



UNIVERSITI TEKNOLOGI MARA  
FACULTY OF INFORMATION MANAGEMENT

INDUSTRIAL TRAINING REPORT:  
UNIVERSITI SAINS MALAYSIA (USM) HEALTH CAMPUS  
PPKT KAMPUS KESIHATAN USM, KUBANG KERIAN, 16150  
KOTA BHARU, KELANTAN

SPECIAL PROJECT: BUDGET ACQUISITION SYSTEM

BY  
NIK MOHAMMAD HAZIM BIN NIK NAJIB  
2016329505

IM245 - BACHELOR OF SCIENCE (HONS.) INFORMATION  
SYSTEM MANAGEMENT  
FACULTY OF INFORMATION MANAGEMENT  
UNIVERSITI TEKNOLOGI MARA KELANTAN

01 FEBRUARY 2019 – 30 JUNE 2019

**INDUSTRIAL TRAINING REPORT:  
UNIVERSITI SAINS MALAYSIA (USM) HEALTH CAMPUS**

**SPECIAL PROJECT: ACQUISITION BUDGET SYSTEM**

**BY  
NIK MOHAMMAD HAZIM BIN NIK NAJIB**

**FACULTY SUPERVISOR  
PROF MADYA DR MOHD NASIR ISMAIL**

**REPORT SUBMITTED IN FULFILLMENT OF THE  
REQUIREMENT FOR THE INDUSTRIAL TRAINING  
FACULTY OF INFORMATION MANAGEMENT  
UNIVERSITI TEKNOLOGI MARA KELANTAN**

**01 FEBRUARY 2019 – 30 JUNE 2019**

## **DECLARATION**

I hereby declare that this is my original work. I have not copied from any other student's work or from other sources. I also declare that no part of this report has been published or submitted for publication except where due to reference or acknowledgment is made explicitly in the text, nor has any part been written for me by another person. I confirm that I have read and understood the UiTM regulations with regard to plagiarism and will be penalized by the university if found guilty.

Signed by

Nik Mohammad Hazim Nik Najib

2016329505

## **ABSTRACT**

*The trainee as the final semester student of Bachelor of Science of Information System Faculty had taken the decision to enroll at the Universiti Sains Malaysia (USM) Health campus for the industrial training period which will take place from 1st February till 30th of June. During the time spent by the trainee at this organization, the trainee had learnt a lot of things which is useful for the better development of the trainee for the future. The trainee had learnt regarding the Ionic Framework platform as a better Mobile Application and Web development tools. Moreover, the trainee had also learnt about the formatting of computer, disposition of monitor. The trainee was also being exposed with a lot of new things such the artificial intelligence and the enterprise architecture. Not forget to mention, the trainee also had the opportunity to see in live the usage of the teleconference meeting using some modern and advance devices available nowadays.*

**Keywords:** *the trainee, training, internship*

## **ACKNOWLEDGEMENT**

Assalamualaikum w.b.t,

First of all, Alhamdulillah I have settled my industrial training project starting from 1st February 2019 until 30th June 2019. For these five months, I would like to thank to my industrial training supervisor, Mr. Haji Nik Nashron Ab Aziz as a Deputy Director for accepting me to finish my internship at Universiti Sains Malaysia (USM). In addition, he also brought me explore the real life in Centre of Knowledge, Communication & Technology Department under the section of application.

Besides that, I would like to thank to my officemates Mr. Syamim Rosli for guide me on how to finish the entire task related about the development of the system and also share the information about the company and department. At first, it is difficult for me because I have no knowledge in developing a real system. They have taught me on managing every in and out document.

Other than that, I would like to thank to my faculty supervisor, Prof Madya Dr. Mohd Nasir Bin Ismail for give me an explanation on how to prepare a good report, guide me in create my system and give an advice. Besides that, thank you to my visiting supervisor for look after me and give an advice and idea on preparing my project. In addition, he also is good motivator in giving me a guideline on how to perform in the industry and giving a motivation to help me go through this internship.

Lastly, thank you to my family especially my parents that give me a support, advice and everything and also, my siblings that give an idea for me to finish up my project during internship. I also want to thank you to my friends that share information about new thing especially in creating the system.

## TABLE OF CONTENTS

Declaration.....	i
Abstract .....	ii
Acknowledgement.....	iii
Table of content .....	iv-vii
List of tables.....	viii
List of figures .....	ix
List of appendices .....	x-xi
List of abbreviations .....	xii-xiii
<b>CHAPTER 1: INTRODUCTION .....</b>	<b>1</b>
1.1 Background of an organization .....	2-4
1.1.1 History to the organization .....	2-3
1.1.2 Vision.....	3
1.1.3 Mission .....	3
1.1.4 Value .....	3
1.1.5 Thrust .....	3
1.2 Organization chart of USM's organization.....	4
<b>CHAPTER 2: ORGANIZATION DEPARTMENT.....</b>	<b>4</b>
2.1 Background of department .....	5-6
2.1.1 Mission of department.....	6
2.1.1 Quality objective.....	6
2.1.1 Department structure of the department.....	7
2.2 Department function of the department.....	8
2.2.1 Application section .....	8
2.2.2 Infrastructure section .....	8
2.2.3 Technician support section .....	8
<b>CHAPTER 3: INDUSTRIAL TRAINING ACTIVITIES.....</b>	<b>4</b>
3.1 Training activities.....	9
3.1.1 Learn about technical stuff about computer.....	9
3.1.2 Learn about company's profile .....	10

3.1.3	Joined as organized workshop.....	10
3.1.3.1	Ionic workshop.....	10-11
3.1.3.2	CodeIgniter workshop.....	12
3.1.3.3	GitHub basic workshop.....	12-13
3.1.4	Learn the process to dispose of monitor as organization asset .....	13
3.1.5	Enrolled an orientation of department .....	13
3.1.5.1	Orientation session with application section.....	13
3.1.5.2	Orientation session with technical support department .....	14
3.1.5.3	Orientation session with infrastructure department .....	14
3.1.5.4	Orientation session with administration department.....	14
3.1.6	Preparing slides for supervisor.....	15
3.1.7	Briefing programmed .....	15
3.1.7.1	Briefing program about data and Artificial Intelligence (AI).....	15
3.1.7.2	Briefing program about Enterprise Architecture (EA) .....	16
3.1.7.3	Exploration about meeting room, PABX, & telephonies room .....	16
3.1.7.3.1	An introduction about live meeting situation .....	16
3.1.7.3.2	Visiting at the PABX and telephonies room .....	17
3.1.7.4	Sharing knowledge about inventor apps .....	17
3.1.8	Supporting USM's event .....	17
3.1.8.1	Religious talk program .....	17-18
3.1.8.2	Hand hygiene campaign .....	18
3.2	Special project.....	
3.2.1	Project overview.....	18-19
3.2.2	Project planning phase.....	19
3.2.2.1	Problem statement .....	20
3.2.2.1.1	Require more time to explore the ionic V3 .....	20
3.2.2.1.2	No employee possessing the skills in using ionic.....	20
3.2.2.2	Objectives.....	20
3.2.2.3	Scope of project.....	21
3.2.2.3.1	Board of management (Admn).....	21
3.2.2.3.2	Staff (End User).....	21
3.2.2.4	Users target.....	21
3.2.2.4.1	Board of management (Admn).....	21
3.2.2.4.2	Staff (End User).....	22
3.2.2.5	Project duration .....	22

3.2.3 System Analysis Phase.....	23
3.2.3.1 The requirement of hardware and software that used in system .....	23
3.2.3.1.1 Xampp .....	23
3.2.3.1.2 MySQL.....	24
3.2.3.1.3 Sublime.....	24
3.2.3.1.4 Node JS .....	24
3.2.3.1.5 Ionic Framework.....	24
3.2.4 System Design Phase.....	25
3.2.4.1 Illustration of diagram .....	25
3.2.4.1.1 User case diagram & USM API .....	25-26
3.2.4.1.2 Data flow diagram (DFD) of Budget Acquisition System.....	27
3.2.5 System Implementation phase.....	28
3.2.5.1 Entity Relationship Diagram of system .....	28
3.2.5.2 Data Dictionary of the system .....	29
3.2.5.2.1 Data Dictionary in Table Budget.....	29
3.2.5.2.2 Data Dictionary in Table Budgetclass .....	29
3.2.5.2.3 Data Dictionary in Table Class .....	29
3.2.5.2.4 Data Dictionary in Table Perolehan .....	30
3.2.5.2.5 Data Dictionary in Table Prevproject .....	30
3.2.5.2.6 Data Dictionary in Table Project .....	31
3.2.5.2.7 Data Dictionary in Table Propproject .....	31
3.2.5.2.8 Data Dictionary in Table Yearlybudget .....	31
3.2.6 Budget Acquisition System's interface .....	32-33
3.3 Literature Review .....	34
3.3.1 Advantages of the computerized system .....	34
3.3.2 Weakness of manual system.....	34-35
3.3.3 Revolution from manual to computerized.....	35
3.3.4 Relation between IR 4.0 with computerized system.....	35-36
3.3.5 System Development Life Cycle .....	36-37
<b>CHAPTER 4: CONCLUSION .....</b>	<b>38</b>
4.1 Application of skills and experience .....	38



4.2 Personal thought and opinion .....	39
4.3 Lesson learnt.....	39
4.4 Limitations and recommendations .....	40
References .....	41
Appendices .....	42
1,0 Attendance .....	43
2.0 Presentation slides.....	44
3.0 Internship activities .....	45-74
4.0 Logbook.....	75

## LIST OF TABLES

Table 1: Timeline of the project.....	22
Table 2: Data dictionary in table budget.....	29
Table 3: Data Dictionary in table Budgetclass.....	29
Table 4: Data Dictionary in table Class.....	29
Table 5: Data Dictionary in table Perolehan.....	30
Table 6: Data Dictionary in table Prevproject.....	30
Table 7: Data Dictionary in table Project.....	31
Table 8: Data Dictionary in table Propproject.....	31
Table 9: Data Dictionary in table yearlybudget.....	31

## LIST OF FIGURES

Figure 1: Logo of USM's Organizations.....	2
Figure 2: An image of Vision & Mission of USM Organization .....	3
Figure 3: Organization Chart of USM Health Campus.....	4
Figure 4: Centre of Knowledge, Communication & Technology's Logo .....	5
Figure 5: Organization chart of PPKT department.....	7
Figure 6: The Site about USM Profile.....	10
Figure 7: The slide that was used in learning of IONIC Workshop was conducted by Muhammad Syamim Rosli & Nur Fatimah Hayuza .....	11
Figure 8: The page to install the CodeIgniter platform .....	12
Figure 9: One of the slides of the AI Healthcare.....	15
Figure 10: User Case Diagram.....	25
Figure 11: User Case USM API .....	26
Figure 12: Data Flow Diagram of the System.....	27
Figure 13; Entity Relationship Diagram .....	28
Figure 14: Interface for home page .....	32
Figure 15: Interface for sign In page.....	32
Figure 16: Interface for new budget allocation page.....	33
Figure 17: Interface for new project plan page .....	33

## LIST OF APPENDICES

Appendix 1: Demonstration the way to make backup for hardisk using docket by the technician staff	46
Appendix 2: Image of hardisk in CPU of PC.....	47
Appendix 3: Technician staff displayed the way how to back up the hardisk .....	47
Appendix 4: A briefing session about the way to format Personal Computer (PC).....	48
Appendix 5: Personal Computer (PC) backup session .....	48
Appendix 6: The list of the system that need to be installed after format PC process .....	49
Appendix 7: The complete process in installing all of the system software after format process.....	49
Appendix 8: Official portal of USM .....	50
Appendix 9: Profile of USM .....	50
Appendix 10: Mission and Vision of USM.....	51
Appendix 11: IONIC session that was conducted by Mr. Syamim Rosli .....	51
Appendix 12: An interface of the system that was created during the workshop session.....	52
Appendix 13: Within all the staff in PPKT that was joined CodeIgniter workshop .....	52
Appendix 14: An introduction about the basic Git Hub by Mrs. Nuru Asyikin Binti Mamat Saman .....	53
Appendix 15: Teaching & Learning session the basic of GitHub in Head of Department's room .....	53
Appendix 16: The interface of git config --list displayed.....	54
Appendix 17: The interface of git config --list displayed.....	54
Appendix 18: The interface of inserting cd learnGIT to store in master .....	55
Appendix 19: The interface of git cd learnGIT displayed there is in master .....	55
Appendix 20: The interface of git status displayed .....	56
Appendix 21: Creating an issue interface.....	56
Appendix 22: The issue form that need to fill by the trainee to create an issue .....	57
Appendix 23: List of the issue after created.....	57
Appendix 24: the interface displayed after the submit issue had been done.....	58
Appendix 25: the interface of the Git Bash Here to change checkout from master to branch .....	58
Appendix 26: The interface by using git checkout master.....	59
Appendix 27: The interface of the issue that was mentioned it was still in branch 4 ("form daftar") ....	59
Appendix 28: The interface displayed by using git add.....	60
Appendix 29: The interface of the git commit displayed .....	60
Appendix 30: Git push interface to update all the task in master .....	61
Appendix 31: The interface of the index that was used during GitHub Basic Workshop .....	61
Appendix 32: The amount of PC that need to be disposed.....	62
Appendix 33: Capturing of PC's data by using Microsoft Excel & Scanner to scan PC's barcode.....	62
Appendix 34: The data of the PC disposal .....	63
Appendix 35: An introduction about the application that was presented by Mr. Wan Faizal Wan Azman .....	63
Appendix 36: Orientation session about the technician support section by Mr. Azahari Omar.....	64
Appendix 37: An Introduction about infrastructure section by Mr. Md Darimi Yusof.....	64
Appendix 38: A little bit sharing about the organization, attitude and behavioural in work environment by Head of Department (HOD) Mr. Hj Nik Nashron Ab Aziz .....	65
Appendix 39: Knowledge session about AI that was presented by Mr. Fadzali Bakar .....	67

Appendix 40: Knowledge sharing session by Mrs. Jamilah about Enterprise Architecture (EA).....	67
Appendix 41: The live view on using conference room & introducing tool session.....	68
Appendix 42: The live view on using meeting room & introducing tool session .....	68
Appendix 43: Speaker tool that was used during meeting or conference session.....	69
Appendix 44: Briefing session before visiting telephonies unit & PABX room.....	69
Appendix 45: Telephonies Unit .....	70
Appendix 46: The situation in telephonies unit .....	70
Appendix 47: The situation in telephonies unit .....	71
Appendix 48: The wired rack that was connect with 3000 extension wired.....	71
Appendix 49: The trainee was observed for 3000 bundle of extension wired that was used in USM .	72
Appendix 50: Sharing knowledge session about Inventor Apps by the trainee and the partner, Zatul Adaniah Bin Zahari .....	72
Appendix 51: Religious talk Program with PU Muhammad Rozi.....	74
Appendix 52: Hand Hygiene Week that was organised by USM's hospital.....	74

## **LIST OF ABBREVIATIONS**

AI	Artificial Intelligence
EA	Enterprise Architecture
APP	Patient Meeting Application
CI	CodeIgniter
CPU	Central Processing Unit
DFD	Data Flow Diagram
ERD	Entity Relational Diagram
HRS	Hospital Management System
ICT	Information and Communication Technologies
LIS	Lab Information System
NACSA	National Cyber Security Agency
NCSP	National Cyber Security Policy
OS	Organizational Supervisor
PABX	Private Automatic Branch Exchange
PC	Personal Computer
POLS	Prescribing Online System
PPKT	Pusat Pengetahuan, Komunikasi & Teknologi
RAM	Random Access Memory
UITM	Universiti Teknologi MARA

<b>USM</b>	<b>Universiti Sains Malaysia</b>
<b>SDLC</b>	<b>System Development Life Cycle</b>
<b>WIFI</b>	<b>Wireless fidelity</b>

## CHAPTER 1

### INTRODUCTION

The Industrial Training subject IMC690 gives the pre-professional working experience alongside the assignments and also the responsibilities. For this paper, it basically involves 480-hours equivalent working placement, regardless whether being paid or otherwise, located within a legal and approved industrial site working under the strict supervision by an expert or professional officer of certain industrial site.

The definition of the intern itself is closely related with the experience that a student gain through their experience during the industrial training. A student may expose to a lot of working environment where they can see how the people conduct all kinds of work that they do not even know. Through the industrial training, the student will learn the process or the flow of each work or duty conducted by the officer.

Apart of that, student can also possess the ability to enhance their knowledge since by going for the industrial training student can learn varieties of new things from a lot of experts within their own field. By having the combination of different skills and knowledge, it basically will give the student the upper hand when the students want to go for an interview session. So here they can tell the panel or the interviewer about all that they had learned during the industrial training and the skills that they had possessed during that period.

Besides, the reason for this industrial training program is to make the students in becoming more confident while making them aware regarding all regulations and policies that adopted by certain industrial site. Through the knowledge that the student has upon the regulation and policy, it will make the student in becoming easier to adapt when they step into the real working life within the future.

For this subject, it is compulsory for the student of Information System Management to enroll during their final semester. The period for the industrial training will be about 5 months long. The industrial training will start from 1st February until 30th of June. Besides, for this industrial training program, the trainee had chosen the Universiti Sains Malaysia (USM) as the place where the trainee will undergo all of the training. The trainee will work or conduct the training under the unit of Centre of Knowledge, Communication and Technology.



## 1.1 Background of Organization

### 1.1.1 History to the organization



*Figure 1: Logo of USM's Organizations*

Universiti Sains Malaysia (USM) is regarded as one of the leading universities not only within the nation but also within the world-wide stage. The USM was established as the second university in the nation in 1969. During the past, the USM was commonly known as Universiti Pulau Pinang. Then afterwards, the USM had a little migration from the temporary premises at the Malayan Teachers Training College in Bukit Gelugor to the current site at Minden which measured at 416.6 hectare.

