



UTM

UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF COMPUTING

SECP1513

TECHNOLOGY & INFORMATION SYSTEM

DESIGN THINKING **ASSIGNMENT**

SECTION : 03

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Idris**

GROUP NAME: 6 BOYS

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1.0 INTRODUCTION

1.1 Background

Social media nowadays have already been a part of our lives. Information sharing all around the world, communication worldwide as long as you are in the range of Internet. Since people share public or personal information on social media all the time, integrity must be assured to prevent personal information leakage, leading to personal safety issues, such as cyberbullying or getting hacked.

While using social media, people have an opportunity to encounter malicious links or actions. Viruses, phishing links, scammers and identity theft are some of those that could harm one on social media. Therefore, platforms have to come up with something to protect their users. One of the solutions is an AI bot to help block every suspicious action or links that are reported.

However, there are some platforms that still do not feature such bot for malicious detection and prevention. According to research that we have done, it is shown that WhatsApp, a social media application under META, has the most users among others. It is also a disappointment to find out that WhatsApp is one of those that does not equip any chatbot to ensure users safety. Thus, our group has come up with an idea to innovate a new feature chatbot for WhatsApp to detect any harmful content.

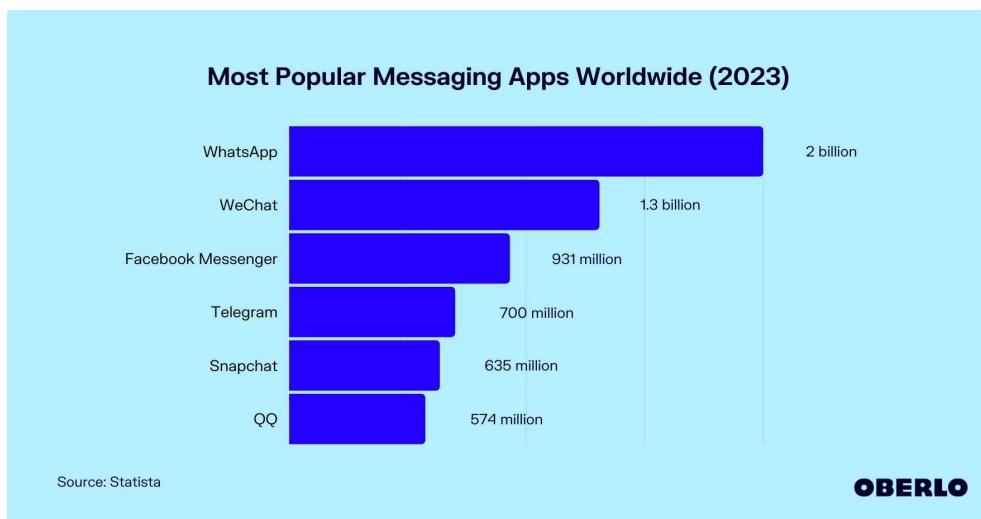
1.2 Motivation

The motivation behind the development of WhizBot stems from a deep-seated commitment to address the inherent shortcomings of existing cybersecurity tools and platforms. While conventional cybersecurity measures play a crucial role in safeguarding digital assets, they often fall short in effectively mitigating emerging threats and empowering users to actively participate in their own digital security.

The rise of social engineering tactics, such as phishing scams and social media manipulation, underscores the need for a more proactive and user-centric approach to cybersecurity. By leveraging the ubiquity and accessibility of messaging platforms like WhatsApp, WhizBot seeks to bridge the gap between traditional cybersecurity solutions and the evolving threat landscape, empowering users to make informed decisions and take proactive steps to protect their digital identities.

Reason for Choosing WhatsApp

WhatsApp was chosen as the platform for WhizBot due to its unparalleled popularity and user base, with over 2 billion active users globally according to Oberlo statistics. Compared to other messaging apps like WeChat, Facebook Messenger, Telegram, and Snapchat, WhatsApp's extensive reach and robust security features make it an ideal environment for deploying a cybersecurity solution. Its widespread adoption ensures WhizBot can reach a broad audience and provide impactful security solutions at scale, prioritising user privacy and protection.



Website: <https://www.oberlo.com/statistics/most-popular-messaging-apps>

1.3 Objective and Overview of this Project

The primary objective of the WhizBot project is to enhance cybersecurity on WhatsApp by providing users with a comprehensive and proactive solution for threat detection and mitigation. Through a combination of advanced technologies, including artificial intelligence, machine learning, and natural language processing, WhizBot aims to identify and neutralise cyber threats in real-time, thereby minimising the risk of data breaches and other security incidents.

Key features of WhizBot include:

Phishing link detection: WhizBot utilises machine learning algorithms to analyse URLs shared within WhatsApp chats and identify potential phishing links, helping users avoid falling victim to fraudulent schemes.

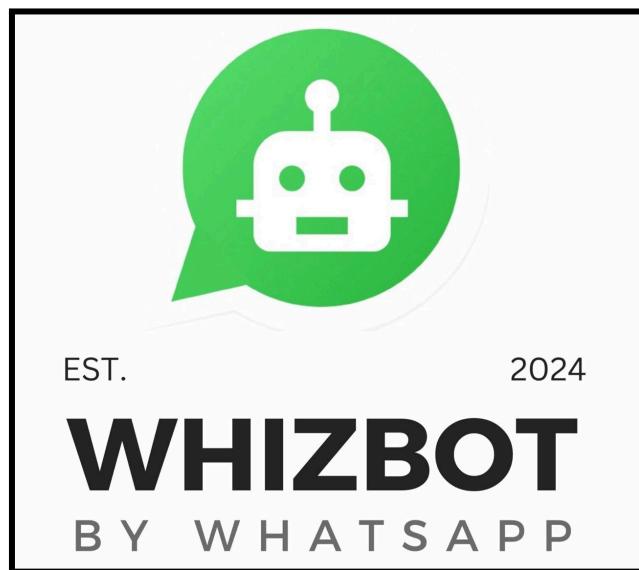
Behavioural analysis: By monitoring user interactions and detecting patterns indicative of suspicious activity, WhizBot can proactively alert users to potential security risks and recommend appropriate actions to mitigate them.

Personalised security recommendations: WhizBot leverages user-specific data and preferences to provide personalised recommendations for enhancing digital security, such as enabling two-factor authentication, updating software and applications, and practising safe browsing habits.

Real-time threat alerts: WhizBot continuously monitors for emerging cyber threats and delivers real-time alerts to users, empowering them to stay informed and take proactive measures to protect their digital assets.

Through these and other features, WhizBot aims to revolutionise the way users approach cybersecurity on WhatsApp, providing them with the tools and resources they need to navigate the digital landscape with confidence and security.

