SCHOOL OF COMPUTING
Faculty of Engineering

TECHNOLOGY AND INFORMATION SYSTEM

SEMESTER I 2019/2020

SECP1513-01

DESIGN THINKING REPORT GROUP 5

COMMUNICATION AND SYSTEM

NAME OF STUDENTS	MATRIC NO.
NURUL NAJWA BINTI HUSSEIN	A19EC0303
LIM YOKE HUI	A19EC0301
KEERTENNAH DEVI A/P PONNAMLAM	A19EC0299
MD SAKIB KHAN	A18CS4058

LECTURER   : Dr. Zuraini Binti Ali Shah

SUBMISSION DATE: 13th OCTOBER 2019

Table of Contents

1.0 <u>INTRODUCTION</u>

A **communications system** is a collection of communications equipment that is integrated into a coherent system. These allow different people to stay in touch over a geographical system. One major application is in disaster response. With a communications system, firefighters, police and paramedics can coordinate their efforts with other government officials.

Communication is defined as the giving, receiving or exchanging of information, opinions or ideas so that the message is completely understood by everybody involved. A two-way process, communication comprises the following elements the sender, message, channel, receiver, feedback, and context. While Language is the ability to produce and comprehend spoken and written words; linguistics is the study of language.
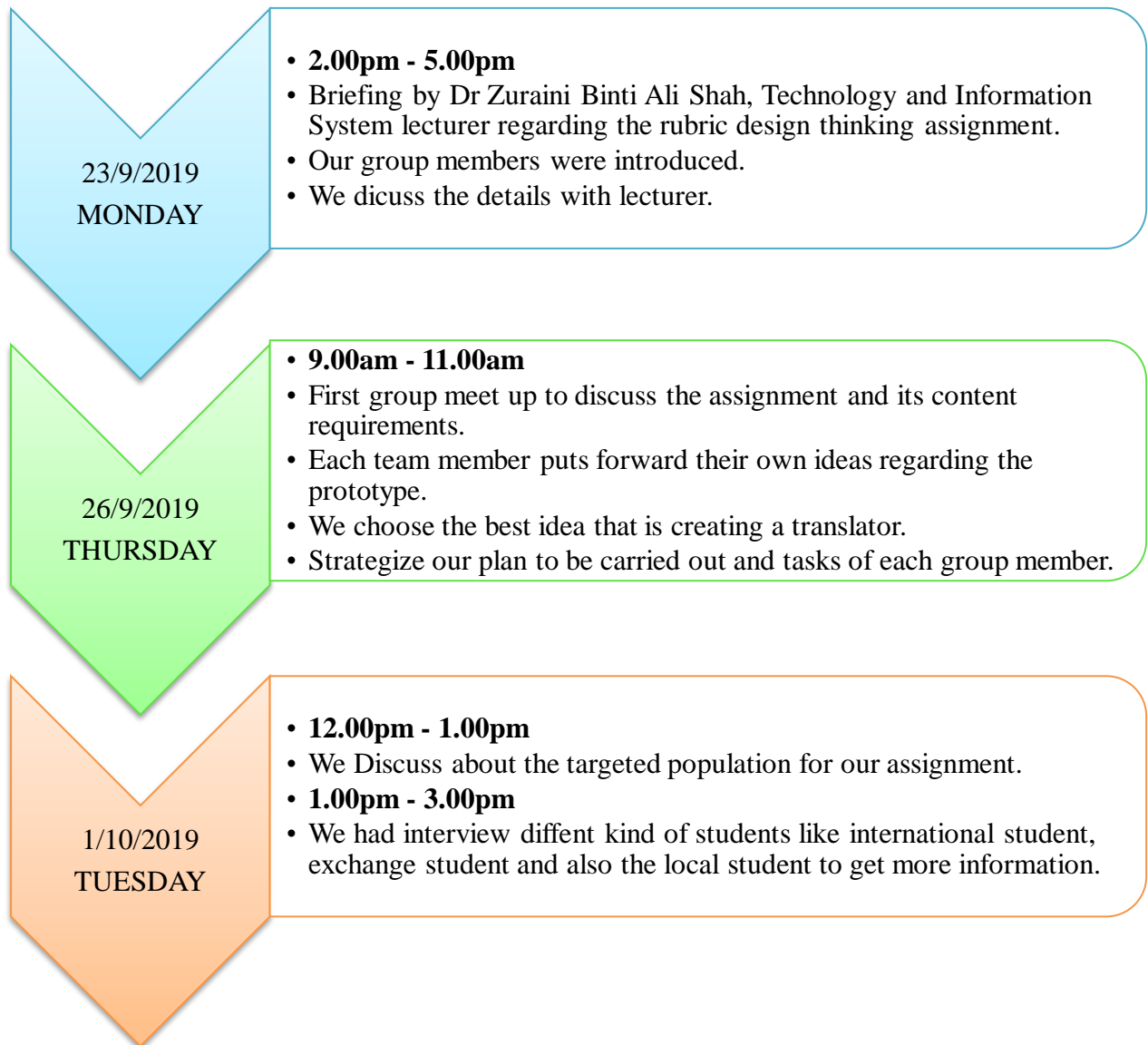
A language is a tool of communication, while communication is the process of transferring message to one another. Language focuses on the signs, symbols and words. Communication lays emphasis on the message. Before the invention of written words, language was confined to the auditory channels.

