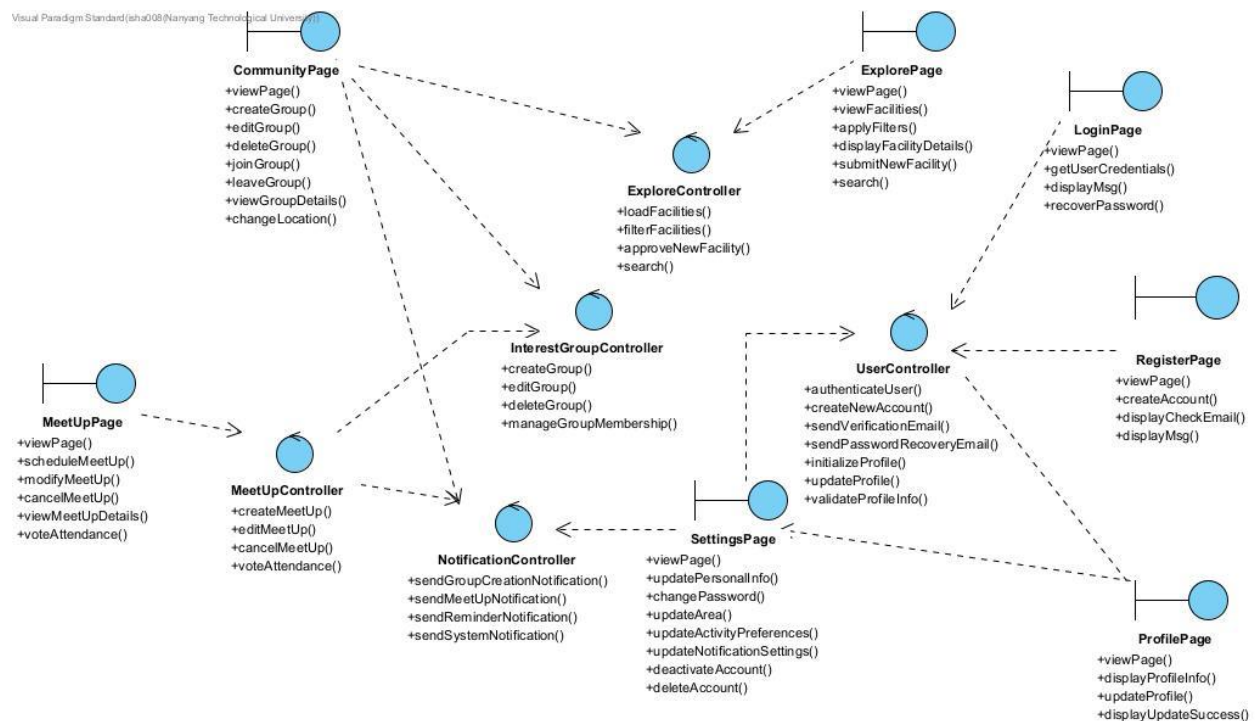
	Unless the user has chosen not to receive some or all of the notification types.
Alternative Flows:	The system sends some or none of the notifications to the user as per their preferences.
Exceptions:	None
Includes:	None
Special Requirements:	Notification settings
Assumptions:	User will see the notifications when the app is not in use
Notes and Issues:	None

Use Case ID:	A13		
Use Case Name:	Configure Notification Preferences		
Created By:	Luu Minh Thang	Last Updated By:	Luu Minh Thang
Date Created:	2/9/2024	Date Last Updated:	5/9/2024