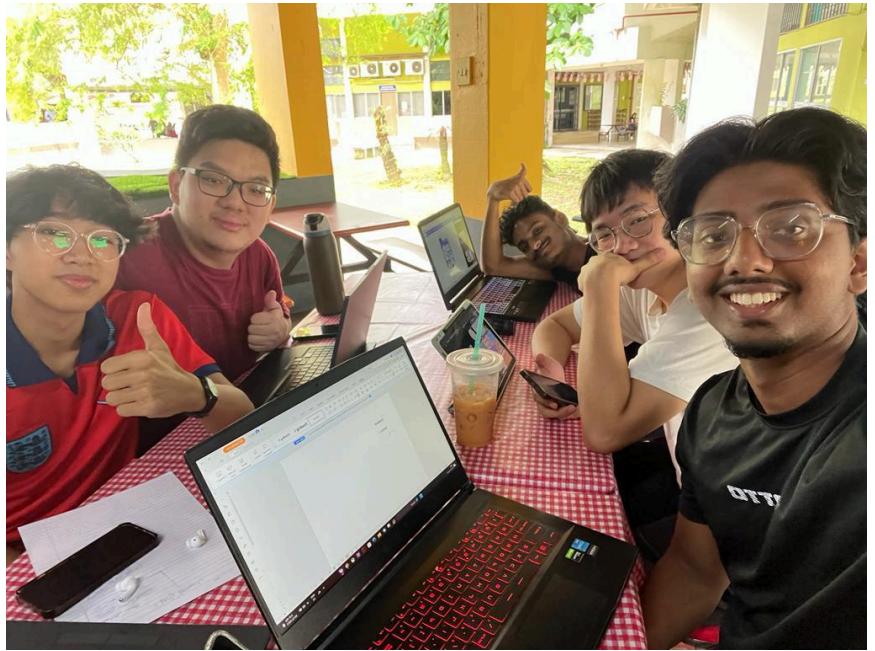
1.4 About Our Bot

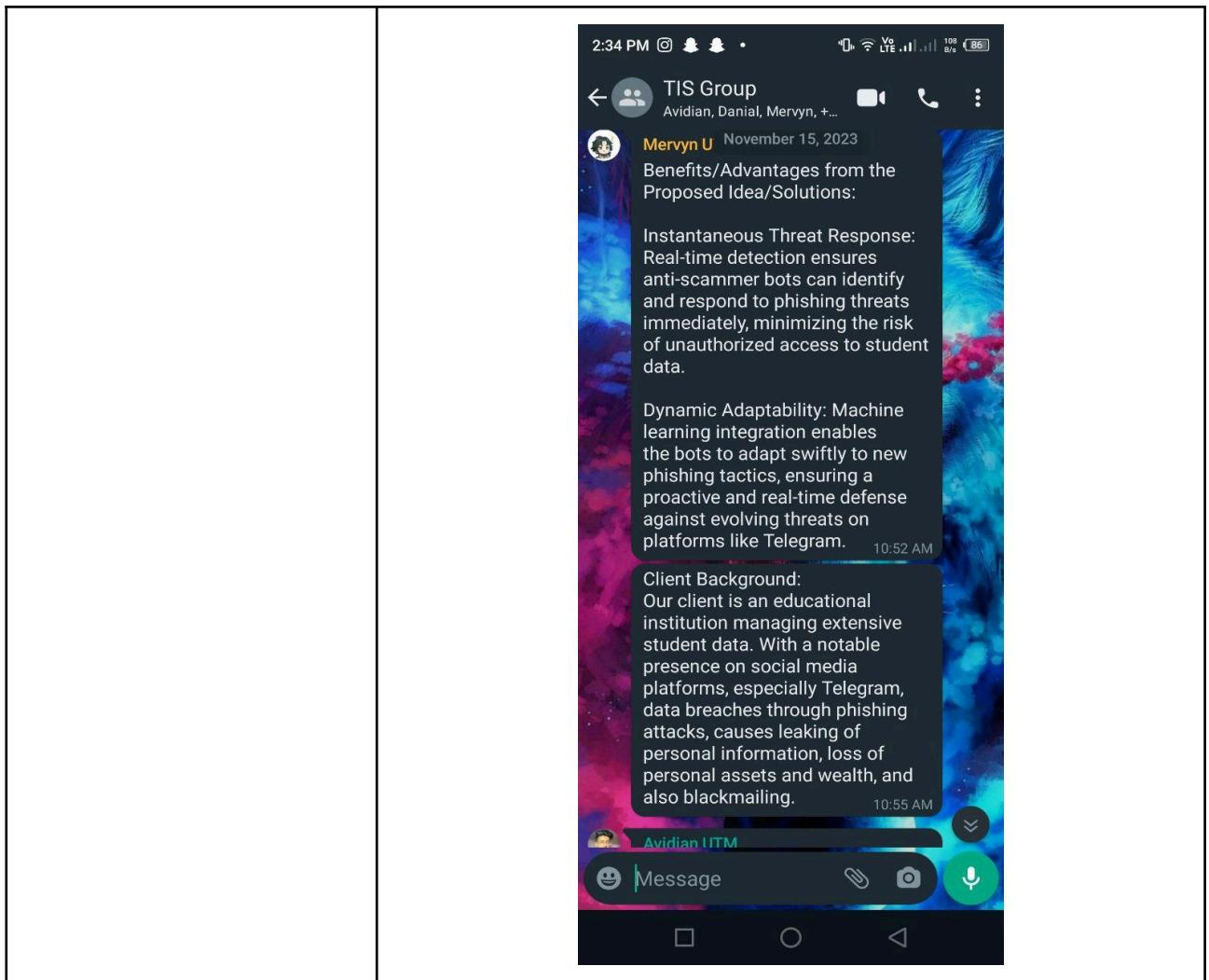


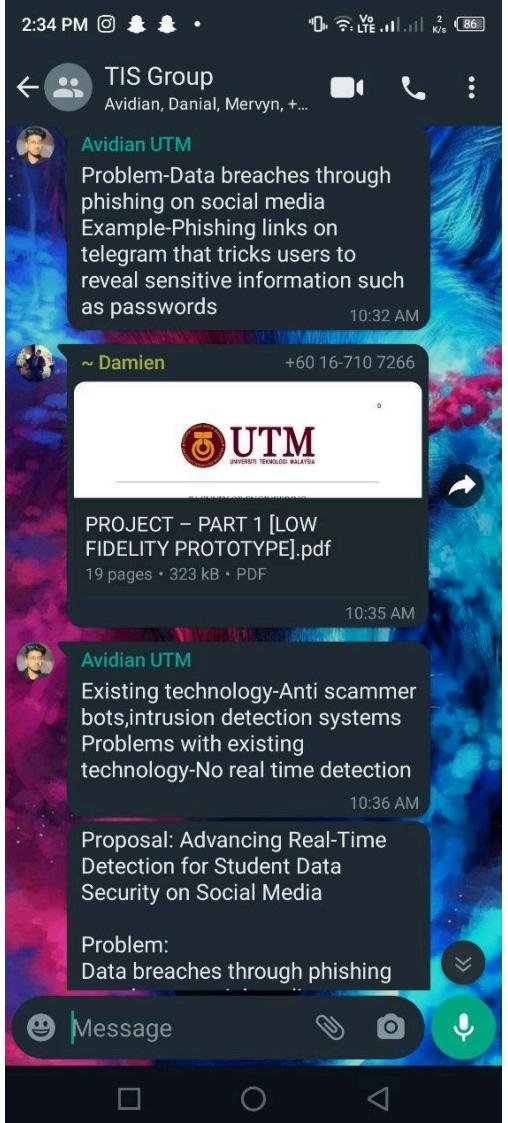
WhizBot is an advanced WhatsApp bot designed to proactively detect and mitigate cybersecurity threats on the messaging platform. Leveraging cutting-edge technologies such as artificial intelligence and machine learning, WhizBot offers a comprehensive approach to cybersecurity that empowers users to protect their digital identities.

