

Master of Science in Computing and Data Analytics



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UI/UX Design and Evaluation MCDA 5530

Final Project Name- SMUBI *Saint Mary's University Breaking the Ice*

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General Description

The project is aiming to provide an effective way of building up a new supporting social network for international students to set up connections with seniors of the same course, alumni, campus and local communities eventually. By establishing new contacts with people, we can provide a smooth transition to international students before their arrival and when they first arrive at Saint Mary's University/Halifax, and later during the life in Halifax, especially in social aspects. Breaking the ice these days is something one is not comfortable in or is shy/ afraid of and that person is unable to start a conversation with strangers, so helping them in a way to talk to people sharing the same likes/interests is important.

Motivation of the Project

The motivation of the project is that we as international students are from different cultures featured with diverse personalities, who are suffering from different problems in their social lives. There are barriers of languages, social and cultural background, making it difficult to set up new contacts with other people. If we can overcome these barriers, we'll be able to strengthen the social fabric, or otherwise, people with different cultures won't communicate with each other leading to a serious social crisis. We are the sufferers, so we have the motivation to make a difference by providing a solution where people will become comfortable to interact with each other.

Definition of the Problem

Generally speaking, the problem is that the international students are struggling to establish a new support network to help them deal with academic, emotional, and cultural problems before/after arriving at Saint Mary's University. The problems of the academic environment, housing, shopping and many other aspects are just the symptoms of an underlying problem which is lack of support and social life. According to a study of more than 43,000 Canadian university students, 66% reported feeling "very lonely" in the past year, 30% felt "very lonely" within the past two weeks and shockingly 44% said they felt "so depressed that it was difficult to function" and they don't know how to overcome these problems. The situation international students are facing is even worse because of the additional pressure of new language, new environment and lack of friends around them which might lead to social phobia.

Survey/Interview Questions and Responses:

Survey

Survey URL Link (<https://goo.gl/forms/dWDgXDtr21U3APw62>)

Total survey responses received: - 64

Survey/Interview Questions and Analysis



Survey_Analysis.doc
x

Survey Data in Excel Sheet



SMUBI
Questionnaire! (Res|

Summary

According to the sixty-four participants survey and six participants of interview, we discovered several insights of users' needs. Some of our participants said that they rarely have the time for social lives and rarely reply to strangers online because of the trust issue as well. Half of the participants are introverted, and they lack the chance of starting a conversation. The extroverted participants also have problems in maintaining the connection. Their hang-out choices are confined to friends from the same department or same cultural background while other connections maintain a nodding social acquaintance, nothing more than faces they recognize. Most of participants prefer offline social life and said "It's weird to talk to strangers online at the first place". The reasons include lacking common topics, lack of communication of body language and expression, feeling distance and lack of timely reply. They all admitted that ice breaking takes time. Good ice breakers include humor, asking questions, offline events like game night and movie night, etc. For motivation, they are willing to talk to strangers because of the social personality and other reasons like career exploration and feeling responsible to help juniors. But some of international participants mentioned that the language is an obstacle to talk to strangers in their first year.

Requirements

Types of requirements

User Requirements:

Data Requirements

- Details of students (ANo., Name, Email, course details, phone number, address)

Functional Requirements

- Login page with SMU login authentication.
- User interface according to type user (student or other).
- Collecting the user interests, hobbies, daily routine details.
- Joining the users based on interests, hobbies, study course.
- Request and response should be fast

Usability Requirements

- User Interface should be fast and easy to use.
- Avoid multiple navigations by putting most of them in single page.
- Each page should be clear by displaying relevant logos and headings.
- For every submit type content there should be a pop –up.
- Pop up messages are categorized and making generic to increase content usability.
- Most frequent content should be cached in Client or server side based on type of content.

Environmental Requirements

- Application needs 30MB of mobile hard drive and able to install .apk file.
- Need a good amount of RAM and updated OS.
- Application needs acceptable speed internet to connect to server.

Results of Design thinking process

Persona(s)



Age
18 to 24 years

Zahira Russels

Place

South Park Street , Halifax , Canada.

Profession

Student

Daily Routine

9 hours in University
Having Dinner in Downtown (two- three times) in a week
Go out for traveling on weekends
Working for freelancing Project
Gyming for one hour on alternate days

Social Apps

Two hours a day mostly at Night
Facebook,Instagram,Whatsapp
Browse pictures nd posts
Linkedin for job
Mainly for talking with friends and rarely reply to strangers

Interest and Hobbies

Music and TV Series
Doing parties ,watching movies and Netflix
chatting with friends on Whatsapp and other messangers
Traveling , photography and Bolgging
Skating on weekends
Hanging out with friends
Browsing Social media like Facebook and Instagram
Swimming,Playing Badminton
Searching for new places to travel
Making New Friends

Language

Not good in speaking English but can read and write
Hindi and Urdu as Native Language
Can Read and understand French and German

Social Needs

Support when feeling lonely specially during exams
Quality Social Life
Want friends for learning and support
More like face to face chatting
Maintain existing connections from hometown
Want friends to support during problems
Hangout with friends from different cultures
Need a online platform to have a new friends

Phobia and Concerns

People don't response on social app
Not able to trust people on social media
Phobia from the fake account
Trust Issues
Social Media may not be secure

Personality Type

Good Observer
Initiate a conversation only on the basis of needs
Wants to be extroverted
Not confident

Figure 1

Zahira Russels is a 19 years old undergraduate student at Saint Mary's University. She is born and brought up in India and currently staying in an apartment at South Park Street in Halifax. She used to go to Halifax Sports center as her interest is in Swimming and playing Badminton. Other than this she is having an interest in making new friends in her surrounding or on some social platform, hanging out with them, doing parties. Zahira time is incredibly precious to her as she is having a busy schedule at the university.

Other than studies she used to go to the gym, prepare her dinner on a daily basis. She is not good at English while speaking but can read and write. She is fluent in Hindi and as Hindi is her native language. She always feels needs for a quality social life like to maintain her existing connections at her home town, make new friends in Halifax may be through some online platform so that she can get some help during her exams or when she feels lonely. She needs some good friends to hang around, do parties and travel.

Even having a busy schedule she manages to watch TV series and go through some posts on social media platforms like Facebook, Instagram. She loves to chat with her friends on WhatsApp and other messengers. She always enjoys photography, blogging, and traveling with friends. Besides her interest in making new friends, she is having a phobia in initiating a conversation as well as she has a concern of insecurity and trust for the social platforms. In spite of having a concern, She is most active on social applications before going to sleep and uses them in various ways like chatting with friends, surfing their posts, and many more.

Empathy path

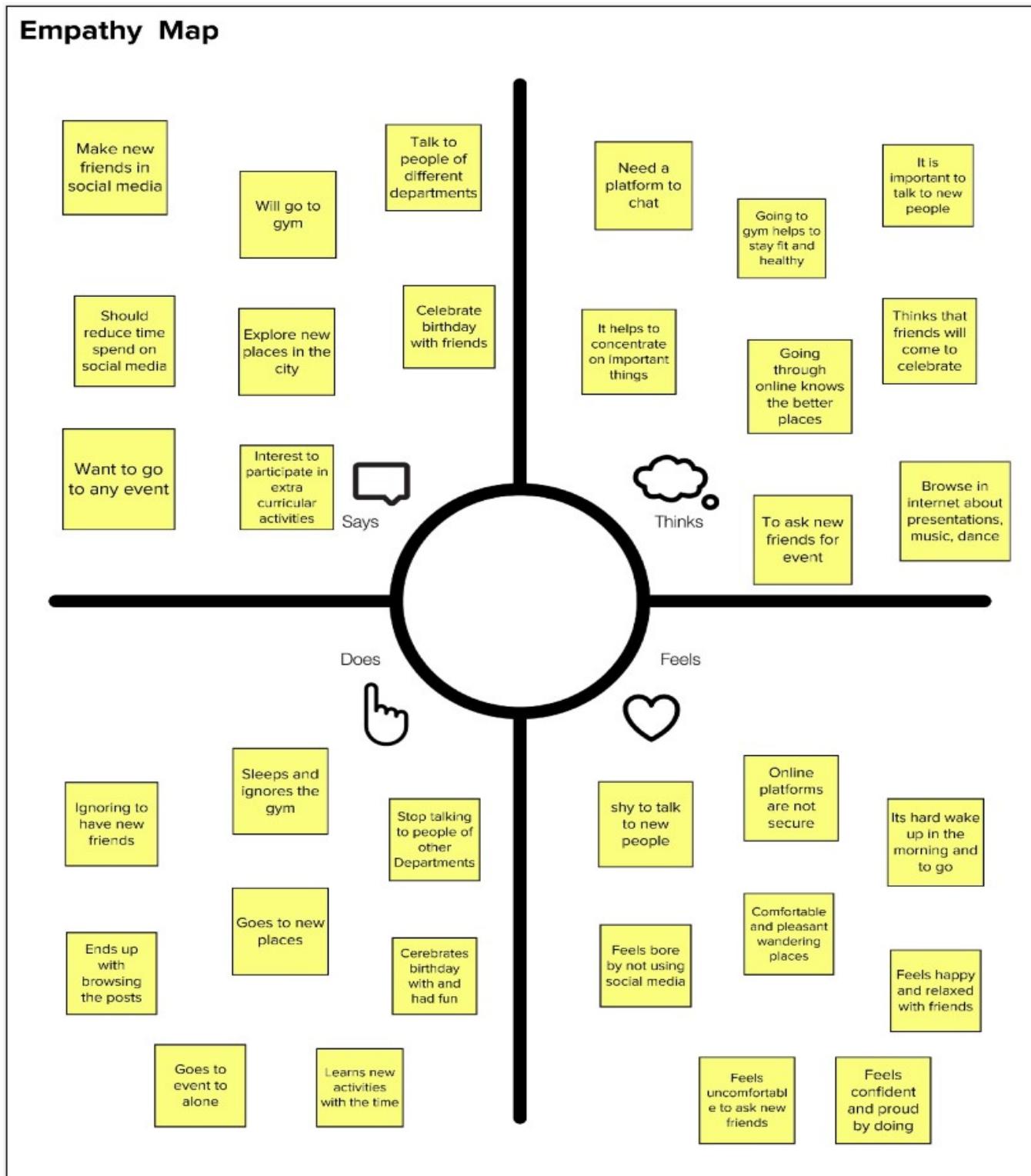


Figure 2

Summary

Empathy map gives the deep insights of our persona Zahira Russell's. It is a structure which is divided into four quadrants (Do, Say, think and feel).

"Says": It describes our persona that what she says to make new friends on both online and offline methods. She wants to go to gym, new locations, different departments where she can interact with new people. Exploring new places and participating in extra curriculum activity to meeting new students from all around the world.

"Thinks": This quadrant describes how she thinks, like need of platform to chat with new friends, how going to gym helps her, how it helps talking to other department students, how internet helps to find new places and events.

"Does": This quadrant tells about how she does to what she says respectively, like how it ended up, she ends up by not talking to new friends, not talking to other department students, not waking up and ignoring the gym, going to new places and event alone and celebrates her birthday with friends.

"Feels": It gives the emotion of each experience, our persona feels bored by not using social media, feels insecure of platform on chatting with new friends, relaxed by wandering the new places nearby, and feels happy by celebrating her birthday with friends.