USM is the university that offers any educational courses that related to science. The courses that offered by the USM ranging from the Applied Sciences, Natural Sciences, Medical, Health Sciences, Pharmaceutical Sciences, Social Sciences, Humanities and Education. All of these courses were offered to the likes of undergraduate and postgraduate levels. There were about a total of 30,000 students in total that enroll their study in the USM campus which involved the campus in Island of Penang, Nibong Tebal which is 50km from the main campus and Kubang Kerian in Kelantan which is 300km from the main campus.

Moreover, the USM believe in the concept of the school system since they already had adopted this kind of system at the early stage. By school system, it basically means that the USM does not follow the traditional Faculty system. The reason behind this is to make sure that all of their students are multi-disciplined from their exposure to other areas of studies form another school. The USM also encourages their fellow students to be very active in the extra-curricular activities that being organized within the campus so that the students will always spend their free time in a right manner.

Besides, the USM also has a total of 17 dedicated research centers that created for the wide range of specialties which involved the archaeology, dentistry and medicine, molecular medicine, science and technology, Islamic development and management studies, policy research and international studies. Not forget to mention is that the USM also provides the

consultancy, testing and also any advisory services towards the industry which under the ambit of USAINS Holdings SDN BHD which is the university's commercial backbone.

### 1.1.2 Vision

“Transforming a Higher Education for a Sustainable Tomorrow”

### 1.1.3 Mission

“USM is a pioneering, transdisciplinary, research intensive university that empowers future talents and enables the bottom billions to transform their socio-economic well-being.”



Figure 2: An image of Vision & Mission of USM Organization

### 1.1.4 Value

Quality, Equality, Availability, Accessibility, Affordability, Appropriateness.

### 1.1.5 Thrust

Knowledge, The Future, Uniqueness, Sustainability, Humanity, Universality, Change, Sacrifice, Wellness.

## 1.2 Organization chart of USM's organization

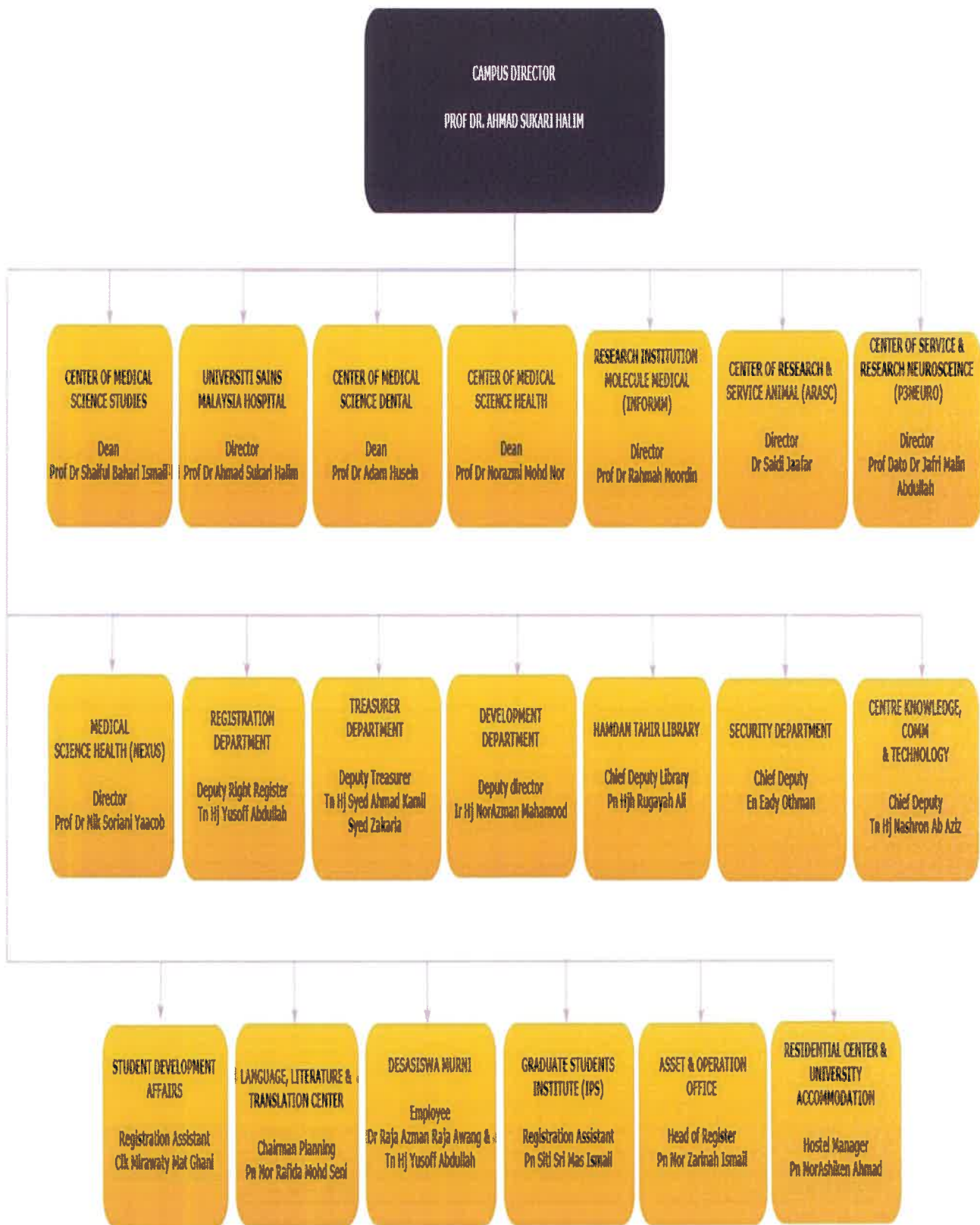


Figure 3: Organization Chart of USM Health Campus

## CHAPTER 2

### ORGANIZATION INFORMATION

#### 2.1 Background of Department



*Figure 4: Centre of Knowledge, Communication & Technology's Logo*

Centre of Knowledge, Communication & Technology or known as "Pusat Pengetahuan, Komunikasi & Teknologi" (PPKT) was established in 1st January 2003 with the combination of four entities which based on the Information technology in USM which are the Computer Center, Information Technology Centre, Management Information System Unit and Information Technology Development Unit at the main campus. The official inaugural had been conducted through Vice Chancellor, Yg Bhg Prof Dato Dzulkifli Abd Razak in 27th August 2003. PPKT will serve as a one stop centre in providing various quality services and also acting as the catalyst in all of activities that involving the research, education, administration, teaching, management and also negotiation in Universiti Sains Malaysia (USM).

Since that the health campus does not possess any branches for the Information Technology Centre, Information System and Information technology Development unit, thus the health campus of PPKT at the moment is only the slight change of name in place for the Branch of Computer Centre without any addition towards the member of staff.

The branch of Computer Centre begins with only a single staff member in 1986 and then it continues to develop. In year 1996, the branch of Computer Centre started the Information System service for the hospital and also the PC allocation towards all lecturers, A category level staff and also department in order to introduce the network service USM Net which emerge as the core for the PPKT service until currently. At last, the Information System service had been replaced by the Information System Unit HUSM in year 2000. Through the assistant of PPKT at the main campus. The Main health campus will offer all required service in order to achieve the success for the established agenda of IT USM at this campus. The application system corporate service will be developed by the staff member at

the main campus to ensure it will be integrated. The overall duties will be hoped to ensure the execution of development and user service of Information technology and communication that is more integrated in USM that align with the requirement to the goals of being an E-Research University.

### **2.1.1 Mission**

- The mission of PPKT is to provide the service and quality infrastructure of Information technology. The mission is also to integrate all of the process that involved the academic, students, administration and management through the web portal for the migration information sharing with the effort to upgrade the knowledge and expertise of the information technology among the USM committee.
- Guiding and turned as the inspirational source towards the committee of the university in coping with the change of the information Technology. Ensuring the insight of university to be an exceptional educational institution and research made into reality with the Information Technology to act as the catalyst.
- Building a campus committee which bears the knowledge and information in the course of Information Technology. Serve as the reference for all matters regarding the Information Technology.
- Offering the quality service in supporting the R&D activity, teaching and learning of higher education and providing the ICT infrastructure as a whole in USM innovatively and creatively.
- Integrate all service related to academic, students, administration and also management and society through an information portal and the migration based on the web.

### **2.1.2 Quality Objective**

All of the application will be examined and analysed and will be finalized in the period of three working days from the date of complete application form received:

- All of the report relating to the instrument destruction in PPKT which do not require any spare parts from the suppliers or specialist will be solved within the period of five working days.
- Processing and dispatching all bills and payment demand to the Department of treasurer within the period of three days from the date of the bill received.

### 2.1.3 Departmental Structure of Centre for Knowledge, Communication & Technology

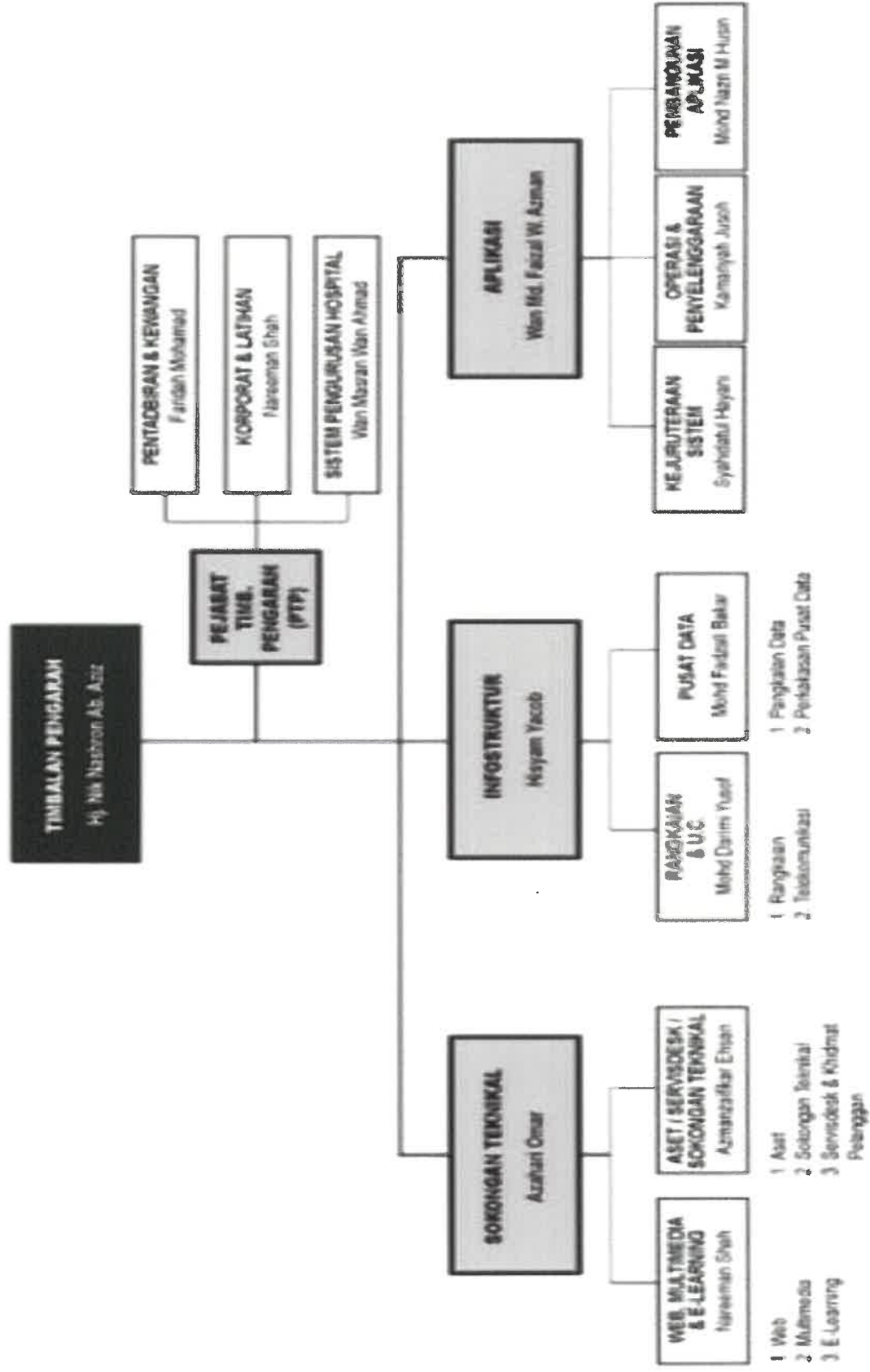


Figure 5: Organization chart of PPKT department

## **2.2 Function of the department In PPKT**

Basically, each of the section contained within the department bears their own challenging responsibility. It can be said that without the presence of each of these sections, the organization may cannot run their operation in a required standard which then will lead towards the poor performance of the organization itself. It is important for the organization to pay a close attention towards all of the section that play as the integral part within the operation of the organization. In PPKT, there are basically some section that function as the backbone for the operation of the organization which are:

### **2.2.1 Application Section**

The application section is the section that bears the responsibility in monitoring and also developing the system that being utilized within this organization. This application section will also be responsible in keeping a close attention towards the database connection of a system. Here it means that if there are some cases that some records of the clients of the organization merely to be found, this section will be the one to fix and find the appropriate solution towards the arising problem. The application section had developed all of the websites and also application for the usage of the entire organization that will facilitate both staff, doctors and also clients or patients.

### **2.2.2 Infrastructure Section**

The infrastructure section is also known as the networking section. This section is hugely responsible for the management of the network within this organization. Any matter that related to the network such as the connectivity of the network around each area of the building would be covered by this application. If the network connection is not meeting the standard requirement, the client may give any complains and refer to the infrastructure application to get more information regarding the problems.

### **2.2.3 Technician support Section**

The technician support section is one of the most important roles to be played within this organization. This section will be solely responsible in handling all sort of matters that contain the relation towards all technical aspect in the organization. For instance, the access card system and also the access gate or door system would be the duty of the technical support staff to manage. If the access door not properly working, the technical support staff will be the one to go down to the field and find the problem that cause the access door could not working well.

## **CHAPTER 3**

### **INDUSTRIAL TRAINING ACTIVITIES**

#### **3.1 Training Activities**

The trainee was involved in the industrial training period which is at the Universiti Sains Malaysia (USM). The trainee had been assigned to do the industrial training session at the Department of Knowledge, Communication, and Technology Center starting from 1st February 2019 until 30th June 2019. Along the industrial training period at the department, the trainee had performed certain kinds of activities such as:

##### **3.1.1 Learn about technical stuff about computer**

The trainee had gained the opportunity to pay the visit to another section which was located under the same building and room and explore various new environments about the involved section. Therefore, the trainee went to the technical section so that the trainee can pick up varieties of new knowledge. In addition, the trainee also visited the computer room under the section of technical and during the time spent at the computer room, the trainee acquired a lot of useful knowledge regarding the formatting of the computer.

Previously, the trainee had zero knowledge when it comes to formatting the computer. However, in the computer room, the technical staff serving the job at the computer room was very kind-hearted to teach the trainee on how to execute the computer format from the earliest phase. Other than that, the trainee had also learned about the computer operation process. During this operation process, the trainee had the chance to do some operation to the motherboard of the computer to see the inner component that makes up the computer. The technical staff also instructed each function of the inner component to make the trainee more alert about the build-up process within a computer.

After that, the trainee had grabbed the chance to learn about the scanning of the PC which is for the distribution reason. Throughout the scanning phase, the staff required to scan the inventory and serial number. These numbers were very important to be known because it will serve as the asset and the property of that organization. The trainee also being told by the staff that whenever the computer within the computer room was no longer needed for any operation, it must be disposed of in a proper manner.



### 3.1.2 Learn about company's profile

In the earlier week of the internship at the organization, the trainee had been given the task of exploring about the organizational background. The trainee was instructed to do this so that the trainee would be equipped with the knowledge of the true function of the organization and the goals the organization trying to achieve in the future. In order to find out in detail regarding the background of USM, the trainee had surfed the official portal of the USM and from there the trainee was exposed to a lot of useful information.

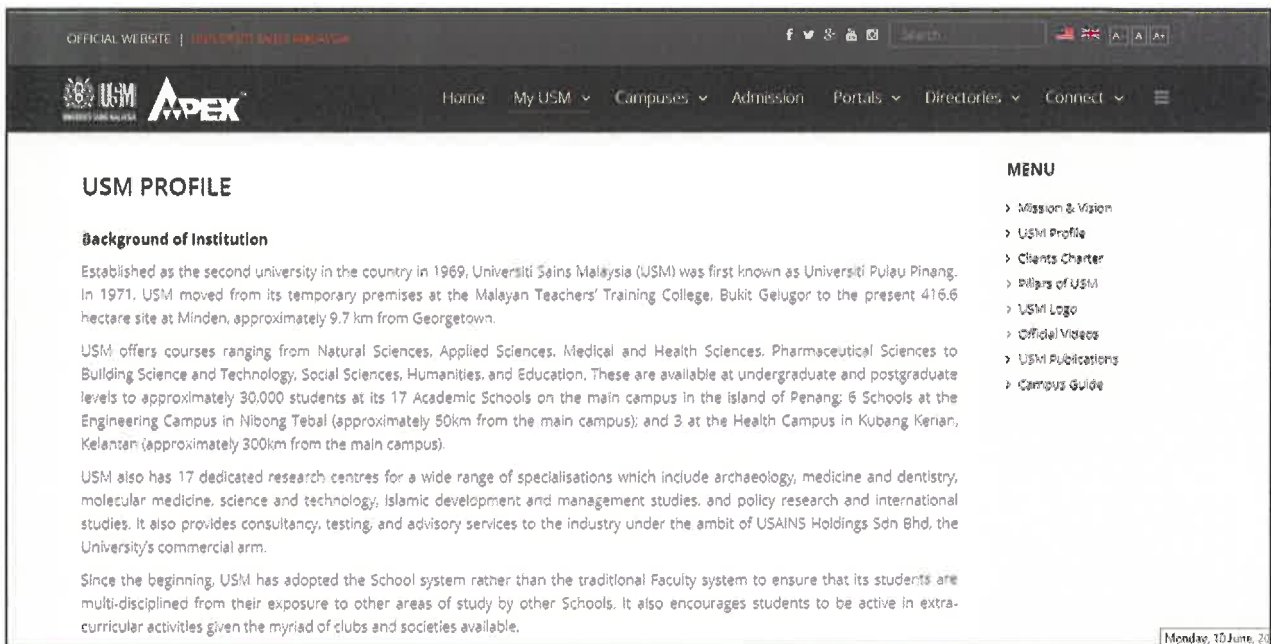


Figure 6: The Site about USM Profile

### 3.1.3 Join an Organized Workshop

#### 3.1.3.1 IONIC Workshop

Throughout the internship session at the USM, two different workshops session which about the usage of software had been organized by the department to make the staff and fellow practical student to be more flexible and expertized in using the software. The first workshop being organized in the department is the workshop regarding the IONIC software.