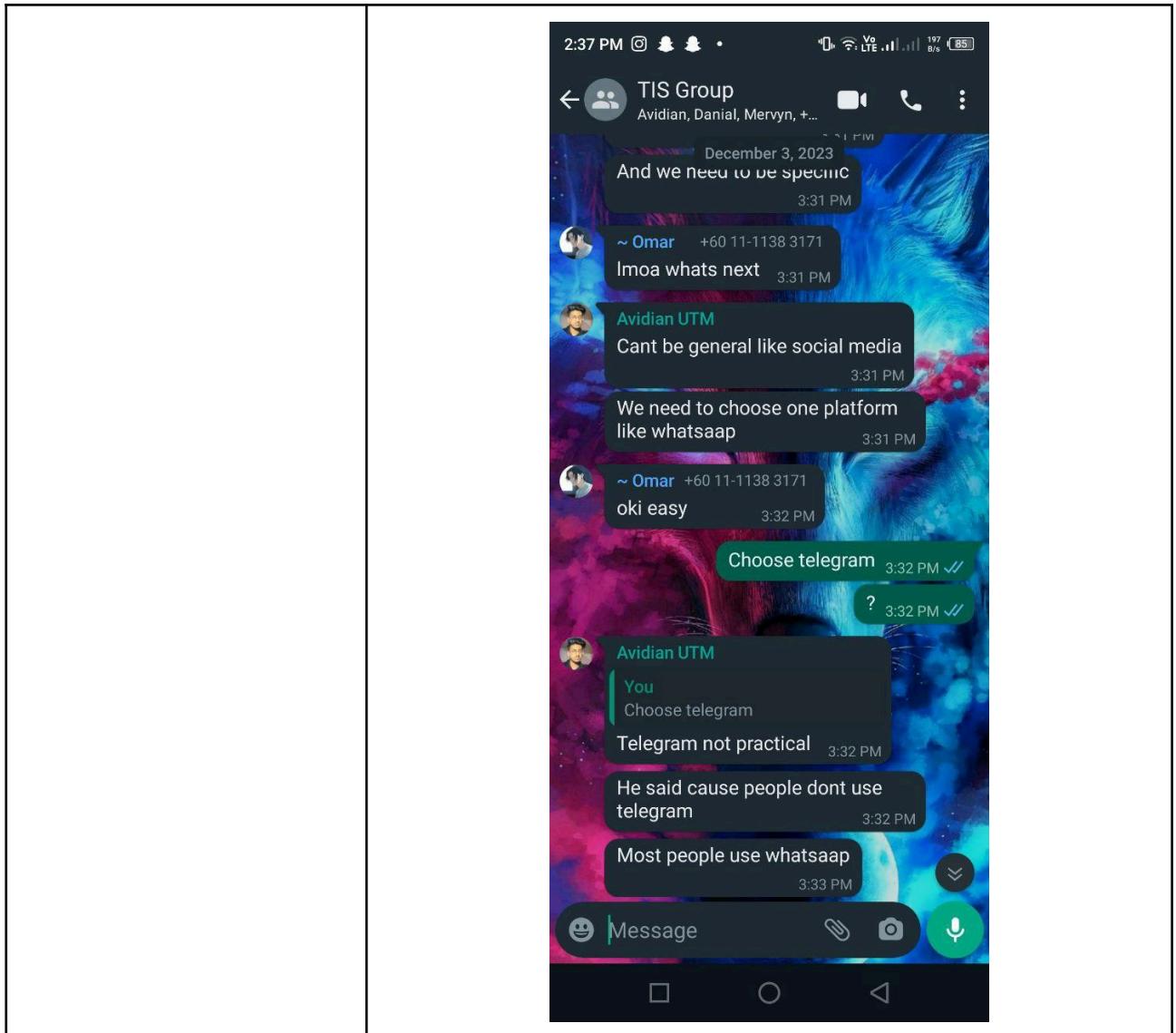
With features ranging from real-time threat alerts to personalised security recommendations, WhizBot serves as a trusted companion in safeguarding users' digital futures. By combining innovative technology with user-centric design principles, WhizBot aims to redefine the paradigm of digital security on WhatsApp and beyond, empowering users to take control of their digital identities and navigate the digital landscape with confidence and security.

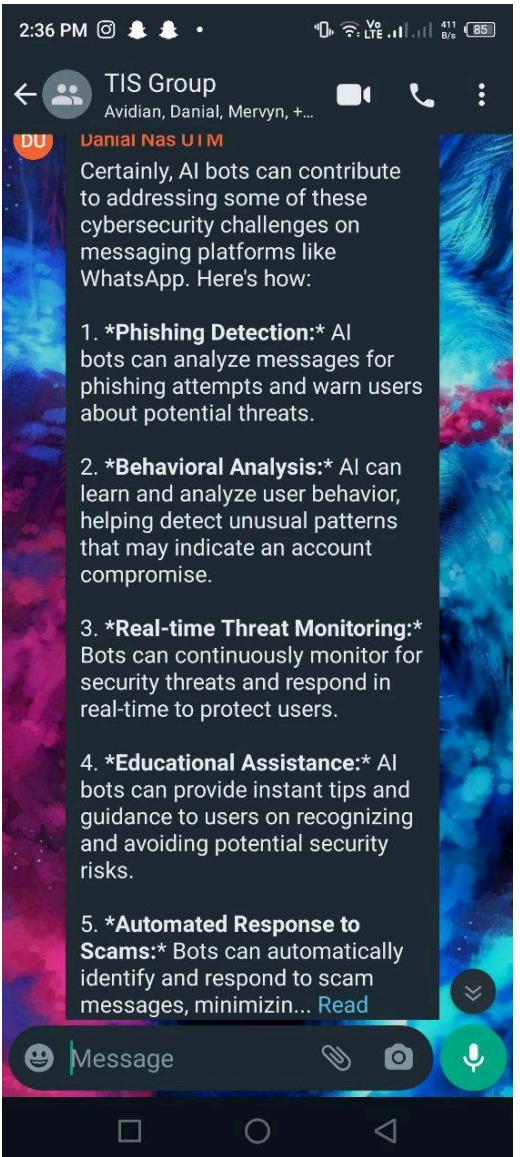
2.0 Detail Step, Description and Evidence for Each Phase

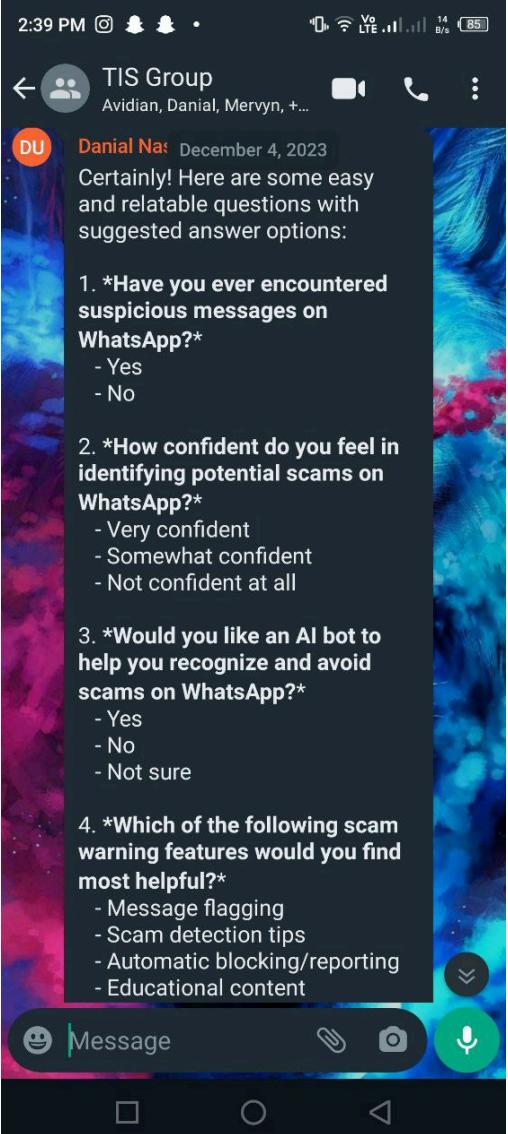
| DATE | DESCRIPTION |
|--------------------|---|
| 15th November 2023 | <p>Discussion about Phase 1: Project Proposal. Below is the proposal:-</p> <p>PROJECT – PART 1 [LOW FIDELITY PROTOTYPE].pdf</p>  |



| | |
|-------------------|--|
| |  <p>The screenshot shows a group chat titled 'TIS Group' with members Avidian, Danial, Mervyn, and others. A message from 'Avidian UTM' discusses problem-data breaches through phishing on social media, mentioning examples like Phishing links on telegram that tricks users to reveal sensitive information such as passwords. Another message from 'Avidian UTM' discusses existing technology like Anti scammer bots and intrusion detection systems, noting problems with existing technology (No real time detection). A third message from 'Avidian UTM' presents a proposal titled 'Proposal: Advancing Real-Time Detection for Student Data Security on Social Media', highlighting the problem of data breaches through phishing.</p> |
| 3rd December 2023 | <p>Proposed our project to Dr. Iqbal. Discussion about changes in details of our project after the proposal.</p> |

