UTM
UNIVERSITI TEKNOLOGI MALAYSIA

SCHOOL OF COMPUTING
Faculty of Engineering

Design Thinking (Group)

SECP1513 TECHNOLOGY AND INFORMATION SYSTEM

SEMESTER I, SESSION 2023/2024

Section: 03

PROGRAMME: BACHELOR OF COMPUTER SCIENCE (COMPUTER NETWORK & SECURITY)

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1.0 INTRODUCTION

Background

Sensitive data protection has emerged as a critical issue in today's environment of constant technological improvements. Strong cybersecurity measures are critical because of the way our society is becoming more and more digitalized, as evidenced by the widespread use of online platforms and applications. The most important and common component protecting our digital identities is the password, which is at the heart of this cybersecurity dilemma.

The unparalleled interconnection and interdependence of the digital age have coincided with an increase in the sophistication of cyber threats. Password creation techniques that were formerly thought to be the cornerstones of digital security are under severe pressure. Predictable password patterns have become insufficient due to the evolution of hostile entities and their techniques, hence placing individuals and organizations in increased danger.

The flaws in standard password procedures make them unsuitable for traversing this complex digital terrain and emphasize the need for a fresh approach to cybersecurity. Our methods for safeguarding sensitive data must also progress with technology to keep up with the changing threats. The need for improved security systems that can handle the complexities and difficulties presented by this digital age is evident.

Our dependence on digital platforms serves as a backdrop for the urgent need for a paradigm change in the way we think about digital security. The protection of confidential data, which is essential to our day-to-day functioning, depends on how well we handle passwords. More and more, as we move through this age of rapid technological advancement, the need for stronger security measures becomes clear. The constant problems posed by a linked and constantly evolving digital world are reflected in the desire for creative and dynamic solutions to strengthen our digital identities.

Motivation

The motivation for developing PassBlend stems from a strong desire to address the inherent weaknesses seen in conventional password management procedures. While some of the capabilities of the solutions that are already in use, such as LastPass, NordPass, and Dashlane, are impressive, they have serious drawbacks. Given how frequently personal information is shared online, these technologies are intrinsically insecure because they frequently generate passwords based on user preferences. Furthermore, users are ignorant of the security levels of the passwords they generate since there are inadequate systems in place to evaluate their strengths. Furthermore, premium services are not widely accessible due to their cost, which makes them essential for advanced functionality like password syncing between devices.

Therefore, PassBlend has two goals in mind: first, it wants to solve the shortcomings of current tools by providing a sophisticated solution that creates strong passwords using a special blending technique that incorporates features based on user preferences. Second, by offering premium capabilities without charging for them, PassBlend hopes to completely rethink the password management paradigm. This strategic approach not only challenges established standards but also gives people confidence in the strength of their digital defences. The idea behind the drive is to create new benchmarks for password innovation where complexity and security coexist harmoniously.

Objective and overview of this project

The main objective of the PassBlend project is to offer an unmatched response to the growing issues related to password security. By employing a unique password generation process that involves combining components according to user preferences, PassBlend hopes to provide not just secure passwords but almost impossible-to-guess codes. The project is a comprehensive approach to password management that goes beyond conventional bounds, including resource consumption reporting, device control, security management, and environmental monitoring.

The goal of PassBlend is furthered by giving users the capacity to thoroughly test the security of their passwords, enabling them to make knowledgeable judgments regarding their online safety. PassBlend sets itself apart in the industry by providing premium features without charging for them, drawing in a discerning clientele and enhancing its standing as a pioneer in password innovation. The overall goal is to completely reshape the field of digital security and establish a new benchmark for password management that emphasizes user empowerment, strength, and sophistication. PassBlend is more than simply a tool—it's a dedication to improving user security and confidence in a constantly changing digital environment.

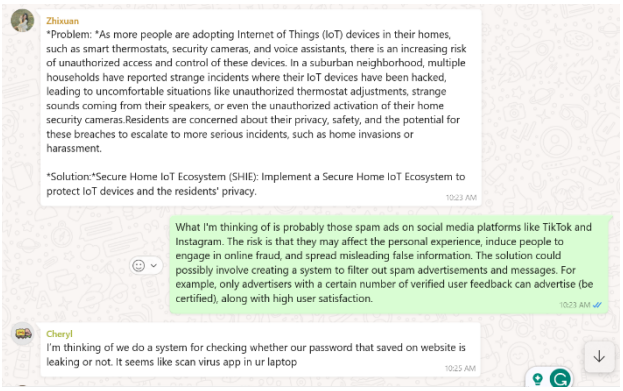
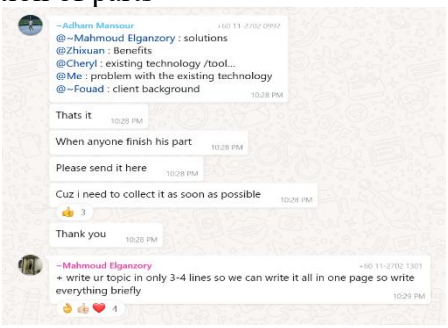
About Our Website