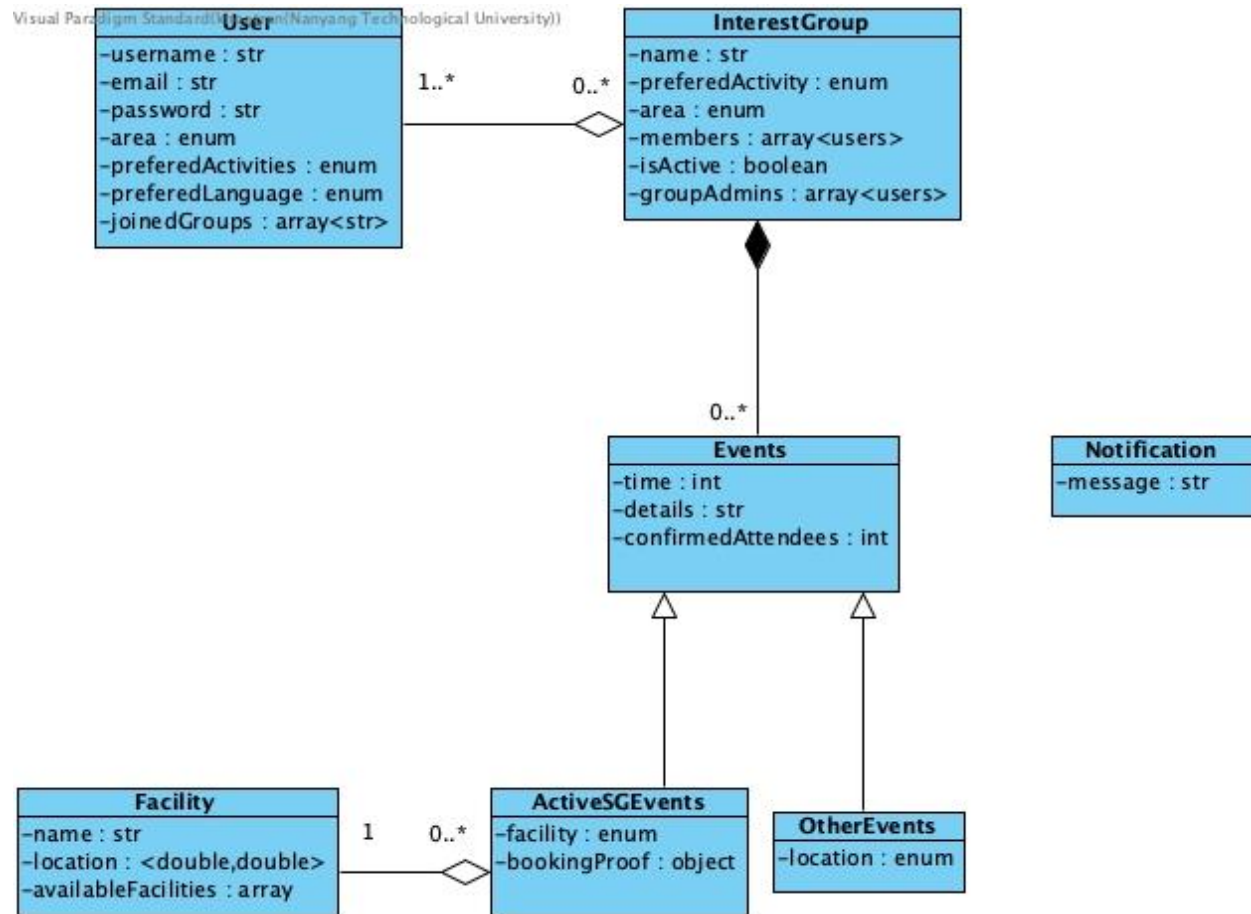
Actor:	User
Description:	This use case describes how a user can customize which notifications they receive.
Preconditions:	The user must be logged into the app.
Postconditions:	The user's notification preferences are updated. The user receives notifications as per their preferences.
Priority:	Very Low
Frequency of Use:	Very Low
Flow of Events:	<ol style="list-style-type: none"> 1. User navigates to the Notification Settings page. 2. User selects or deselects the types of notifications they wish to receive, from the following: <ol style="list-style-type: none"> a. Notification when a new interest group has been created in the area they set as their residential area. b. Notification when a new meet-up event has been created in a group they joined. c. Reminders for events that they have RSVPed 'Yes' to, 24 hours in advance and a certain fixed number of hours before the event, configurable by the user. d. Modifications in meet-ups to which they have RSVPed e. Approval or rejection messages for interest groups that they sent a request to create, depending on the outcome of the request response. f. Notification that the user's created meet-up event has received a certain fixed number of RSVPs, configurable by the user. 3. The system saves the user's preferences.
Alternative Flows:	None
Exceptions:	None
Includes:	None
Special Requirements:	Notification Settings
Assumptions:	None
Notes and Issues:	None

Conceptual Model

Stereotyped Boundary and Control classes (BoundaryControlStereotypes.jpg)