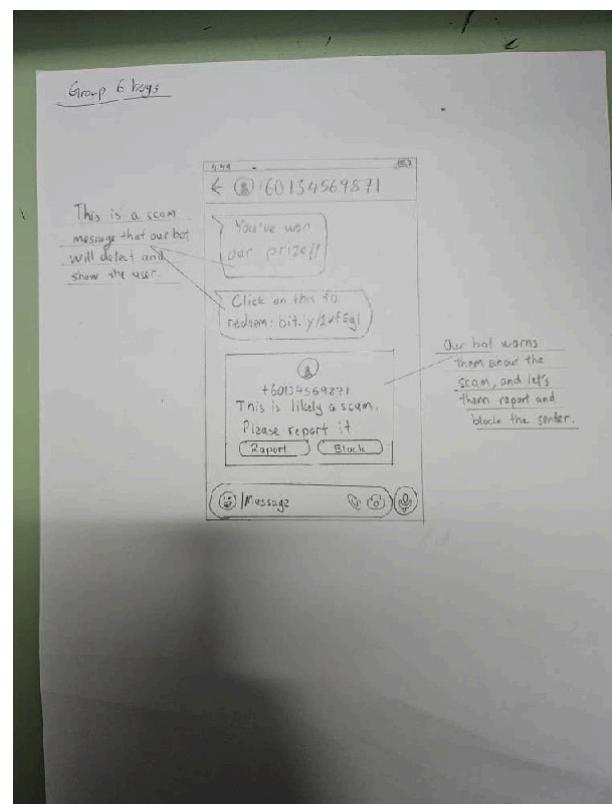


| | |
|-------------------|--|
| |  <p>2:36 PM @ Avidian, Danial, Mervyn, +... • 411 B/s</p> <p>TIS Group Avidian, Danial, Mervyn, +...</p> <p>Danial Nas U I M</p> <p>Certainly, AI bots can contribute to addressing some of these cybersecurity challenges on messaging platforms like WhatsApp. Here's how:</p> <ol style="list-style-type: none"> *Phishing Detection: AI bots can analyze messages for phishing attempts and warn users about potential threats. *Behavioral Analysis: AI can learn and analyze user behavior, helping detect unusual patterns that may indicate an account compromise. *Real-time Threat Monitoring: Bots can continuously monitor for security threats and respond in real-time to protect users. *Educational Assistance: AI bots can provide instant tips and guidance to users on recognizing and avoiding potential security risks. *Automated Response to Scams: Bots can automatically identify and respond to scam messages, minimizin... Read <p>Message</p> |
| 4th December 2023 | <p>Discussion about Phase 2: Design Thinking Information Gathering & Analysis (Interview & Survey)</p> <p>Creating a survey in Google Form.</p> |

| | |
|-------------------|---|
| |  <p>2:39 PM 2023 14/85</p> <p>TIS Group Avidian, Danial, Mervyn, +...</p> <p>Danial Na: December 4, 2023 Certainly! Here are some easy and relatable questions with suggested answer options:</p> <ol style="list-style-type: none"> *Have you ever encountered suspicious messages on WhatsApp?* <ul style="list-style-type: none"> - Yes - No *How confident do you feel in identifying potential scams on WhatsApp?* <ul style="list-style-type: none"> - Very confident - Somewhat confident - Not confident at all *Would you like an AI bot to help you recognize and avoid scams on WhatsApp?* <ul style="list-style-type: none"> - Yes - No - Not sure *Which of the following scam warning features would you find most helpful?* <ul style="list-style-type: none"> - Message flagging - Scam detection tips - Automatic blocking/reporting - Educational content <p>Message</p> |
| 5th December 2023 | <p>Conducted an interview with a UTM student</p>  <p>Interview link: https://drive.google.com/file/d/1Z5rsK_Kon7tEYV4BDBDyBJb25jEm4zkM/view?usp=drivesdk</p> |

| | |
|--------------------|---|
| 6th December 2023 | <p>Shared the survey to the UTM official Telegram and WhatsApp group.</p>  <p>2:40 PM 2:40 PM 146 B/S 85</p> <p>TIS Group Avidian, Danial, Mervyn, +...</p> <p>December 6, 2023</p> <p>~ Damien +60 16-710 7266 ~ Damien +60 16-710 7266 https://forms.gle /FDQP7VDiNCKeo7QZ7</p> <p>Guys we can start sending, maybe add a small message too 10:02 AM</p> <p>How many respondent needed? 10:03 AM ✓</p> <p>~ Damien +60 16-710 7266 ANTI-SCAMS A.I BOT ON WHATSAPP We would like to ask you so... docs.google.com</p> <p>Hello everyone, we are students from computer and network security, we are asking for your cooperation to fill out the form below. Your cooperation is greatly appreciated. 😊❤️</p> <p>Thank you!</p> <p>https://forms.gle /FDQP7VDiNCKeo7QZ7 10:04 AM</p> <p>~ Damien +60 16-710 7266</p> <p>Message</p> |
| 14th December 2023 | <p>Analysis of our survey with 40 respondents. Below is the analysis of our survey:</p> <p> Design Thinking Information Gathering & Analysis-2.pdf</p> |

| | |
|--------------------|--|
| | <p>The screenshot shows a group chat titled 'TIS Group' with participants Avidian, Danial, Mervyn, and others. The messages are as follows:</p> <ul style="list-style-type: none"> ~ Damien +60 16-710 7266: Who can do analysis for the Google form? (9:26 AM) ~ Omar +60 11-1138 3171: how (12:28 PM) Avidian UTM: Whats the analysis actually (1:40 PM) I think just send the result of the gf (1:41 PM) Must elaborate the result is it? (1:47 PM ✓) ~ Damien +60 16-710 7266: Maybe put results into words and elaborate? (1:47 PM) ~ Damien +60 16-710 7266: I think just send the result of the gf <p>The message input field at the bottom shows a placeholder 'Message'.</p> |
| 22nd December 2023 | Submission of our survey analysis. |
| 30th December 2023 | Draft of handwritten prototype. |



31st December 2023

Presentation of handwritten prototype with Dr. Iqbal.

| | |
|------------------|--|
| |  |
| 7th January 2024 | <p>Updated our handwritten prototypes for upcoming presentation. Made slides for presentation.</p> |

| | |
|-------------------|---|
| | <p>2:52 PM</p> <p>TIS Group Avidian, Danial, Mervyn, +...</p> <p>January 7, 2024</p> <p>Mervyn UTM</p> <p>virus scammer phishing lin...</p> <p>guys, u can add any other possible situations in here</p> <p>make it 10</p> <p>Avidian UTM</p> <p>Then we need to do the slides</p> <p>In the slides we need</p> <ol style="list-style-type: none"> 1. Introduction(Explain our prototype) 2. Comparison between our bot and telegram bot/other bots 3. Statistics of people who use what social media <p>~ Damien +60 16-710 7266</p> <p>Mervyn UTM</p> <p>Message</p> |
| 14th January 2024 | <p>Discussion about Phase 3: Design Thinking (Report, Video and Prototype Presentation).</p> <p>Presentation with Dr. Iqbal and coursemates.</p> <p>Below are the slides for our presentation:-</p> <p>DOC-20240114-WA0029_.pdf</p> <p>WHIZBOT.pdf</p> |
| 13th January 2024 | <p>Submitted our presentation video.</p> <p>Below is the video of the presentation:-</p> <p>IMG_3567.MOV</p> |

| | |
|-------------------|---|
| 15th January 2024 | Discussion of report and distribution of tasks for each member. |
| 27th January 2024 |  <p>~ Damien +60 16-710 7266</p> <p>1.0 Introduction Avidian</p> <p>1.1 Background..</p> <p>1.2 About us</p> <p>1.3 Objective and Overview of Project.</p> <p>2.0 Design Thinking Process Mervyn and Tishen</p> <p>2.1 Empathy, Define, Ideate</p> <p>2.2 Research and Survey</p> <p>2.3 Brain Storming</p> <p>2.4 Prototype</p> <p>2.5 Testing</p> <p>3.0 Content of Report Damien</p> <p>3.1 Problems and Solutions</p> <p>3.2 Team Working</p> <p>4.0 Design thinking assessment Danial and Omar</p> <p>4.1 During the end of the project demonstration</p> <p>4.2 During the transition between design thinking phases</p> <p>5.0 Design Thinking Evidence Danial and Omar</p> |

3.0 Detailed descriptions include problem, solution and team working

3.1 PROBLEM

From our survey we sent to students in our university, we found that users have been affected by scams or malicious messages sent to them through WhatsApp. Where they have been scammed out of their money, gotten their login information stolen through phishing schemes or even have a person impersonating them on WhatsApp.

