Software Requirements Specification

Social cell network

**Version 3.0 approved**

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**Revision History**

| **Name** | **Date** | **Reason For Changes** | **Version** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |

# Introduction

## Purpose

This SRS describes the design, functional and nonfunctional requirements for software release 3.0 and further development period of the Social Cell Network (SCN). This document is intended to be used by the members of the project team who will implement and verify the correct functioning of the system.

## Document Conventions

**1.2.1 Sequence number**

- General information about the components in the requirement document such as business rules, constraints, use cases, assumptions and dependencies are abbreviated by *2 capital letters - <unique number>*.

For example, BR-12: Business rule 12, CO-1: Constraint 1, AS-3: assumption 3 These identifiers are used uniquely, and discarded documents cannot be deleted and reused.

**1.2.2 Hierarchical numbering**

- Sections in the requirement document will be labels hierarchical by number: More digits indicate a more detailed, lower-level requirement.

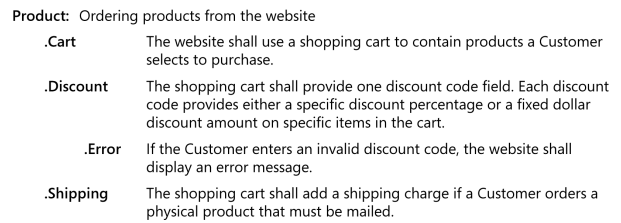
For example, section 3.2.4.3 UC-23 Create new status is a child requirement of 3.2.4.

Hierarchical numbering is combined with a short text code followed by a sequence number.

**1.2.3 Hierarchical textual tags**

- Organization hierarchical textual tags in multi-layer requirement specifications make parent-child relationships between requirements. Write the parent requirement to look like a title or a heading and the children requirements of that parent, in the aggregate, deliver the capability described in the parent

For example, this example contains a heading and four functional requirements:



## References

1.4.1 Tom Gilb, *Competitive Engineering: A Handbook For Systems Engineering, Requirements Engineering, and Software Engineering Using Planguage, January 2005*

1.4.2 Rath, Andrew. *Process Impact Internet Application User Interface Standard, Version 2.0*, www.processimpact.com/corporate/standards/PI Internet UI Standard.pdf

# Overall Description

## Product Perspective

Social Cell Network (SCN) is an application especially aimed at managing personal and family affairs. Users can add important events of themselves or their family on the calendars, find and connect to their relatives to merge family trees, post a status about memory with other family members. Application of each “social cell”- family.

## User Classes and Characteristics

| Teenager | Teenagers are potential user classes of Social Cell Network. They often have the habit of surfing social networking platforms. Share memories of yourself or with your family for other members to know. They also have a need to note important events in their studies and school activities. There are about 200 potential Teenagers in the first release due to they are still familiar with other social media. They are expected to use the SCN an average of 10 times per weak each in initial release period |
| --- | --- |
| Middle-age | Middle-aged people are also a potential user class. They have a great need to remember important events about relatives, connect with relatives and store family tree information. There are about 150 potential Middle-age people in the first release due to some are not proficient in using the application. They are expected to use the SCN an average of 6 times per weak each in initial release period |
| Admin | Admins are the people who manage information about system users and manage articles posted on the system. Only a small number of admins are needed to manage the system. |

## Operating Environment

**Operating Environment of Social Cell Network:**

**1. Hardware Platform:**

- Personal Computers: Standard personal computers used by users to access the Social Cell Network application.

**2. Operating Systems and Versions:**

- Windows: Windows 10 or later for personal computers and Windows Server 2016 or later for servers.

**3. Geographical Locations of Users, Servers, and Databases:**

- Users: In Viet Nam or other countries when product development

- Servers: Servers can be deployed at Viet Nam

- Databases: Can be deployed on local servers or on services.

**4. Other Software Components or Applications:**

- User Authentication Services: OAuth

## Design and Implementation Constraints

CO-1: Compliance with all relevant data protection and privacy regulations .

CO-2: Optimization for a wide range of devices, from low to high-end specifications.

CO-3: Compatibility with multiple operating systems, necessitating a cross-platform approach.

CO-4: Performance reliance on the user's internet connection quality.

CO-5: Use of specified development tools and programming languages that may influence the developer pool, project timeline, and cost.

CO-6: Implementation of stringent security measures to safeguard user data and ensure data privacy.

By identifying and adhering to these constraints, the project can be effectively planned and executed to meet the essential needs of users and align with strategic goals.

## Assumptions and Dependencies

### Assumptions:

* **User Authentication:** The system assumes the availability of a secure and scalable user authentication mechanism, potentially through OAuth or similar protocols, leveraging third-party authentication services (e.g., Google, Facebook login).
* **User Privacy and Data Protection:** The system presumes adherence to global data protection regulations (e.g., GDPR in Europe, CCPA in California) in its design and functionality, assuming these regulations will not undergo drastic changes in the near term.
* **Third-Party Integration:** The platform assumes the ability to integrate with third-party services for enhanced features, such as maps for location sharing, external payment systems for in-app purchases, and APIs for multimedia content (e.g., GIPHY for GIFs, Spotify for music sharing).
* **Content Moderation:** It is assumed that automated content moderation tools will be effective in identifying and managing inappropriate content, supplemented by a human moderation team as necessary.
* **Development Tools Availability:** The development team assumes access to specific development tools, frameworks, and languages throughout the project lifecycle. This includes compatibility with the latest versions and support for these technologies.

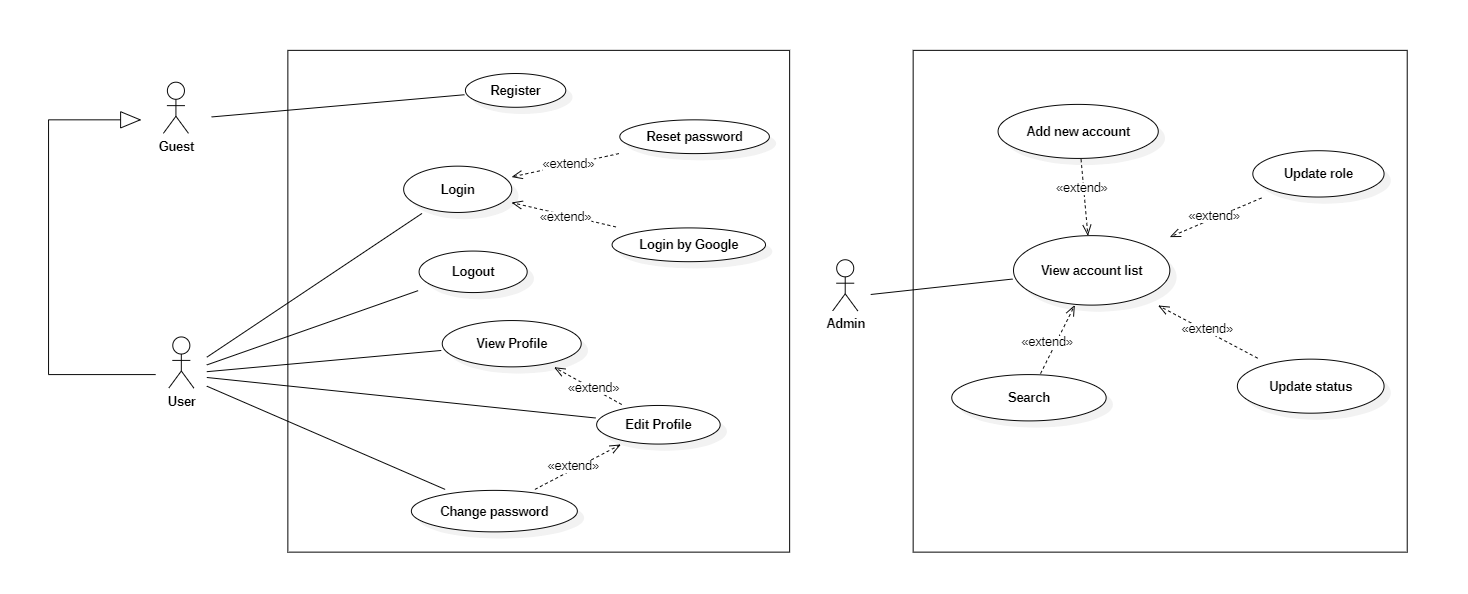
### Dependencies:

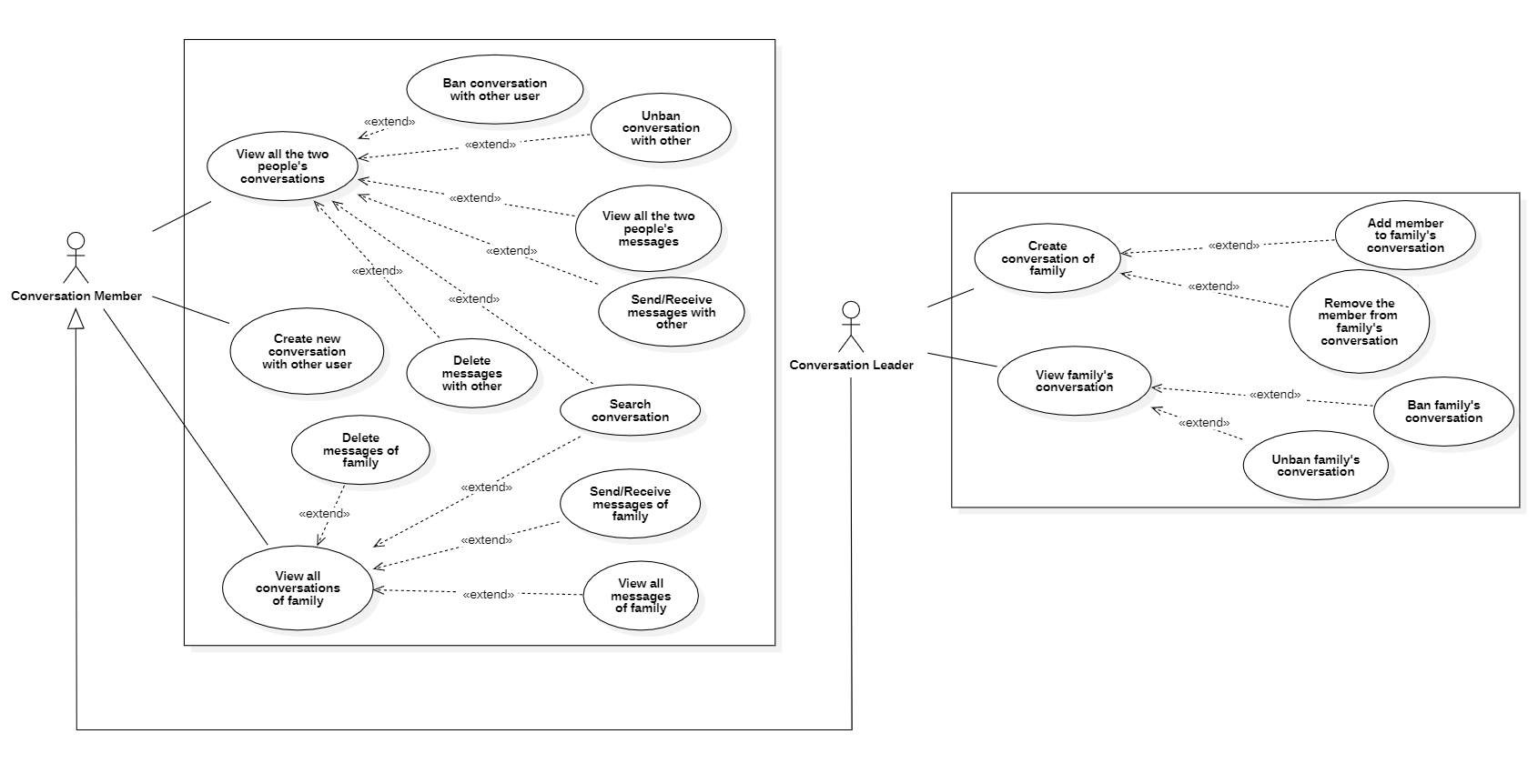
* **Cloud Services Provider:** The social networking platform's operation depends on cloud infrastructure for hosting, data storage, and computing resources. Any disruptions or changes in service terms by the provider could impact the platform's availability and cost structure.
* **Third-Party APIs:** Features such as mapping, payment processing, and multimedia content rely on third-party APIs. Changes in API availability, costs, or functionality could necessitate adjustments to the platform's features.
* **Compliance with Legal Regulations:** The platform is dependent on adhering to international, federal, and state regulations concerning privacy, data protection, and online conduct. Changes in these regulations could require significant adjustments to operations or platform functionality.
* **App Store Policies:** If the platform includes a mobile application, its distribution is dependent on adherence to the policies of app distribution platforms (Apple App Store, Google Play). Changes to these policies or the application's compliance status could affect its availability to users.
* **Internet Service Providers (ISP) and Network Infrastructure:** The platform's accessibility for end-users is contingent upon the reliability of ISPs and the broader internet infrastructure. Network disruptions or censoring by ISPs or governments could limit access to the platform.

