



UTM
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School of Computing
Faculty of engineering
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Report-1

Technology and Information System

Chapter 9: Privacy, Security and Ethics

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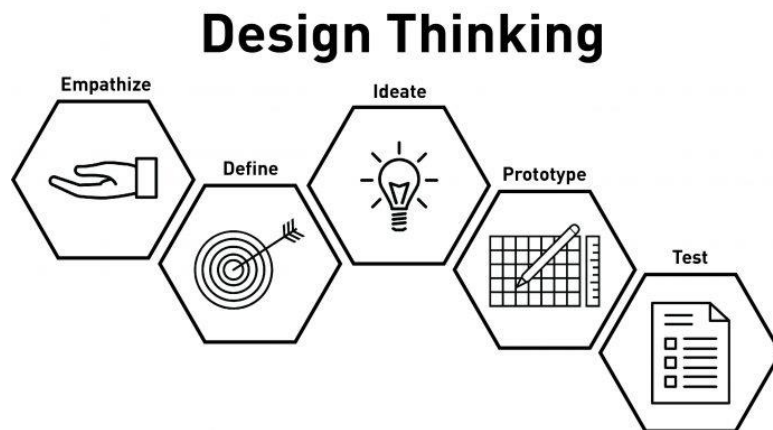
Submission date:

Contents:

i)	INTRODUCTION.....	3
ii)	DESIGN THINKING.....	3
	i) EMPATHIZE.....	4
	ii) DEFINE.....	6
	iii) IDEATE.....	7
	iv) PROTOTYPE.....	8
	v) TESTING.....	10
	vi) REFLECTION.....	12
iii)	TASK DISTRIBUTION.....	13
iv)	VIDEO LINK.....	13

Introduction

Design thinking is an innovative, ingenious problem solving and non-linear process in which developers can interact with the users and try to understand their needs. The approach of design thinking is classified into five different steps such as i) Empathize ii) Define iii) Ideate iv) prototype and v) Testing. Nowadays, design thinking process is gaining popularity because it helps the developer to define the problem and therefore create innovative solution.



Privacy, security and ethics represent the threats of identity theft, malicious software and spyware which can damage our computer system as well as it can violate our privacy. On the other hand, it gives the alternative methods to protect our computer system, sensitive data and our privacy. The relevant methods are encryption, restricting access and anticipating disasters. Similarly, computer ethics are guidelines for the morally acceptable use of computers. Therefore, everyone may have the knowledge about what action towards computer system would be ethical.



Empathize



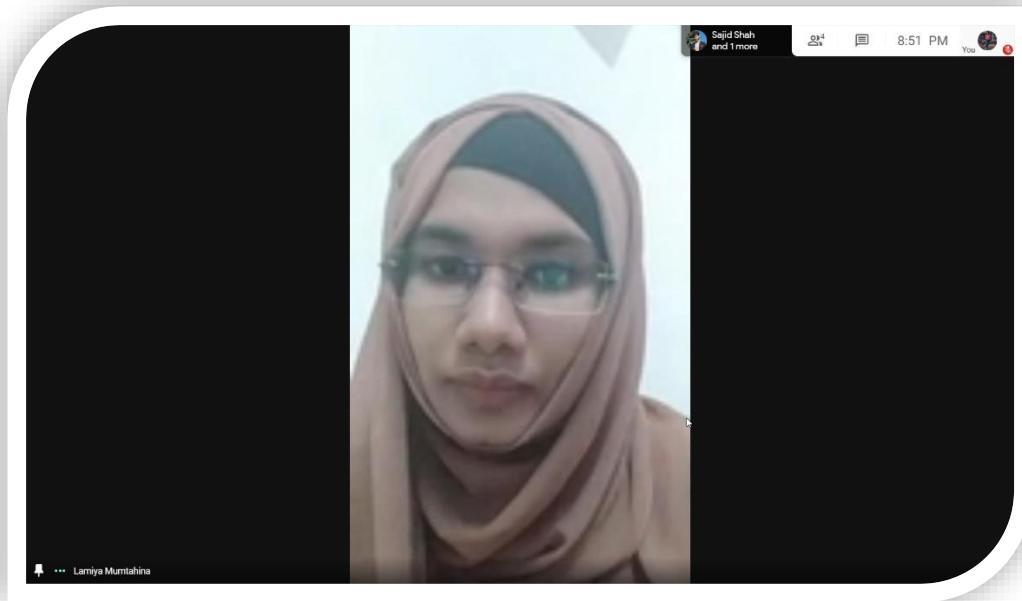
Empathy is the first step in design thinking because it is a skill that allows us to understand and share the same feelings that others feel.

