

Simplifying Social Networking

Design Alternatives & Initial Evaluation Report

CSC318H1 S LEC0101 20211: The Design of Interactive Computational Media

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Team Ordinary Page Turner

Team members:

Anyue Huang anyue.huang@mail.utoronto.ca

Bingchen Yang bingchen.yang@mail.utoronto.ca

Meilin Yang flora.yang@mail.utoronto.ca

Shilei Xu shilei.xu@mail.utoronto.ca

Zuoyu Wang zuoyu.wang@mail.utoronto.ca

Jiaming Yang jiaming.yang@mail.utoronto.ca

TA:

Gillian Shi

Abstract

Socialization has become complicated as the number of social network platforms in use are increasing. Young adults who want to make connections with others across multiple platforms for casual gathering and online entertainment need an effective way to exchange and maintain different social media accounts.

To fulfill the design requirements concluded from our formative studies, we initiated 3 design alternatives including a mobile app that generates a QR code for sharing social accounts, an E-card storing the information of the user's social accounts, and a radar system that allows the users to discover other users that are nearby. After further discussions and gathering feedback from our studio presentations, we drafted our low-fidelity paper prototype that incorporated the features and concepts from our three design alternatives. We then conducted Expert Evaluation, including Cognitive Walkthrough and Think-Aloud sessions with other experts from the class.

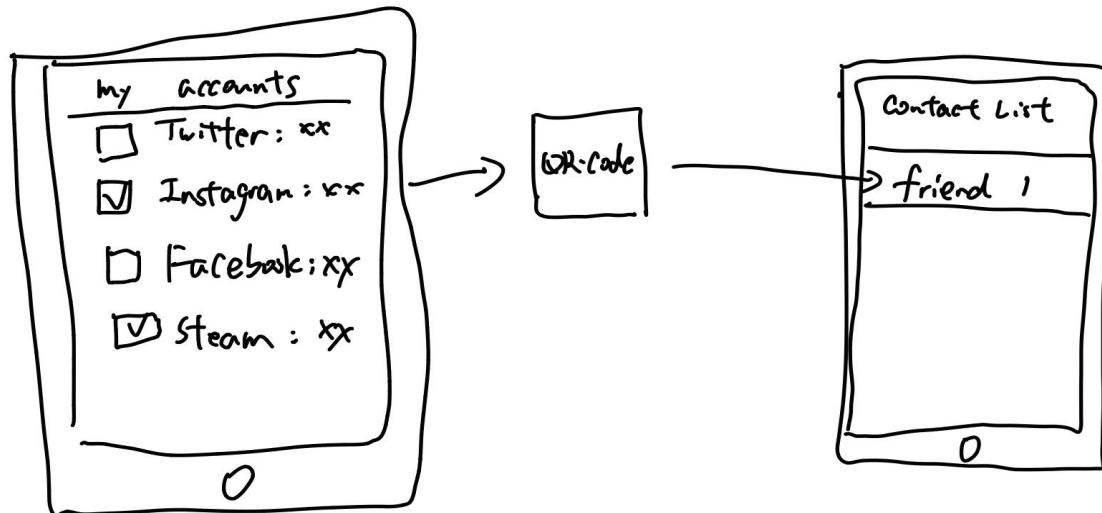
The results and feedback from the Expert Evaluation suggested that our prototype is lacking user instructions, error handling functions, and privacy protection. There are also other deficiencies such as some design details and user-experience details that need to be improved. Our next step is to take these feedback and apply them onto our final High-fidelity prototype.

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Design Alternative #1

Sketches



Description

An mobile app that generates QR codes that displays all the social accounts that are willing to be shared when scanned. The person who scans the code can choose to add certain social accounts.

Pros:

- Accelerates the process of sharing social media accounts by scanning code.
- QR codes can be saved as screenshots and used when there is no internet.
- QR codes can be reusable for different occasions..

Cons:

- Cost time for selecting accounts and generate QR codes
- Need to generate new codes for new accounts, and make it hard to organize.

- It is not convenient when directly sharing one account.

Feedback:

- It will be better if we can connect the app with existing social media apps. For example, users can directly jump to the person's profile or send a friend request once they scan the code.
- Instead of generating new QR codes every time, try to give users the freedom to edit and organize all the QR codes they have.

Design Alternative #2

Sketches



Description

An e-card can be saved into a smartphone wallet and tapping other smartphones exchanges the information automatically.

Pros:

- It is convenient since you don't need a physical thing to carry with.
- It is easier to build since it is based on existing digital wallet functionality.

Cons:

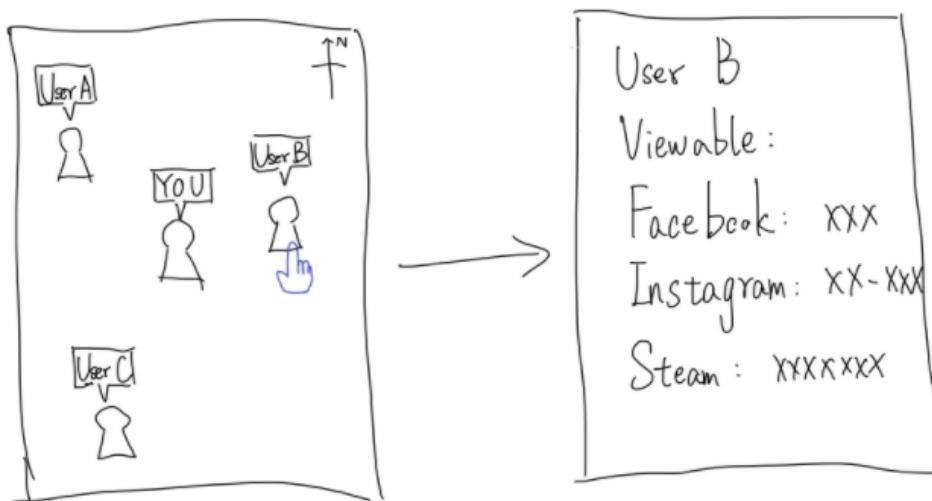
- It would be hard to keep track of the contacts.
- It would be hard to personalize the accounts you want to share.

Feedback:

- People are using e-wallets for other purposes already so they would quickly understand how to use our design.
- There could be some safety issues since people might open their e-wallet by mistake.
- Some people do not have their e-wallet activated on their phone.

Design Alternative #3

Sketches



Description

A radar map showing avatars of all people nearby who are open to share social accounts. Touch on the avatar to view their social platform accounts which they selected to share.

Pros:

- Users are able to connect with a lot of other users quickly at large gatherings
- In-person communication is not necessary to connect with others.