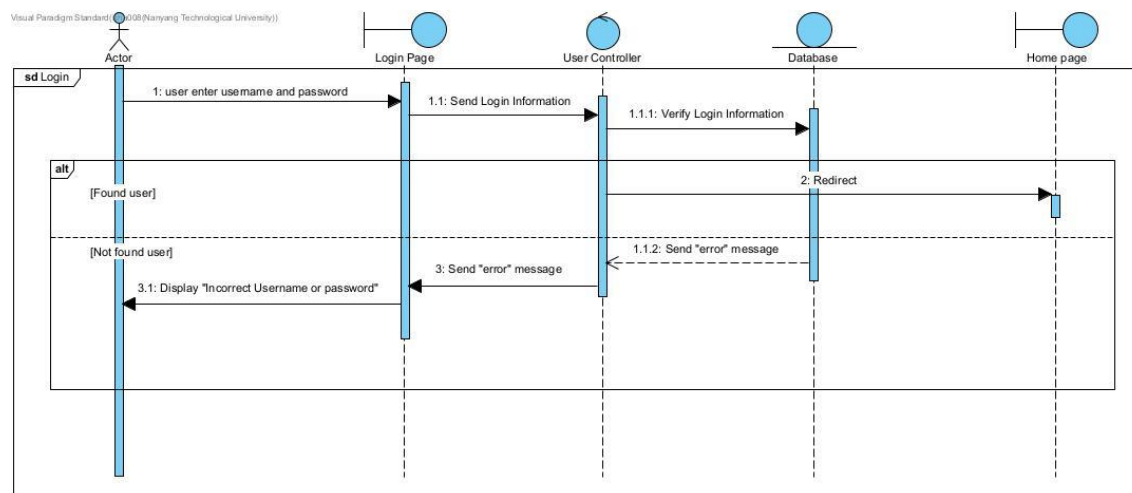
Entity Classes



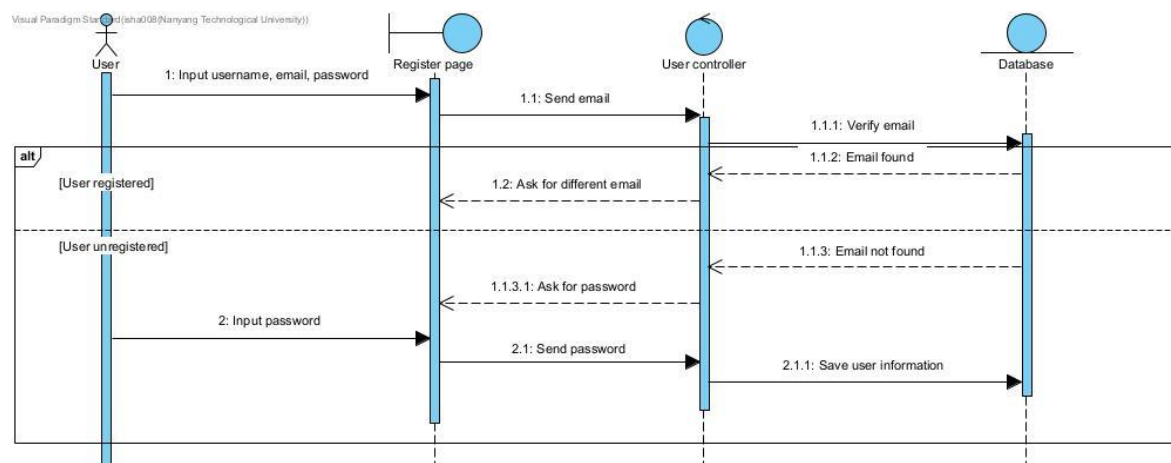
Dynamic Model

Sequence Diagrams

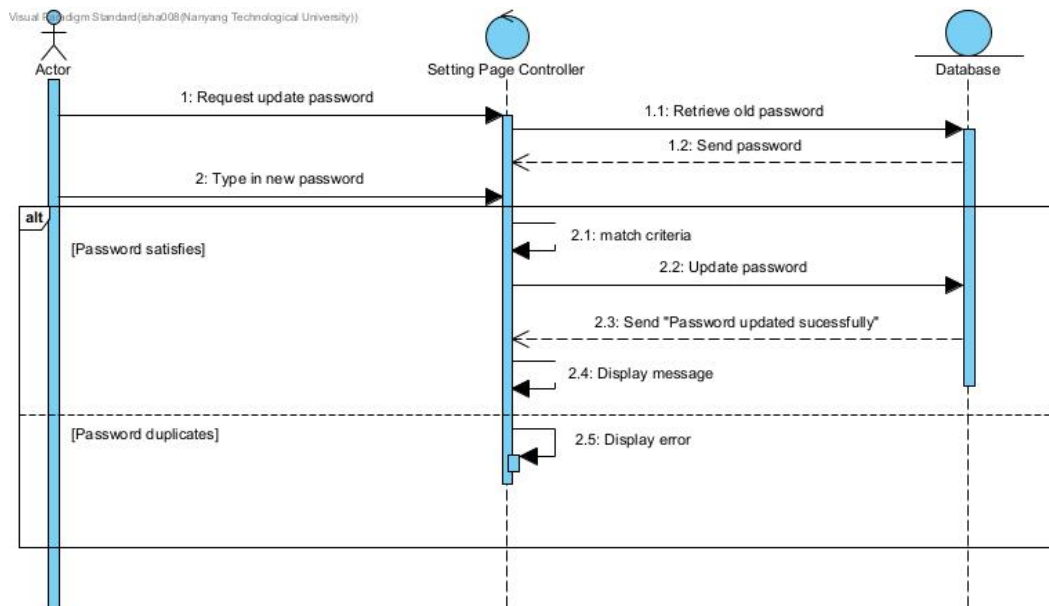
