ASSIGNMENT 2 FRONT SHEET

Qualification	BTEC Level 5 HND Diploma in Computing		
Unit number and title	Unit 13:Computing Research Project		
Submission date	July 12, 2021	Date Received 1st submission	July 12, 2021
Re-submission Date		Date Received 2nd submission	
Student Name	Tran Duc Dung	Student ID	GCH18169
Class	GCH0719	Assessor name	

Student declaration

I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.

	Student's signature	

Grading grid

P6	P7	M4	D3

☐ **Summative Feedback:**	☐ **Resubmission Feedback:**

Grade:	**Assessor Signature:**	**Date:**

Internal Verifier's Comments:

Signature & Date:

Table of Contents

I.   Introduction

In my first report, I completed research on IoT applications in smart home in Vietnam and gave suggestions for users to use, I did primary research and secondary research to do how smart home is developing in Vietnam. In this report I will evaluate how I do step-by-step research and the strengths and weaknesses of each of my methods in the research process, thereby giving lessons and experiences to improve more of my research in the coming time

II.   Reflection on the project

1. Research proposal

In the research proposal section, I have to set up a research proposal and ask questions to clarify the problem that I need to study. Through the implementation process, I see this as the first important step before undertaking the next research steps. Its role is really necessary, it helps me to clearly define the issues that I need to study and learn, then collect the necessary questions to clarify the issues to study on.

2. Project plan

After I had prepared a research proposal, I began to make a plan to research the project. First, I need to define the purpose of the project based on the research proposal, then I design the WBS to formulate the research steps of the project. Then, design a gantt chart to determine the exact process and progress of the project to avoid over time to complete the project.

3. Literature review

During the Literature review process, with the aim of clarifying what is a smart home? How do IOT devices work in a smart home? Smart home development like? Famous smart home brands in Vietnam. The advantages and disadvantages of smart home. So I used a number of research methods in my project research process. Specifically, I use 2 main research methods to learn and clarify my research topic, that is primary research method, secondary research, besides, I also use qualitative research methods to clarify the data I have gathered. In which my secondary research is done first and primary research is done later

3.1. Secondary research

Using the secondary research method applied to the project, I learned what smart homes are, how smart home devices are designed and how they work. Besides, I learned about the smart home development market in Vietnam and the famous smart home brands in Vietnam. The information I find out through books, information on the Internet and through the classroom from the teachers.

3.2. Primary research

During my primary research, I actually interviewed some smart home people who knew about smart homes and IOT technicians. Besides, I created an open questionnaire and suggested a few answers to survey a specific group of people or some people to find out how they know how smart homes are developing in Vietnam. Finally, in the process of using primary research, I went directly to a specific place to observe the study of smart homes and IoT devices there. The place where I do the observation project is a showroom of lumi brand at 38 Do Duc Duc in Hanoi. There I have directly observed, tested the operation and photographed the smart devices there for analysis.

III.   Difficulties and improved in the project process
1. Research proposal
a. Difficulty

In the process of making research proposal, I encountered a number of difficulties including identifying incorrect questions, missing some research questions and not meeting my research requirements.

Specifically, at first I did not clearly state the smart home development market and famous brands in Vietnam. This took me a lot of time because I had to fix it over and over again.

b. Improve

Through the process of doing research proposal, I draw lessons from experiences that need to clearly identify the problem of the project topic to be researched. Thereby, it is necessary to carefully prepare and ask the questions in the research protocol carefully and to give it to the teacher or the knowledgeable person to check if it is correct, then we begin to research the project

2. Project plan

A. Difficulties

During the WBS design process I did not know how to draw and divide the work properly, which made me develop the project in the wrong direction and redundant things. About the gantt chart I drew was still wrong due to a software application error in my machine that made me unable to connect the steps together, in addition, because I divided my work wrongly, my gantt chart design was also difficult. towels and affects the time and progress of the project

B. Improve

Thereby, I learned from the experience that I need to carefully define and carefully design WBS because it mainly forms the framework of my project and affects a lot of things in the project such as the way to learn in the research process because Therefore, it is necessary to properly design and define and give it to experienced people such as teachers and lecturers to check carefully. After I had prepared a research proposal, I began to make a plan to research the project. First, I need to define the purpose of the project based on the research proposal, then I design the WBS to formulate the research steps of the project. Then, design a gantt chart to determine the exact process and progress of the project to avoid over time to complete the project.