Cons:

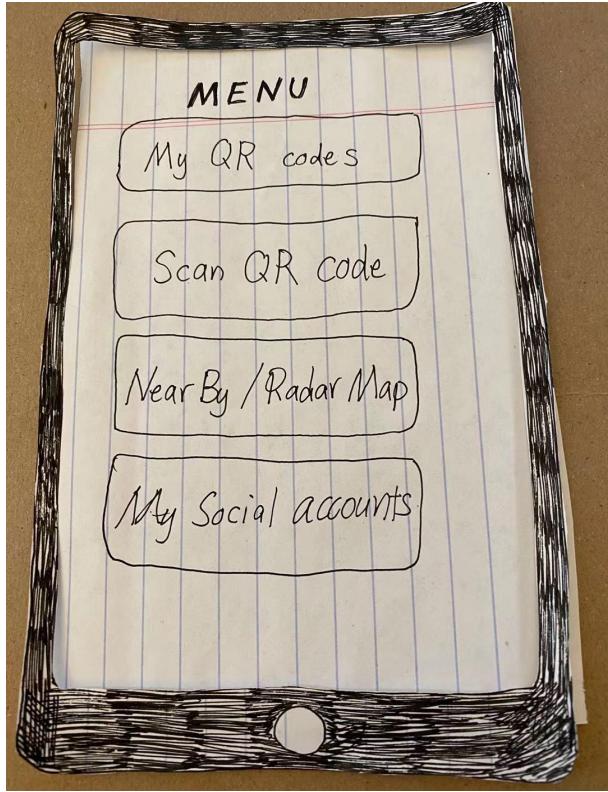
- If too many users are around the current location, the display could get messy and it is almost impossible to select the wanted one.
- Lack of privacy protection: these accounts could be viewed by all users.

Feedback:

- People do not have that many occasions where they need to add a lot of people at the same time.
- There could be some safety issues as the radar map because it shows users contact info to everyone around them.

Paper prototype

Menu page (Entry page)



Description:

Our Menu page include four functionalities which will lead users to four different pages:

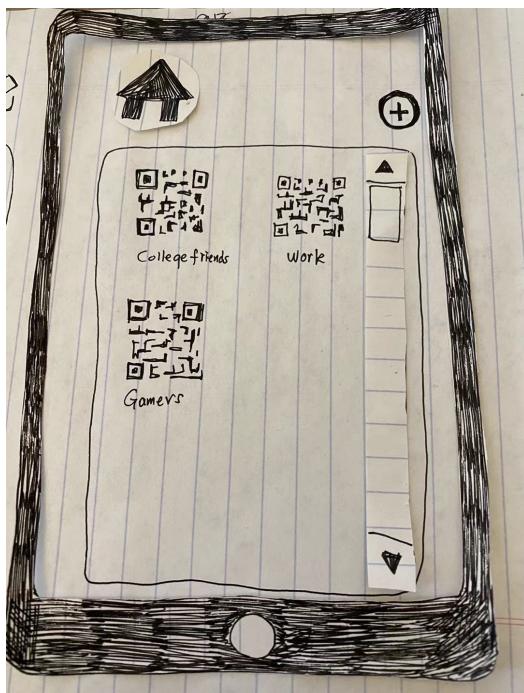
My QR-codes

Scan QR-code

Nearby Radar Map

My social accounts

My QR-codes page (After Pressing My QR-codes from Menu)



Description:

This idea is a combination of our first and second design concept. Once we create a QR-code, we want users to be able to store it and use it for next time. So instead of saving user's Information as an e-card like we do in our second design alternative, we create this page to save the QR-codes that users generated before.

The “+” button on the top right will lead to the **Generate QR-code page**.

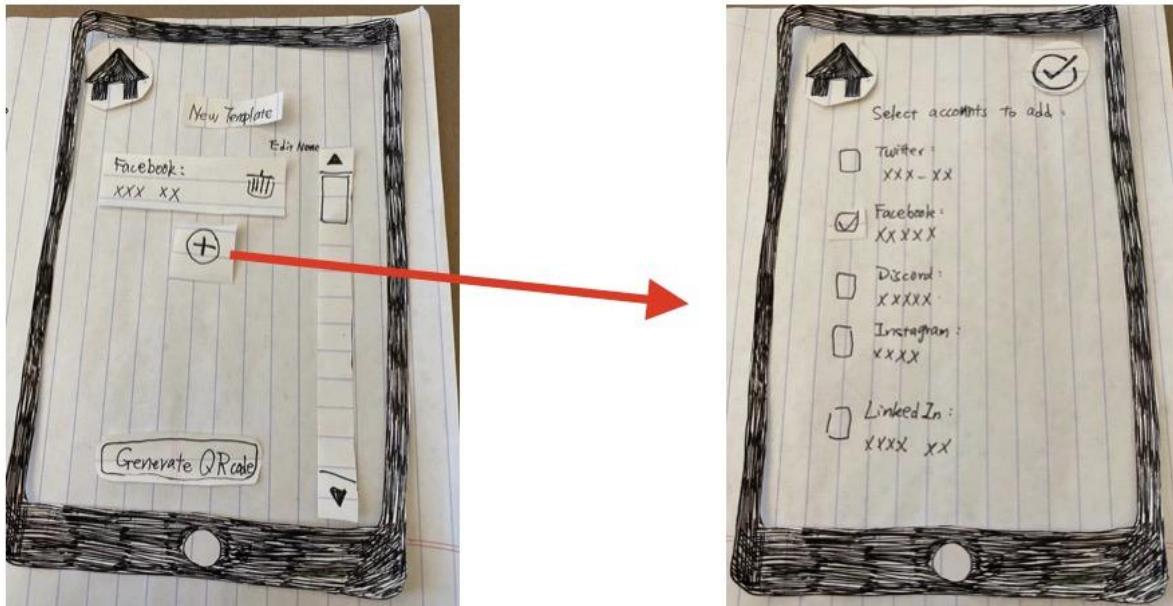
Pros:

1. Users can reuse their QR code anytime they want.
2. It works offline.

Cons:

1. Need to click on the QR code to see the detailed info about which social accounts are saved in this account.

Generate QR-code page



Description:

Since we build our design on our first design alternative, this is the most important concept we inherit from it, users can generate QR codes that display all the social accounts they are willing to share when scanned.

Rationale:

This helps users to be able to share multiple social accounts quickly.