As we know Malaysia is a multi cultural country, each race has its own language. So communication is very important to avoid any misunderstandings between different races. Therefore, we must understand the meaning of various languages. In this case, it shows the importance of the translator.

2.0 <u>Detailed Steps and Descriptions</u>

We keep track of our progress and steps by writing a log journal. The detailed steps and progress can be seen in figure below:

23/9/2019 MONDAY
- **2.00pm - 5.00pm**
- Briefing by Dr Zuraini Binti Ali Shah, Technology and Information System lecturer regarding the rubric design thinking assignment.
- Our group members were introduced.
- We dicuss the details with lecturer.

26/9/2019 THURSDAY
- **9.00am - 11.00am**
- First group meet up to discuss the assignment and its content requirements.
- Each team member puts forward their own ideas regarding the prototype.
- We choose the best idea that is creating a translator.
- Strategize our plan to be carried out and tasks of each group member.

1/10/2019 TUESDAY
- **12.00pm - 1.00pm**
- We Discuss about the targeted population for our assignment.
- **1.00pm - 3.00pm**
- We had interview diffent kind of students like international student, exchange student and also the local student to get more information.

3/10/2019 THURDAY

- **9.00am - 11.00am**
- Began report writing with the introduction to our rubric design assignment.
- Gathered the information from the interview.
- Discuss the problems and challenges regarding the difficulties face by students during learning.

7/10/2019 MONDAY

- **5.00pm - 6.00pm**
- Interviewed our lecturer to obtain more information about the challenges experienced.
- Get more advice from lecturer to improve our prototype.

9/10/2019 WEDNESDAY

- **5.00pm - 7.00pm**
- Continue the progress of report writing.
- Brainstorm about solutions for the problem faced by studnts.
- Discussed the function of prototype that could help solve the probems

10/10/2019 THURSDAY

- **6.00pm - 7.30pm**
- Group meet up to work on the design thinking report.
- Begin to design the prototype .

11/10/2019 FRIDAY

- **10.00am - 12.00pm**
- We demonstrateed our prototype to the user to obtain their feedback on how to improve it further.

12/10/2019 SATURDAY

- **2.30pm - 4.30pm**
- Group meeting to finalise our report writing.
- Each member contributes their ideas on writing the conclusion for the assignment.
- The report is ready to be submitted.

3.0 Details Description about Problems and its Solutions

During lesson, the lecturer is teaching too fast.

- We equipped our prototype with special function.
- It can detect what lecturer is teaching and direct translate it to the other langunges that the user wanted.

Some lecturer will teaching in different kinf of languages during the lesson

- This rubric design prototype can detect various kind of languages.

It is difficult to communicate with others because the languages used for every students are different.

- We eqquipped our prototype with many kinds of languages.
- The user can choose which languages they want.

The accent of every students are different.

- Our rubric design (Easy Translator) not just translate the languages, but it will also display the statement that translated on the screen.
- So, the user also can also read from the screen.

4.0 Detailed Descriptions and Evidences of Each Phase in Design Thinking

4.1 EMPATHIZE

Basically Empathize can be categorized into 3 different parts which is:

- ### *OBSERVE*

  From the observation, we noticed that there were a lot of problems regarding the uses of translator. We can see that the student especially international students have difficulties in communicating with local students also barely understand the lecture although most of the lecturers use English language as a medium language to teach them. This is also same to the local students. Next, the translator application itself also problematic as it cannot translate all the documents accurately and have a lot of advertisements while using that applications. Then, it also cannot directly translate the voice for a long time as some of the translator applications will stop automatically to detect voice within 2 to 3 minutes only. . Therefore, we carried an interview to have a better view of student's thought and perception of these problems.

- ### *ENGAGE*

  We have carried out the research by interviewing a few students where we highlighted few questions regarding the problems that they are facing while using the translator applications.

  The questions are such as do they have any difficulties or problems to have a conversation with local students and lectures, have they use any translator applications and other questions too. We did the interview to the both local and international students to analyse their problems. The responses have been recorded for later use.

- ### *IMMERSE*

  From the interview that had been carried out, we were able to see the pattern of the students' thought and their problems in dealing with the translator applications problems. From there, we were brainstorming to find the solutions to overcome these problems.

4.2 DEFINE

During this phase, we did some analysis towards the problems that we had obtained from the students during previous stage. After the analysis, there were a few problems that we highlighted such as they have a little bit problem to communicate, the words translated by using the translator applications were not accurate and did not grammatically arranged. This made them felt harder to use it. Thus, we have decided to help overcome these problems by understanding the problem so that we can have the best solution that will be result as our prototype.