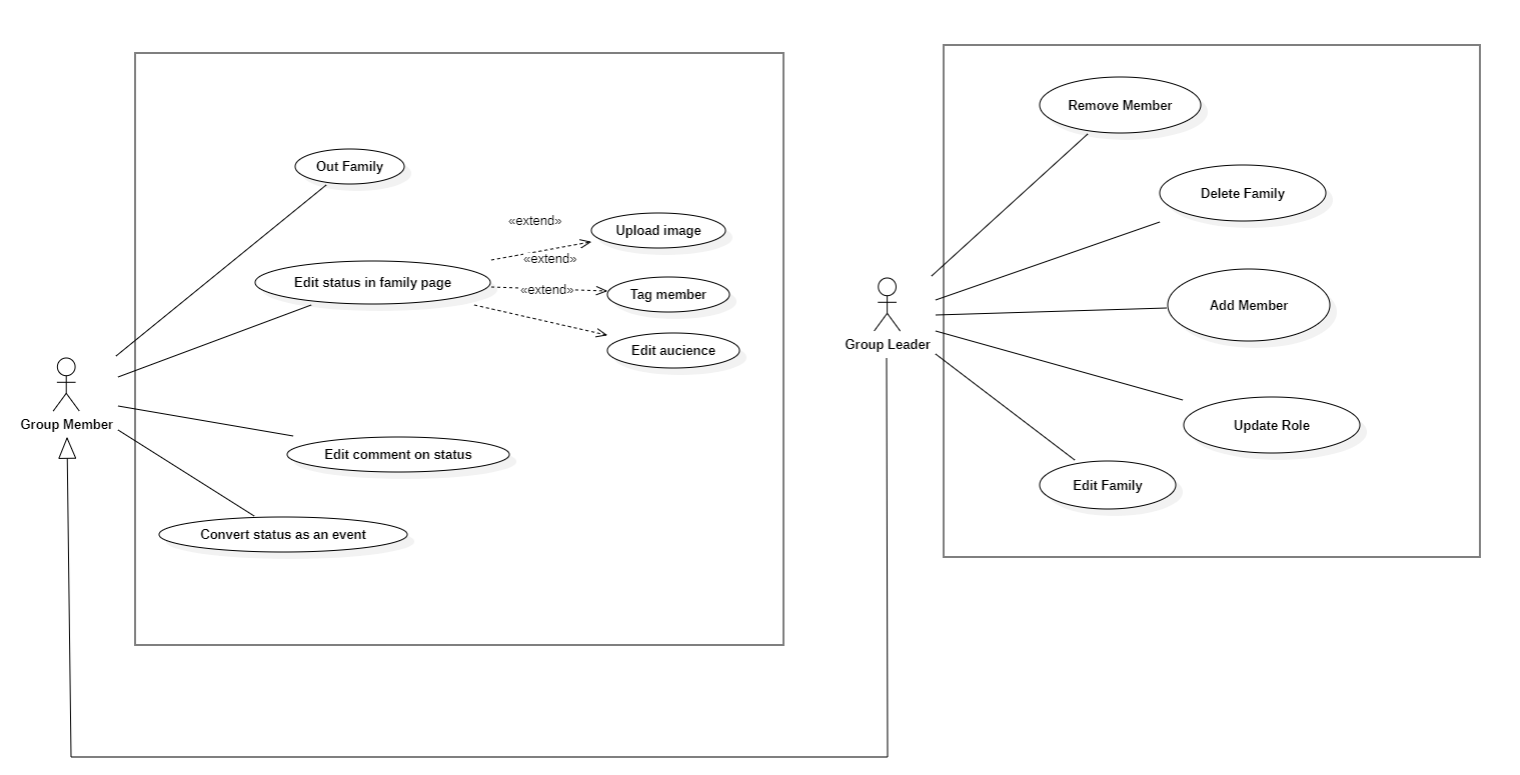
# System Features

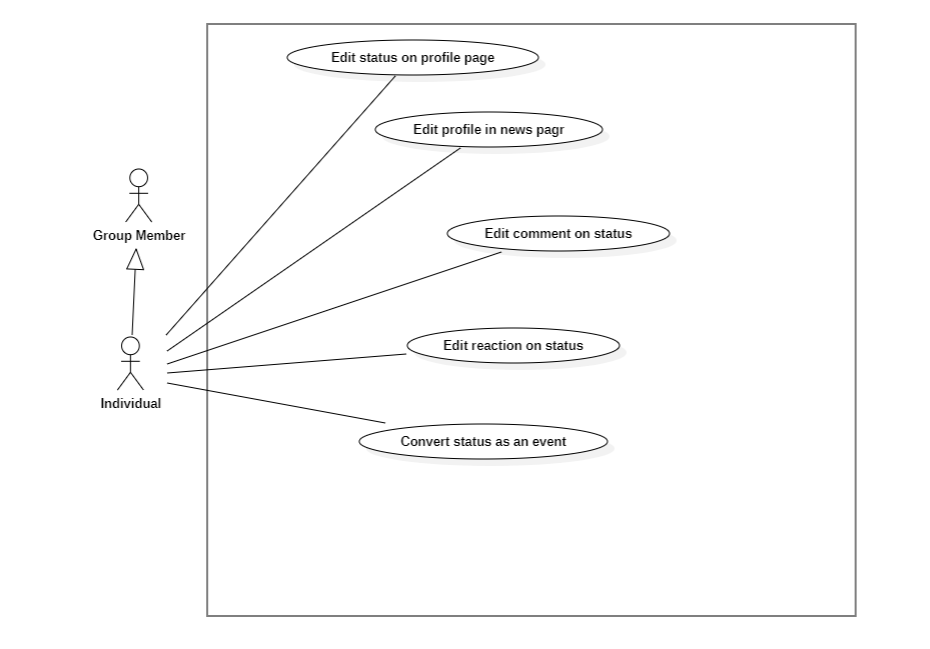
## Use case diagam

* Account management feature

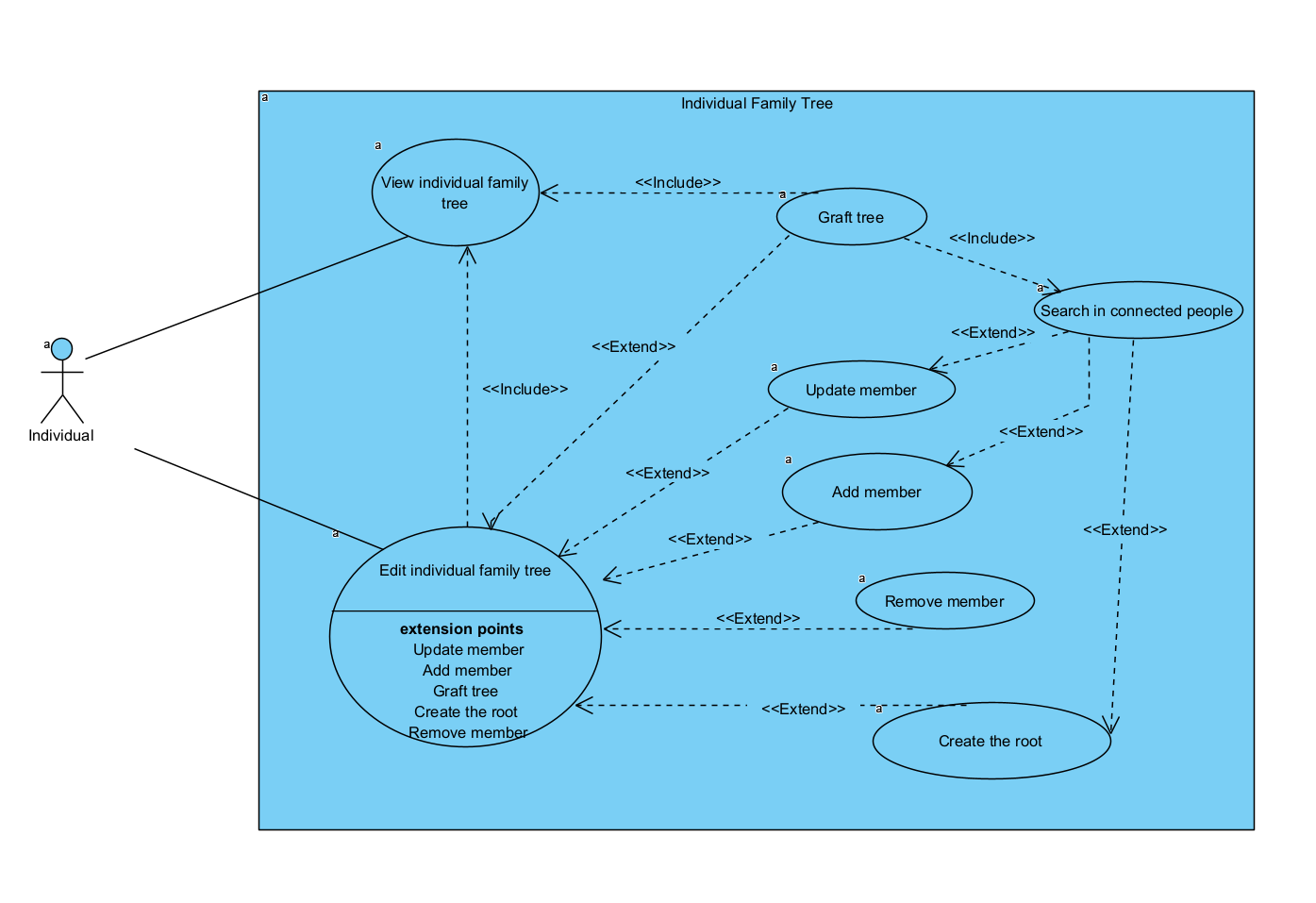


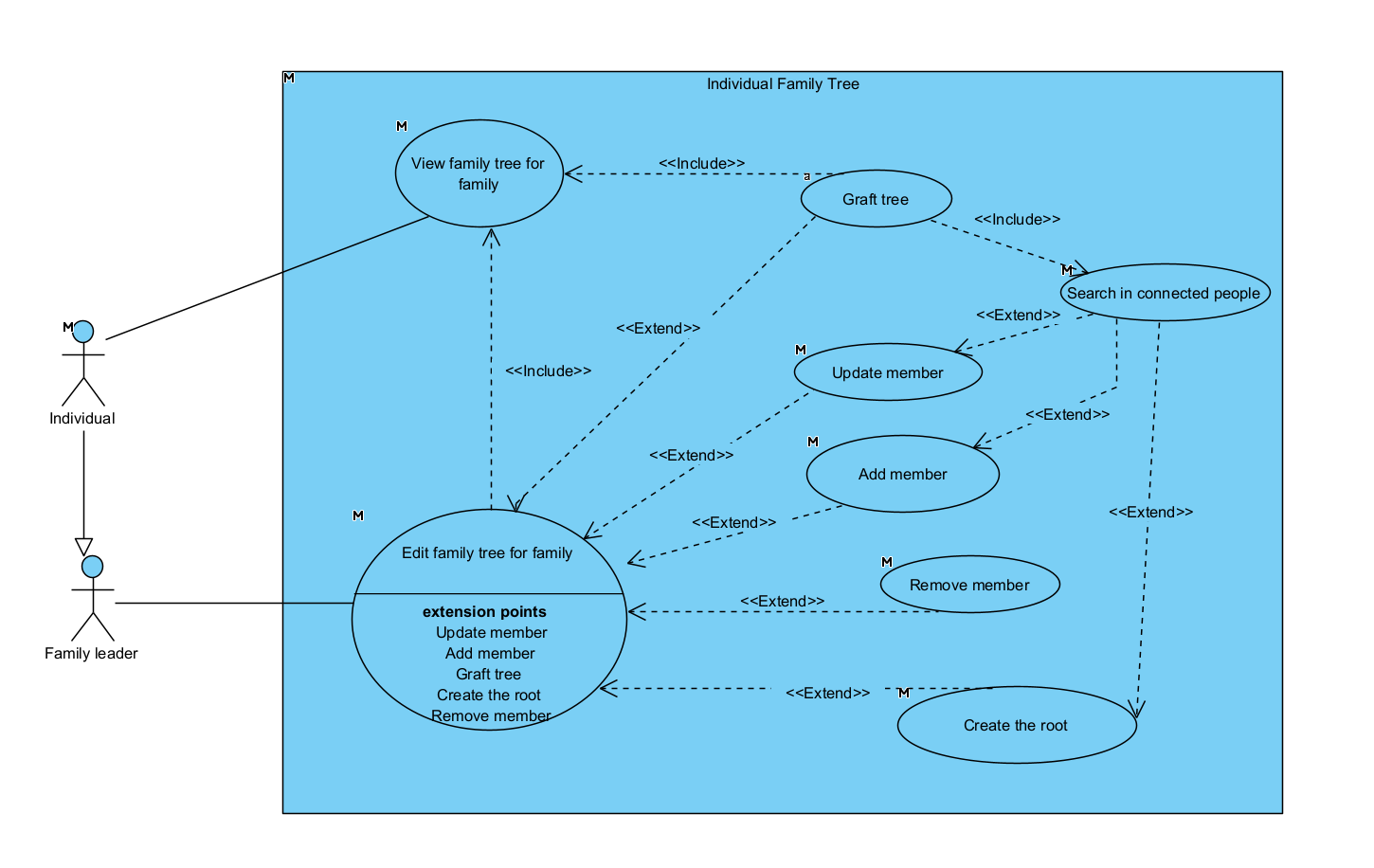
* Conversation feature
* 
* Family and status feature



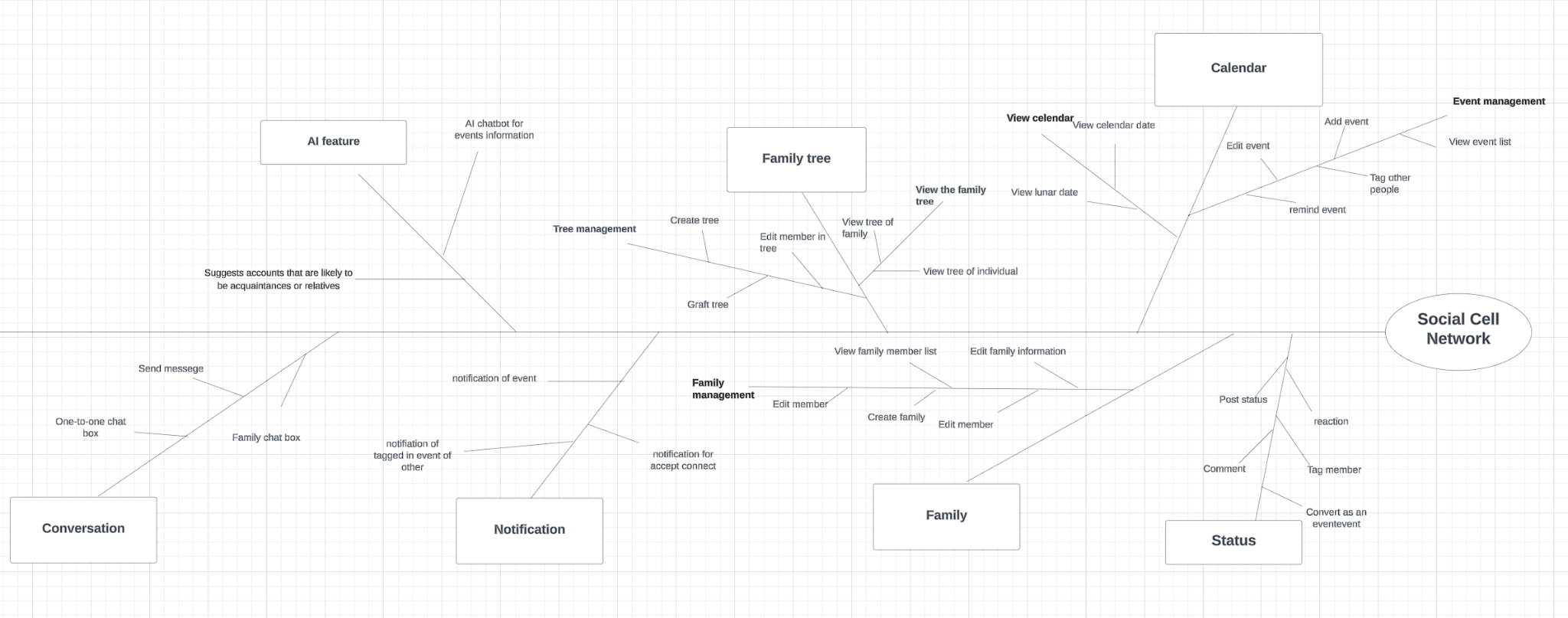


* Family tree feature





## System feature tree



## 3.1. Common Feature

### 3.1.1 UC-1 Landing Page

#### a. Functionalities

Provide the functional description for the use cases using the template/guides below

**Functional Description Template**

| UC ID and Name: | **UC-1 Landing Page** | | |
| --- | --- | --- | --- |
| Created By: | Nguyễn Quang Minh | Date Created: | 23/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | This screen triggers when a user enters the website | | |
| Description: | When the user opens the first link or after login as user, shows the homepage. | | |
| Preconditions: | PRE-1. Users enter the website | | |
| Postconditions: | POST-1. The website display calendar, family, profile, news | | |
| Normal Flow: | **1.0 View landing page**  1. Displaying the company logo and/or name  2. Providing a navigation menu to help users explore different sections of the site  3. Providing access to user account information, if applicable . | | |
| Alternative Flows: | If the user is not logged in, they cannot return to the homepage | | |
| Exceptions: | N/A | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

Provide the business rules those are applied only to the use case

| ID | Business Rule | Business Rule Description |
| --- | --- | --- |
| FR1 | Password Encoding | User’s password must be encoded with MD5 hashing |

## 3.2. Authentication

### 3.2.1 UC-2 Register an account

#### a. Functionalities

| UC ID and Name: | **UC-2\_Register an account** | | |
| --- | --- | --- | --- |
| Created By: | TungTQ | Date Created: | 10/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click a button Register | | |
| Description: | Signup for a new account | | |
| Preconditions: | PRE-1. The user username/email/phone does not register | | |
| Postconditions: | POST-1. The user has an account to login into system | | |
| Normal Flow: | **2.0 Register an account**  1. User selects the account registration function on the main screen.  2. The system displays a text box allowing the user to create an  first name, last name, username, password, phone number, email, gender.  3. User fills in the account username/email and password he wants to create.  4. User clicks “Register”.  **5. The system checks the account username/email and password with the data on the system. If it exists, go to the registration page..**  6. The system checks the email domain and username with the data on the system. If it does not exist, add the account and password to the system.  7. The system moves to his/her dashboard. | | |
| Alternative Flows: | **2.1 Register an account**  **6. The registered username/phonenumber/email matches the data on the system**  7. The system checks the username with the data on the system. If it does not exist, add the account and password to the system.  1. The system displays the message "Username already exists!".  2. User re-enters the registration.  3. Go back to step 6.  8. The system checks the email with the data on the system. If it does not exist, add the account and password to the system.  1. The system displays the message "Email already exists!".  2. User re-enters the registration.  3. Go back to step 6.  9. The system checks the phone number with the data on the system. If it does not exist, add the account and password to the system.  1. The system displays the message "Phone number already exists!".  2. User re-enters the registration.  3. Go back to step 6.  10. The system checks theusername/phonenumber/email with the data on the system. If it does not exist, add the account and password to the system.  1. The system displays the message "Username, Phone number, Email already exists!".  2. User re-enters the registration.  3. Go back to step 6. | | |
| Exceptions: | N/A | | |
| Priority: | High, Must Have | | |
| Frequency of Use: | N/A | | |
| Business Rules: | FR1, FR2 | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
| FR1 | Password Encoding | User’s password must be encoded |
| FR2 | Authenticate email or phone number | User account will not active if   * User already not authenticate |

### 

### 3.2.2 UC-3 Login to the system

#### a. Functionalities

| UC ID and Name: | **UC-3\_Login to the system** | | |
| --- | --- | --- | --- |
| Created By: | TungTQ | Date Created: | 10/01/2024 |
| Primary Actor: | All | Secondary Actors: | None |
| Trigger: | User clicks Login button | | |
| Description: | As a user, I want to be able to log into the system so that I can use the system’s authenticated features and access my personalized account. | | |
| Preconditions: | PRE-1. User account has been created & authorizfed | | |
| Postconditions: | POST-1. User logs in the system successfully | | |
| Normal Flow | **3.0 Login to the system**  1. User accesses the User Login screen  2. User clicks the Login button  4. System allows user to access  5. System tracks user’s success login to the Activity Log  6. System accesses the DashBoard | | |
| Alternative Flows: | ***3.1 Google Login***  1. User chooses to login system using Google account  2. System redirects the user to the Google’s Login screen  3. Return to step 5 of normal flow. | | |
| Exceptions: | ***3.0.E1 System can’t authenticate the user***  1. The Error Message screen is shown to the user  2. User cancels the logging in *=> UC stops, change to UC-1\_View Landing Page*  3. User clicks “Forgot Password?” link *=> change to UC-4\_Reset Password*  4. User clicks “Register” link *=> change to UC-2\_Register*  ***3.0.E2 User has been blocked***  1. The system shows the message “Account is suspended!” | | |
| Priority: | Must Have | | |
| Frequency of Use: | High | | |
| Business Rules: | FR1, FR2 | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
| FR1 | Password Encoding | User’s password must be encoded |
| FR2 | Invalid Logging In | User can’t be authenticated to login the system if below cases   * User logging-in details are incorrect * User account has not been verified * User account has been locked or blocked |