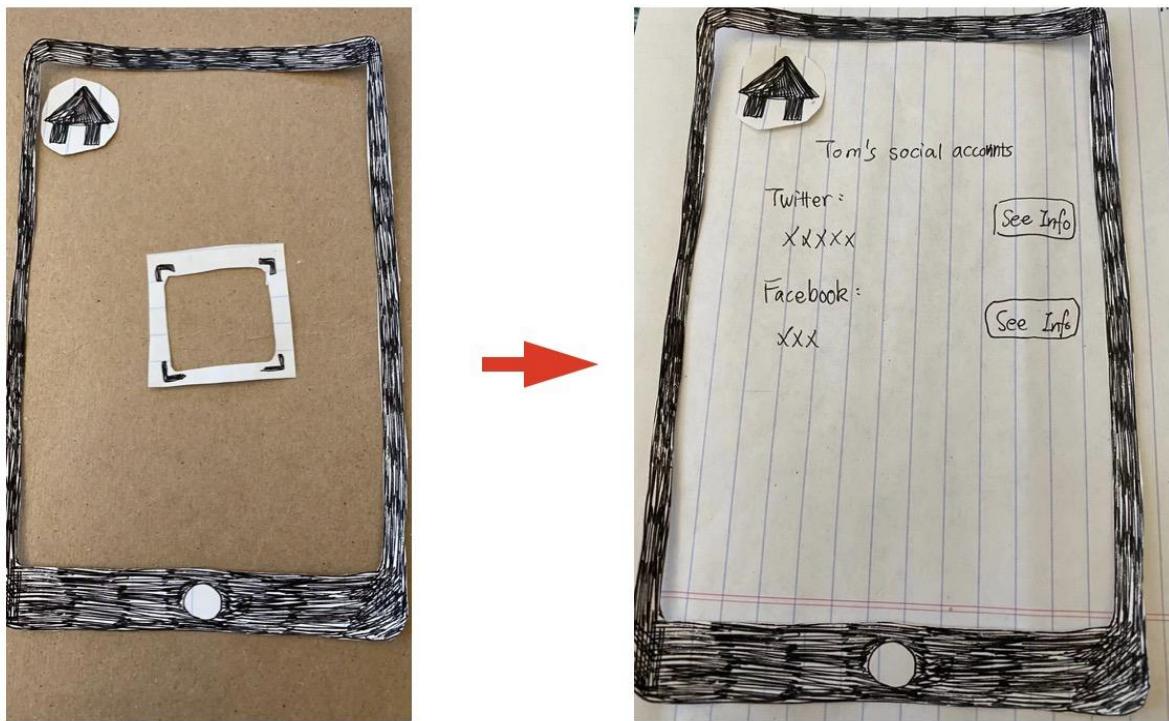
Pros:

1. QR-codes are reusable
2. Accelerates the process of sharing social media accounts

Cons:

1. Take time to select accounts and generate QR codes

Scan QR-code Page (After pressing Scan QR-code in Menu)



Description:

The idea inherits from our first design alternative. Users can scan other's QR-code to get to an information page. In that page, users can press the 'see info' button to jump to other's home page of a specific platform.

Rationale:

This helps users to be able to add multiple social accounts of another person quickly.

Pros:

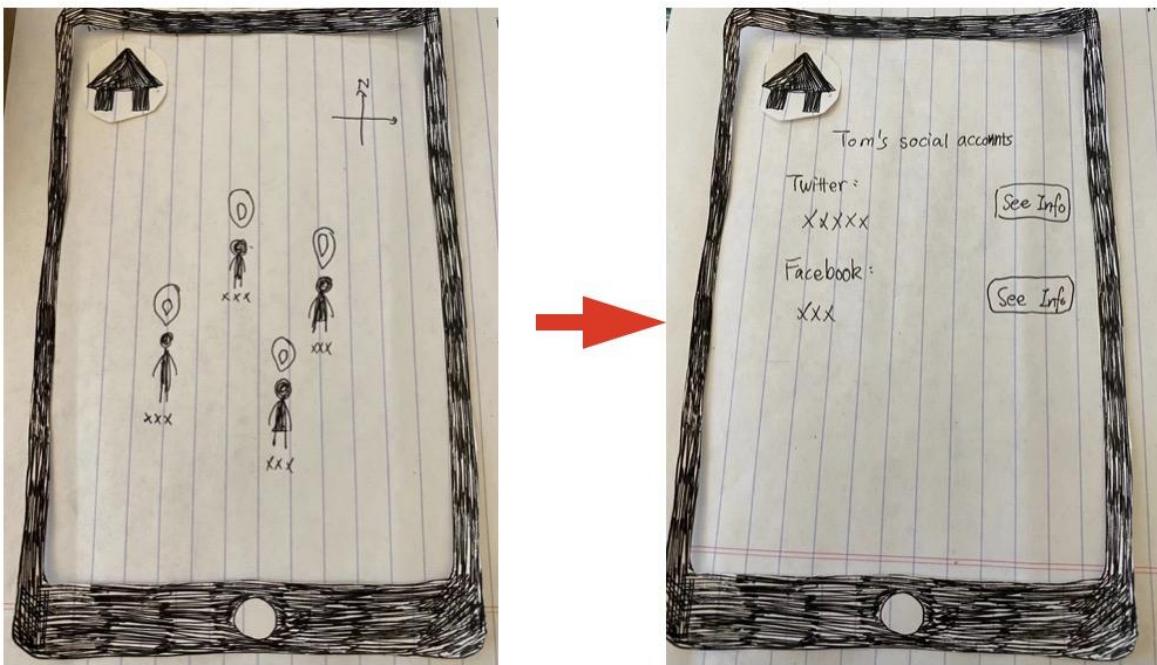
1. Users can choose which platform they want to follow.
2. Accelerates the process of sharing social media accounts

Cons:

1. Require network connection.

2. Take time for users to follow.

Nearby Radar Map page (After pressing Nearby Radar Map in Menu)



Description:

This functionality comes from our third design alternative. The radar map shows avatars of all people nearby who are open to share social accounts. Users can touch on the avatar to an information page.

Rationale:

Enable users to connect with a lot of people without having to talk to them first. Useful for people who are shy.

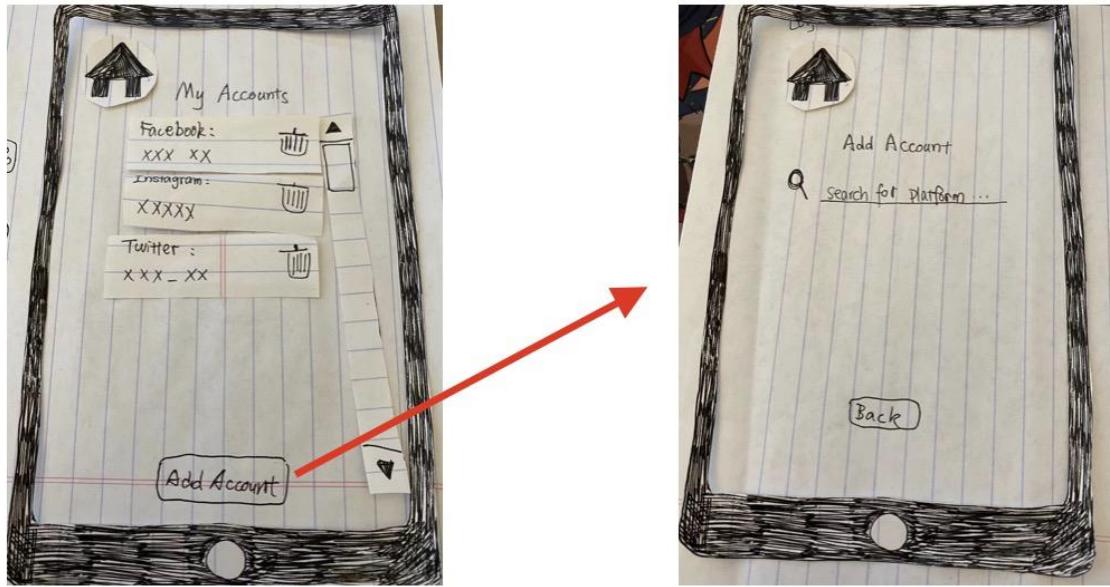
Pros:

1. Users are able to connect with a lot of other users quickly at large gatherings.
2. In-person communication is not necessary to connect with others.

