UTM UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF COMPUTING
UTM Johor Bahru

Report on Design Thinking Project

Subject : Technology and Information Systems (SECP 1513)
Section : 5
Name of Lecturer : Dr Azurah A Samah
Date : 29/11/2023
Title of Design Thinking Product
: Solubillion
Video Link (youtube): https://youtu.be/kCRdQO0kGoY

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Comments by Grader:

Table of Contents

1. Introduction

Design Thinking is the process of creating solutions to solve problems. Every field can use Design Thinking to solve the problems faced in daily life. It can help to improve the products by asking users for feedback after using the product. The design thinking process has five phases that are Empathize, Define, Ideate, Prototype, and Test.

2. Detail Step and descriptions and evidence for each phase

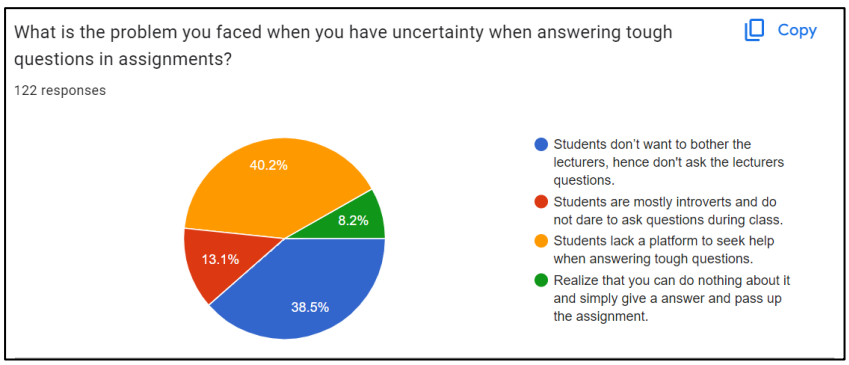
We found that UTM students are having issues with answering tough questions in assignments. We decided to solve the problem through a design thinking process.

Log Journal:

Date	Activity
25/10/23	➢ Create whatsapp group for discussion about the project.
28/10/23	➢ First meeting to discuss about the project. ➢ Groups members brainstorming for the topic of our project.
03/11/23	➢ Meeting to discuss about the project. ➢ Giving new ideas for the topic of our project.
08/11/23	➢ Finalised the topic of our project.
09/11/23	➢ Divided tasks to every group member.
10/11/23	➢ Conducted survey from UTM students using Google form.
11/11/23	➢ Phone interview with first year student.
12/11/23	➢ Discussion about the problems and finding solutions. ➢ Decided our solution. ➢ Start making prototype.
15/11/23	➢ Making initial report. ➢ Submit initial report.
17/11/23	➢ Making video.

Empathize

We conducted a survey to UTM students about the challenges they faced while answering hard questions in assignments. We conducted the survey using Google form and sent it to the student MPP telegram group chat. Besides that, we were able to have some phone interviews with a first-year student who is studying electronics engineering at the University of Technology Malaysia. Through the interviews, we get to know that the problems faced by students in answering assignments.

