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SECP 1513

TECHNOLOGY AND INFORMATION SYSTEM

Design Thinking:

SMART SECURITY

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ABSTRACT

This report consist of design thinking to solve the problems faced by the users nowadays on the network privacy and security. An application is designed to overcome the problems faced by the network users to ensure their network privacy and security is secured. The problems that faced by the users are discussed so that the problems can be really found and settled through design thinking. Basically we interviewed different individuals to identify the problems on network privacy and security. We developed the prototype and made analysis on the feedbacks from the users so that we can enhance our product to solve the problems better. The results if analysis shown that our application can help to settle problems faced by the network users.

1.0 INTRODUCTION

Nowadays, technology and information systems develop rapidly in the world. Internet has become an irreplaceable thing in people's daily life. Everyone needs internet in working, entertaining and even in the daily routine. Internet actually facilitate people but in the other hand it may bring problems if our network privacy and security is unsecured. Network privacy is the online privacy, which is a subset of data privacy and a fundamental human right whereas network security is a set of configuration or rules designed to protect the integrity, confidentiality and accessibility of computer networks and data using both software and hardware technologies.

When both online privacy and security of users are endangered, the personal safety of users should be concerned. Most of the internet users are least concerned on their own network privacy and security. Thus, this leads to cases happen on cybercrimes such as data manipulation, malware, internet scams and so on. Cybercrime now is the most lucrative crime in Malaysia. Almost everyone is in the risks of being a cybercrime victim as people now are all active internet users, especially the younger generation are the most vulnerable. As most of the users lack of information or knowledge about the network privacy and security, they do not know how to actually overcome the problem they faced.

2.0 PROBLEM BACKGROUND

In the development of high technology in the world, all of us from different ages spending our majority time on internet. When it comes to privacy, security and ethics most of the people do not concerned about it when surfing the internet or when sending e-mail.

The situation become worse when people are browsing the web, they do not aware of receiving notifications and ad cookies. They do not read whatever pops-up in the software and simply click yes. As a result, lack of acknowledgement about privacy and security people give chance for third-party stole their personal data.

There is also a problem where some people trap in trick by clicking some doubtful link without realizing it is a scam for illegal assumption of someone's identity for purpose of economic gain. People easily fall in a scam because some of the scams were quite colorful and included images of money or prizes and past "winners".

3.0 METHODOLOGY

3.1 EMPATHIZE

Observation

We observed that many people are lack of knowledge and information about the network privacy and security and this cause them do not know how to protect themselves and do not know how to overcome the problems when it happens. For example, they always forget to routinely backup their data and this cause them to lost all the data. Some of them did not restrict access on their social media cause their account being hacked by identity theft.

Engage

To understand the problems facing by users better, we conducted a questionnaire by google form and shared to people from different age groups and background. There are few questions asked and the list of questions are as below:

1. What kind of problems are you having in privacy and security system?

2. Do you aware of receiving cookies during serve internet?
3. Do you know that when browsing the website, critical information is stored on the hardware like history files, cookies and etc.?
4. From your opinion, how the illegal hackers take someone's personal information?
5. What kind of scam do you receive?
   o chain letter
   o encouraging to click a link
   o -medical scam
   o -lottery scam
   o -others: state that
6. What types of software do you use to protect your device and network?
7. Do you know how to format your device?
8. Have your device been attacked by hacker or malware? If yes, what usually you do if your device has been attack.

After we collected all the response, we can conclude

Immerse

After we collected responses from different individuals, we knew more detail about the problems they faced. We try to access the internet and find briefly what is the things that commonly leads to the danger of users' network privacy and security. Then we found that cookies and web bugs are very easily found in the websites, so this makes the security to be unsecured.

3.2 DEFINE

After we go through the empathize stage, we discussed and analyzed about the responses of the people and thought about the solution to overcome their problems. We did research on the privacy and security support in the system software and also searched for the available application software that provide protection on the privacy and security of our devices. Besides that, we had an interview with Mr Mohd Zahari Zainal Abidin, the network admin of UTM to get

more information on network privacy and security. Lastly, we made a decision that we want to design an application which can aware the users on the privacy and security problems.
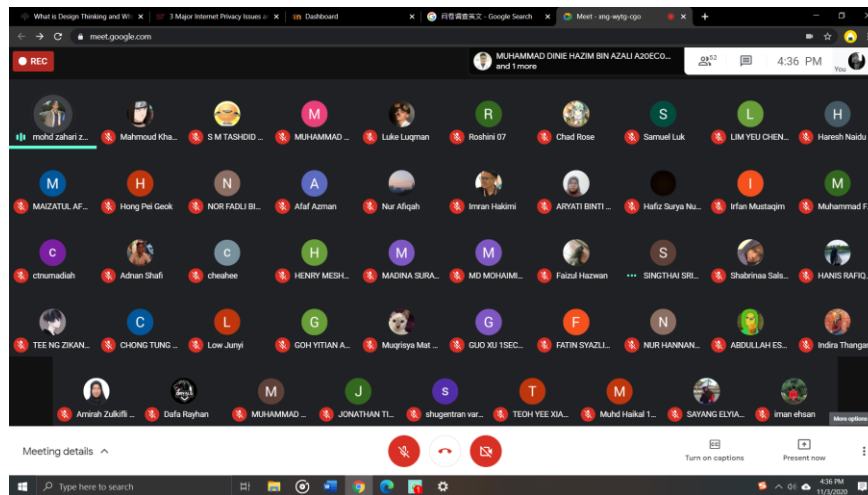

Figure 1: Interview with Mr Mohd Zahari via google meet

3.3 IDEATE

We conducted a minute meeting within our group members to think about the features of our product. Firstly, we decided the specific function of the application, which is a application software that can manage the firewall and antivirus system in the system of device to check routinely on the existing of malware, web bugs and other privacy threats. Besides that, we thought antimalware system or antivirus system is very important to secure the privacy and security. Since in the immerse phase we found that cookies and web bugs are easily found online, we thought that a function to block cookies and web bugs also should be there in a device. But we found that users always ignore the notification pops-up in the device on the problem of privacy and security. After a long time on brainstorming, we design an application which access to speaker of device and can voice in certain situation. Then, we discussed on the design of the application. We all gave different ideas on the design of application but at the end we made a conclusion together so that we get a best design of the application. Finally, we also discussed on the name of this application and made a conclusion together.

3.4 PROTOTYPE

After brainstorming, we drew out the design of application we decided in the minute meeting as a draft. Then, we created the design of application through software so that users will have a better understanding on our application. The design of the application still changed for few times so that we can really give a good experience to the users while using the application.

3.5 TEST

To improve our design, we interviewed some users to get feedbacks on our products. In the interview, we briefly explained the function of the applications and asked for feedback. Their feedback help us so much to realize the problems that we did not notice before.

4.0 DETAILS OF PRODUCTS

Our product of design thinking is an application software which helps to

5.0 USER STUDY

6.0 REFLEXIONS

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

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

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

References:

https://securitytoday.com/articles/2019/09/03/3-major-internet-privacy-issues-and-how-to-avoid-them.aspx

https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/DSP-Mahfuz-Majid-Cybercrime-Malaysia.pdf

interview with Mr.Mohd

1. How to prevent identity theft
   - protect your laptop and smart phone
   - read whatever pops-up in the website or software, do not simply click yes, to prevent third-party software to stole data and identity.
   - Firewall in smartphone or laptop would have antivirus system to protect the device
   - Set a strong password, as hackers can track password by specific software
   - Do not show real personal information online

2. How UTM protect the privacy and security of network
   - Increase student's awareness
   - Have data recovery department
   - Backup the data and send from JB to KL campus (databases is in KLcampus)
   - Have active data safety plan