### 

### 3.2.3 UC-4 Reset password

#### a. Functionalities

| UC ID and Name: | **UC-4\_Reset password** | | |
| --- | --- | --- | --- |
| Created By: | TungTQ | Date Created: | 10/01/2024 |
| Primary Actor: | All | Secondary Actors: | None |
| Trigger: | User clicks Forgot Password link | | |
| Description: | As a user, I want to easily reset my password in case I forget it, ensuring I can regain access to my account without unnecessary delay. | | |
| Preconditions: | PRE-1. The user already has an email and the email must exist in the system | | |
| Postconditions: | POST-1. The user successfully changed the new password | | |
| Normal Flow | **4.0 Reset password**  1. User accesses the User Login screen  2. User clicks the Reset password link  4. User enter user’s email in Profile  5. User enters the correct code to change the password  6. Users can retrieve the code when clicking reset password  7. System redirects the user to the Login screen | | |
| Alternative Flows: | ***4.1. User entered an email that does not exist***  1. The system shows the message “Email does not exist!” | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | High | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.2.4 UC-5 Change password

#### a. Functionalities

| UC ID and Name: | **UC-5\_Change password** | | |
| --- | --- | --- | --- |
| Created By: | TungTQ | Date Created: | 10/01/2024 |
| Primary Actor: | All | Secondary Actors: | None |
| Trigger: | User clicks Change password link in Profile | | |
| Description: | As a user, I want to change my password to secure my information. | | |
| Preconditions: | PRE-1. The user already has an email and the email must exist in the system | | |
| Postconditions: | POST-1. The user successfully changed the new password | | |
| Normal Flow | **5.0 Change password**  1. User accesses the profile page  2. User clicks the Edit profile  3. Click “Continue” and the user has changed the new password for the system. | | |
| Alternative Flows: | **5.1 User entered wrong current password**  1. The system displays the message “Current password is incorrect!”.  2. After entering, continue the sequence. | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | High | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.2.5 UC-6 Logout

#### a. Functionalities

| UC ID and Name: | **UC-6\_Logout** | | |
| --- | --- | --- | --- |
| Created By: | TungTQ | Date Created: | 10/01/2024 |
| Primary Actor: | All | Secondary Actors: | None |
| Trigger: | When users click on the button “Logout” | | |
| Description: | This is a function which allows the user to sign out the system | | |
| Preconditions: | PRE-1. Users login successfully | | |
| Postconditions: | POST-1. Users logout of the system. | | |
| Normal Flow: | **6.0 Logout**  1. User selects "Logout”  2. User logout of the system successfully | | |
| Alternative Flows: | N/A | | |
| Exceptions: | N/A | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.2.6 UC-7 Remember login

#### a. Functionalities

| UC ID and Name: | **UC-7\_Remember login** | | |
| --- | --- | --- | --- |
| Created By: | TungTQ | Date Created: | 10/01/2024 |
| Primary Actor: | All | Secondary Actors: | None |
| Trigger: | When users click on the checkbox “Keep me logged in” | | |
| Description: | As a user, I want to remain logged into the platform even after closing the browser, reducing the need to repeatedly enter my login credentials. | | |
| Preconditions: | PRE-1. User clicks on checkbox | | |
| Postconditions: | POST-1. User saves the information successfully | | |
| Normal Flow: | **7.0 Remember login**  1. User clicks on the checkbox “Keep me logged in”. | | |
| Alternative Flows: | N/A | | |
| Exceptions: | N/A | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

#### 

## 3.3. Account Management

### 3.3.1 UC-8 View list accounts

#### a. Functionalities

| UC ID and Name: | **UC-8\_View account list** | | |
| --- | --- | --- | --- |
| Created By: | TungTQ | Date Created: | 24/01/2024 |
| Primary Actor: | Admin | Secondary Actors: | None |
| Trigger: | None | | |
| Description: | *As an admin, I want to view all accounts of the system so that I can manage all accounts.* | | |
| Preconditions: | PRE-1. User account have admin role | | |
| Postconditions: | POST-1. Show a list of all accounts in the system and their information. | | |
| Normal Flow | None | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Must Have | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.3.2 UC-9 Add new account

#### a. Functionalities

| UC ID and Name: | **UC-9\_Add new account** | | |
| --- | --- | --- | --- |
| Created By: | TungTQ | Date Created: | 24/01/2024 |
| Primary Actor: | Admin | Secondary Actors: | None |
| Trigger: | Clicks ‘*new user’* button on Account list screen | | |
| Description: | *As an admin, I want to be able to add new users so that I can add new users accounts, quickly create users without registering.* | | |
| Preconditions: | PRE-1. User account have admin role | | |
| Postconditions: | POST-1. Add a new user to the system successfully | | |
| Normal Flow | **9.0 Add new account**  1. User clicks the “new user” button.  2. The web displays a form for the admin to fill out the user's details.  3. User fills out the form and clicks the “Add” button.  4. System returns to the account list screen and a new account has been added to the system. | | |
| Alternative Flows: | **9.1. Email of a new user existing in the system or email domain isn’t appropriate.**  1. Fill other email that isn’t existed in system  2. Return to step 4 of normal flow.  **9.2. Phone numbers of new user existed in the system.**  1. Fill other phone that isn’t existed in system  2. Return to step 4 of normal flow.  **9.3. Username of new user existed in the system.** 1. Fill other phone that isn’t existed in system  2. Return to step 4 of normal flow. | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | FR1 | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
| FR1 | Password Encoding | User’s password must be encoded |

### 

### 3.3.3 UC-10 Ban account

#### a. Functionalities

| UC ID and Name: | **UC-10\_Ban user** | | |
| --- | --- | --- | --- |
| Created By: | TungTQ | Date Created: | 24/01/2024 |
| Primary Actor: | Admin | Secondary Actors: | None |
| Trigger: | Clicks “Activate/deactivated” button in Account List screen | | |
| Description: | *As an admin, I want to be able to deactivate/activate accounts so that I can block or allow any user to use the system.* | | |
| Preconditions: | PRE-1. User account have admin role | | |
| Postconditions: | POST-1. Activate/deactivated an account successfully | | |
| Normal Flow | **10.0 Activate/Deactivate user**  1. User clicks the “Active or Ban” button to activate/deactivate an account of the user.  2. The system displays a confirmation form.  3. Click the “Update” button to activate/ban an account of the user.  4. An account of user has been activated/deactivated successfully | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.3.4 UC-11 Search account

#### a. Functional Description

| UC ID and Name: | **UC-11\_Search account** | | |
| --- | --- | --- | --- |
| Created By: | TungTQ | Date Created: | 24/01/2024 |
| Primary Actor: | Admin | Secondary Actors: | None |
| Trigger: | Enter “username or email” on search of Account list | | |
| Description: | *As an admin, I want to find accounts so that I can view details of user accounts.* | | |
| Preconditions: | PRE-1. User account have admin role | | |
| Postconditions: | POST-1. Search a user successfully | | |
| Normal Flow | **11.0 Search account**  1. Users enter username or email to find user accounts.  2. The system displays user account/email data if that account/email exists, otherwise it will not be found | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.3.5 UC-12 Update role

#### a. Functionalities

| UC ID and Name: | **UC-12\_Update role** | | |
| --- | --- | --- | --- |
| Created By: | TungTQ | Date Created: | 24/01/2024 |
| Primary Actor: | Admin | Secondary Actors: | None |
| Trigger: | Clicks “Admin/User” in Account List screen | | |
| Description: | *As an admin, I want to be able to update the role of users so that I can change the role of the account.* | | |
| Preconditions: | PRE-1. User account have admin role | | |
| Postconditions: | POST-1. User to admin account successfully | | |
| Normal Flow | **12.0 Update role**  1. User clicks the “Admin/User” button to change the role of the user account.  2. The system displays a confirmation form.  3. Click the “Update” button to change the role of the user account.  4. A user account has been changed successfully | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

## 3.4. Profile Management

### 3.4.1 UC-16 View profile

#### a. Functionalities

| UC ID and Name: | **UC-16\_View profile** | | |
| --- | --- | --- | --- |
| Created By: | MinhNQ | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click “Profile” from sidebar | | |
| Description: | *As a user, I want to view my profile so that I can know more about my profile in this website.* | | |
| Preconditions: | PRE-1. Users must login in the system. | | |
| Postconditions: | POST-1. User login success. | | |
| Normal Flow | **16.0 View profile**  1. User clicks the avatar on the sidebar.  2. System will display a “profile” screen. | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 

### 3.4.2 UC-17 Update profile

#### a. Functionalities

| UC ID and Name: | **UC-17\_Update profile** | | |
| --- | --- | --- | --- |
| Created By: | MinhNQ | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click “Update” from the profile screen. | | |
| Description: | *As a user, I want to edit my profile so that I can change my avatar when I want.* | | |
| Preconditions: | PRE-1. Users must login in the system.  PRE-2. User enters the corresponding information. | | |
| Postconditions: | POST-1. User login success.  POST-2. System display “change successfully”. | | |
| Normal Flow | **17.0 Update profile**  1. User enters the corresponding information on the profile.  2. Click the button “Change” on the profile screen.  3. System will display “change successfully”. | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 

### 3.4.3 UC-18 View list of friends

#### a. Functionalities

| UC ID and Name: | **UC-18\_View list of friends** | | |
| --- | --- | --- | --- |
| Created By: | MinhNQ | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click “Profile” from sidebar | | |
| Description: | *As a user, I want to search all events in the month so that I can know all events are happening in the month* | | |
| Preconditions: | PRE-1. Users must login in the system.  PRE-2. Users must be in a family. | | |
| Postconditions: | POST-1. User login success.  POST-2 Family calendar screen show. | | |
| Normal Flow | **30.0 View family event on calendar**  1. User clicks title of event in family calendar  2. System will display information of family event on day | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

#### 

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Added to family | The family calendar can only be viewed once it has been added to the family |

### 

### 3.4.4 UC-19 View list of joined families

#### a. Functionalities

| UC ID and Name: | **UC-30\_View family event on day** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click title of event in family event | | |
| Description: | *As a user, I want to search all events in the month so that I can know all events are happening in the month* | | |
| Preconditions: | PRE-1. Users must login in the system.  PRE-2. Users must be in a family. | | |
| Postconditions: | POST-1. User login success.  POST-2 Family calendar screen show. | | |
| Normal Flow | **30.0 View family event on calendar**  1. User clicks title of event in family calendar  2. System will display information of family event on day | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

#### 

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Added to family | The family calendar can only be viewed once it has been added to the family |

### 

## 3.5. Calendar Operation

### 3.5.1 UC-20 View individual calendar screens

#### a. Functionalities

| UC ID and Name: | **UC-20\_View individual calendar screens** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | None | | |
| Description: | *As a user, I want to see the calendar so that I can know about events, meetings, and my daily activities.* | | |
| Preconditions: | PRE-1. User account must login in the system. | | |
| Postconditions: | POST-1. User login success. | | |
| Normal Flow | None | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Must have | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.5.2 UC-21 View individual events on day

#### a. Functionalities

| UC ID and Name: | **UC-21\_View individual event on day** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click title of event in calendar | | |
| Description: | *As a user, I want to view events on day in the calendar so that I can know details about events, meetings, and my daily activities.* | | |
| Preconditions: | PRE-1. User account must login in the system. | | |
| Postconditions: | POST-1. User login success. | | |
| Normal Flow | **21.0 View individual events on day**  1. User clicks title of event in calendar  2. System will display information of event on day | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.5.3 UC-22 Create individual event

#### a. Functionalities

| UC ID and Name: | **UC-22\_Create individual event** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click “AddEvent” button on calendar | | |
| Description: | *As a user, I want to add events in the calendar so that I can remember events, meetings, and my daily activities.* | | |
| Preconditions: | PRE-1. User account must login in the system. | | |
| Postconditions: | POST-1. User login success. | | |
| Normal Flow | **22.0 Create individual event**  1. Click the “AddEvent” button on the pop-up dialog.  2. The system displays a confirmation form.  3. A new event has been added to the system. | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.5.4 UC-23 Update individual event

#### a. Functionalities

| UC ID and Name: | **UC-23\_Update individual event** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click title of event in family calendar then click “Update” button | | |
| Description: | *As a user, I want to add events in the calendar so that I can change information such as time, date, place, description about events, and my daily activities.* | | |
| Preconditions: | PRE-1. User account must login in the system. | | |
| Postconditions: | POST-1. User login success. | | |
| Normal Flow | **23.0 Update individual event**  1. User click title of event in calendar.  2. User change the event.  3. Click the “Save” button.  4. The system displays a confirmation form.  5. A update event has been updated successfully | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.5.5 UC-24 Remove individual event

#### a. Functionalities

| UC ID and Name: | **UC-24\_Remove individual event** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click title of event in family calendar then click “Trash” icon | | |
| Description: | *As a user, I want to remove events in the calendar so that I can remove unnecessary events from my events.* | | |
| Preconditions: | PRE-1. User account must login in the system. | | |
| Postconditions: | POST-1. User login success. | | |
| Normal Flow | **24.0 Remove individual event**  1. User click title of event in calendar.  2. User clicks the “Trash” icon on top of this.  3. The system displays a confirmation form.  4. A individual event has been removed successfully | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.5.6 UC-25 Filter individual event on month

#### a. Functionalities

| UC ID and Name: | **UC-25\_Filter individual event on month** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click “My Event” in calendar header | | |
| Description: | *As a user, I want to filter my events in the month so that I can know what events are happening and upcoming on month* | | |
| Preconditions: | PRE-1. User account must login in the system. | | |
| Postconditions: | POST-1. User login success. | | |
| Normal Flow | **25.0 Filter individual event on month**  1. User clicks the “My event” on the calendar header  2. System will filter individual event of user on month | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.5.7 UC-26 Filter all events on month

#### a. Functionalities

| UC ID and Name: | **UC-26\_Filter all event on month** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click “All Event” in calendar header | | |
| Description: | *As a user, I want to filter all events in the month so that I can know all events are happening and upcoming in this month* | | |
| Preconditions: | PRE-1. User account must login in the system. | | |
| Postconditions: | POST-1. User login success. | | |
| Normal Flow | **26.0 Filter all event on month**  1. User clicks the “All event” on the calendar header  2. System will filter individual event of user on month | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.5.8 UC-27 View coming up all events

#### a. Functionalities

| UC ID and Name: | **UC-27\_View coming up all event** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click “Comingup” on calendar | | |
| Description: | *As a user, I want to view coming up all events so that I can know upcoming events in my calendar* | | |
| Preconditions: | PRE-1. User account must login in the system. | | |
| Postconditions: | POST-1. User login success. | | |
| Normal Flow | **27.0 View coming up all event**  1. User clicks the “Comingup” on the calendar  2. System will show coming up event of user | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.5.9 UC-28 View family calendar screens

#### a. Functionalities

| UC ID and Name: | **UC-28\_View family calendar screens** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click “Calendar” from sidebar of family page | | |
| Description: | *As a user, I want to view calendar in family so that I can know all events of family* | | |
| Preconditions: | PRE-1. Users must login in the system.  PRE-2. Users must be in a family. | | |
| Postconditions: | POST-1. User login success.  POST-2 Family calendar screen show. | | |
| Normal Flow | None | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Must have | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Added to family | The family calendar can only be viewed once it has been added to the family |

### 

### 3.5.10 UC-29 View family events on calendar

#### a. Functionalities

| UC ID and Name: | **UC-29\_View family event on calendar** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click title of event on calendar | | |
| Description: | *As a user, I want to view calendar in family so that I can know all events of family are happening and upcoming* | | |
| Preconditions: | PRE-1. Users must login in the system.  PRE-2. Users must be in a family. | | |
| Postconditions: | POST-1. User login success.  POST-2 Family calendar screen show. | | |
| Normal Flow | **29.0 View family event on calendar**  1. User clicks title of event in family calendar  2. System will display information of family event | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

#### 

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Added to family | The family calendar can only be viewed once it has been added to the family |

### 3.5.13 UC-30 View family events on day

#### a. Functionalities

| UC ID and Name: | **UC-30\_View family event on day** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click title of event in family event | | |
| Description: | *As a user, I want to search all events in the month so that I can know all events are happening in the month* | | |
| Preconditions: | PRE-1. Users must login in the system.  PRE-2. Users must be in a family. | | |
| Postconditions: | POST-1. User login success.  POST-2 Family calendar screen show. | | |
| Normal Flow | **30.0 View family event on calendar**  1. User clicks title of event in family calendar  2. System will display information of family event on day | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

#### 

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Added to family | The family calendar can only be viewed once it has been added to the family |

### 

### 3.5.14 UC-31 Create family event

#### a. Functionalities

| UC ID and Name: | **UC-31\_Create family event** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click “AddEvent” button from sidebar | | |
| Description: | *As a user, I want to add events in the calendar so that I can remember events, meetings, and my family group daily activities.* | | |
| Preconditions: | PRE-1. Users must login in the system.  PRE-2. Users must be in a family. | | |
| Postconditions: | POST-1. User login success.  POST-2 Family calendar screen show. | | |
| Normal Flow | **31.0 Create family event**  1. Click “AddEvent” button form sidebar  2. The system displays a confirmation form on a pop-up dialog.  3. A new event has been added to the system | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

#### 

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Added to family | The family calendar can only be viewed once it has been added to the family |

