

Report on Design Thinking Project



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF COMPUTING
UTM Johor Bahru

Subject : Technology and Information Systems (SECP 1513)

Section : 05

Name of Lecturer : Dr. Azurah binti Abu Samah

Date : 30th November 2023

Title of Design Thinking Product: Time to Link

Video Link (youtube): <https://youtu.be/Wskn43cMg5I>

Group Profile



Kok Wei Yee
A23CS0094
kokweiyee@graduate.utm.my
+60127083385
Software Engineering

<https://eportfolio.utm.my/user/kok-wei-yee/design-thinking-section-5-group-6>



Adam Iskandar Bin Norsham
A22EC8025
adam.iskandar@graduate.utm.my
+601110010920
<https://eportfolio.utm.my/view/view.php?t=fYEC0tSBaG5wvRyJVnMe>



Yap Kar Ying
A23CS0200
karying@graduate.utm.my
+601121859945
Software Engineering

<https://eportfolio.utm.my/user/yap-kar-ying/design-thinking-section-5-group-6>



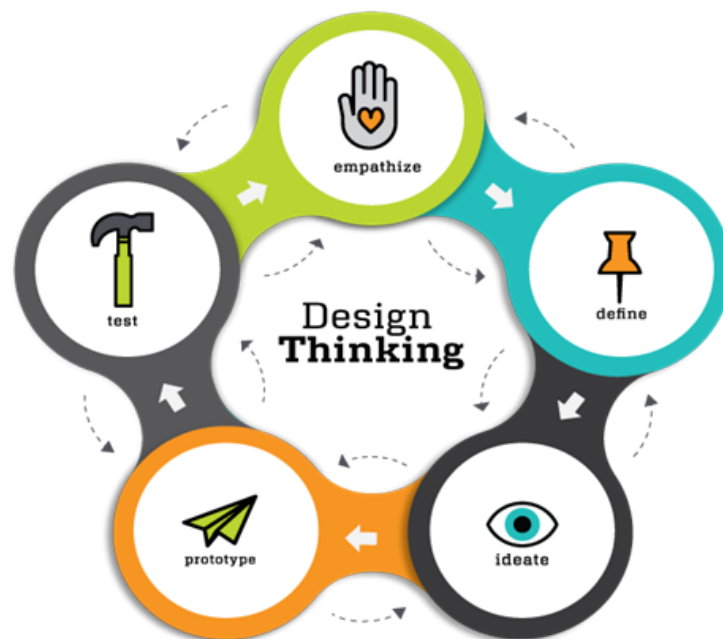
Mavis Lim Hui Qing
A23CS0110
mavis@graduate.utm.my
+60123986453
Software Engineering

<https://eportfolio.utm.my/view/view.php?t=ANqVh1oE7YP9LkisFBnG>

Comments by Grader:

Introduction

Design thinking is a problem-solving approach that helps tackle complex and unclear problems by coming up with practical and creative solutions specifically tailored for certain groups of people. This method focuses on understanding users' needs from their perspective, starting with empathy. Design thinkers observe and gather insights directly from users, which helps identify the real problems that need solving. The process involves five key steps: first, understanding users' experiences (Empathize), then defining the core problem based on gathered information (Define). Next, brainstorming and generating various ideas to solve the problem (Ideate) and building a simple version of the solution to test (Prototype). Finally, the solution is put to the test (Testing), allowing for adjustments and improvements. This method encourages creativity and problem-solving by continuously refining ideas until a practical and user-friendly solution is found.



Log Journal

DATE	ACTIVITIES
25/10/2023	Creation of Telegram Group
15/11/2023	Google Meet to do initial Design Thinking
20/11/2023	Google Meet for Design Thinking
22/11/2023	Physical Meeting at DSR for further discussion
30/11/2023	Submission of Design Thinking Report and video

Problem

Disconnection between students often happens due to a lack of availability for student networking. Such instances could range from minor information to a piece of information with great significance. Hence this will create a gap of information and a possible misread or misleading exchange of knowledge. This will further be a hindrance to progress between students be it academically, co-currically, or even socially.

This can be seen from the issue of the unity of students being at risk as it can be seen in the disconnection between juniors and seniors. More often than not, you will only see people of the same age group mingle with each other and have almost no interaction with seniors. Things such as past notes or resources will be lost to time and not be used by anyone soon after.