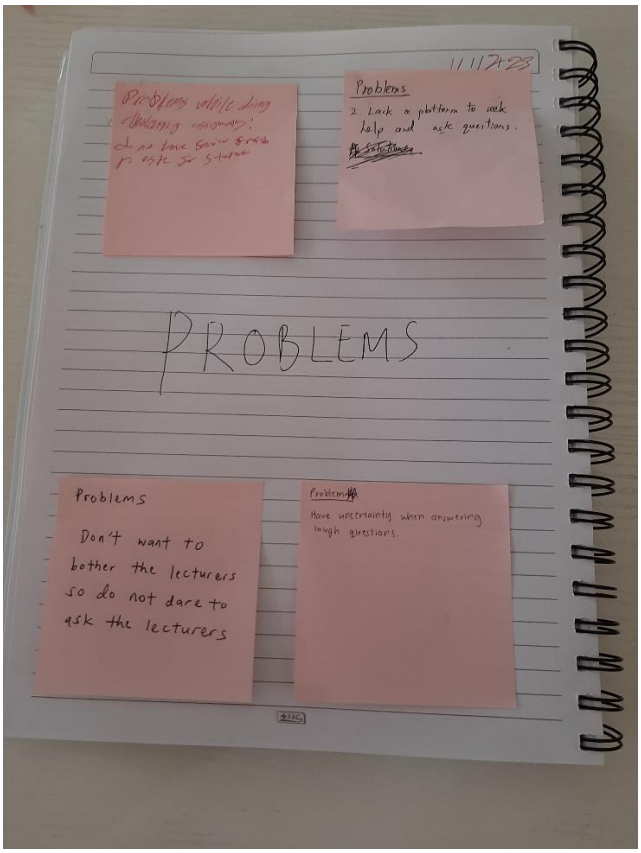


(Results of the survey)

(Online video call interview with first year student)

Define

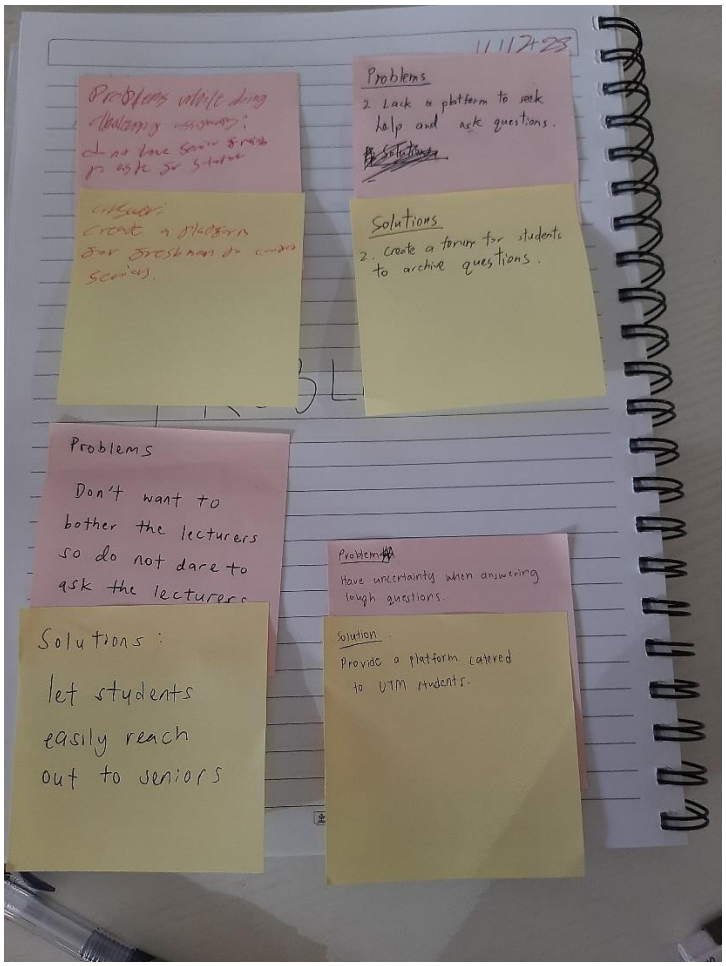
We identify the problems that are encountered by the students of UTM when answering tough questions in assignments. The junior student's inability to access senior students to seek help and reluctance to bother lecturers results in uncertainty when answering tough questions. Besides, students also lack of a platform to ask challenging questions.



(The problems)

Ideate

Our group members started to brainstorm ideas. After a many conversations and refining ideas that were thrown around between each other, we have decided on a conclusion: develop an app named Solubillion where UTM students can post questions they struggle with. This app also allows seniors to provide solutions and explanations for those questions. After the questions have been answered, juniors can use the reward options in the app as a "thank you" gift for seniors.