### 

### 3.5.15 UC-32 Update family event

#### a. Functionalities

| UC ID and Name: | **UC-32\_Update family event** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click title of event in family calendar then click “Save” button | | |
| Description: | *As a user, I want to add events in the calendar so that I can change information such as time, date, place, description about events, meetings, and my family group daily activities.* | | |
| Preconditions: | PRE-1. Users must login in the system.  PRE-2. Users must be in a family. | | |
| Postconditions: | POST-1. User login success.  POST-2 Family calendar screen show. | | |
| Normal Flow | **32.0 Update family event**  1. User click title of event in calendar.  2. User clicks the “Update” button at the bottom of this.  3. The system displays a confirmation form.  4. Click the “Update” button.  5. A update event has been updated successfully | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

#### 

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Added to family | The family calendar can only be viewed once it has been added to the family |

### 3.5.16 UC-33 Remove family event

#### a. Functionalities

| UC ID and Name: | **UC-33\_Remove family event** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click title of event in family calendar then click “Trash” icon | | |
| Description: | *As a user, I want to remove events in the calendar so that I can remove unnecessary events from my family group events.* | | |
| Preconditions: | PRE-1. Users must login in the system.  PRE-2. Users must be in a family. | | |
| Postconditions: | POST-1. User login success.  POST-2 Family calendar screen show. | | |
| Normal Flow | **33.0 Remove family event**  1. User click title of event in family calendar.  2. User clicks the “Trash” icon on top of this.  3. A family event has been removed successfully | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Added to family | The family calendar can only be viewed once it has been added to the family |

### 3.5.17 UC-34 Filter family event on month

#### a. Functionalities

| UC ID and Name: | **UC-34\_Filter family event on month** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Fill month, year on card calendar | | |
| Description: | *As a user, I want to filter family events in the family calendar so that I can know what family events are happening and upcoming on month* | | |
| Preconditions: | PRE-1. Users must login in the system.  PRE-2. Users must be in a family. | | |
| Postconditions: | POST-1. User login success.  POST-2 Family calendar screen show. | | |
| Normal Flow | **34.0 Filter family event on month**  1. User clicks the “family event” on the family calendar header  2. System will filter family event of user on month | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Added to family | The family calendar can only be viewed once it has been added to the family |

### 3.5.18 UC-35 View coming up family events

#### a. Functionalities

| UC ID and Name: | **UC-35\_View coming up family events** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click “Comingup” on family calendar | | |
| Description: | *As a user, I want to view coming up family events so that I can know upcoming events of family group* | | |
| Preconditions: | PRE-1. Users must login in the system.  PRE-2. Users must be in a family. | | |
| Postconditions: | POST-1. User login success.  POST-2 Family calendar screen show. | | |
| Normal Flow | **34.0 View coming up family events**  1. User clicks the “Comingup” on the family calendar  2. System will show coming up event of family calendar | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Added to family | The family calendar can only be viewed once it has been added to the family |

### 

### 3.5.19 UC-36 View remind event

#### a. Functionalities

| UC ID and Name: | **UC-36\_View remind event** | | |
| --- | --- | --- | --- |
| Created By: | PhongPH | Date Created: | 11/01/2024 |
| Primary Actor: | User | Secondary Actors: | None |
| Trigger: | Click “Notification” button on home page | | |
| Description: | *As a user, I want to view remind event so that I can know upcoming events of remind event* | | |
| Preconditions: | PRE-1. Users must login in the system. | | |
| Postconditions: | POST-1. User login success. | | |
| Normal Flow | **34.0 View remind event**  1. User clicks the “Notification” button on home page  2. User click “remind event”  2. System will show remind event | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  |  |  |

### 

## 3.6. Conversation Management, Conversation Operation

### 3.6.1 UC-39\_Create conversation for two people

#### a. Functional Description

| ID and Name: | **UC-39\_Create conversation for two people** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Quang Minh | Date Created: | 07/02/2024 |
| Primary Actor: | All users | Secondary Actors: | None |
| Description: | As a user, I want to create a conversation so that I can message other people. | | |
| Trigger: | Click “Connect” button from listfriend screen.  Click “Chat” button from listfriend screen. | | |
| Preconditions: | PRE-1. User must be logged into the system.  PRE-2. User must find other users to message. | | |
| Postconditions: | POST-1. Conversation created successfully.  POST-2. Show Conversation Room. | | |
| Normal Flow: | **39.0.1 Create conversation for two people**  1. Users click the “Chat” button in the “listfriend” screen.  2. The System will check if you haven’t had a conversation with this user, then create a new conversation and send a message.  3. Navigate to the conversation room.  **39.0.2 Create conversation for two people**  1. Users click the “Connect” button in the “listfriend” screen.  2. The System will check if you haven’t had a conversation with this user, then create a new conversation. | | |
| Alternative Flows: | **39.1.1 A conversation between two people already exists**  1. The system will not create a new conversation.  2. Navigate to the conversation room.  **39.1.2 A conversation between two people already exists**  1. The system will not create a new conversation. | | |
| Exceptions: | E1: User attempts to chat with a member without connecting. | | |
| Priority: | Must have | | |
| Frequency of Use: | High | | |
| Business Rules: | None | | |
| Other Information: | None | | |
| Assumptions: | None | | |

#### b. Business Rules

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Connect to chat | Once connected, we can chat with each other |

### 3.6.2 UC-40\_View all the two people's conversations

#### a. Functional Description

| ID and Name: | **UC-40\_View all the two people's conversations** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Quang Minh | Date Created: | 07/02/2024 |
| Primary Actor: | All users | Secondary Actors: | None |
| Description: | As a user, I want to see all conversations so that I can choose a conversation room to message others. | | |
| Trigger: | Click the “Message” icon on the header or sidebar. | | |
| Preconditions: | PRE-1. User must be logged into the system. | | |
| Postconditions: | POST-1. All two people’s conversations display successfully. | | |
| Normal Flow: | **40.0 View all the two people's conversations**  1. User click “Message” icon on header or sidebar  2. The system displays the two people's entire conversation along with the sender's latest message and the specific time. | | |
| Alternative Flows: | **40.1 View all the two people's conversations**  1. The system displays “two people’s conversation room not found!” | | |
| Exceptions: | None | | |
| Priority: | Must have | | |
| Frequency of Use: | High | | |
| Business Rules: | None | | |
| Other Information: | None | | |
| Assumptions: | None | | |

#### b. Business Rules

None

### 3.6.3 UC-41\_View all the two people's messages

#### a. Functional Description

| ID and Name: | **UC-41\_View all the two people's messages** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Quang Minh | Date Created: | 07/02/2024 |
| Primary Actor: | All users | Secondary Actors: | None |
| Description: | As a user, I want to see all the messages of the two people’s conversation room so I can remember what I've sent in the past to the other users. | | |
| Trigger: | Click on the conversation you want to view messages. | | |
| Preconditions: | PRE-1. User must be logged into the system.  PRE-2. User must join or create the two people’s conversation first. | | |
| Postconditions: | POST-1. View all messages of two people’s conversation. | | |
| Normal Flow: | **41.0 View all the two people's messages**  1. User login to the SCN.  2. User find and choose the two people’s conversation.  3. The system lists all messages of this conversation including who sent them and when. | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | None | | |
| Assumptions: | None | | |

#### b. Business Rules

None

### 3.6.4 UC-42\_Send/Receive/Delete message with other user

#### a. Functional Description

| ID and Name: | **UC-42\_Send/Receive/Delete message with other user** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Quang Minh | Date Created: | 07/02/2024 |
| Primary Actor: | All users | Secondary Actors: | None |
| Description: | As a user, I want to send, receive and delete messages from two people’s conversation so that I can interact and chat with others conveniently. | | |
| Trigger: | Click the “Send” icon in the bottom of the conversation room.  Click the “Delete” icon next to the message. | | |
| Preconditions: | PRE-1. User must be logged into the system.  PRE-2. Type a message and send.  PRE-3. Point to the message and click “delete” icon. | | |
| Postconditions: | POST-1. Messages sent successfully.  POST-2. Messages delete successfully. | | |
| Normal Flow: | **42.0.0 Send/Receive message with other user**  1. User login to the SCN.  2. User choose conversation to send/receive messages.  3. Messages will automatically receive, send when the user types and click the “send” button.  **42.0. Delete your message in a two people's conversation.**  1. User login to the SCN.  2. User choose the messages they want to delete from the two people's conversation.  3. The message has been deleted and display “Mesage has been deleted”. | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Must have | | |
| Frequency of Use: | High | | |
| Business Rules: | None | | |
| Other Information: | None | | |
| Assumptions: | None | | |

#### b. Business Rules

None

### 3.6.5 UC-43\_Ban/Unban conversation with other user

#### a. Functional Description

|  |  | | |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  | | |
|  |  | | |
|  |  | | |
| Postconditions: | POST-1. Conversation ban successfully and no need to receive messages from others. | | |
| Normal Flow: | **43.0 Ban conversation with other user**  1. User login to the SCN.  2. User find the two people’s conversation.  3. User click the “Ban” button and users will be redirected to the general conversation page.  **43.0 Unban conversation with other user**  1. User login to the SCN.  2. User find the two people’s conversation that you have banned.  3. User click the “Unban” button. | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | None | | |
| Assumptions: | None | | |

#### b. Business Rules

None

### 3.6.6 UC-44\_Create conversation of family

#### a. Functional Description

| ID and Name: | **UC-44\_Create conversation of family** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Quang Minh | Date Created: | 07/02/2024 |
| Primary Actor: | Individual, Conversation Leader, Family Leader | Secondary Actors: | None |
| Description: | As a family leader, I want to create a conversation so that everyone in my family can message each other. | | |
| Trigger: | Click “Create” from “family create” pop-up. | | |
| Preconditions: | PRE-1. User must be logged into the system.  PRE-2. User must create a family first. | | |
| Postconditions: | POST-1. Conversation create successfully.  POST-2. Anyone added to the family will be automatically added to the family and vice versa. | | |
| Normal Flow: | **44.0 Create conversation of family**  1. User login to the SCN.  2. User create a family.  3. Family conversation and automatic message from admin with content “Hello everyone” are created.  4. Family conversation appears on the box chat screen. | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | None | | |
| Assumptions: | None | | |

#### b. Business Rules

None

### 3.6.7 UC-45\_View all conversations of family

#### a. Functional Description

| ID and Name: | **UC-45\_View all conversations of family** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Quang Minh | Date Created: | 07/02/2024 |
| Primary Actor: | All users | Secondary Actors: | None |
| Description: | As a user, I want to see all family conversations to choose a conversation room to message others. | | |
| Trigger: | Click the “Message” icon on the header or sidebar. | | |
| Preconditions: | PRE-1. User must be logged into the system.  PRE-2. User must create family conversation first. | | |
| Postconditions: | POST-1. System display all family’s conversation. | | |
| Normal Flow: | **45.0 View all the conversations of family**  1. User click the “Message” icon on the header or sidebar.  2. The system displays the entire family’s conversation along with the sender's latest message and the specific time. | | |
| Alternative Flows: | **45.0 No conversations of family to view**  1. User click “Message” icon on header or sidebar  2. The system displays “family’s conversation room not found!” | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | None | | |
| Assumptions: | None | | |

#### b. Business Rules

#### 

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | View to family’s conversation | The family conversation can only be viewed once it has been added to the family |

### 

### 3.6.8 UC-46\_View all messages of family

#### a. Functional Description

| ID and Name: | **UC-46\_View all messages of family** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Quang Minh | Date Created: | 07/02/2024 |
| Primary Actor: | All users | Secondary Actors: | None |
| Description: | As a user, I want to see all the messages of the family’s conversation room so I can see what the other members have sent in the past. | | |
| Trigger: | Click on the conversation you want to view messages. | | |
| Preconditions: | PRE-1. User must be logged into the system.  PRE-2. User has participated in the family conversation | | |
| Postconditions: | POST-1. User go to family’s conversation and view all messages. | | |
| Normal Flow: | **46.0 View all messages of family**  1. User login to the SCN.  2. User find and choose the family’s conversation.  3. The system lists all messages of this conversation including who sent them and when. | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | None | | |
| Assumptions: | None | | |

#### b. Business Rules

#### 

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | View to family’s conversation | The family conversation can only be viewed once it has been added to the family |

### 

### 3.6.9 UC-47\_Send/Receive/Delete messages of family

#### a. Functional Description

| ID and Name: | **UC-47\_Send/Receive/Delete messages of family** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Quang Minh | Date Created: | 07/02/2024 |
| Primary Actor: | All users | Secondary Actors: | None |
| Description: | As a user, I want to send, receive and delete messages from family’s conversation so that I can interact and chat with others member conveniently. | | |
| Trigger: | Click the “Send” icon in the bottom of the conversation room.  Click the “Delete” icon next to the message. | | |
| Preconditions: | PRE-1. User must be logged into the system.  PRE-2. Type a message and send.  PRE-3. Point to the message and click “delete” icon. | | |
| Postconditions: | POST-1. Messages sent successfully.  POST-2. Messages delete successfully. | | |
| Normal Flow: | **47.0.0 Send/Receive message with other user**  1. User login to the SCN.  2. User choose family’s conversation to send/receive messages.  3. Messages will automatically receive, send when the user types and click the “send” button.  **46.0.1 Delete your message in a two people's conversation.**  1. User login to the SCN.  2. User choose the messages they want to delete from the two people's conversation.  3. The message has been deleted and display “Mesage has been deleted”. | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | None | | |
| Assumptions: | None | | |

#### b. Business Rules

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | View to family’s conversation | The family conversation can only be viewed once it has been added to the family |

### 3.6.10 UC-48\_Ban/Unban conversation of family

#### a. Functional Description

| ID and Name: | **UC-48\_Ban/Unban conversation of family** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Quang Minh | Date Created: | 07/02/2024 |
| Primary Actor: | Individual, Conversation Leader, Family Leader | Secondary Actors: | None |
| Description: | As a family leader, I want to delete the chat so that I can remove everyone from the conversation.  . | | |
| Trigger: | Click the “Ban” icon on the pop-up of the chosen conversation(3 dots in the upper right corner of the screen). | | |
| Preconditions: | PRE-1. User must be logged into the system with the.  PRE-2. User must join or create the two people’s conversation first.  PRE-3. User has the admin role. | | |
| Postconditions: | POST-1. Conversation ban successfully and no need to receive messages from others. | | |
| Normal Flow: | **48.0 Ban conversation of family**  1. User login to the SCN.  2. User find the family’s conversation that user have admin role.  3. User click the “Ban” button and user will be redirected to the general conversation page.  4. No one in this chat can message anymore.  **48.1 Unban conversation of family**  1. User login to the SCN.  2. User find the family’s conversation that user have admin role and banned.  3. User click the “Unban” button. | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | None | | |
| Assumptions: | None | | |

#### b. Business Rules

#### 

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
|  | Ban family’s conversation | The family conversation can only ban by user who have leader role. |

### 

### 3.6.11 UC-49\_Search conversation

#### a. Functional Description

| ID and Name: | **UC-49\_Search conversation** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Quang Minh | Date Created: | 07/02/2024 |
| Primary Actor: | All users | Secondary Actors: | None |
| Description: | As a user, I want to search conversation so that I can easily found for the conversation. | | |
| Trigger: | Click the “Search” button with the conversation name in the conversation screen. | | |
| Preconditions: | PRE-1. User must be logged into the system. | | |
| Postconditions: | POST-1. The system displays all conversations with the relative search name. | | |
| Normal Flow: | **49.0 Search conversation**  1. User login to the SCN.  2. User click the “Message” icon on the header or sidebar.  3. User search conversation with name  4. All conversations that include the search name will be displayed for users to select. | | |
| Alternative Flows: | **49.1 Search conversation not found**  1. User login to the SCN.  2. User click the “Message” icon on the header or sidebar.  3. User search conversation with name  4. Screen display “Family’s conversation not found”. | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | None | | |
| Other Information: | None | | |
| Assumptions: | None | | |

#### b. Business Rules

None

## 3.7. Relationship Management

### 3.7.1 UC-53 Search relatives

#### a. Functional Description

| ID and Name: | **UC-53 Search relatives** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Sy Khang | Date Created: | 17/01/2024 |
| Primary Actor: | Individual,Conversation Member,Conversation Leader,Family Member,Family Leader | Secondary Actors: | None |
| Description: | As a user, I want to search for my relatives on the platform so that I can expand my network of relationships. | | |
| Trigger: | The user initiates a search by clicking on the search bar and entering a query for relatives by name or phone number. | | |
| Preconditions: | PRE-1. Users must be logged into the system.  PRE-2. Users must search other users to connect or disconnect . | | |
| Postconditions: | POST-1: Show profiles that match the name or phone number searched.  POST-2: If there are no matches, display a message saying no results were found. | | |
| Normal Flow: | **53.0.1 Search for Connected Relatives:**   1. Users enter a name or phone number into the search bar on the navigation menu. 2. The system processes the request, searching among connected relatives and displays matching profiles.   **53.0.2 Search for Unconnected Relatives:**   1. Users enter a phone number into the search bar. 2. The system finds people you're not connected to that match the phone number and shows them to you. | | |
| Alternative Flows: | **53.1.1 No Matches Found:**   1. No profiles match the search criteria. 2. The system displays a "No relatives found" message. | | |
| Exceptions: | None | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.7.2 UC-54 Connect relatives