Freshmen or first-year students will also have issues utilizing their surroundings to their fullest. This can be due to expectations being placed on them to “adapt” to their surroundings. When in reality, they aren’t even shown the basics of adapting to their new surroundings. This can be a major issue as easily accessible facilities may be unused to their full potential which furthers a loss and waste of such resources.

Common hobbies that can be enjoyed with others such as playing football, watching movies, playing video games, or even activities such as shopping or sightseeing are often found among students. The difficulty of linking up with others randomly who have a common interest or hobby is growing with a huge disparity and thus is an issue for students to build their network and socially connect with others.

Solution

The solution to the problem is to create an application that allows students from different years to connect and share information to help each other. The information would be centralized and categorized in this app. This app can help to save students time to search for information about the campus. Firstly, the students can share activities that are organized on campus and join those activities based on their interests. The app would be free of advertisement so that the students receive the most updated information regarding the upcoming activities.

Additionally, students can share academic resources with the other students so that they can get extra guidance from the seniors with more experience. They can easily find lecture notes or past years' exercises to help them with their studies since the materials are well organized according to their course. Students can also sell their books to the new students so that they can earn extra money and also let new students buy at a cheaper price.

New students who are unclear about the locations of the facilities in the university can refer to the application to know where those places are located. They can find where different lecture halls are located and also look for services that they need. For example, if a student needs to print a material urgently but does not know the location of the nearest printing store can find it through the app.

Team Working

We created a Telegram group so that we could discuss the time and place of our meeting. In our initial meeting, we chose the project we wanted to work on and also discussed the questions intended to ask in the interview. During group meetings, everyone cooperated and arrived on time every time thus, for the selection of the finest concept for this project, each member contributed ideas and exchanged thoughts on many concepts. Everyone finished their assigned duties on time after we divided them up.