1. User Login



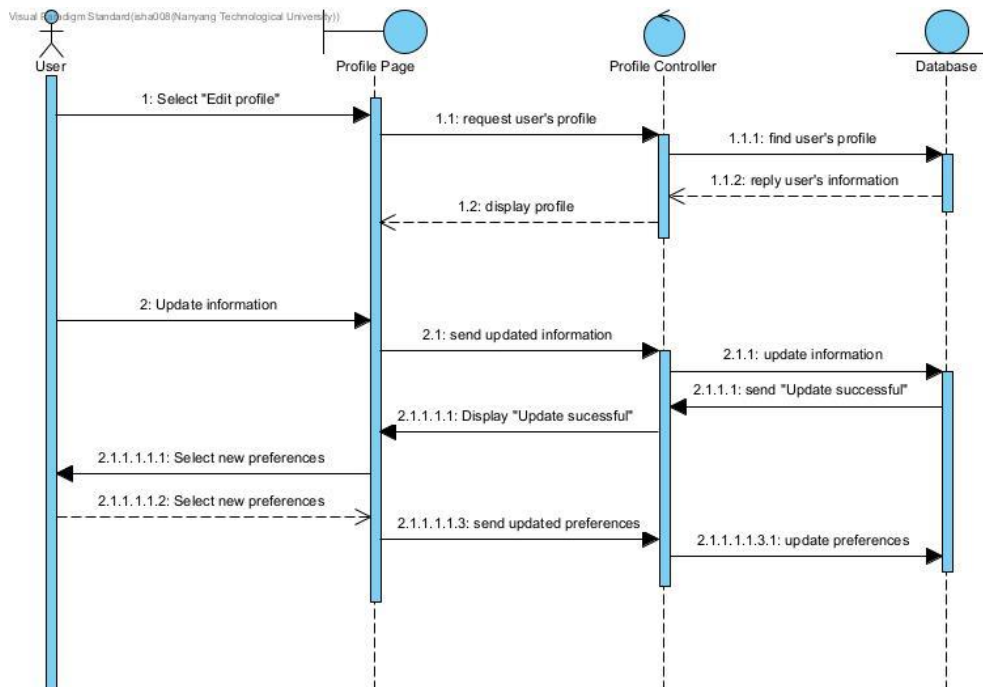
2. User Registration



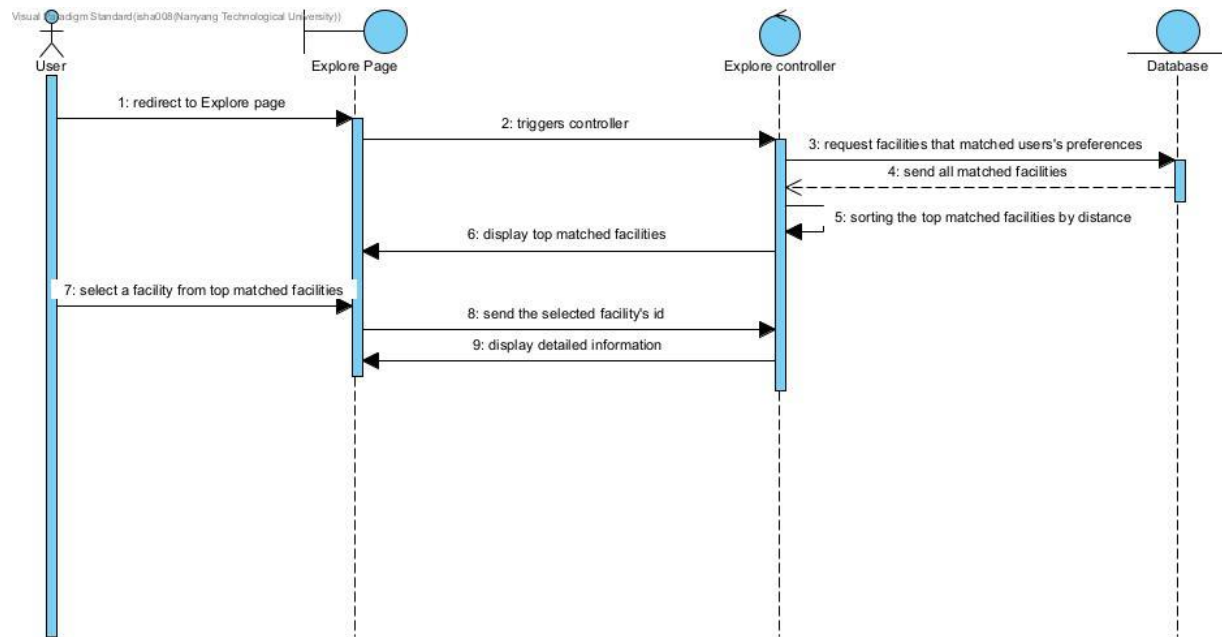
3. Change Password



