SEMESTER 1 2023/2024

SECP 1513-02

TECHNOLOGY AND INFORMATION SYSTEM

DESIGN THINKING REPORT

INFORMATION SYSTEMS (GROUP 12)

LECTURER:

DR ARYATI BINTI BAKRI

SUBMITTED BY:

AIN NURNABILA BINTI MOHD AZHAR (A23CS0207)

DAMIYA AINA BINTI BASIR ABD SHAMMAD (A23CS0220)

NURUL ADRIANA BINTI KAMAL JEFRI (A23SC0258)

SAFIYA NURSYAHADAH BINTI MASNOOR (A23CS0176)

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Introduction

Design thinking utilize the non-linear, iterative process of design thinking to better understand users, question presumptions, reframe issues, and come up with novel prototype and testing solutions. With its five stages (Empathize, Define, Ideate, Prototype, and Test) it works best when applied to undefined problems.

Information system is a collection of people, procedures, software, hardware, data and the Internet. They all work together to provide information essential to running an organization. Over the years, information systems have become increasingly common in company operations. Automation and the application of AI technologies will determine the direction and significance of information systems in the future.

Problem Background

1. No digital experience

Teachers who are unfamiliar with AI may find it challenging to incorporate it into their teaching practises, they may want assistance and training to get started. Besides, digital literacy is frequently associated with adaptation to technological advances. Teachers and students who lack digital knowledge may find it more difficult to adjust to new technology or changes in educational environments.

2. Cost of ai tools and equipment

Numerous educational institutions and universities lack the resources to purchase and maintain the technology required to bring AI into the classroom, they may need to seek external funding or collaborations to help them. Interaction with current systems and workflows may necessitate the assistance of AI developers or consultants, which will increase overall costs. In addition, for upgrades and maintenance, certain AI technologies require licences or continuous subscriptions.

3. Concern of security & privacy

Teachers must be aware of these dangers attempts to protect their pupils as they experiment with this interesting and quickly changing technology. Artificial intelligence-powered technology such as facial recognition or data analytics have the potential to violate individual's privacy by gathering and evaluating their movements, actions or preferences without their explicit consent.

DESIGN THINKING PROCESS

Empathy

We had conducted an interview with Mr. Jaafar to determine some of his issues with information system so that we could work out some improvements or come up with a wholly new concept.

Interviewee Profile Info

Name: Jaafar Sidek bin Harun

Experience (year): 30

Position: Vice President of Strategic Department in UTM Digital

We discovered through the interview that Mr. Jaafar believes that Polaroid Screen and UTMsmart (e-learning) possess all of the characteristics of an effective scholastic information technology system for a university.

He mentioned several enhancements he would like to see. His main complaints are about less digital experience among the users and no high knowledge of blockchain in order to improve data of AI.

Not many in UTM are using AI technology, therefore we could use ready-made technology product with some add-on improvement for security purposes.

Define

1. We lack of interaction between users and organizations
   Add FAQ (frequently ask questions) and manual guide for the new user.

2. Add security for better privacy
   Add palm and face recognitions for user.

3. Improve product are significant in reducing cost
   Improved product is better at lessening the cost rather than the old ones, since it doesn't require a lot of maintenance in hardware and software aspects.

Ideate

Based on our discussions, in order to meet the consumer's desires and expectations we had also considered some important aspects on completing the program such as the user's interface and the effectiveness of the model. We had the consideration on all the pros and cons of the model, also avoid the model from being corrupted by hackers. For example, notification will appear if someone try to breach on any data. This model is made user friendly so that the user can easily understand and navigate through the model in an efficient way.

Prototype

We made our logical design to physical design. We agreed on a meeting to address the problems that users and developers experience from time to time, we did some analysis on the existing model along with their lack of intuitive and user-friendly interface software that suits our user's needs.

DIAGRAM 1

DIAGRAM 2

DIAGRAM 3

DIAGRAM 4

Test

For testing, Mr. Jaafar was mostly satisfied with it. But when we presented it to other users, they had some valid thoughts about the model.