Cons:

1. If too many users are around the current location, the display could get messy and it is almost impossible to select the wanted one.
2. Lack of privacy protection: these accounts could be viewed by all users. It is very likely that there exist some people that the user is not willing to connect with.

My social account Page (After pressing My social account in Menu)



Description:

Users should add their platform account in this page so that their accounts will show up when they generate their QR-code.

Rationale:

Enable users to manage all their accounts in one page.

Pros:

1. Save the time and efforts to manage different social accounts

Cons:

1. Users can only try and search for platforms they want to add on the add account page, but they cannot see which platforms the app supports.

Improvement After piloting:

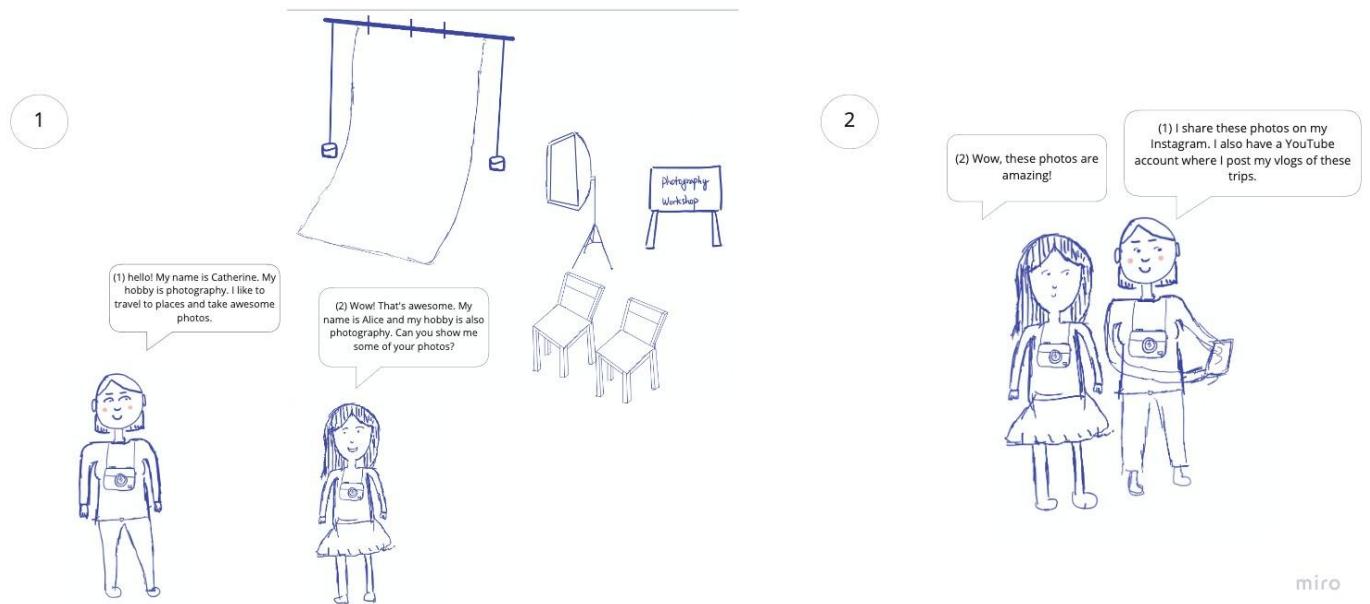
1. We used to set the **Generate QR-code page** as a independent functionality in Menu, but we find out it is easier if we put it as a sub-functionality of **My QR-codes page**, since users usually want to generate a new QR-code when they couldn't find a proper one from the exist QR-codes.
2. We used to have turn left and right buttons when displaying more than one page of social accounts. After piloting, a group member noticed that it would be better to have scrollbars to make it scroll up and down, which would be more convenient than turning pages left and right.

StoryBoard

Design requirement 1: Users should be able to generate QR codes which include different sets of social/entertainment platform accounts, so that they can share among multiple social accounts at the same time.

Persona and Background Information: Catherine is a university student. Outside of school, she loves to travel to places and do photography. Catherine is at a photography workshop and she meets a new friend.

Task: Catherine wants to show her new friends the social media accounts she has with a QR code so that her friend could keep in contact with her.



3

(1) Can I add your social accounts so that I can see more of your work in the future? Maybe we could go on a trip together some day!

(2) Sure! That sounds great!



4

(1) I have this app that helps me to manage all my social accounts and share them easily.

(2) Yeah. I also have it.



miro

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(1) I can also share with you my Facebook account which I use to discover new photography related events. Maybe we could go to these events together.

(2) Sure, that sounds great!



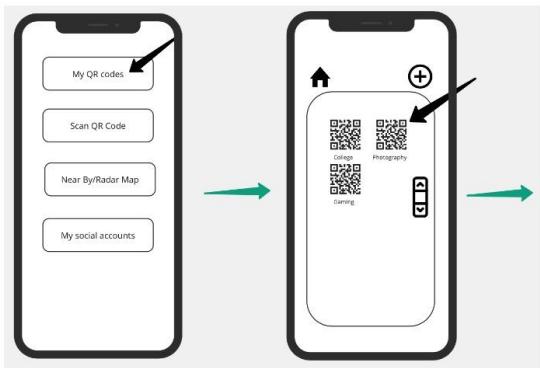
6

Okay let me share my social accounts with you.

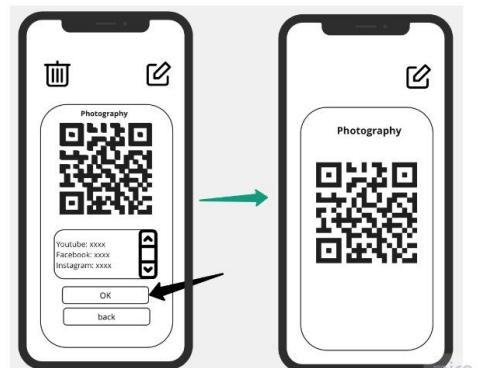


miro

7



8



9

(1) You just need to scan this QR code to add my accounts

(2) Sure, thanks!



miro

Design requirement 2:

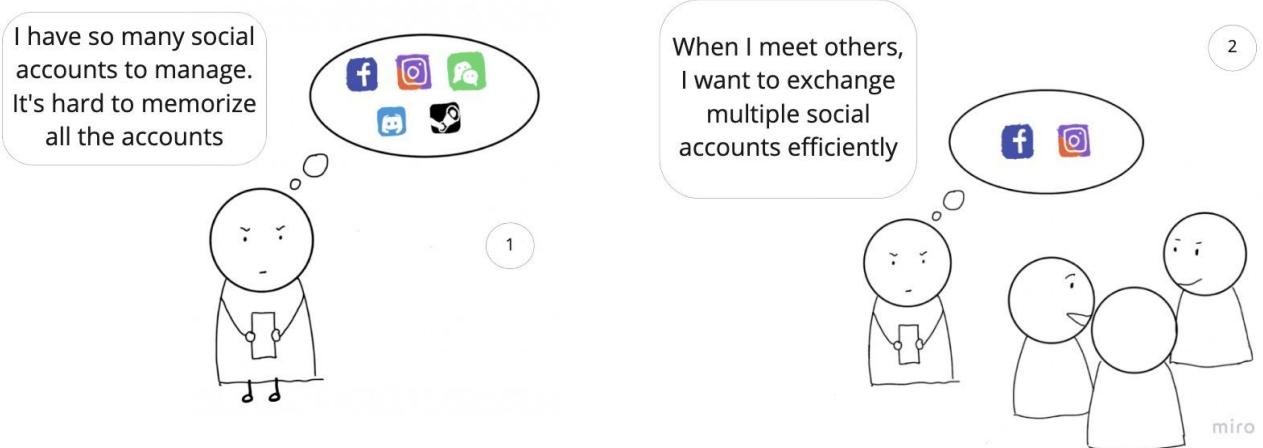
Users can manage all the social/entertainment platform accounts they have in a list. They should have the ability to add/delete the accounts within the list.

Persona and Background Information:

Tom is a University student. He is very sociable and like to connect with a lot of people. He attends multiple clubs at his university and he has multiple social accounts which he uses to connect with different sets of people. However, he has the concern that he has too so many social accounts to manage and he can't remember all his usernames.

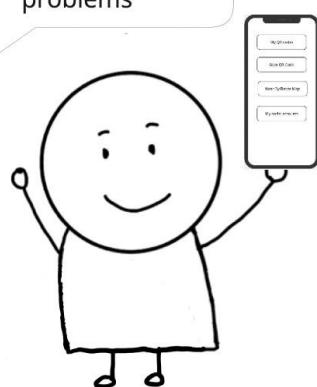
Task: Add all his existing social accounts to the app

His name is Tom



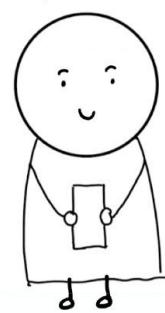
Then I found this app that can help me with my problems

3



I first need to add all my social accounts to the app

4

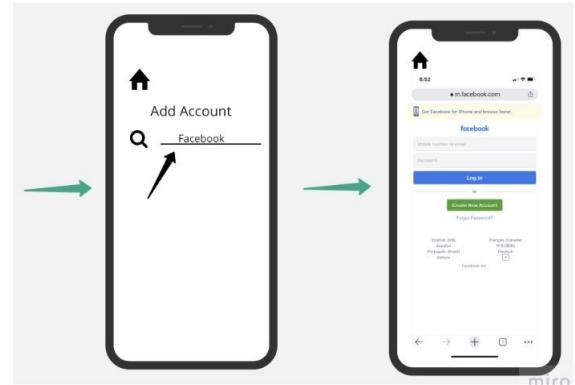


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Design requirement 3:

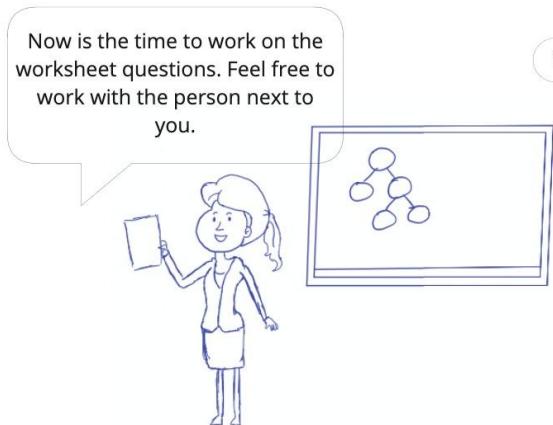
Users should be able to scan the QR code of another user. They will be able to see all the social accounts shared with them. Then they can send friend requests on these platforms or/and see the other user's social accounts information.

Persona and Background Information:

Lucy is a University student. She is very hard working and attends every lecture. She sometimes meets some new friends in class and wishes to exchange social accounts information with them so that they can study together later.

Task: Add or follow other users on social media platforms after scanning the QR code.

Lucy is the girl with short hair



1

Working on worksheet questions together

2



miro



3

(1) Yes, totally! Let's exchange social accounts so that we can study together.

(2) Sounds great!