3.2 SOLUTION

After many discussions, we decided to develop an anti-scam bot. Each time a scammer tries to take advantage of the user, the bot is there to prevent the user from getting their data or money stolen. The bot uses machine learning to detect whether a message the user receives contains any malicious links. The bot also uses real-time detection to see if the user's account has been logged into from a different location, which the user can prevent from happening by needing approval from the user's main device to enable the login attempt. This functions as a double-step verification to ensure stronger protection against unauthorised access to user accounts. This bot is not only designed for security but it also checks recent trends of scams in the user's area to warn the user of potential new scams that the bot may not prevent.

3.3 TEAM WORKING

Once the assignment was assigned, our group leader, Avidian, divided us into different tasks. Soon Kiet focused mainly on the survey, preparing questions to send out to students to ask and understand more about what scams people face in their day to day lives through WhatsApp. Danial was tasked with editing videos for the group. Following that, Mervyn and Tishen were tasked with focusing on the contents of the report, while Omar and Avidian were creating the prototype of the anti-scam bot using machine learning. Throughout the design thinking process, we faced several challenges. The primary challenge was the difficulty in finding a suitable time for the team to gather and discuss the design thinking due to various commitments after class. Additionally, we struggled to find an ideal place for our discussions because a noisy environment often disrupted our focus. Despite these challenges, we persevered as a team, supporting each other to complete the assignment. Fortunately, each team member was dedicated and helpful, leading to the successful creation of a comprehensive report.

4.0 DESIGN THINKING ASSESSMENT

4.1 DURING THE END OF THE PROJECT DEMONSTRATION

At the end of our project demo, we showed the strong points in our anti-scam bot. The bots, which use smart technology, were really good at spotting phishing, the bad messages that try to trick people. It could warn users right away, making it way less likely for scams to happen. We also presented a lot about how the bots keep an eye on threats in real-time, jumping into action super quickly to protect users. This way, the Whizbot can act like the first layer defence against scammers.

But, we also saw some things we could make better. We realised the bots can do even more to help users understand how to stay safe. They could give more tips and advice personalised to each user. Also, we thought it'd be good to explain to users more about how the bots keep everything secure. We want users to trust our system more, so we need to explain it in a way that makes sense to them.

4.2 DURING THE TRANSITION BETWEEN DESIGN THINKING PHASES

When we were moving between the different stages of our project, we had some unforgettable moments. We were super focused on solving the problem of people getting tricked on WhatsApp. The team worked well together, even when we had different ideas. We did a survey to find out what problems people were facing, and that helped us a lot. Even though we were busy with our studies, we made sure to talk and figure things out together. Sometimes we didn't agree, but we always found a solution together. Teamwork was the key to finishing each part of the project. It was like solving a puzzle because everyone had a piece, and together we made the whole picture.

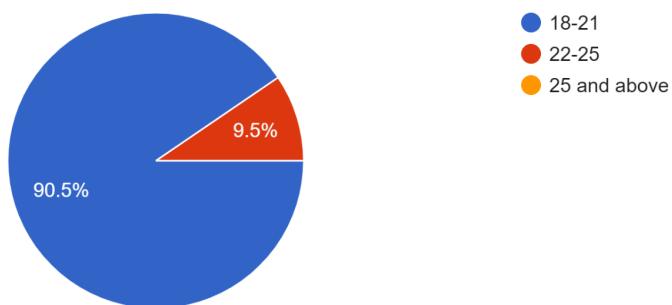
5.0 Design Thinking Evidence

5.1 Sample Work

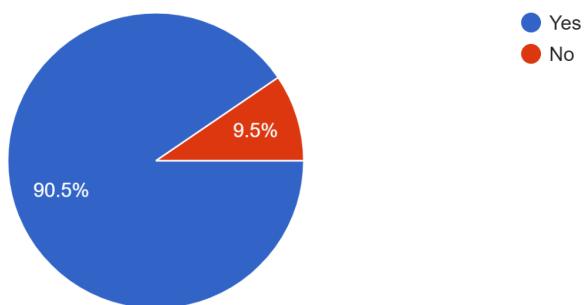
A) Empathy

Right from the start of our design journey, we used a google form to create a survey to get to the core of our client's problem while using WhatsApp specifically in cybersecurity. This survey wasn't just a regular thing but it was super important. It helped us really understand how much these problems matter to our clients. We also did an interview. Allowing us to have a perspective on what everyday people deal with. With this insight, we're all set to come up with solutions to effectively settle the crucial challenges our clients are dealing with.

Age
21 responses

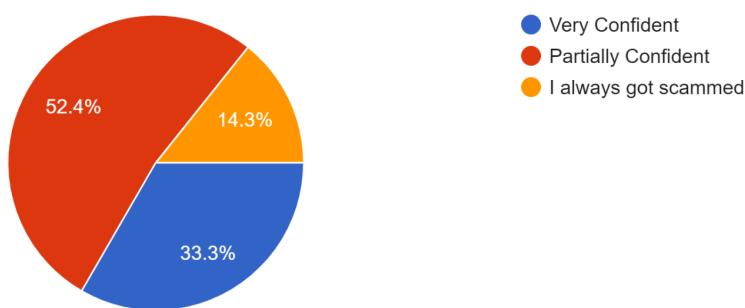


Have you ever encountered suspicious messages on Whatsapp?
21 responses



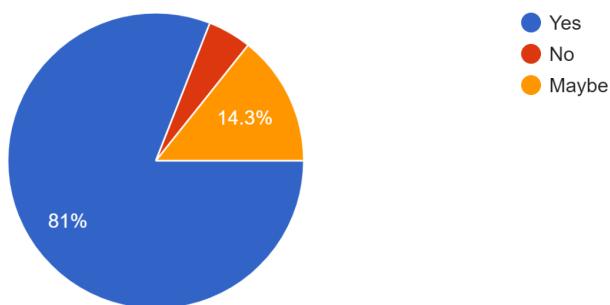
How confident do you feel in recognizing potential scams on Whatsapp?

21 responses



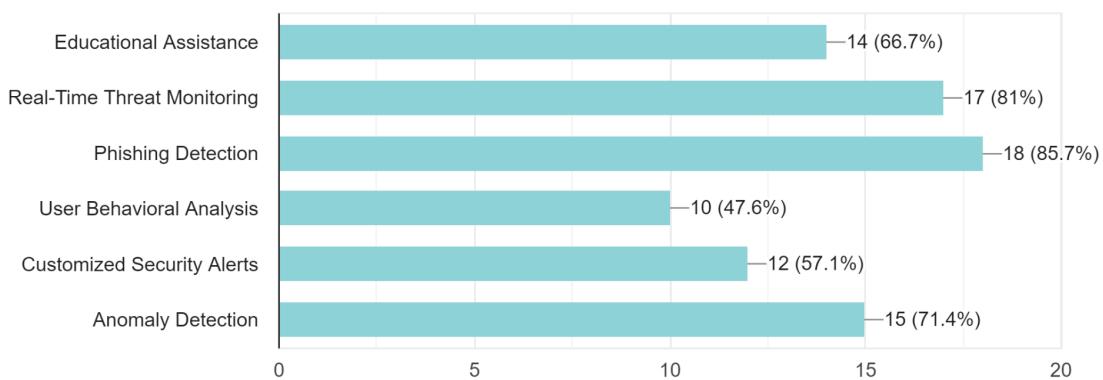
Would you like an A.I bot to help you recognize and avoid scams on Whatsapp?