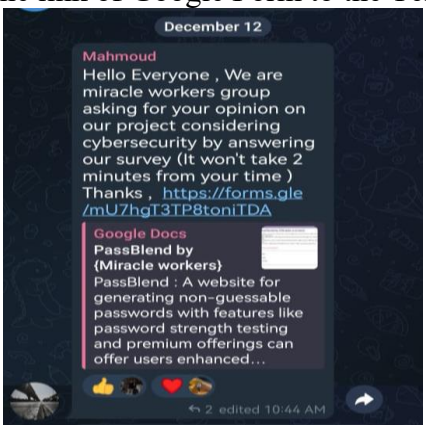
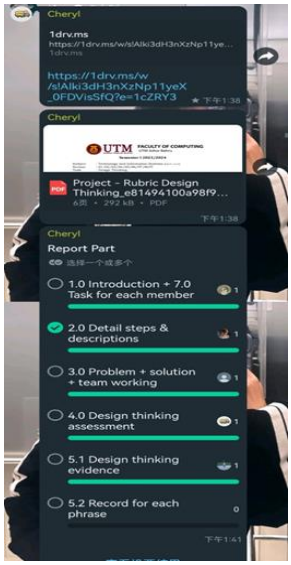
PassBlend is a fortress in the realm of password management where security is paramount. Derived from the amalgamation of "pass" and "blend," our name is a testament to our commitment to fortifying digital identities. In a landscape where cyber threats loom large, PassBlend stands as a bastion of innovation and resilience.

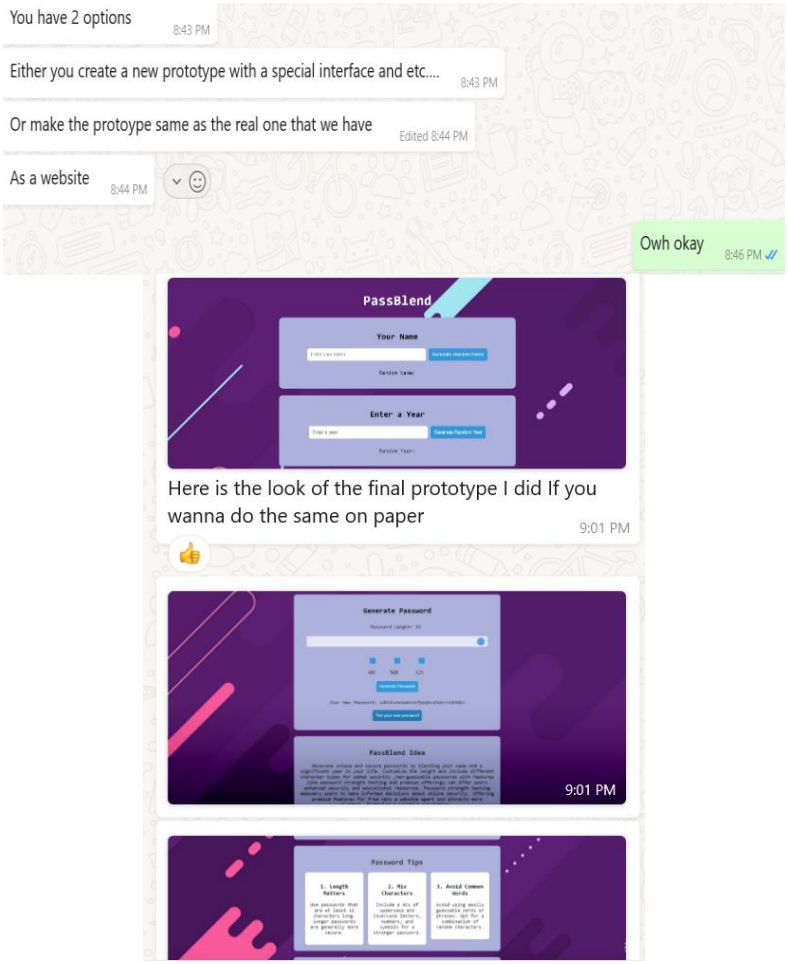
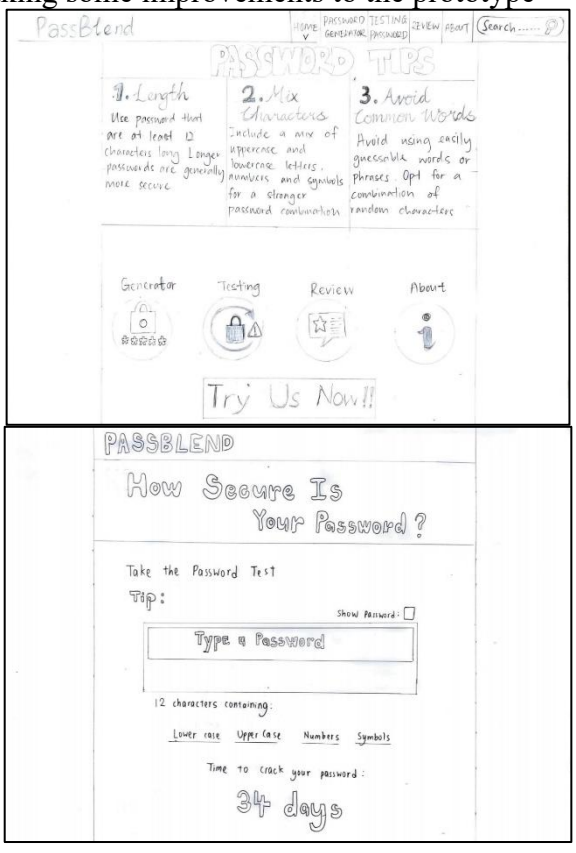
Our unique approach to password creation involves blending elements based on the client's least preferred things, resulting in passwords that transcend conventional predictability. These passwords are not merely strong; they are impervious to the ever-evolving tactics employed by malicious entities. Our focus extends beyond password generation.

