Fontys University of Applied Sciences
Eindhoven, The Netherlands

PROEP 2020

User Requirement Specifications

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1. Introduction

1.1. Purpose and Description

The URS is generally a planning document, created when a system is planned to be required. This User Requirements Specification describes the business needs for the Student Networking system. The document contains both functional and non-functional requirements of Student Networking Applications.

1.2. Scope and Applicability

The target group of the applications is Tu/e and Fontys students who want to create their personal projects outside the school and search for fellow teammates.

1.3. Requirement identification

All requirements are located in functional and non-functional requirements. Each requirement has its own unique identifier starting with a numerical order.

1.4. Document Maintenance

Each requirement has a unique number. New requirements will be added at the end of the list. Changes to the document have to be approved by the supervisor.

2. Functional Requirements

2.1. Login

a. GUI

b. GUI control requirements

- 'Login' page contains input for email and password and button 'Log In'

c. Use-case diagram

Name: Login
ID: 1
Goal: Log into the application
Scope: Student Networking App
Summary: Student wants to log in the Student Networking App by filling email address and password
Primary Actor: Student
Include: None
Extend: None

Pre-conditions: Student needs to be registered
Trigger: Student selects login button on the home page
Main Success Scenario/Normal Flow:

1. System goes to the login page
2. Student enters his or her email
3. Student enters his or her password
4. Student clicks the login button
5. System logs the student into the application

Exceptions/Alternate Flow:
3a: Student does not remember password

1. Student clicks on the Forgot Password? Button

4a1: System shows an error for entering the wrong password

1. Student re enter password
2. Use case continues at step 4

4a2: System show an error for entering the wrong password

1. Student clicks on the 'Forgot Password?' Button
2. Go to use case Reset password

4b1: System does not recognize the email

1. System asks if the student wants to create an account
2. Student clicks on the create an account button

4b2: System does not recognize the email

1. System asks if the student wants to create an account
2. Continues to MSS 2

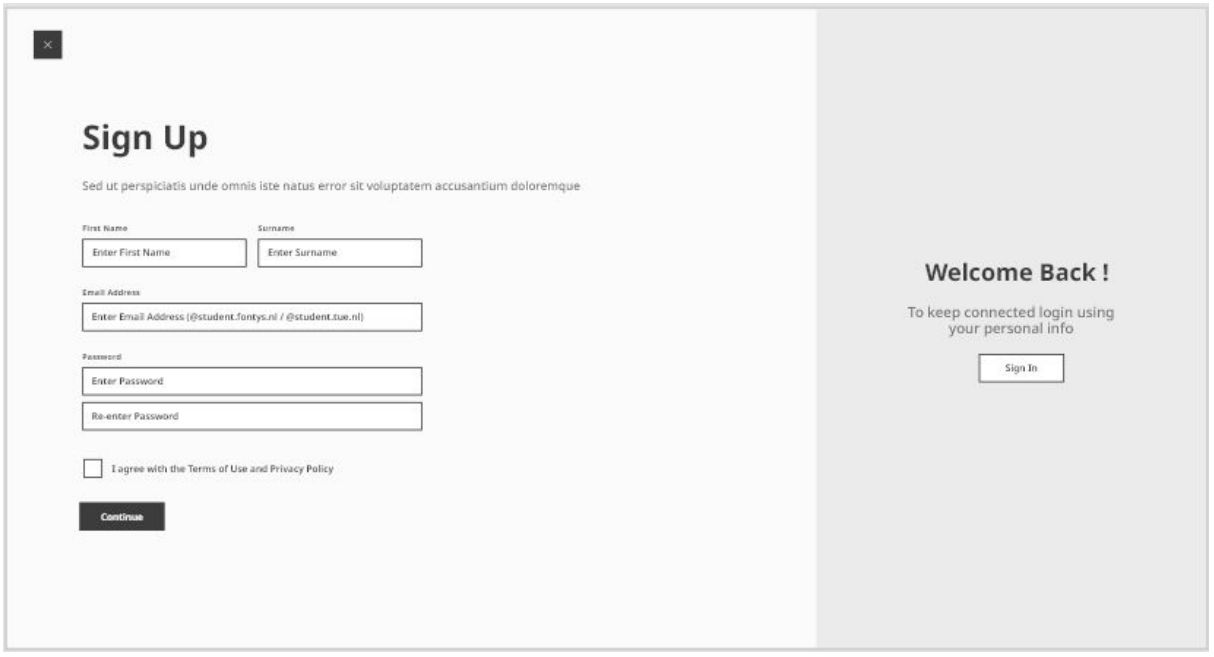
Post-Condition: Student is logged in and has access to the system

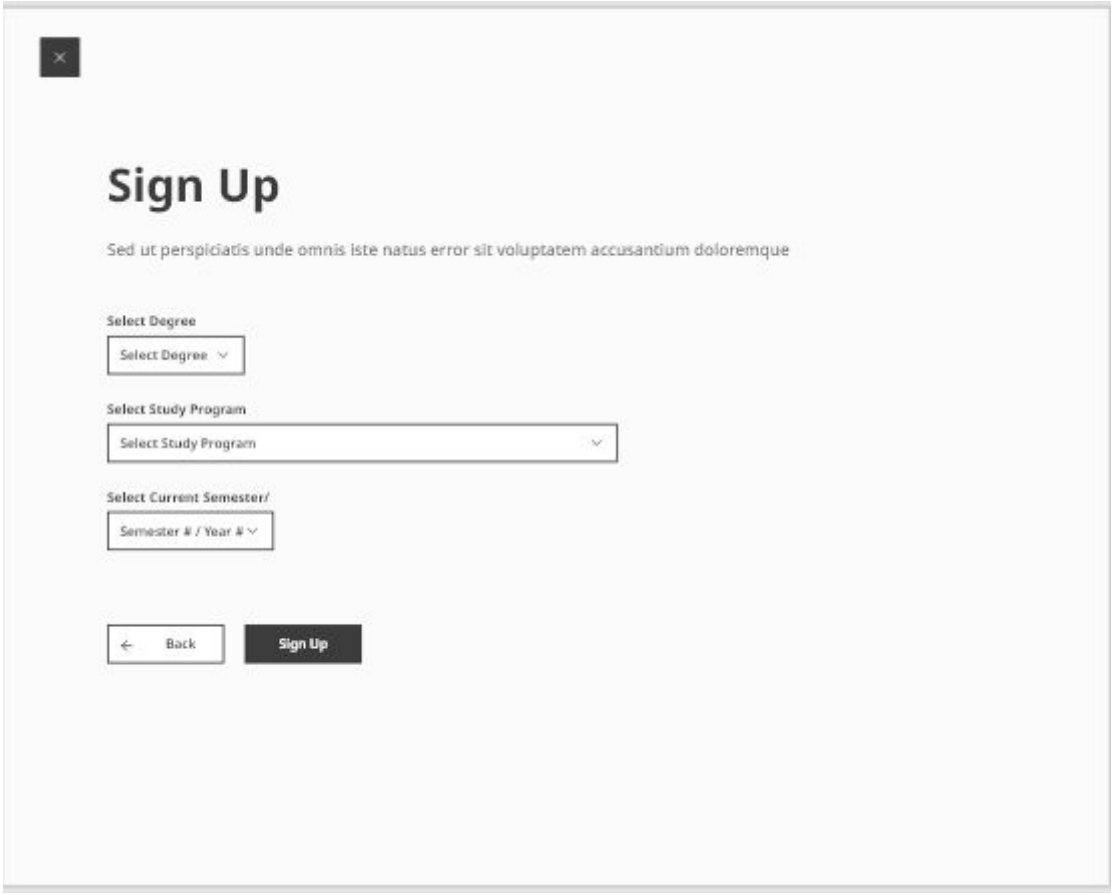
d. Specific Requirements

- User needs to input email and password which already exists to be able to log in.