As-Is Scenario Map

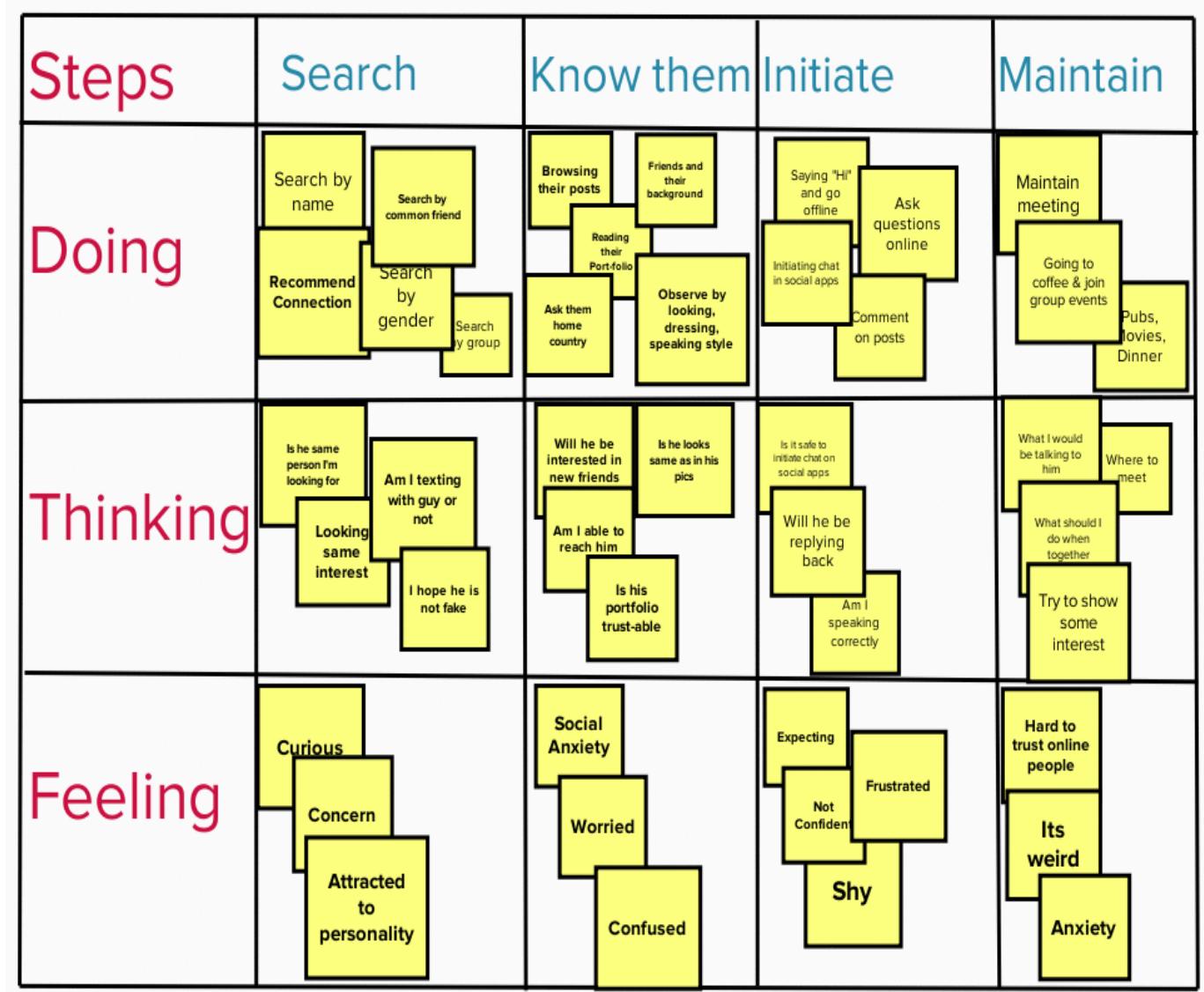


Figure 3

Difficulties in Making New Connections:

Zahira Russel is facing various difficulties in making new friends. To explain her problems and difficulties we will go through for major steps:

1) In searching for new friends-

Through many ways, Zahira is searching for new friends such as by name, a recommendation from a friend and by mutual friends. While doing this she always came across some Questionable thoughts like Is he/she the same person? Is this one a genuine account or fake? And feels concern and curious about such thoughts.

2) In knowing new friends-

After searching some couples of friends she tries to find out some information related to them by reading their portfolio, browsing their posts, knowing them from some mutual friends like details about their residence, education. She also tries to observe them from their past posts, dressing styles, and many such factors. While doing this she always came across some questionable thoughts like Am I able to reach him? Are their portfolio is trustable? Will he/she be interested in making new friends? And feels worried and confused about such thoughts.

3) In initiating a conversation-

She used to initiate a conversation by saying "Hi" when she is nearby to any of her friends. On the online platform, she used to initiate it by asking some relative question or by talking about some common topic. She also used to comment on her friend's post to initiate a conversation. While doing this she always came across some Questionable thoughts like Am I speaking correctly? , Will they reply back? , How they will react if she is going to initiate a conversation and is it safe on an online platform? And feels very Insecure, frustrated, shy, not confident and expecting.

4) In maintaining the friendship-

She maintains her friend circle by moving forward from a conversation to meetups like coffee, dinner or maybe a date. She also wants to hang out with friends, watch movies, doing parties. While doing this she always came across some Questionable thoughts like where to meet? , What should I do when we will be together? , what would I be talking to him? And feels wiered, confused, anxiety and lonely while being in the friends group.

Ideas mapped on the feasibility/pain-point plane

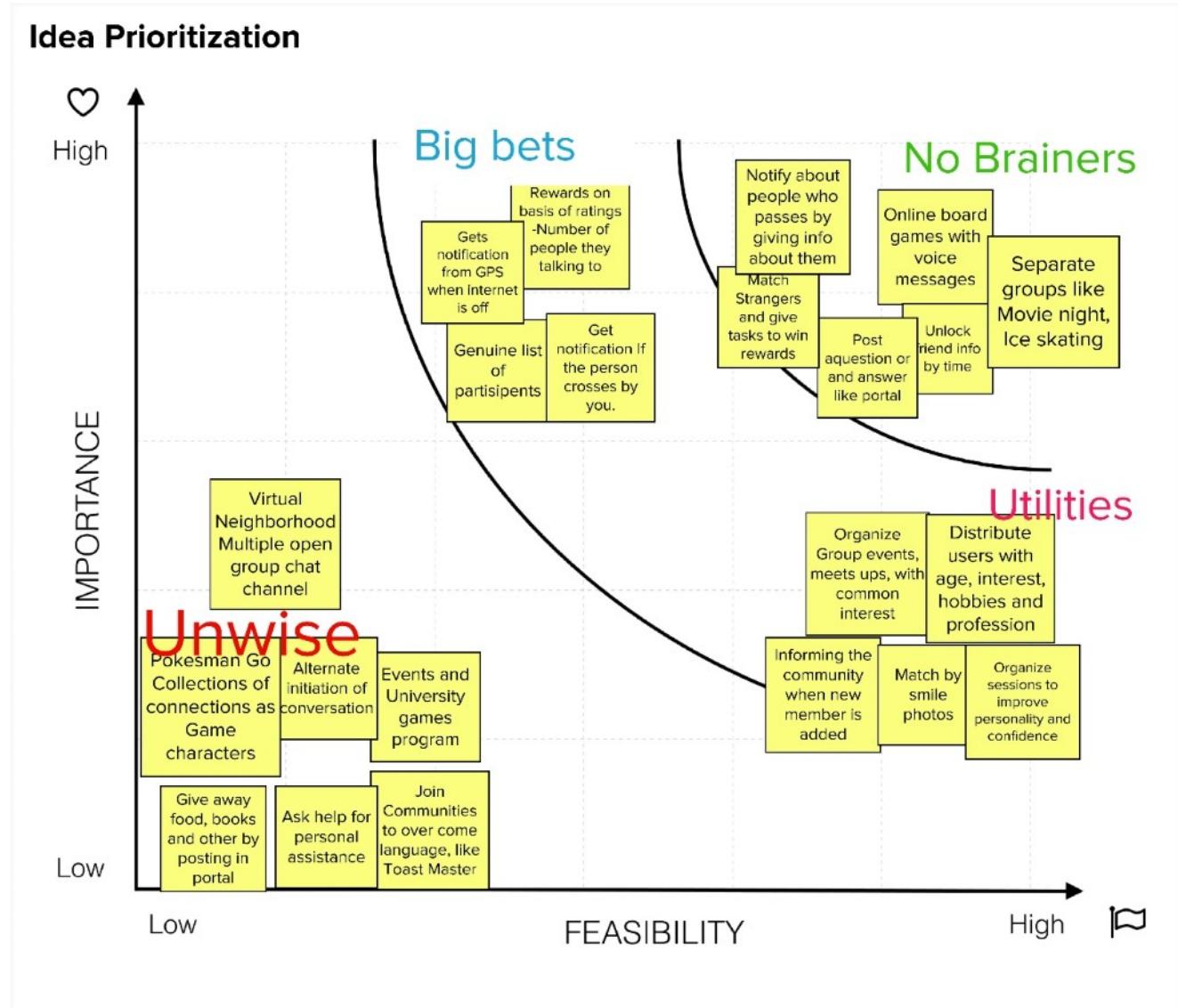


Figure 4

Summary

All the ideas are divided into four parts (No brainers, Big bets, Utilities and Unwise) based on feasibility and importance of the idea.

No brainers: These are the one which most important and feasible ideas are and will be out first and foremost features in the application few of them are playing board games with voice messages, unlock friend information with time, Application notifies the info about she/he when an app friends are nearby and post a question or an answer.

Big bets and Utilities: These ideas are either most important or feasible, they will support as secondary features to the application like rewards based on ratings for user, notifies when friend crosses by, organize group events and meet ups, match by smile photos, informing to community when new friends are added.

