FACULTY OF COMPUTING
UTM Johor Bahru

REPORT ON DESIGN THINKING

Subject : SECP1513 Technology and Information System
Section : 06
Group : 7 (Nexus)
Name of Lecturer : Dr Sarina binti Sulaiman
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Title of Design Thinking : WeSafe

Group Profile

Name: LIM CHEN XI
No matric: A23CS0103

Name: ONG YA SIAN
No matric: A23CS0260

Name: AHMAD MUAWYA SUFYAN FAKHRUDDIN
No matric: A22EC4023

Name: OMAR ABDELMONEM HANAFY ABDELAZIZ MOHAMED
No matric: A22EC4012

Name: KHALED OSAMA MOHAMMED SAMY ABDELAZIZ IBRAHIM TAHOON
No matric:A22EC4033

1.0 Introduction

1.1 Problem Background

Nowadays, computer communication has become an indispensable part of our lives.It is convenient to us but at the same time it is a double-edged sword.From time to time, the users publish their photos and personal information on social media such as Whatsapp, Facebook and so on, which will reveal privacy issues. Cyber crime makes it a challenge to data security. For instance, trojan horse and worm. Hence, we need to have an easy-to-use website that can help us filter out advertisements or applications that are at risk of viruses.

1.2 Proposed Solution

We are ready to make a website that can alert us to the presence of viruses on our devices or software at any time by running a system-wide virus scan, including hard drive and removable storage devices. On this website, we also remind users of the steps they should take if they suspect that their computer has been compromised by a virus. Besides, we offer the services of a pre-booked professional if the virus has already invaded.

1.3 Objectives

This website was created to provide a one-stop solution for virus elimination. It protects personal data from being leaked such as personal information. It also prevents system performance degradation. Some viruses can take up system resources and cause a system to slow down. In addition to that, malicious programs may steal your bank account information and result in financial losses for users.

2.0 Detail descriptions in design thinking

2.1 Empathy

Observe:

In our observation phase, we closely examine users and their behaviors in the context of their digital lives. We aim to understand the frequency and extent to which users share personal information and photos in the social media platforms. This observation helps us identify patterns related to privacy concerns stemming from data exposure on these platforms.

Engage:

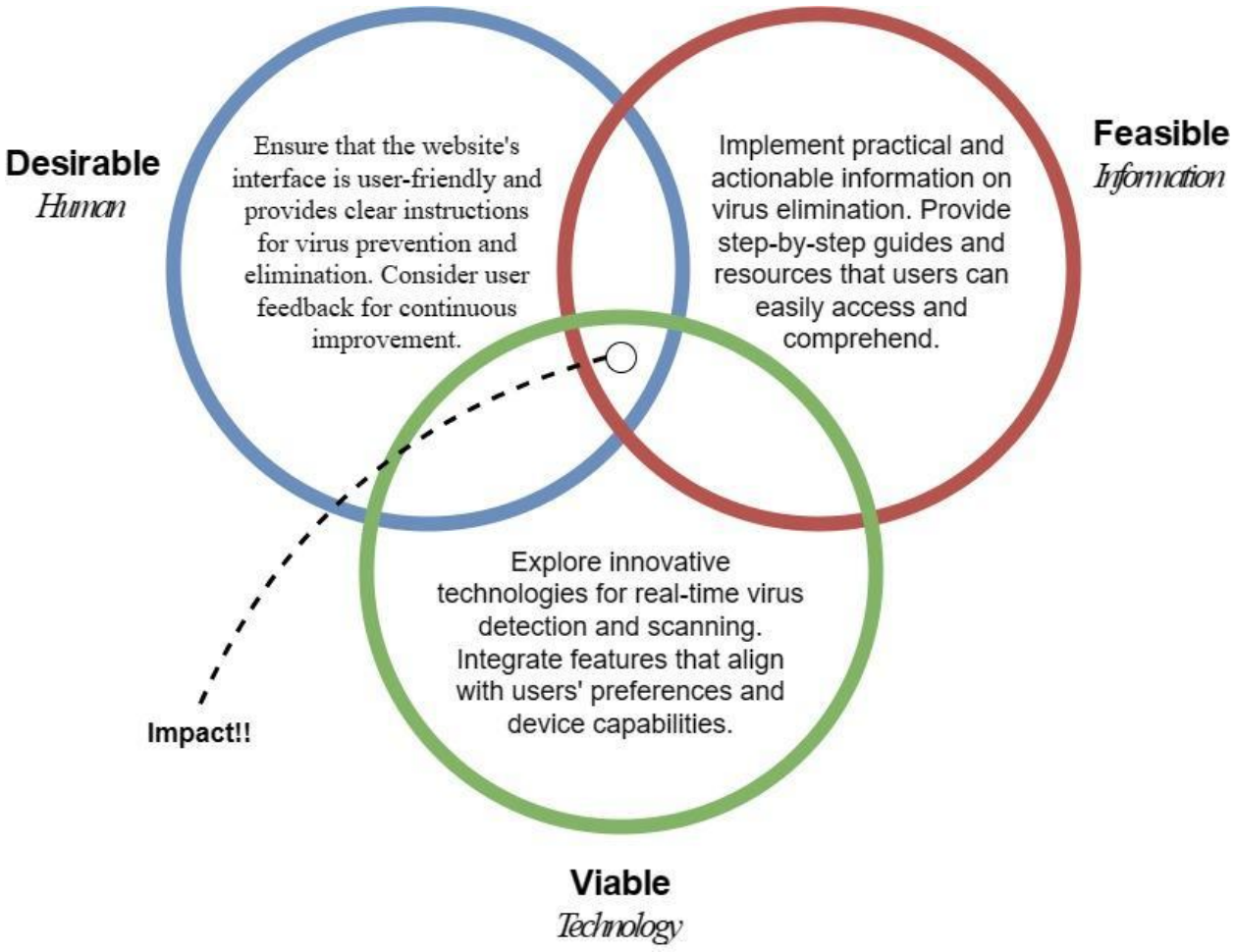
Engaging with users through interviews and interactions is a vital step in understanding their perspectives on virus-related challenges. We inquire about their current practices in handling concerns about viruses on their devices and the challenges they face in the realm of cybersecurity. Additionally, we explore their awareness of risks associated with online advertisements and applications.

Immerse:

To immerse ourselves in the users' world, we ask them to recall specific incidents where they felt their devices were compromised by viruses. We seek to understand the steps they took to address such situations and the information they would have found most valuable during those times. This immersive approach helps us empathize with users who have encountered malware attacks and provides a deeper understanding of their needs.

Problem specific model:

Question for User	Composite Character	Suggested answers
- How do you perceive the current state of online privacy, especially regarding personal data shared on social media? - Have you or anyone you know faced any negative consequences due to privacy issues?	Duaa, a 25-year-old student concerned about the implications of online privacy. Balancing academic responsibilities with social interactions, Duaa values personal data security in the digital realm.	- Duaa may express concerns about the increasing vulnerability of personal data on social media platforms, emphasizing the need for enhanced privacy measures. - Duaa might share a personal story or know someone who faced negative consequences due to privacy issues, highlighting the real-world impact of online data exposure.
- Can you share any experiences or challenges related to cybercrimes, such as encountering trojan horses or worms? - What measures do you currently have in place to protect your data from cyber threats?	Taylor, a 30-year-old finance professional. Understanding the criticality of cybersecurity in the finance sector, Taylor seeks robust solutions to protect sensitive data.	- Taylor may recount instances where cyber threats posed challenges, emphasizing the importance of robust cybersecurity measures in the finance sector. - Taylor might share proactive measures in place, such as using antivirus software, firewalls, and secure password practices to safeguard financial data.
- How often do you conduct virus scans on your devices? - What challenges have you faced in implementing system-wide virus scans, including hard drives and removable storage devices?	Morgan, a 45-year-old small business owner heavily reliant on digital tools. Morgan emphasizes the need for efficient virus scanning to ensure smooth business operations.	- Morgan may admit to infrequent virus scanning, citing challenges in implementing system-wide scans across various devices critical for business operations. - Morgan might express the need for more efficient and user-friendly scanning solutions, possibly sharing experiences of time-consuming or complex scanning processes impacting business productivity.