2.2. Register

a. GUI





b. GUI control requirements

- 'Sign up' page contains input for First Name, Surname, Email Address, Password, Degree, Study Program, Current Semester
- 'Sign up' page contains the following buttons: 'Sign In', 'Sign up', 'Continue'

c. Use-case diagram

Name: Register
ID: 2
Goal: Student can sign up for the Student Networking App
Scope: Student Networking App
Summary: Student wants to sign up for the Student Networking App and fills in the required details in the form. The system validates the registration and sends a verification email to the Student. Student verifies registration. The system notifies Student that they are successfully registered.
Assumption: Student verifies registration within a few minutes of registration.
Primary Actor: Student
Include: Login
Extend: None
Pre-conditions: Student doesn't have an account yet
Trigger: Student clicks on the 'register' button

Main Success Scenario/Normal Flow:

1. System displays registration form
2. Student enters personal details
3. Student chooses university and study program from the dropdown
4. Student checks "Terms of Use and Privacy Policy" checkbox
5. Student clicks the 'register' button
6. System checks email and registration
7. System sends verification email to the student
8. Student checks email and verifies registration
9. System shows a message that student is registered

Sub-Flow:

2.1. Personal details must include:

- First name
- Last name
- Email address
- Password
- Re-type password

Exceptions/Alternate Flow:

6a. Email address is not a valid Fontys or TU/e student email

1. System notifies the student that the email is invalid and asks the student to enter a valid email address
2. Student re-enters email address and clicks the' register' button
3. Use case continues at step 5

6b1. Email address already exists in the system

1. System notifies the student that the email address already exists and asks the student to enter a valid email address or login
2. Student re-enters email address and clicks the ‘register’ button
3. Use case continues at step 5

6b2. Email address already exists in the system

1. System notifies the student that the email address already exists and asks the student to enter a valid email address or login
2. Student clicks the ‘login’ button
3. System redirects the student to the login screen (include use case: Login)

8a. Student didn’t receive an email

1. Student clicks ‘resend verification email’
2. System sends a new verification email
3. Use case continues at step 7

8b. Student didn’t receive an email and wants to re-enter/change email address

1. Student clicks ‘change email address’
2. System shows input field for email address
3. Student enters email address
4. Use case continues at step 5

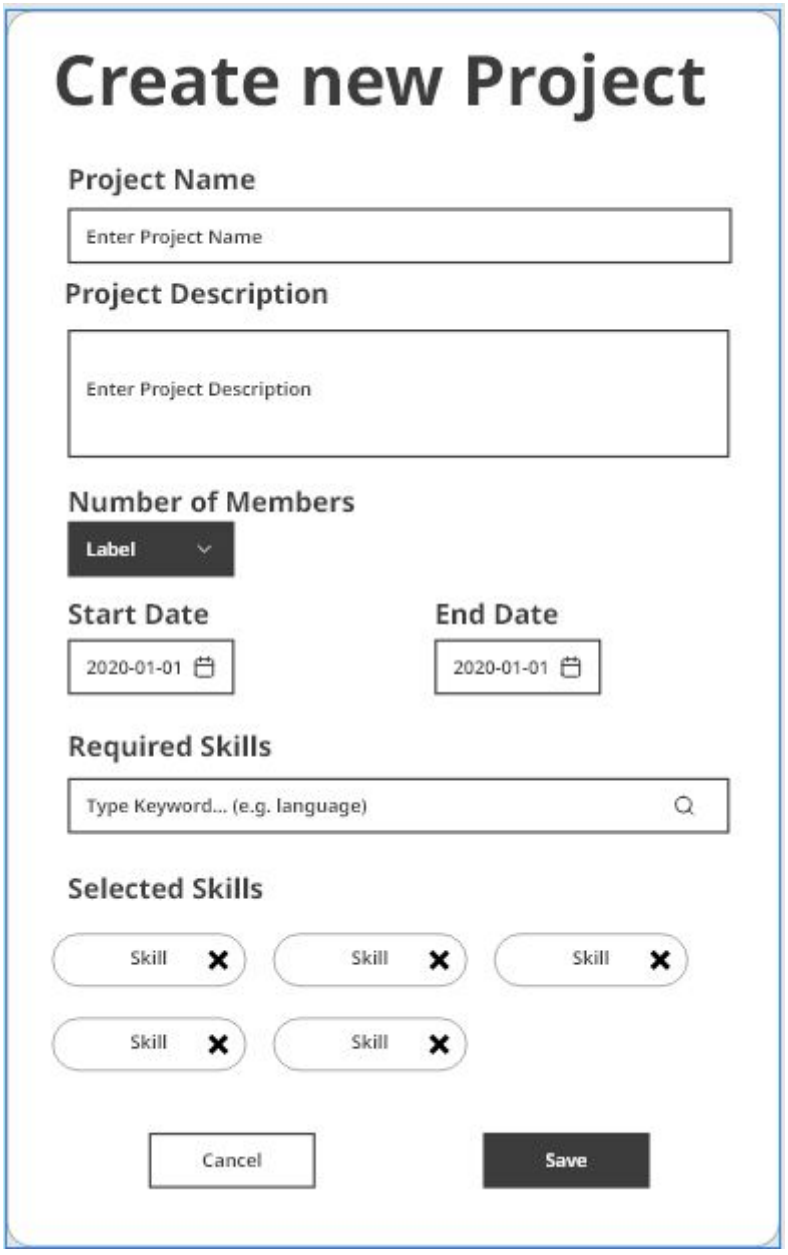
Post-Condition: Student is registered and has access to the system

d. Specific Requirements

- To sign up to the web app, the student needs to be either an Tu/e or a Fontys student

2.3. Create a project

a. GUI



b. GUI control requirements

- 'Create Project' popup contains input for Project Name, Project Description, Number of members, Start Date, End Date, Required Skills
- 'Create Project' popup also contains the following buttons: 'Cancel', 'Save'

c. Use-case diagram

Name: Create a project
ID: 3
Goal: Student can create a project for the Student Networking App
Scope: Student Networking App

Summary: Student wants to create a project in the Student Networking App and fills in the required details in the form. The system validates the form and display the confirmation message
Primary Actor: Student
Include: None
Extend: None
Pre-conditions: Student already logs in
Trigger: Student clicks on the '+' button

Main Success Scenario/Normal Flow:

1. System displays the project details form
2. Student fills in the project details
3. Student chooses the needed skills for the project
4. Student presses the 'submit' button
5. System shows the confirmation message

Sub-Flow:

2.1. Project details must include:

- Name
- Description
- Category
- Number of Members
- Start Date
- End Date
- Required Skills