21 responses



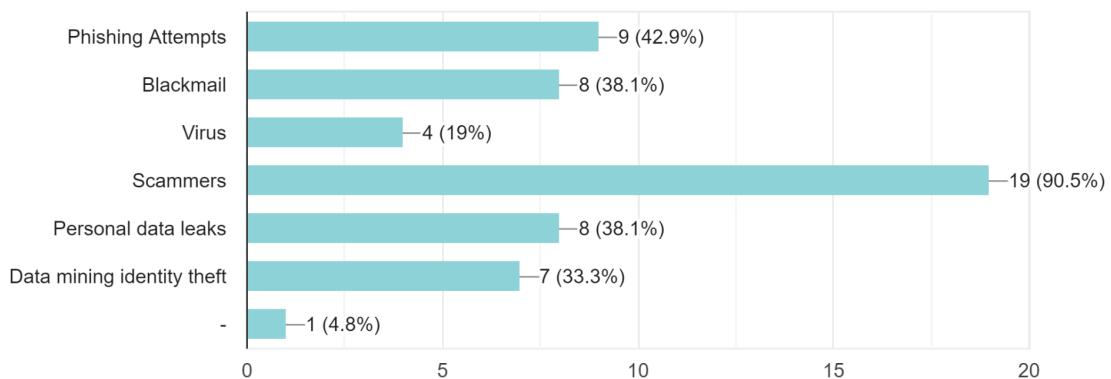
Which of the following AI bot features regarding scams would you find most helpful for you on Whatsapp?

21 responses



What problem(s) have you faced when using WhatsApp?

21 responses



I. Survey analysis



II. Interviewing a UTM student

| Questions | Answers |
|---|---|
| What is your name? | Nicholas Yek. |
| How old are you? | I am 20 years old. |
| What is your occupation? | I'm a student. |
| How often do you use WhatsApp? | I use it everyday. |
| Have you ever gotten scam messages before on WhatsApp? | Yes, I do get some scam messages sometimes. |
| Have you or someone you know fallen for these scam messages? | Personally, I have not fallen for the scam messages before, but my father has been scammed before. |
| How was your father scammed? Was it on WhatsApp? | Yes, it was on WhatsApp. He had gotten a message he thought was from an old friend asking to transfer some money because he was having an emergency and needed a large sum of money. My father transferred him RM 500 at the time. And didn't even know he got scammed. Only, after talking to another friend did he call the old friend on his phone number to confirm. That's how he got scammed on WhatsApp. |
| Would you like a bot that can help you avoid scams and threats on WhatsApp? | Yes. I would like that very much, because that would help prevent my parents from getting scammed in the future. |

Link to Interview:

https://drive.google.com/file/d/1Z5rsK_Kon7tEYV4BDBDyBJb25jEm4zkM/view?usp=drivesdk

DEFINE

This table outlines the issues experienced by the respondents:

| NO. | PROBLEM DESCRIPTION | SOLUTION | FEATURES |
|-----|----------------------------|-----------------------------|--|
| 1 | Scams on WhatsApp | Phishing Detection | <ul style="list-style-type: none"> 1. AI analysis for identifying phishing attempts 2. Real-time monitoring of messages for potential threats |
| 2. | Phishing Attempts | Behavioural Analysis | <ul style="list-style-type: none"> 1. AI-driven analysis of user behaviour for anomaly detection |
| 3. | Unauthorised Logins | Real-time Threat Monitoring | <ul style="list-style-type: none"> 1. Continuous monitoring of login activity |
| 4. | Impersonation on WhatsApp | Identity Verification | <ul style="list-style-type: none"> 1. AI-based identity checks to prevent impersonation |
| 5. | Malicious Messages | Anomaly Detection | <ul style="list-style-type: none"> 1. Detection of abnormal activities, triggering security measure 2. Continuous monitoring for multiple login attempt |
| 6. | Customised Security Alerts | Educational Assistance | <ul style="list-style-type: none"> 1. Personalised tips and guidance on recognizing security risks 2. Customised security alerts based on user preferences |
| 7. | Money Scams | Automated Response to Scams | <ul style="list-style-type: none"> 1. Automatic identification and response to scam messages |

IDEATE

In this table, we have classified each potential solution based on its priority level, allowing us to prioritise the crucial aspects before initiating the prototype creation process.

| No | Possible Solution | Categorization |
|----|-------------------------|----------------|
| 1. | Phishing Detection | Crucial |
| 2. | Behavioural Analysis | Intermediate |
| 3. | Real-time Monitoring | Intermediate |
| 4. | Identity Verification | Crucial |
| 5. | Automated Response | Crucial |
| 6. | Encryption Enhancements | Intermediate |
| 7. | Anomaly Detection | Intermediate |
| 8. | Educational Assistance | Rational |
| 9. | Customised Alerts | Rational |

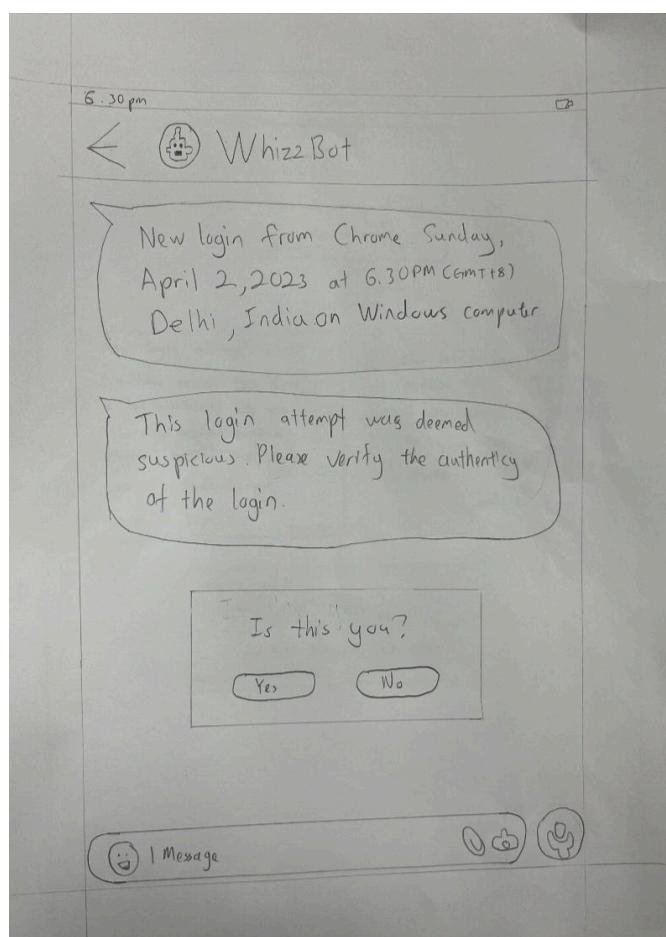
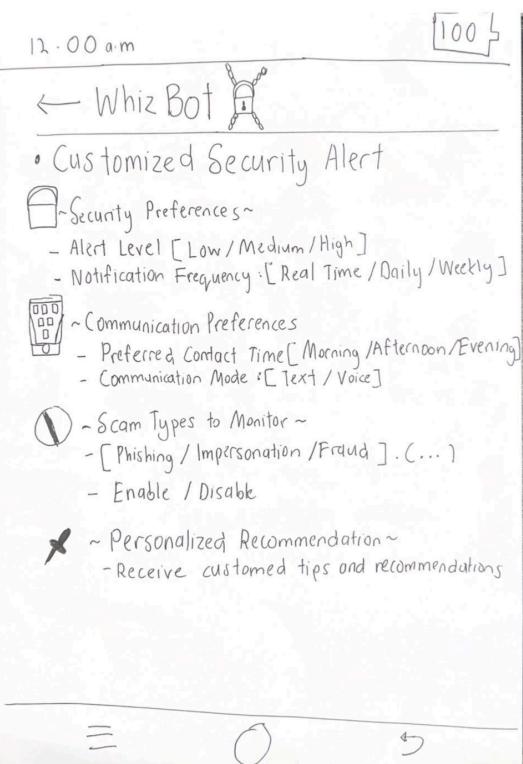
In this table, we describe the importance of each category, providing a brief overview of their significance.