#### a. Functional Description

| ID and Name: | **UC-54 Connect relatives** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Sy Khang | Date Created: | 18/01/2024 |
| Primary Actor: | Individual,Conversation Member,Conversation Leader,Family Member,Family Leader | Secondary Actors: | None |
| Description: | As a user, I want to connect with potential relatives identified so that I can enhance my family network. | | |
| Trigger: | The user clicks the "Connect" option on a relative's profile discovered through the search. | | |
| Preconditions: | PRE-1: Users must be authenticated and maintain an active session within the system.  PRE-2: Users must have the capability to connect with others, achievable through direct search results. | | |
| Postconditions: | POST-1: Upon establishing a successful connection, both users are granted the ability to view each other's profiles and initiate communication. | | |
| Normal Flow: | **54.0.1 Initiating a Connection Request:**   1. User identifies a potential relative from search results and clicks on the "Connect" option on their profile. 2. If a connection request is made, the platform changes the button option to "Disconnect". | | |
| Alternative Flows: | N/A | | |
| Exceptions: | None | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.7.3 UC-55 Disconnect relatives

#### a. Functional Description

| ID and Name: | **UC-55 Disconnect relative** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Sy Khang | Date Created: | 19/01/2024 |
| Primary Actor: | Individual,Conversation Member,Conversation Leader,Family Member,Family Leader | Secondary Actors: | None |
| Description: | As a user, I want to disconnect from relatives so that I can better manage my connections for personal or privacy considerations. | | |
| Trigger: | The user clicks the "Disconnect" option on a relative's profile discovered through the search. | | |
| Preconditions: | PRE-1: The user must be logged into the system.  PRE-2: The user and the relative must currently be connected.  PRE-3: The user must disconnect from relatives through the search. | | |
| Postconditions: | POST-1: The selected relative is successfully disconnected, resulting in both users losing access to each other's private profile information .  POST-2: The interface updates to reflect the disconnection by displaying the option to "Connect" for the affected relative's profile.. | | |
| Normal Flow: | **55.0.1 Initiating a Disconnection:**   1. The user search a relative's profile with whom they are currently connected. 2. The user initiates disconnection by clicking the “Disconnect” option. | | |
| Alternative Flows: | N/A | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

## 3.8. Family Operation , Management

### 3.8.1 UC-56 Create family

#### a. Functional Description

| ID and Name: | **UC-56 Create family** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Sy Khang | Date Created: | 15/01/2024 |
| Primary Actor: | Individual,ConversationMember,Conversation Leader,Family Member,Family Leader | Secondary Actors: | None |
| Description: | As a user, I want to create a new family group on the platform so that I can connect with relatives,and plan family events together.... | | |
| Trigger: | The user clicks the 'Create Family' option from the platform's home page. | | |
| Preconditions: | PRE-1: The user must be logged into the system with a valid, authenticated session.  PRE-2: The user must possess the necessary permissions to create a family group on the platform. | | |
| Postconditions: | POST-1: The new family group is successfully added to the platform of family networks.  POST-2: The creator of the family is automatically designated as the Family Manager. | | |
| Normal Flow: | **56.0.1 Creating a family group:**   1. The user logs into the platform and navigates to the homepage . 2. Selects the 'Create Family' option, leading to a form for creating a new family group. 3. Fills out the form with the required information: family name, profile image, and a brief introduction. 4. Submits the form. 5. Upon successful validation, the family group is created, and the user is redirected to the newly family's page . | | |
| Alternative Flows: | **56.1.1 Required Field Alert:**   1. The system prompts for completion of all mandatory fields before submission. 2. A notification appears if the chosen family name is unavailable. | | |
| Exceptions: | None | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.8.2 UC-57 View Family list

#### a. Functional Description

| ID and Name: | **UC-58 View Family list** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Sy Khang | Date Created: | 10/02/2024 |
| Primary Actor: | Individual,Family Member,Family Leader | Secondary Actors: | None |
| Description: | As a user, I want to view a list of family groups I am part of on the platform so that I can easily engage with relatives and participate in discussions. | | |
| Trigger: | The user selects the ' Family ' from the dashboard or the navigation menu within the platform. | | |
| Preconditions: | PRE-1: The user must be logged into the platform with a verified and active session.  PRE-2: The user must be a member of one or more family groups on the platform. | | |
| Postconditions: | POST-1: The system displays a list of family groups that the user is part of.  POST-2: The user can select any family group from the list to view its detailed page. | | |
| Normal Flow: | **57.0.1 Viewing the Family List:**   1. The user logs into the platform and is directed to the dashboard. 2. The user clicks on the 'View Family List' to open the list interface. 3. The system displays a list of family groups to which the user belongs. 4. The user selects a family group to see a detailed view. | | |
| Alternative Flows: | **57.1.1 No family group Membership:**   1. When the user has no existing family group affiliations, a message appears stating, "You are not a member of any family groups yet." | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.8.3 UC-58 View Family Home Page

#### a. Functional Description

| ID and Name: | **UC-59 View Family Home Page** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Sy Khang | Date Created: | 15/01/2024 |
| Primary Actor: | Family Member,Family Leader | Secondary Actors: | None |
| Description: | As a family member or leader, I want to visit our family home page so that I can join in activities and connect with relatives. | | |
| Trigger: | The user clicks to the "Family" option in the navigation bar so see view list family and assess or create family . | | |
| Preconditions: | PRE-1: The user must be authenticated and recognized as a member or leader of the family group. | | |
| Postconditions: | POST-1: The family home page is displayed with tailored content and functionalities according to the user's role within the family group. | | |
| Normal Flow: | **58.0.1 Accessing the Family Home Page:**   1. The user navigates to the "Family" section via the platform's navigation bar. 2. If not already part of a family group, the user has the option to create a new family group. 3. Upon selecting a family group or after creating a new one, the user is directed to the Family Home Page. | | |
| Alternative Flows: | N/A | | |
| Exceptions: | None | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.8.4 UC-59 View family tree in family home page

### 3.8.5 UC-60 Out Family

#### a. Functional Description

| ID and Name: | **UC-60 Out Family** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Sy Khang | Date Created: | 19/01/2024 |
| Primary Actor: | Family Member | Secondary Actors: | None |
| Description: | As a family member, I want to leave a family group on the platform so that I can manage family activities more effectively. | | |
| Trigger: | The user clicks the 'Out Family' option within the family Home Page interface on the platform. | | |
| Preconditions: | PRE-1: The user must be logged in with an authenticated session on the platform.  PRE-2: The user must be a member of the family group they intend to leave, with the exception of the Family Leader. | | |
| Postconditions: | POST-1: The user is removed from the family group, and their membership is terminated.  POST-2: The user no longer has access to any of the family group's private content or exclusive interactions. | | |
| Normal Flow: | **60.0.1 Exiting a family group:**   1. The family member navigates to the family group's interface from which they wish to exit. 2. The family member selects the 'Leave Family' option. 3. The system prompts for confirmation to ensure the user's intent to leave the family group. 4. Once confirmed, the system processes the removal of the user from the family group. 5. The user is then navigated away from the family group's page to home page on the platform. | | |
| Alternative Flows: | N/A | | |
| Exceptions: | None | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.8.6 UC-61 View family member list

#### a. Functional Description

| ID and Name: | **UC-61 View family member list** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Sy Khang | Date Created: | 19/02/2024 |
| Primary Actor: | Family Member, Family Leader | Secondary Actors: |  |
| Description: | As a family member or family leader, I want to access a family member list so that I can understand the family's profile. | | |
| Trigger: | The user views total members, family mentors within the family home page interface on the platform.  The user clicks on the 'eye' icon within the family group interface to view detailed Family member information. | | |
| Preconditions: | PRE-1:The user must have confirmed status as either a member or the leader of the specific family group. | | |
| Postconditions: | POST-1: The system unveils a detailed roster of all individuals associated with the family, offering insights into each member's profile  POST-2: The system shows family member's profile, including the Family Mentor, detail family member and total number of members, providing a clear view of the family's structure. | | |
| Normal Flow: | **61.0.1 Accessing the Family Member List:**   1. The user goes to the family group area on the platform. 2. The user clicks the 'eye' icon to open the member list. 3. The system displays a complete list of members including the family Mentor, detail family member and total number of members 4. If the family group only has one Family mentor, the 'eye' icon will not be displayed, indicating there are no other members to watch at the time. | | |
| Alternative Flows: | N/A | | |
| Exceptions: | None | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.8.7 UC-62 Authority family manager for another member

### 3.8.8 UC-63 Add family leaders role

#### a. Functional Description

| ID and Name: | **UC-63 Add leaders for family** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Sy Khang | Date Created: | 21/02/2024 |
| Primary Actor: | Family Leader | Secondary Actors: | None |
| Description: | As a family leader, I want to assign managerial roles to trusted family members so that they can assist in managing tasks within our family . | | |
| Trigger: | The family leader selects the 'Admin' option for a member within the 'Edit Member' section of the family group's settings accessed via the navigation bar. | | |
| Preconditions: | PRE-1: The family leader must be authenticated and have the necessary administrative rights within the family group.  PRE-2: There must be members within the family group who are eligible and willing to take on managerial roles. | | |
| Postconditions: | POST-1: Selected family members are granted managerial roles with specific administrative privileges. | | |
| Normal Flow: | **63.0.1 Adding leaders for Family:**   1. The family leader navigates to the 'Edit Member' section within the family group settings. 2. The leader selects the members to assign as managers, marked by choosing the 'Admin' option next to their names. 3. After confirming the selection, the system updates the family mentor records to reflect the new managerial roles**.** | | |
| Alternative Flows: | N/A | | |
| Exceptions: | None | | |
| Priority: | High | | |
| Frequency of Use: | Low | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 

### 3.8.9 UC-64 Ban/ Unban member family

#### a. Functional Description

| ID and Name: | **UC-64 Ban/Unban member family** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Sy Khang | Date Created: | 22/02/2024 |
| Primary Actor: | Family Leader | Secondary Actors: | None |
| Description: | As a family leader, I want to ban inactive members so that I can ensure an engaged and active family group environment on the platform. | | |
| Trigger: | The family leader click ban a member by accessing the 'Edit Family' option from the navigation bar within the family home page . | | |
| Preconditions: | PRE-1: The user must be logged in with family leader administrative rights.  PRE-2: Must have at least one member besides the leader eligible for ban/unban actions. | | |
| Postconditions: | POST-1: Upon being banned, the member will no longer have access to the family group, effectively removing them from all family activities and member lists.  POST-2: The family members and the total member will be updated to reflect the removal of the banned member. | | |
| Normal Flow: | **64.0.1 Managing Family Membership:**   1. The leader accesses the 'Edit Family' section from the family group's settings. 2. The leader identifies and selects the member to be banned. 3. Upon confirming the selection, the system processes the ban request and removes the member’s access to the family group. 4. The system updates the family group’s member list and total member count accordingly. 5. A confirmation of the ban and the updated member list is displayed to the family leader. | | |
| Alternative Flows: | N/A | | |
| Exceptions: | None | | |
| Priority: | High | | |
| Frequency of Use: | Low | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.8.10 UC-65 Edit profile of family page

### 3,8.11 UC-66 Remove family

### 3.8.12 UC-67 Add new family member

#### a. Functional Description

| ID and Name: | **UC-64 Add new family member** | | |
| --- | --- | --- | --- |
| Created By: | Nguyen Sy Khang | Date Created: | 22/02/2024 |
| Primary Actor: | Family Leader | Secondary Actors: | None |
| Description: | As a family leader, I want to add new members to our family group on the platform so that we can expand our family network. | | |
| Trigger: | Family leaders search for members who already have relationships in the family by entering names or phone numbers. Once a match is found, the leader can add that new person to the family group using clicks 'Add' button next to the name of the searched individual. | | |
| Preconditions: | PRE-1: The family leader must be logged into the platform with a valid, authenticated session.  PRE-2: The family leader must possess administrative rights within the family group to add new members. | | |
| Postconditions: | POST-1: The added member's is integrated into the family group.  POST-2: The family group's member list and total count are updated to reflect the new addition. | | |
| Normal Flow: | 67.0.1 Adding a New Family Member:   1. The family leader logs into the platform and accesses the 'Add Member' function within the family group's settings. 2. The leader inputs the name or phone number of the prospective member into the search interface. 3. The system displays potential matches already having a relationship on the platform. 4. The leader selects the appropriate individual and clicks the 'Add' button next to their name. 5. The system confirms the addition and integrates the new member into the family group. 6. The family group's member list and total count are updated to include the new member. 7. The family leader receives confirmation that the member has been successfully added. | | |
| Alternative Flows: | **67.1.1 No Match Found:**   1. The family leader enters a name or phone number into the search interface. 2. The system searches for potential matches but finds none. 3. A message appears indicating "No results found." 4. The family leader may choose to try a different search term or invite the individual to join the platform if they are not already a member. 5. The process of adding a new member is halted until a valid match is identified or a new invitation is sent and accepted. | | |
| Exceptions: | None | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

## 3.9. Status Operation & Management

### 3.9.1 UC-65 View individual status in profile

#### a. Functional Description

| UC ID and Name: | UC-65 View individual status in profile | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 17/1/2024 |
| Primary Actor: | Individual | Secondary Actors: | None |
| Trigger: | Individual clicks on avatar and name option on sidebar of home page  User accesses an authenticated feature (from a link or type the page URL directly into the address bar) | | |
| Description: | *As an individual, I want to be able to view my profile so that I can see all my posted status and individual information.* | | |
| Preconditions: | PRE-1: User has individual role | | |
| Postconditions: | POST-1: Profile page is shown on screen | | |
| Normal Flow | **65.0 View profile page**  1. Individual clicks on avatar and name option on sidebar of home page.  2. System views a profile page include avatar, list of connected relatives and posted status. | | |
| Alternative Flows: | **N/A** | | |
| Exceptions: | **N/A** | | |
| Priority: | Must Have | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

#### 

### 3.9.2 UC-66 View status in news page

#### a. Functional Description

| UC ID and Name: | UC-66 View status in news page | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 17/1/2024 |
| Primary Actor: | Individual | Secondary Actors: | None |
| Trigger: | Individual clicks “News” option on sidebar of home page  User accesses an authenticated feature (from a link or type the page URL directly into the address bar) | | |
| Description: | *As an individual, I want to be able to see status in news page so that I can see latest status from my relatives and my joined family.* | | |
| Preconditions: | PRE-1: User has individual role | | |
| Postconditions: | POST-1: News page is shown on screen | | |
| Normal Flow | **66.0 View status in news page**  1. Individual clicks “News” option on sidebar of home page  2. System view news page that includes latest status from my relatives and my joined family. | | |
| Alternative Flows: | N/A | | |
| Exceptions: | **N/A** | | |
| Priority: | Must Have | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.3 UC-67 View status in family page

#### a. Functional Description

| UC ID and Name: | UC-67 View status in family page | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 17/1/2024 |
| Primary Actor: | Family member, Family leader | Secondary Actors: | None |
| Trigger: | A family member clicks “Family” option on the sidebar of home page and click on a particular joined family.  User accesses an authenticated feature (from a link or type the page URL directly into the address bar) | | |
| Description: | *As an family member, I want to able to see status in family page, so that I can see latest status of all members family in joined family* | | |
| Preconditions: | PRE-1: User has family member role | | |
| Postconditions: | POST-1: Statuses of members family are shown in family page | | |
| Normal Flow | **67.0 View status in family page**  1. Individual clicks “Family” option on sidebar of home page and click on particular joined family.  2. System views status of family members in family page | | |
| Alternative Flows: | **67.1** | | |
| Exceptions: | **N/A** | | |
| Priority: | Must Have | | |
| Frequency of Use: | Medium | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.4 UC-68 Create new status in profile/news page

#### a. Functional Description

| UC ID and Name: | UC-68 Create new status in profile/news page | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 17/1/2024 |
| Primary Actor: | Individual | Secondary Actors: | None |
| Trigger: | Individual clicks status creation bar from top of profile or news page | | |
| Description: | *As an individual, I want to be able to create a new status so that I can share my memories on my personal page for relatives to see.* | | |
| Preconditions: | PRE-1: User has individual role | | |
| Postconditions: | POST-1: New status is updated in personal page of individual  POST-2: New instance of status updates in database | | |
| Normal Flow | **68.0 Create new status in individual page**  1. Individual clicks on “new status ?” on the top of status page  2. System view a popup form for Individual  3. Individual types status content or uploads a new image.  4. Individual clicks on “Submit” button  5. System back to personal page, and upload new status on the top. | | |
| Alternative Flows: | **68.1 Individual cancel upload new status**  1. Individual clicks on “X” button in right top popup form.  2. System back to personal page with no change | | |
| Exceptions: | **68.0.E1 Individual submit with no content**  1. The Error Message screen is shown to the user  **68.0 E2 Individual submit with invalid image file**  1. The Error Message screen is shown to the user | | |
| Priority: | Must Have | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.5 UC-69 Create new status in family page