Basically, in USM, it can be said that all of the staff working under the IT department had no exposure when it comes to using IONIC software as the tools to develop a website or application. This

workshop was instructed and lead by a couple of former practical students of the USM who bears a lot of experience in utilizing the IONIC when they were assigned to do the project about the IONIC during their internship.

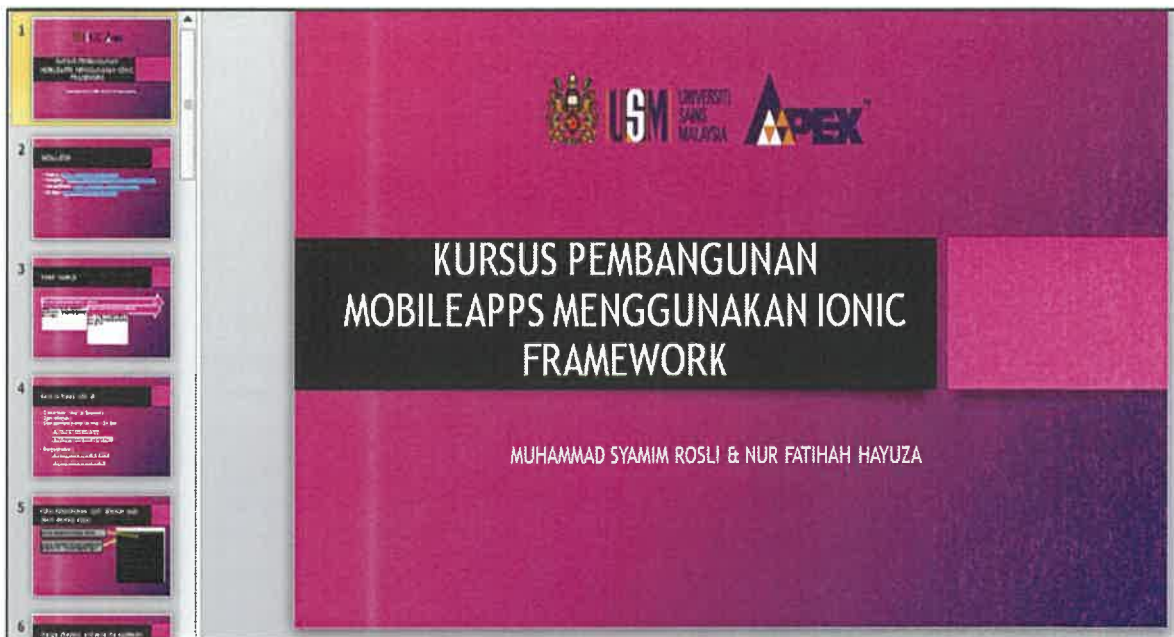


Figure 7: The slide that was used in learning of IONIC Workshop was conducted by Muhammad Syamim Rosli & Nur Fatihah Hayuza

During that workshop, the trainee had been given exposure to the concept of the IONIC framework itself. Then, the trainee had followed the instructor step by step to develop a system using the IONIC platform beginning from the installation of the various component needed in IONIC until the coding execution. The system about to be developed in that workshop is the half day-leave system. The system did not manage to be fully developed due to the time boundary.

In the workshop, the trainee had specifically learned that the IONIC is basically not the same as another programming language such as PHP and also HTML. Even the installation for the IONIC platform needs to be generated using the command prompt. After that, the trainee also exposed to the new term and software that included in the IONIC platform which involved the Angular. In nature, the Angular is the JavaScript-based open-source front-end web framework and the Angular is very crucial in order to make up an application in the IONIC framework.

### 3.1.3.2 CodeIgniter Workshop

For the next workshop, the workshop is about the usage of CodeIgniter (CI). CI is a framework specially designed for the likes of programmers to develop a proper website. For this platform, it can be said that most of the staff that serve under the application section within this department have the basic skill in using CI. The workshop was leaded and instructed by one of the most skillful staff in using CI programming platform who was Mr. Nazri M. Husin. The workshop was organized especially for the likes of students and staff of that department.

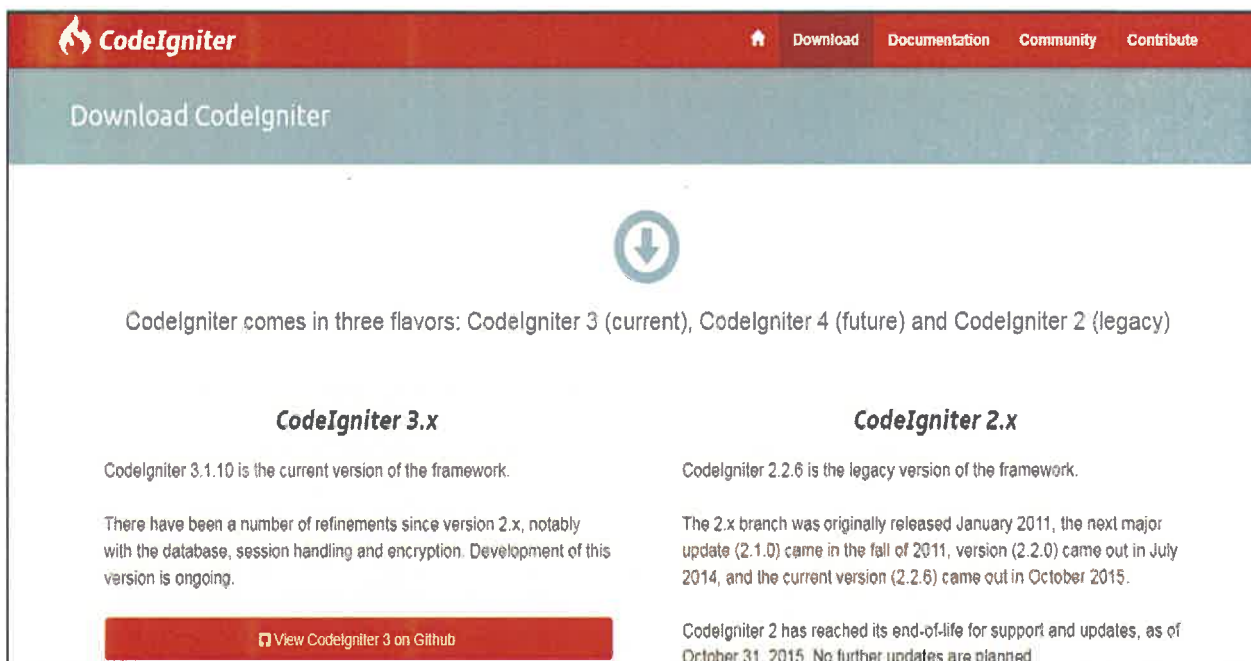


Figure 8: The page to Install the CodeIgniter platform

### 3.1.3.3 GitHub Workshop

The trainee also had attended the GitHub workshop organized by the deputy director of PPKT. The Git Hub is a web development platform which was widely utilized by most of the developers around the global for a better web development process. Through the utilization of the GitHub, a project manager can assign whatever task that they want the fellow developers to conduct. This workshop was instructed by Mrs. Nuru Asyikin Binti Mamat Saman who was one of the most experienced staff when it comes to using the GitHub Platform.

The first thing that the instructor told the trainee was to install the GitHub through the official portal of GitLab. Once the trainee had installed the Git, the instructor had briefed to the trainee about the

essential of using Git Hub as web development tools. Afterwards, Puan Syikin then teach the trainee to the very first step in using the Git Hub which was the creation of Issue. Through the creation of Issue, a project manager can assign as many tasks that they want to be delegated to the developers.

Then, the instructor also teaches the trainee about the merge requests, git status, git add, git commit, git pull and also the git push. All of the git instruction mentions just now need to be used according to its order, so the trainee need to remember from step to step when using the Git Hub.

#### **3.1.4 Learn the process of how to dispose of the monitor as an organization asset**

During the time spent by the trainee at the organization, the trainee also had learnt regarding the proper method to dispose the monitor that being used by the organization. At first impression, the trainee thought the monitor would be disposed just like that without having the need to ask for any authorization. However, once the trainee had been involved directly with the disposition of the monitor, the trainee had learnt that a lot of procedures need to be done in order to dispose a monitor. The monitor that need to be disposed needed to be attached with a sticker where it contained the serial number for the monitor and also the date for its disposition. Then, the monitor needs to be disposed within a secured environmental location and it could not just be dumped into the trash just like that. Any monitor that found disposed in an inappropriate manner would be charged by the authority for misconduct behavior.

#### **3.1.5 Join the organized Orientation**

##### **3.1.5.1 Orientation session with an application section**

Throughout the time the trainee spent at the intern, there were few orientations sessions that the trainee required to join. These orientations firstly took place in the middle of March and it ended in early of April. The first meeting was all about the technical section. For the first orientation, it was about the application section. The orientation was led by one of the staffs named Mr. Wan Faizal Wan Azman as a head of application section. During the orientation, the staff had briefed about the role of the application section and then he also told to the practical students regarding all of the systems that had been developed by the application unit.

### **3.1.5.2 Orientation session with a technician support section**

During this first orientation which led by the senior staff under the technician support section which is Mr. Azahari Omar. In addition, all of the practical students being exposed regarding the function of the technical section. The staff had briefed about the major duties of the technical section and the importance of the presence of this section towards the performance of the organization. Then, the staff briefed to all of the practical students about the project that the technical team used to involve in the USM.

### **3.1.5.3 Orientation session with Infrastructure section**

Then, there was the third orientation organized for the practical students. For this orientation, it was about the infrastructure section in term of networking. It was also led by one of the staffs working under the department named Mr. Md Darimi Yusof. In the midst of the orientation, the students had been exposed to the concept of networking and how it really works. The staff also told about the importance of the network for the operation of the organization itself. Then, after the orientation session for the network section had come to the closing moment, the students were given the chance to pay a visit to the server room of the department where they could saw a lot of servers running for the purpose of serving the organizational needs.

### **3.1.5.4 Orientation session with administration section**

Upon the fourth orientation, it was about the administration part. This orientation session was led by the deputy director himself named Mr. Haji Nik Nashron Ab Aziz. During this orientation, the deputy director told how the organization operates its daily work and the method utilized by the organization to communicate with other people that were far in term of geographical location. During the orientation, the practical students were also introduced to the video conference system where the students could see in live all of the components used in order to set up the video conferencing with another party.

### 3.1.6 Preparing slides for the supervisor

The trainee had been assigned by the supervisor with the task of making slides for him in order for him to present to the diploma student of UiTM Machang in the coming weeks. The slide was about Artificial Intelligence (AI) in the Health Care Industry. Regarding this matter, the trainee was required to learn a little bit about the AI system that is used in any health care industry nowadays.

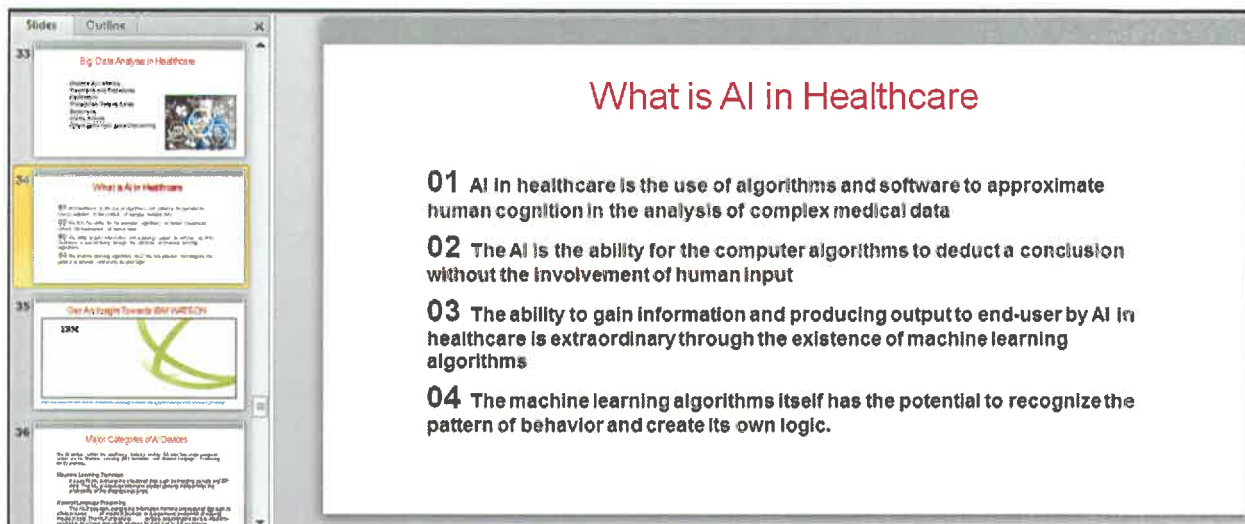


Figure 9: One of the slides of the AI Healthcare

### 3.1.7 Join knowledge sharing program

#### 3.1.7.1 Briefing program about data and Artificial Intelligence (AI)

Moreover, the trainee also gained the opportunity to be involved within the knowledge sharing program. There were several staffs that provided the talk about that topic. The first person that provided the sharing session was Mr. Mohd Fadzali Bakar. During the second talk preached by the man himself, he told the trainee about the data and Artificial Intelligence (AI). So here, Mr. Fadzali told the trainee about the history of the AI and also how AI can really facilitate the healthcare department in boosting the performance of the healthcare management into a whole new level. In addition, the staff also briefed about the Azure data bricks. The trainee had no idea at all regarding that term since it was a new term that the trainee ever heard of. Besides, Mr. Fadzali then briefed about the history of Azure data bricks and how they work.

### **3.1.7.2 Sharing knowledge about Enterprise Architecture (EA)**

For the next session of the program, it was delegated to Mrs. Zamilah Hussin. During that first session, the instructor had briefed regarding the Enterprise Architecture (EA). The instructor had taken the opportunity to explain the benefit of the EA and the objective of the EA itself. Then, she had the chance to tell about MyGovea. The instructor had also briefed about the background of MyGovea, the vision it tried to work on, framework, methodology and benefits of the MyGovea. After that, the instructor had briefed about the Hospital Management System (HMS). Therefore, she explained a lot about the whole function of the system itself such as the flow of the system and how it actually works. The instructor also managed to state the objective of building the system while mentioned about the benefit and implication through the implementation of the HRS system.

### **3.1.7.3 Exploration about meeting room, telephonies unit and Private Automatic Branch Exchange (PABX) room**

#### **3.1.7.3.1 An Introduction about live meeting situation by using meeting & conference room**

The next session was about the live demonstration for the fellow trainee through the staff regarding the proper usage of the meeting and conference room during a meeting. During this session, one of the staffs of PPKT had shown to us the device that utilized during a meeting with the party that located far from that department. The staff had introduced to the trainee the overall devices that being used in order to make the meeting with the other party through a live view.

At first, the staff introduced the trainee towards the audio devices which is very crucial so that the meeting with the other party will sound like both parties talking next between each other. Then, the camera was also being introduced to the trainee. This camera is basically unlike the usual camera that the trainee ever knows, this camera works as the component to make the image of the people from other location could be viewed by the people that conducted the meeting with them and the meeting would not be working without the presence of this component.

After that, the staff also briefed to the trainee about the importance of the live view conference for a better communication and promoting better understanding between two parties. By using the advanced technology, it can help an organization in preventing waste of money and time spend

### **3.1.7.3.2 Site Visit at the Private Automatic Branch Exchange (PABX) and telephonies room**

Then, for the other knowledge sharing session, it was delegated to Mr. Solahasni Abdul Aziz. Actually, the instructor was the main man in charge over the telecommunication unit of the department. During this session, the instructor had the chance to brief about the Private Automatic Branch Exchange (PABX) system and he told how the system really functions while mentioning about the benefit that the department gain through the execution of the system. Then, the instructor had given the chance to the fellow trainee to visit the PABX system site. The environment within the PABX system room was quite chilly.

The reason for the cold and chill sensation was in order to prevent all of the cables to absorb all the generated heat. Then, the trainee had the chance to visit the telephonies room where the trainee could see the staff that works in the room was busy picking up a lot of calls from a lot of clients. After that, the trainee was asked by the instructor to go back to the room where the knowledge sharing session took place. Then, he introduced fellow trainee to the video conference. There, he also told us about the hardware and software being used in order to make the video conferencing works.

### **3.1.7.4 Sharing knowledge about Inventor Apps**

Actually, the trainee had also been assigned with the task to present about the App Inventor towards the staff and also other practical students. The session was organized at the meeting room. The trainee needed to present about the history of App Inventor while display a little bit regarding the usage of the App Inventor to both staffs and practical students. The trainee was quite nervous at certain times when providing the presentation about the topic, but the trainee managed to get over it after couple of minutes. The trainee also had shown to the practical students and staff the mini project that the trainee was assigned with by using the App inventor where the trainee showed a little demonstration regarding the way to develop that app from scratch.