Desirable
Human
Ensure that the website's interface is user-friendly and provides clear instructions for virus prevention and elimination. Consider user feedback for continuous improvement.
Feasible
Information
Implement practical and actionable information on virus elimination. Provide step-by-step guides and resources that users can easily access and comprehend.
Explore innovative technologies for real-time virus detection and scanning. Integrate features that align with users' preferences and device capabilities.
Impact!!
Viable
Technology

2.2 Define

1. **Cybersecurity Challenges:**
    a. Acknowledge the prevalent cybercrime challenges, including trojan horses and worms.
    b. Understand the impact of threats on data security and the proactive measures.
2. **Advertisement and Application Risks:**
    a. Recognize the need to filter out advertisements and applications that pose a risk of containing viruses.
    b. Identify the potential harm that can arise from unknowingly downloading or interacting with infected content.
3. **Comprehensive Virus Scanning:**
    a. Define the objective of implementing a system-wide virus scan, covering hard drives and removable storage devices.
4. **Data Protection:**
    a. Recognize the potential consequences of data breaches, including financial losses and compromised personal information.
5. **System Performance Optimization:**
    a. Identify the objective of preventing system performance degradation caused by viruses.
    b. Acknowledge that some viruses may consume system resources, leading to slowdowns and other performance issues.

2.3 Ideate

The goal of the ideation stage is to come up with a broad variety of innovative ideas to deal with the recognized problem of privacy concerns and cyberthreats related to viral infections.

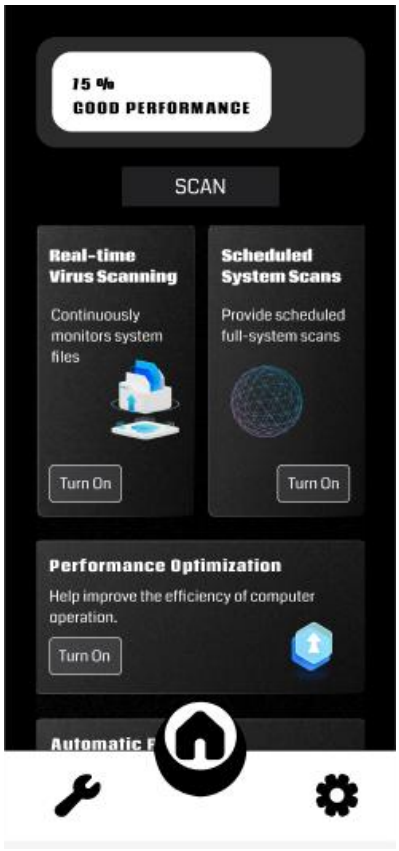
1. **Real-time Virus Threat Dashboard:**
    - Concept: Develop a dashboard that notifies users in real time about any malware dangers.
    - Justification: By staying up to date on the latest hazards facing the internet, users might be better equipped to take preventative action.
2. **Personalized Virus Protection Plans:**
    - Concept: Create individualized virus prevention programs according to users' online habits and inclinations.
    - Justification: Customizing protection programs can improve user involvement and offer a more specialized method of virus prevention.
3. **Community-driven Threat Reporting:**
    - Concept: Introduce an option for users to report questionable advertisements or applications, establishing a danger reporting system that is run by the community.
    - Justification: By utilizing the aggregate experiences of users, it is possible to promptly detect new hazards.
4. **Crowdsourced Professional Services:**
    - Concept: Provide a website where people can look for and get in touch with reliable companies that offer virus removal services.
    - Justification: Recommendations from the public can help professional services seem more credible and build user trust.