#### a. Functional Description

| UC ID and Name: | UC-69 Create new status in family page | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 22/2/2024 |
| Primary Actor: | Family members, Family leader | Secondary Actors: | None |
| Trigger: | Family member clicks on status creation bar button from top of family page | | |
| Description: | *As a family* member*, I want to be able to create a new status on family page so that I can share memory to my family page for other members to see.* | | |
| Preconditions: | PRE-1: User has family member or family leader role  PRE-2: User is in family page | | |
| Postconditions: | POST-1: New status is uploadd in family page  POST-2: New instance of new update in database | | |
| Normal Flow | **69.0 Create new status in family page**  1. User clicks on status creation bar button from top of family page  2. System view a popup form for individual  3. User type status content or upload new image.  4. User clicks on “Submit” button  5. System back to personal page, and upload new status on the top. | | |
| Alternative Flows: | **69.1 Individual cancel upload new status**  1. User clicks on the “X” button in the right top popup form.  2. System back to personal page with no change | | |
| Exceptions: | **69.0.E1 Individual submit with no content**  1. The Error Message screen is shown to the user  **69.0 E2 Individual submit with invalid image file**  1. The Error Message screen is shown to the user | | |
| Priority: | Must Have | | |
| Frequency of Use: | Medium | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.6 UC-70 Update status in profile/news page

#### a. Functional Description

| UC ID and Name: | UC-70 Update status in profile/news page | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 17/1/2024 |
| Primary Actor: | Individual | Secondary Actors: | None |
| Trigger: | Individual clicks 3 dot button from right top of particular uploaded status and choose edit | | |
| Description: | *As an individual, I want to be able to update posted status in profile or news so that I edit status content or image more suitable .* | | |
| Preconditions: | PRE-1: User has individual role  PRE-2: There are at least one status in personal page | | |
| Postconditions: | POST-1: The status is updated in profile or news page  POST-2: The instance of this status is updated in database | | |
| Normal Flow | **70.0 Update status in profile/news page**  1. Individual clicks on the 3 dots button from right top of particular uploaded status and choose edit.  2. System view a popup form include content of this status for individual  3. Individual edit content, image or mode of view of this status  4. Individual clicks on “Submit” button  5. System back to personal page, and update this status. | | |
| Alternative Flows: | **70.1 Individual cancel update status**  1. Individual clicks on “X” button in the right top popup edit form.  2. System back to personal page with no change | | |
| Exceptions: | N/A | | |
| Priority: | Must Have | | |
| Frequency of Use: | Medium | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.7 UC-71 Delete posted status in profile/news page

#### a. Functional Description

| UC ID and Name: | UC-47 Delete posted status in profile/news page | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 17/1/2024 |
| Primary Actor: | Individual | Secondary Actors: | None |
| Trigger: | Individual clicks 3 dots button from right top of particular uploaded status and choose delete. | | |
| Description: | *As an individual, I want to be able to delete status so that my personal page doesn’t show the status that I no longer want.* | | |
| Preconditions: | PRE-1: User has individual role  PRE-2: User has at least one posted status in profile or news page | | |
| Postconditions: | POST-1: The status is deleted in profile or news page  POST-2: The instance of status is deleted in database | | |
| Normal Flow | **71.0 Delete posted status in profile/news page**  1. Individual clicks “X” button from right top of particular uploaded status  2. System view a popup notification for individual sure about their deletion  3. Individual click on “Delete” button.  4. System back to personal page, and doesn’t show deleted status. | | |
| Alternative Flows: | **71.1 Individual cancel deleting particular status**  1. Individual clicks “X” button from right top of particular uploaded status  2. System view a popup notification for individual sure about their deletion  3. Individual clicks on the “Cancel” button.  4. System back to previous page with no change | | |
| Exceptions: | **N/A** | | |
| Priority: | Must Have | | |
| Frequency of Use: | Medium | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.8 UC-72 Update status in family page

#### a. Functional Description

| UC ID and Name: | UC-72 Update status in family page | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 17/1/2024 |
| Primary Actor: | Family members, Family leader | Secondary Actors: | None |
| Trigger: | User clicks on the 3 dots button from right top of particular uploaded status in family page and choose edit | | |
| Description: | *As an family member, I want to be able to update posted status in family page so that I edit status content or image more suitable .* | | |
| Preconditions: | PRE-1: User has family member or family leader role  PRE-2: There are at least one status in family page | | |
| Postconditions: | POST-1: The status is deleted in personal page of individual  POST-2: The instance of deleted status is deleted in database | | |
| Normal Flow | **72.0 Update status in family page**  1. Individual clicks on the 3 dots button from the right top of a particular uploaded status in family page and choose edit.  2. System view a popup form include content of this status for individual  3. Individual edit content, image or mode of view of this status  4. Individual clicks on “Submit” button  5. System back to personal page, and update this status. | | |
| Alternative Flows: | **72.1 Individual cancel deleting particular status**  1. Individual clicks “X” button from right top of particular uploaded status  2. System view a popup notification for individual sure about their deletion  3. Individual click on “Cancel” button.  4. System back to personal page with no change | | |
| Exceptions: | N/A | | |
| Priority: | Must Have | | |
| Frequency of Use: | Medium | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules None

### 3.9.9 UC-73 Delete posted status in family page

#### a. Functional Description

| UC ID and Name: | UC-73 Delete posted status in family page | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 21/1/2024 |
| Primary Actor: | Family member, Family leader | Secondary Actors: | None |
| Trigger: | User clicks 3 dots button from right top of particular uploaded status in family page and choose delete. | | |
| Description: | *As a family member, I want to be able to delete status so that family page doesn’t show the status that I no longer want.* | | |
| Preconditions: | PRE-1: User has family member or family leader role  PRE-2: User has at least one posted status in family page. | | |
| Postconditions: | POST-1: The status is deleted in famly page  POST-2: The instance of status is deleted in database | | |
| Normal Flow | **73.0 Delete posted status in profile/news page**  1. Individual clicks “X” button from right top of particular uploaded status  2. System view a popup notification for individual sure about their deletion  3. Individual click on “Delete” button.  4. System back to personal page, and doesn’t show deleted status. | | |
| Alternative Flows: | **73.1 Individual cancel deleting particular status**  1. Individual clicks “X” button from right top of particular uploaded status  2. System view a popup notification for individual sure about their deletion  3. Individual clicks on the “Cancel” button.  4. System back to previous page with no change | | |
| Exceptions: | **N/A** | | |
| Priority: | Must Have | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 

### 

### 3.9.10 UC-74 Reaction in status

#### a. Functional Description

| UC ID and Name: | UC-74 Reaction in status | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 22/1/2024 |
| Primary Actor: | Individual, Family member, Family leader | Secondary Actors: | None |
| Trigger: | User clicks on heart symbol at the bottom of each status that has not react to | | |
| Description: | *As a user, I want to be able to react to my status or others so that I can show my emotion with memory of posted status.* | | |
| Preconditions: | PRE-1: User has role that allow he/she see the status  PRE-2: There are at least one posted status in that page. | | |
| Postconditions: | POST-1: The react is add in total of this status | | |
| Normal Flow | **74.0 Reaction in status**  1. User clicks on heart symbol at the bottom of each status that has not react to.  2. System view symbol red heart that express user has reacted to this post status and add 1 reaction in total of thís status. | | |
| Alternative Flows: | **74.1 Remove reaction**  1. User click on red heart of the reacted status.  2. System view symbol black heart that express user has not reacted to this post status and delete 1 reaction in total of thís status. | | |
| Exceptions: | **N/A** | | |
| Priority: | Must Have | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.11 UC-75 View comment list of a status

#### a. Functional Description

| UC ID and Name: | UC-75 View comment list of a status | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 22/1/2024 |
| Primary Actor: | Individual, Family member, Family leader | Secondary Actors: | None |
| Trigger: | User clicks on comment symbol at the bottom of a status | | |
| Description: | *As a user, I want to be able to see comment of a status so that I can know my comments and comments of the other about status on page.* | | |
| Preconditions: | PRE-1: User has role that allow he/she see the status  PRE-2: There are at least one comment in posted status on this page. | | |
| Postconditions: | POST-1: The comment is shown below this status | | |
| Normal Flow | **75.0 View comment list of a status**  1. User clicks on comment symbol at the bottom of a status  2. System view list comment of accounts that comment in this status include name account, avatar, content of each comments and form for user to add new comment theirselves. | | |
| Alternative Flows: | **75.1 Close comment list if status**  1. User clicks on comment symbol at the bottom of a status  2. System view list comment of accounts that comment in this status  3. User click again on comment symbol of this status  4. Comments lists of this status are closed | | |
| Exceptions: | **N/A** | | |
| Priority: | Must Have | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.12 UC-76 Comment in status

#### a. Functional Description

| UC ID and Name: | UC-76 Comment in status | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 22/1/2024 |
| Primary Actor: | Individual, Family member, Family leader | Secondary Actors: | None |
| Trigger: | User type comment in text area and click on “comment” button and choose edit | | |
| Description: | *As a user, I want to be able to comment on my status or others so that I can share my thoughts with memory of posted status.* | | |
| Preconditions: | PRE-1: User has role that allow he/she see the status  PRE-2: There are at least one posted status in that page. | | |
| Postconditions: | POST-1: The comment is add in total comment of this status  POST-2: This comment is shown on status  POST-3: Instance of comment is add in database | | |
| Normal Flow | **76.0 Comment in status**  1. User type comment in text area and click on “comment” button and choose edit  2. System show textarea that contain old comment  3. User edit content of comment.  4. User click on update button  5. System update new content of comment | | |
| Alternative Flows: | **76.1 Comment is not change**  1. User type comment in text area and click on “comment” button and choose edit  2. System show textarea that contain old comment  3. User click on “comment” button with no change in text area  4. There is no change in system | | |
| Exceptions: | **N/A** | | |
| Priority: | Must Have | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.12 UC-77 Update comment

#### a. Functional Description

| UC ID and Name: | UC-77 Update comment | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 22/1/2024 |
| Primary Actor: | Individual, Family member, Family leader | Secondary Actors: | None |
| Trigger: | User click on 3 dots button in the right of their comment. | | |
| Description: | *As a user, I want to be able to update my comment on my status or others so that I can change content of comment for more suitable.* | | |
| Preconditions: | PRE-1: User had at least one comment in this status | | |
| Postconditions: | POST-1: The content of comment is update in status  POST-2: The instance of this comment is updated in database | | |
| Normal Flow | **77.0 Update comment**  1. User type comment in text area and click on “comment” button  2. System show that comment in status and add 1 in total of comments of this status | | |
| Alternative Flows: | **77.1 Comment with no content**  1. User click on “comment” button with no content in text area  2. There is no change in system | | |
| Exceptions: | **N/A** | | |
| Priority: | Must Have | | |
| Frequency of Use: | High | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.13 UC-78 Delete comment

#### a. Functional Description

| UC ID and Name: | UC-78 Delete comment | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 22/1/2024 |
| Primary Actor: | Individual, Family member, Family leader | Secondary Actors: | None |
| Trigger: | User type comment in text area and click on “comment” button and choose delete | | |
| Description: | *As a user, I want to be able to delete a comment on my status or others so that this comment that I do not need is no longer shown for the others.* | | |
| Preconditions: | PRE-1: User has at least one comment in posted status. | | |
| Postconditions: | POST- Total of comments of this status is decreased 1.  POST-2: This comment is deleted on status  POST-3: Instance of comment is deleted in database | | |
| Normal Flow | **78.0 Comment in status**  1. User type comment in text area and click on “comment” button and choose edit  2. System show textarea that contain old comment  3. User edit content of comment.  4. User click on update button  5. System update new content of comment | | |
| Alternative Flows: | **78.1 Comment is not change**  1. User type comment in text area and click on “comment” button and choose edit  2. System show textarea that contain old comment  3. User click on “comment” button with no change in text area  4. There is no change in system | | |
| Exceptions: | **N/A** | | |
| Priority: | Must Have | | |
| Frequency of Use: | Medium | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.14 UC-79 Edit audience of status

#### a. Functional Description

| UC ID and Name: | UC-79 Edit audience of status | | |
| --- | --- | --- | --- |
| Created By: | Cao Duc Hiep | Date Created: | 19/2/2024 |
| Primary Actor: | Individual | Secondary Actors: | None |
| Trigger: | Individual clicks 3 dot button from right top of particular uploaded status and choose edit audience | | |
| Description: | *As a user, I want to be able to delete a comment on my status or others so that this comment that I do not need is no longer shown for the others.* | | |
| Preconditions: | PRE-1: User has at least one posted status  PRE-2: User have individual role | | |
| Postconditions: | POST-1: Audience of this status is changed to public or private depend on chosen option of user | | |
| Normal Flow | **79.0 Edit audience of status**  1.Individual clicks 3 dot button from right top of particular uploaded status and choose edit audience  2. System show modal include 2 options: public and private  3. Individual choose one options and click on update button  4. System update audience of this status. If this is public, the other can see this status in profile of user or new and vice versa. | | |
| Alternative Flows: | **79.1 Cancel editing audience**  1.Individual clicks 3 dot button from right top of particular uploaded status and choose edit audience  2. System show modal include 2 options: public and private  3. Individual click on cancel button  4. System back to previous page with no change | | |
| Exceptions: | **N/A** | | |
| Priority: | Must Have | | |
| Frequency of Use: | Medium | | |
| Business Rules: | N/A | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

#### b. Business Rules

None

### 3.9.15 UC-80 Convert status to Events to add in individual calendar

### 3.9.16 UC-81 View status of individual

### 3.9.17 UC-82 Remove status of user

### 3.9.18 UC-83 Ban individual post status

## 3.10. Family Tree Feature

### 3.10.1 UC-84 Create a new family tree

#### a. Functional Description

| ID and Name: | **UC-84 Create a new family tree** | | |
| --- | --- | --- | --- |
| Created By: | Tran Dinh Duc | Date Created: | 14/01/2024 |
| Primary Actor: | family Leader, Individual Person | Secondary Actors: |  |
| Description: | Allow users to create a new family tree. | | |
| Trigger: | Click “New family tree” button inside Family Tree page | | |
| Preconditions: | PRE-1. User is logged into FCS.  PRE-2. The user must be family Leader to create the family tree for his family. | | |
| Postconditions: | POST-1. A new family tree is successfully created in the Social Cell Network (SCN).  POST-2. The user (family Leader or Individual Person) is designated as the administrator or primary contact for the newly created family tree.  POST-3. An option to add additional family members or edit existing entries is made available to the user.. | | |
| Normal Flow: | **Create a new family tree**  1. User login to the SCN.  2. User choose the tree icon on taskbar (with the family tree of individual person) or the tree icon inside the family group (with the family tree of family) .  3. Users give the information and choose “New Family Tree” first to create the root.  4. Users just choose “New Family Tree” one time for the root and use “Add Node” then. | | |
| Alternative Flows: | None | | |
| Exceptions: | E1: **Unauthenticated User:** If a user who is not logged in attempts to create a family tree, the system redirects them to the login page.  E2: **Insufficient Permissions:** If a user who is not a family Leader tries to create a family tree for a family, the system displays an error message or permission denial.  E3: **Duplicate Family Tree Creation:** If a user attempts to create a family tree that already exists in the system, the system checks for duplication and displays an appropriate error message, informing the user that the family tree already exists and cannot be created again. | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | BR6.1 | | |
| Other Information: | N/A | | |
| Assumptions: |  | | |

#### b. Business Rules

| **ID** | **Business Rule** | **Business Rule Description** |
| --- | --- | --- |
| BR6.1 | Duplicate Tree | If the family tree already exists, it cannot be created again. |

### 3.10.2 UC-85 View the family tree for personal

#### a. Functional Description

| ID and Name: | **UC-85 View the family tree personal** | | |
| --- | --- | --- | --- |
| Created By: | Tran Dinh Duc | Date Created: | 14/01/2023 |
| Primary Actor: | All actors | Secondary Actors: |  |
| Description: | Allow users to visually display their personal family tree. It presents a graphical representation of family members and their relationships | | |
| Trigger: | Click family tree icon in the header. | | |
| Preconditions: | PRE-1. Users logged into SCN. | | |
| Postconditions: | POST-2. Users can see the entire family tree with all nodes. | | |
| Normal Flow: | **View the family tree**  1. User login to the SCN.  2. User choose the tree icon on taskbar (with the family tree of individual person) . | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | High | | |
| Business Rules: | None | | |
| Other Information: | None | | |

#### b. Business Rules

None

### 3.10.3 UC-86 View the family tree for family

#### a. Functional Description

| ID and Name: | **UC-86 View the family tree personal** | | |
| --- | --- | --- | --- |
| Created By: | Tran Dinh Duc | Date Created: | 14/01/2023 |
| Primary Actor: | All actors | Secondary Actors: |  |
| Description: | Allow users to visually display the family tree of their family. It presents a graphical representation of family members and their relationships | | |
| Trigger: | Click family tree icon in the sidebar of family page | | |
| Preconditions: | PRE-1. Users logged into SCN. | | |
| Postconditions: | POST-2. Users can see the entire family tree with all nodes. | | |
| Normal Flow: | **View the family tree**  1. User login to the SCN.  2. User choose the tree icon inside the family group screen, on the sidebar. | | |
| Alternative Flows: | None | | |
| Exceptions: | None | | |
| Priority: | High | | |
| Business Rules: | None | | |
| Other Information: | None | | |