Sketches

Previous Design

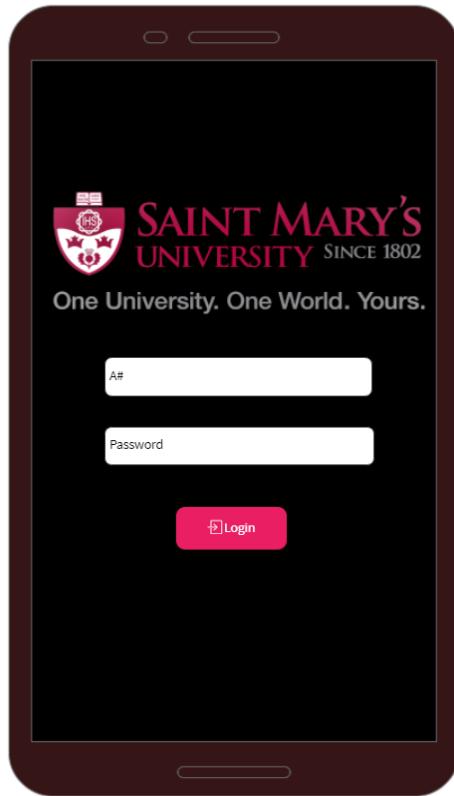


Figure 5

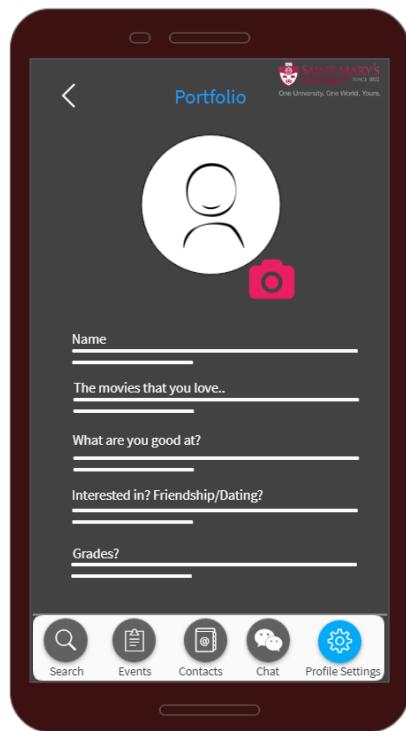


Figure 6

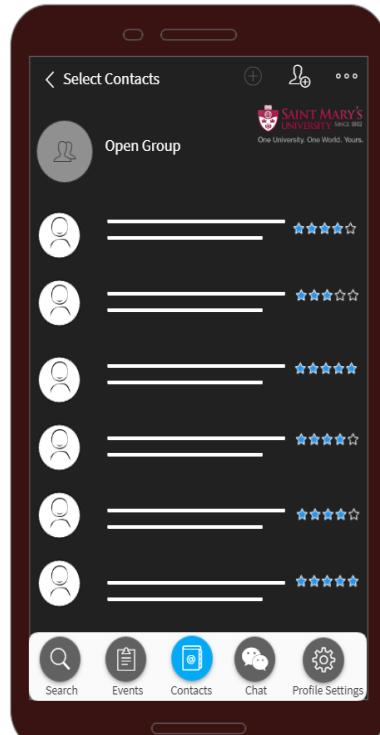


Figure 7



Figure 8

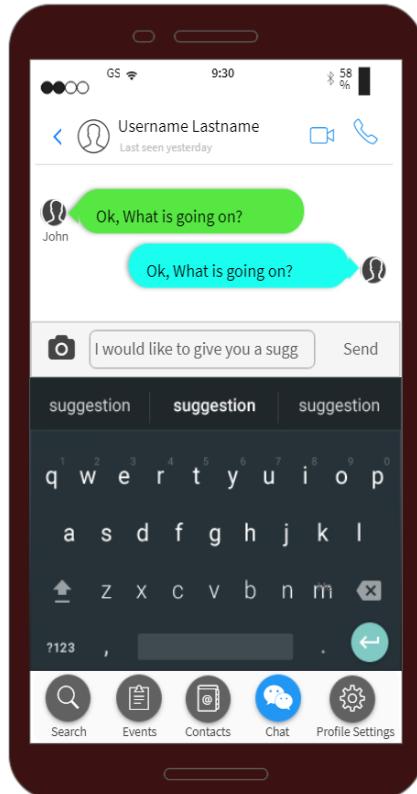


Figure 9

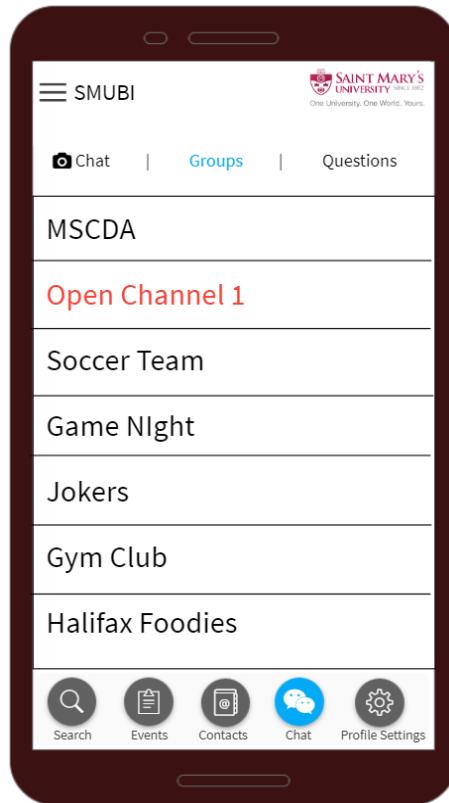


Figure 10

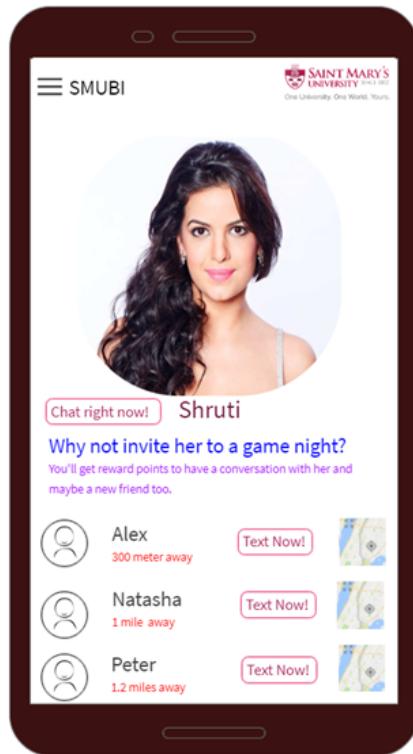


Figure 11

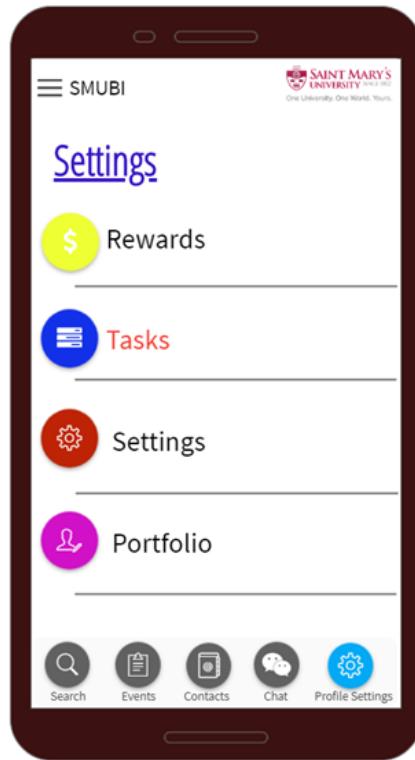


Figure 12

Heuristic Evaluation

General Description

The project is aiming to provide an effective way of building up a new supporting social network for SMU students to set up connections with students of the same course, alumni, different departments and other communities as well. By establishing new contacts with people, we can provide a solid foundation for students in order to deal with daily life struggles as well as would help them to become mentally strong as they'll have a lot of people to talk to, hence making them strong both emotionally and mentally. Breaking the ice these days is something one is not comfortable in or is shy/ afraid of and that person is unable to start a conversation with strangers, so helping them in a way to talk to people sharing the same likes/interests is very important.

1. Visibility of system status

- Always keep users informed about what is going on.
- Provide appropriate feedback within reasonable time.

Evaluation

Description:

For every action on system, It should give feedback.

Like when user opens the application - System should display status of internet connection (Exclude this if it is offline application).

A person can view all the events according to date and type

What is wrong:

- User have to know that he is online or offline.
- What should happen when user skips text fields in login & signup page?
- User cannot understand to wait or not for every load type calls.
- No application description page so user can understand what he / she is going to do with the application.
- There are no filters in the events section, neither the dates on which the events will be held on are visible.

How to make it better:

- Fade off online or offline on the footer when user opens the application.
- Display "Need to enter" below the username & password when user skips the text field in login page.
- Display "Need to enter" below all fields in portfolio page when user skips the text field.
- There should be an introduction page while starting the application.
- Add filters in the events section and the dates section in it.

2. Match between system and the real world

- Speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms.
- Follow real-world conventions, making information appear in a natural and logical order.

Description:

Here all the text field labels on Sign in & sign up pages should be easily understood by everyone.

All the menu options should be easily recognized with proper logos.

What is wrong:

- In 'A#' text field user has to understand clearly what to enter.
- Text fields are not clearly displaying on portfolio page.
- Labels on the sign-up page should be appropriate and easily understandable.
- Only pictures can be entered in the profile

How to make it better:

- In 'A#' field display place holder 'Enter A# number'
- Change lines to text fields in Sign up page.
- Giving an option to add Gif/Boomerang or a short video in their profiles.

Evaluation

3. User control and freedom

- Users often choose system functions by mistake.
- Provide a clearly marked "out" to leave an unwanted state without having to go through an extended dialogue.
- Support undo and redo.

Evaluation

Description

Upload changes for profile photo

Submit the changes after the portfolio form.

What is wrong

- User able to undo the uploaded profile photo
- There is no button after user fills the portfolio form.
- User can't delete the message after sending it. (through chatbox)

How to make it better

- There should be a 'Submit' & 'Cancel' button after he/she uploads a photo.
- 'Submit' needs to be added at the end of the portfolio form, which sends the details to system.
- There should be a delete button inside chatbox.

4. Consistency and standards

- Users should not have to wonder whether different words, situations, or actions mean the same thing.
- Follow platform conventions.

Evaluation

What is wrong :

- In Chats section user might be confuse between questions and groups
- Profile Settings in some of the app means the place to edit their profile, but it's not the same in this case. Here we have portfolio for that.

How to make it better :

- A brief introduction page should be there while installing the application can solve this issue.
- From Profile Settings the name should be changed to settings, that'll work.

5. Error prevention

- Even better than good error messages is a careful design which prevents a problem from occurring in the first place.

Evaluation

Description:

In Sign out screen user should decline or accept to sign out from the application.

A person adds the information about them in the portfolio (Screen 2)

What is wrong

- There is no confirmation when user sign out from the application
- Grades doesn't have a dropdown to choose from, so a user can input anything in that

How to make it better

- There should be confirmation popup like "Are you sure to sign out from application".
- There should be a dropdown for the grades on Screen 2, rather than an insertion of text.

6. Recognition rather than recall

- Make objects, actions, and options visible.
- User should not have to remember information from one part of the dialogue to another.
- Instructions for use of the system should be visible or easily retrievable whenever appropriate.

Evaluation

What is wrong:

- The user is not able to save their password and user ID for the future use. So they should not remember it while every login.
- There is no search option in the chat screen.

How to make it better:

- After entering the password there should be a Pop Up to save the password.
- We can add a search bar in the chats section to find the particular groups and contacts.

7. Flexibility and efficiency of use

- Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user so that the system can cater to both inexperienced and experienced users.
- Allow users to tailor frequent actions.

Evaluation

Description:

User should able to search in all the tabs

What is wrong:

- There is no search option in Events, Contacts, Chat & Settings
- There is no button to go to the screen where they can find new people

How to make it better:

- Need to add search area in Events, Contacts, Chat & Settings.
- Add the home button in the application which can directly take you to the section where you can see new user's profiles.

8. Aesthetic and minimalist design

Dialogues should not contain information which is irrelevant or rarely needed.

Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

Evaluation

Description:

Improper display of screen after login for existing user

What is wrong:

- When existing user logged in – Portfolio screen is displaying.
- There are multiple lines for writing just the Name and the grades.

How to make it better:

- There should be separate screen like profile screen when user logs in.
- The multiple lines should be replaced with just a single line and instead of a label it should be a textbox.

9. Help users recognize, diagnose, and recover from errors

- Expressed in plain language (no codes)
- Precisely indicate the problem
- Constructively suggest a solution.

Evaluation

Description

When user forgot and change password

What is wrong

- There are no screens for forgot & reset password.

How to make it better

- Need to add forgot & reset password screens where user can able to navigate to self-service banner view.

10. Help and documentation

- Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation.
- Help information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

Evaluation

Description:

For a novice user, he/she can able to get help when he/she stuck at any point.

What is wrong:

- There is no help tab in the system.

How to make it better:

- 'Help' tab needs to be added where user able to find the documentation of features of the system.
- Or give proper feedbacks with each button.