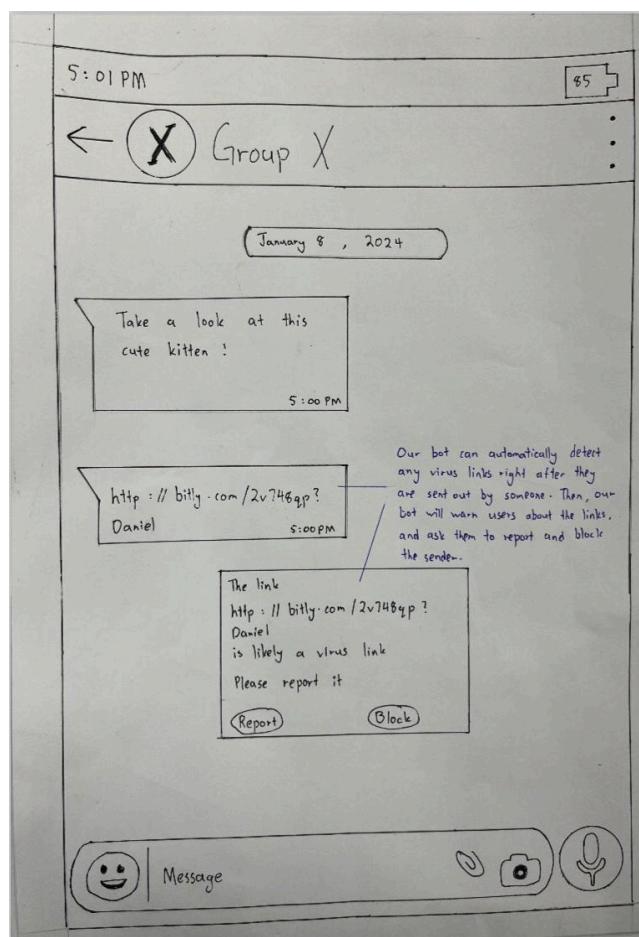
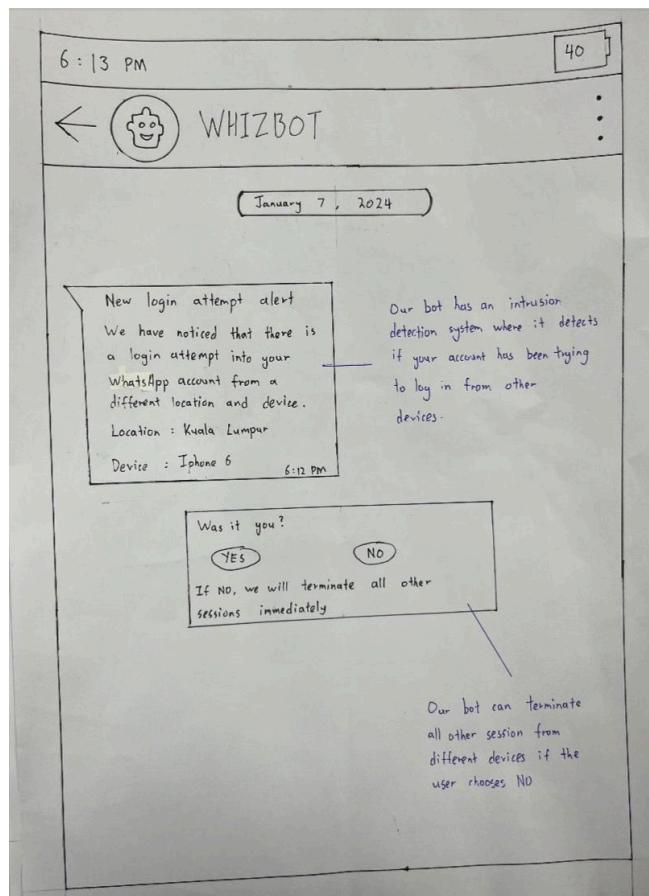
| No | Categories | Description |
|----|-------------|--|
| 1. | Fundamental | Phishing Detection and Identity Verification are crucial as they directly prevent scams and verify user identity. |
| 2. | Moderate | Behavioural Analysis, Real-time Monitoring, Encryption Enhancements, and Anomaly Detection are intermediate solutions that add layers of security and real-time protection against various threats |
| 3. | Rational | Educational Assistance and Customised Alerts are rational solutions that provide users with knowledge and tailored notifications for better awareness and prevention. |

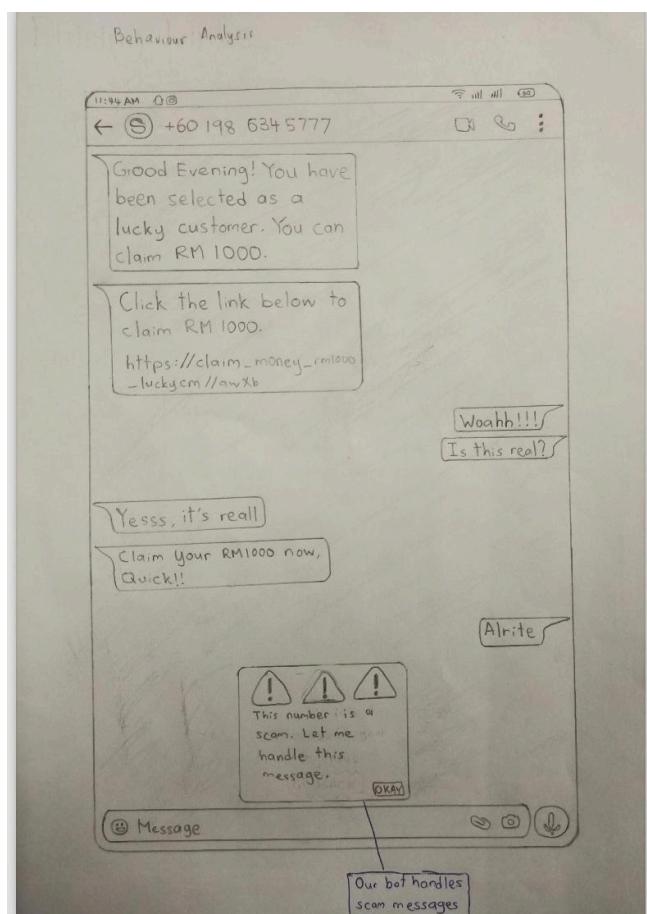
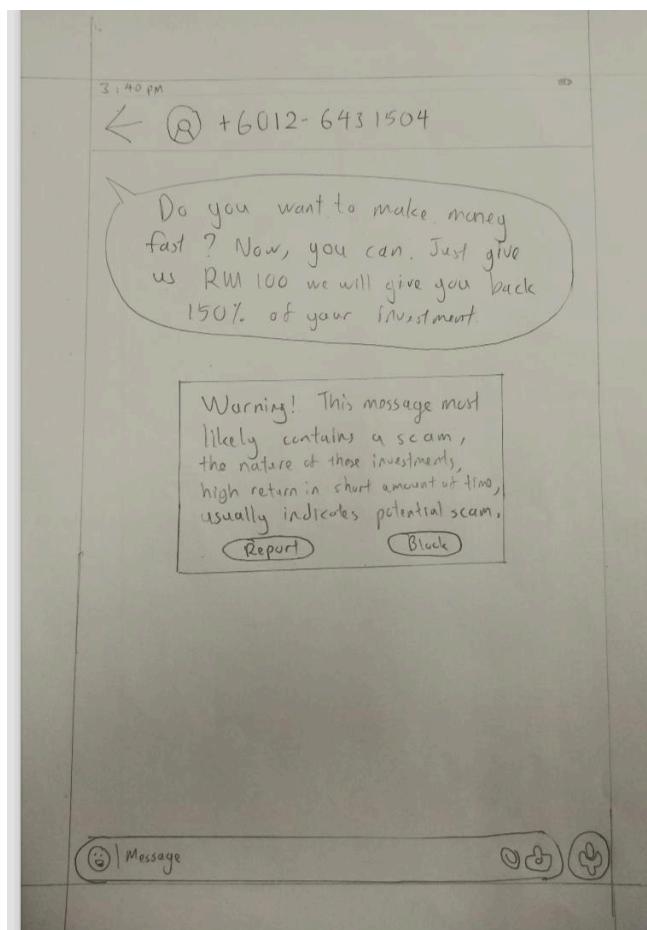
PROTOTYPE