The Internet is the largest WAN in the world and is made up of numerous devices that communicate through communication media all over the world. This helps all users to link and interact with each other.

The Internet is one of the best human inventions, but it has its peaks and valleys. Identity theft, hacking malware, and cheat on any specimen that a browser might encounter on a normal day.

Lamiya Mumtahina, a Chemical Engineering student at UTM's 5th semester, was asked a few questions:

- Do you face any kind of problems while using the internet?
- What is the solution from your point of view?



On the first issue, the interviewee discussed that she uses the internet all the time for scholarly and entertainment material, sometimes when she visits a website, for example, she finds herself infected most of the time, and she won't know until it's too late, whether there's a malicious program or a virus that takes her personal information and accesses her hard drive.

For the second topic, we asked what you would like to see about these problems, the interviewee indicated that there should be applications to search for bugs, spyware, ransomware, questionable websites, and malicious programs instead of specific software for each.

Define



“If I had an hour to solve a problem, I’d spend 55 minutes thinking about the problem and 5 minutes thinking about solutions.”

- Albert Einstein

The **define** phase is where you'll establish a clear idea of exactly which problem you are trying to solve for the user.

Many people use the internet much of the time for useful and non-productive stuff, and from our interviewee, we discovered out there are significant malware, spyware, and malicious programs that harm and extract sensitive information from users. The challenge was not only the development of apps and all these challenges but the development of high-quality software that meets our user’s satisfaction.

Ideate

For the third process of design thinking we have ideate where we generate ideas from the stated problem that we have identified before. We had discussed on several ideas to solve the problem and at the same time, meet the consumer's desires and expectations. We had also considered some very important aspects on completing the program such as the user's interface and the effectiveness of the program.

After we had the consideration on all the pros and cons of the program, we had come up with an idea that can save consumer's personal information and avoid the devices that is affected by the malicious programs from being corrupted. The idea is that the program can detect the viruses and malicious programs before they can enter the device used or website surfed. For example, notification will appear and does not allow the user to enter their personal information on a particular website that needs user to enter their information. In addition, this program can also detect rogue Wi-Fi signal. This can prevent the viruses from stealing user's crucial information inside the hard drive.

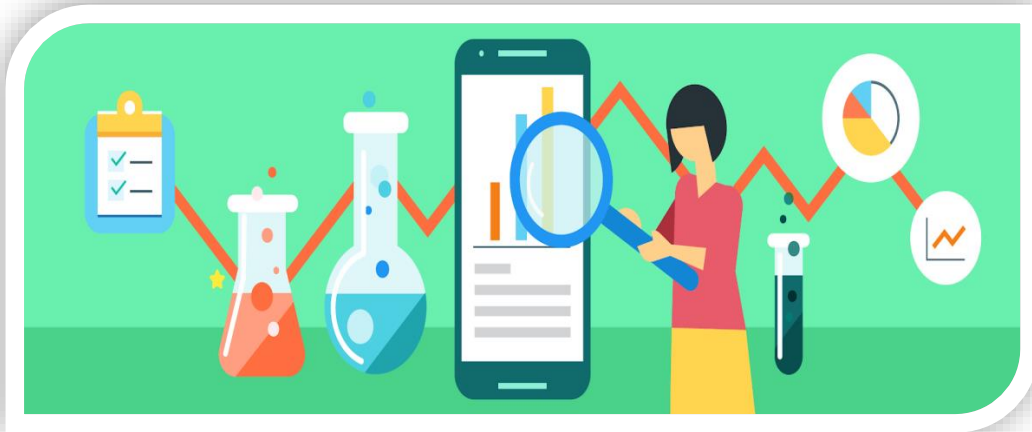
This program is made user friendly so that the user can blend into the program and perfectly utilized by the user.