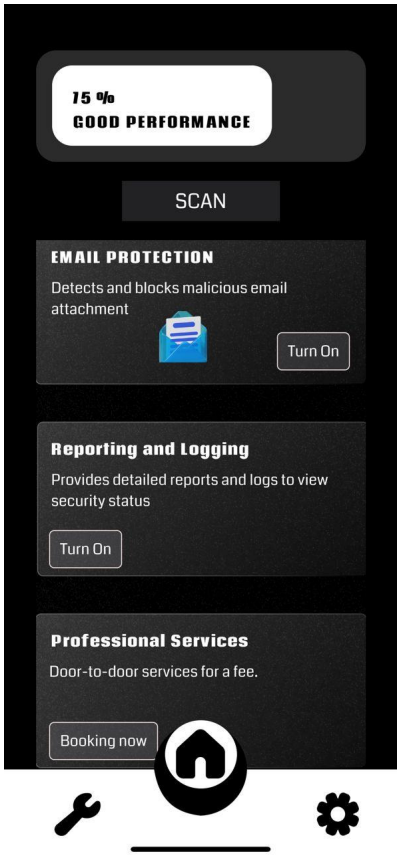
2.4 Prototype

Login page: User is required to log in(Email address and password) in order to proceed.

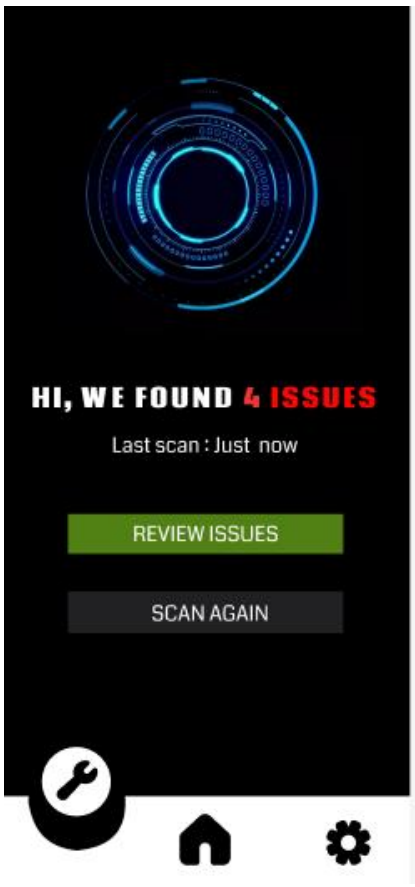
Sign up page: Create an account before logging in to the application.

Home page:
-Turn on Real-time Virus Scanning to monitor system files
-Turn on Scheduled System Scans to provide full-system scans.
-Turn on Performance Optimization helps to improve the efficiency of computer operations.
-Turn on Email Protector to detect and block malicious attachment.
-User can turn on Reporting and Logging.
-Users can book appointments for professional services.

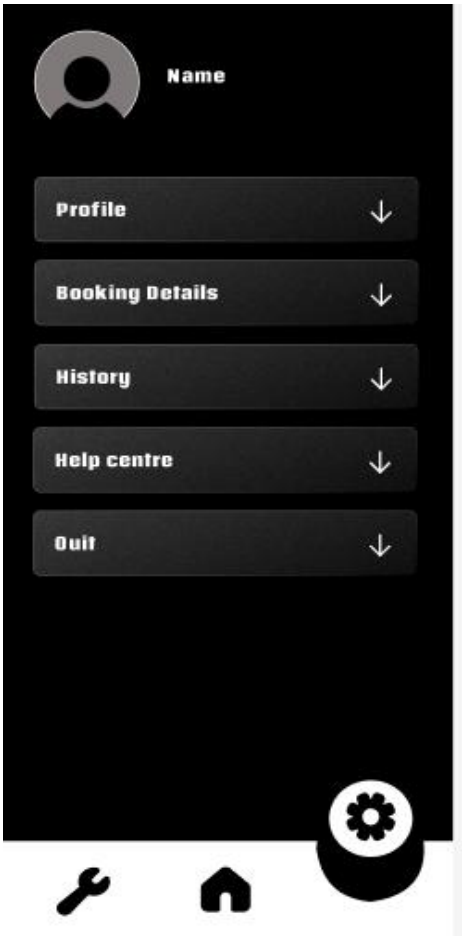




-Use the SCAN to solve the viruses on the devices.