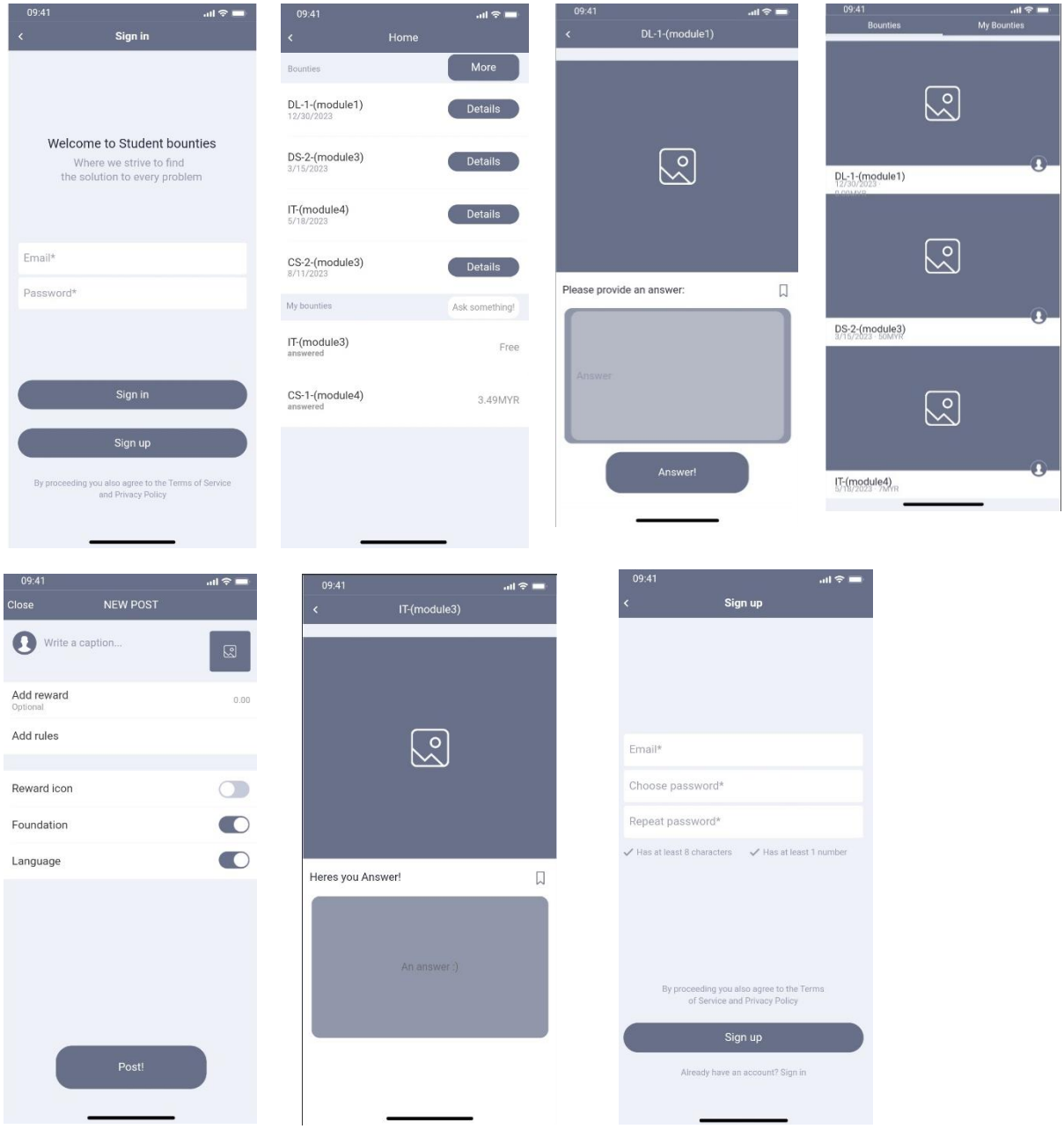


(The solutions)

Prototype

After that, we created a prototype. In our prototype, students can post questions and answer the questions of others as well. Monetary rewards for more complicated questions are also available. The prototype includes a page to sign in and out, with data saved for future reference, a home page for quick access and regularly used functions, a "My Posts" section to check up on previous posts and to see if anyone has answered your questions and section dedicated to other questions posted by students that are referred as "bounties". Students can

navigate these "bounties" and click to show a more detailed context of the question. Prototype is created using software proto.io.