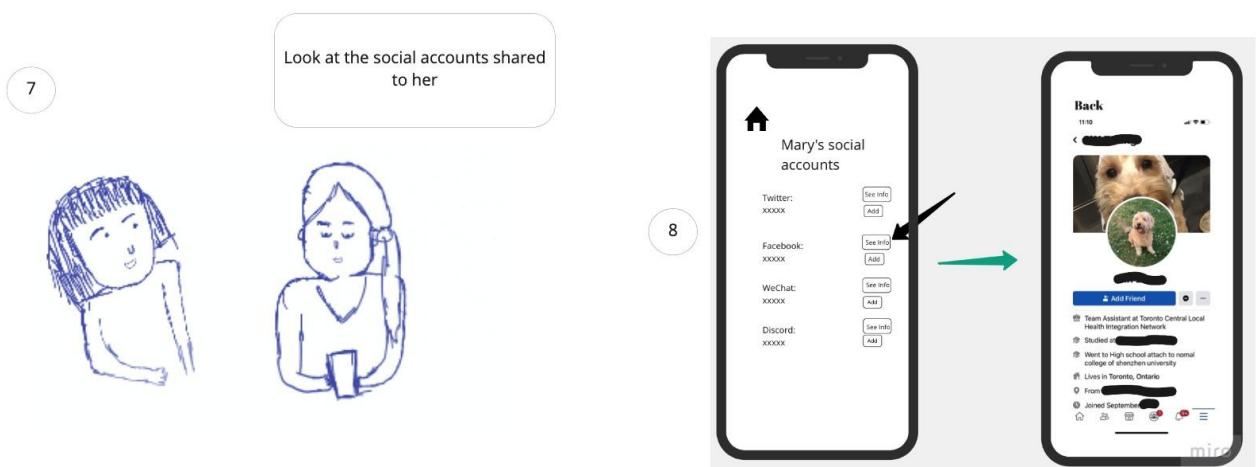
4



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miro



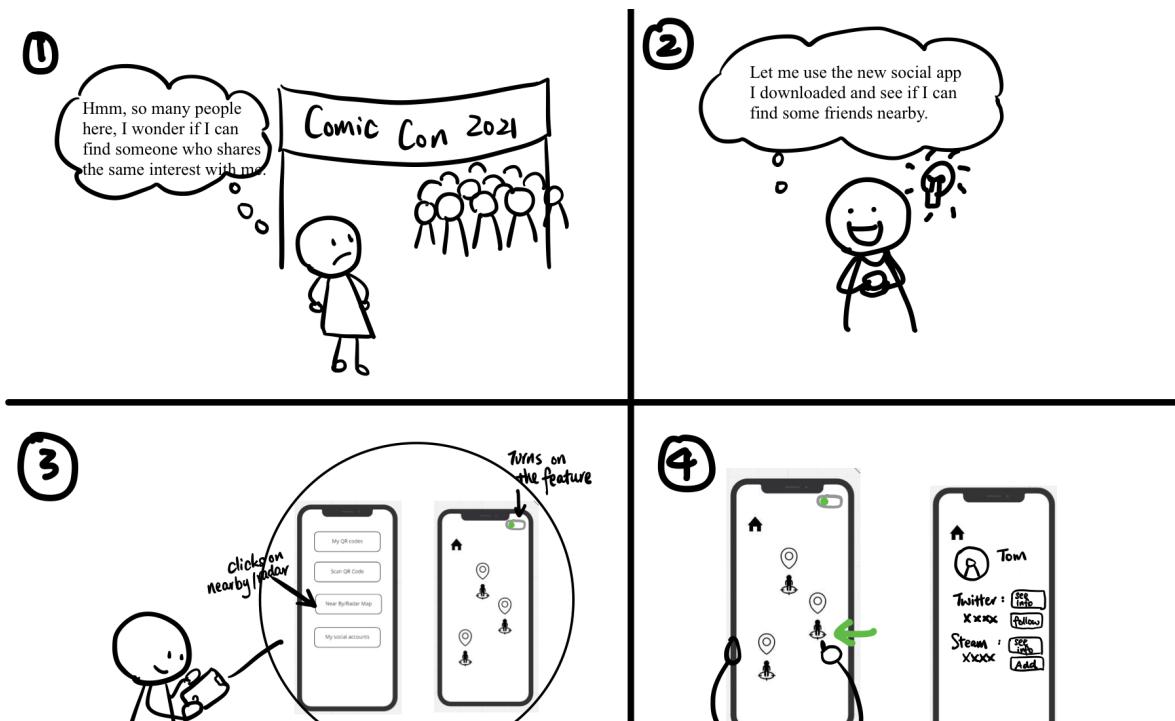


miro

Design requirement 4: Users should be able to add other users without the two being face to face. Users should be able to see other users that are nearby.

Persona and background information: Toppy Pley, a student at the University of Toronto loves to play video games outside of school.

Task: Toppy attends a comic con, he is trying to add new friends through the Nearby feature.



①



A few seconds later, Toppy received a notification from Steam, Tom has sent him a message.

②



Tom

Hey dude! You also at the Comic con?

Yeah! I saw you on the nearby map and wanted to ask if you wanna play games together at some point.



Tom

Sure! Me and my friends are gonna play Among Us tonight, you should join us! I'll send you an invitation.



Toppy

Awesome!!



Toppy

③



Toppy is happy about Tom' invitation and decides to enjoy his time at the comic con.