Cognitive Walk-Through

Tasks

- Creating a portfolio for the first time
- Joining the open chat groups and starting to talk with new people (matching with the profile)
- Selecting Events which you want to join according to interests and hobbies?
- Searching for new contacts.
- Verify that user can edit all the profile settings.

Task 1: Creating a portfolio for the first time

Step 1. Users don't have to register for the application. When they first open the application, they can directly sign in using their A number and password in banner.

Step 2. After signing up, the portfolio page will pop up and the user can edit the personal information for the first time. Some parts including photo and name are required at this time. Once the user fills the required parts, they can click the save button. This step will cost about 1 minute.

Step 3. By clicking the save button, there will be an animation that the last page will collapse into setting page and indicate where to edit it again. Now user able to see 'Search', 'Events', 'Contacts', 'Chat' tabs.

Flaws in Task 1

- 1) For an existing user (who already created portfolio) should navigate to settings screen.
- 2) There is no forgot password functionality.
- 3) There is no reset password functionality.
- 4) After filling the portfolio details there is no ‘Save’ or ‘Submit’ button.

Task 2: Joining the open chat groups and starting to talk with new people (matching with the profile)

Step 1. Now navigate to chats tab.

Step 2. Click search area where user able to search for groups or there is options screen where user able to search people with basis on interest or distance between them.

Step 3. After selecting the person, chat screen will be displayed where user able to chat and look old conversion.

Flaws in Task 2

- 1) There is no options screen where user able to search people based on interests & distance between them.

Task 3: Selecting Events which you want to join according to interests and hobbies?

Step 1. Navigate to Events tab.

Step2. Application algorithm automatically provide some events suggestions according to your likes and dislikes.

Step 3. After displaying of all the events, user can select event and get all the required information of that event.

Step 4. User can select any event by clicking ‘Interested’ button and suggest friends to invite for event to join his/her company.

Flaws in Task 3

- 1) There is no filter option where user can able to filter the events.
- 2) For better user experience ‘Interested’ button can be changed to ‘Register’ or ‘join’.

Task 4: Searching for a person

Step 1. Navigate to ‘Search’ tab.

Step 2. Click on search text area, where user able to search a person by ‘Individual Name’, by ‘Group Name or Community Name’, by ‘Interest’.

Flaws in Task 4

- 1) Remove the search button and add it in the contacts section.

Task 5: Verify that user can edit all the profile settings.

Step 1: Verify user able to change all the general settings and submit

Step 2: Verify user able to change privacy settings display of portfolio at different levels (Public or group level).

Flaws in Task 5

1. Need to implement the screen according to above steps.

Conclusion

There are very few blockers and few functional implementations in entire application. There needs to implement forgot password and reset password screens. Needs to change the screens for new user and existing user. After user fills the portfolio form there is no submit button which creates a blocker for the persistence of user details. Few user experience enhancements like user able to filter the events, replace search text area to ‘Contacts’ tab.