(Interface of prototype)

Test

Other students help us to use prototype to check whether the prototype worked perfectly. Feedback is given by them to help Solubillion to improve.

3. Detailed Description (Problems, Solution, Team working)

Problems

From data collected from the Google form survey, we found that the majority of the students would rather not bother lecturers when they encounter hard questions. Students also lack a proper platform to seek guidance for their questions. After the interview, we know that the student does not have senior friends to ask for help when encountering challenging questions.

Solutions

We started to discuss the solutions to the problems and brainstorm for the solutions. Through some discussions, we settled on a solution which is to create a forum-style Application exclusive to UTM students where students can post questions to be solved by seniors. To increase the motivation for the seniors to solve questions for juniors, we decided to implement a bounty system which users can choose to reward their answerer.

Team working

In the process of doing this project, we had some conflicts due to different opinions but eventually, all of us came to an agreement after communication. After that, we divided our tasks and each of us proceeded smoothly. When encountering problems during tasks such as project writing and prototyping, we solved them through group discussions steadily. In the end, we were able to finish the project in time with our team working.

4. Design thinking assessment point

a. During the the end of the project demonstration

Without the design thinking assessment point, we might produce a subpar app that doesn't meet the needs of our users. By the end of the project demonstration, we did an assessment by asking other students to try to use our prototype. This is because we want to ensure that our app prototype is working smoothly. Besides, we also ask the students for feedback so that we can make a few more improvements to the app.

b. During the transition between design thinking phases

Empathize

Since our target is the students of UTM, we did a survey using google Forms and sent it to the student MPP telegram group chat. We also interviewed a first-year student to get a better understanding of the issues that are faced by the students.

Define

In this process, we have gathered the problems that are faced by the UTM students through the interview and the survey that we have done in the empathizing process. Initially, we define the problem as "How to help students answer the assignments?" However, after seeing the results from the survey and interviews, we identified the issue as "How can we create a platform for students to discuss tough questions?".

Ideate

During this phase, we brainstormed ideas on how to tackle this problem and thought of a way to help students in a more efficient way. Thus, we proposed a solution where we will develop an app for the students to post questions that they are struggling with.

Prototype

In this phase, we develop a prototype that is targeted towards UTM students to post questions that they are struggling with and seniors can answer the questions in the prototype. During this process, we are making sure that our product meets all the necessities that the students might need when using our app.

Test

We test our prototype by asking other students to use the prototype. This is to ensure that our prototype is able to use nicely and we can fix and improve the app if there are any problems.

5. Design Thinking Evidence

a. The sample work by students working to solve the design challenge

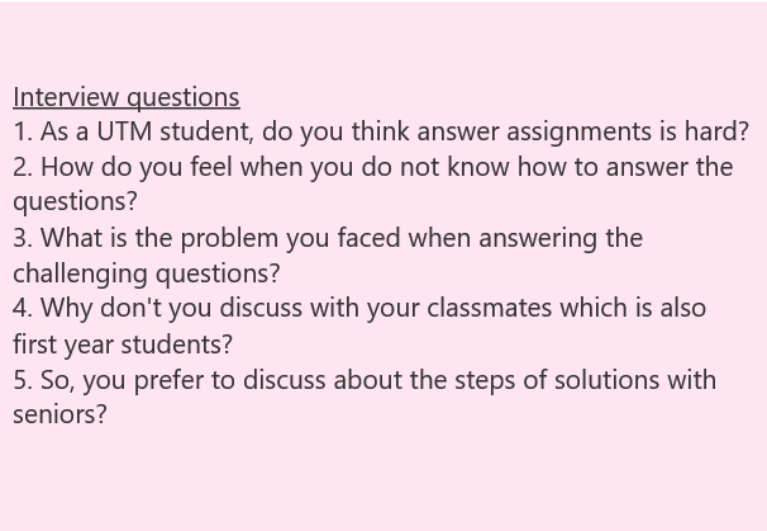
Through our survey, we observe that the main problems faced by students while completing assignments, especially when they encounter challenging questions are the lack of access to senior students and the lack of a platform to seek help. They also don't want to