## **3.1.8 Supporting Event of USM**

### **3.1.8.1 Religious Talk Program**

The first event the trainee involved with was the religious talk which was composed by Pencetus Ummah (PU) Muhammad Rozi and it was organized by the USM organization. The topic that was being discussed was about peace and the uniqueness of Al-Quran. In the talk, PU Rozi had



specifically briefed about the greatness and power of Al-Quran and the impact that the Quran could give to us when we deeply understood all of the true meanings behind each word that stated in the Quran which is the phrase from the God (Allah).

### **3.1.8.1 Hand Hygiene Campaign**

Then, the second event that the trainee joined was regarding the hand hygiene campaign. In that event, the trainee was being exposed to a lot of useful and new information about the essence of taking care of hand hygiene. One of the nurses that given the authority to handle the campaign told the trainee that people easily got sick frequently because they did not even concern about their hand hygiene which then would affect their whole-body system. This is because when we eat, we would frankly use our hand, so if we tend to neglect the hand hygiene, a lot of deadly germs which keep sticking to our hands may also be mixed in the food that we ate. Then, the nurse also gives a piece of card that specifically instructed us the proper way to wash the hands with soap.

## **3.2 Special Project**

### **3.2.1 Project overview**

Budget Acquisition System that will facilitate the way the management board and also staff in managing the overall budget for all of projects contained within the organization. Previously, all of the information related to the budget of the organization would be recorded using paper-based manner meanings that it was entirely managed in manual system.

Most people already aware that by going manual, it will cause a lot of drawbacks rather than the benefits itself. This is because through the manual system, it seems that the budget acquisition of the organization was poorly managed by the management side. In some serious cases, one of the staffs of the organization had reported that the record for the budget acquisition for a certain project within the organization gone missing and could not be traced at all.

This case commonly happens due to the human error or carelessness when they managed all of the records of the budget acquisition. In a certain moment, the staff that was in charge over the records of the budget acquisition tend not to pay close attention towards some records of the budget that lead

them to misplace some of the records into another file. In the worst case, the staff does not even put the records into any file and they also unable to remember where they lastly seen the records.

Moreover, the manual system also tends to make it difficult for both staff and management board to retrieve the information regarding the budget acquisition when it is needed for whatever purpose. Just try to imagine that there is a whole bundle of records of the budget acquisition in a certain file, so it may take a quite longer period of time for the staff in charge to retrieve those records when being proposed by the other staff or board of management.

This will basically lead to inefficiency in organizational performance. Due to these issues, this matter had been discussed into the round table. As a result, the trainee's supervisor had recommended that a digital or online Half day leave system need to be developed and the supervisor had assigned the trainee and his partner to develop the system from scratch. The supervisor was also the one that allocated the idea that need to be input into the system and he also told that he wanted the trainee to keep update him regarding the development process of the system from time to time.

### **3.2.2 Phase: Project Planning**

For the planning phase, the trainee and his partner conduct some work in identifying the main problem that lies within the manual system. The trainee also discusses with the Organization Supervisor (OS) regarding the underlying problems with the manual system while the supervisor suggesting various ideas that can be used in order to develop the system. Apart from that, the trainee and his partner also identify the kind of resources to be installed so that the trainee and his partner can together build-up the system in an effective manner.

The planning phase is one of the most crucial stages when it comes to creating a well-structured system. By conducting a planning within a system development, a developer will possess the ability to identify the potential problem that may cause them upon a certain project. By using this planning phase, the trainee had significantly defined all the problems, objectives and the resources such as the costs and also required equipment. Besides, the trainee also strategized the perfect solutions after conducting a meeting with the clients and also employees.

### **3.2.2.1 Problem Statement**

In the midst of planning for this system, some of the problems had been identified which may turned out as the boundary towards this system execution. This system basically developed using the Ionic version 3 which is quite the latest version within the ionic framework package. Ionic framework is really something new for the trainee to learn at the organization. So below is the problem that land upon this system development:

#### **3.2.2.1.1 Require more time to explore the Ionic V3**

At first, the trainee had no idea at all about the Ionic framework. That is due to the reason that the trainee was never being exposed to such framework to begin with. The only thing the trainee aware of are regarding the PHP and also HTML platform. Then, the trainee required a lot of time in order to really understand the concept of the framework itself while keep on learning upon each component contain within the Ionic. Moreover, there is some function that is extremely hard to be understood by the trainee such as the database connection using the API.

#### **3.2.2.1.2 No employee possessing the skills in using Ionic**

This is another main thing that disrupts the trainee process in developing the system. When the trainee was firstly being assigned with this task, the trainee thought that most of other employee possesses the knowledge upon this platform however, when the trainee asked most employees regarding the platform, none of them aware about this platform and some of them do not even know about the existence of Ionic. So, the trainee needs to take the initiative for exploring the Ionic by himself through referring to the tutorial shown in the official ionic portal.

### **3.2.2.2 Objective**

- To design an acquisition budget system based on the manual system which can fulfill the requirement of PPKT that will facilitate the user in a more systematic manner
- To develop a budget acquisition system through the utilization of smart application device technology that facilitate the user to access and producing a report
- To test the functional capability and the advantage of budget acquisition system through the ionic platform as the framework to develop smart device application like android and i-Phone in the future

### **3.2.2.3 Scope of Project**

Budget Acquisition System is an automated system which specifically designed to facilitate the staff and also management board to generate and oversee all of the projects that was implemented and planned to be implemented for this organization. Moreover, this system is well-equipped with varieties of great features and functions in order to make the user to be easier to understand the flow of the system thus helping them to use the system in a way that it should. Basically, this system will serve two categories of users which are the board of management as the admin and the staff of organization as the end-user. The detail regarding the scope of this system is as follows:

#### **3.2.2.3.1 Board of Management (Admin)**

As the admin for this system, the board of management will be able to oversee all of the projects of the organization want to implement. Besides, they can also see the status of the project if the project had started to run or yet to be started.

#### **3.2.2.3.2 Staff (End-user)**

The staff of the organization can use the features contain within this system in order to generate all information regarding the projects contain within the organization. So here they can generate the overall status of the project, cost of the implemented project and also the name of the project itself.

### **3.2.2.4 Users Target**

#### **3.2.2.4.1 Board of Management (Admin)**

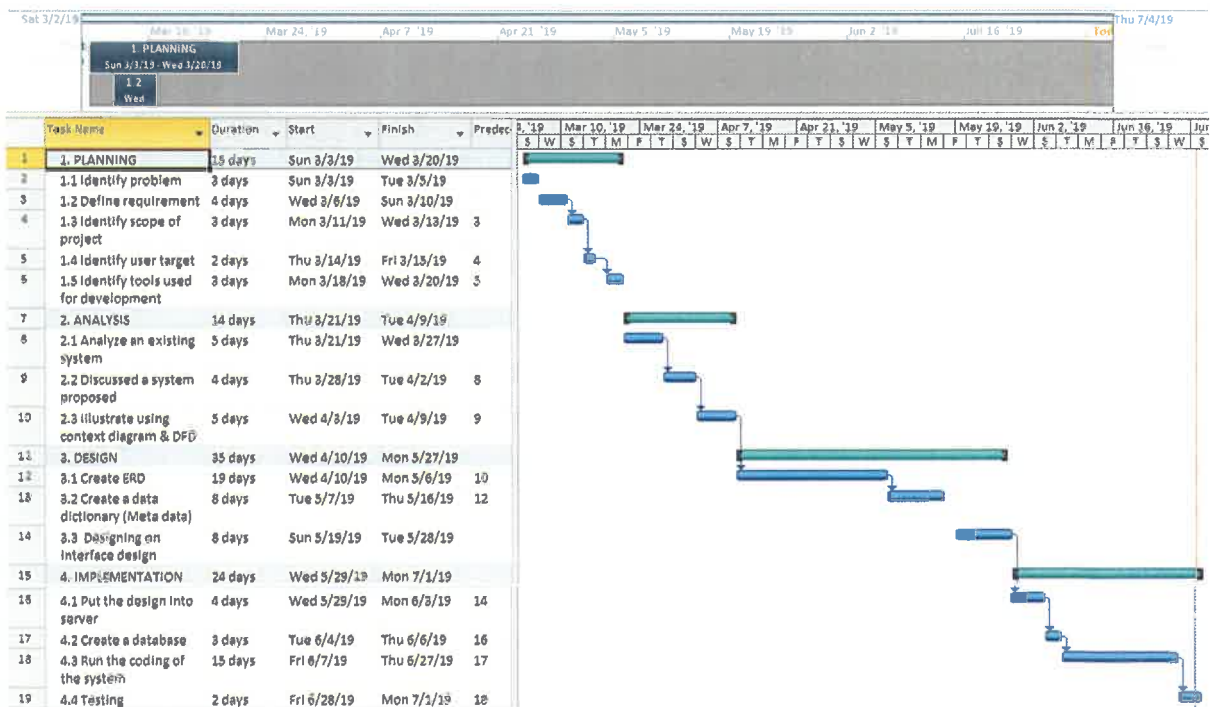
The admin will possess the ability to see all of generated information for all of the projects in the organization such as the project cost, name of project and the status of the project. The admin can also delete any information that no longer needed for their reference.

### 3.2.2.4.2 Staff (End-user)

By using the system, the staff can input all information such as the name of the project, status of the project and also the cost the project will cause the organization. Then, the staff can also update any information regarding the project in case some changes had been allocated towards the project and it may be in term of the cost and also the status of the project itself.

### 3.2.2.5 Project Duration

Table 1: Timeline of the project



### **3.2.3 Phase: Project Analysis**

For the analysis phase, the trainee and his partner plan to conduct some informal interview with the fellow staff of the IT department regarding their opinion towards the development of this system. The trainee will also inquire about the problem and issue that usually arise with the manual system based on the staff's experience. From that, it may be the upper hand for the trainee and partner to develop the system. The trainee and his partner also will read some related article or journals regarding the effectiveness of automated system in managing the budget acquisition. From the article, the trainee may be more aware upon how the leave system actually functions and work.

The analysis part is another integral part that needs to be paid a high concern by a developer to ensure a system would be smoothly running. Within this analysis phase, the trainee had analyzed all requirements needed for the system in order for it to be well-developed. In this phase, the trainee had also identified all of the requirements that the user or client wish to see. Based on those requirements, the trainee had aware what kind of approach need to be utilized in order to build-up the system. Indeed, the trainee needs to approach for the potential user or client to ask for their requirements so that once the system is fully developed, it will manage to meet all of their expectation for the system.

#### **3.2.3.1 Hardware and Software Requirement**

##### **3.2.3.1.1 Xampp**

Xampp is a free and also open source cross platform web server solution stack package which was developed by Apache Friends. The product of the Apache mainly involves the Apache HTTP Server, MariaDB database, and the interpreters for the scripts written within the PHP and Perl programming language. Basically, the trainee needs to use the Xampp platform in order for the trainee to test all of the codes written in the code editor on his own laptop or computer. The Xampp is also an awesome stuff because it possesses the ability to serve the web pages on the World Wide Web. On top of it, Xampp is well-equipped with a special tool which was provided for the password-protection. For the facts, that part is the most important within the package of Xampp. The trainee also used the approach to use Xampp because the Xampp also provide the support in creating and manipulating databases in MariaDb and the SQLite compared to others.

### **3.2.3.1.2 MySQL**

MySQL is an open source relational database management system (RDBMS) based on Structured Query Language (SQL), MySQL runs on virtually all platforms, including Linux, UNIX, and Windows. The trainee decides to use this MySQL since that the MySQL is the most popular language for adding, accessing, and managing the content within a database. The MySQL platform is really well-known for its fast processing, proven reliability, flexibility of use and ease.

### **3.2.3.1.3 Sublime**

Sublime text is a proprietary cross-platform source code editor with a Python application programming interface (API), it basically supports a lot of programming languages and markup languages. Besides, its function can be added by the users using the plugins which commonly community-built and maintained under free software licenses. The trainee had chosen to use this code editor because of its benefit and the trainee will write all of the codes for the system development using this single code editor.

### **3.2.3.1.4 Node JS**

Node.JS is an open-source, cross platform JavaScript run-time environment that executes the JavaScript code outside of the browser. Basically, the Node.JS lets the fellow developers use JavaScript to write command line tools and also for server-side scripting which means the running of scripts server-side in order to produce dynamic content for web page before the page is sent to the user's web browser. The trainee needs to use this Node.JS because the Node.JS uses an event-driven-output which makes it suitable for the implementation of real-time web applications.

### **3.2.3.1.5 Ionic Framework**

Ionic is a free, open source mobile UI toolkit for developing high-quality cross platform applications for the likes of native IOS, Android and also the web. What make it more interesting is that all of that can be made through a single codebase. Apparently, the trainee needs to install and download this framework since that the Ionic platform is the only mobile app stack that enables the developers for apps for all major app stores and mobile web with only a single code base which is very time-saving.

### 3.2.4 Phase: Project Design

The design phase is the integral part where the trainee would described in detail regarding necessary specifications, features and also operations that would satisfy all of the functional requirements of the requested system that will be in place. So basically, during this phase, the trainee already had in mind on the design over the interface that the trainee would like to develop which is suitable and fit in with the client's requirement over this developed system. Then, the trainee had draft all of the interface that the trainee bear in his mind onto a piece of paper to see it in a beautiful structured illustration o that the trainee may decide if this design may not be as suitable as the trainee first thought. Only when the trainee feels that all of the design of the interface for the system would satisfy the client, the trainee would finally start to finalize the interface design over a more systematic way using software.