Initial Prototype

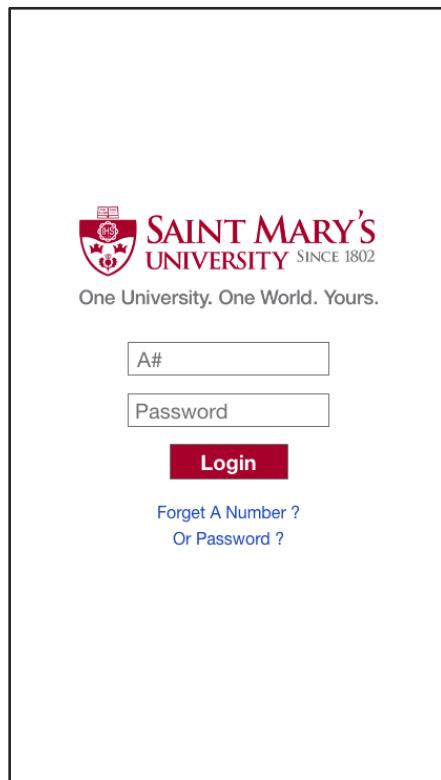


Figure 13

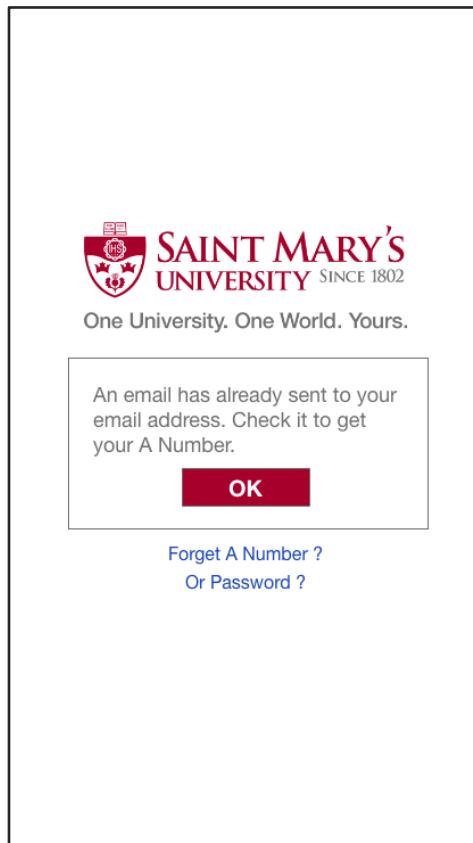


Figure 14

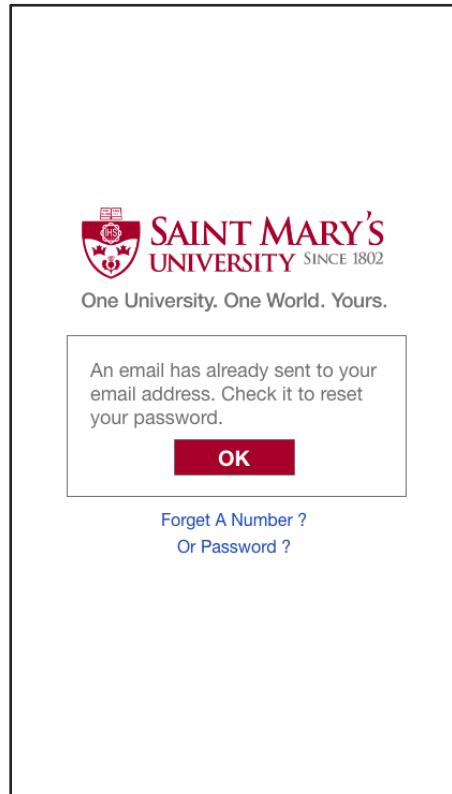


Figure 15

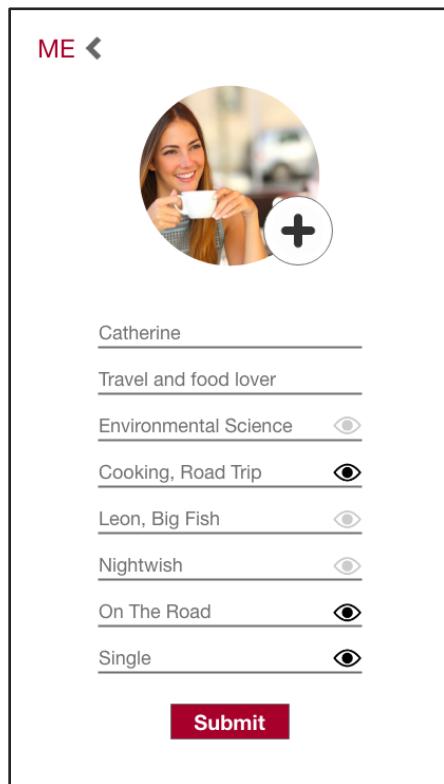


Figure 16

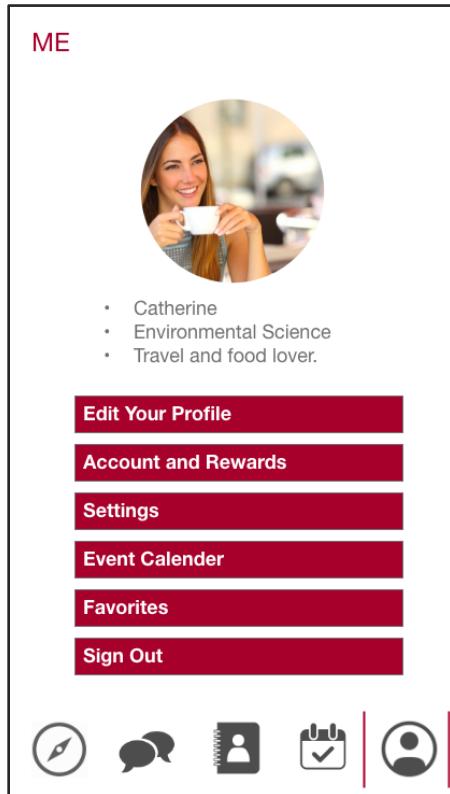


Figure 17

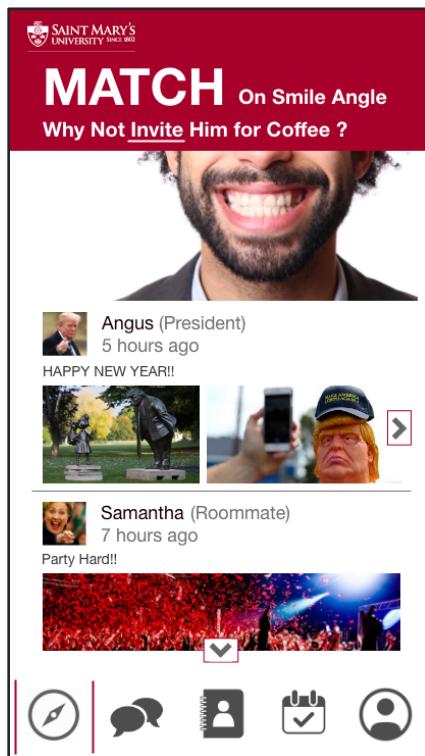


Figure 18

Figure 19

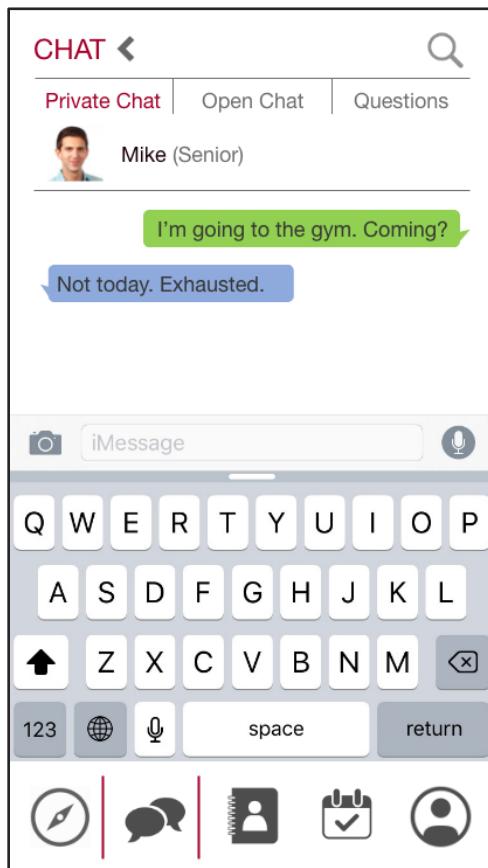


Figure 20

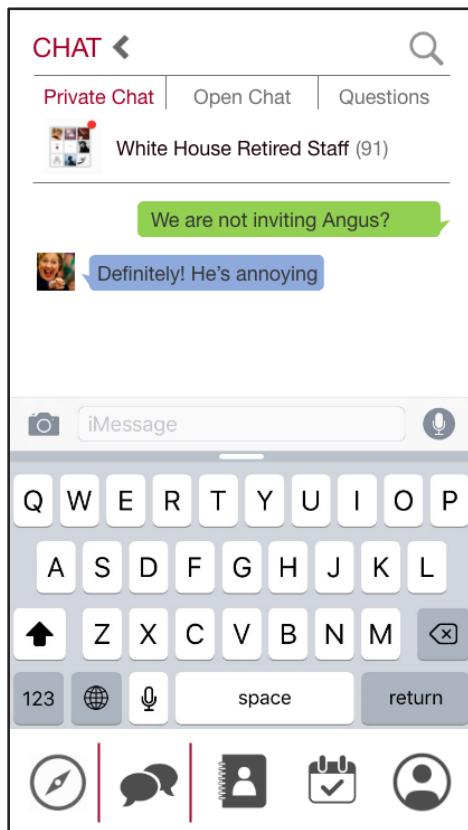


Figure 21

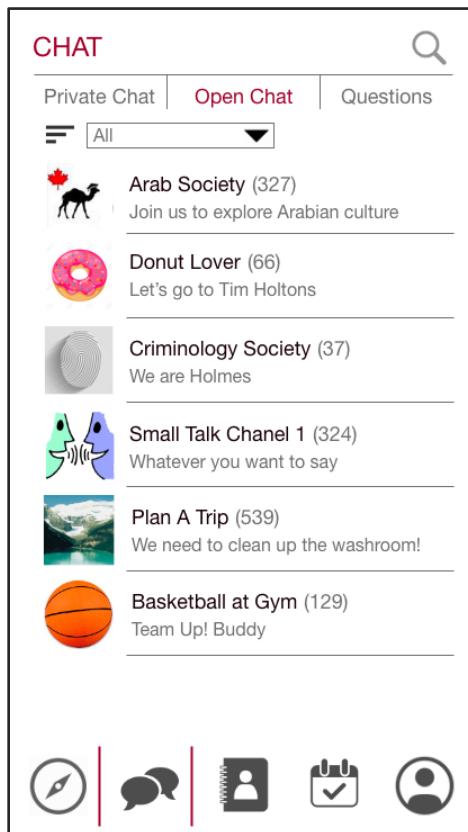


Figure 22

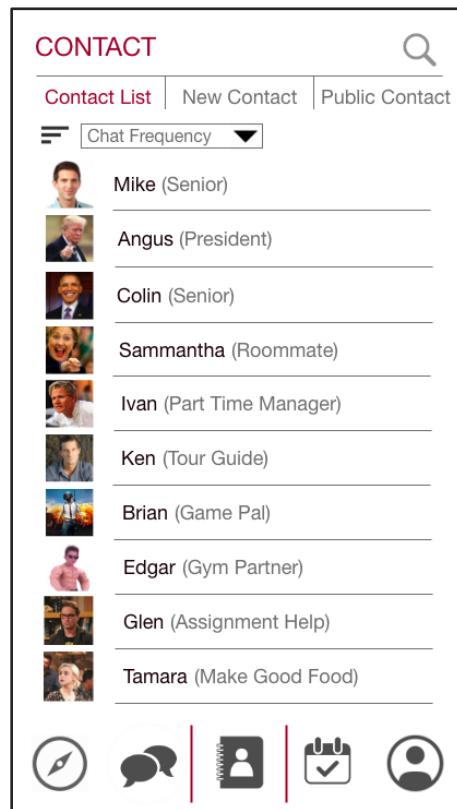


Figure 23

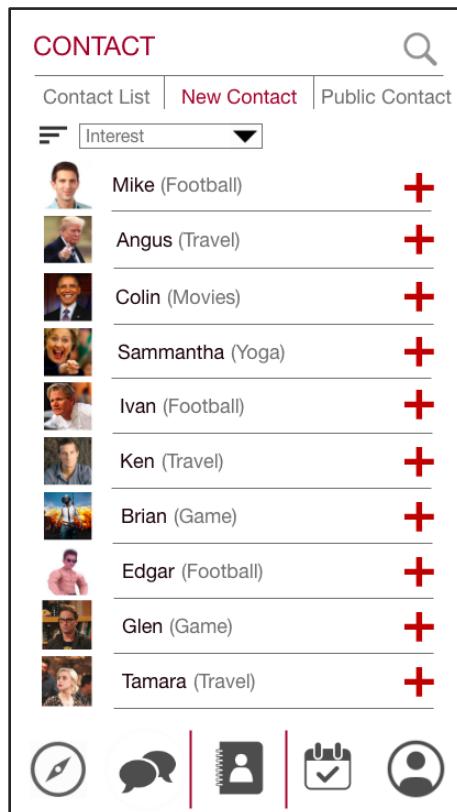


Figure 24

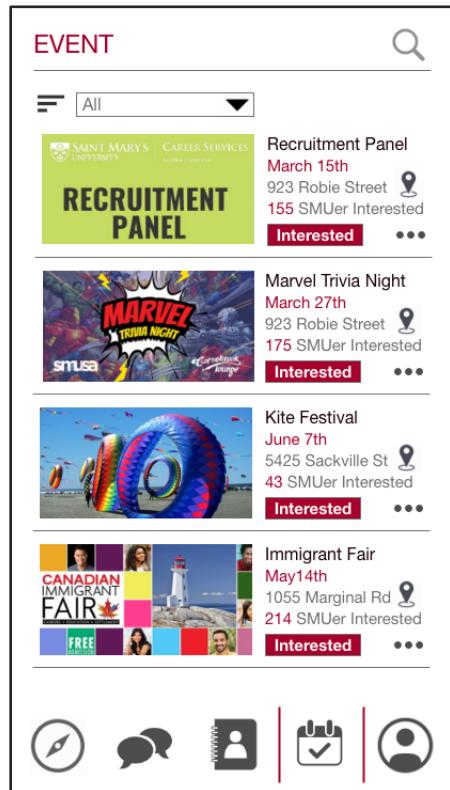


Figure 25

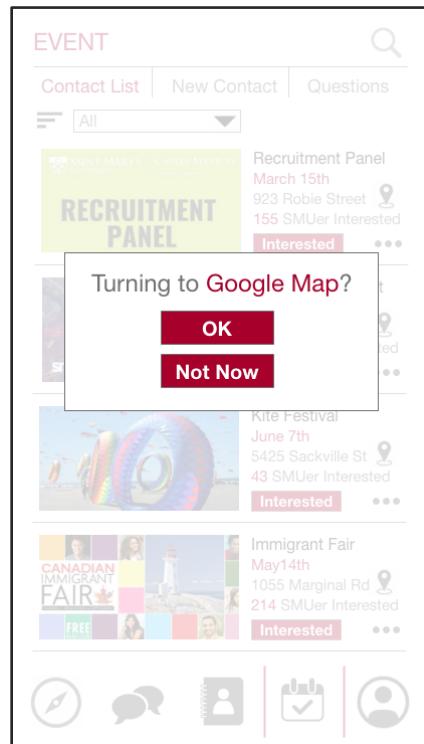


Figure 26

Usability Test – Phase One

Determine the goals (*What do you want to know by conducting the usability test?*)

1. Write the original issues that you wanted to address. List at least 4-5 key issues.
(e.g., Users couldn't figure out how to use the UI)
 1. User is not able to understand the bottom bar.
 2. User is not able to select interest from the predefined category list on profile page.
 3. User could not able to check their Event Calendar page.
 4. Missing filter and sort functions in searching for new contacts
2. For *each* of those issues, how did you want to address/change them?
(e.g., We wanted them to understand and start using the UI right away)
 1. Add a name of the icon listed in the bottom bar.
 2. Add a dropdown on the Interest tab so that user can choose interest from the predefined list.
 3. Create a event calendar page so that user can easily manage their registered events.
 4. Add Filter and sort function to search for a new contact.
3. Based on that, what do you want to know from the testing? (These are goals of your usability testing) (e.g., We want to know if they can learn the new UI more easily than the old one)
 1. We want to know user able to read the name of the icons on the bottom bar easily.
 2. We want to know user able to select the option from the dropdown list provided on the profile page.
 3. We want to know he/she able to view all events registered by him/her.
 4. We want to user able to search for a new contact by name.
4. What are the usability components that you will be measuring?
(e.g., learnability and efficiency)
 1. All the icons on the bottom bar should be understandable.
 2. While inserting the interest on the profile page user should able to select the option from the dropdown box.
 3. Easy to find and manage events registered by the user
 4. Easy to search new friends and chat with them.

5. What are the measurable targets?
(e.g., We want participants/first-time users to complete their first tasks in 10 minutes)
 1. We want to know user able to understand the purpose of the icons on the bottom bar easily.
 2. We want to know user able to select his interest from the predefined list provided on the application.
 3. We want to know he/she able to view all events registered by him/her.
 4. We want to user able to search for a new contact by name.

Explore the questions (make goals operational – leading to your hypotheses)

1. Given the goals above, what are the questions that you want to answer by conducting the study? (e.g., Can the users learn the new UI more quickly than the original one?)
 1. Can the users find the difference in portfolio form between new and original?
 2. Can the users able to find the desired events and friends easier than original?
 3. Can users able to find the difference in bottom bar?
 4. Can users able to navigate to events and chat screens easily?
 5. Can users find the filter and sort options in events and chat screens?

2. Given the questions, what are your hypotheses?
(e.g., The users will learn the new UI more quickly, and they will complete all the tasks faster than the original UI)
 1. Now users will find the difference in portfolio screen
 2. Now users able to find event calendar by clicking the option.
 3. Now users able to find filter and sort features in events screen.
 4. Now users navigate to chat and profile settings screen quickly and efficiently.
 5. Now users able to find names on the bottom bar of application which will be clear.

Choose the evaluation paradigm and techniques

1. How do you want to measure the dependent variables?
(e.g., video-tape the users performing the tasks, and analyze it to obtain the time information, administrating questionnaires)

1. All the Users are going to perform 5 tasks for Evaluation of application.
 2. Screen recording while users are going to perform task on application.
 3. Evaluation provide us information that how our system performs when different users are performing same tasks.
 4. Screen recording can give us information that how much time it takes to perform tasks.
 5. Get the feedback from the users after performing the tasks.
 6. While performing tasks user will give feedback for all the screens about User interface.
 7. While performing tasks we evaluate that how system perform when more than hundred users will use that application.
 8. After updated or adding new text on screen then user will give feedback that how application screen performs.
2. What equipment do you need? (for measuring and anything else)
 (e.g., video camera, mobile phone on which users perform tasks, tablets for us to take notes, prepared questionnaires)
1. Laptop
 2. Mobile phone
 3. Screen recording software
 4. Tablets for making notes according to users' feedback
 5. Creating questionnaires for next prototype

Identify practical issues and design typical tasks

1. For each of the issues you try to address (from the 1st item on this form), think about common tasks during which you observed the issues. List 5 or 6 (or more if you can).
 (e.g., the users try to log-in for the website)
 1. While user switching between the chat and event tabs.
 2. When user tries to fill the portfolio form.
 3. While user wants to look at all the events registered.
 4. When user looking to add the new contact in the contacts tab.
2. Now think about exactly which step(s) within each of the above tasks they had the issues? (e.g., when they entered a password in order to log-in)
 1. When user navigated from events to chat tab after look user registered to an event.
 2. After user logged into application while filling the port folio form.

3. When user registered to many events and want to have look what events are registered.
4. When user wants to talk new friend, so user looked to add new contact.