Post-Condition: Student creates a project successfully

d. Specific Requirements

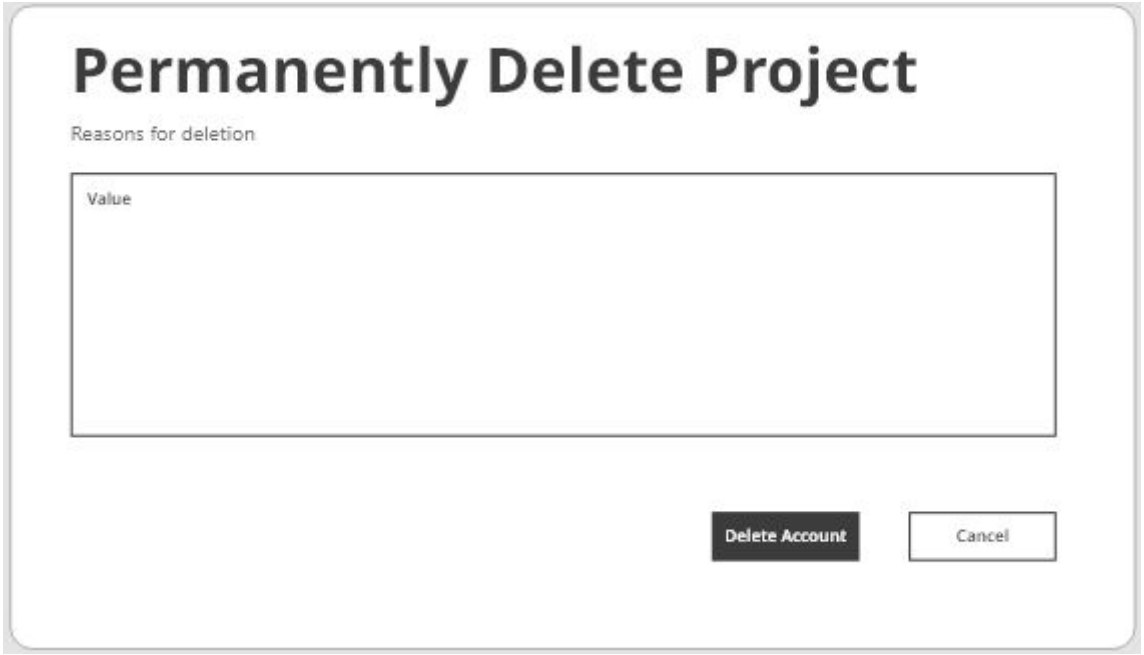
- From 'Home page', user presses the button 'Create new Project' then the 'Create new Project' popup will be displayed

2.4. Delete a project

a. GUI

The following page is 'Project Details' page which contains the button 'Delete Project':

The user presses the button ‘Delete Project’, the following pop-up is displayed:



b. GUI control requirements

- ‘Delete Project’ pop up contains an input for Reasons for deletion and the following buttons: ‘Delete Account’, ‘Cancel’.

c. Use-case diagram

Name: Delete a project
ID: 4
Goal: Student can delete his/her own project
Scope: Student Networking App

Summary: Student wants to delete a project in the Student Networking App by pressing the 'delete' button. System sends back the confirmation question and deletes the project if student press 'yes'
Primary Actor: Student
Include: None
Extend: None
Pre-conditions: Student is the project creator
Trigger: Student clicks on the 'delete' option

Main Success Scenario/Normal Flow:

1. System asks if student wants to delete the project
2. Student presses the button 'yes'
3. System sends the emails to contributors
4. System displays the confirmation message that the project is deleted successfully

Exceptions/Alternate Flow:

2.1. Student presses the button 'no'
2.1a. System returns at step 1

Post-Condition: Student deletes the project successfully

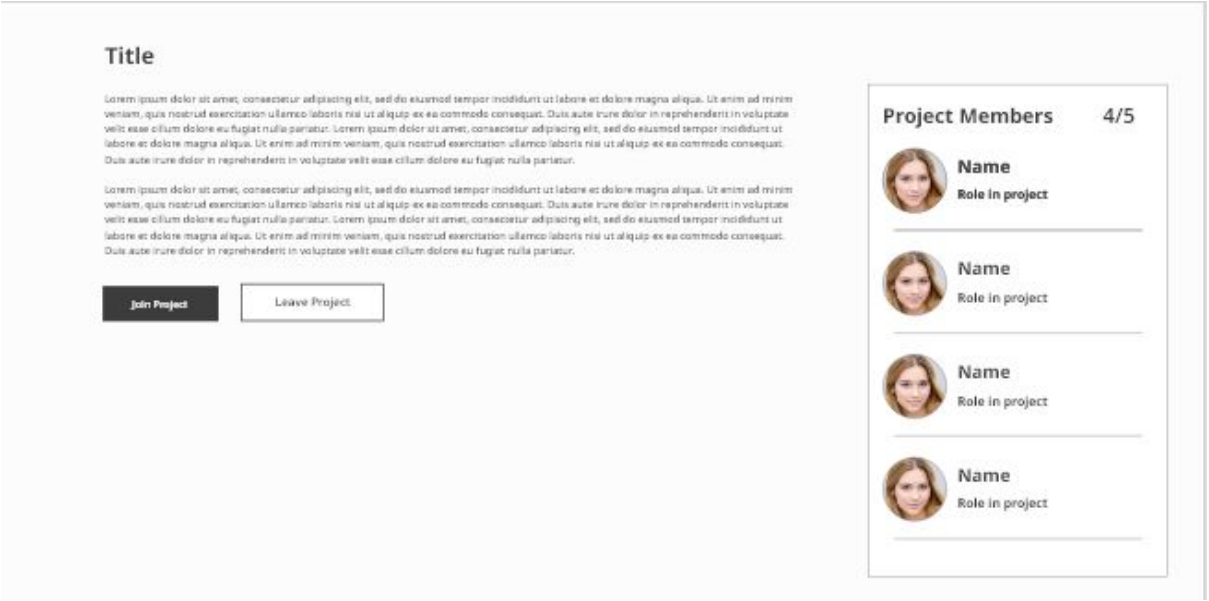
d. Specific Requirements

- To delete the project, owner needs to specify the reasons of deletion
- When the project is deleted successfully, all members will receive the notification email

2.5. Join a project

a. GUI

'Project Details' page of user which is not the project owner is shown in the below photo:



b. GUI control requirements

- 'Project Details' page (from the user which is not that project 's owner) contains one button 'Join Project'

c. Use-case diagram

Name: Join a project

ID: 5
Goal: Student can join a project on the Student Networking App
Scope: Student Networking App
Summary: Student wants to join a project. The student opens the project page and clicks on the join button. A request will be sent to the project owner. The project owner can accept or reject the student.
Primary Actor: Student, project owner
Include: None
Extend: None
Pre-conditions: the student is logged in.
Trigger: -

Main Success Scenario/Normal Flow:

1. The student opens a project.
2. The student clicks on the join button.
3. The system sends the project owner notification informing about the student's request.
4. The project owner accepts the student's request.
5. The system enrolls the student in the project.
6. The system sends the student an acceptance notification

Exceptions/Alternate Flow:

4a. The owner rejects the request.