#### 3.2.4.1 Illustration of Diagram

##### 3.2.4.1.1 User Case Diagram & USM API

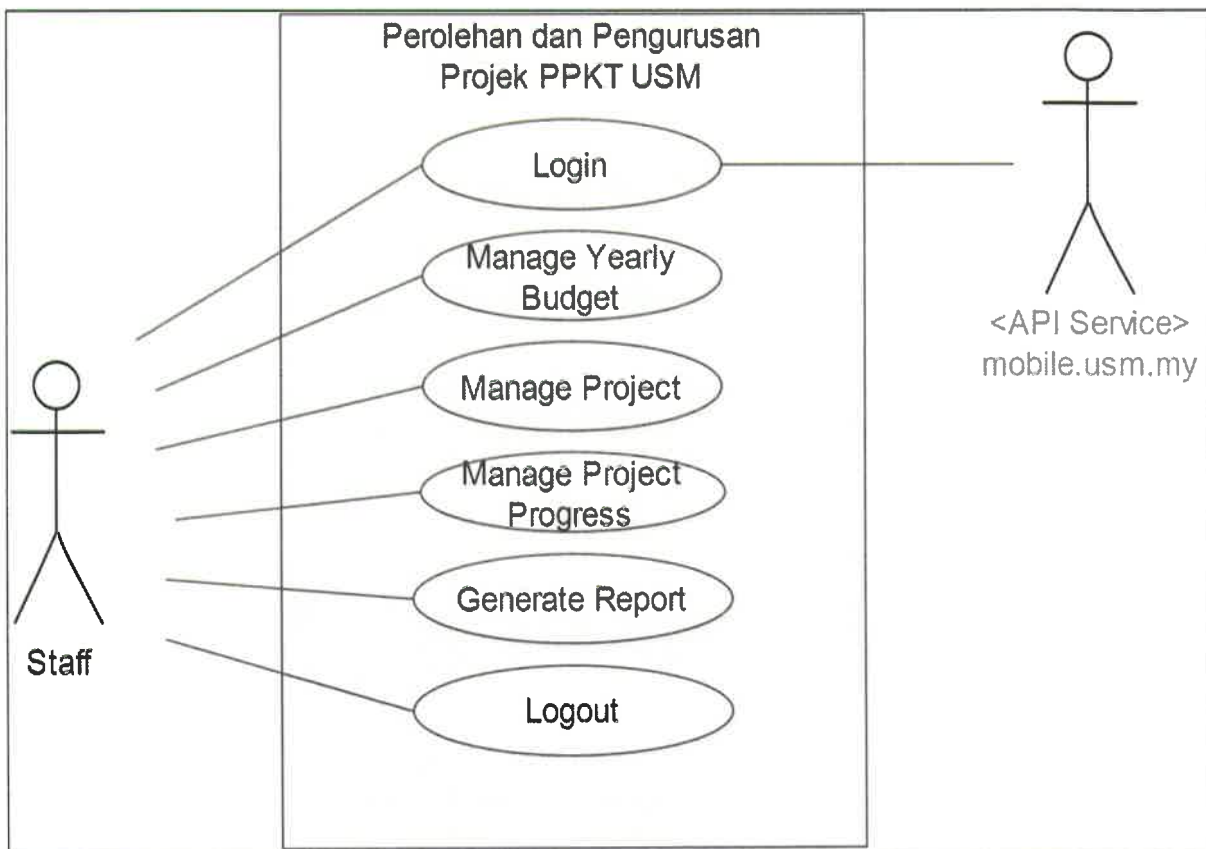


Figure 10: User Case Diagram



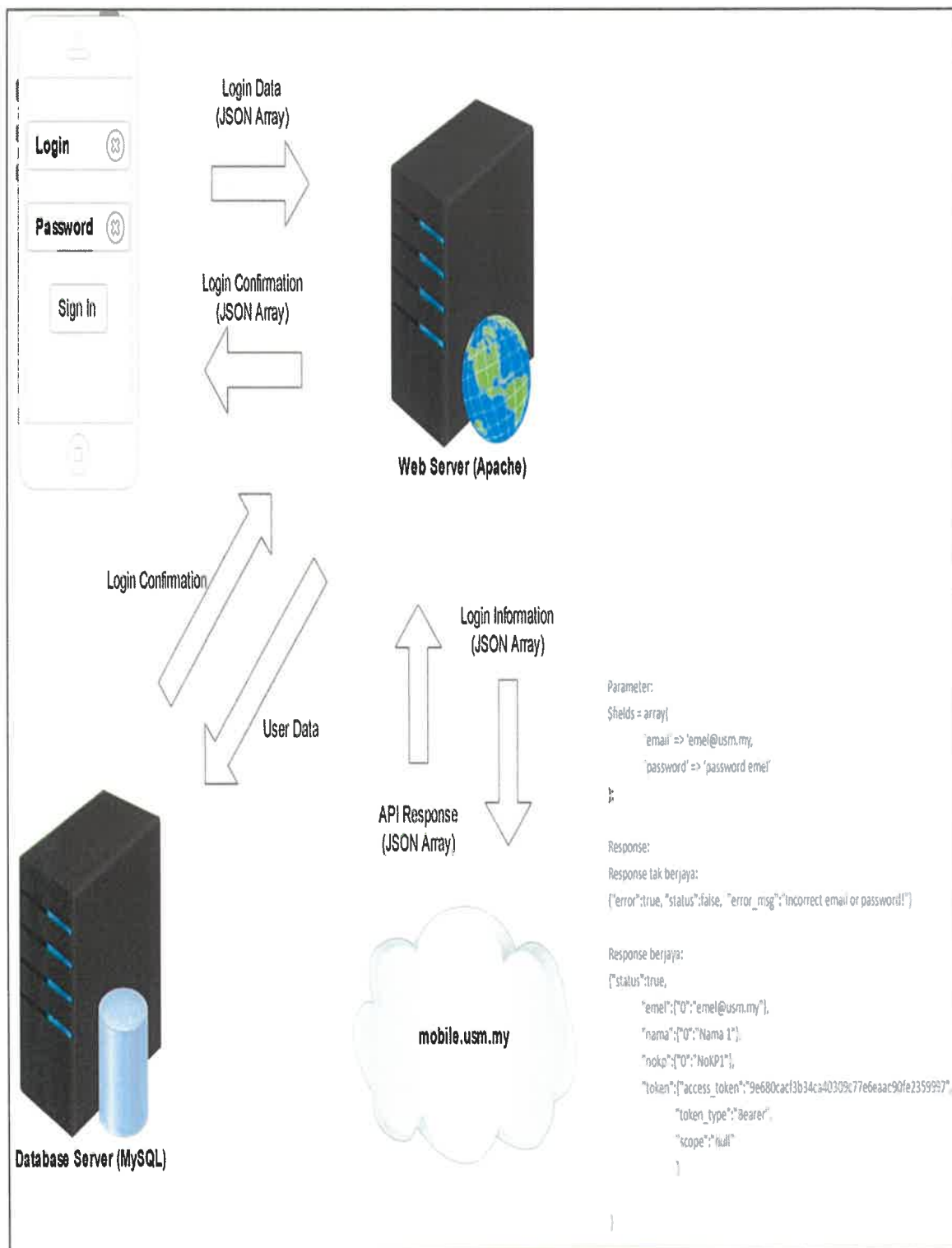


Figure 11: User Case USM API

### 3.2.4.1.2 Data Flow Diagram (DFD) of Budget Acquisition System

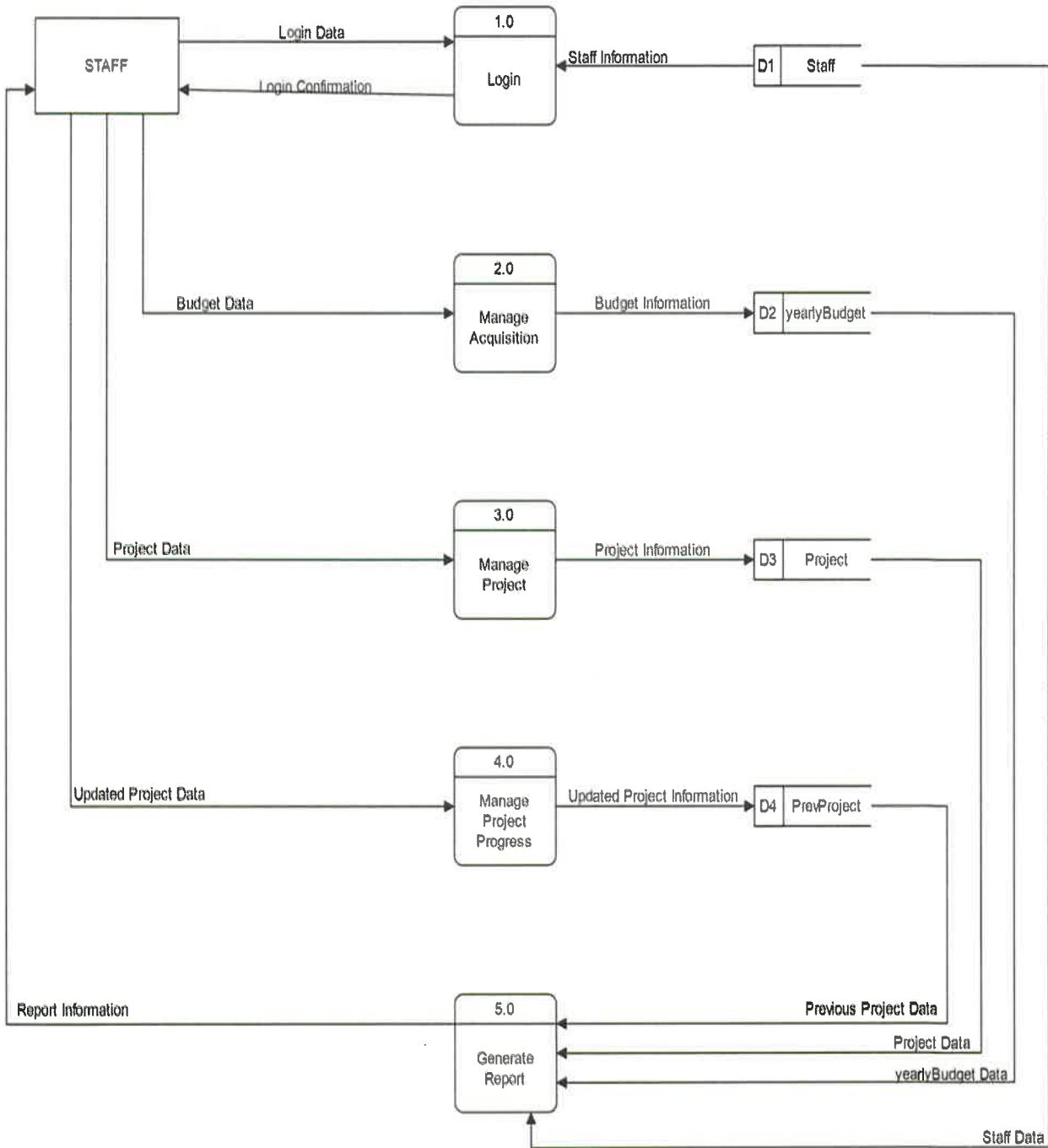


Figure 12: Data Flow Diagram of the System

### 3.2.5 Phase: Project Implementation

Finally, for the implementation phase, the trainee and partner will install all of the required software such as the Node.JS, Sublime 3, GitHub and also Ionic Framework. The trainee will allow the system to be tested by the likes of the IT staff as the pilot test to see if there is any corrective action needed to be implemented after the system is fully developed.

The implementation phase can never be done by the trainee unless the trainee totally bears the understanding towards the system requirement and the flow of the system itself. Then, upon the implementation of all codes and all development process for the system, the trainee would take the alternative in testing out the system by giving the chance for the client or staff of the organization to test the system function for an initial trial. From there, the trainee could identify whether the function had met the requirement standard set by the fellow client or else.

#### 3.2.5.1 Entity Relationship Diagram (ERD) of Budget Acquisition System

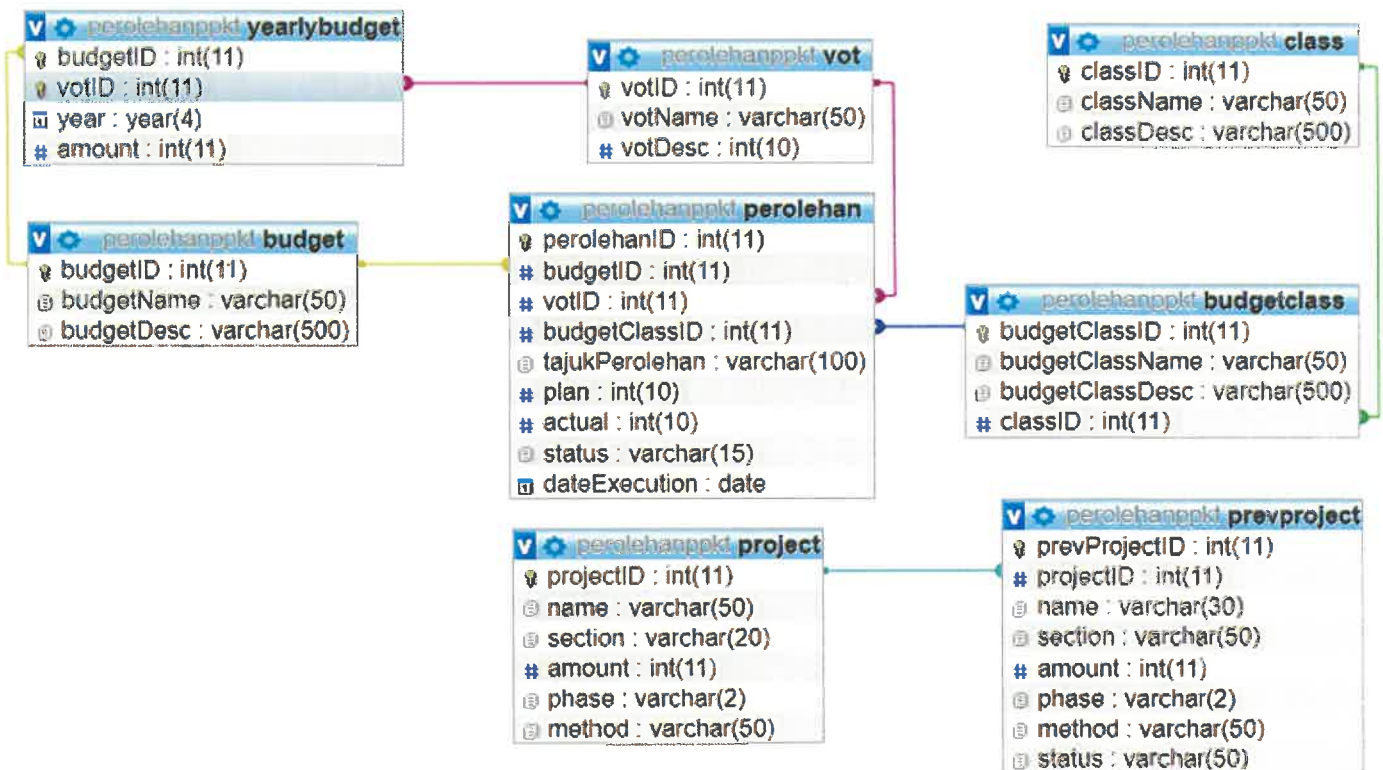


Figure 13; Entity Relationship Diagram

### 3.2.5.2 Data Dictionary of Budget Acquisition System

#### 3.2.5.2.1 Data Dictionary in table budget

Table 2: Data dictionary in table budget

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
Budget	1	budgetID	int(11)			No	None		AUTO_INCREMENT
	2	budgetName	varchar(50)	latin1_swedish_ci		No	None		
	3	budgetDesc	varchar(500)	latin1_swedish_ci		Yes	None		

#### 3.2.5.2.2 Data Dictionary in table Budgetclass

Table 3: Data Dictionary in table Budgetclass

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
Budgetclass	1	budgetClassID	int(11)			No	None		AUTO_INCREMENT
	2	budgetClassName	varchar(50)	latin1_swedish_ci		No	None		
	3	budgetClassDesc	varchar(500)	latin1_swedish_ci		No	None		
	4	classID	int(11)			No	None		

#### 3.2.5.2.3 Data Dictionary in table Class

Table 4: Data Dictionary in table Class

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
Class	1	classID	int(11)			No	None		AUTO_INCREMENT
	2	className	varchar(50)	latin1_swedish_ci		No	None		
	3	classDesc	varchar(500)	latin1_swedish_ci		Yes	None		

### 3.2.5.2.4 Data Dictionary In table Perolehan

Table 5: Data Dictionary in table Perolehan

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
Perolehan	1	perolehanID	int(11)			No	None		AUTO_INCREMENT
	2	budgetID	int(11)			No	None		
	3	votID	int(11)			No	None		
	4	budgetClassID	int(11)			No	None		
	5	tajukPerolehan	varchar(100)	latin1_swedish_ci		No	None		
	6	plan	int(10)			No	None		
	7	actual	int(10)			No	None		
	8	status	varchar(15)	latin1_swedish_ci		No	None		
	9	dateExecution	date			Yes	None		

### 3.2.5.2.5 Data Dictionary In table Prevproject

Table 6: Data Dictionary in table Prevproject

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
Prevproject	1	prevProjectID	int(11)			No	None		AUTO_INCREMENT
	2	projectID	int(11)			No	None		
	3	name	varchar(30)	latin1_swedish_ci		No	None		
	4	section	varchar(50)	latin1_swedish_ci		No	None		
	5	amount	int(11)			No	None		
	6	phase	varchar(2)	latin1_swedish_ci		No	None		
	7	method	varchar(50)	latin1_swedish_ci		No	None		
	8	status	varchar(50)	latin1_swedish_ci		No	None		
	9	notes	varchar(500)	latin1_swedish_ci		Yes	None		
	10	timestamp	timestamp		ON UPDATE CURRENT_TIMESTAMP	No	CURRENT_TIMESTAMP		ON UPDATE CURRENT_TIMESTAMP

### 3.2.5.2.6 Data Dictionary in table Project

Table 7: Data Dictionary in table Project

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
Project	1	projectID	int(11)			No	None		AUTO_INCREMENT
	2	name	varchar(50)	latin1_swedish_ci		No	None		
	3	section	varchar(20)	latin1_swedish_ci		No	None		
	4	amount	int(11)			No	None		
	5	phase	varchar(2)	latin1_swedish_ci		No	None		
	6	method	varchar(50)	latin1_swedish_ci		No	None		
	7	notes	varchar(250)	latin1_swedish_ci		No	None		
	8	timestamp	timestamp			on update CURRENT_TIMESTAMP	No	CURRENT_TIMESTAMP	

### 3.2.5.2.7 Data Dictionary in table Propproject

Table 8: Data Dictionary in table Propproject

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
Propproject	1	propProjectID	int(11)			No	None		AUTO_INCREMENT
	2	name	varchar(50)	latin1_swedish_ci		No	None		
	3	section	varchar(20)	latin1_swedish_ci		No	None		
	4	amount	int(11)			No	None		
	5	notes	varchar(250)	latin1_swedish_ci		No	None		
	6	timestamp	timestamp			on update CURRENT_TIMESTAMP	No	CURRENT_TIMESTAMP	

### 3.2.5.2.8 Data Dictionary in table yearlybudget

Table 9: Data Dictionary in table yearlybudget

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
yearlybudget	1	budgetID	int(11)			No	None		
	2	votID	int(11)			No	None		
	3	year	year(4)			No	None		
	4	amount	int(11)			No	None		

### 3.2.6 Budget Acquisition System's Interface

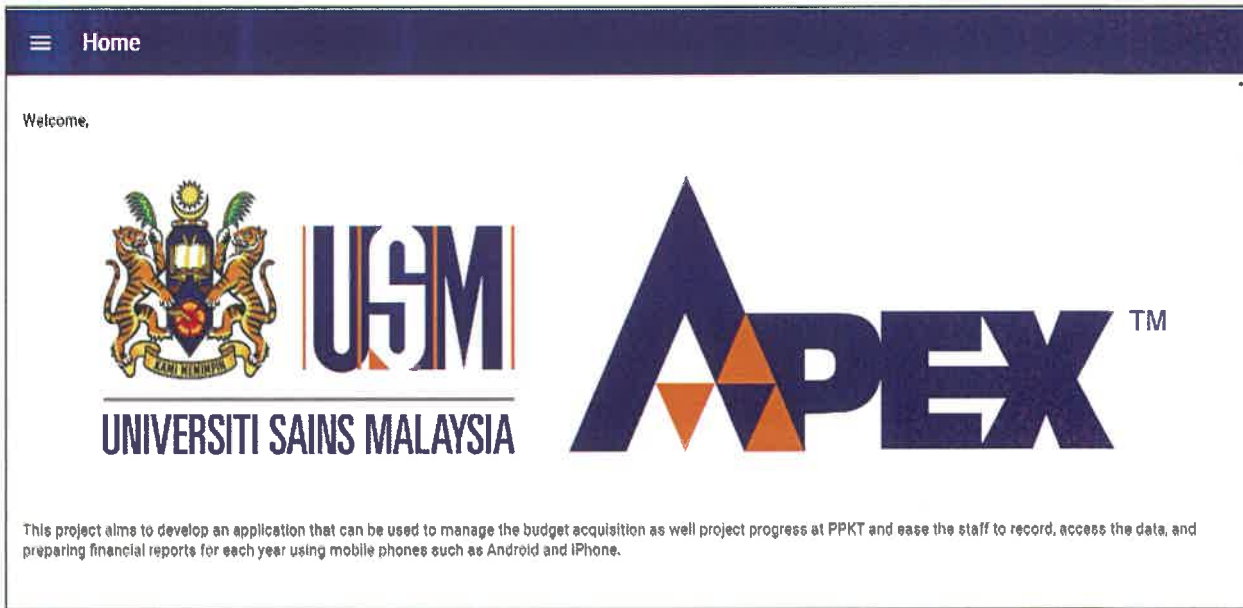


Figure 14: Interface for home page



Figure 15: Interface for sign In page

← **Bajet Tahunan Baru** x ✓

**Maklumat Bajet**

Akaun	▼
Tahun	
Jumlah (RM)	20000.00

Figure 16: Interface for new budget allocation page

← **Pelan Projek Baru** ✓

**Maklumat Pelan Projek**

Nama Projek	
Seksyen	▼
Jumlah (RM)	20000
Fasa	▼
Kaedah Perolehan	▼
Nota	—

Figure 17: Interface for new project plan page



### **3.3 Literature Review**

Based on a statement by Kebede (2016), in a day where technology is put on as priority as nowadays, computerized system had emerged as the people's top choice due to its capability to facilitate them in various ways. By computerized, it significantly means that all of the system will be handled electronically which will basically reduce the high possibility of the human error which mainly occur with manual system. Apparently, in most developing countries, they preferred to prioritize the utilization of such automated system rather the manual one due to the successful track the automated system brings along them.