3. With which UI components/windows/features do the above steps occur? (These will be the parts of the UI that you'll need to implement!) (e.g., log-in and registration windows)
 1. Chat and Events window.
 2. Portfolio window.
 3. Events window.
 4. Contacts window

4. For *each* of the UI components/windows/features, come up with a very specific task that you want the participants to perform. These may be exactly the same as the tasks from Step (1) above or they can be different, but you need to make them a bit more specific (i.e., specify sub-tasks). These tasks will be rewritten into the scripts. (e.g., For registration/log-in, first, the user registers for the website. After receiving the confirmation email, the user logs in to the website using the password received.)
 1. After user logged into application and navigated to chats and then user wants to navigate to events screen.
 2. After successfully login to application while user fills the portfolio form by selecting interest option.
 3. After user registered to two events and now users to have look on dates of the registered events
 4. After user wants to have a chat with new friend and now user want to search for a new friend.

5. For *each* of the above task, what are the dependent and independent variables?
(e.g., For registration/log-in task:
 - Independent: a type of UI (2 UIs)
 - Dependent: time to complete all the tasks)

Task #	Independent (and Levels)	Dependent
(1) Register to an event	Events and chats screens	Time taken to update in event calendar.
(2) Complete the portfolio form	Portfolio screen	Time taken to complete the portfolio form
(3) Look all registered event dates	Event Calendar	Time to load data on event calendar screen about all the event dates

(4) Search for new contact	Contacts screen	Time to load all the contacts based on search
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6. Given the independent variables and their levels of measurement for *each* task, how many different conditions are there, and how many permutations of ordering? This will tell us how many participants should be recruited (in an ideal case).
 (e.g., For registration/log-in task: 1 independent variable (UI type, 2 levels) => 2 conditions, 2 permutations)

Task #	# of possible trials
(1) Register to an event	<ul style="list-style-type: none"> When the user directly tries to register an event. When the user gets invite from another user and tries to register for an event.
(2) Complete the portfolio form	<ul style="list-style-type: none"> When user login to application and fills the portfolio form. When user wants to edit the portfolio form.
(3) Look all registered events	<ul style="list-style-type: none"> After user register to any event After user wants to look all the event dates.
(4) Search for new contact	<ul style="list-style-type: none"> When user wants to ask a question. When user wants to chat with new contact.

Deal with ethical issues

(Since we have already obtained the ethics board's approval, you do not need to worry about the ethic's approval application, but you should still list things that you will need to consider)

Evaluate, analyze, and present the data

1. What kind of data do you expect to obtain?
 (e.g., time durations of 16 participants, quotes from think-aloud)

Task #	Data
(1) Design a task to test user can select the home page icon or not	<ul style="list-style-type: none"> No Data Required.

(2) Design a task to test user can select the option from the drop-down box	<ul style="list-style-type: none"> Processing time in selecting the option from interest drop-down box.
(3) Design a task to test user can see their events	<ul style="list-style-type: none"> Time to load the event page.
(4) Design a task to test the functionality sort function on new contacts page	<ul style="list-style-type: none"> Contact Data user needs to search. Time to find and load the search item.

2. Now think how you may analyze them.

(e.g., means of time durations in each condition and compare them between 2 conditions using the t-test, categorize quotes into positive and negative ones)

Task #	Data
(1) Design a task to test user can select the home page icon or not	<ul style="list-style-type: none"> By analyzing the functionality of the icons on the bottom bar
(2) Design a task to test user can select the option from the drop-down box	<ul style="list-style-type: none"> Time spent in selecting the options from the dropdown. Total number different users based on the interest By analysing the data in the dropdown box
(3) Design a task to test user can see their events	<ul style="list-style-type: none"> Time spent on the event page.
(4) Design a task to test the functionality sort function on new contacts page	<ul style="list-style-type: none"> By analyzing the desired output after searching for the new contact.

3. Finally, what are the expected results based on your hypothesis.

(e.g., mean of time durations is smaller with our new design)

Task #	Data
(1) Design a task to test user can select the home page icon or not	<ul style="list-style-type: none"> User find easy to understand the icons on the bottom bar. Easy to access the icons .

	<ul style="list-style-type: none"> • Time taken is less to navigate the desired page from the icons to the desired page.
(2) Design a task to test user can select the option from the drop-down box	<ul style="list-style-type: none"> • Easy to select the options from the dropdown box. • No error in the reflecting of the selected option in the textbox.
(3) Design a task to test user can see their events	<ul style="list-style-type: none"> • Users found the registered events in the even calendar page • Presentation of all the events should be appropriate.
(4) Design a task to test the functionality sort function on new contacts page	<ul style="list-style-type: none"> • Users found easy to sort and filter the new contacts.

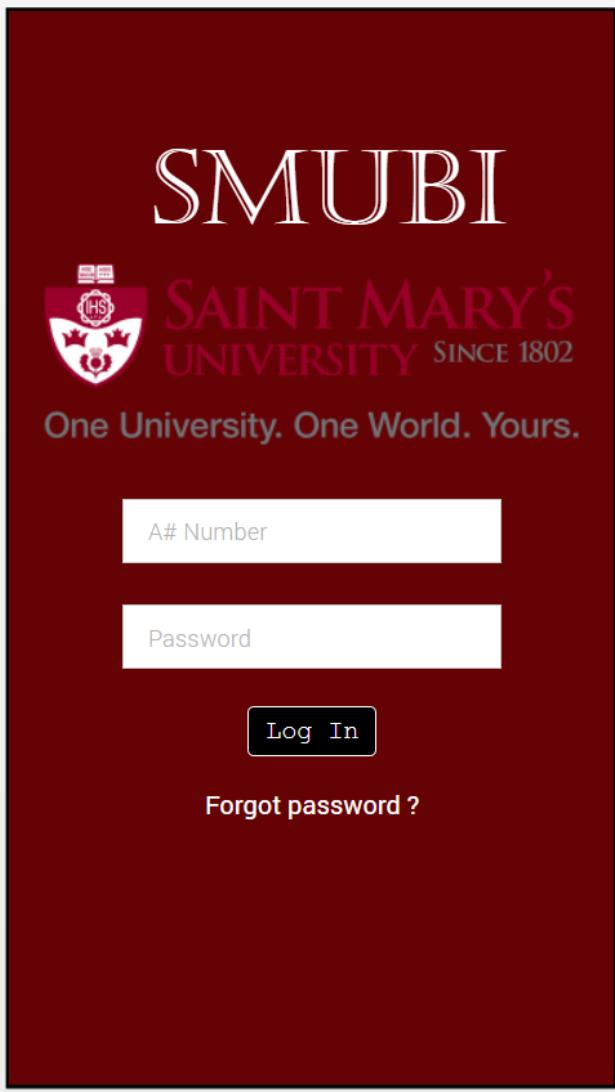
Required information for the usability study section of the report

- Description of participants:
- All Saint Mary's University students, faculty
- Equipment/instruments used and environment
- For UI design prototype we have used “Just in Mind Prototype”.
- Laptop, Mobile, Screen recording software, Tablets for making notes according to users' feedback

- Location of the study
- University Library, and study rooms.
- Dates of the studies
- We made studies on 28/3/2019
- For *each* of the tasks
 - Questions/hypothesis
 - Log into application.
 - Creating portfolio.
 - Making new conversation by chat.
 - Look into all the available events.
 - Read commonly asked questions.
 -
 - Study Design
 - We have taken continuous user feedback from the user.
 - Independent variables are issues on screens while user performing tasks.
 - Dependent variables are Time to taken by user to perform a task and Time taken for each page to load.
 -

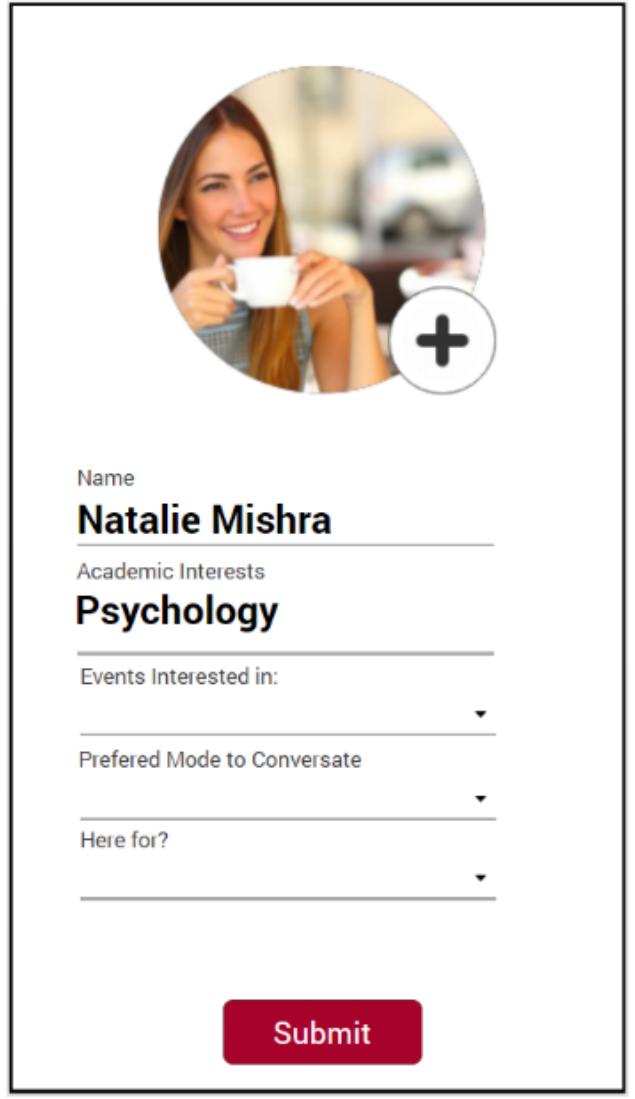
- Procedure
 - Explained everything about the application and prototype features.
 - Asked user to perform all the tasks.
 - We have noted down the time, and issues user faced while performing the tasks.
- Results
 - Collected the measured time data, and the feedback from the participant for every task.
- Discussions of the results
 - New screens are added.
 - Functionality is modified according to feed back.
 - User Interface for few screens are modified.

Final Prototype



The image shows the final prototype of a university login screen. The background is dark red. At the top, the text "SMUBI" is displayed in large white letters. Below it is the "SAINT MARY'S UNIVERSITY SINCE 1802" logo, which includes a crest with three crowns and the text "SAINT MARY'S UNIVERSITY SINCE 1802". Underneath the logo, the tagline "One University. One World. Yours." is written in a smaller white font. There are two input fields: one for "A# Number" and one for "Password", both with placeholder text. Below these fields is a "Log In" button with white text. To the right of the password field is a link "Forgot password ?".

Figure 28



The image shows a user profile creation or edit screen. At the top is a circular profile picture of a smiling woman holding a coffee cup. To the right of the picture is a white circle with a black plus sign, likely for adding another photo. Below the profile picture, the name "Natalie Mishra" is displayed in bold black text. Underneath the name are sections for "Academic Interests" and "Psychology", each with a horizontal line for notes. There are dropdown menus for "Events Interested in:", "Prefered Mode to Conversate", and "Here for?". A large red "Submit" button is located at the bottom right.