THE END

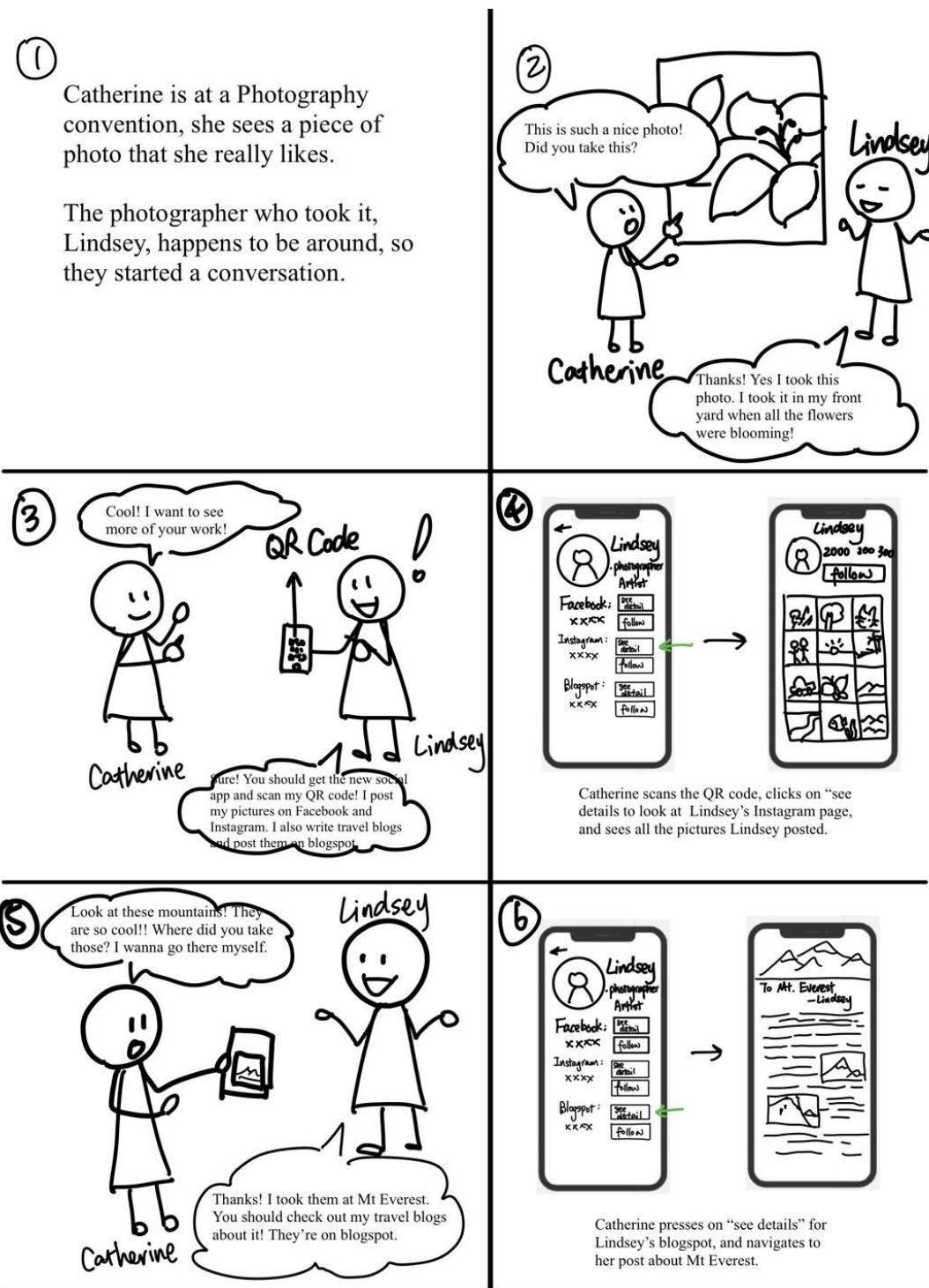


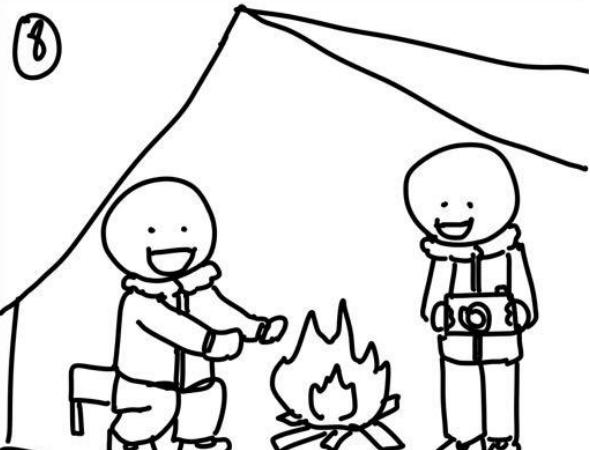
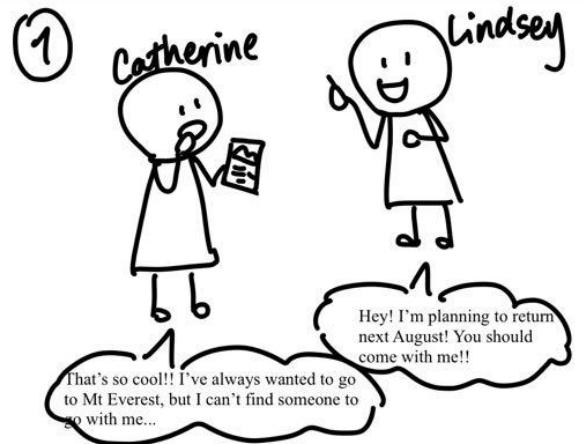
by Sarah

Design requirement 5: Each social/entertainment platform accounts that users public to others should have a link, which can take others to the his/her home page of that specific platform.

Persona and Background Information: Catherine is a university student. Outside of school, she loves to travel to places and do photography.

Task: Catherine wishes to view her friend Lindsey's Instagram and blogspot in a convenient way.





Evaluation of the Low-Fidelity Prototype

Cognitive Walkthrough

Approach: The cognitive walkthrough is conducted during the lecture time through Zoom videos, we have invited 5 participants from the other group to perform the walkthrough procedure. We firstly showed the initial page of our paper prototype and described a certain task which requires the participant to finish. The participants will tell how he/she would like to interact with the prototype, and we will show the resulting pages after each interaction. Below are the five tasks in details:

Task 1: Exhibit an created QR code

Participant's procedure: Click my social account -> click the account name which does nothing -> Go back -> Click my QR code -> Clide an code

Meet expectations: No

Discussion & Feedback: The participant clicked the right button on the homepage cause he thought he could directly show the codes in my social account page and show the codes. Therefore, we need to modify the button name for clarification, or we can use tips to indicate the functionality of each button.

Task 2: Scan other people's information

Participant's procedure: Click scan QR code -> scan -> see other info

Meet expectations: Yes.

Discussion & Feedback: In general this task is well done with no mistakes.

Task 3: Use the radar map to get another user's contact information

Participant's procedure: click reader map-> click avatar-> see info

Meet expectations: Yes.

Discussion & Feedback: In general this task is well done with no mistakes.

Task 4 Edit information saved in a created QR code

Participant's procedure: click my qr codes->click a code->edit name->delete an account->add an account -> click save button

Meet expectations: Yes.

Discussion & Feedback: The participant pointed out it may be time-wasting if only sharing one account. We can add functionality such as directly sharing one account without using QR codes.

Task 5: Load your accounts into app

Participant's procedure: Click my social accounts-> Search for platform -> Add account

Meet expectations: Yes.

Discussion & Feedback: The search functionality may not be necessary since we may not support all the social media. Instead, we can add a predefined interface showing all supporting social accounts. As a result, users can directly add the accounts while saving the time for searching.

Think Aloud Session

- Approach:
 - Introduction of participants and evaluators.
 - Briefly introduce our problem statement and the purpose of the think aloud session
 - Briefly introduce what participants will do, emphasize that we would like them to speak up their mind on what they are doing/trying to do and what they are thinking and how they are feeling while doing these procedures.
 - Make sure that participants fully understand their job.
 - Give the tasks to participants and make sure that they understand what it means
 - Start the session and show the interface to them.
 - Navigate the paper prototype while participants give specific instruction on how they would like to interact with the interface.
 - When participants forget to illustrate their feeling and thinking, encourage them to speak up their mind and ask them why they would proceed it that way.
 - When participants go off the right track to accomplish the task, navigate the interface to the stage after their wanted action and notify them that they are going off the track, and then explain the reasons why the action that they would like to perform is irrelevant from their task.
 - Repeat the previous 3 steps until participants accomplish their task.
 - Notify participants that they have finished their job and thank them for their involvement

- Inspiration
 - When evaluating the task “Generate a new QR code with Facebook and Twitter accounts”, the participant experienced a confusion on the page where users could select existing specific social media accounts to generate a new QR code.

According to our current paper prototype, the unselected accounts have an “X” mark next to it representing “this account is not selected”, and when an account is clicked on, the “X” mark would turn into a check mark representing “this account has been selected”. The participant interpreted it in the opposite way, supposing that the marks are buttons that toggle the current selection status of accounts. He thought that clicking on the “X” mark next to an account would unselect an account before any intervention from the evaluator. Then the evaluator paused the evaluation, reminded the participant that he is not on the right track and demonstrated how the “X” and check marks work in this prototype. After the evaluation, the participant gave his suggestion to these marks components in our design: instead using “X” and check marks, empty and filled circles could better serve the purpose since the message sent by circles is very direct and seen a lot in many digital products. And if our team would like to keep the “X” and check marks design, he suggested that we should apply color on the marks such as green check marks and red “X” marks to avoid any confusion.
 - When evaluating the task “Remove Instagram account under the ‘College Friend’ QR code”, the participant showed improper interpretation of the task and the interface. After he was given the task, he chose to click on the “My Accounts” button so that he could see his Instagram account and remove it from there.

According to our design, “My Accounts” is a collection of all social media accounts that has been authorized and loaded into this app. Therefore, removing the Instagram account from “My Accounts” would not accomplish the task “Remove Instagram account under the ‘College Friend’ QR code”. Then the evaluator paused his performance, notified him that he is not on the right track, and explained that he should focus on the Instagram that is contained in the specific QR code instead of the entire app. After the evaluation, the participant expressed his dissatisfaction on the lack of help reference or guidance for our design. Without any instruction, users could be confused about the difference of social accounts under a QR code(a template) or “My Accounts”. This inspired us to consider adding help reference in the app or a tutorial for first time users and potential need to modify the mechanism of the entire map for the purpose of user friendly.

- When evaluating the task “Load Facebook account into the app” and the participant was at the page where users search for the name of social media platforms in a textbox, she gave the instruction to type in her facebook username. Then the evaluator paused the evaluation and explained that the purpose of the search textbox is for names of platforms instead of names of users. The occurrence of this incident might seem minor but it does alert us that the “searching for names” textbox approach could lead to confusion where users suppose that they could search for a user on a social media platform and link that into the app. According to our design, after searching for the name of platforms and selecting the wanted one, the app would redirect to the corresponding

platform and ask the mobile device's owner for authorization to access their social media account. With authorization, the app is able to load the social media account in. This incident inspired us that the design of searching for a platform is not ideal and we are considering that, instead of searching for names of platforms, to provide a list or table of platforms that the app currently supports and users could select the platform in their mind. By the end of the list or table, we are also considering adding an “Other Platform” option to enable users to load unsupported social media platform accounts into the app by customizing the name of the platform, the username, and any other concerned information.