1. The system informs the student about being rejected.

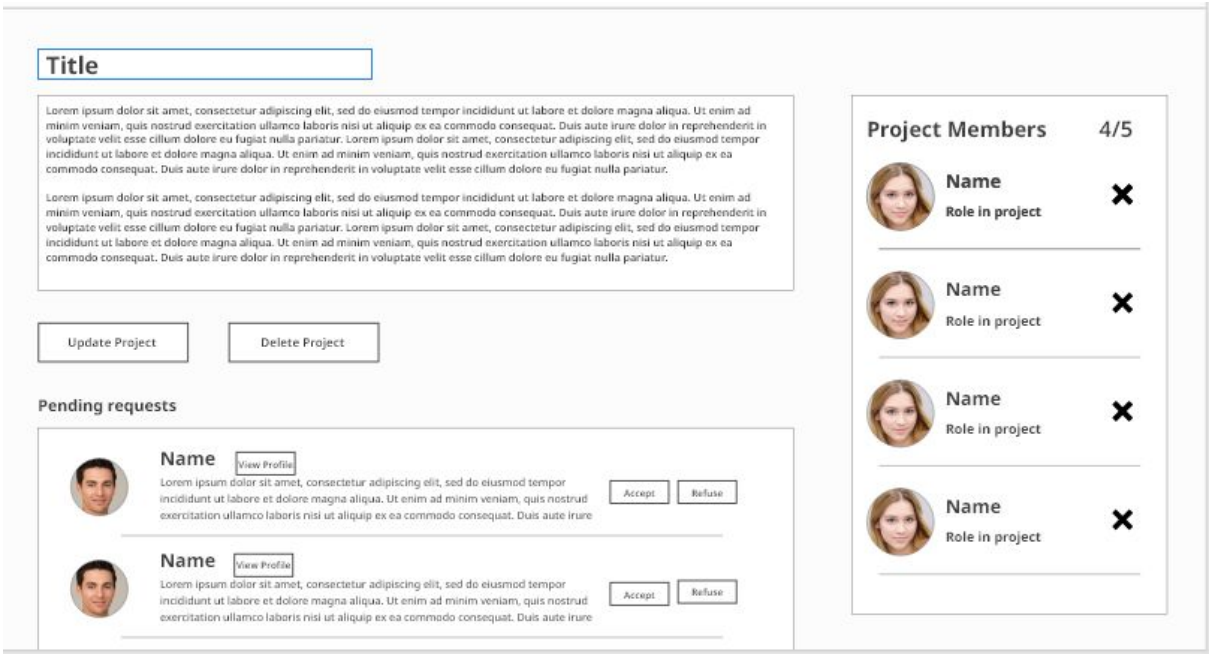
d. Specific Requirements

- The button ‘Join Project’ is enabled if the student is not a user of that project or there are not enough members yet.
- When joining the project successfully, student information will be shown in ‘Project Members’ on the right side. At the same time, the number of members is updated and the button ‘Join Project’ is disabled.

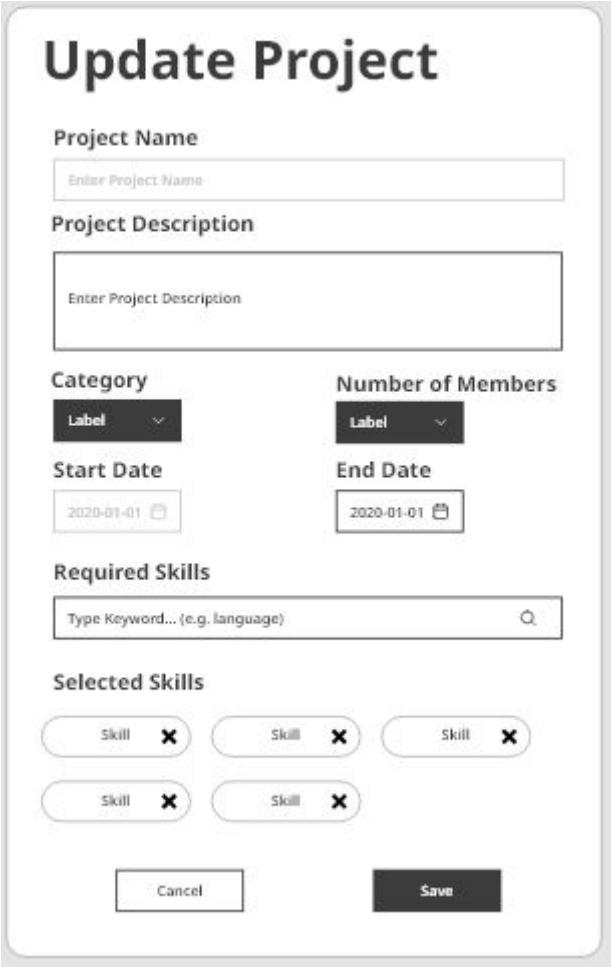
2.6. Update a project

a. GUI

With user as the project owner, ‘project details’ page is displayed as below:



Pressing the button ‘Update Project’, the below popup is shown:



b. GUI control requirements

- 'Edit Project' popup allows users to change the input field of Project Description, Category, Number of Members, End Date, Required Skills.
- 'Edit Project' popup also contains the following buttons: Save, Cancel

c. Use-case diagram

Name: Update a project

ID: 6
Goal: Student wants to update his/her project information on the Student Networking App
Scope: Student Networking App
Summary: Student wants to update a project he/she owns. Student clicks on update and fills in the new information, and the system checks the input and updates the project.
Primary Actor: Student (a project owner)
Include: -
Extend: -
Pre-conditions: the student is logged in.
Trigger: the student clicks on update project.

Main Success Scenario/Normal Flow:

1. The student clicks on 'update project'.

2. The system displays a page with forms.
3. The student changes the wanted fields in the forms.
4. The student clicks on save.
5. The system performs input validation and the input is valid.
6. The system updates the project with the new information.

Exceptions/Alternate Flow:

5a. The system performs input validation and the input is not valid.

