FACULTY OF COMPUTING
UTM Johor Bahru

REPORT ON DESIGN THINKING

SUBJECT: TECHNOLOGY & INFORMATION SYSTEM (SECP 1513)

SECTION: 01

LECTURER'S NAME: DR. AZURAH A SAMAH

DATE: 27/11/2023

TITLE OF DESIGN THINKING PRODUCT: FOODSZIEZ

VIDEO LINK (YOUTUBE): https://youtu.be/gDhAvzyVnz8

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1.0 INTRODUCTION

Design thinking is a modern mindset and approach to create new and innovative ideas and problem solutions. This method has been used over centuries, perhaps even longer, and still widely used until now. It can be applied in any field namely technology, education, and business. Moreover, it doesn't necessarily have to be design specific. This said process has 5 phases, which are empathizing, defining, ideating, making prototype and testing. Each of this phase is crucial and significant in creating a useful and supreme innovations. In addition to what has been said, this methodology is used to tackle wicked problems of a product's design and focus on what is most important for users. Among other various design process, design thinking is said to stands out as a highly effective approach for fostering creativity and innovation. It enables teams to conduct a comprehensive research, prototype solutions, testing performance, and ultimately, it helps teams to find new ways to address users' requirements and needs.

Our team came up with an innovative solution that is designed for UTM students mainly the for the freshmen. Our app platform presents comprehensive menus along with pricing details from all café arcades, aiming to simplify and enhance students' dining experience. By providing a centralized hub for menu exploration, this initiative facilitates informed decision-making for students, enabling them to conveniently plan meals, choose dining locations, and manage their budgets effectively. This resourceful tool alleviates the challenges often faced by newcomers in selecting food options, offering a user-friendly interface that supports students in making well-informed dining choices throughout their academic journey.

2.0 DETAILED STEPS & DESCRIPTION

We are giving a task about the problem of what to eat in UTM on 23 October 2023. We found that students, especially the first-year students are facing the problem of don't know what are the food that are available in the campus and always struggling what they can choose something new to eat. Hence, we decided to solve this problem through the Design Thinking process.

1. Empathize

We conducted some interviews with first-year students and seniors in UTM. From interviews, we get to know that most freshmen are facing problems with what to eat on the campus. They always eat the same food in the cafeteria of their dormitory and feel bored. Besides, we interviewed some seniors who told us about their experience of finding food on campus during their first year in UTM. Through interviews, we learnt about the issues students faced and got some ideas on how to address the issues of what to eat on the campus.


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2. Define

After getting all the problems from empathize phase, we try to find out the most popular problem faced by the students. Some of the problems faced by students especially freshmen are they don't know what the food are selling in the cafeteria, they are not familiar to the location of food stall, and the price of the food are out of their budget when they reach the food stall.

3. Ideate

After the problems were listed down, we start to search for the solution to solve it by brainstorming and collecting data. We try to explore all the food stalls available in UTM and collect as much information as we can to handle the problems faced by the students. After that, we shortlisted all the solutions and tried to create a good prototype for the users. The solutions are students can enter their budget, type of food, distance and location then the app will help to recommend the meals for the students. Students can also leave their opinion and feedback as a reference for other students and for sellers to improve their meals.

4. Prototype

After we got the solutions, we started to come up with the solution by designing an app about food recommendations for students. We design a rough prototype named FOODSZIEZ by putting in the different type of food that sold in UTM. We also created a slot for the seller to promote their stall and the limitation of the food price.

3.0 DETAILED DESCRIPTION (PROBLEM, SOLUTIONS & TEAM WORKING)

Problems

There are many problems that we encounter during surveying through online forms and interviewing UTM students. Based on the interviews and online surveys, two main problems are found which are long distance of cafes and rise in food price.

Due to the rules that freshmen are not allowed to bring any transportations in the university, the first problem got the highest vote in the online survey that was distributed to the most of first year students is long distance of cafes. Not only that, during the lunch time, but most of the buses are also not available because of the drivers are taking break. Hence, long distance makes it difficult for students to go the café.

Second problem is the rise in food price. Not every store display and update their latest menu and food price that makes it burdensome for students to choose their meal. So, when it is time to pay, they realized the price is higher than the menu displayed. This will mostly affect the monthly budget of students that come from lower-income family.

Solution

The solution for the first problem is our app will show user the shortest and most efficient route by walking. Other than that, we provide information about available transportation modes (e.g., walking, public transport, shuttle services) to reach the selected café. Estimated travel time for various transportation modes based on the user's current location and the café's location is also included.

The second solution is we set the price limitation of the food if the sellers want to promote their café. Users only need to enter their budget then our system will automatically recommend the choice of meals that are within their budget range at the desired cafes/arcade. Students can also leave their opinion and reviews that can help other users and sellers.

Teamworking

Our group discussed all the problems and solutions together through few meetings. Fortunately, all members able to attend to the discussion and give great responds and ideas.