3. Literature review

A. Difficulty

In the process of implementing the difficulties I encountered were too much documentation and complicated IOT technology techniques that made it difficult for me to learn and in the process of finding out information was not clear

3.1. Secondary research

A. *Difficulty*

During the implementation of secondary research, the difficulty that I encountered was that at first during the implementation, I did not know how to select clear information, the information was not specific for the question to be researched, information, My English is still poor, so reading information on books is still difficult.

B. *Improve*

Through the process of using secondary research methods, I draw lessons that need to focus on the main ideas and answer the questions of the proposal to avoid rambling in the learning process will help to collect accurate data. than. Besides, it is necessary to improve and practice reading English in order to be able to read and understand documents

3.2. Primary research

A. *Difficulties*

In the process of conducting primary research, some difficulties I encountered were that in the interview process, some people did not enthusiastically answer my questions and answered untruthfully, mainly people and people. people who used to live in smart home. Observing at showrooms has some main problems I have: they don't let me test the equipment there, making my observations take longer because I have to travel many different places. During the group survey I did my questions a bit of English, so during the survey some people did not understand the question well, so they incorrectly answered my survey question.

B. *Improve*

During the research process, I have learned from experience, about interviewing, I need to focus on specific subjects to make the interview easy, for example, I need to talk and introduce myself to others first to see the attitude of paying. What is the interviewee's words, if they feel uncomfortable or forced, we will change to another person to avoid wasting time. As for the survey, sometimes there are English questions, we should leave Vietnamese annotations next to them so that the survey subjects can easily understand and answer correctly in their questions.

IV. Improvements for future project

1. The lesson

After completing this project, I learned a lot from my mistakes and lessons. When working on a research project, I will have to focus on the topic I have chosen. Searching documents and resources carefully and

diversified. Besides, when doing surveys and interviews, I will have to learn carefully about the interviewee to find the most useful and comprehensive information. Furthermore, careful preparation of methods for data collection and analysis is indispensable in the implementation of research projects. In addition, I need to have a more detailed and specific plan, from which it can be done sequentially to get perfect results, without shortcomings. I need to be flexible, have a progressive spirit, to absorb people's opinions. These lessons will help me overcome my weaknesses and bring into play my strengths. In addition, I also need to practice and improve my English level so that I can more easily research and develop projects in the future.

2. The mistake

Initially selecting topics, I do not know which topics to choose suitable for IOT technology, contributing to the best understanding for users when approaching my project. Next, I didn't really look for many resources to be able to do a literary overview, so my writing was very poor in the first version. In addition, during the interviewing and surveying process, my communication skills were still poor and I did not know well about smart homes, so interviewing people was still difficult. And finally a Gantt chart to divide the work I need to do and a specific time for each task. Because at first I did not divide correctly, it took a lot of time.

3. Improvements

During my project research, I have improved a lot. There are still many shortcomings that need to be overcome. Firstly, project selection, research and project selection are urgent issues that are of great interest to many people in the field of IOT technology. Second, it is the specific and detailed planning for each job with a specific time to optimize time and learn more through the assessment of teachers and friends. Third, is to select and search for standard materials passed to teachers who have test knowledge. And finally, the specific preparation to interview more people, get the most objective results possible to implement the project. In addition, my English skills have also improved and my communication skills practice.

V. Conclusion

In this report, I have evaluated and commented on my research. I have evaluated every aspect of the study including the research proposal, process, research methodology or project plan. Difficulties that I encountered in the development of project steps and the experiences I learned to correct them. In addition, I made mistakes in the project and proposed the lesson solution I learned that could improve it in the future.