bother the lecturers. Therefore, we decided to develop an app where UTM students can post questions they struggle with. This app also allows seniors to provide solutions and explanations for those questions. Users can use the reward options in the app to provide gifts for seniors who answered their questions.

b. Record for each phase

i) Empathy

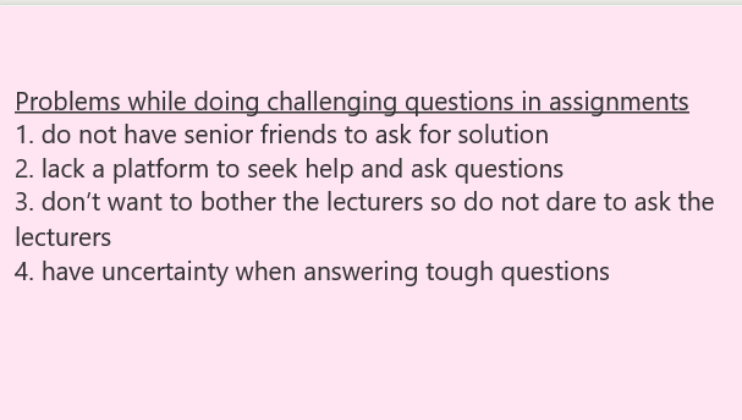
We need to determine the problems faced by students nowadays while completing assignments with challenging questions. We survey the students who are related to the problem we investigated by using Google form and we also had an interview with first-year students studying electronics engineering to determine their problems which doing assignments with challenging questions.



(List of Questions for the Interviewees)

ii) Define

We list out all the problems that we got after conducting the survey and interview. We define that the main problem is a lack of a platform to seek help and ask the steps to solve the challenging questions faced at assignments.



(List of Problems)

iii) Ideate

We started to brainstorm and think of solutions to solve the problems faced by students at UTM. We wrote all the ideas on a memo pad. Our group came out with a final solution which is to develop an app where UTM students can post questions they struggle with. Seniors can provide solutions to those questions. The reward system is also available in the app.

iv) Prototype

We created a prototype. The prototype is created using proto.io. We created a page to sign in and out, a home page, a "My Posts" section to check up on previous posts and to see if any seniors have answered your questions, and a section in which users can see questions posted by other students that are referred as "bounties".

v) Test

We asked other students to help us open our prototype to check whether the prototype worked perfectly. After they tested our prototype, we also asked them to give some feedback so that we could improve our app in the future.

6. Reflections

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

   Our goal is to become a successful programmer in the future. We hope to learn a lot of different programming languages in this course. So that in the future, we could create our own website or apps.
2. How does this design thinking impact on your goal/dream with regard to your program?

After doing this design thinking, we learned how to communicate with our teammates to get great ideas to build apps. We also learned how to build an app prototype using proto.io software. Team working skills are important to be a successful programmer in the future. So learning how to work with others through design thinking, it would help us as a programmer in the future.

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

   We should always be hardworking and learn new knowledge about programming skills to be skillful programmers. We also plan to enhance our skills in backend and frontend coding by watching tutorial videos on Youtube.

7. Task of each member

Rifqi wrote ideate and prototype. Benjamin wrote detailed steps, and detailed descriptions of problems, solutions, and team working. Iman wrote to define and design thinking assessment points. Hui Wen wrote the introduction, empathize, and design thinking evidence. Faisal mainly did the prototype with other members' help.