Figure 27



Name
Natalie Mishra

Academic Interests
Psychology

Events Interested in:
Movie Night

Preferred Mode to Converse:
Online

Here for?
Dating

Submit

Figure 30

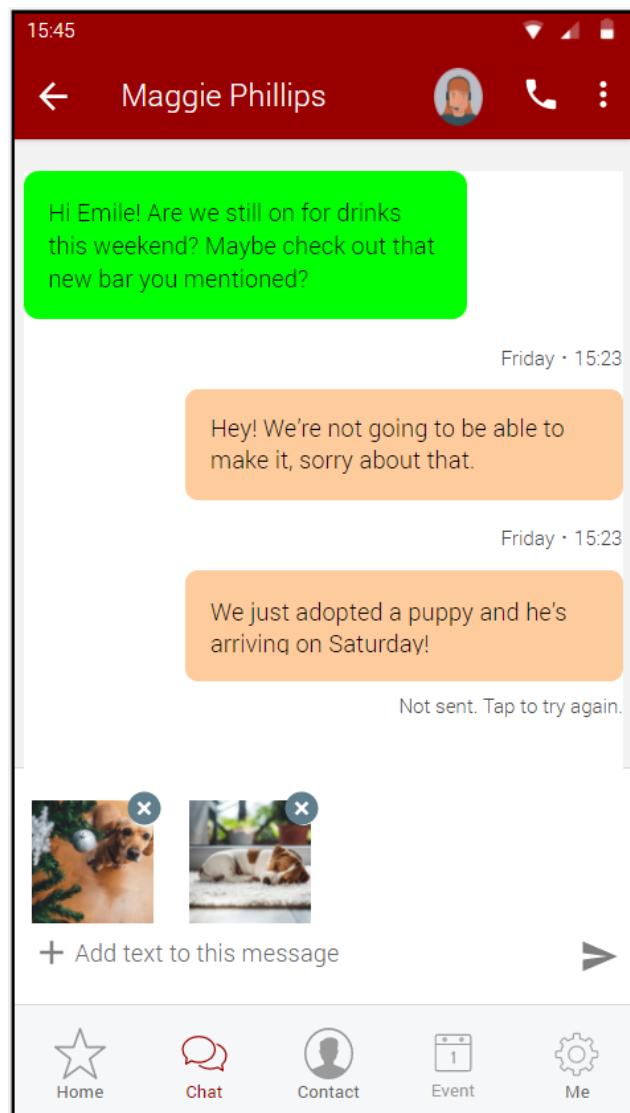


Figure 29

Search Contact

Private Chat
Open Group
Questions

Maggie (Senior)
What about the UI/UX assignment?

Angus (President)
Vote for me next term.

White House Retired Staff (91)
Samantha: Let's not invite Angus.

Colin (Senior)
Yes, we can finish it by today.

Samantha (Roommate)
We need to clean up the washroom!

Ivan (Part Time Manager)
Why you didn't show up today?

Ken (Tour Guid)
I found a really good place to have dinner.

SAINT MARY'S
UNIVERSITY SINCE 1891

MATCH on Smile Angle

Why not break the ice and Invite him for coffee?

People Near You

Sakshi 10 mins earlier
100 METRES AWAY

ALAN 30 mins earlier
300 METRES AWAY

Saint Mary's University
8 hours ago

Let's welcome our new Grad Student - Ms. Elene Tandon !