1. The system displays an error message to the user.
2. The system will not update the project.

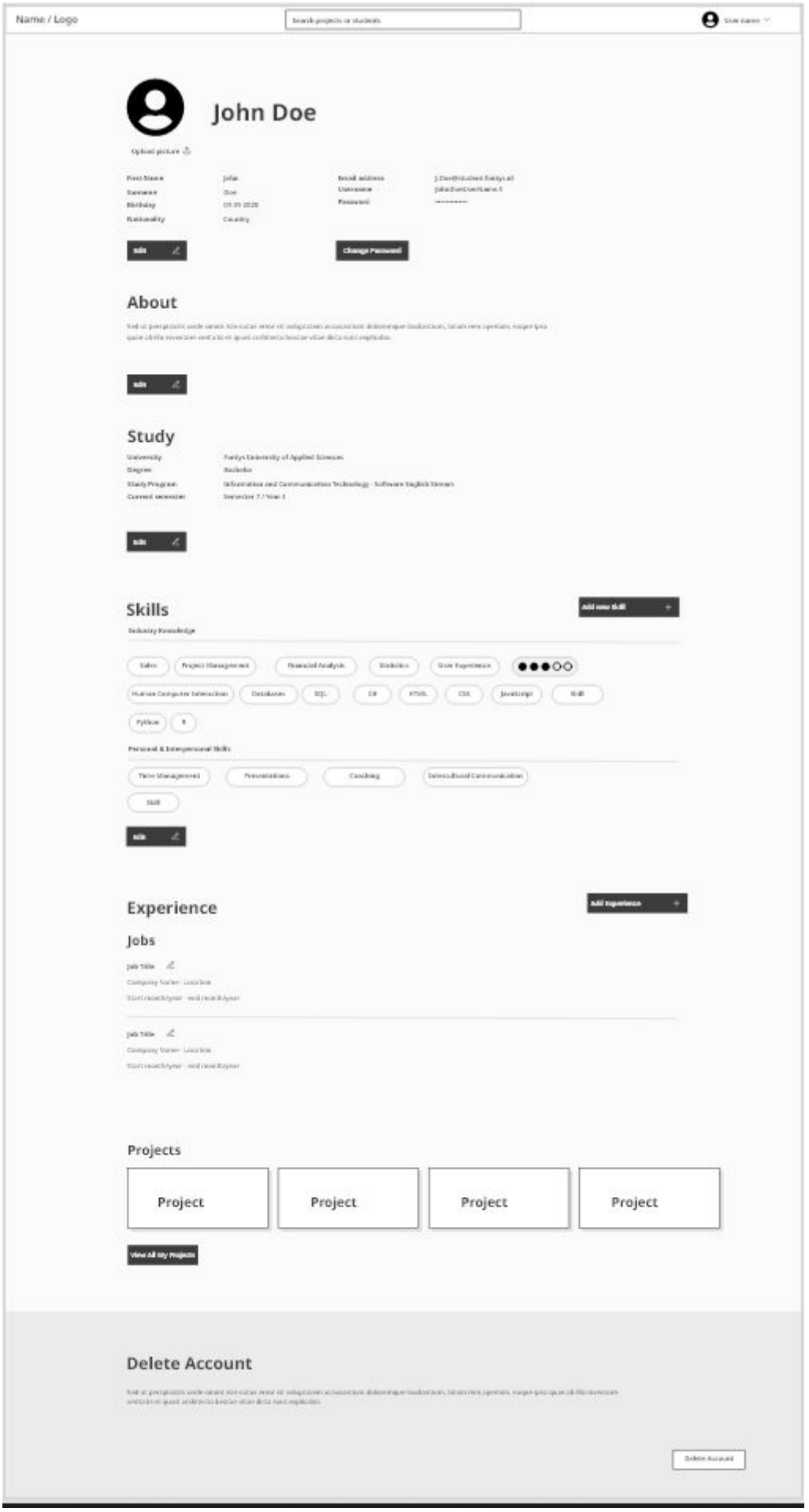
d. Specific Requirements

- Only the project owner has the option to update the project.

2.7. Update student profile

a. GUI

The below photo shows the ‘Profile Page’ of the user:

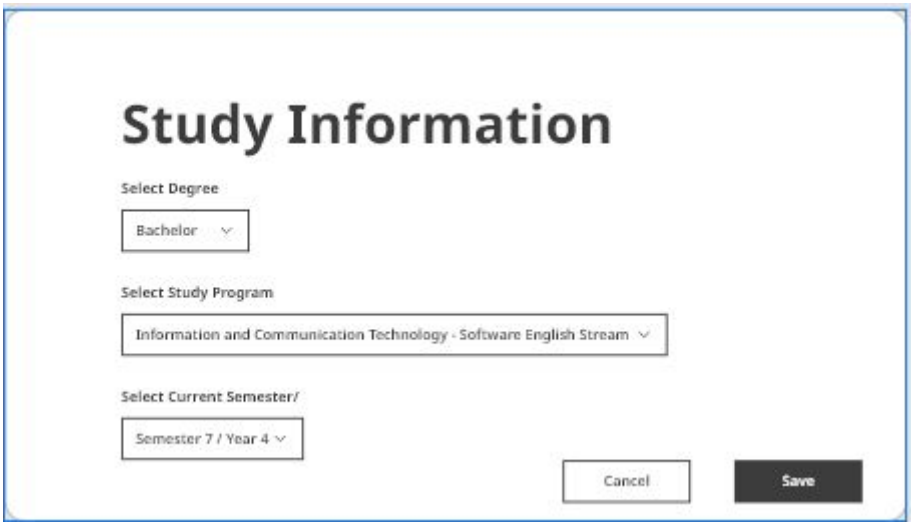

Name / Logo
John Doe
About
Study
Skills
Experience
Jobs
Projects
Project
Project
Project
Project
Delete Account

User can edit the following fields:

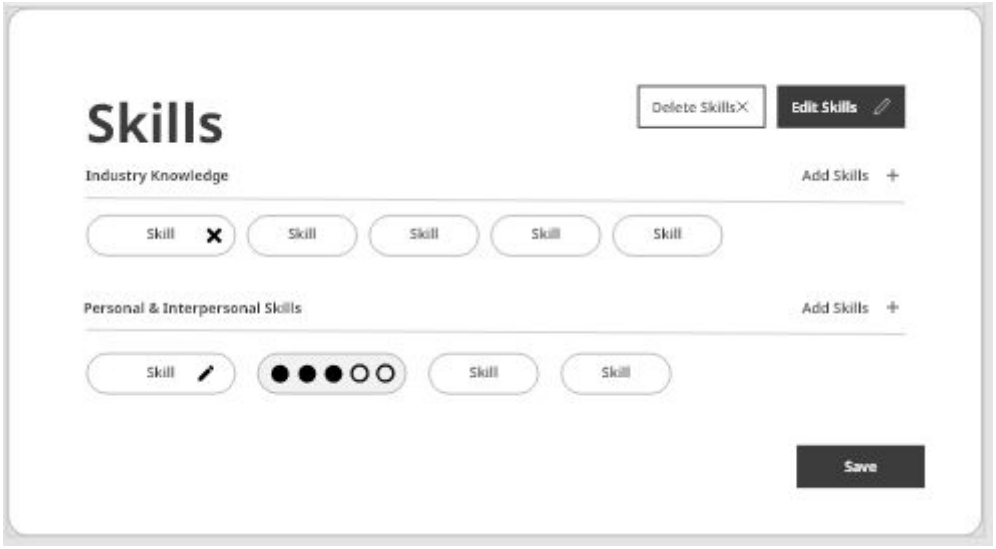
- ‘Edit Person Data’ Popup:

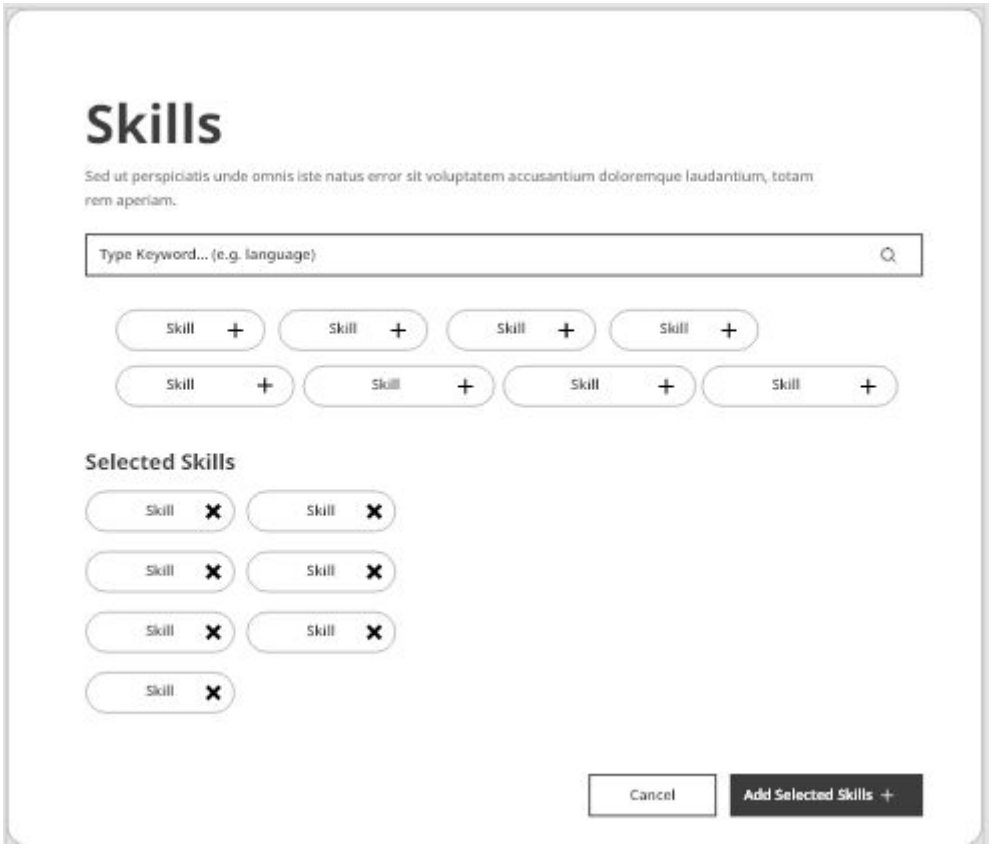
- ‘Edit About me’ Popup:

- ‘Edit Study Information’ Popup:

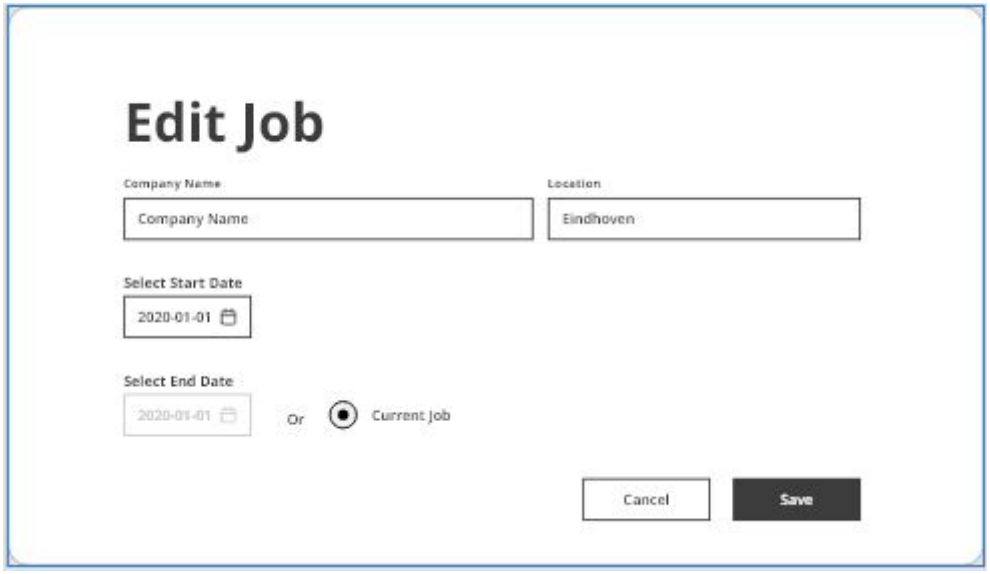


- ‘Edit Skills’ Popup:

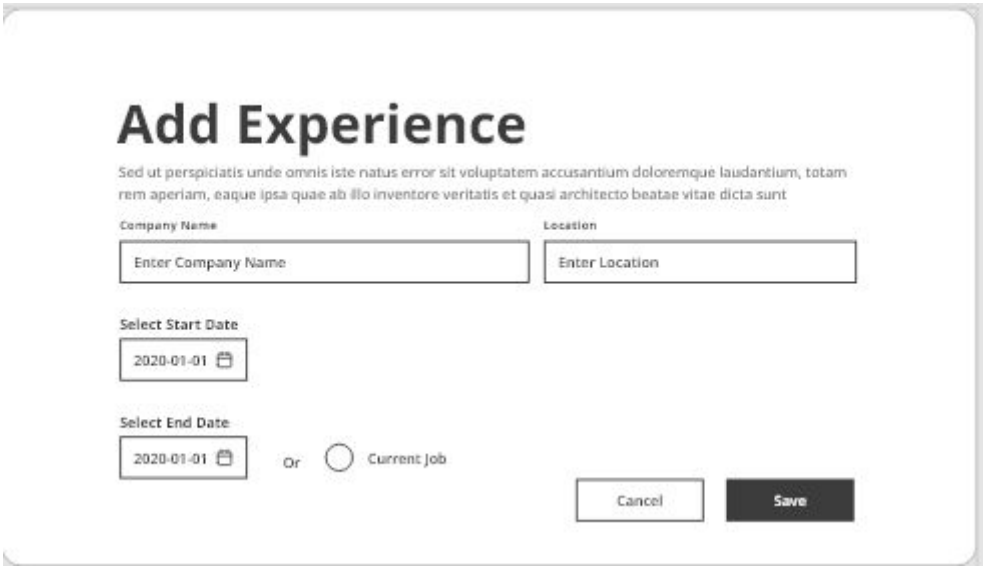




- ‘Edit Experience’ Popup:



- ‘Add Experience’ Popup:



b. GUI control requirements

- Each editing function will have the own pop up

c. Use-case diagram

Name: Updating student account
ID: 7
Goal: Student edits and/or adds information to their account
Scope: Student Networking App
Summary: Student edits and/or adds things to their account. The system saves the changes and updates the account with the new information.
Primary Actor: Student
Include: None
Extend: None
Pre-conditions: Student is logged on to the system
Trigger: Student clicks the profile picture/icon

Main Success Scenario/Normal Flow:

1. System displays account
2. Student clicks the ‘edit profile’ button
3. System displays the profile in edit mode
4. Student edits profile page
5. Student clicks ‘save’ button
6. System saves and updates profile

Sub-Flow:

4.1. Student can edit the following:

- Name
- Password
- Profile picture
- Student description/introduction
- Current education details (school, study program, current year/semester, etc…)

- (Work) Experience
- Skills

Exceptions/Alternate Flow:

6a. Profile isn't saved

1. System displays message

Post-Condition: Student's account is updated.

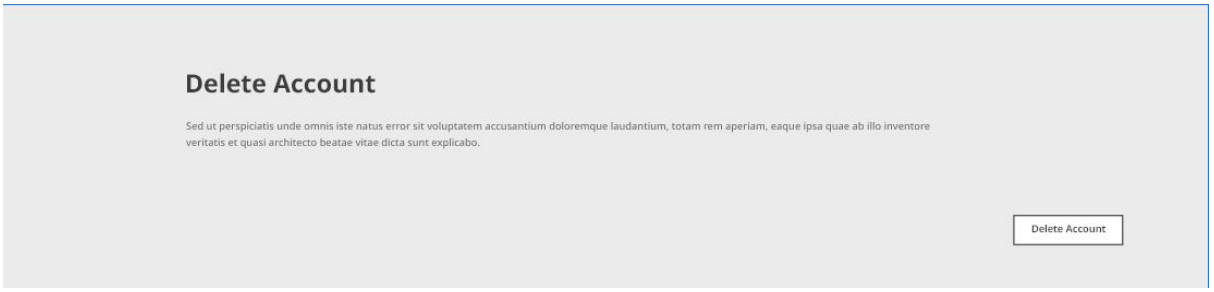
d. Specific Requirements

- The user can only edit his/her own 'Profile page'
- Each part has it own popup for editing