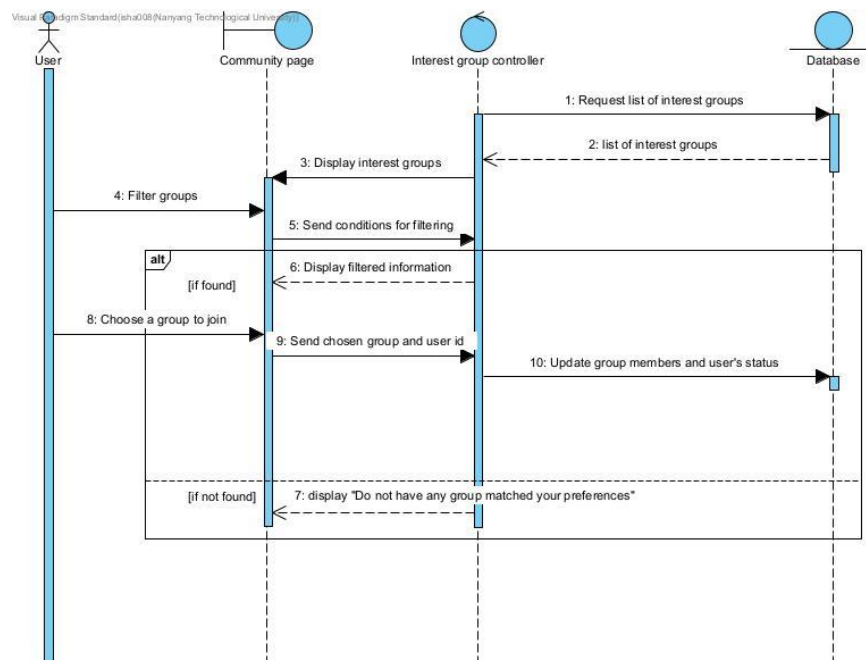
4. Manage Profile



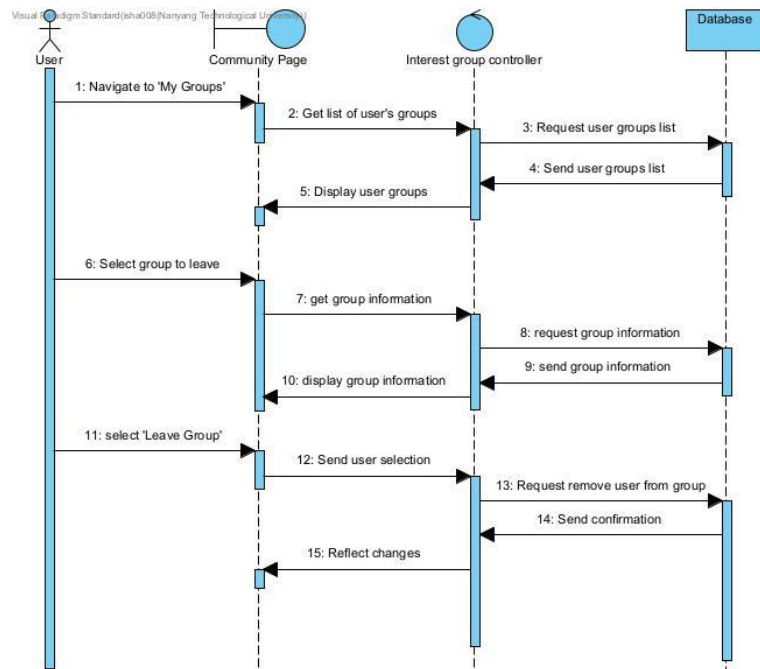
5. Explore Facility



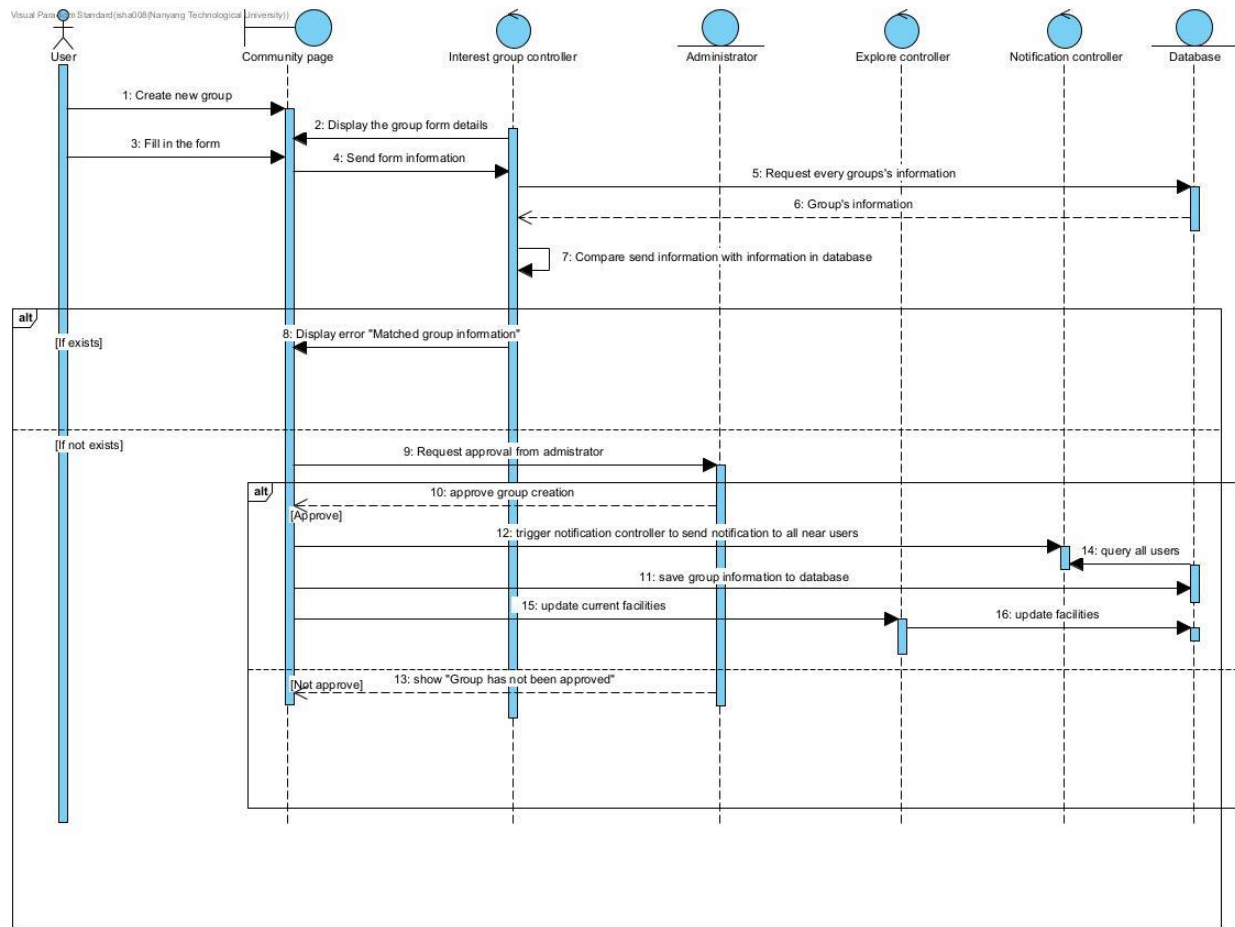
6. View and Join Interest Groups