Although there were some arguments and dispute during the discussion, but all of the members are willing to listen and accept other opinion and discussed together to get the best solution which all of us are satisfied. Our spirit of team working make this project to be progressed and be done on time


Student Lounge
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4.0 DESIGN THINKING ASSESSMENT POINT

If without any assessment or evaluation checkpoints while conducting the design thinking, we might miscalculate and eventually end up with poor decision and choice making. When we work as a team, we can come out we various ideas that can be used in solving the defined problems. However, it may lead to dysfunctional decision-making outcome which does not align with the original problem statement, due to wide-ranged of ideas. Therefore, assessment point is essential to encounter this said problem. It can be conducted during the end of the project demonstration or transition between design thinking phases, but in our case, assessment point was conducted in between the phases.

Phases	Description
Empathize	We conducted an online survey to empathize our main target, freshmen to know about the problem faced. Subsequently, we found that we should also interview the seniors to know about their experience on dining in UTM. This helps us to come out with better ideas and solutions.
Define	In this phase, we examine and do research on the issue that we collected during the empathize phase. In the early stages, we defined the problem as “Students’ low budget and restricted food choice in cafes”. After assessing the outcomes again, we eventually found more issues that can be pointed out.
Ideate	During one of our meetings, we assembled to engage in thorough discussion, gather our different unique ideas in our brainstorming session, all aimed at discovering best solutions to address our current issues.
Prototype	After going through empathize, define and ideate phases, we started to build our app as our prototype that requires users’ budget and current location so that our system can provide the menus that are within budget with shortest route. In the process of making, we ensure that the product is align with our main ideas and it is functioned according to the outline. We also found out that there are some functions and difficulties of our apps that can be improved and modified for a better user experience after doing evaluation process.

Upon reaching the end of the project, a deliberate process of observations and assessment are being carried out to validate whether the achieved results and outcomes align with our initial intentions and the defined problems identified. In essence, the assessment checkpoints and constant evaluation plays a crucial role in applying design thinking methodology. These checkpoints can be functioned as guidelines to ensure that we remain in position with our intended course, therefore validating our progress and assuring that we stay on the right track.

5.0 EVIDENCE

1. a) Sample work by students working to solve the design challenge

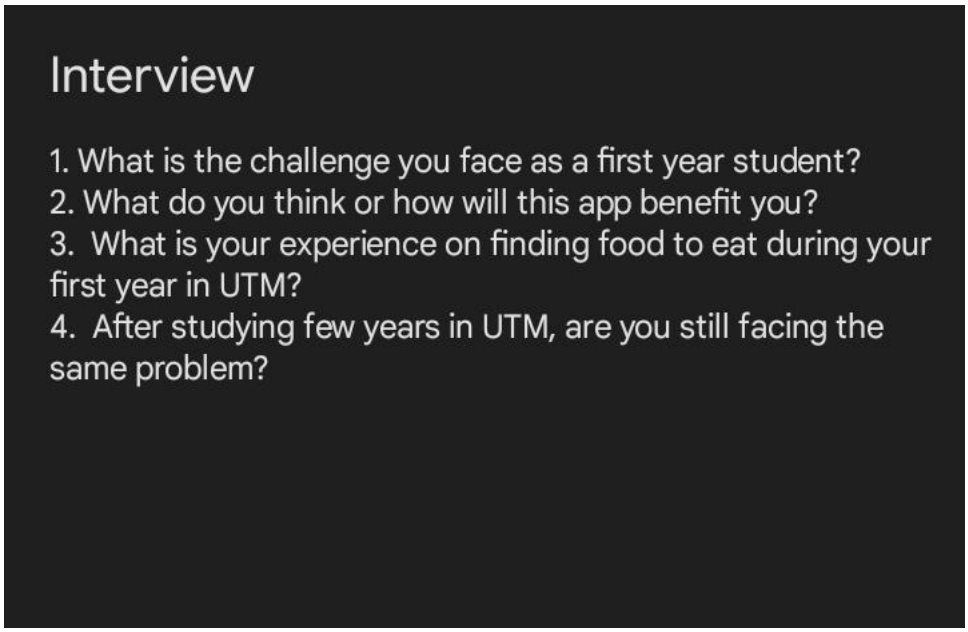
After doing a thorough investigation,

After doing a thorough investigation, we noticed that many students are having issues in finding what and where to eat. We grab this chance to discover a solution regarding this problem. App named 'FOODSZIEZ' was created for our design thinking project.