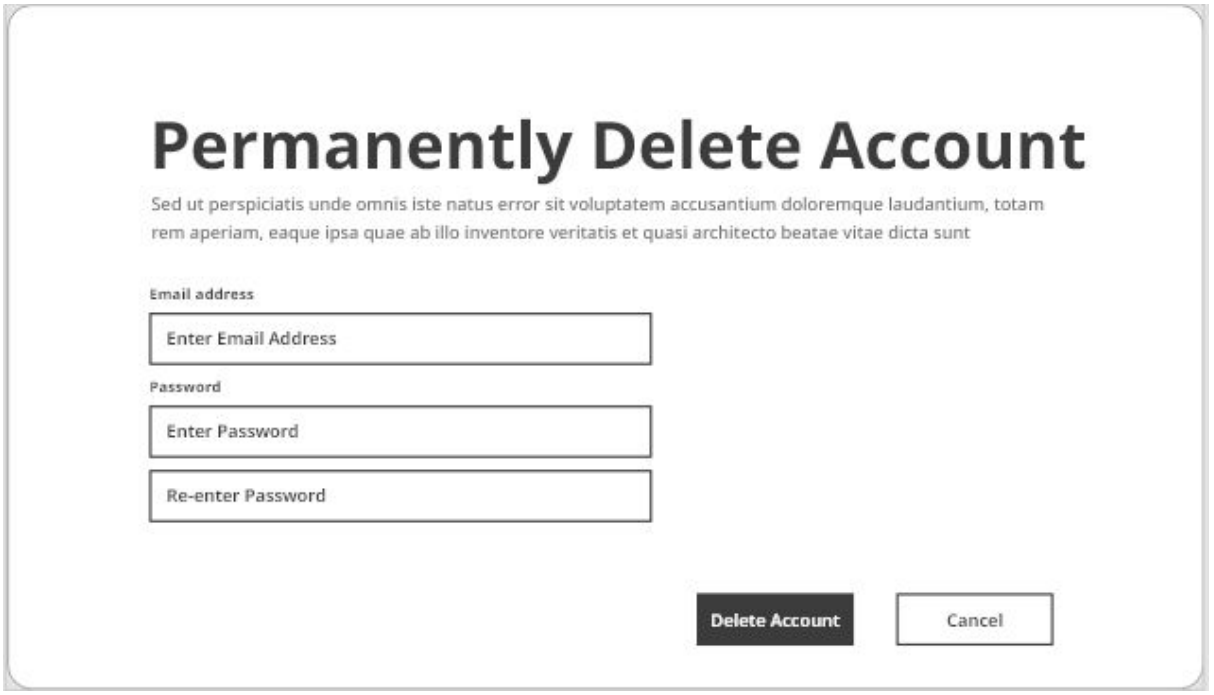
2.8. Delete an account

a. GUI

The 'Profile Page' has an button at the end of the page to delete account:



Then the popup appears when user presses the button 'Delete Account':



b. GUI control requirements

- 'Delete Account' Popup contains an input field for Email Address, Password, Re-enter Passwords and two buttons: 'Delete Account', 'Cancel'

c. Use-case diagram

Name: Updating student account
ID: 8
Goal: To delete an account
Scope: Student Networking App
Summary: Student deletes his/her account
Primary Actor: Student
Include: None
Extend: None
Pre-conditions: Must have an account on the website
Trigger: Student selects delete account button on the update student account page

Main Success Scenario/Normal Flow:

1. Student clicks on the delete account button
2. System asks if the student is sure
3. Student selects yes
4. System says the account was deleted

Exceptions/Alternate Flow:
3a. The student selects no

1. The system goes back to the update student account page

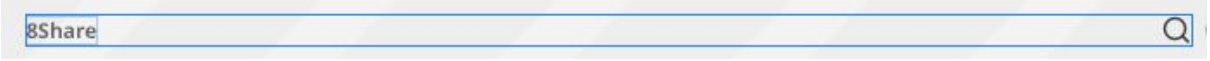
Post-Condition: Student's account is deleted.

d. Specific Requirements

- User can only delete his/her own account
- User must enter Email Address and Password if he/she wants to delete his/her account

2.9. Search for projects or students

a. GUI



b. GUI control requirements

- There is nar bar at the top of all pages if user already logs in

c. Use-case diagram

Name: Search for projects/students

ID: 9
Goal: Student can search for projects/students
Scope: Student Networking App
Summary: Student wants to search for projects or students by filling the criteria information . System displays the projects/students list which fulfills the criteria.
Primary Actor: Student
Include: Login
Extend: None
Pre-conditions: Student already logs in the app
Trigger: Student stays at the home page

Main Success Scenario/Normal Flow:

1. User enter the name of the project
2. User press click search icon
3. System validates the input
4. System returns a list of results to users within the same page

Exceptions/Alternate Flow:

1a: User enter partial name of the project

1. Continue with MSS step 2

1b: User did not enter any input

1. End of use case

3a: Misspelled input

1. Continue with MSS step 4.

4a: No results

1. System displays a message for no result found.
2. End of use case or go back to MSS1

Post-Condition: System shows the projects/students list

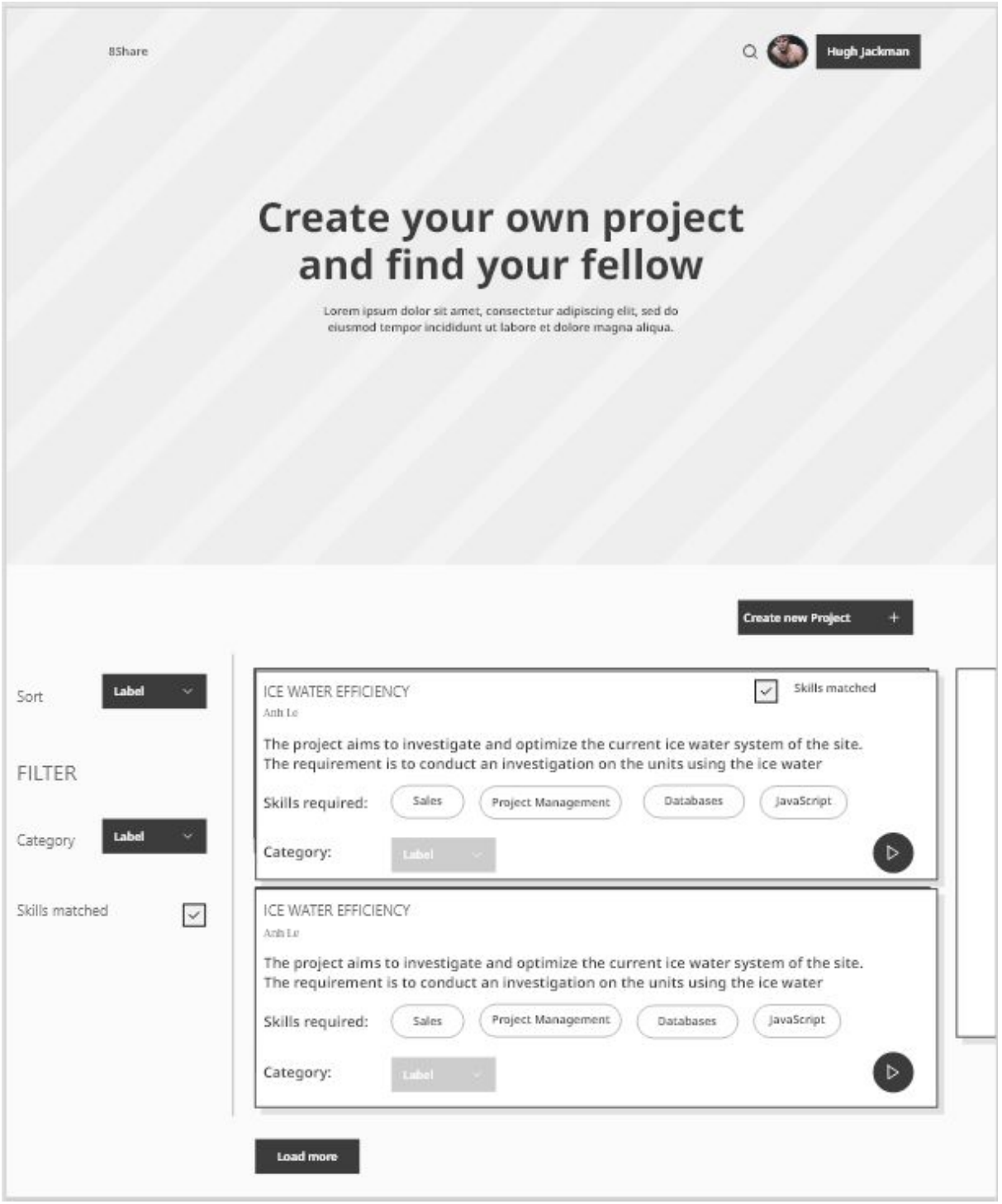
d. Specific Requirements

- User can input any data and system will compare the input with each property value of each project and return the matching projects

2.10. Filter for projects or students

a. GUI

'Homepage' contains the Filter options on the left side. User can filter either on Category or Skills matched:



b. GUI control requirements

- Filtering part contains Drop Down Box for selecting the value of category and Tick box for Skills matched.

c. Use-case diagram

Name: Filter projects/students
ID: 10
Goal: User can filter for smaller set of projects
Scope: Student Networking App
Summary: Student wants to filter projects or students with certain criteria . System displays the projects/students list which fulfills the criteria.
Primary Actor: Student
Include: None
Extend: None
Pre-conditions: User in project page(show list of available projects)
Trigger: Student clicks on the 'search' icon

Main Success Scenario/Normal Flow:

1. User choose a criteria for filtering
2. User click apply filtering
3. System returns a list of projects belong to the chosen department

Exceptions/Alternate Flow:

1a: User did not choose any of the boxes.

1. End of use case.

Post-Condition: Student retrieves the list of project by a criteria

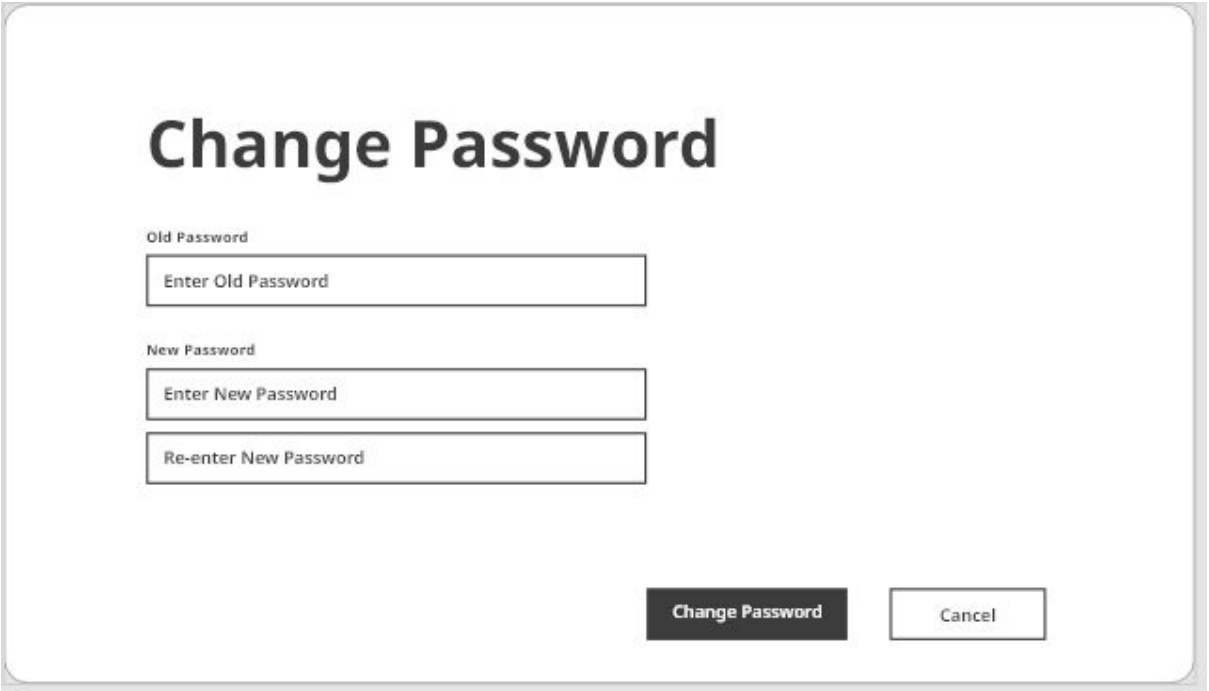
d. Specific Requirements

- User can multi-filter on Category, Skills matched
- User can filter after Sorting or Searching

2.11. Reset password

a. GUI

From the 'Login' page above, user can reset his/her password when pressing 'Forgot Password'. The below popup is shown:



b. GUI control requirements

- 'Change Password' popup contains the input field for New Password

c. Use-case diagram

Name: Reset Password
ID: 11
Goal: Reset password when the password is forgotten
Actors: Student
Summary: Student can reset password when they forgot the password. Student fills in email address and gets an email to reset the password. Student enters a new password.
Include: None
Extend: Login
Pre-Condition: Student is registered
Trigger: Student clicked 'Forgot password'

Main Success Scenario:

1. Student clicks 'forgot password' button
2. System displays an input field for student email address
3. Student enters email address and clicks 'reset'
4. System check and verifies email
5. System sends an email containing a reset link to the provided email address
6. Student checks email and clicks the reset link
7. System redirects student to reset form and asks Student to enter new password
8. Student enters new password and confirm of new password and clicks 'reset'
9. System resets password

Alternate Flow/Exceptions:

4a1. Email doesn't exist

1. System shows message
2. Student reenters email
3. Use case continues at step 4

4a2. Email doesn't exist

1. System shows message
2. Student clicks 'cancel'
3. End of use case

6a. Student didn't receive an email

4. Student clicks 'resend email'
5. System sends a new email
6. Use case continues at step 6

6b. Student didn't receive an email and wants to re-enter/change email address

3. Student reenters email address
4. Use case continues at step 3

d. Specific Requirements

- When a user forgets his/her password, he/she will receive the email for verification. Then the 'Change password' Popup appears

3. Non-functional

Nonfunctional Requirements (NFRs) define system attributes such as security, reliability, performance, maintainability, scalability and usability. They serve as constraints or restrictions on the design of the system across the different backlogs.

In our system, we will implement the following functional requirements:

1. Security

We implement our front-end and back-end of our web app on React and Laravel correspondingly. These libraries and frameworks already have built-in security and ensure the web app is well-secured.

2. Usability

The target users of the student networking system are students. During the Implementation and Testing phase, users will be involved in the testing process to test the developed functionalities. From the feedback, the application will be enhanced.

3. Maintainability

Prior to the implementation and Testing, we execute the Research and Design phase. This phase aims to create the most effective design which allows the maintenance in the future.

4.