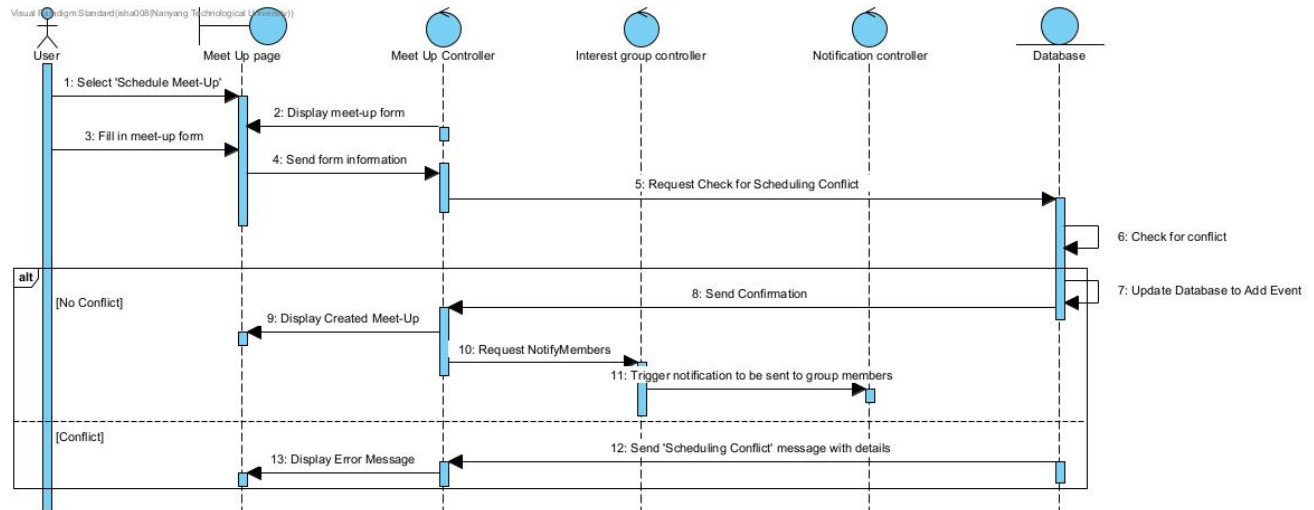
7. Leave Group



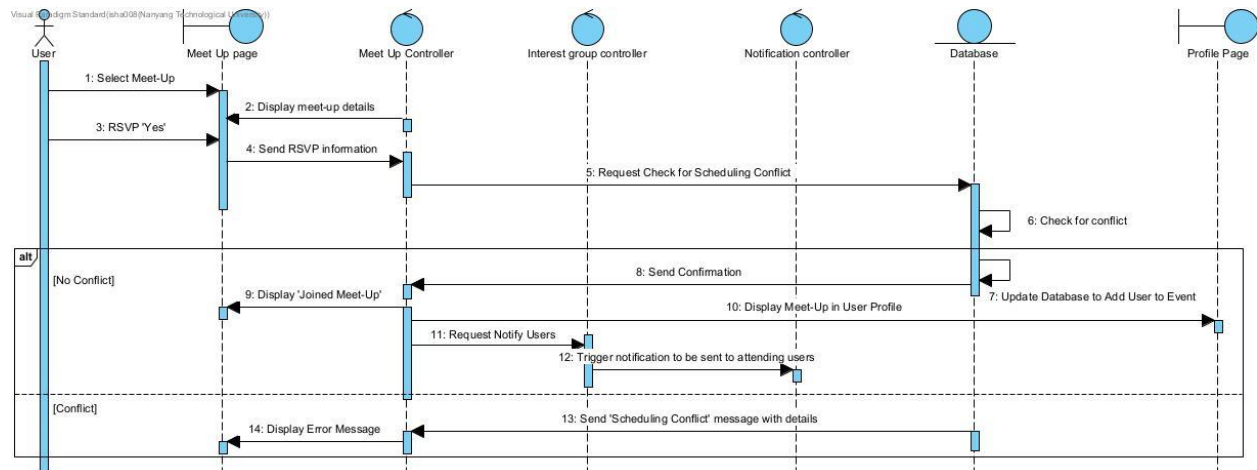
8. Create Group



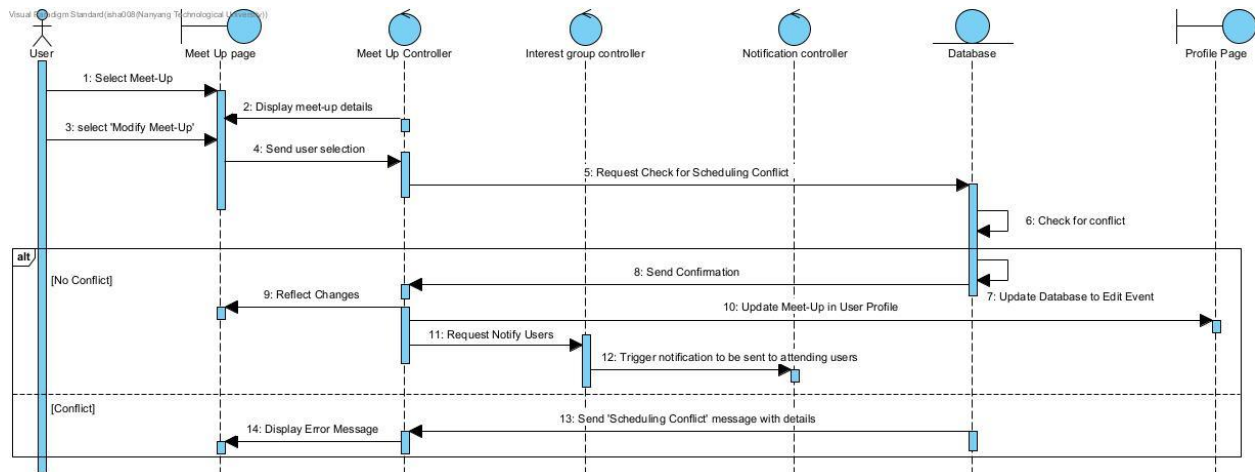