#### b. Business Rules

None

### 3.10.4 UC-87 Add a family member in tree by manually typing

#### a. Functional Description

| ID and Name: | **UC-87 Add a family member in tree by manually typing** | | |
| --- | --- | --- | --- |
| Created By: | Tran Dinh Duc | Date Created: | 15/01/2024 |
| Primary Actor: | Individual Person, family Leader | Secondary Actors: |  |
| Description: | Enable users to expand their family tree by adding new family members by manually typing the information | | |
| Trigger: | Click “Add node” button inside Family Tree page | | |
| Preconditions: | PRE-1. Users logged into SCN.  PRE-2. The family tree exists.  PRE-3. User has permission to add a family member into the tree | | |
| Postconditions: | POST-1. The member has been added successfully into the tree. | | |
| Normal Flow: | **Add a family member into the tree**  1. User login to the SCN.  2. User choose the tree icon on taskbar (with the family tree of individual person) or the tree icon inside the family group (with the family tree of family) .  3. User can type manually to add information of the node in the family tree. | | |
| Alternative Flows: | None | | |
| Exceptions: | E1: User attempts to add a family tree node without sufficient permissions.  E2: User inputs invalid or incomplete information for the new family member. | | |
| Priority: | High | | |
| Business Rules: |  | | |
| Other Information: | None | | |

#### b. Business Rules

None

### 

### 3.10.5 UC-88 Add a family member in the tree by searching user

#### a. Functional Description

| ID and Name: | **UC-88 Add a family member in the tree by searching user** | | |
| --- | --- | --- | --- |
| Created By: | Tran Dinh Duc | Date Created: | 03/02/2024 |
| Primary Actor: | Individual Person, family Leader | Secondary Actors: |  |
| Description: | Enable users to expand their family tree by adding new family members by searching user in friend list and get information of this user | | |
| Trigger: | Click “Add by Search” button inside Family Tree page | | |
| Preconditions: | PRE-1. Users logged into SCN.  PRE-2. The family tree exists.  PRE-3. User has permission to add a family member into the tree | | |
| Postconditions: | POST-1. The member has been added successfully into the tree. | | |
| Normal Flow: | **Add a family member into the tree**  1. User login to the SCN.  2. User choose the tree icon on taskbar (with the family tree of individual person) or the tree icon inside the family group (with the family tree of family) .  3. User can add a member into the tree by search user in friend list and get information of this user | | |
| Alternative Flows: | None | | |
| Exceptions: | E1: User attempts to add a family tree node without sufficient permissions.  E2: User inputs incomplete information for the new family member.  E3: User add a node linked by an user that existed in the tree. | | |
| Priority: | High | | |
| Business Rules: | N/A | | |
| Other Information: | None | | |

#### b. Business Rules

None

### 

### 

### 3.10.6 UC-89 Update the node of the tree

#### a. Functional Description

| ID and Name: | **UC-89 Update the node of the tree** | | |
| --- | --- | --- | --- |
| Created By: | Tran Dinh Duc | Date Created: | 20/01/2024 |
| Primary Actor: | Individual Person, family Leader | Secondary Actors: |  |
| Description: | Allow users to update the information of a node in the family tree. | | |
| Trigger: | Click “Update node” inside Family Tree page | | |
| Preconditions: | PRE-1. User must be logged into the system.  PRE-2. The family tree in which the updation is to occur exists.  PRE-3. User must have sufficient permissions to modify the family tree.  PRE-4. The member that user want to update must be exist. | | |
| Postconditions: | POST-1. The selected member is successfully updated. | | |
| Normal Flow: | **Update the node of the tree**  1. User login to the SCN.  2. User choose the tree icon on taskbar (with the family tree of individual person) or the tree icon inside the family group (with the family tree of family) .  3. User can update node by searching user in friend list and get information of this user or manual typing. | | |
| Alternative Flows: | None | | |
| Exceptions: | E1: User attempts to update a family tree node without sufficient permissions.  E2: User inputs incomplete information for the new family member.  E3: User update a node linked by an user that existed in the tree. | | |
| Priority: | High | | |
| Business Rules: |  | | |
| Other Information: | None | | |

#### b. Business Rules

None

### 3.10.7 UC-90 Delete members out of the tree

#### a. Functional Description

| ID and Name: | **UC-90 Delete members** | | |
| --- | --- | --- | --- |
| Created By: | Tran Dinh Duc | Date Created: | 20/01/2024 |
| Primary Actor: | Individual Person, family Leader | Secondary Actors: |  |
| Description: | Permit users to remove a family member from the tree | | |
| Trigger: | Click “Delete node” button inside Family Tree page | | |
| Preconditions: | PRE-1. User must be logged into the system.  PRE-2. The family tree in which the deletion is to occur exists.  PRE-3. User must have sufficient permissions to modify the family tree.  PRE-4. The member that user want to delete must exist. | | |
| Postconditions: | POST-1. The selected member is successfully removed from the family tree. | | |
| Normal Flow: | **Delete the node of the tree**  1. User login to the SCN.  2. User choose the tree icon on taskbar (with the family tree of individual person) or the tree icon inside the family group (with the family tree of family) .  3. User can delete node by the information of the node you clicked or manual typing. | | |
| Alternative Flows: | None | | |
| Exceptions: | E1: User attempts to delete a family tree node without sufficient permissions. | | |
| Priority: | High | | |
| Business Rules: |  | | |
| Other Information: |  | | |

#### b. Business Rules

None

### 3.10.8 UC-91 View the sub-tree

#### a. Functional Description

| ID and Name: | **UC-91 View the sub-tree** | | |
| --- | --- | --- | --- |
| Created By: | Tran Dinh Duc | Date Created: | 28/01/2024 |
| Primary Actor: | All Users | Secondary Actors: |  |
| Description: | Enable users to select any family member as the 'root' or starting point of the tree. | | |
| Trigger: | Click the node in the tree. | | |
| Preconditions: | PRE-1. User must be logged into the system.  PRE-2. The family tree in which the deletion is to occur exists. | | |
| Postconditions: | POST-1. The selected node descendant is highlighted. | | |
| Normal Flow: | User: "What is the most important event in my calendar this week?"  1.1 Chatbot: "The most important event in your calendar this week is your friend's birthday party on Saturday at 7 PM." | | |
| Alternative Flows: | None | | |
| Exceptions: |  | | |
| Priority: | Low | | |
| Business Rules: |  | | |
| Other Information: |  | | |

#### b. Business Rules

None

### 3.10.9 UC-92 Identify node in the family tree

#### a. Functional Description

| ID and Name: | **UC-92 Identify node in the family tree** | | |
| --- | --- | --- | --- |
| Created By: | Tran Dinh Duc | Date Created: | 22/02/2024 |
| Primary Actor: | Individual Person, family Leader | Secondary Actors: |  |
| Description: | Allow user to identify the node of the tree by linking another user to the node | | |
| Trigger: | Use “Add by Search” button to fill information that will auto link that node to the user who was searched. | | |
| Preconditions: | PRE-1. User must be logged into the system.  PRE-2. The family tree in which the deletion is to occur exists.  PRE-3. User must have sufficient permissions to modify the family tree.  PRE-4. The other user that user want to link must exist. | | |
| Postconditions: | POST-1. The selected node descendant is highlighted. | | |
| Normal Flow: | **View the sub-tree**  1. User login to the SCN.  2. User choose the tree icon on taskbar (with the family tree of individual person) or the tree icon inside the family group (with the family tree of family) .  3. User can identify the node in the family tree by two ways, add by searching in the friend list or update a unidentified node by searching in friend list. | | |
| Alternative Flows: | None | | |
| Exceptions: | E1: User attempts to edit a family tree node without sufficient permissions.  E2: User inputs incomplete information for the family member.  E3: User links an user that existed in the tree. | | |
| Priority: | Medium | | |
| Business Rules: |  | | |
| Other Information: |  | | |

#### b. Business Rules

**3.11 AI feature**

### 3.11.1 UC-AI\_93 Ask Chatbot about Event Information

#### a. Functional Description

| ID and Name: | **UC-AI\_93: Ask Chatbot about Event Information** | | |
| --- | --- | --- | --- |
| Created By: | Tong Xuan Khanh | Date Created: | 20/01/2024 |
| Primary Actor: | Individual, Family members | Secondary Actors: |  |
| Description: | As a user, I want to ask chatbot about events that were added in calendar, so that I can search the event information with quick accurate and relevant answers. | | |
| Trigger: | User click on “Ask chatbot” button at the bottom of screen and enter question to start a conversation with chatbot AI | | |
| Preconditions: | PRE-1: User is logged in system.  PRE-2: Chatbot is active and ready to receive inquiries. | | |
| Postconditions: | POST-1: User receives relevant information about the event queried. | | |
| Normal Flow: | **93.0** **Ask Chatbot about Event Information**  1. User click “Ask chatbot” button  2. Display screen “Ask chatbot”  3. User type relevant keywords or phrases, such as "upcoming events," "event details,"  4. The chatbot employs natural language processing (NLP) algorithms to analyze the user's input and understand their query regarding the event  5. Based on the user's inquiry, the chatbot retrieves relevant information from the event database, including details such as event names, dates, locations, descriptions,, and other pertinent information  6. User can stop or continue conversation with chat bot | | |
| Alternative Flows: | - Not enough information to analyze (text is too short, no expressive words).  - Incorrect analysis results (due to algorithm errors, ambiguous words). | | |
| Exceptions: | N/A | | |
| Priority: | High | | |
| Business Rules: | BR-AI1, BR-AI2, BR-AI3, BR-AI4 | | |
| Other Information: | Sentiment analysis algorithm | | |

b.Business Rules:

**Feature 1: Chatbot asks about event information (UC-AI\_93)**

* **BR-AI1: User authentication:** The chatbot only provides event information to logged-in users.
* **BR-AI2: Event identification:** The chatbot must use an effective NLP algorithm to understand the user's query about the event, even if inaccurate or ambiguous language is used.
* **BR-AI3: Data validation:** The chatbot only provides event information that is available in the user's calendar or shared by authorized family members.
* **BR-AI4: Privacy:** The chatbot must not disclose the user's event information to others without the user's permission.

### 

### 3.11.2 UC-AI\_94 Ask Chatbot about Event Information

#### a. Functional Description

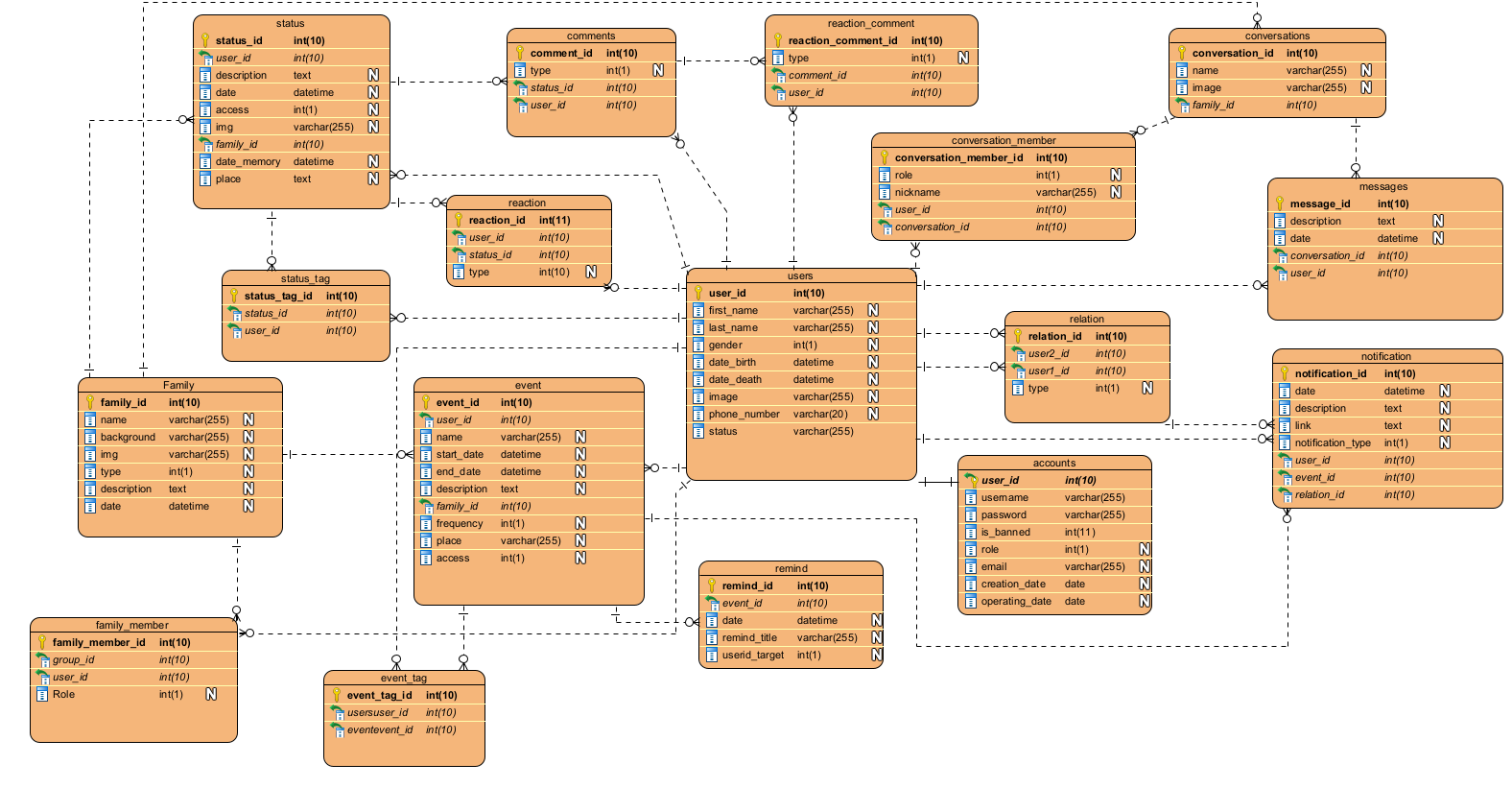
| ID and Name: | **UC-AI\_94 Suggests accounts that are likely to be acquaintances or relatives** | | |
| --- | --- | --- | --- |
| Created By: | Tong Xuan Khanh | Date Created: | 20/01/2024 |
| Primary Actor: | individual, family member | Secondary Actors: | N/A |
| Description: | As a user, I want the system to analyze my connections and family tree it can suggest potential acquaintances or relatives I might know on the platform. | | |
| Trigger: | user provides permission for system to connected information and family tree, the system analyzes this data to identify potential acquaintances or relatives accounts. | | |
| Preconditions: | PRE-1. User login to system successful. | | |
| Postconditions: | POST-2. User are suggested potential acquaintances or relatives account | | |
| Normal Flow: | 94.0 Suggests accounts that are likely to be acquaintances or relatives  1.Data Collection: The system gathers information about the user's information or from family tree database if available.  2.Data Analysis: The collected data is analyzed to identify relationships such as friends, family, acquaintances, etc.  4.Detection of Close Relationships: Using the family tree and connection information, the system determines which accounts are likely to be acquaintances or relatives of the user.  5.Account Suggestions: The system suggests accounts that are likely to be acquaintances or relatives of the user | | |
| Alternative Flows: | None | | |
| Exceptions Flows: | N/A | | |
| Priority: | High | | |
| Business Rules: | BR-AI1, BR-AI2, BR-AI3, BR-AI4, BR-AI5 | | |
| Other Information: | The system continuously updates and adjusts suggestions based on new interactions and the latest information about the user and user family tree. | | |

b.Business Rules

* **BR-AI1: Permissions:** Users must proactively grant the system access to personal information and family trees.
* **BR\_AI2: Data analysis:** The system must analyze user information and family trees in a secure and confidential manner.
* **BR\_AI3: Confidence level:** The system should only suggest accounts that are likely to be acquaintances or relatives based on data analysis.
* **BR\_AI4: Continuous updates:** The system must continuously update and adjust suggestions based on new interactions and the latest information about the user and family.
* **BR-AI5: Privacy:** The system must not automatically add users to other people's contact lists without the consent of both parties.