#### **3.3.1 Advantages of the Computerized System**

According to Ananda (2014), during the early days, the manual system was hugely applied by most people due to the lack of the computerized system availability. However, years after years the technology keep changing and becoming more advance that lead to the people desire to work within an automated environment which making them more effective and efficient. Computerized system will basically enhance people in conducting their daily work in a faster manner thus improving the performance of the employee themselves.

Besides, according to Yank (2014), computerized system also increases the security over the data or record regarding anything since all of the data and records could be duplicated into one or more copies for safety reason. Hence, most company or organization would not have to worry in case some disaster occurs which then damaging their data and information preserved in the organizational site because they can ensure that they can safely preserved all of the copies of the data and information at the other remote site.

#### **3.3.2 Weakness of Manual System**

Based on Fawze (2016), indeed, during the past, most people tend to prefer manual system over computerized due to certain reasons, but since the technology had gone through a breakthrough for the past decades, people began to change their mindset and opinion regarding the manual system making them to prefer more towards the computerized system. This is due to the reason the people had realized that by going with manual, it tends to make the performance of their organization not meeting the standard requirement.

Not only that, NZoka (2014) stated that the manual system also tends to be time consuming. Just imagine that people need to go to the central institution just to fill a form for anything and for them to go to the central institution from their home are not merely a short journey considering the traffic jam they may face. Thus, it basically wastes most of their time when they can actually spend the time they wasted on the other integral parts. Then, based on Richardson (2010), the common weakness of the manual system is that it cannot be possibly retrieved whenever it goes missing or is destroyed in a disaster that occurs which leads to data loss and cannot ever be traced.

### **3.3.3 Revolution from Manual to computerized**

According to Uysal (2009), most people have finally come to realize that they need to be aligned with the technology changes that drastically change during the past years. This phenomenon has made most of the manual system to change or upgrade into a more advanced automated system. Santoro (2016) stated that in most developing countries such as the United States, Japan and China, they had begun to use the automated in almost all aspects since the early 80's.

Based on Altuna (2006), these developing countries have ensured that their people became more aware about the importance of the change into an advanced computerized system in creating a more effective and efficient nation through various methods such as TV broadcasting and a campaign. Through the revolution of the manual into a computerized manner, one nation can make sure that the people will possess the ability to work in a more competitive and also efficient environment that will lead to the contribution towards the nation's goal of being on par with another developing country.

### **3.3.4 Relation between IR 4.0 with Computerized System**

According to Kolberg (2015), the term IR 4.0 stands for the fourth industrial revolution which can be defined as the new level of organization and control over the entire value chain over the product's life cycle. The need for the IR 4.0 was to make a conversion for the regular machines to a self-aware and also self-learning machine in order to improve an organization's whole performance and maintenance management with the surrounding interaction.

Wang (2016) stated that by computerization, it actually got a close relation with the usage of robotic systems. The robots are emerging as a more autonomous, flexible and also cooperative from day to day which makes them able to work with the fellow human side by side on an occasion. Then, Wan

(2016) also stated the autonomous robot was commonly used to perform the autonomous production method in a more precise manner while working at a place where human restricted to conduct their work.

Zuhlke (2015) had briefed that the computerized is also related with the internet of things. The internet of things basically means the worldwide network of interconnected and uniform addressed objects that having communication through the standard protocols. By the utilization of IOT, the people will be able to facilitate their daily life such as their office management and house facility management without even being at the site.

According to Ivanov (2016), every computerized system needs a strong cyber security which is why with the presence of the IR 4.0, a reliable, secure communications as well as the sophisticated identity and access management of users and machines need to be in place. With the IR 4.0, the security over a system would be upgrade into a whole new level which will lead to the greater performance of the system itself.

### **3.3.5 System Development Life Cycle (SDLC)**

According to Afgan (2000), a system development life cycle is a precise step that is necessary to be taken in order to successfully developing a system project. The methodology may be an established product for example Rational Unified Process or developed in house, and should accommodate projects of all sizes, including both applications development and infrastructure projects. Further, the adopted methodology should be able to accommodate the need for rapid deployment projects.

#### **3.3.5.1 Benefits of System Development Life Cycle (SDLC)**

Based on a research conducted by Haurant (2011), a system development life cycle brings a lot of advantage towards a software project. This is because usually, at the end of each phase in the cycle, it will provide a review which is very useful especially for the likes of the managers since they can analyze if the project is running according to their calculation and expectation.

Then, based on the research conducted by Bridgeman (2011), by conducting the system development life cycle, it will be much easier to control the risk over a project because by implementing this cycle, one organization will be able to possess the biggest threat or risk that may

land upon their project. Hence, they can focus over that potential biggest threat and risks and try to find the solution for the risk.

In a statement made by (2016), system development life cycle is very effective and efficient because it will ensure that a project team will become more flexible meanings that they are able to adapt to any changes that happen. This is due to the early preparation that they had already planned in their mind when they firstly conduct a planning session over a certain project. Thus, a project may not be disrupted over any problem that may arise since there will be some back-up plan ready to be allocated in case the project not running very smoothly as expected.

## **CHAPTER 4**

### **CONCLUSION**

#### **4.1 Application of knowledge, skills and experience**

During the period the trainee spend at the internship, the trainee had significantly applied all of the knowledge, and skills that the trainee had learnt from the previous subject which was System Analysis and Design I and II. The reason for the application is in order to properly developing the system towards the client. Besides, the trainee had also explored more regarding the Ionic platform independently by referring to its official sources such as the ionic framework official website.

Then, the trainee had also learnt to build a simple mobile application using a software called app inventor where the trainee managed to learn an alternative way in creating a mobile application for android or tablet from scratch. Not only that, the experience that the trainee gained from the event management which include the user training program during the studies in Faculty of Information Management, UiTM Kelantan also had benefited the trainee when the trainee wants to have a conversation or communication with the fellow staff.

Then, the trainee had finally aware about the most appropriate manner to develop a system within a working team environment which is through utilizing the Git Hub platform. The trainee had learnt a lot about the varying function of the platform which is very crucial especially when it comes to facilitate the leader of the system project to effectively collaborate with other developers.

On top of it, the trainee had learnt about the essential of the network towards all operations that conducted within an organization by viewing in live the proper way the network working inside the organization. The trainee had also learnt on how the network cable being extracted in order to provide a strong network connection towards all departments in the organization that will ensure the stability of effective and efficient performance within an organization.

## **4.2 Personal thoughts and opinion**

The trainee has the feeling that the organization provides various opportunities and also supportive environment. All of the staff working at the organization is very friendly and generous. They are also easy to deal with whenever the trainee needed their help for anything. That also goes for the top management of the organization. The top management was also very kind and humble towards the trainee where the top management kindly provide all sort of useful advices for the trainee in order to be successful when the trainee step into the real working life in the near future. The trainee also thinks that all of the knowledge and skills provided by the faculty is all necessary and useful. However, the faculty may need to give the fellow students more experience regarding the programming language that available worldwide. Basically, it means that the faculty may need to instruct a little bit about the basic of programming language such as Python, Ruby, Ionic and also Code Igniter since that most of the organization use these kinds of platform in order to develop a system or websites for their company.

## **4.3 Lesson Learnt**

Through the time the trainee had spent during the internship, the trainee had learnt to more independent, discipline, and punctual. Not forget to mention the trainee had also improves in term of the communication and interpersonal skills. By being in working environment, the trainee had learnt to be more commit with time and also multiple tasking. For instance, the trainee had been assigned with various tasks by the supervisor which was to prepare a presentation slide while developing a system for the organization. The trainee had learnt that the trainee always needs to learn new things and must be ready to learn all sort of new stuff in order to be more competitive in the future among other competitive rivals. This is because when the trainee got into the organization, the trainee had been assigned with the task of developing an application by using the framework or platform that the trainee does not even know that it actually exists. This made the trainee realize that the trainee needs to be well equipped with a lot of new knowledge because the trainee will never know what the future company that hires the trainee want the trainee to do for their company's operation.

#### **4.4 Limitations and recommendations**

The equipment provided by the organization was quite limited. The trainee would like to suggest the organization to put this matter into the round table where the organization may need to put more computer facilities such as monitor, mother board for the likes of practical students. This is because there may be time where the student's laptop may be broken unexpectedly which then emerge as the boundary for them to successfully developing a system. They got no money for them to buy a new one which is very difficult for them when the laptop went broken. This is why a table fully equipped with computer system need to be considered by the organization in the near future.

Then, the trainee would also like to recommend that the faculty may improve the courses by providing more real-time courses so the students who will undergone the practical training will be well-equipped with all of the required hands-on skills rather than depending on the theories learnt in the classes.

## REFERENCES

(Azahari Omar, personal communication, February 27, 2019)

Different training & internship. (2018). Retrieved from <https://keydifferences.com/difference-between-training-and-internship.html>

Maple., Simon. (2016). Gi Cheat Sheet Commands and best Practice. Retrieved from <https://jrebel.com/rebellabs/git-commands-and-best-practices-cheat-sheet/>

(Md Darimi Yusoff, personal communication, February 28, 2019)

(Mohd Fadzali Bakar, personal communication, February 28, 2019)

(Muhammad Rozi, personal communication, April 9, 2019)

(Nareeman Shah, personal communication, March 21, 2019)

(Nik Nashron Abd Aziz, personal communication, February 2, 2019)

(Nik Mohammad Hazim Nik Najib, personal communication, June 19, 2019)

Pengenalan PPKT. (n.d). Retrieved from <http://www.ppkt.kk.usm.my/v5/index.php/2016-02-28-01-39-49/pengenalan>

USM Profile. (n.d). Retrieved from <https://www.usm.my/index.php/my-usm/background/usm-profile>

(Solahasni Abdul Aziz, personal communication, March 20, 2019)

(Wan Faizal Wan Azman, personal communication, February 25, 2019)

(Zamilah Hussin, personal communication, March 3, 2019)

(Zatul Adaniah, personal communication, June 19, 2019)



# APPENDICES

# **1.0 ATTENDENCE**

**SENARAI KEHADIRAN PELAJAR PRAKTIKAL****NAMA: Nik Mohd Hazim Nik Najib****NO PENGENALAN: 960706036127**

<b>Tarikh</b>	<b>StatusIN</b>	<b>StatusOUT</b>
3/2/2019	9:33:37 AM	3/2/2019 0:00
4/2/2019	8:05:45 AM	5:01:27 PM
7/2/2019	8:04:34 AM	0000-00-00 00:00:00
10/2/2019	7:54:50 AM	5:00:14 PM
11/2/2019	7:52:01 AM	5:01:04 PM
		5:02:44 PM
13/2/2019	7:52:23 AM	0000-00-00 00:00:00
13/2/2019	5:02:19 PM	0000-00-00 00:00:00
14/2/2019	8:03:56 AM	4:48:32 PM
17/2/2019	7:45:13 AM	4:51:26 PM
		4:55:09 PM
18/2/2019	18/2/2019 7:59	5:05:25 PM
19/2/2019	8:10:50 AM	5:01:43 PM
20/2/2019	7:55:52 AM	5:03:45 PM
21/2/2019	8:01:30 AM	4:56:09 PM
24/2/2019	8:05:24 AM	5:01:47 PM
25/2/2019	8:08:50 AM	5:02:21 PM
26/2/2019	7:49:38 AM	5:00:17 PM
27/2/2019	8:11:12 AM	5:05:44 PM
28/2/2019	7:35:21 AM	4:52:52 PM
3/3/2019	7:35:43 AM	4:58:30 PM
4/3/2019	7:26:49 AM	5:11:17 PM
5/3/2019	7:28:09 AM	5:09:25 PM

6/3/2019	7:36:34 AM	5:11:16 PM
7/3/2019	7:27:00 AM	5:06:04 PM
10/3/2019	7:28:33 AM	4:58:55 PM
11/3/2019	7:32:37 AM	5:10:52 PM
12/3/2019	7:28:01 AM	0000-00-00 00:00:00
12/3/2019	7:38:01 AM	4:59:23 PM
13/3/2019	7:45:56 AM	5:02:58 PM
14/3/2019	7:29:17 AM	0000-00-00 00:00:00
14/3/2019	8:08:39 AM	4:59:07 PM
17/3/2019	7:34:00 AM	5:03:36 PM
18/3/2019	7:48:05 AM	5:03:27 PM
19/3/2019	7:31:45 AM	5:01:47 PM
20/3/2019	7:24:23 AM	5:00:04 PM
21/3/2019	7:36:00 AM	5:02:22 PM
24/3/2019	7:41:33 AM	4:58:28 PM
25/3/2019	7:59:02 AM	0000-00-00 00:00:00
26/3/2019	7:44:07 AM	4:58:05 PM
27/3/2019	7:55:33 AM	5:00:54 PM
28/3/2019	7:48:40 AM	4:54:24 PM
31/3/2019	7:43:34 AM	4:57:56 PM
1/4/2019	7:37:28 AM	5:03:33 PM
2/4/2019	7:48:09 AM	5:01:22 PM
3/4/2019	7:46:20 AM	5:01:01 PM
4/4/2019	7:17:56 AM	0000-00-00 00:00:00
7/4/2019	7:47:51 AM	4:58:43 PM

8/4/2019	7:53:26 AM	0000-00-00 00:00:00
10/4/2019	7:44:58 AM	5:00:39 PM
11/4/2019	7:30:36 AM	0000-00-00 00:00:00
		4:49:19 PM
14/4/2019	7:16:08 AM	0000-00-00 00:00:00
14/4/2019	7:17:13 AM	4:57:57 PM
15/4/2019	7:24:28 AM	0000-00-00 00:00:00
15/4/2019	7:42:31 AM	0000-00-00 00:00:00
16/4/2019	7:25:24 AM	5:01:54 PM
17/4/2019	7:28:38 AM	5:00:03 PM
18/4/2019	7:37:05 AM	5:04:42 PM
21/4/2019	7:39:31 AM	7:49:47 AM
		5:03:53 PM
22/4/2019	7:30:24 AM	5:01:27 PM
23/4/2019	7:38:25 AM	5:01:18 PM
24/4/2019	7:43:42 AM	5:02:30 PM
25/4/2019	7:49:56 AM	4:53:24 PM
28/4/2019	7:26:19 AM	5:00:13 PM
29/4/2019	7:29:58 AM	0000-00-00 00:00:00
29/4/2019	7:32:16 AM	4:57:45 PM
30/4/2019	7:42:20 AM	0000-00-00 00:00:00
		4:57:32 PM
2/5/2019	7:55:54 AM	4:57:14 PM
5/5/201	9 7:45:49 AM	4:56:23 PM
6/5/2019	7:33:12 AM	4:26:15 PM
7/5/2019	7:31:51 AM	3:46:41 PM
8/5/2019	7:20:16 AM	3:45:51 PM
9/5/2019	7:13:01 AM	3:33:30 PM
12/5/2019	7:08:00 AM	0000-00-00 00:00:00

12/5/2019	7:39:33 AM	3:47:20 PM
13/5/2019	7:13:07 AM	3:46:20 PM
14/5/2019	7:09:49 AM	3:47:42 PM
15/5/2019	7:14:09 AM	3:47:47 PM
16/5/2019	7:20:07 AM	3:32:34 PM
20/5/2019	7:18:38 AM	3:51:35 PM
21/5/2019	7:15:51 AM	3:48:48 PM
23/5/2019	7:12:25 AM	3:38:18 PM
26/5/2019	7:04:13 AM	3:54:51 PM
27/5/2019	7:16:37 AM	3:47:27 PM
28/5/2019	7:15:08 AM	3:57:20 PM
29/5/2019	7:25:45 AM	3:50:21 PM
30/5/2019	7:14:41 AM	3:31:15 PM
2/6/2019	7:48:11 AM	4:27:27 PM
3/6/2019	7:14:25 AM	3:49:35 PM
		1:01:04 PM
9/6/2019	7:30:31 AM	5:03:41 PM
10/6/2019	7:28:58 AM	5:04:38 PM
11/6/2019	7:22:25 AM	5:08:39 PM
12/6/2019	7:24:41 AM	5:04:15 PM
13/6/2019	7:28:08 AM	5:04:05 PM
16/6/2019	7:25:53 AM	5:11:52 PM
17/6/2019	7:27:38 AM	5:04:34 PM
18/6/2019	7:35:30 AM	5:15:51 PM

19/6/2019	7:26:32 AM	5:07:24 PM
20/6/2019	7:27:47 AM	4:53:17 PM
23/6/2019	7:32:32 AM	5:15:02 PM
24/6/2019	7:25:24 AM	5:08:14 PM
25/6/2019	7:27:48 AM	5:13:15 PM
26/6/2019	7:30:30 AM	5:01:26 PM
27/6/2019	7:36:27 AM	5:12:33 PM

# **2.0 PRESENTATION SLIDE**





UNIVERSITI SAINS MALAYSIA (USM) HEALTH CAMPUS

**Prepared by:** *Nik Mohammad Hazim Nik Najib*  
(2016329505)

## ORGANIZATION BACKGROUND

- Universiti Sains Malaysia (USM) is one of the oldest and well-known universities in Malaysia
- There have 17 academic schools separated by 3 different branches which are located in Island of Pulau Pinang, Nibong Tebal and Kubang Kerian in Kelantan.