- Summary
 - Overall, participants in these think aloud sessions showed good interpretation of the paper prototype interface and understanding of given tasks. Most participants succeed on figuring out the way to approach their target while confusion occurred in some functionalities of components. The feedback from them was fruitful and indeed revealed some deficiency and appropriation on our design, giving us insight on further modification on the design of the prototype to ease the usage of functionalities.

Lessons Learned and Implications for Design

Bright spots:

- The scan and rader map functionality are easy to understand and simple to use.
- Participants find the rader map useful when one feels embarrassed to ask for exchanging social media accounts.
- The design is minimal enough for a user to perform a desired task within a few actions, we use icons and pictures when necessary to help match between the system and the real world.
- Users are given enough freedom to customize their social accounts, the generated QR codes.
- The codes are saved, and can be reused anytime users want.

Limitations:

- There is no help guidance in this design, and people may get confused for the difference between my social accounts and my OR codes.
- The privacy problem is not considered for the rader map functionality.
- There is no error handling functionality discussed in this design.
- When users want to load their accounts into the app, they do not have a list of social platforms the app supports, so they have to search and find out if the app supports the social account they wish to add.

Proposed changes:

- Add a help instruction page(like a question mark icon) to help indicate how to use the design correctly.

- The app should ask for permission of utilizing current location information when using the radar map functionality.
- Substitute the search functionality in my social account with settled options for all supporting social media. Users can click to add accounts and connect with corresponding social media applications. Then it is not possible for users to search for some social accounts and don't find it.
- Try different displays for selecting/deselecting accounts when generating a new QR code like empty/filled circles, marks with distinguishing color, or 2 lists showing selected and unselected accounts. The purpose is to clearly indicate which accounts has (not) been selected to add into the new QR code.

Appendix

Video Recordings of Think Aloud Sections

<https://youtu.be/N5SHxj8er4U> Generate a new QR code with FB/Twitter accounts

<https://youtu.be/50WEEKN27VY> Follow a FB account through Radar Map

<https://youtu.be/OMmqDycD6Zc> Remove Ins account under College QR code

<https://youtu.be/KNALcZC2LyA> Load FB account into the app

Second Set of Paper Prototype



Experts Participations

Student Name	Ratings
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Group Freethinkers	2
Yanling Hu	2
Kainan Ni	2
Zhiyuan Liu	2
Zhongliu Liu	2
Yexiong Xu	2

Group Name	Ratings
Free Thinkers	2
The Surveyors	2

Design requirement & Storyboard #4 Transcripts:

- 1) Hmm, so many people here, I wonder if I can find someone who shares the same interest with me.
- 2) Let me use the new social app I downloaded and see if I can find some friends nearby.
- 3) The radar feature needs to be enabled by the user before seeing the map. So Toppy turns on the feature on his phone.
- 4) After turning on the radar, Toppy sees the other users who also turned on this feature near him. So he clicks on one of them to see that user's information.
- 5) Toppy sees that Tom, this other user, has shared his steam account on the radar map, so he clicks on it to see more information.
- 6) Toppy: Hey! This guy plays Among Us too! I should add him and see if we can play together.
Toppy sends Tom a friends request through our app.
- 7) A few seconds later, Toppy received a notification from Steam, Tom had sent him a message.
- 8) Tom: Hey dude! You also at the Comic con?
Toppy: Yeah! I saw you on the nearby map and wanted to ask if you wanna play games together at some point.
Tom: Sure! Me and my friends are gonna play Among Us tonight, you should join us! I'll send you an invitation.
Toppy: Awesome!

- 9) Toppy is happy about Tom's invitation and decides to enjoy his time at the comic con.

Design requirement & Storyboard #5 Transcript:

- 1) Catherine is at a photography convention, she sees a piece of photo that she really likes.
The photographer who took it, Lindsey, happens to be around. So they started a conversation.
- 2) Catherine: This is such a nice photo! Did you take this?
Lindsey: Thanks! Yes I took this photo, I took it in my front yard when all the flowers are blooming!
- 3) Catherine: Cool! I want to see more of your work!
Lindsey: Sure! You should get the new social app and scan my QR code! I post my pictures on Facebook and Instagram. I also write travel blogs and post them on blogspot.
- 4) Catherine scans the QR code, clicks on "see details" to look at Lindsey's Instagram page, and sees all the pictures Lindsey posted.
- 5) Catherine: Look at all these mountains! They are so cool! Where did you take those? I wanna go there myself.
Lindsey: Thanks! I took them at Mt. Everest. You should check out my travel blogs about it! They are on blogspot.
- 6) Catherine presses on "See details" for Lindsey's blogspot, and navigates to her post about Mt. Everest.
- 7) Catherine: That's so cool! I've always wanted to go to Mt. Everest, but I can't find someone to go with me...
Lindey: Hey! I'm planning to return next August! You should come with me!!.
- 8) Catherine and Lindsey became good friends, and went to Mt. Everest together to take more awesome pictures.

Individual Contribution Table

Group member	Task	Estimated Time
Anyue Huang	Weekly meeting	2hrs
	Sketch ideas	1hr
	Design concept	1hr
	Design paper prototype	1hrs
	Writing paper prototype explanation	2 hrs
	Conclude presentation	1hr
Bingchen Yang	Editing A2 report	2hr
	Weekly meeting	2 hrs
	Making paper prototype	3 hrs
	Designing think aloud protocols	1 hrs
	Conducting think aloud	3.5 hrs
	Analyzing feedback from think aloud sessions	2 hrs
Meilin Yang	Formating think aloud results	2 hrs
	Sketch design concepts	1 hr
	Design paper prototype	2 hrs
	Make paper prototype	3 hrs
	Conduct expert evaluation	2 hrs
	Weekly meetings	2 hrs
Shilei Xu	Editing A2	2 hrs
	Brainstorm design concepts	1.5 hrs
	Design paper prototype	2 hrs

	Illustrate Storyboards	3 hrs
	Weekly meetings	2 hrs
	Formatting A2	2.5 hrs
	Experts for other group's Heuristic Evaluation	1 hr
Zuoyu Wang	Design paper prototype	1.5hr
	1 initial idea and sketch	1hr
	Weekly meeting	2hr
	Taking notes and be assistant in Cognitive Walkthrough	2hr
	Conclude limitations and propose changes	1hr
	Formatting and writing A2 report	2hr
	Evaluation of initial ideas and combine into current design	1.5hr
	Participant in other groups' evaluation	1.5hr
Jiaming Yang	Design paper prototype	1.5hr
	Weekly meeting	2hr
	3 storyboards	4.5hrs
	Participant in other groups' evaluation	1 hr
	Editing A2	1hr
	Brainstorm design concepts	1.5 hrs