# Data Requirements

## Logical Data Model



## Data Dictionary

***account***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *user\_id* | *Unique identifier for a user* | *INT(10)* | *10* | *Auto-increment* |
| *username* | *User's chosen username* | *NVARCHAR(255)* | *255* |  |
| *password* | *User's password for account access* | *NVARCHAR(255)* | *255* | *Encrypted* |
| *email* | *User's email address* | *VARCHAR(255)* | *255* | *Valid email format* |
| *is\_banned* | *Flag indicating if user is banned* | *INT(1)* | *1* | *0 (not banned), 1 (banned)* |
| *role* | *User's role within the platform* | *INT(1)* | *1* | *0 (user), 1 (admin)* |
| *creation\_date* | *The date and time the account was created* | *DateTime* |  |  |
| *operating\_date* | *The last date and time the account was active* | *DateTime* |  |  |
| *otp* | *One-time password for account security* | *Integer* |  |  |

***comment***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *comment\_id* | *Unique identifier for a comment* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *description* | *User's chosen username* | *NVARCHAR(255)* | *255* |  |
| *password* | *Text description of a comment* | *TEXT* |  |  |
| *status\_id* | *Identifier linking comment to a status* | *INT(10)* | *10* | *Foreign key reference* |
| *user\_id* | *ID of the user who made the comment* | *INT(10)* | *10* | *Foreign key reference* |

***conversation***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *conversation\_id* | *Unique identifier for a conversation* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *family\_id* | *Identifier linking conversation to a family* | *INT(10)* | *10* | *Foreign key reference* |
| *name* | *Name of the conversation* | *TEXT* | *255* |  |
| *image* | *Path to an image associated with the conversation* | *VARCHAR(255)* | *255* |  |
| *Status* | *Indicator of conversation status* | *INT(10)* | *10* |  |

***conservation\_message***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *message\_id* | *Unique identifier for a conservation message* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *description* | *Text of the message* | *TEXT* |  |  |
| *date* | *Timestamp when the message was sent* | *DATETIME* |  |  |
| *user\_id* | *Identifier of the user who sent the message* | *INT(10)* | *10* | *Foreign key reference* |
| *conversation\_id* | *Identifier of the conversation the message belongs to* | *INT(10)* | *10* | *Foreign key reference* |

***event\_tag***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *event\_tag\_id* | *Unique identifier for an event tag* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *event\_id* | *Identifier of the event that is tagged* | *INT(10)* | *10* | *Foreign key reference* |
| *user\_id* | *Identifier of the user associated with the tag* | *INT(10)* | *10* | *Foreign key reference* |

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***interaction\_comment***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *interaction\_comment\_id* | *Unique identifier for a comment interaction* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *user\_id* | *Type of comment interaction (like, dislike, etc.)* | *INT(10)* | *1* | *Enumeration of interaction types* |
| *status\_id* | *IIdentifier of the comment related to the interaction* | *INT(10)* | *10* | *Foreign key reference* |
| *type* | *Identifier of the user involved in the interaction* | *INT(10)* | *10* | *Foreign key reference* |

***interaction***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *interaction\_id* | *Unique identifier for an interaction* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *user\_id* | *Identifier of the user involved in the interaction* | *INT(10)* | *10* | *Foreign key reference* |
| *status\_id* | *Identifier of the status related to the interaction* | *INT(10)* | *10* | *Foreign key reference* |
| *type* | *Type of interaction (like, dislike, etc.)* | *INT(10)* | *10* | *Enumeration of interaction types* |

***notification***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *notification\_id* | *Unique identifier for an interaction* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *user\_id* | *Identifier of the user who receives the notification* | *INT(10)* | *10* | *Foreign key reference* |
| *notification\_type* | *Type of notification (event reminder, new message, etc.)* | *INT(1)* | *10* | *Enumeration of interaction types* |
| *date* | *Timestamp when the notification was created* | *DATETIME* | *10* |  |
| *description* | *Description or content of the notification* | *TEXT* |  |  |
| *remind\_event* | *Timestamp for when the event reminder should trigger* | *DATETIME* |  |  |
| *relation\_id* | *Identifier of a relation linked to the notification* | *INT(10)* | *10* | *Foreign key reference* |
| *event\_id* | *Identifier of an event linked to the notification* | *INT* |  | *Foreign key reference* |

***remind***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *remind\_id* | *Unique identifier for a reminder* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *event\_id* | *Identifier of the event to be reminded about* | *INT(10)* | *10* | *Foreign key reference* |
| *remind\_title* | *Title or description of the reminder* | *NVARCHAR(255)* | *255* |  |
| *date* | *Date and time when the reminder should trigger* | *DATETIME* |  |  |
| *userid\_target* | *Identifier of the user the reminder targets* | *INT(1)* | *1* | *Foreign key reference* |

***tree***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *tree\_id* | *Unique identifier for a family tree* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *user\_id* | *Identifier of the user to whom the tree belongs* | *INT(10)* | *10* | *Foreign key reference* |
| *family\_id* | *Identifier of the family to which the tree belongs* | *INT(10)* | *10* | *Foreign key reference* |
| *name* | *Name of the family tree* | *NVARCHAR(255* | *255* |  |

***family***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *family\_id* | *Unique identifier for a family* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *name* | *Name of the family* | *NVARCHAR(255)* | *255* |  |
| *background* | *Background image or color for the family profile* | *VARCHAR(255)* | *255* |  |
| *img* | *Profile image for the family* | *VARCHAR(255)* | *255* |  |
| *type* | *Type or category of family* | *INT(1)* |  | *Foreign key reference* |
| *description* | *Description of the family* | *TEXT* |  |  |
| *date* | *Date when the family profile was created* | *DATETIME* |  |  |

***family\_member***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *family\_member\_id* | *Unique identifier for a family member within the family* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *family\_id* | *Identifier linking to the family* | *INT(10)* | *10* | *Foreign key reference* |
| *user\_id* | *Identifier linking to the user profile* | *INT(10)* | *10* | *Foreign key reference* |
| *Role* | *The role of the user within the family (e.g., parent, child)* | *INT(1)* | *1* | *Enumeration of interaction types* |

***relation***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *status\_id* | *Unique identifier for a status update* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *user\_id* | *Identifier of the user who posted the status* | *INT(10)* | *10* | *Foreign key reference* |
| *family\_id* | *Identifier of the family, if the status is family-related* | *INT(10)* |  | *Foreign key reference* |
| *img* | *Image associated with the status update* | *NVARCHAR(255* | *255* |  |
| *description* | *Text of the status update* | *TEXT* |  |  |
| *date* | *Timestamp when the status was posted* | *DATETIME* |  |  |
| *access* | *Visibility of the status (e.g., public, private)* | *INT(1)* | *1* | *Enumeration of access types* |

***status\_tag***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *status\_tag\_id* | *Unique identifier for a status tag* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *status\_id* | *Identifier of the status that is tagged* | *INT(10)* | *10* | *Foreign key reference* |
| *user\_id* | *Identifier of the user associated with the tag* | *INT(10)* | *10* | *Foreign key reference* |

***user***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *user\_id* | *Unique identifier for a user* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *first\_name* | *User's first name* | *NVARCHAR(255)* | *255* |  |
| *last\_name* | *User's last name* | *NVARCHAR(255)* | *255* |  |
| *gender* | *User's gender* | *INT(1)* | *1* | *0 (unspecified), 1 (male), 2 (female), etc.* |
| *date\_birth* | *User's date of birth* | *DATETIME* |  |  |
| *date\_death* | *Date of death if applicable* | *DATETIME* |  |  |
| *phone\_number* | *User's phone number* | *VARCHAR(255)* | *20* |  |
| *image* | *Profile image of the user* | *VARCHAR(255)* | *255* |  |
| *status* | *Status of the user's account (e.g., active, deleted)* | *INT(10)* | *10* | *Enumeration of user statuses* |

***event***

| *Data Element* | *Description* | *Composition or Data Type* | *Length* | *Values* |
| --- | --- | --- | --- | --- |
| *event\_id* | *Unique identifier for an event* | *INT(10) AUTO\_INCREMENT* | *10* | *Auto-increment* |
| *user\_id* | *Identifier of the user who created the event* | *INT(10)* | *10* | *Foreign key reference* |
| *family\_id* | *Identifier of the family the event is associated with* | *INT(10)* |  | *Foreign key reference* |
| *name* | *Name of the event* | *NVARCHAR(255)* | *255* |  |
| *start\_date* | *Start date and time of the event* | *DATETIME* |  |  |
| *end\_date* | *End date and time of the event* | *DATETIME* |  |  |
| *description* | *Description of the event* | *TEXT* |  |  |
| *frequency* | *Frequency of the event occurrence* | *INT(10)* | *10* | *Enumeration of user statuses* |
| *place* | *Location where the event is taking place* | *TEXT* |  |  |
| *access* | *Access level of the event (e.g., private, public)* | *INT(10)* | *1* | *Enumeration of user statuses* |

## Reports

***User Activity Report***

* ***Purpose****: Provides an overview of user activities within the system, including login times, actions taken, and areas of the application accessed.*
* ***Content****: User ID, Name, Date/Time of Activity, Activity Description.*
* ***Sort Sequence****: Chronologically by Date/Time of Activity. Secondary sort by User ID.*
* ***Filtering Options****: Date range, User ID, Activity Type.*
* ***Totaling Levels****: Summary totals by activity type per user; overall activity count.*
* ***Frequency****: Available on-demand with real-time data; optional scheduled daily, weekly, or monthly summaries.*
* ***Format/Constraints****: Conform to the company's standard report layout template, which includes a header with the report name, generation date, and page numbers; footer with confidentiality notice. Exportable in PDF and Excel formats.*

## Data Acquisition, Integrity, Retention, and Disposal

DI-1: The SCN shall retain individual family trees and posted status in profile and family page.

DI-2: The SCN shall retain status that ís banned from use.

# External Interface Requirements

## User Interfaces

UI-1: The SCN screen displays shall conform to the Design Standards for User Interfaces,

UI-2: The system shall provide descriptions in each input for user.

UI-3: The webpages shall permit complete navigation and item selection by using the keyboard alone, in addition to using mouse and keyboard combinations.

UI-4: The SCN interface shall feature a visually appealing and intuitive layout conducive to seamless navigation for users of all ages.

UI-5: The SCN interface shall include informative tooltips and contextual help features to assist users in understanding the functions and features of the network, promoting user engagement and satisfaction.

UI-6: Intuitive search functionality shall be integrated, allowing users to easily discover and connect with family members and individuals within the network based on various criteria such as name, number phone, and relationship status.

UI-7: Real-time notifications shall be provided to users for activities such as new messages, friend requests, event invitations, and updates from family members, ensuring timely communication and interaction within the social cell network.

## Communications Interfaces

CI-1: The SCN shall send an OTP code to email for user to reset password.

CI-2: The SCN shall support secure messaging functionalities, allowing users to send private messages, group messages, and multimedia content (such as photos, videos, and documents) to other members within the network.

CI-3: Two-factor authentication (2FA) shall be implemented, allowing users to enhance the security of their accounts by verifying their identity through a combination of password and OTP (One-Time Password) sent via email or SMS during login or sensitive operations.

# Quality Attributes

## Usability

**REQUIREMENT**: The project portal must be highly reliable, **AMBITION**:The ambition is to ensure that the system operates without frequent disruptions and provides efficient recovery mechanisms in case of failures.

**GOAL**: To achieve a minimum system uptime of 90% during day hours (23 hours per day). This means that the system should be available and functional for at least 90% of the day.

**STRETCH**: In addition to the primary goal, there is a stretch goal to implement redundancy and fault-tolerance measures to achieve a minimum system uptime of 99% during day hours (23 hours per day). This higher level of reliability ensures that the system is available for use almost continuously, with minimal downtime.

## Performance

**TAG**: UserLoadCapacity

**AMBITION:** Ensure the Project Portal is scalable and offers optimal performance for its users.

**SCALE**: Concurrent users supported and response time (seconds) for common operations.

**METER**: Conduct load testing with simulated concurrent access for up to 1,000,000 users.

Measure response times for operations such as logging in, send messages, upload status.

**GOAL**: Support up to 1,000,000 concurrent users without degradation in system performance.

Achieve a response time of less than or equal to 3 seconds for common operations under peak load conditions.

**STRETCH**: Ensure the system is scalable to accommodate a 20% increase in user load annually without requiring significant architectural changes.

**BASE USER PLATFORM DEFINED**: Standard user platform with a quad-core processor, 8GB RAM, modern web browser, and a network connection speed of at least 50 Mbps.

## Security

**SEC-1** User data encryption:

**TAG** Security.UserData.Encryption

**AMBITION** Ensure all user personal data is encrypted to protect privacy and enhance security.

**SCALE** The level of encryption applied to personal user data both at rest and in transit.

**METER** Compliance with the encryption standards will be verified through security audits, including automated penetration testing and code reviews by a qualified security specialist.

**MUST** Encryption of user personal data must comply with AES-256 standards for data at rest and TLS 1.3 for data in transit.

**REPORT** Security audit reports will be provided on a bi-annual basis, with ad-hoc reports generated in response to any identified security incidents involving personal data.

**GOAL** Achieve 100% compliance with encryption standards for all user personal data handled by the system.

**STRETCH** Aim to implement encryption algorithms that exceed industry standards, such as using post-quantum cryptographic methods, within the next two years.

**WISH** All data, not just personal user data, will be encrypted using the highest standard of encryption available.

**BASE** The system currently stores and processes user personal data, which includes name, email, and payment information.

**PAST** Previously, the system used AES-128 encryption for data at rest and TLS 1.2 for data in transit.

**TREND** Increasing regulatory demands and enhanced threat models require the adoption of more robust encryption standards.

**RECORD** Encryption compliance and incident reports will be maintained in a secure, auditable record-keeping system accessible only to the security team and auditors.

**STANDARDS** The system must adhere to the General Data Protection Regulation (GDPR) for data protection and privacy, and the Payment Card Industry Data Security Standard (PCI DSS) for payment data encryption.

**RATIONALE** Protecting user data is not only a regulatory requirement but also critical to maintaining user trust and ensuring the security of the system against data breaches.

## 6.4 Availability

**AVL-1:** The Social Cell Network application should aim for an availability target of 95% during active user hours, which are defined based on typical usage patterns, primarily from 8:00 A.M to 11:00 P.M. local time.

* **TAG**: Availability.SocialCellNetwork
* **AMBITION**: Ensure continuous access to the Social Cell Network application during designated active user hours, catering to the users' needs for reliable information exchange and social interaction.
* **SCALE**: Availability percentage calculated as the ratio of the application's operational time to the total expected active hours, from 8:00 A.M. to 11:00 P.M. local time.
* **METER**: System monitoring tools and logs will track the actual operational versus non-operational times, providing an objective basis for calculating availability.
* **GOAL**: Achieve and maintain application availability at 95% during active hours to ensure minimal disruption to users.
* **STRETCH**: Enhance application availability to 98% during active hours, striving for an enhanced user experience by reducing potential downtime.
* **WISH**: Aspire for a 99.9% availability level, aiming for nearly uninterrupted service and setting a high reliability standard for the application.
* **Base User Platform DEFINED**: Performance and availability tests will be conducted under conditions simulating a typical user environment, which includes a stable internet connection with a minimum speed of 30 Mbps and a computing device capable of running the latest application version efficiently. This baseline helps in ensuring that the application's availability targets are realistic and attainable across the majority of user scenarios.

## 6.5 Scalability

**SCA-1:** The capacity of the system must be able to be increased from 500 accesses per day to 1000 accesses per day within 12 hours.

**TAG** Scalability.Capacity.Accesses

**AMBITION** Improve loading status algorithms based on user screen view when frequent users reach 2000.

**SCALE** Efficiency of loading status algorithms adjusted to accommodate user screen view.

**METER** Performance evaluation conducted on loading status algorithms with a workload representing 2000 frequent users.

**GOAL:** Loading status updates to occur within acceptable timeframes even with 2000 frequent users. (System Administrator)

**STRETCH:** Loading status updates to occur within stricter timeframes, ensuring optimal performance even under high user volume scenarios. (System Administrator)

**WISH:** Loading status updates to occur with minimal delay regardless of user volume, ensuring seamless user experience. (System Administrator)

**Base User Platform Definition:** Quad-core processor, 8GB RAM, Windows 8, QueryGen 3.3 running, Single user, At least 50% of system RAM and 70% of system CPU capacity free, Network connection speed of at least 30 Mbps.

**SCA-2:** Algorithms to load status must be improve according to view screen of user when number of frequent users reach to 2000 users.

**TAG** Scalability.Algorithm.StatusLoading

**AMBITION** Improve algorithm to load status algorithms based on user screen view when frequent users reach 2000.

**SCALE** Seconds need to load and view when user enter status page after number of frequent users reach to 2000 users.

**METER** Performance evaluation conducted on loading status algorithms with a workload representing 2000 frequent users.

**GOAL:** No more than 4 seconds for 95 percent of times loading status page (System Administator)

**STRETCH:** No more than 6 seconds for a time loading status page

**WISH:**  No more than 2 seconds for a time loading status page

**FAIL:** More than 8 seconds for a time of times loading status page

**Base User Platform Definition:** Quad-core processor, 8GB RAM, Windows 8, QueryGen 3.3 running, Single user, At least 50% of system RAM and 70% of system CPU capacity free, Network connection speed of at least 30 Mbps.

**SCA-3:** Improve family tree merge algorithm when user request to merge family tree when number of user reach to 2000 user

**TAG** Scalability.Constraints.Familytree

**AMBITION** improve speed of algorithm to implement merging 2 complex family tree

**SCALE** seconds needs to merge 2 family tree of 2 user in system that have number of user reach to 2000 user

**METER** Stopwatch testing evaluation time on 30 times merge family tree request.

**GOAL:** No more than 10s for 95% a merge request. (System Administrator)

**STRETCH:** No more than 4s for merge 2 family contains less than 50 distinct nodes, 8s for merge 2 family contains less than 100 distinct nodes.

**WISH:** No more than 2s for merge 2 family contains less than 50 distinct nodes, 5s for merge 2 family contains less than 100 distinct nodes.

**Base User Platform Definition:** Quad-core processor, 8GB RAM, Windows 8, QueryGen 3.3 running, Single user, At least 50% of system RAM and 70% of system CPU capacity free, Network connection speed of at least 30 Mbps.

# Internationalization and Localization Requirements

**7.1 Internationalization**

**INT-1:** SCN use English is language for user when scale of products is enough large in other country.

**7.2 Localization**

**LCL-1:** SCN contain popular events of thís country or local in calendar.

**LCL-2**: SCN support Vietnamese for users at first release at Vietnam..