### Vision

- Transforming Higher Education for a Sustainable Tomorrow

### Mission

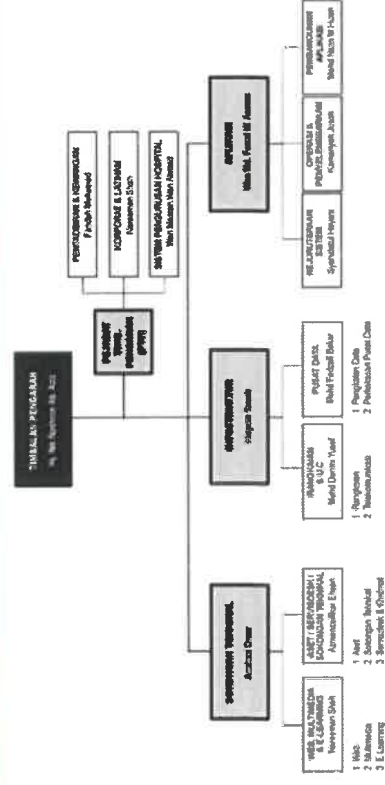
- USM is a pioneering, transdisciplinary research-intensive university that empowers future talents and enables the bottom billions to transform their socio-economic well-being.

## FUNCTION OF THE DEPARTMENT

**Centre of Knowledge, Communication & Technology** was established in 1st January 2003 with the combination of four entities which based on the Information technology in USM which are the Computer Center, Information Technology Centre, Management Information System Unit and Information Technology Development Unit at the main campus



## ORGANIZATION CHART OF PPKT



## INDUSTRIAL TRAINING ACTIVITIES



**CodeIgniter Workshop**



**GitHub Workshop**



**Ionic Workshop**

JOINED AN ORGANIZED WORKSHOP

## INDUSTRIAL TRAINING ACTIVITIES



### About App Inventor

- An intuitive visual programming tool that allows everyone to build functional apps
- The app is built using the open source web programming language
- Small pieces of HTML, CSS, and JavaScript are combined to form the browser-rendered interface
- As a result, there was no need for a traditional developer

### What is App Inventor

- Formerly known as MIT App Inventor
- Available for free
- Designed for non-programmers
- Visual programming

### Why is App Inventor Interesting

- Free to use (even for children)
- Anyone can get it to get started making apps
- No programming background needed
- Minimal programming knowledge for teachers, it, when

## GIVE SOME SHARING OF INVENTOR APPS TO THE STUDENTS

### App Inventor Vs. Standard android Development

- No 3rd Party
- The programming knowledge required
- Single, straightforward way to create
- No access to hardware features
- Ability to keep projects
- Cloud hosting
- No multiplatform

### Why Use App Inventor

- Empowers users to create functional applications
- App created can be distributed to a wide range of mobile devices
- Great tool to use in the classroom

### Functional on the App Inventor



### Steps to Create an AI app

1. Download the app inventor from the Google Play store
2. Create your account or use a Google account
3. Create your project or workspace
4. Drag and drop components from the design palette
5. Open the block editor
6. Drag and drop statements
7. Download APK & share or upload to the web

## INDUSTRIAL TRAINING ACTIVITIES



01. AI in healthcare is the use of algorithms and software to app analyze human cognition in the analysis of complex medical data
02. The AI is the ability for the computer algorithms to detect a conclusion without the involvement of human input
03. The ability to gain information and producing output to end-user by AI in healthcare is accomplished through the existence of machine learning algorithms
04. The machine learning algorithms itself has the potential to recognize the pattern of data for and create its own logic.

## INDUSTRIAL TRAINING ACTIVITIES

PREPARED PRESENTATION SLIDE ABOUT ARTIFICIAL INTELLIGENCE

## SPECIAL PROJECT: BUDGET ACQUISITION SYSTEM

## PROJECT OVERVIEW

**Budget Acquisition System** that will facilitate the way the management board and also staff in managing the overall budget for all of projects contained within the organization. Previously, all of the information related to the budget of the organization would be recorded using paper-based manner meanings that it was entirely managed in manual system.

## PLANNING PHASE: PROBLEM STATEMENT

01  
Require more time to explore the Ionic V3

02  
No employee possessing the skills in using Ionic

## PLANNING PHASE: OBJECTIVE

To design an acquisition budget system based on the manual system which can fulfill the requirement of PPKT that will facilitate the user in a more systematic manner

To develop a budget acquisition system through the utilization of smart application device technology that facilitate the user to access and producing a report

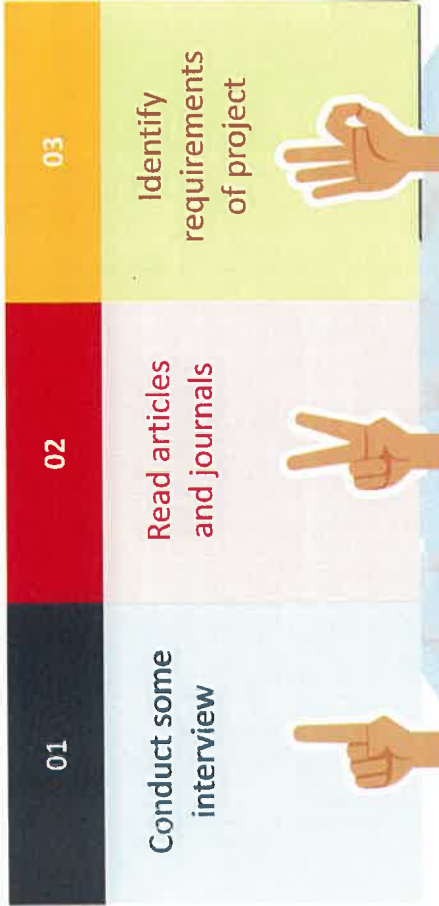
To test the functional capability and the advantage of budget acquisition system through the ionic platform as the framework to develop smart device application like android and iPhone in the future

## PLANNING PHASE: TARGET OF USERS

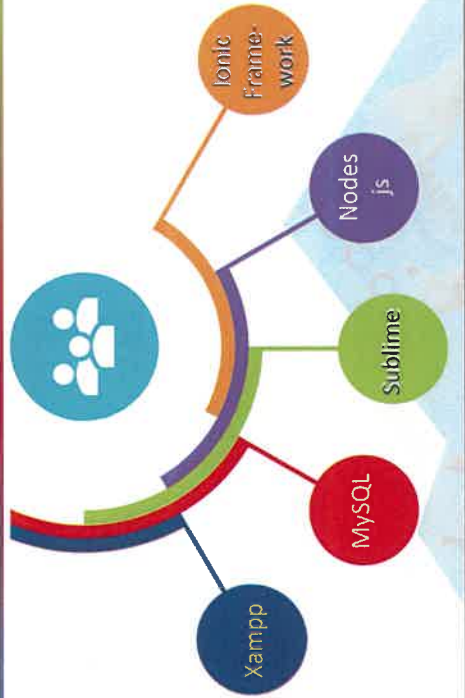
1  
Board of Management (Admin)

2  
Staff (End user)

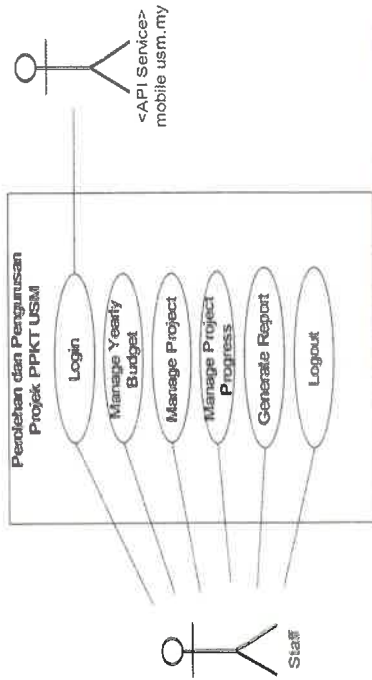
## ANALYSIS PHASE



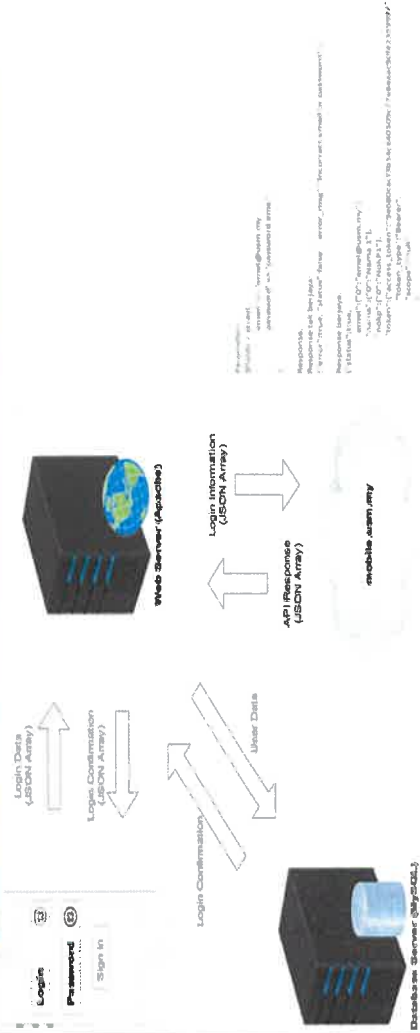
## ANALYSIS PHASE: REQUIREMENT HARDWARE & SOFTWARE



## DESIGN PHASE



## DESIGN PHASE

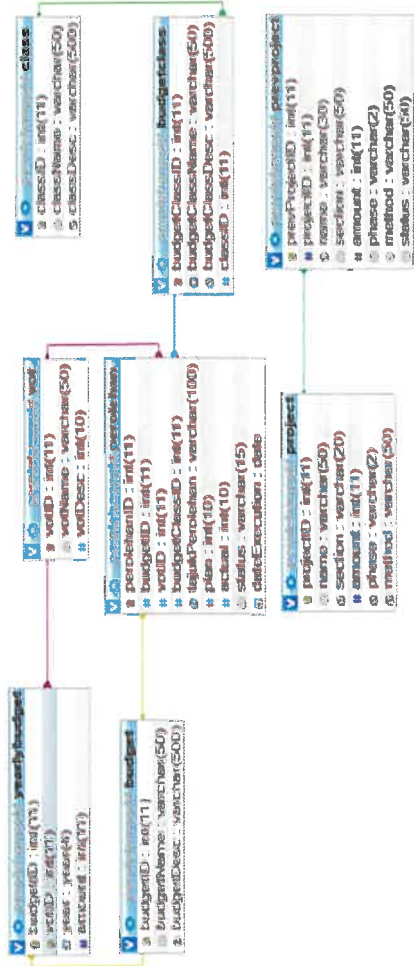


## IMPLEMENTATION PHASE

1  
Install all  
required  
software

2  
Allow the  
system to be  
tested

## IMPLEMENTATION PHASE: ENTITY RELATIONAL DIAGRAM



## IMPLEMENTATION PHASE: INTERFACE OF THE SYSTEM

02 Home

Home

Welcome,



UNIVERSITI SAINS MALAYSIA

Sistem Perolehan PPKT  
USM Kampus Kesihatan

This project aims to develop an application that can be used to manage the budget acquisition as well project progress at PPKT and ease the staff to record, access the data, and preparing financial reports for each year using mobile phones such as Android and iPhone.

SIGN IN

## IMPLEMENTATION PHASE: INTERFACE OF THE SYSTEM

01 Sign in interface



Sistem Perolehan PPKT  
USM Kampus Kesihatan

SIGN IN

## IMPLIMENTATION PHASE: INTERFACE OF THE SYSTEM

02 Page  
New Yearly Budget

← Bajet Tahunan Baru

Maklumat Bajet

Minat	
Tahun	
Jumlah (RM)	300000.00

## IMPLIMENTATION PHASE: INTERFACE OF THE SYSTEM

03 Page  
Project Plan Info

← Pelan Projek Baru

Maklumat Pelan Projek

Nama Projek	
Seharian	
Jumlah (RM)	300000
Fasa	
Kaedah Perolehan	
Nota	

CONCLUSION

THAT'S ALL. THANK YOU

# **3.0 INDUSTRIAL ACTIVITIES**

## **3.0 INDUSTRIAL TRAINING ACTIVITIES**

### **3.1 Introduction**

All the image of the industrial training activities arranged by the trainee to ensure it can be used as evidence for all the activities that had been involved in the Centre of Knowledge, Communication & Technology Department under the organization of USM Health Campus. The involve student activities during internship training session which are:

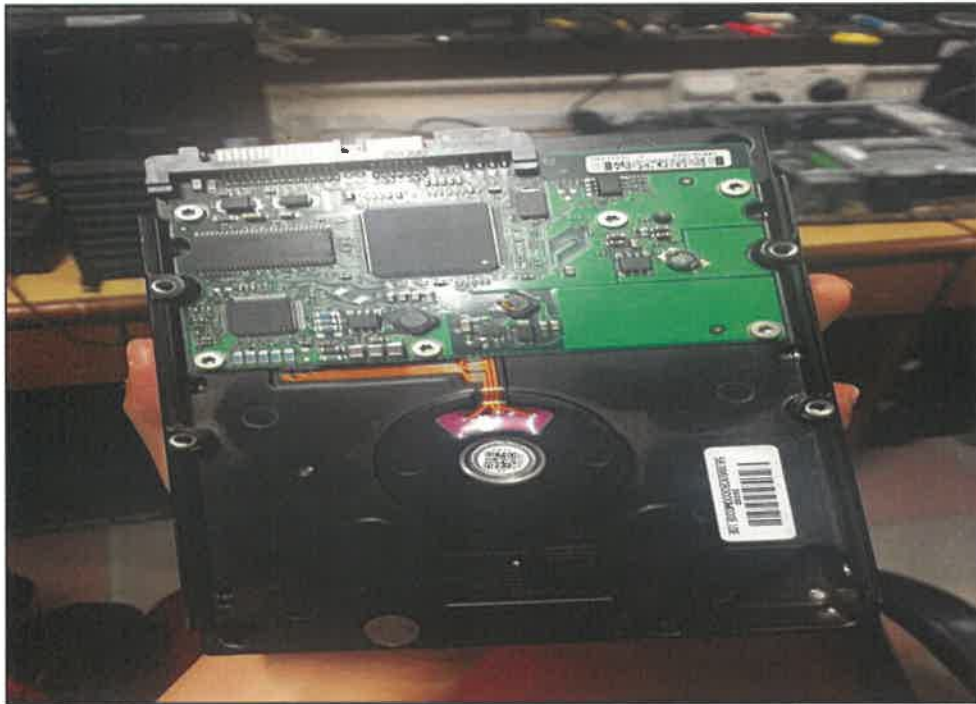
#### **3.1.1 Learn about technical stuff about computer**

##### **3.1.1.1 Backup the hardware of PC (hardisk) by using docket**



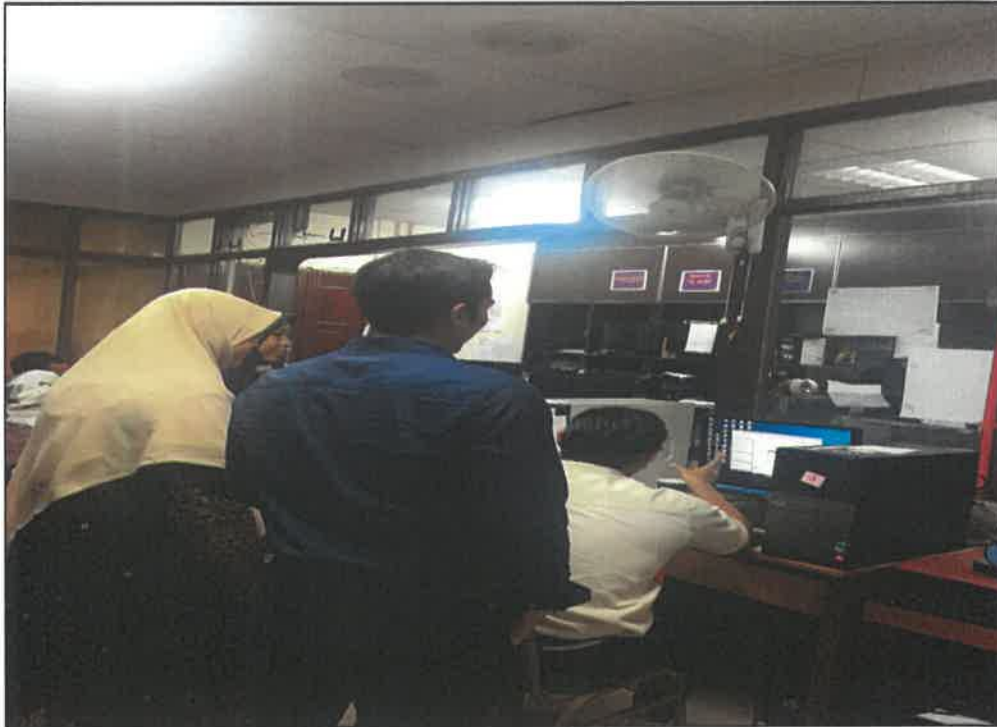
*Appendix 1: Demonstration the way to make backup for hardisk using docket by the technician staff*