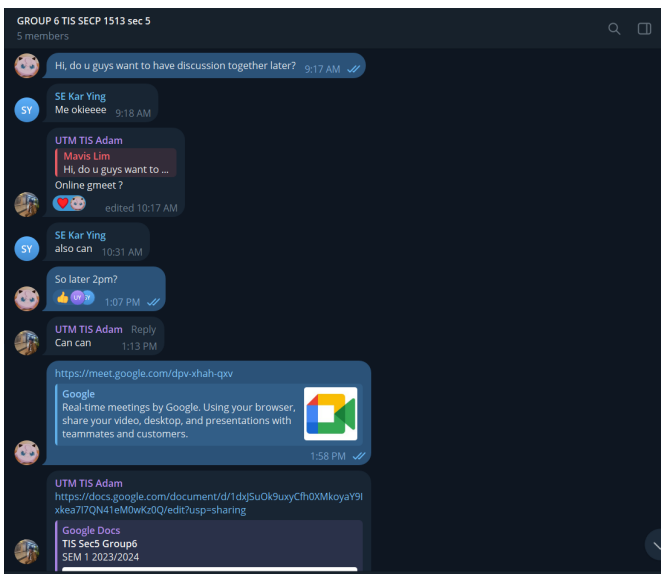


Figure 1.1 Group Discussion

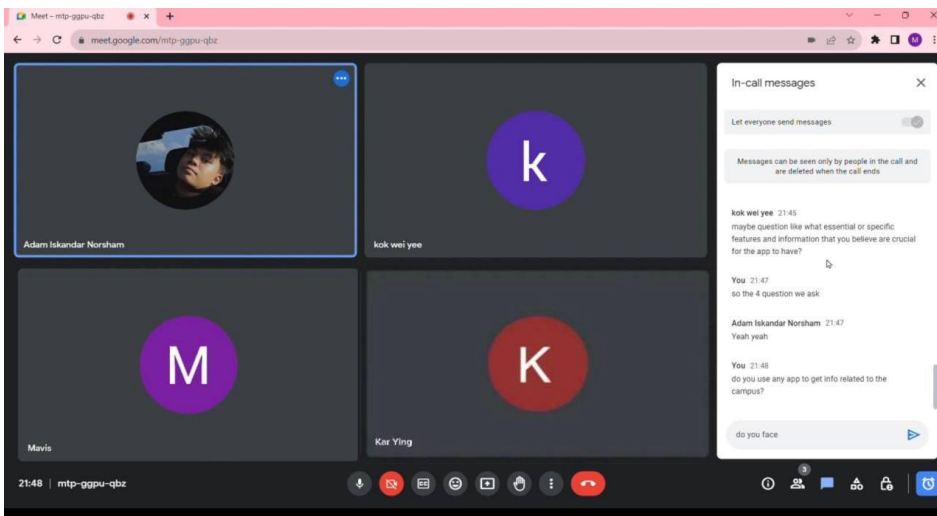


Figure 1.2 Group Meeting

Design Challenge

First and foremost, security measures was an entire hustle. Upon realizing the fact that there can be a chance for being wrongly used, we had to create a way so that only “real” people would use the app and not wrongfully by others. Hence, we decided to create a solution by making it only accessible with certain emails to use the app. With this we can avoid having non-yargeted users in the app. We have also implemented a firewall to keep the app secure.

As far as creating an entirely new app, one of the few design challenges would be to make it as user friendly as possible. The app needed more than one way for users to interact with each other. May it be an announcement or a simple post to gather people at a certain area, it’s a challenge as it is to create an app that can help users process information that would be relevant to them. Hence, by having the option to post and to comment, users can interact with each other. The solution offered in this app is the feature to discuss with others.

Another issue that might be faced is the lack of feature to notifying users. We all no having all these announcements and posts can be hard to find as we can hardly be notified properly. This will cause delay of urgency as we might receive information late and thus cannot act appropriately. To jump over this hurdle, this app will have a feature where we can turn on notifications to relevant pages for users.

Last but not least, feedback and reviews aren’t properly received by the developers. As helpful as having a review and rate option at respective stores, like Google PlayStore, Apple Store, it hardly is received properly by the developers. Hence by having a feedback option, users can put feedback for the developers to act upon urgently.

5 Steps of Design Thinking Process

I. Empathy

It has been observed that many university students, including those from UTM, often face difficulties in accessing and sharing information on the existing platforms. It seems university students are diverse due to a lack of efficient communication. Traditional tools like Telegram may not be tailored to students' specific needs, leading to an information gap when it comes to the assessment of useful information. Many students don't even know where to join a group for discussion. Without a structured app to gather and classify information within the university community, students face challenges in finding relevant information, participating in activities, and connecting with peers who share similar interests. Besides, it is challenging for students to provide and receive constructive reviews on campus facilities and services as references. Students need a centralized hub for campus-related and other specific functions to improve campus life quality.

Our group has conducted several interviews with different students to gain insight into their experiences, frustrations, and aspirations. The questions we have asked are all related to the current tools that they use right now and how to upgrade their campus life experiment.

From the interview, we know that students rarely meet up with people with the same interests due to the lack of a platform that facilitates such connections. They mainly use traditional communication tools such as Telegram, and WhatsApp for campus-related updates, which can often lead to unnecessary problems.

Students encounter challenges while using these apps such as fake accounts and scam messages. The messiness of the app interface increases the difficulty for him to access information. There is also a lack of special features that are designed to meet students' specific requirements.

By recognizing these issues, interviewees think it is essential for adding a lost and found function to our app for centralized info on lost items. Identity authentication is needed for secure campus information and personal details exchange. It would also be beneficial to provide notifications about campus

activities, so the users can stay informed and don't miss out on any opportunities to get involved.

II. Define

Following extensive research, we found out there are some problems with current tools for students to conduct efficient communication and access information.

- 1) Messiness of app interface and lack of structure
 - Due to its unorganized information, students find it hard to find important documents since the design didn't meet students' special requirements.
- 2) Poor security and scam messages
 - Many users got scammed by not knowing scam messages resulting in financial loss and compromising personal details to hackers. Fake accounts exist due to lack of robust identity verification.
- 3) Add FAQ
 - We can include a section of frequently asked questions (FAQs) to help students with their common confusion.
- 4) Lack of Special Features
 - Functions like lost and found that are easy for students to find their lost items have not been built yet. Besides, a platform for second-hand exchange or selling would help students to save money.
- 5) Notification and announcement
 - Students do not know the details of every campus activity, resulting in missed opportunities to get involved in.
- 6) Hard to find people with the same interest
 - As it can enhance our campus life experience with people with the same interests, it is hard for students to find them due to inefficient communication.