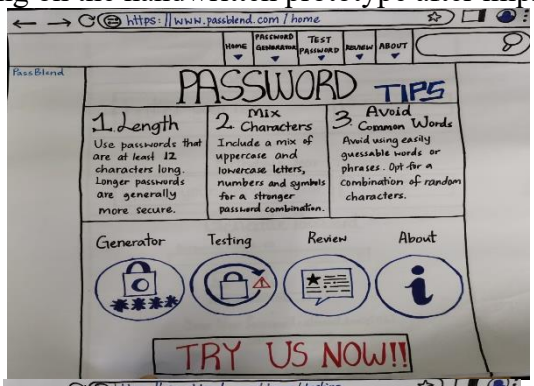
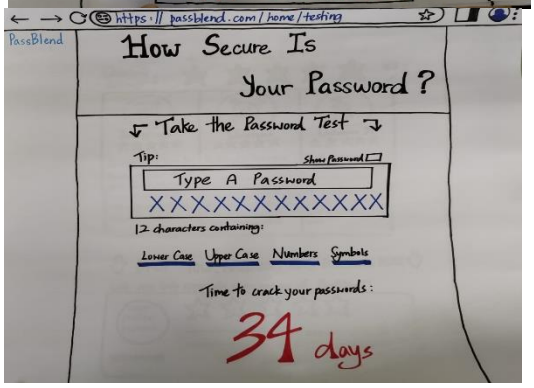
In a strategic initiative, PassBlend offers premium features without charge, elevating the platform to a beacon of enhanced security and a repository of educational resources. This commitment not only distinguishes us in the field of password management but also attracts a discerning audience, solidifying our reputation as pioneers in the industry.

2.0 DETAIL STEP, DESCRIPTION AND EVIDENCE FOR EACH PHASE

Date	Description
8 November 2023	• Discussion about problems related to cybersecurity via WhatsApp 
12 November 2023	• Discussion about Phase 1: Project Proposal. • Distribution of parts 
11 December 2023	• Discussion about Phase 2: Design Thinking Information Gathering & Analysis (Interview & Survey)

12 December 2023	• Creating a Google Form to survey about password security concerns of UTM students • Sharing the link of Google Form to the Telegram group 
13 December 2023	• Interviewing • Analyzing responses from interviewees and surveys Interview Video: https://drive.google.com/file/d/1TD_EqWGyfpE4aI4zYO1s-SywIeTWVOJU/view?usp=sharing
26 December 2023	• Discussion about Phase 3: Design Thinking (Report, Video and Prototype Presentation) • Distribution of tasks 

29 December 2023	• Discussion about the prototype via WhatsApp 
31 December 2023	• Working on the draft of a handwritten prototype • Making some improvements to the prototype 

7 January 2024	• Working on the handwritten prototype after improvement.  
9-17 January 2024	• Updated the progress of the report and video
14 January 2024	• Prototype Presentation to Dr.Iqbal and coursemates
20 January 2024	• Ready to submit the video and report

3.0 DETAILED DESCRIPTIONS

Problem	Description	Solution
1. Predictability	Traditional user identification methods relying on static information such as names and birth years pose a significant predictability risk. This vulnerability can lead to unauthorized access, identity theft, and privacy breaches, as malicious actors exploit easily obtainable data patterns.	Our website addresses this issue by implementing advanced randomization techniques. Instead of static identifiers, the application generates dynamic and pseudorandom names and birth years, rendering predictability nearly impossible. This innovative approach, coupled with robust encryption, provides users with enhanced privacy, protecting them from potential threats associated with the misuse of personal information.

2. Social Engineering Risk	The prevalent use of personal information, such as names and birth years, in passwords poses a considerable social engineering risk. Malicious actors exploit individuals' familiarity with such details, making it easier to manipulate users into revealing sensitive login credentials.	Our website provides a potent solution to mitigate the social engineering risk associated with personal information in passwords. By incorporating a dynamic approach, the app randomizes names and birth years, breaking the predictable patterns exploited by attackers. This proactive measure significantly reduces the effectiveness of social engineering tactics, enhancing overall password security and protecting users from unauthorized access and identity compromise.
3. Weak Complexity	The widespread issue of weak password complexity leaves user accounts susceptible to unauthorized access and security breaches. Simple and easily guessable passwords, often composed of common words or numeric sequences, expose users to heightened risks of compromise.	Our website offers an effective solution to the weak complexity of passwords. By guiding users through the selection of strong and intricate combinations of symbols, letters, and numbers, along with customizable password lengths, it empowers individuals to create robust and secure passwords. This proactive approach significantly enhances overall password strength, fortifying user accounts against common cyber threats and ensuring a higher level of digital security.
4. Identity Theft Exposure	The use of personal information such as names and birth years in passwords exposes users to the heightened risk of identity theft. Combined with weak password practices, this vulnerability creates fertile ground for malicious actors to compromise user identities and engage in fraudulent activities.	Our website offers a comprehensive solution to mitigate the risk of identity theft. By discouraging the use of easily accessible personal details and guiding users towards stronger password practices, it significantly reduces the likelihood of unauthorized access. Users benefit from enhanced protection against identity theft as the website promotes the creation of complex passwords, minimizing the potential for security breaches and ensuring a more secure online identity.

Team Working

In the nascent stages of the project, our team engaged in a series of collaborative meetings to brainstorm and shape the concept of PassBlend. These initial sessions were instrumental in laying the groundwork for our project, allowing us to delve into the intricacies of planning and carefully outline the steps we needed to take.

During the inaugural meeting, a unanimous decision was made to collectively tackle the creation of the project proposal, establishing a shared understanding of our goals and objectives. Subsequently, we embarked on the task allocation process, ensuring that each team member's unique skills were optimally utilized in the development of PassBlend.

Within this meticulous planning phase, the trio comprising Mahmoud Elganzory, Adham Mansour, and Fouad Mahmoud took on the crucial responsibility of shaping the visual identity of PassBlend. Their role extended beyond mere aesthetics, delving into the complexities of design to create an interface that seamlessly blended functionality with visual appeal.

Simultaneously, the formidable trio of NG JIN EN, CORNELIA LIM ZHI XUAN, and YEO WERN MIN undertook the substantial task of transforming abstract concepts into a tangible prototype. Their mission was to breathe life into our collective vision, with the prototype slated to be unveiled on the upcoming presentation date.

In this collaborative crucible, our discussions and subsequent actions served as the artisanal forge, refining our vision into a comprehensive and meticulously crafted plan. As we collectively navigate the intricacies of conceptualization and execution, the rhythmic dance of ideation and task allocation propelled us forward on the path toward the realization of PassBlend's digital tapestry.

4.0 DESIGN THINKING ASSESSMENT

a. During the end of the project demonstration

At the end of the project, we found that design thinking was a process that needed to be done in detail as we needed to think from the customers' point of view and find the solution that fit with them. We would say that it is easy to create a new application, but it needs a lot of effort to ensure the application meets the needs of the market and is profitable. Additionally, we realized that developing an app posed its own set of challenges, as we had to meet the requirements of each design thinking phase.

b. During the transition between design thinking phases

At the early of the Design Thinking process, we faced some difficulties which were a lack of ideas and a lack of time and occasions for us to discuss the project due to the busyness of our studies for other subjects. Furthermore, differing ideas sometimes lead to disagreements in discussions, but collectively, we deliberate and select the most appropriate solution. Although we faced these challenges, we still managed to complete our tasks in each phase by cooperating with the spirit of teamwork.

5.0 DESIGN THINKING EVIDENCE

5.1 THE SAMPLE WORK

A. EMPATHY

In this phase, we gathered some information about the problems facing the clients by doing some interviews and surveys that will help us in finding and analyzing the solutions for those problems.

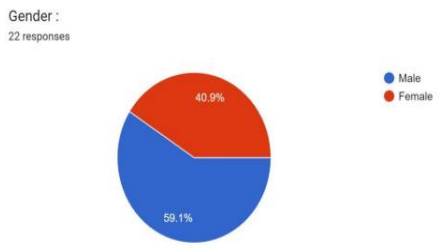


FIGURE 1

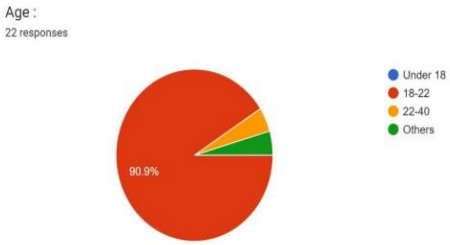


FIGURE 2

FIGURE 3

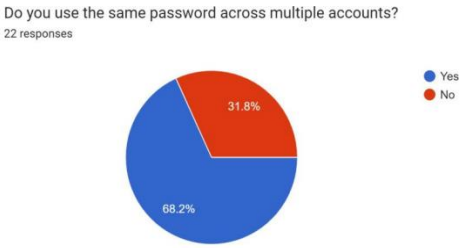


FIGURE 4

FIGURE 5

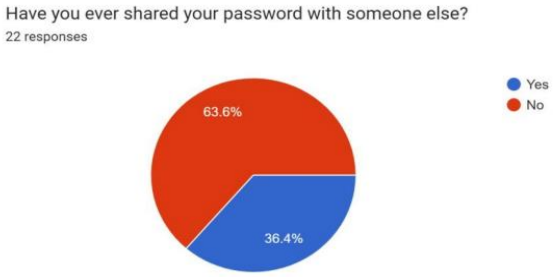


FIGURE 6

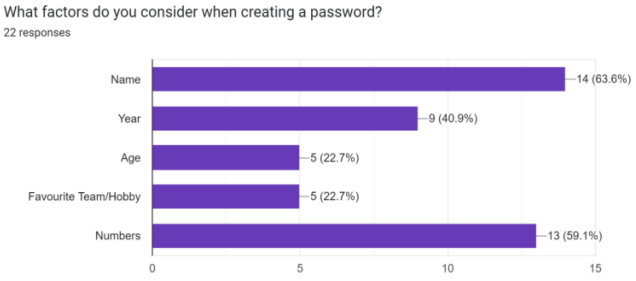


FIGURE 7

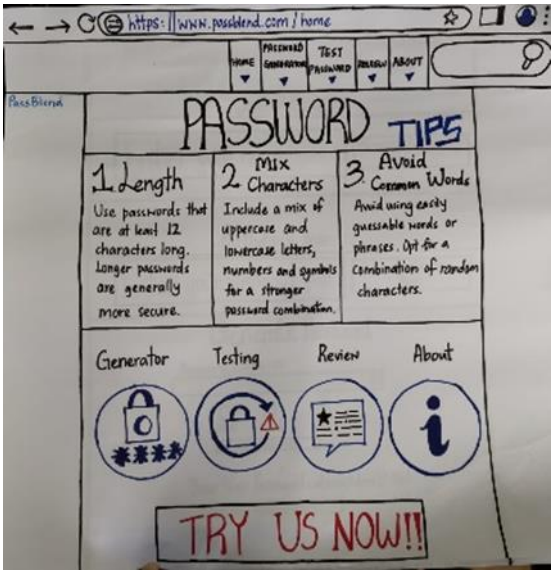
i. Survey analysis

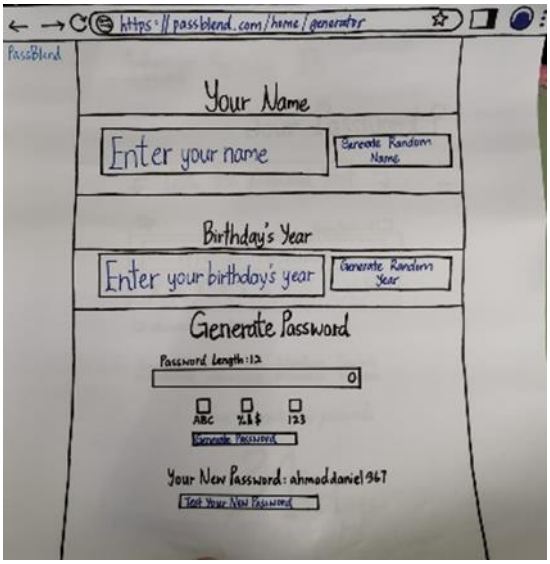
ii. Interviewing UTM student

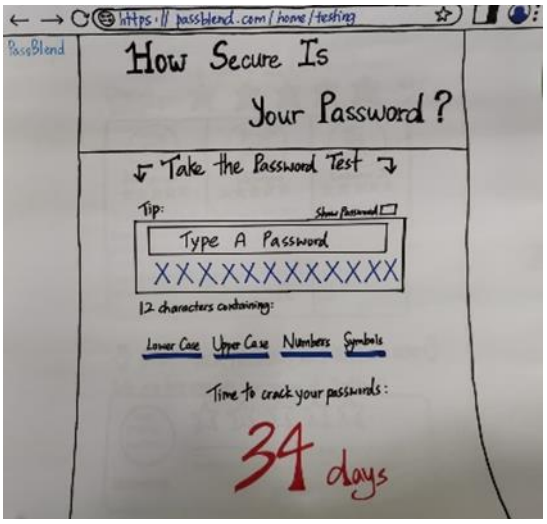
B. DEFINE & IDEATE

In this phase, we started working together on finding solutions for the problems that the users or the clients were facing. This will help us work on our website and enhance features that will help the user in using it as solutions for the obstacles that they are facing and start designing the prototype and the interfaces for the website.

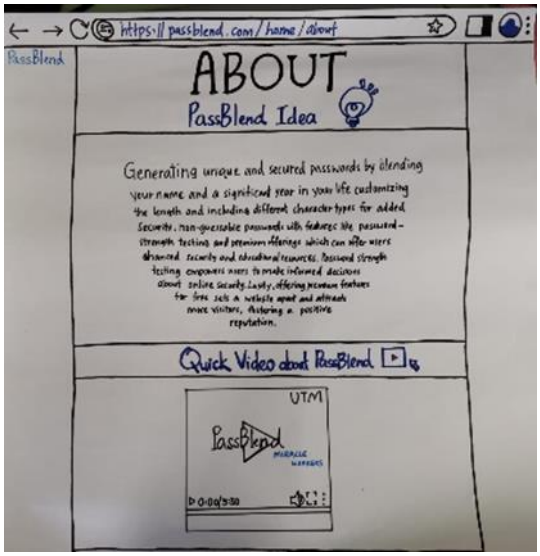
C. PROTOTYPE






https://passblend.com/home/testing
PassBlend
How Secure Is
Your Password?
Take the Password Test
Tip:
Show Password
Type A Password
XXXXXXXXXXXX
12 characters containing:
Lower Case
Upper Case
Numbers
Symbols
Time to crack your passwords:
34 days

https://passblend.com/home/reviews
PassBlend
REVIEWS
Overall Ratings
4.8/5.0
Bunnylover
Skeletons
Unknown X
DROP YOUR RATINGS AND REVIEWS HERE
We are truly appreciate your reviews of PassBlend!
user profile picture
username


https://passblend.com/home/about
PassBlend
ABOUT
PassBlend Idea
Generating unique and secured passwords by blending your name and a significant year in your life customizing the length and including different character types for added security. non-guessable passwords with features like password-strength testing and premium offerings which can offer users advanced security and educational resources. Password strength testing empowers users to make informed decisions about online security. Lastly, offering premium features for free acts a website agent and attracts more visitors, fostering a positive reputation.
Quick Video about PassBlend
UTM
PassBlend
MIRACLE WARRIORS
0:00/3:30

5.2 RECORD FOR EACH PHRASE

EMPATHY

The questions and answers in the interview are shown in the table below:

QUESTION	ANSWER
What is your name?	ABDELWAHED ADAM
How old are you?	21 years old
What is your occupation?	Student
How frequently do you change your password?	Yearly basis or when I forget my password so in this case, I will change it
Have you ever been hacked?	No, I did not go through this situation before.
Do you use the same passwords across multiple accounts?	Yes, usually.
What factors do you consider when creating a password?	Numbers or my name.
Do you use a password manager to store your passwords?	Yes, I did because it made it easier to store and remember the password used.

DEFINE

This table shows the problems faced by the respondents:

PROBLEMS	DESCRIPTION	SOLUTIONS	FEATURES
1. Guessable Passwords	Existing tools generate passwords based on user preferences, making them susceptible to guesswork.	Non-Guessable Passwords	Generate passwords based on the client's least preferred things, making them harder for hackers to guess.
2. Lack of Strength Assessment	Current tools cannot assess the strength of generated passwords, leaving users unaware of their security levels.	Strength Testing	Allow users to test the strength of their new passwords.
3. Premium Features Cost	Premium features, such as password syncing across devices, come at a cost, requiring users to pay for enhanced functionalities.	Password Organization	Save passwords to the device for use in any application

IDEATE

The table shows the possible solutions that can be used to solve our respondent's problems.

Rational	Intermediate	Radical
• Provide a reminder application to remind respondents to regularly change their password and not use the same password for every account.	• Adding the extra features of generating a random password for the password's security purpose into our website.	• Develop a new password generator website which mainly specified for generating a random password

PROTOTYPE

This is the steps of creating "PassBlend":

IDEA PHASE	IDEA	REASON
First phase	Planning and research	We found that hacking an account has become popular nowadays so we tried to think and plan for something that can decrease the amount of the case of hacking and we got the idea of "PassBlend".
Second phase	Wireframing and Designing	We did a preliminary design for the website and presented our draft to our lecturer. After that, we made some improvements based on the suggestion of the lecturer, Dr Iqbal.
Third phase	Development	We started to design the "PassBlend" by using HTML and JavaScript. We started applying Dr. Iqbal's suggestions on our websites. We started doing our prototype of the user's interface which included the button for generating passwords and testing the password's strength. Reviews and other password. These passwords would make our users easy to use.
Fourth phase	Testing	Finally, we tested our website to make sure there were no errors or bugs, and it was published and ready to be used by the public.

TESTING

After we finished the prototype, we decided to demonstrate our product to Adam. We explained in detail the benefits of the functions of generating a random password to him. He gave us positive feedback that this solution would benefit him and other people in maintaining the security of his accounts, including social media and bank accounts.

6.0 REFLECTION

6.1 MAHMOUD MUSTAFA ELGANZORY

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

   About my education, I want to specialise in the field of cybersecurity. My interest in expanding my cybersecurity expertise has grown because of this endeavour. I will so continue to research cybersecurity in a variety of domains, including penetrations, networks, and security. To ensure that I can stay up with the pace of this industry, I will also allocate some time to study more articles and papers.

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

   Design thinking is a perfect technique for tackling complicated system problems and designing products, I discovered once I started experimenting with it. Empathising, defining, ideating prototypes, and testing are the five steps in the design thinking process. I have learned that problem-solving involves more than just fixing the difficulties at hand because of going through each step in detail. To satisfy the customers as well, we must instead fix problems based on their requirements and reviews. Furthermore, the work scope of an information cybersecurity analyst has been evident to me. I can think of fresh ways to address difficulties because of it.

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

   I believe that to maximise my ability in the field, there are a few essential plans. To begin with, I must be determined and passionate about continuing to learn new things. Taking frequent attendance at seminars and forums, for instance. This is because new technology and knowledge will continually arise since the world is always changing. Thus, we must acquire new skills to ensure that we do not fall behind the younger generation. Second, I'm going to get my communication skills ready as well. This is because, during conversations, every group has difficulties; nonetheless, the most crucial thing is that we must understand the proper solution. Thus, during a group assignment, effective communication will foster a favourable environment and boost our productivity.

6.2 FOUAD MAHMOUD FOUAD

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

   My goal in the technology and information course at UTM is to develop a strong foundation in relevant technical skills and knowledge. I aspire to become proficient in cutting-edge technologies, stay updated on industry trends, and eventually contribute to innovative projects in the field.

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

   Design thinking plays a crucial role in achieving my goal. It encourages a user-centric approach, problem-solving, and creativity. By incorporating design thinking into my projects, I aim to develop solutions that not only meet technological requirements but also address real-world user needs. This mindset enhances the practical application of my skills and aligns with industry demands for user-focused, efficient solutions

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

   Keep Learning: Stay updated on new tech through online courses and conferences.

   Diverse Skills: Learn various skills like programming, databases, cybersecurity, and user experience.

   Real-World Experience: Join internships, hackathons, and projects for practical know-how and a strong portfolio.

   Networking: Connect with industry professionals online and at events to expand your network.

   Design Thinking: Use design thinking in projects to make solutions user-friendly and effective.

6.3 ADHAM FATHY MANSOUR

1. What is your goal/dream with regard to your course/program?
   To graduate from UTM with a high grade and a certificate in network and security course
   And to make master's and PhD. Therefore, I can make a great business or company related to my study which will help the community of technology.

2. How does this design thinking impact on your goal/dream with regard to your program?
   My participation in the design thinking project has greatly influenced my objectives for the program. It has ingrained a holistic approach to problem-solving, enhanced your teamwork skills, and improved your ability to work independently. The emphasis on creativity and innovation aligns with your desire for a professional environment that encourages original problem-solving. The nature of design thinking complements your ambition to adapt to industry changes and stay relevant in a fast-paced business environment. Overall, the design thinking project has expanded my skill set and provided valuable insights to help you achieve your program objectives.

3. What is the action/improvement/plan necessary for you to improve your potential in the industry?
   To improve your potential in the industry, you believe it's important to continuously learn and stay updated with new knowledge and technologies. Attending workshops and forums regularly can help you acquire new skills and prevent being left behind by the evolving world. Additionally, you recognize the significance of communication skills in overcoming challenges within a group. Clear communication fosters a positive environment and enhances efficiency during group projects.

6.4 NG JIN EN

1. What is your goal/dream with regard to your course/program?
   My goal for my course is to become a specialist in the cybersecurity sector. This project has raised my interest in improving my knowledge of cybersecurity. Hence, I will keep digging for knowledge about cybersecurity in different fields such as penetrations, networks and security. Furthermore, I will also take some time to read more articles and papers to make sure that I can keep up with the pace of this industry.

2. How does this design thinking impact on your goal/dream with regard to your program?
   This design thinking has had a huge impact on my goal for my program. Firstly, design thinking helped me a lot in understanding an issue and finding a solution by using organized ways. I desired to learn more about cybersecurity. The scope of this project is something I have never exposed before. To accomplish this project, I must seek and search the related information that is useful for figuring out the overall picture of this project. Thus, when I keep involved in design thinking projects, I gain more knowledge naturally. Plus, I also gained crucial experience working with a team that always focuses on making this project better such as being more organized and completing everything on time.

3. What is the action/improvement/plan necessary for you to improve your potential in the industry?
   In my point of view, the action for me to improve my potential in the industry is being a responsible, communicative and discipline role in my team or personally. It is an impossible task for those to do the research or start a new project individually. Thus, being a responsible, communicative and disciplined person will make the cooperation between teammates and me easier decrease the cost of communication and higher efficiency. Hence, people will have a positive impression of me and thus enhance my potential in the industry. Besides that, the related basic knowledge about cybersecurity should be improved because when I read the article and research, there were so many terminologies that I did not quite recognize before I started to write the content. This shows a lack of fundamental knowledge and experience in this aspect. Therefore, to increase my potential in the industry, I must systematically learn the knowledge related to this aspect.

6.5 CORNELIA LIM ZHI XUAN

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

My goal in the Computer Network and Security course is to become an expert in the complex fields of cybersecurity and network architecture. My goal is to gain a thorough understanding of the fundamentals of computer networks, with a focus on building robust and secure infrastructures. Utilizing extensive education, practical experiences, and exposure to state-of-the-art technologies, I aim to become proficient in the nuances of protecting digital assets from cyber threats. My ultimate goal is to graduate from the program as a competent professional who is knowledgeable about both the implementation of strong security measures and the strategic planning of computer networks. Through the development of creative cybersecurity solutions or the reinforcement of network infrastructures, I hope to advance safe digital ecosystems.

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

My objectives and intentions for the program have been greatly influenced by my involvement in the design thinking project. A holistic approach to problem-solving has been ingrained by the experience, which fits in perfectly with my objective of fully comprehending the program. With a focus on cooperation and teamwork, the project has improved my ability to work well in a group as well as independently, which is essential for success in the workplace. The emphasis on creativity and innovation aligns with my desire to move into a professional environment that encourages original problem-solving. The user-centric viewpoint also emphasizes the value of practical application, which is consistent with my objective of bridging academic knowledge with practical requirements. The iterative nature of design thinking complements my desire to change with the industry by highlighting the importance of adaptation in staying relevant in the fast-paced business. To put it briefly, the design thinking project has improved my skill set and given me insightful information that has helped me achieve my program objectives.

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

As a student hoping to further my career prospects, I have put together a comprehensive action plan. Initially, my focus will be on gaining hands-on experience via internships, cooperative education, or individual projects, which will enable me to implement my academic knowledge in real-life situations. Attending webinars, seminars, and workshops about the sector will keep me abreast of emerging trends and technologies. Developing a robust professional network via career fairs, online resources, and networking events will yield insightful connections. Seeking mentoring from seasoned experts in my area of interest will help me navigate the business environment by providing direction and counsel. Engaging in extracurricular events, hackathons, or industry-related contests will help me improve my problem-solving and collaborative skills. Finally, to increase my exposure to potential employers, I will continuously improve and customize my resume and online presence to highlight pertinent experiences and talents. This all-inclusive plan seeks to close the knowledge gap between academics and industry demands, guaranteeing a competitive and well-rounded profile as I enter the workforce.

6.6 YEO WERN MIN

1. What is your goal/dream with regard to your course/program?
   Regarding the course I am studying, which is computer network and security, my main goal is to become a successful information security analyst in the future. Information security analysts work to protect organizations from cyber threats and security breaches. There is no doubt that our personal lives have gotten more and more entwined with technology as we immerse ourselves in the digital world, making cybersecurity knowledge crucial. Therefore, I am looking forward to gaining more knowledge about it throughout these 4 years so that I can protect my family from any cyber threats and work as a professional information security analyst in an enterprise one day.

2. How does this design thinking impact on your goal/dream with regard to your program? After getting involved in design thinking, I found it is an ideal methodology used in product design and problem-solving in complex systems. There are five stages of the design thinking process which are empathizing, defining, ideating prototypes and testing. By undergoing each stage step by step, I have gained an insight that problem-solving is not solely solving the problems. Instead, we need to solve them based on consumers' needs and reviews so that the consumers are satisfied too. Besides, I have also gained a clear understanding of the job scope of an information cybersecurity analyst. It helps me gain a new way and thoughts to solve problems.

3. What is the action/improvement/plan necessary for you to improve your potential in the industry?
   In my opinion, there are some necessary plans for me to improve my potential in the industry. First, I must persevere and be passionate to keep learning new knowledge. For example, attending workshops and forums regularly. This is because new information and technologies will emerge regularly as the world is constantly evolving. Therefore, we must equip ourselves with new skills so that we will not be left behind by the new generation. Second, I will also prepare myself with communication skills since every group faces challenges during discussions, but the most important point is we need to know the correct way to solve them. Thus, clear communication will form a positive environment and increase our efficiency.

7.0 TASK FOR EACH MEMBER

Content Title	Description Table	Person in Charge
Introduction	The motivation and background we determine to choose this topic. Brief description of the problems that our website can solve. A basic introduction to our feature.	CORNELIA LIM ZHI XUAN
Detail Steps, Description and Evidence for Each Phase	This part will use the video, image and log journal, team progress, and brainstorming ideas to show our detailed steps and descriptions in design thinking and evidence for each phase.	YEO WERN MIN
Detailed descriptions include problem, solution and team working	This part will highlight the difficulties we encountered when creating our websites, how we overcame them, and examples of how to work as a team to overcome obstacles.	MAHMOUD MUSTAFA ELGANZORY
Design Thinking Assessment	This part will explain about assessment points for design thinking occur both at the end of the project demonstration and during the transition between design thinking phases.	NG JIN EN
Design Thinking Evidence	This part will include the sample work by our team members working to solve the design challenge and record for each phase. For empathy, we crafted a list of possible questions and answers for the user, and the composite character (User: age, background, and others) Moving to define, we provide the list of define. Next, ideation involved a dynamic brainstorming process, generating innovative ideas. In the Prototype phase, they outlined a clear process for developing the prototype, emphasizing thoughtful design decisions. Finally, during Testing, the prototype underwent evaluation with real users to ensure it met defined needs and resonated with diverse user expectations.	FOUAD MAHMOUD FOUAD , ADHAM FATHY MANSOUR

Reflections	This part will cover our goal/dream regarding our course/program, how this design thinking impacts our goal/dream regarding our program and the action/improvement/plan necessary for us to improve our potential in the industry. This part must include the reflection of each member.	ALL MEMBERS

8.0 REFERENCES

- Cybersecurity, R. (2023, July 17). *A guide to cybersecurity awareness for students*. Right-Hand Cybersecurity. https://right-hand.ai/blog/guide-cybersecurity-awareness-for-students/
- Tuttle, G. (2021, July 1). *What is design thinking and why is it important?* Ideas. https://www.wework.com/ideas/professional-development/creativity-culture/what-is-design-thinking#why-is-design-thinking-important