They suggested to:

• Integrate the model in every class, lecture halls, laboratory.

• Make a use for attendance and security purposes; prevent for any strangers to access any data in the improved model.

Reflections

AIN NURNABILA

To be precise, my goal or dream is to be as successful as my mother in the future as a data engineer and learn a lot more things and skills in order to keep up with the upcoming technologies henceforward.

Design thinking affects my goal subtly in making decisions in a better way. Now that I have already learned design thinking in this subject, it helps me in making things easier in my vision in order to solve problems even in my daily routine in a more professional and ethical way.

I think one of the improvements which has to be done by me in order to improve my potential in the industry is to rectify my soft skills. In reality, we have to communicate with our colleagues and clients in order to maintain the productivity and the effectiveness of our work. That shows how crucial soft skills are in the industry.

DAMIYA

I want to be up to date with current technologies that always getting new and advanced gradually. I also want to improve my skills because I still lack in many ways. Besides, after joining an industry visit in KL about Information Technology, I feel like I want to discover more about this course and feel very comfortable to blend in well with this IT things.

I always want to learn new things and discover more about Information System and Technology because it is important for me to understand very well about this assignment. I think it works as I am able to know more about the importance of teamwork, communication skills, and timing.

I want to take part actively in class because I realise programming skill and productivity are really important in this industry. Next, I think doing assignment on time really important because it really help us to survive any work in future. Lastly, I also think that make a connection with a lot of friends can build my confidence and overcome my insecurities.

ADRIANA

Mainly, I reasoned that data engineering would be a course I could do with ease. However, the process of planning and constructing data broadens my range of thinking and problem-solving expertise. The concept of transforming unprocessed data into insightful knowledge that might influence corporate strategy excites me.

In order to achieve my major life's aim as a data analyst specialist are to educate myself with programming languages, data manipulation, and analysis tools as one of the steps. Then, I should gain domain expertise in the data processing sector because knowing the context of data is critical. Not to mention, I also need to stay current on the latest trend since the field is rapidly changing.

I believe that a number of my soft skills are developing as a result of this assignment. Thanks to my lecturer for taking us to Petronas and Huawei conference talks in Kuala Lumpur last week, we're able to get a lot of information. Finally, it made me realize, connecting with my course-mates are not only for friendship but also as networking.

SAFIYA

My goals are to improve computational and critical thinking skills, prepare myself to adapt the emerging technologies and trends in the rapidly evolving field in computer science. In order for me to achieve my dream as a data scientist I need to make sure I stay abreast of the latest developments to remain at the forefront of this field.

This assignment gave me a huge opportunity to improve my leadership skills as a team leader. Design thinking phases help me to execute better and come up with more effective ways to deal with what is put in front of us. Then, it thought me to be a creative thinker.

I need to stay updated with latest trends, technologies and tools in industry. Then, I need to develop soft skills because these abilities can help me stand out and are essential in the professional world. Lastly, I need to create a good portfolio as it can be powerful tool when applying jobs.

Task Distributions

Name	Tasks
1. AIN NURNABILA	• Do questions for interview • Video making • Slide Presentation
2. DAMIYA	• Slide Presentation • Video making • Interview
3. ADRIANA	• Report writing • Interview • Cinematographer
4. SAFIYA	• Report writing • Arrange interview • Do questions for interview

Video link : https://youtu.be/ClTzuCNqa2c?si=yVyRD6CqiSeW1hg6

References

Anglia, N. (2021, February 25). Smart technology in the classroom. *Smart TV application in classes.* Retrieved from https://www.nordangliaeducation.com/lis-chengdu/news/2021/02/25/smart-technology-in-the-classroom

How to write an academic report. (2021, November 5). The Classroom | Empowering Students in Their College Journey. Retrived from https://www.theclassroom.com/write-academic-report-5453496.html

Ideation. Interaction Design Foundation, Retrieved from https://www.interactiondesign.org/literature/topics/ideation

What is Design Thinking? (2023, November 17). The Interaction Design Foundation. Retrieved from https://www.interaction-design.org/literature/topics/design-thinking