Figure 31

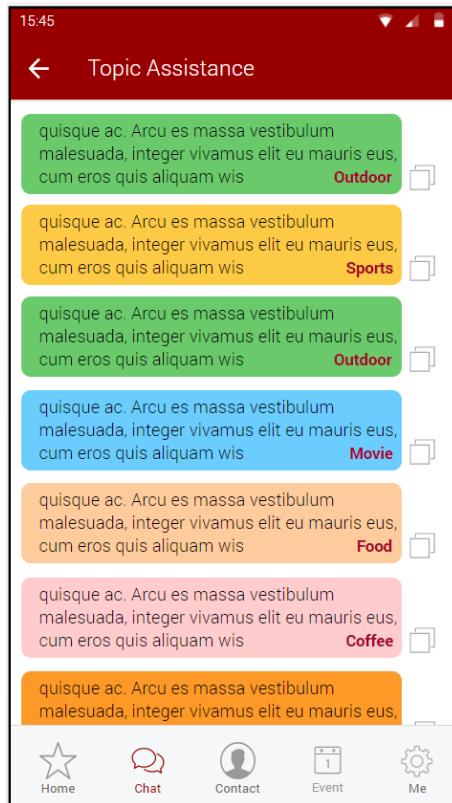


Figure 32

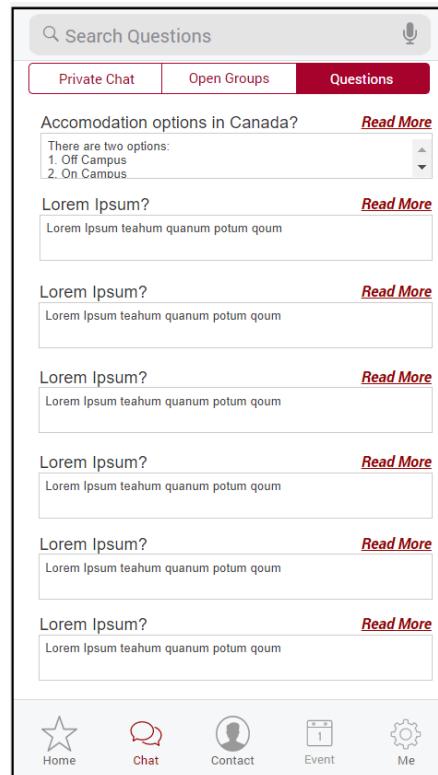


Figure 33

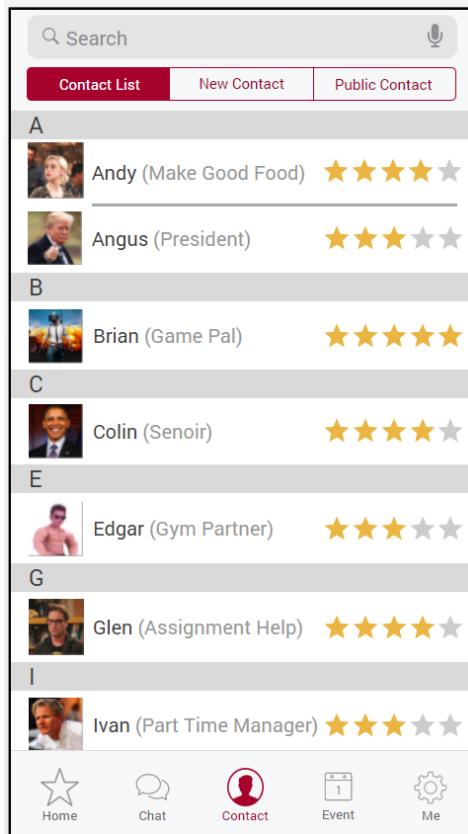


Figure 34

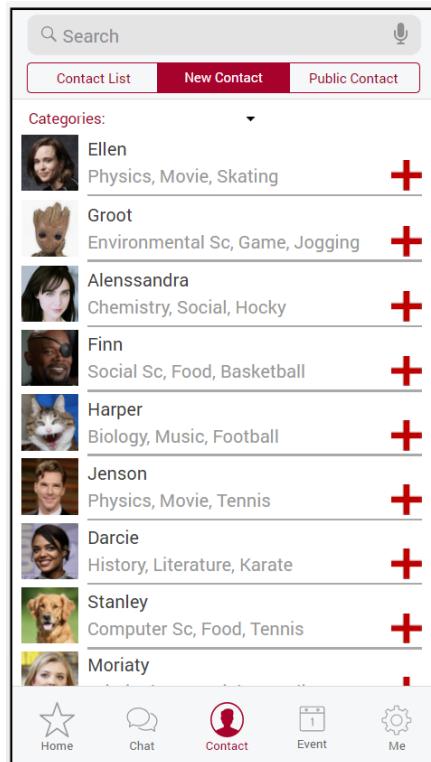


Figure 35

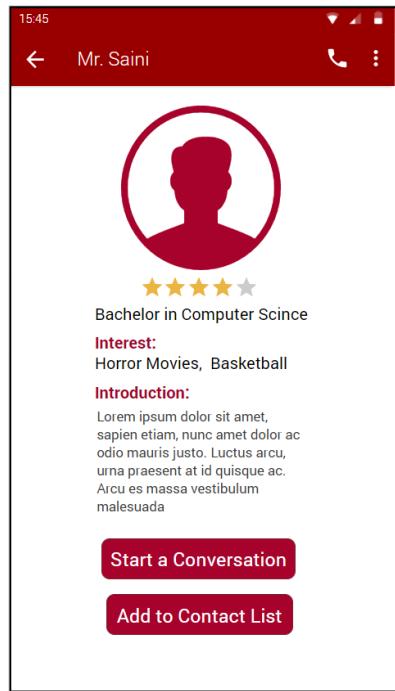


Figure 36

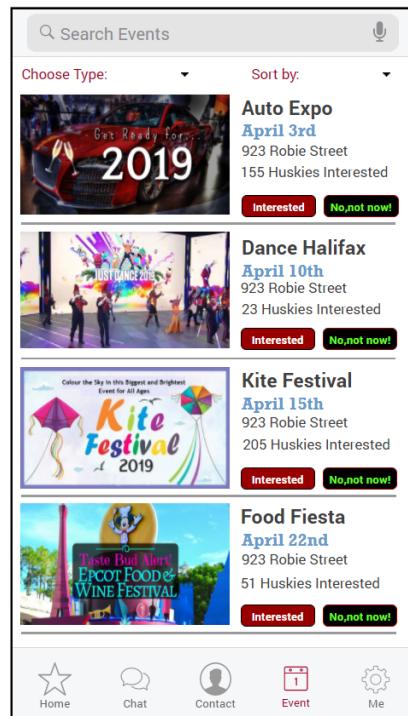


Figure 37



Figure 38

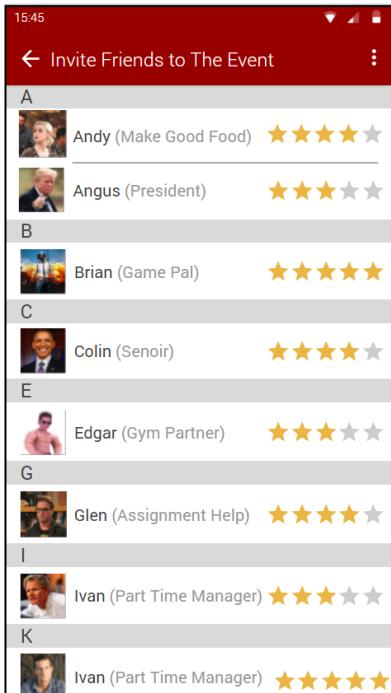


Figure 39

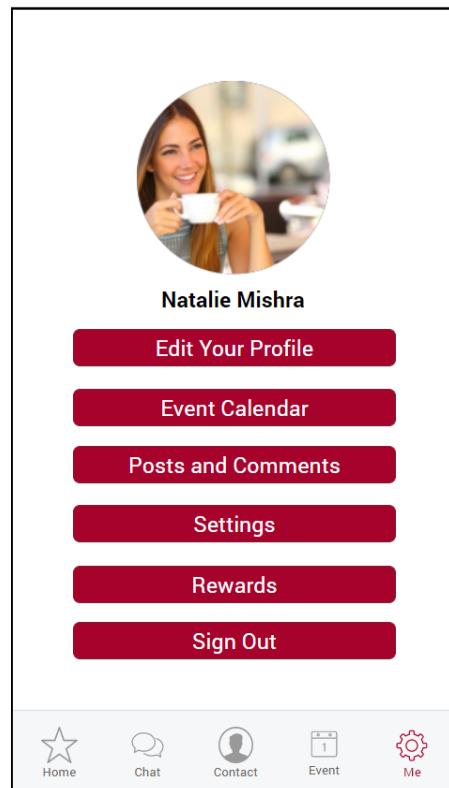


Figure 40

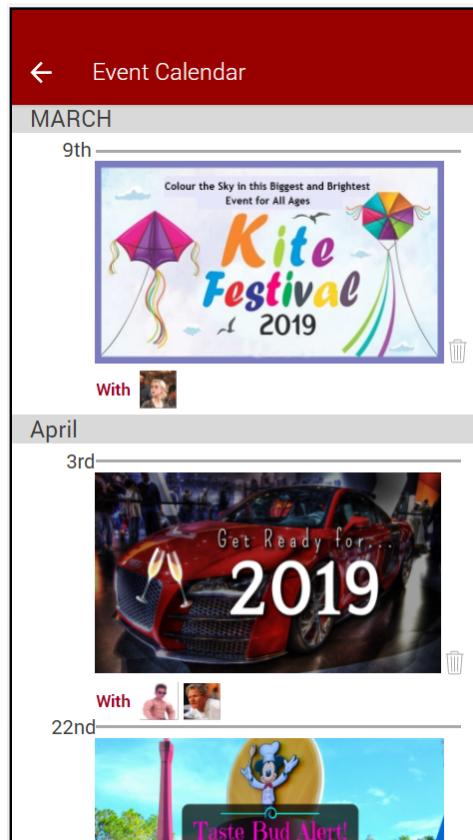


Figure 41



Figure 42

The screenshot shows the 'Reward Detail' screen for a user named Natalie Mishra. The top bar is red with the title 'Reward Detail'. Below the title is a circular profile picture of Natalie Mishra, smiling and holding a coffee cup. Her name 'Natalie Mishra' is displayed in black text, followed by the word 'Rewards' in red. A table below shows her reward history:

	Number	Per Person	Total
Minutes of Chatting	108	20	2160
Inviting Users for Events	25	100	2500
New Connections	12	200	2400
Maintaining old relations	16	75	1200

At the bottom, it says '8260 Redeem' and '(Redemption on 10,000 points)'. The bottom navigation bar includes icons for Home, Chat, Contact, Event, and Me.

Figure 43

Usability Test –Phase Two

Introduction

The phase two usability test is to evaluate the final prototype, so there will not be independent variables on tasks. The users will be asked to perform the same 5 tasks and the data will be collected and analyzed to evaluate the improvement and effectiveness of the application as well as discover the future work.

Determine the goals

1. Write the original issues that you wanted to address. List at least 4-5 key issues.
 1. It's hard for users to realize all other users are SMU student.
 2. Users can't find the difference between private chat and open chat.
 3. Users aren't comfortable with the chat assistance function.
 4. Users won't use the function of inviting a friend to an event.
 5. Users aren't willing to use match function.
2. For *each* of those issues, how did you want to address/change them?
 1. Notification on using A number to login.
 2. Modification on the navigation system. Add actual words alone with the icons and description below the open chat group.
 3. Add an icon to link to the chat assistance page and allow users to copy, paste and edit the recommended topics.
 4. Add buttons with clearly explanation to invite friends and another option to match with a SMU student to join the event.
 5. Add switch back function and more options on match system.
3. Based on that, what do you want to know from the testing?
 1. We want to know if users are aware of the user group of this application and feel secure to talk to other users for the first time.
 2. We want to know if users are able to understand the function of open chat and willing to use that function.
 3. We want to know if users can recognize the function of chat assistance and are willing to use that function.
 4. We want to know if users are willing to invite a when interested in an event.
 5. We want to know if users are happy with the match function and willing to use that function.
4. What are the usability components that you will be measuring?
 1. The learnability of each function.
 2. The errors on login function.

3. The satisfaction on functions of inviting friends, matching, chat assistance.
5. What are the measurable targets?
 1. We want new users to sign in application with A number in 30 seconds and realize only SMU students can use this application. Also, we want new users to make no error in login.
 2. We want new users to be able to navigate to private chat and open chat in 30 seconds and understand the function of open chat.
 3. We want new users to find the chat assistance in 30 seconds and give positive feedback on this function.
 4. We want new users to select a preferred event in 30 seconds and click on invite or match button when interested in an event.
 5. We want users to be willing to go to profile page of matched user and click “start a conversation” or “add to contact” button.

Explore the questions (**make goals operational – leading to your hypotheses**)

1. Given the goals above, what are the questions that you want to answer by conducting the study?
 1. Can users find out the user group of this application and feel secure?
 2. Are users able to navigate to private chat and open chat and understand the difference?
 3. How easy to find out the chat assistance function and will users use the function?
 4. How easy to use the event function and will users use the invite function?
 5. Will users use the match function?
2. Given the questions, what are your hypotheses?
 1. Now users will be able to login smoothly and understand the user group.
 2. Now users will navigate to private chat and open chat more quickly and understand the open chat.
 3. Now users will be able to use chat assistance easily and willingly.
 4. Now users will be able to find a preferred event and invite a friend willingly.
 5. Now users will use the match function willingly.

Choose the evaluation paradigm and techniques

1. How do you want to measure the dependent variables?
 1. All the Users are going to perform 5 tasks for Evaluation of application.
 2. Screen recording to obtain the time and error information.
 3. Interview to obtain the feedback of the satisfaction information.
 4. Statistic on the percentage of users who willingly use the functions

2. What equipment do you need? (for measuring and anything else)

1. Laptop
2. Mobile phone
3. Screen recording software
4. Tablets for making notes according to users' feedback

Identify practical issues and design typical tasks

1. For each of the issues you try to address (from the 1st item on this form), think about common tasks during which you observed the issues. List 5 or 6 (or more if you can).

1. Users try to login the application.
2. Users try to start a private chat and then navigate to open chat.
3. Users try to open chat assistance page.
4. Users try to select a preferred event.
5. Users try to open the profile of a matched user.

2. Now think about exactly which step(s) within each of the above tasks they had the issues?

1. When users go to chat assistance page to choose a topic option.
2. When users go to event detail page to invite a friend from existing contact list.
3. When users go to event detail page to match with a SMU student and decide to invite him.
4. When users are at home page to find out the matches.

3. With which UI components/windows/features do the above steps occur? (These will be the parts of the UI that you'll need to implement!)

1. Login page
2. Chat list on private chat page and open chat page
3. Chat assistance button on personal chat page
4. Event page and buttons on event detail page
5. Match windows on home page and profile page of matched user.

4. For *each* of the UI components/windows/features, come up with a very specific task that you want the participants to perform. These may be exactly the same as the tasks from Step (1) above or they can be different, but you need to make them a bit more specific (i.e., specify sub-tasks). These tasks will be rewritten into the scripts.

1. Users enter their A number and password and click on the login button.
2. After successfully login and creating profile on application users need to use the bottom bar and top bar to navigate to private chat page and open one of the personal chats on chat list, and then use back button and top bar to navigate to open chat page.

3. After successfully open the personal chat page users need to click the chat assistance button and open the chat assistance page, then copy one of the topic choices and use back button to the personal chat and paste the chosen topic to chat text.
4. After successfully login and creating profile on application users need to use the bottom bar to navigate to event page and choose an event to click on interested button to event detail page. (And the user will choose “invite a friend” button or “match with a huskie” button. This part of the task will not be told to the users.)
5. After successfully login and creating profile on application users need to swipe on match windows on home page and click one of the matches to the profile page. (And then choose “add to contact list” button or “start a conversation” button. This part of the task will not be told to the users.)

Deal with ethical issues

(Since we have already obtained the ethics board's approval, you do not need to worry about the ethic's approval application, but you should still list things that you will need to take into account)

- Every participant on usability test will sign with a consent form.

Evaluate, analyze, and present the data

1. What kind of data do you expect to obtain?

Task #	Data
(1) Login	<ul style="list-style-type: none"> • Time to login. • Errors made (not entering the A number, not able to figure out the password).
(2) Private and Open Chat	<ul style="list-style-type: none"> • Time to complete the task (two sub tasks).
(3) Chat Assistance	<ul style="list-style-type: none"> • Time to complete the task (back to the personal chat and paste the topic).
(4) Event and Invite	<ul style="list-style-type: none"> • Time to complete the task. • Number of users who invite friends or match with a SMU student
(5) Match	<ul style="list-style-type: none"> • Number of users who click “add to contact list” or “start a conversation” button • The expression on users’ faces.

2. Now think how you may analyze them.

Task #	Data
(1) Login	<ul style="list-style-type: none"> Categorize feedbacks into “able to understand” or “unable to understand” ones Means of time Means of errors
(2) Private and Open Chat	<ul style="list-style-type: none"> Categorize feedbacks into “easy” and “hard” ones Means of time
(3) Chat Assistance	<ul style="list-style-type: none"> Categorize feedbacks into “easy” and “hard” ones Means of time
(4) Event and Invite	<ul style="list-style-type: none"> Categorize feedbacks into “willing to use” and “not willing to use” ones Means of time Portion of users who click the button
(5) Match	<ul style="list-style-type: none"> Categorize feedbacks into “willing to use” and “not willing to use” ones Portion of users who click the button

3. Finally, what are the expected results based on your hypothesis.
(e.g., mean of time durations is smaller with our new design)

Task #	Data
(1) Login	<ul style="list-style-type: none"> The average time is less than 20s (6.4s). The average errors are not less than 1 (1.3), which is not expected.
(2) Private and Open Chat	<ul style="list-style-type: none"> The average time is less than 30s (17s & 23s on sub tasks)
(3) Chat Assistance	<ul style="list-style-type: none"> The average time is not less than 30s (42s), which is not expected.
(4) Event and Invite	<ul style="list-style-type: none"> The average time is less than 30s (19s). 70% of users click the button
(5) Match	<ul style="list-style-type: none"> 90% of users click the button

Required information for the usability study section of the report

- Description of participants:
Saint Mary’s University students
- Equipment/instruments used and environment:
For UI design prototype we have used “Just In Mind Prototype”.
Laptop, Mobile, Screen recording software, Tablets for making notes according to users' feedback
- Location of the study
 - University Library, and study rooms.

- Dates of the studies
- We made studies on 01/04/2019
- For each of the tasks
 - Login
 - Private and Open Chat
 - Chat Assistance
 - Event and Invite
 - Match
- Study Design
 - We have taken continuous user feedback from the user.
 - Independent variables are issues on screens while user performing tasks.
 - Dependent variables are Time to taken by user to perform a task and Time taken for each page to load.
- Procedure
 - Explained everything about the application and prototype features.
 - Asked user to perform all the tasks.
 - We have noted down the time, and issues user faced while performing the tasks.
- Results
 - Collected the measured time data, and the feedback from the participant for every task.
- Discussions of the results
 - The discussions will be shown in Conclusion and Future Work

Conclusion and Future Work

Conclusion

- The test result of **Login, Event, Match** function is desirable
- The sample size is small but still the willingness of **social interaction** increases
- According to the feedback of the interviewees, the application is “**attractive**” and “**useful**” in online social life. And it can also **solve problems** especially in international students’ daily life.

Future Work

- Modify the function of Chat Assistance and make it more visible to users.
- Add an item page of variety of options for redemption.
- Develop more functions of interaction in open chat, such as mini games
- Testing more on Rating System with more interviewees and see whether the system is reasonable
- More functions of informing new people who are in a particular distance.
- Event Recommendations on Home Page.