At first, we agreed on a meeting to address the problems that internet users experience from time to time, we did some analysis on the existing applications along with their lack of intuitive and user-friendly interface software that suits our user's needs, and rendered most of the features that have dedicated software all in one seamless bundle. So this is the product of that.



Testing



Testing is an opportunity to bring a commodity out of the world, test it in real life, and test it in real time. During this process, you have a chance to see if you have correctly framed the issue. Your team will produce detailed customer input on the prototype, which in turn can improve the knowledge of the users. You'll find ideas that are produced that feed to all stages of the process during iterations. Finally, evaluation at this point is likely to reveal the desires that consumers have never expressed before. Here are few test samples. The testing was conducted as described below:

1. At first the users search the software, antimalware in Google and install in their machine.
2. In second step the users have to activate all the function of the software.
3. It is also capable to detect any suspicious and spyware program.
4. Later, when they enter any search engine, the software will scan the Wi-Fi signal and block the rogue signal. In addition, it also encrypts the file and data in hard-drive so that hackers do not get an easy access to steal the sensitive information.
5. Before leaving the search engine the software will erase the browser history, cookies and browser cache.



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WARNING!

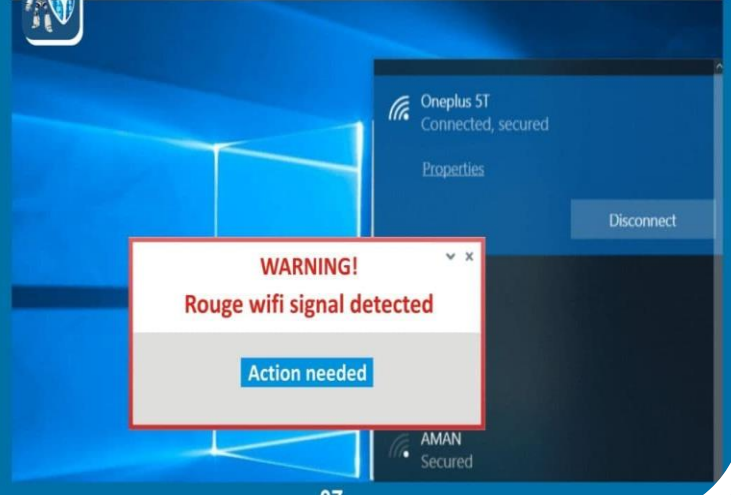
Spyware detected on your computer

	Warning! Win32/Adware.Virtumonde Detected on your computer	Danger!
	Warning! Win32/PrivacyRemover.M64 Detected on your computer	Danger!

05



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07

Reflections

We hope that we can invent more computer science based technologies that can be commoditized. We are on the Fourth Industrial Revolution 4.0 (IR4.0) where technology and information systems had grown rapidly throughout the world. More and more problems and challenges are ahead that we need to alert with and invent suitable technology that can overcome the problem.

This design thinking had widely opened our eyes that most likely will be our job scenario in the future. We learned how to generate ideas and decide on the best solution to the problem. This will be a very good start for us to step into job environment where we need to work with others and exchange our opinion with them. The program that we invented will benefit millions of people as it can secure our privacy and save our life.

We need to always alert about the upcoming problems by people. We can also join various innovation competitions held by various institutes. This can enhance our thinking skills and personal skills in order to reach the demand by the industrial companies. Internship will be the best platform for us to train us to adapt with the working environment.

Task distribution

No.	Name of member	Task
1	MOHAMMAD SYAZWAN BIN SAHDAN (A20EC0217)	*Chapter video *Idea contribution * Report writing
2	SHAH SAJID (A20EC4050)	*Chapter video *Idea contribution *Taking interview *Prototype *Video editing
3	HASSAN MUSTUFA IBRAHIM (A20EC4025)	*Chapter video *Idea contribution *Report writing
4	G M SHAHEEN SHAH SHIMON (A20EC0266)	*Chapter video *Idea contribution *Taking interview *Prototype *Test the prototype *Report writing *Video editing

Video link:

