

Subject :
**Technology and Information
Systems (SECP1513)**

Section : 10

Task : Design Thinking

Group Name: Trinity

Name:

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1.0 Introduction

Design thinking is an iterative process in which people work together to comprehend the particular user, create assumptions, and redefine problems so as to identify alternative strategies and ways that will be useful and effective to the particular user. Design thinking is especially useful when addressing problems which are very difficult to solve, in the sense of being ill-defined or tricky, not malicious (Rikke Friis Dam and Teo Yu Siang, 2020). Horst Rittel and Melvin Webber compared those difficult problems with “tame” or “well-defined” cases where the problem is distinct and the solution available through rule applying or technical knowledge (Rittel, Horst; Webber, Melvin 1973). Design thinking involves a deep and wide interest in identifying and developing an understanding of the target in which a decent product or service will be designed for them (Rikke Friis Dam and Teo Yu Siang, 2020).

Generally, design thinking can be divided into 5 phases, emphasise, define, ideate, prototype, as well as test. During the first phases, which is emphasised, we observe and develop empathy with the target user. Then we begin questioning about the problem, assumptions and implications. By developing the problem in human-centric ways, we begin the brainstorming sessions, and create a suitable prototype which will be tested out in the last phase (Rikke Friis Dam and Teo Yu Siang, 2020).

2.0 Process of Design Thinking

2.1 Emphasise

Our group is assigned with Chapter 9, Privacy, Security and Ethics. To do our first phase of design thinking, we are required to create a problem statement which will be answered by the experts during the interview. A few days after the announcement of this assignment, our lecturer, Dr. Nor Azizah Saadon sent the links (link to interviewing experts of UTM) in the telegram SECP1013-10 group. As our group is about privacy and security, we are going to interview Mr. Mohd Zahari (network admin) and Mr. Khairul Nizam (Data Center & Networking).

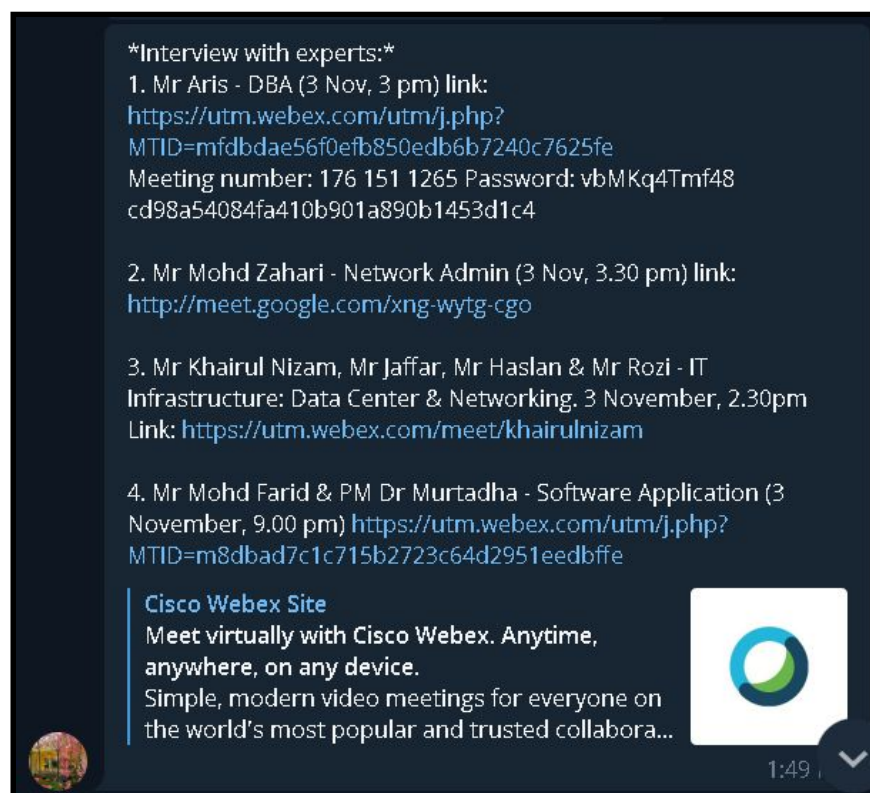


Image 2.1.1 Screenshot of lecturer sharing the link to access into interview

Our problem statement is “How Does UTM Prevent Malwares From Infecting The Data And Information?”. During the interview with Mr. Khairul Nizam, he introduced himself before each of the representatives asking him questions. He said he is once the deputy director of UTM digital in UTMKL, and right now he is responsible for DDA (Division of Digital Architecture) in UTMJB where he joined in June 2020. Then he shares about decent infrastructure, 5G infrastructure, etc. in UTM. When the introduction ends, everyone starts asking questions one by one and eventually he answers my question.