1. b) Record for each phase

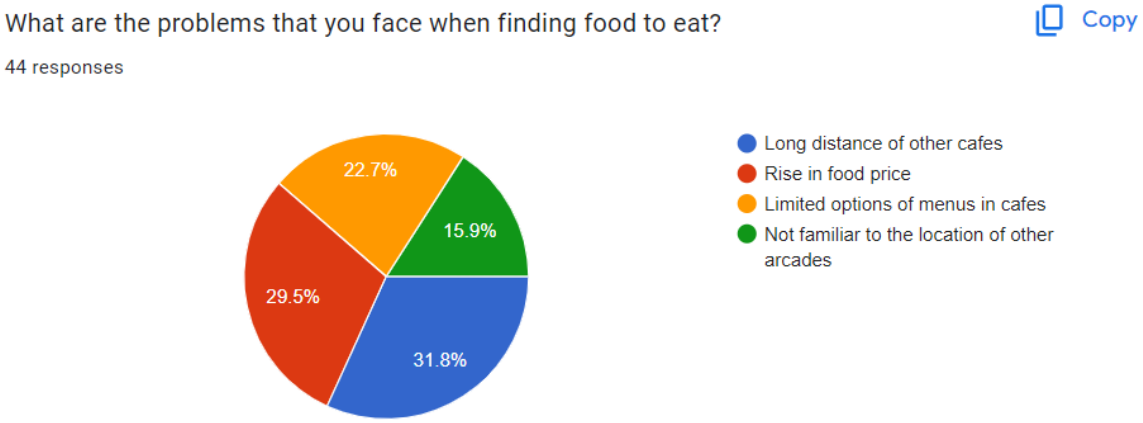
i) EMPATHIZE

We firstly interviewed some students to find our root problems. Through the interview, we detected more problems and conducted an online survey on the possible problems that students face during finding food to eat. Based on the result, we managed to determine their problems regarding to our study.



ii) DEFINE

In the second phase, we listed out all the possible problems we obtained from different resources such as Google forms and interviews and start defining our problem statement.



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iii) IDEATE

We put our heads together about the best solution. All ideas and opinions are traced in WhatsApp group, then the ideas are refined, and final solution is decided.

iv) PROTOTYPE

The main role of our prototype is to indicate where the nearest place is to find food. This prototype can specify your location and search for nearby restaurants. It will also show what you can get there and how much it costs. Moreover, it will show you how far the restaurant is from you. Furthermore, you can also search for the food you like, and it will tell you where you can enjoy your favourite meals. In addition, our products can also show you how to easily reach the restaurants.

As evidence, we recorded a short video showing the whole process in making our design solution. Some footages and pictures are taken when going through all the phases, from empathy to prototype phase.

6.0 REFLECTIONS

Chin Pei Wen:

Regarding the bioinformatics course I studied, my main goal is to become a successful bioinformatician in the future. I hope I can apply everything I learned from the course to the field of biology. This design thinking project helped solidify my goal of becoming a bioinformatician. It helped me develop skills in using technology and computer science to research and find solutions. This reinforces my commitment to becoming a bioinformatician who can contribute my skills and efforts to those in need, such as using genetic information databases to find ways to identify and treat human, animal and plant diseases, and other problems. I will continue to learn and update the skills I need to become a professional bioinformatician. I believe that by continually enhancing my skills and self-worth, I can elevate my potential in the industry.

Nurul Syasyawafa :

I'm from a Computer Science (Bioinformatics) course. My goal regarding my course is to become Computational Biology. I choose this course because I can practice to conducts analysis using computational and mathematical methods and large set. Though this course is difficult, I think this course can help me to produce new project regarding to my research. The design thinking that we work on it will probably help me to know how to use app and find the solution to solve the issue that we face. That's why I need to improve my social skills, so that I can communicate with others more easily. Then, I need to improve my `schedule` to help manage my time properly.

Aldanisha :

Coming from Bioinformatics program, I have always dreamed of being a Bioinformatics analyst or an academic researcher. My hope is to utilize and use my knowledge to the fullest when entering my work life. Design thinking method helps me to solve problems in more efficient and practical way during all the phases involved. Through design thinking, I will be able to empathize the users' need and create a better and creative innovations and solutions. I am planning to build a wider social network with more knowledgeable people to increase my understanding and at the same time creating a professional and personal harmony relationship.

Ravinesh:

As a student in the Bioinformatics program, my career goal has always been to work as a bioinformatic analyst. I'm hoping to make the most of my knowledge and do well in my new position. This design thinking project forced me to apply my imagination to address difficulties, which was a terrific learning experience. Additionally, this design thinking project promotes narrative and effective communication. In terms of bioinformatics, this means that I can explain difficult ideas and discoveries in a way that is easier to understand. I should have an attitude of flexibility and welcome innovation, realizing that the bioinformatics industry is dynamic and ever-changing.

Welson:

I'm a student taking bioinformatic course, and my career goal has always been to become a successful computational biologist. I'm hoping that most of the knowledge I gained from the course will apply to my career in the future. It has been helpful for me to identify and understand end users thanks to this design thinking project. I was able to understand their needs on a deeper level by fully immersing myself in their world. This viewpoint had a big impact on design choices, making sure the solution matched the user's workflow. There were many difficulties, from obstacles in the way of data integration to user resistance to change. Every obstacle acted as a teaching tool, encouraging flexibility and problem-solving abilities. Design thinking's iterative structure made it possible to continuously improve based on lessons discovered. I will stay updated and attend workshops, webinars, and conferences to expand my knowledge.

7.0 GROUP TASK

Aldanisha & Pei Wen – writing report

Welson – video making

Ravinesh – prototype

Syasyawafa – presentation slide