9. Create Meet up



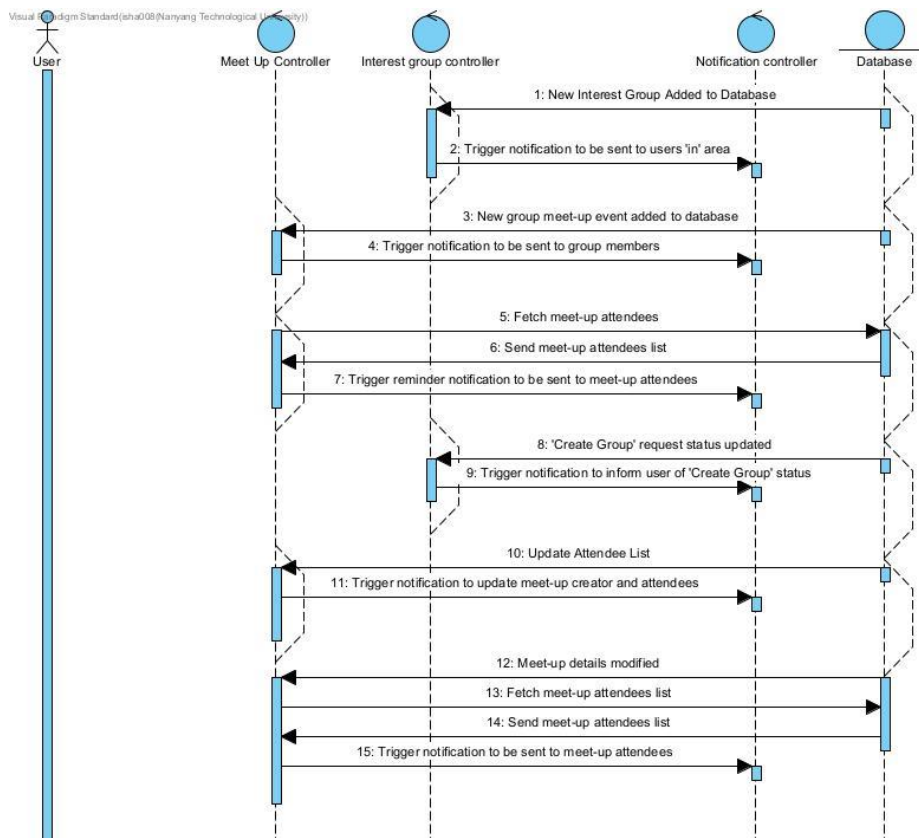
10. Join Meet up



11. Modify Meet up

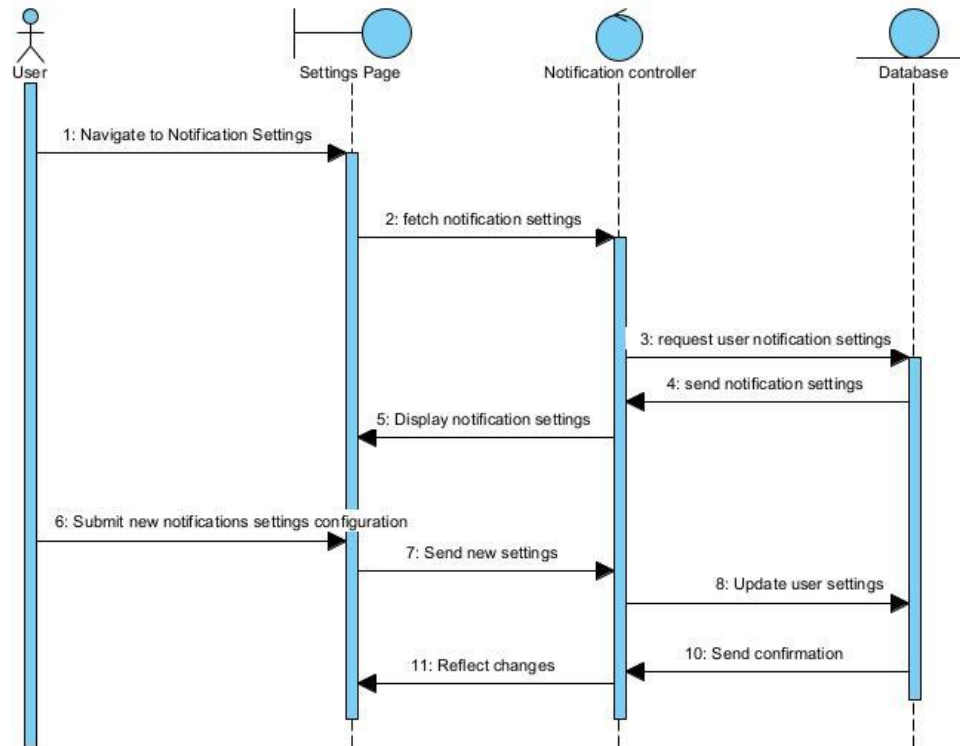


12. Receive Notifications



13. Configure Notifications

Equal Paradigm Standard (sha008@Nanyang Technological University)



(Minor Foreign Teacher at Xidian University, Shaanxi University)