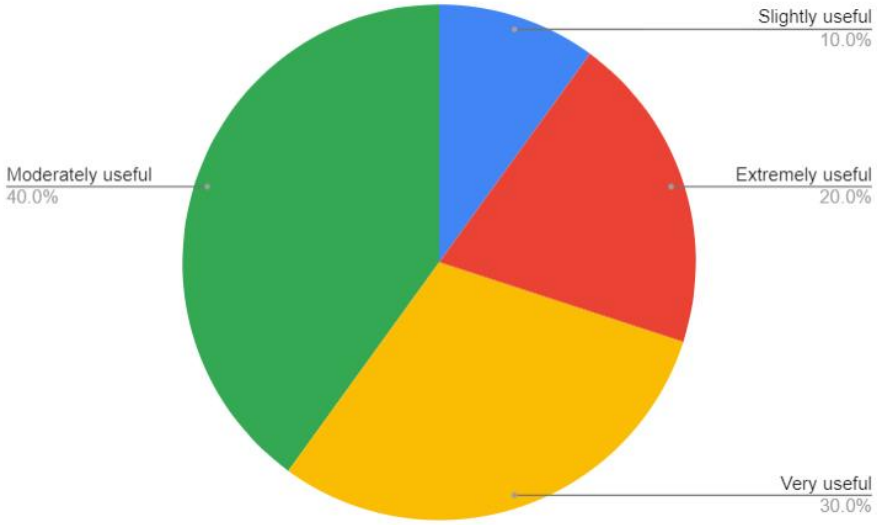


Setting page:
-Profile: Personal information of the user.
-Booking details: Show information about appointments booked.
-HIstory: Show history of appointment and scanning process.

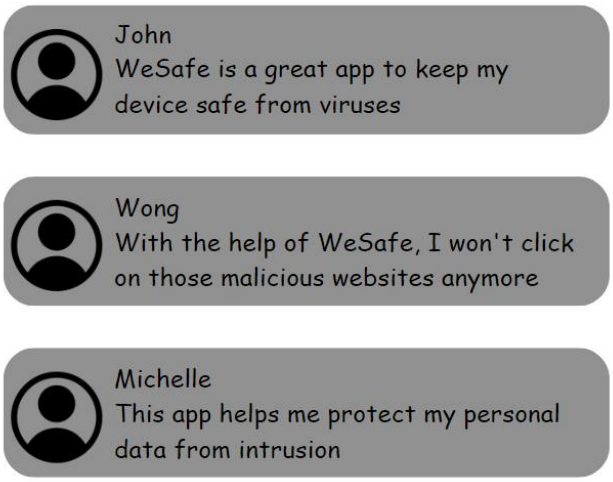


2.5 Test

After showing the user how the application works, we ask the user to give their feedback to our app.



From this pie chart, the majority of the users are satisfied with the app as it is useful for them.



Some suggestions given by the user:
-More detail written on every function in the app
-Can detect viruses faster

3.0 Reflection

AHMAD MUAWYA SUFYAN FAKHRUDDIN

In my pursuit of completing the software engineering curriculum, my primary objective is to emerge as a highly adept and inventive software developer. I aim to engage in innovative projects, foster continuous professional growth, and contribute to the forefront of technological advancements. By leveraging innovative problem-solving techniques and delivering user-centric solutions, I strive to make a lasting and meaningful impact on the software engineering industry.

The application of design thinking within the context of addressing the identified problem enhances my approach to achieving this objective. Implementing design thinking in the creation of a website to combat privacy issues and cyber threats involves understanding user needs, creatively approaching problem-solving, and refining solutions based on user feedback. This methodology not only elevates the overall user experience but also ensures the success and innovation of the proposed solution.

To maximize my potential in the software engineering industry, I have devised a comprehensive strategy tailored to the design thinking principles applied to the identified problem. Continuous learning remains a cornerstone, with a focus on staying abreast of emerging technologies and methodologies relevant to the proposed website solution. The strategy encompasses building a robust portfolio, actively networking, refining soft skills, gaining practical experience through internships, and seeking mentorship. Embracing an agile mindset in both project management and personal development is crucial, ensuring adaptability and an ongoing commitment to improvement.