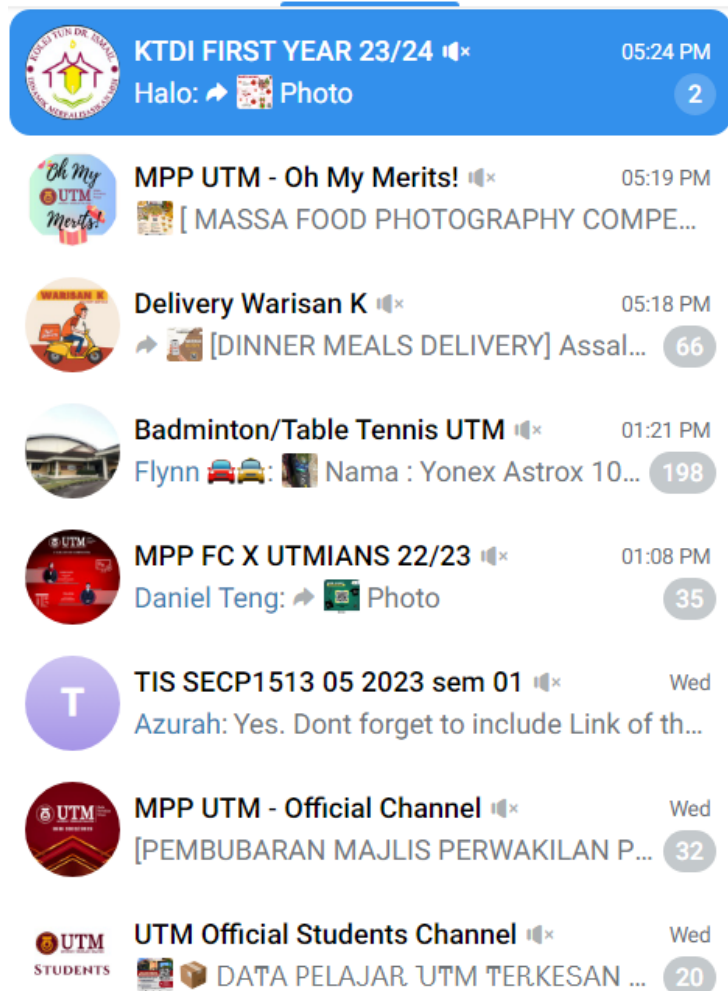


Figure 2.1 Bundled information

III. Ideate

In this phase, we generated ideas for resolving the issues that we had identified in the previous phase. We came to the conclusion that students, particularly those in various years and courses, do not get to engage with one another sufficiently. Our prototype was created using the results of the interview we conducted. Other apps like Telegram and Facebook, are inconvenient to use as they consist of advertisements for different services on campus such as parcel delivery, food delivery, and clothing sales. Thus, the information and announcements are messy and unorganized.

The first idea that we had was creating an app that can make sure the announcements of different types of activities are included in the activities section. In order for students with similar interests to participate in the same activities and get to know one another better, we also make sure that all the material is categorized. In order to prevent the students from missing any information, we also want to make sure that our app is devoid of advertisements.

Our app focuses on providing students with clear and organized information so they won't be confused or miss announcements about events they wish to participate in. Through the app, kids can obtain academic resources like lecture notes and previous year's exam papers from their seniors in addition to information about current events.

IV. Prototype

Link to experience the user interface: [Section 05 Group 6 Prototype](#)

At the prototyping phase, we design an early version of the solution by using Figma. The prototype saves time and money because it allows us to gain valuable problem-solving insights. After the prototype was designed, we refined the prototype through testing and tried to discover different solutions to the problems since it does not always lead us to the end solution. Through a process of continuous discovery and refinement, we were able to produce a final version of the prototype that met our standards.

V. Test

In the testing stage, we allowed users to access our prototype and explained our concept designs to them. This was a valuable opportunity to determine whether our application fulfilled users' needs or solved their problems. It also provided the users with a chance to provide unbiased feedback, which helped us identify any issues that we may have overlooked. We execute our testing plan by collecting valuable feedback from users through interviews. This feedback is then carefully analyzed and utilized to improve our solutions based on their responses.

Reflection

Mavis Lim Hui Qing

My dream with regard to my course is to gain a wide understanding of technologies and programming languages. I wish to create innovative solutions for existing real-world problems. I also hope that I can contribute to the advancement of technology in Malaysia by developing useful software applications. I wish to equip the skills and knowledge that I have learned to make the world a better place and solve problems that people are facing.

This design thinking project has taught me what it would be like to complete a project as a team in the working environment. I have to make sure that I complete my tasks on time so that the other group mates would not be affected as the whole project would be delayed if I complete my part late. I also learned some communication skills in order to make sure the discussion process runs smoothly so that everyone gets to voice out their opinions.

I need to practice my hard skills and soft skills to make myself more competent in this industry. Since everything in the technology sector is constantly evolving, it's critical for me to stay current on new developments in the field as well as shifts in programming languages. I must actively enroll in online classes and practice my coding abilities to be prepared for my future career.

Yap Kar Ying

My goal with regard to my course is to learn new knowledge about technology. I believe that learning new technologies can help me stay up-to-date with the latest trends and enhance my skills. Additionally, it can provide me with more opportunities to work on various projects. It's important for software engineers to acquire new skills to maintain interest in this field long-term.

Through this design thinking project, I have learned to be more user-focused when developing a new project. The design thinking process has allowed me to think outside the box and consider uncommon solutions, ultimately resulting in the best possible outcome. Moreover, this approach has emphasized the importance of conducting user research at the start of each project so that we could gain a deeper understanding of user behavior.

I think it is vital to explore collaborative opportunities with professionals from different departments to improve my potential in the industry. These collaborations provide me with a better understanding of how my role fits into the larger organization and expose me to a range of diverse projects. It will help me gain more experience and feedback from my surroundings, which is crucial for my career growth.

Kok Wei Yee

My aspiration in pursuing this course is to gain understanding about trend technologies. By using professional knowledge and skill set, I can craft innovative solutions for real-world problems and contribute to the technological landscape in Malaysia. Besides, it could enhance my job opportunities by distinguishing myself from others. I hope that I am able to develop software applications that not only showcase technical proficiency but also have a meaningful impact on people's life.

This design thinking project has taught me the importance of user-centric mindset. I have learned to empathize with their needs and preferences, leading to solutions that are more intuitive. Moreover, I understand effective communication and collaboration in a group are the foundation for success. Combining unique

strengths and different perspectives from each group member contribute to a well-rounded approach to problem-solving.

As the technology industry is getting more competitive nowadays, it is crucial for us to stay ahead by seeking opportunities and paying attention to the industry trends. I need to enroll myself in professional development programs to expand my social networking and get information. I should prepare myself earlier by training hard skills and soft skills to excel in my future career.

Adam Iskandar Bin Norsham

The objective with regard to this course is to learn in depth knowledge on technology. I believe that learning deeper on technologies can help me stay understand the trends and enhance my skills as a future software engineer. It's important for software engineers to acquire new skills to maintain interest in this field long-term.

Through this design thinking project, I have learned to be more user-focused when developing a new project. The project has helped me to understand the formalities of the difference between developers and users. We must act upon the needs of the users whilst also keeping it as user friendly as possible.

I think it is vital to take any opportunities with professionals from different departments to improve myself in this growing industry. These collaborations provide me with a better understanding of how my role fits into the larger organization and expose me to a range of diverse projects that will have different objectives. This will further help me enhance my social skills that I am lacking as well as my soft skills to build a better me.

Task Assignment

ADAM ISKANDAR BIN NORSHAM	<ul style="list-style-type: none">● Generate Ideas● Interviewer● Video Editor● Report Writing
MAVIS LIM HUI QING	<ul style="list-style-type: none">● Generate Ideas● Interviewer● Video Editor● Report Writing
YAP KAR YING	<ul style="list-style-type: none">● Generate Ideas● Report Writing● Design Prototype
KOK WEI YEE	<ul style="list-style-type: none">● Generate Ideas● Interviewer● Video Editor● Report Writing