| NO | PHASE | DESCRIPTION |
|----|--------------------------------|--|
| 1. | Idea Phase | In the initial phase, our team brainstormed to identify common issues in online security, specifically on platforms like WhatsApp. We focused on combating phishing attacks and scams, leading to the idea of creating an AI bot that could actively detect and respond to potential threats in real-time |
| 2. | Handwritten Prototype | Translating ideas, we created sketches and wireframes, serving as the foundation for WhizBot. With pen and paper, we crafted a preliminary prototype, illustrating features like secure password generation |
| 3. | Feedback and Iteration | Presenting to our lecturer, we received valuable feedback. Through iterative refinement, adjustments were made to enhance usability and align with user needs, based on lecturer suggestions. |
| 4. | Presentation and Documentation | The final handwritten prototype, refined based on feedback, was presented to the lecturer. Detailed documentation outlined design decisions and features. While WhizBot remained in the handwritten stage, the iterative process provided insights for potential future development. The AI bot's capabilities, including phishing detection, real-time monitoring, and behavioural analysis, were highlighted in the presentation to the lecturer, contributing to discussions and guiding future iterations. |

These figures show our handwritten prototype.







←  Part-time Jobs

—John added you

—John
Hi are you interested in earning a lot of money?

ME
Yes, I am!

—John
Great to get started we need you to transfer RM 100 to this bank account. In return, you will receive 20% return

ME
Okay give me your bank account

 WHIZBOT
You have a new notification

←  WHIZBOT

We have detected that you have recently been added to a suspicious group

Part time job groups have recently have been popular for money scams. Please be careful!

↑
Our bot sends out alerts to users to be aware on the latest scams. It uses AI technology to study and analyse the pattern in the chats

We would suggest you to leave and block the group if you are unsure if it is legit

↑
Our bot provides suggestions to help users in decision making

6.0 Reflection

AVIDIAN DIPESH SIVA

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

My goal with regard to my course is to gain a comprehensive understanding of the subject matter, develop practical skills, and ultimately excel in my chosen field. I aspire to become a knowledgeable professional who can make meaningful contributions to the industry.

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

This design thinking assignment has had a significant impact on my dream with regard to my program. It has provided me with an opportunity to apply theoretical knowledge to real-world problems, critical thinking, and problem-solving skills. By working collaboratively with my group members, I have gained valuable insights into the importance of interdisciplinary collaboration and the iterative design process.

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

To improve my potential in the industry, I need to continue honing my technical skills and actively seeking out opportunities for professional development. Additionally, I need to cultivate effective communication and teamwork skills as well as adaptability and resilience to thrive in dynamic and evolving work environments.

TEE SOON KIET

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

My hope with my current course is to increase my understanding about networking concepts and cybersecurity principles while studying for my degree program. My aim is to apply this knowledge to enhance the reliability and security of networks, with the goal of having meaningful employment after completing my university.

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

Engaging in the five design thinking processes—empathising, defining, ideating, prototyping, and testing—allowed me to expand my perspectives and think innovatively. This capability will play a crucial role in shaping my future approaches when addressing networking and cybersecurity challenges.

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

To improve my potential in the industry, constant learning about networking and cybersecurity is crucial given the ever changing landscape of technology. Moreover, I intend to do as many coding projects as possible to increase my hands-on experience, which will allow me to have more chances to succeed in networking and cybersecurity.

TISHEN A/L SANTHIRAGASAN

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

With the current course, my goal is to learn the basic knowledge, practical skills and experience teamwork. I hope to apply these to gain a clear path to pursue my career.

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

This design thinking allowed me to expand my perspectives on modern problems and research modern solutions for it. Moreover, cooperation with my team members helped me gain responsibility and confidence to speak out my ideas.

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

To improve my potential in this technology industry, first I have to constantly learn about new innovations and inventions in the current technological world. In addition, I will get involved in doing more projects in groups in order to be confident in my communication and teamwork skills while increasing my experience.

Mohamed Omar Makhlof

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

I've been passionate about working in a tech environment since I grew up and being here with my study program will help me at least make it and do what I want.

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

To be honest, working with my team was a lot of fun throughout all the design stages like discussing the ideas we have searching for a better solution giving reasons to our project visiting a tech company as a team impacted me and taught me how things really go on.

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

Throughout this semester i've been lacking a lot of social and search skills but when it ended i was sure that i gained more experience that i thought and it came out useful, i'm planning to do as Mr Ridwan and saiful said doing projects expanding my era about frameworks and increase my hands on experience about the field i'll choose to proceed.

Mervyn Bee Zheng Cheng

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

My goal with my current course is to reinforce basic knowledge regarding network and cybersecurity while gaining more advanced knowledge. I hope I am able to apply what I have learnt during my degree in my future career.

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

Design thinking impact allows me to think innovatively and creatively. With this, I am able to face future challenges more confidently.

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

Constant learning about network and cybersecurity while having more practical experience are the ways to improve my potential and ability. In order to succeed, I plan to learn and practise more coding for more experience.

MUHAMMAD DANIAL BIN NASHARUDIN

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

I have only one goal when I pursue this course, which is to be a cybersecurity analyst. It has always been my dream and I hope this course can be my first step to achieve it.

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

This design thinking has taught me a lot on how to work as a team, brainstorm ideas together and respect other teammate's opinions. I think it's a good skill for the future when I'm in the industry.

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

Firstly, I will work on my speaking and social skills, which is one of my main targets because it can differ me from other people. Secondly, I want to get more knowledge about a cybersecurity career so I can be well-prepared and knowledgeable about what I want to be. Lastly, I will try to expand my networking by joining many career festivals because I can meet a lot of other experienced people out there.

7.0 The task for each member

| Content Title | Description | Done By |
|---|---|---|
| 1.0 Introduction | A brief introduction to the background, motivation and objective. The reason we chose WhatsApp. What we want to do with our bot. | Avidian Dipesh Siva Mervyn Bee Zheng Cheng |
| 2.0 Detail Step, Description and Evidence for Each Phase | Images, log journal, team progress, and brainstorming ideas to show our detailed steps and descriptions in design thinking and evidence for each phase. | Tishen Santhiragasan |
| 3.0 Detailed Descriptions Including Problems, Solutions and Team Working | The difficulties we faced during the project, how we solved them and what we learned from it. | Tee Soon Kiet |
| 4.0 Design Thinking Assessment | The assessment points for design thinking that occurred during the end of project demonstration and during the transition between design thinking phases. | Muhammad Danial bin Nasharudin |
| 5.0 Design Thinking Evidence | The sample work by students working to solve design challenges. Each phase of empathy, define, ideate, prototype and test recorded. | Mohamed Omar Makhlof Muhammad Danial bin Nasharudin Tee Soon Kiet |
| 6.0 Reflection | Question towards group members regarding their goals, the impact of this project and plan for improvement in the industry. | Everyone |

References

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