LIM CHEN XI

Taking the Technology and Information Systems course, my main goal is to become a skilled professional who can lead innovation in the dynamic technology field. On this mission it was a really amazing experience for me because I got to experience different types of missions. I understand the importance of every step of design thinking. Design thinking has five steps: empathize, define, ideate, prototype, and test. Integrating design thinking principles into the course has significantly reshaped my perspective, emphasizing the importance of user-centered solutions and fostering an iterative approach to problem solving. Encourage a comprehensive understanding of challenges by actively engaging with end users and fostering creativity to pursue impactful solutions. I continue to learn to keep up with technological advances, embrace different perspectives, and implement iterative prototypes to improve solutions.

OMAR ABDELMONEM HANAFY ABDELAZIZ MOHAMED

My goal is to become a proficient and creative software engineer who can develop innovative solutions for various problems. I want to learn new programming languages, frameworks, and tools that can help me create high-quality software products. I also want to improve my communication, collaboration, and leadership skills that are essential for working in a team environment.

This design thinking impacts on my goal/dream with regard to my program because it helps me develop the skills and mindset that are essential for software engineering, such as user empathy, problem definition, ideation, prototyping, testing, and implementation. It also enables me to tackle complex and ill-defined problems that require interdisciplinary collaboration and experimentation.

The action/improvement/plan necessary for me to improve my potential in the industry is to practice design thinking regularly in different contexts and scenarios. I can do this by participating in projects or assignments that involve applying design thinking methods and tools, such as conducting user research, sketching ideas, creating prototypes, testing solutions, etc. I can also seek feedback from my Doctors on how to improve my design thinking process and outcomes.

ONG YA SIAN

My goal is to try to refine a plan in this course. I wish I could do my best to complete the usefulness of the features and the beautification of the page. In this process, I can give full play to my creativity and communicate effectively with my team members, share opinions with each other, and finally complete a product and service that does not appear on the market.

In my perspective, I think design thinking plays a crucial role in my goals.Design thinking encourages us to innovate and experiment to find creative and more effective solutions to better meet the needs of our users.Besides, through continuous discussion among members, design thinking ensures that products or services meet and exceed user expectations, resulting in higher satisfaction.

To improve my potential in this industry, I think I need to keep learning to keep up to date with the latest trends, such as attending a recent lecture or visit. In addition, seeking help and feedback from professionals, such as professors, is valuable for personal growth. Professionals can give us the most practical experience based on past experience or lessons, not just on paper.

KHALED OSAMA MOHAMMED SAMY ABDELAZIZ IBRAHIM TAHOON

My primary objective has been to improve and hone a plan that has functional elements and yet has a visually appealing webpage throughout this semester. In order to make the finished product stand out in the market, I am motivated to fully utilize the features. Throughout this journey, I've discovered a place where my creativity can bloom, and good teamwork is crucial to realizing our shared vision.

In my view, design thinking has become essential to accomplishing my objectives. It offers a methodical structure that promotes creativity and experimentation, driving me to look into original and more efficient solutions that genuinely meet the needs of our users. Because design thinking is iterative, every step is confirmed by ongoing conversations with team members. This cooperative method raises customer satisfaction levels by exceeding user expectations and refining the product's quality.

I understand how important it is to keep learning new things in order to maximize my potential in this fast-paced industry. It's essential to keep up with the current developments by participating in events like industry visits or recent lectures. Getting advice and criticism from seasoned experts has been shown to be quite beneficial for personal development. A key component of my plan for ongoing development in the areas of design and innovation is my dedication to learning and getting feedback.

4.0 Lists of tasks

Name	Task
LIM CHEN XI	-Report writing 2.4 Prototype 2.5 Test 3.0 Reflection -Tester -Task Coordinator -Formatting of MS Word
ONG YA SIAN	-Report writing 1.0 Introduction 3.0 Reflection -Prototype designer -Planner for design thinking
AHMAD MUAWYA SUFYAN FAKHRUDDIN	-Report writing 2.1 Empathy 3.0 Reflection
OMAR ABDELMONEM HANAFY ABDELAZIZ MOHAMED	-Report writing 2.2 Define 3.0 Reflection
KHALED OSAMA MOHAMMED SAMY ABDELAZIZ IBRAHIM TAHOON	-Report writing 2.3 Ideate 3.0 Reflection