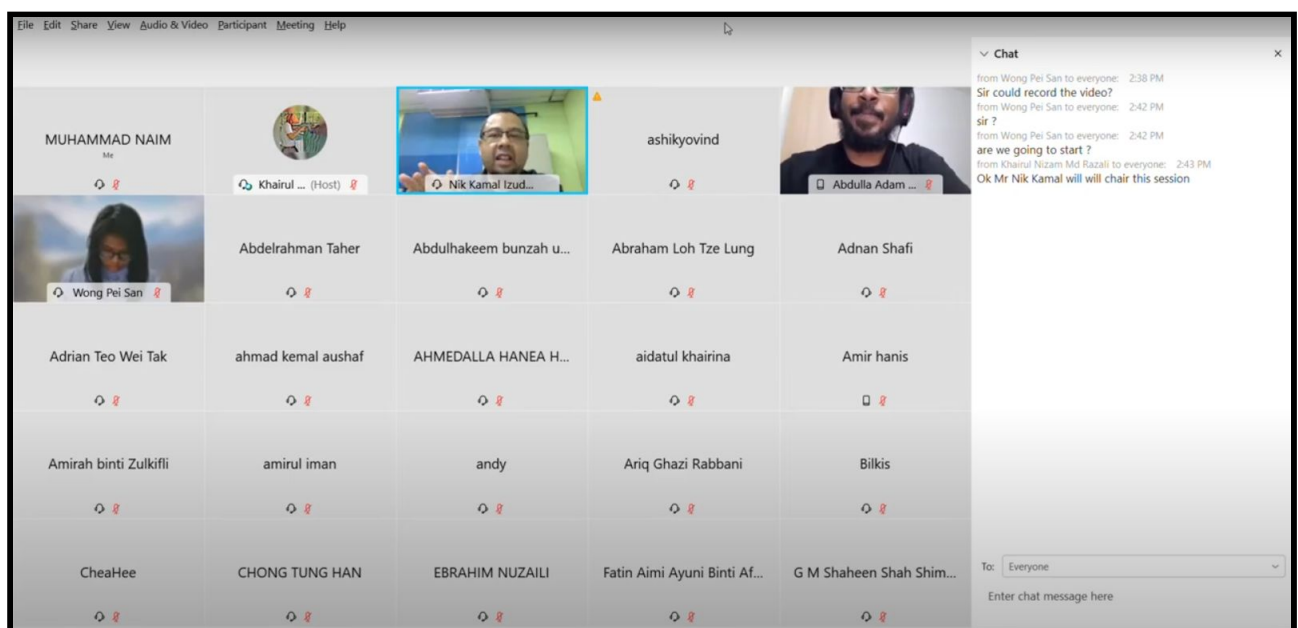


Image 2.1.2 Screenshot of interview session with experts

2.2 Define

After having an interview with Dr. Nor Azizah Saadon, we now have our problem statement explained in detail. We then set up a google meet with our own group to discuss what topic will be made.



Image 2.2.1 Screenshot of our google meeting when discussing our topic

Throughout the meeting, we finally have an outcome based on the problem statement. We created a topic which will be considered in this whole design thinking process, which is “Several Action Is Required To Strengthen The Security Of Data And Information In UTM”.

2.3 Ideate

After knowing our topic, now we are required to list out several ways that can protect UTM from malwares and virus attack. From the interview, the expert, Dr. Nor Azizah Saadon shared a lot of ways that UTM had taken action to strengthen the network security of UTM. We take their explanation as a reference and we brainstorm the points during google meet.



Image 2.3.1 Screenshot of our google meet when brainstorming

After brainstorming, we come out with 3 ways of UTM securing their network. Firstly, UTM did have a firewall system as the basic defender. UTM has a dual firewall, in which they have 2 firewalls responsible to defend their network and monitor tracks and attack from outside. The brand of the firewall is called safewall. Besides, UTM also has an antivirus server to protect the whole campus of UTM from being infected by viruses. The antivirus

server, which is also known as 2nd layer micro antivirus, serves as a double filter of the security, so that when the firewall system is down, the antivirus will come in handy. According to Dr. Nor Azizah Saadon, in the past 3 months, the antivirus had scanned and recovered more than 20000 ransomware files over the campus, and without these antivirus, the ransomware files might grant access into the network of the campus and attack the notebook or laptops of students. Finally, UTM also owns a tier-3 data center which it is built to secure a huge and sensitive data and act as a backup of the data. With the presence of tier-3 data center, sensitive data in UTM will be secured and strengthen the security in UTM.

2.4 Prototype

After discussing ways of preventing malwares, we came out with a plan that we could suggest UTM to add a website that can show UTM students on how UTM strengthens the security so that UTM students can appreciate their hard work in preventing malwares. By doing this, we tried to create a friendly-user template in an app called Moqup.

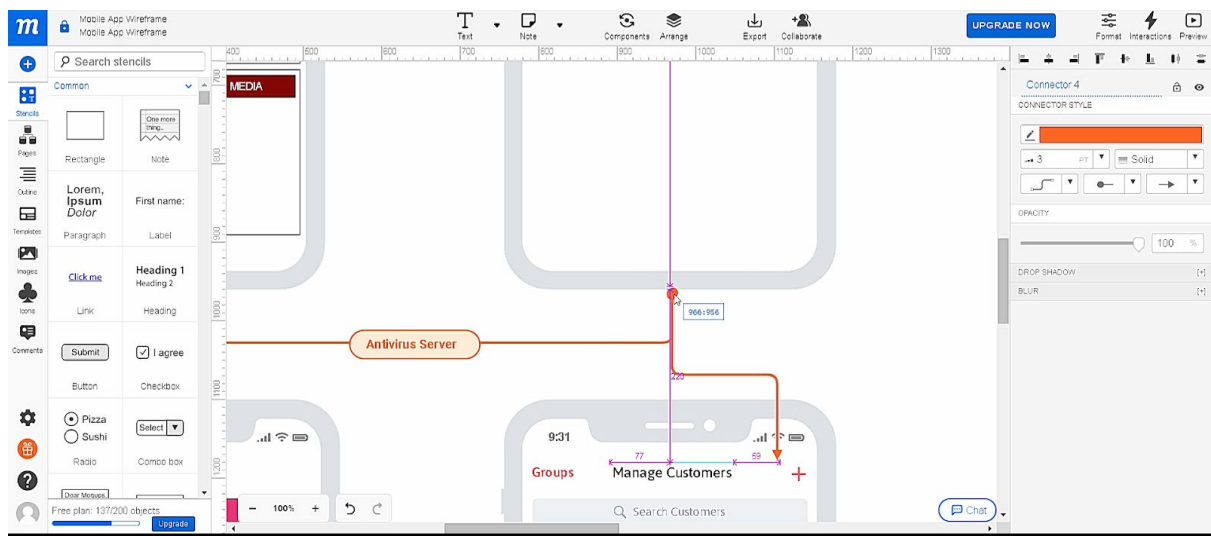


Image 2.4.1 Screenshot of the process on creating a template

2.5 Test

After we are done creating a prototype, our next and final step is to test the prototype.

We preview the prototype we created and demo the prototype to see if it is working smoothly.

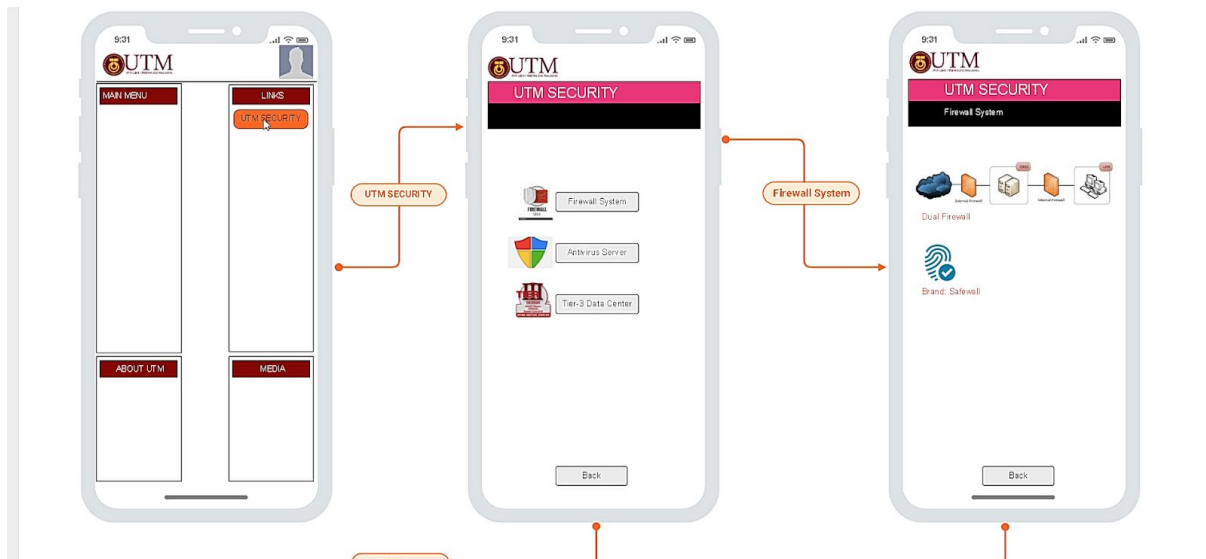


Image 2.5.1 Screenshot of the demo of prototype

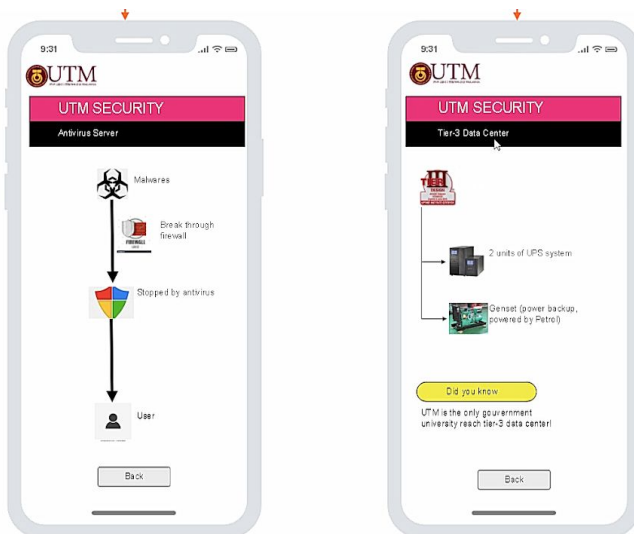


Image 2.5.2 Screenshot of the demo of prototype in next page

3.0 Conclusion

The concept of design thinking can be applied in various type of knowledge. From education, law, and medicine to ICT, business management, human resource management and its own design, the principles of design thinking enable and empower a professional to approach problem statements step by step and take into account all factors necessary to to the best solution.

During the analysis, different thinking is applied and various solutions are considered for each basic problem statement. The main purpose of different thoughts is to present as many ideas as possible to the table.

Different thinking is followed by convergent thinking, where the suggested ideas are tested on the grounds of feasibility, viability, and innovation. Synthesis takes the help of convergent thinking to come up with the final best possible solution.

4.0 Reflection

4.1 What is your goal/dream with regard to your course/program?

Our goal/dream is of course to pass this course/program successfully. Besides, the best way to deepen our understanding and comfort with design thinking is through tackling new challenges. Every time we complete the process, we will learn something new. We hope that we will learn something useful for our future.

4.2 How does this design thinking impact on your goal/dream with regard to your program?

Design thinking not only helps to come up with innovative solutions, but also helps to address the exact problems faced by the customer and target the customer's requirements in the best possible manner. So, we strongly believe that design thinking give a big impact on our goal/dream with regard to our program.

4.3 What is the action/improvement/plan necessary for you to improve your potential in the industry?

We believe that Design Thinking for individuals are a powerful force to make organizations more innovative and to approach problems in new ways. By collaborating in a collaborative way organizations can explore the motivation of human actors in software and product design and learn a strong cultural level for innovation.

References

Rikke Friis Dam and Teo Yu Siang (2020). What is Design Thinking and Why Is It So Popular?. Retrieved from <https://www.interaction-design.org/literature/article/what-is-design-thinking-and-why-is-it-so-popular>

Rittel, Horst; Webber, Melvin. "Dilemmas in a General Theory of Planning. Policy Sciences 4.2 (1973): 155–69" (PDF). Archived from the original (PDF) on 2013-07-21. Retrieved 2011-08-15.

Task for each member

Task 1 Report

1. Introduction - Teoh Yee Xian
2. Process of Design Thinking
(Emphasise, Define, Ideate, Prototype, Test) - Teoh Yee Xian
3. Conclusion - Irfan
4. Reflection - Irfan

Task 2 Video DT

1. Video Editing - Rizal R.
2. Prototype Created - Teoh Yee Xian

Task 3 Video

1. Objective 1,2,3 - Irfan
2. Objective 4,5 - Teoh Yee Xian
3. Objective 6,7 - Rizal R.
4. Video Editing - Rizal R.