Figure 1: Group 5 members brainstorming and discussing the ideas

4.3 IDEATE

After brainstorming the ideas, we agree to build a new translator application with new features and we also update the existing feature in the existing translator applications. Then we also list down all the ideas we have and we will choose the best one based on this criteria:

1. Rational choice

2. Convenient

3. Accessible

4. Simpler

Figure 2 & 3: Group 5 members brainstorming and discussing the ideas

4.4 PROTOTYPE

This is the phase where we deliver our idea publically. From there we can see the response from the students. The idea of the prototype came during our brainstorming session. We were able to more understand and clear picture on how roughly our prototype will look like. Furthermore, the idea just keep coming while in the process of building the prototype to make it look more realistic and user friendly. . We manage to gather more ideas when constructing the prototype together as a group. These are sneak peak of our prototype :
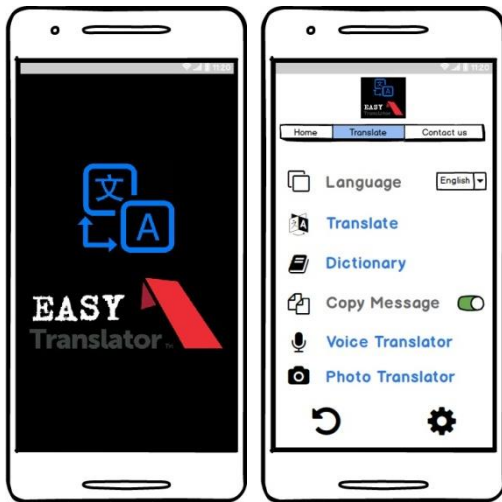

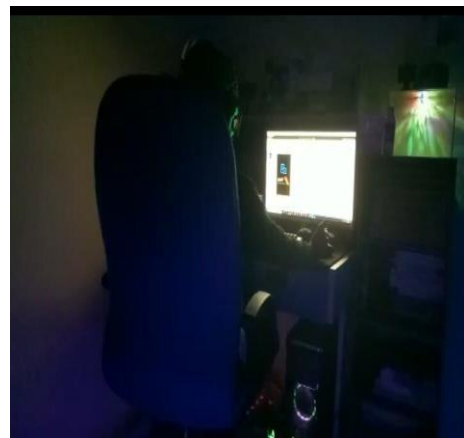Figure 5 & 6: Prototype ideas

Figure 7: Our real prototype

Figure 8 & 9: In the making of our group's prototype

5.0 <u>Team Working</u>

Our group member were worked together to completed this assignment. During empathy phase, we discussed and decided on what kind of rubric design to be carried out. We had prepared the question for the interview. We cooperate to complete the interview part. In order for the interview to run smoothly, tasks like asking question, filming the interview session and taking notes are divided among our group members. For the define phase, each member had contributed their ideas and suggestion about the problems that we gathered from the interview video. For the next step, we brainstormed together to get the best solutions for the problems listed. After considered all of the problems and ideas, we started to develop our prototype. During this phase, some of the members built and decorate the prototype by using cardboard and cellophane tape while the other members designed the cover for our prototype by using computer. We cooperate together to complete our prototype. Finally, we had demonstrated the prototype to the user and get their feedbacks.

6.0 <u>Reflections</u>

This course of Technology and Information System is designed to provide us with working knowledge of computer concept and communication skills in today's society. This will give us a pre-understanding about how technology system works to suit human needs. Student will learn safety, security, input/output systems and ethical issues in computing .As bioinformatics students, our goals or dreams is to improvise and implement the current technology mainly in Bioinformatics research.

In this design thinking project, many of us have came out with different ideas for the solutions based on the problem identified from the student during interview. As we are undergoing Revolution of Industry 4.0, the knowledge is more essential than the knowledge in books. Having this design thinking project provides us an opportunity to do a prototype based on information and communication. All of us are able to get some hands-on experience. Also, teamwork spirit is important as tasks are distributed evenly among the group members so that the project could be completed faster. Besides that, we all learn to be more creative with different viewpoints from our group members. We also learnt to how to interact with people in an approachable way during the testing session of presenting our prototype to the users.

Other than that, we all agreed the feedbacks from users from time to time are needed for us to improve our prototype system. After that, we may have to update the system by adding some features or functions. Therefore, we have to equip ourselves with the latest technology. Lastly, communication between group members should be frequent and clear so that the outcome of prototype will be produced better.

7.0 The Task for Each Member

NURUL NAJWA BINTI HUSSEIN

- Interviewer
- Empathy
- Define
- Assessment Point
- Brainstorming
- Prototype

LIM YOKE HUI

- Interviewer
- Brainstorming
- Problem Analysis & Solution
- Intruduction
- Detailed Steps & Description
- Prototype

KEERTENNAH DEVI A/P PONNAMBALAM

- Interviewer
- Brainstorming
- Ideate
- Reflections
- Prototype

MD SAKIB KHAN

- Videographer
- Photographer
- Editor
- Brainstorming
- Prototype

8.0 Link of the video

https://youtu.be/rkSdk4Tdbpg