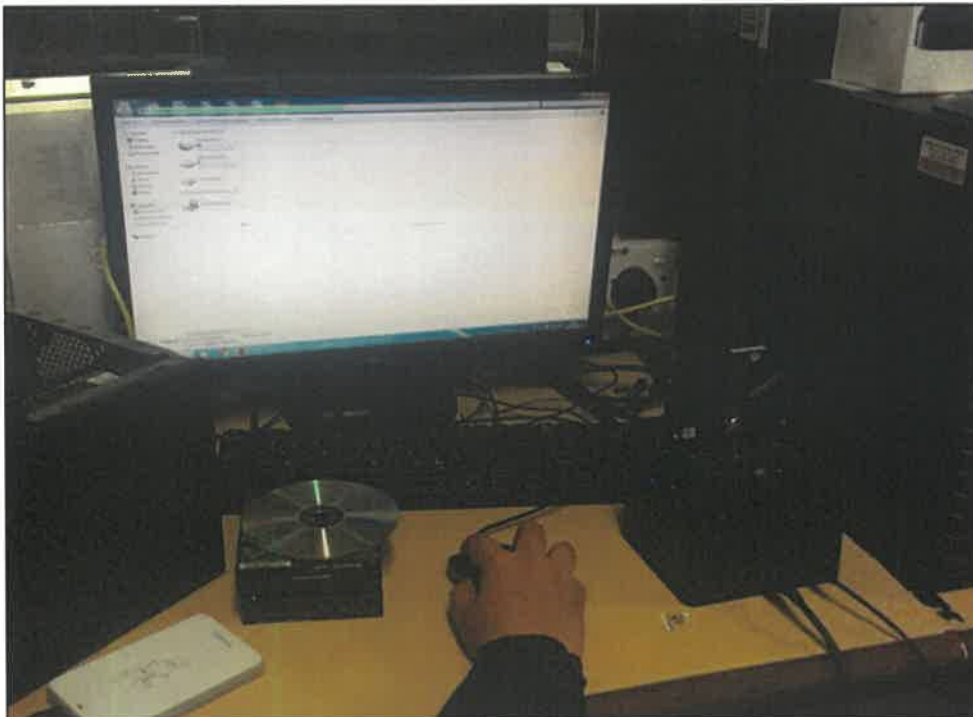
*Appendix 2: Image of hardisk in CPU of PC*





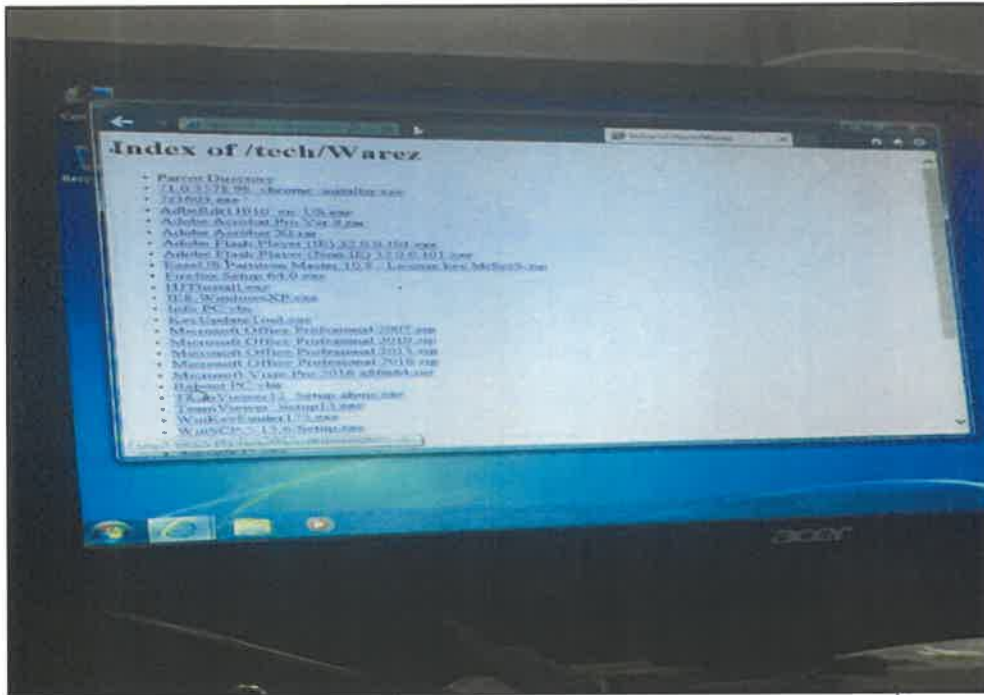
*Appendix 4: A briefing session about the way to format Personal Computer (PC)*

### **3.1.1.2 Personal Computer (PC) backup process**

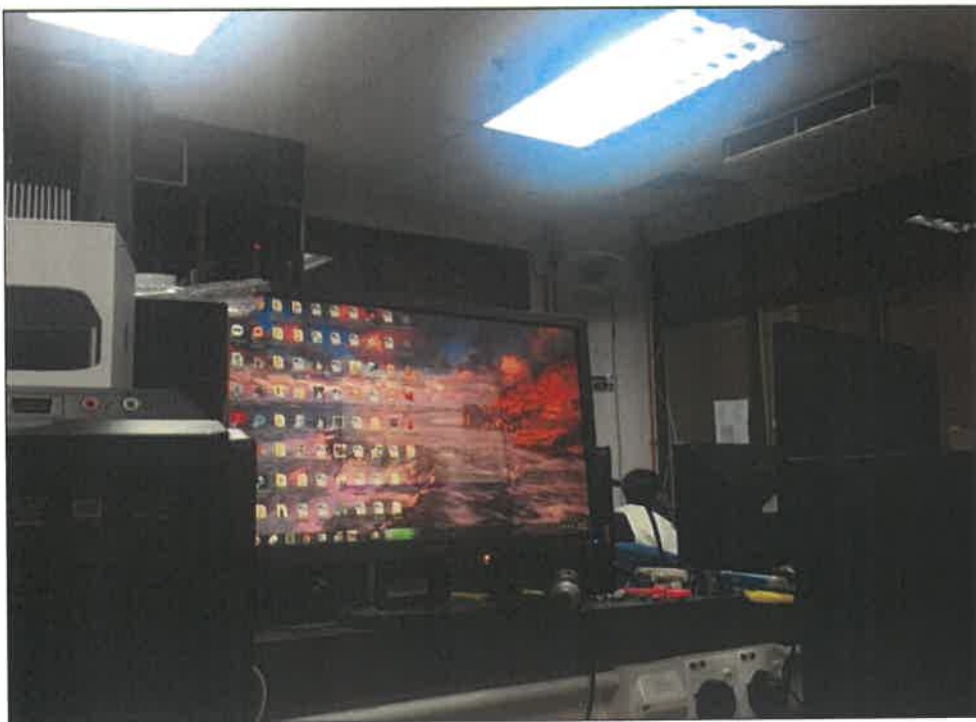


*Appendix 5: Personal Computer (PC) backup session*

### 3.1.1.3 An introduction of the system software that are used in USM

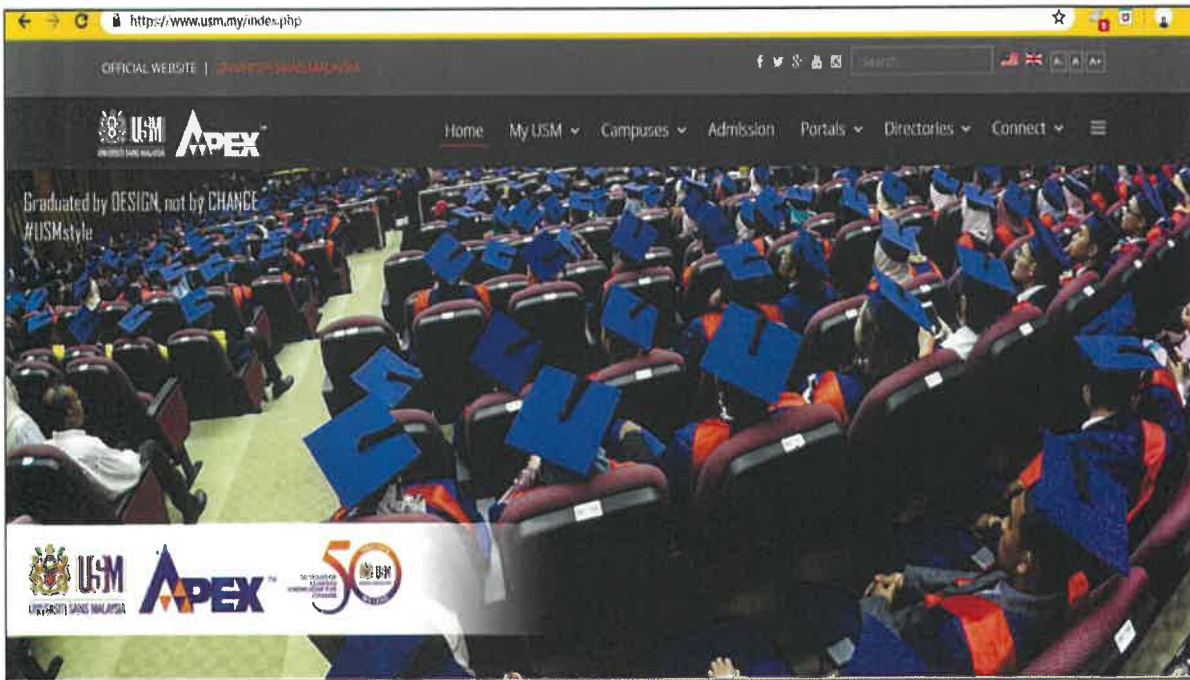


Appendix 6: The list of the system that need to be installed after format PC process

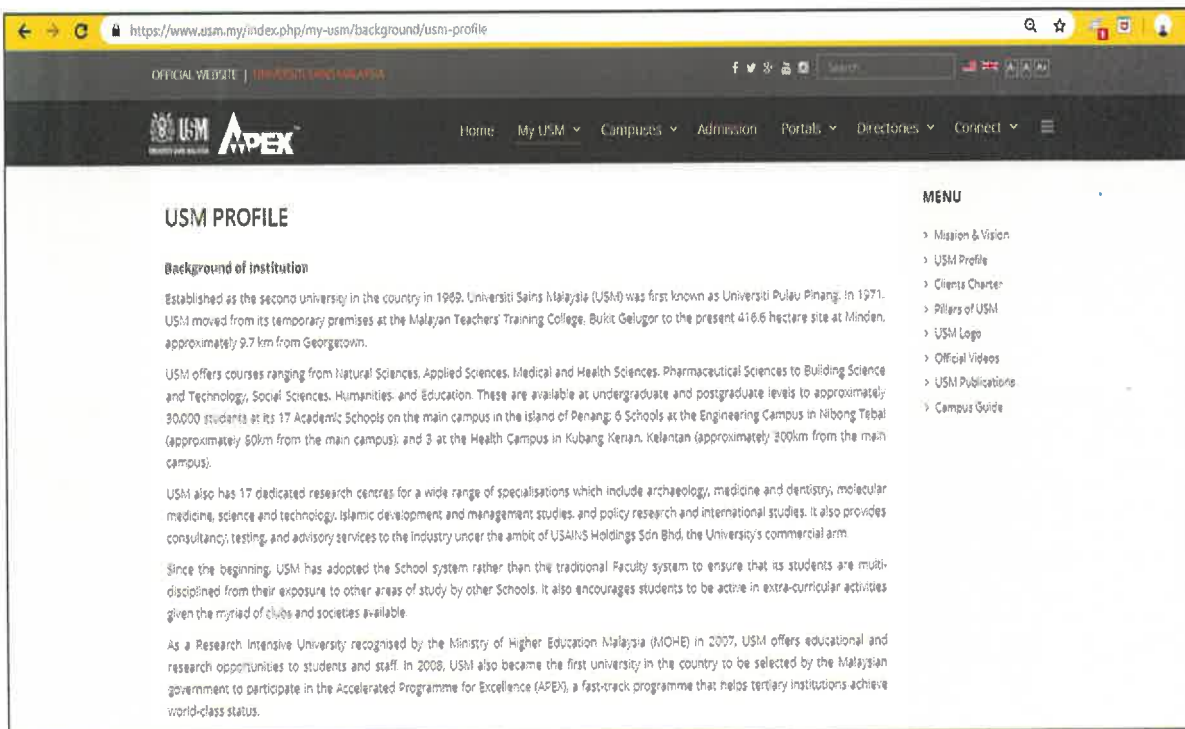


Appendix 7: The complete process in installing all of the system software after format process

### 3.1.2 Learn about the company's profile



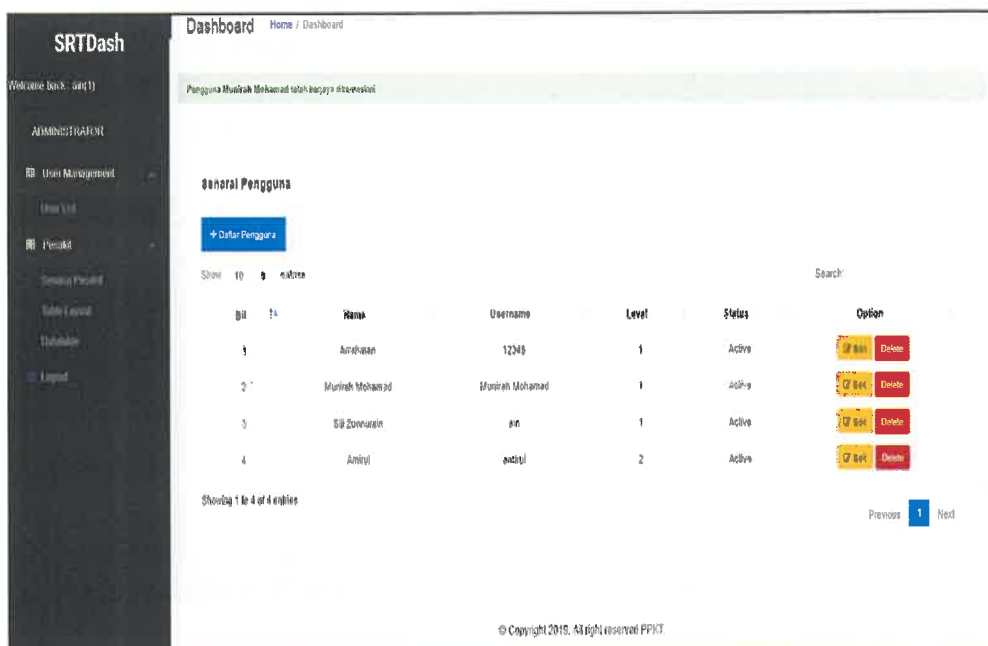
Appendix 8: Official portal of USM



Appendix 9: Profile of USM



### 3.1.3.2 CodeIgniter Workshop



Appendix 12: An interface of the system that was created during the workshop session



Appendix 13: Within all the staff in PPKT that was joined CodeIgniter workshop

### 3.1.3.3 GitHub basic Workshop



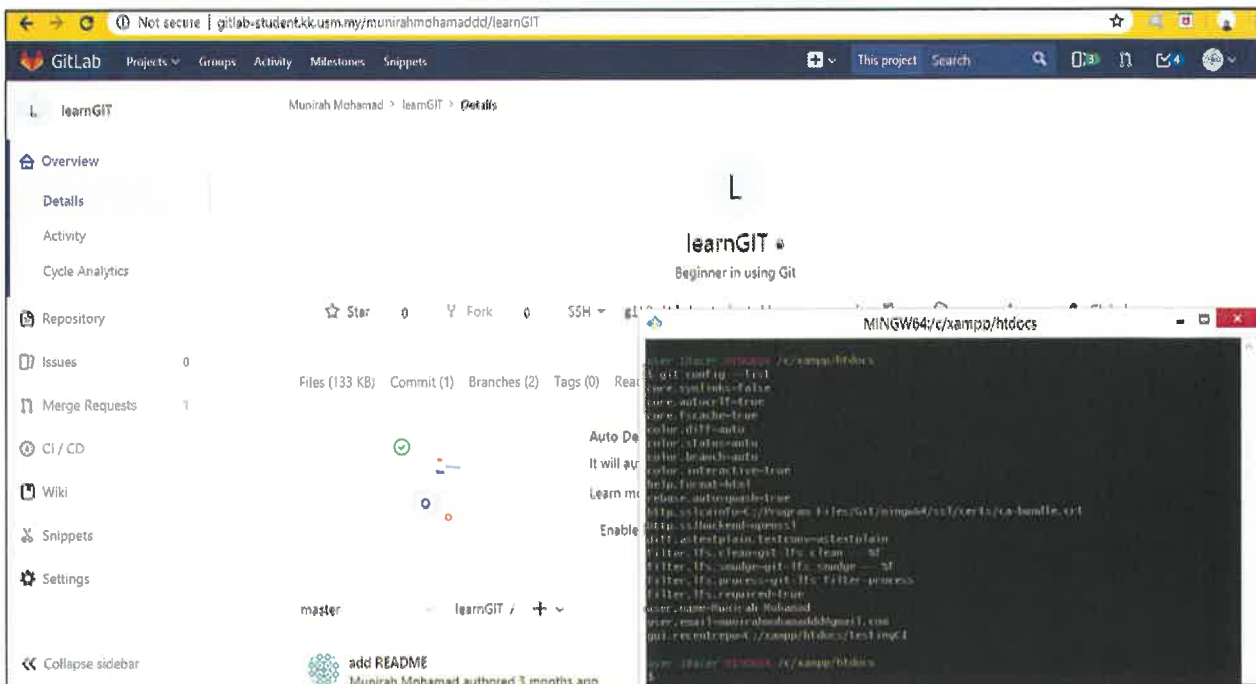
*Appendix 14: An introduction about the basic Git Hub by Mrs. Nuru Asyikin Binti Mamat Saman*



*Appendix 15: Teaching & Learning session the basic of GitHub in Head of Department's room*

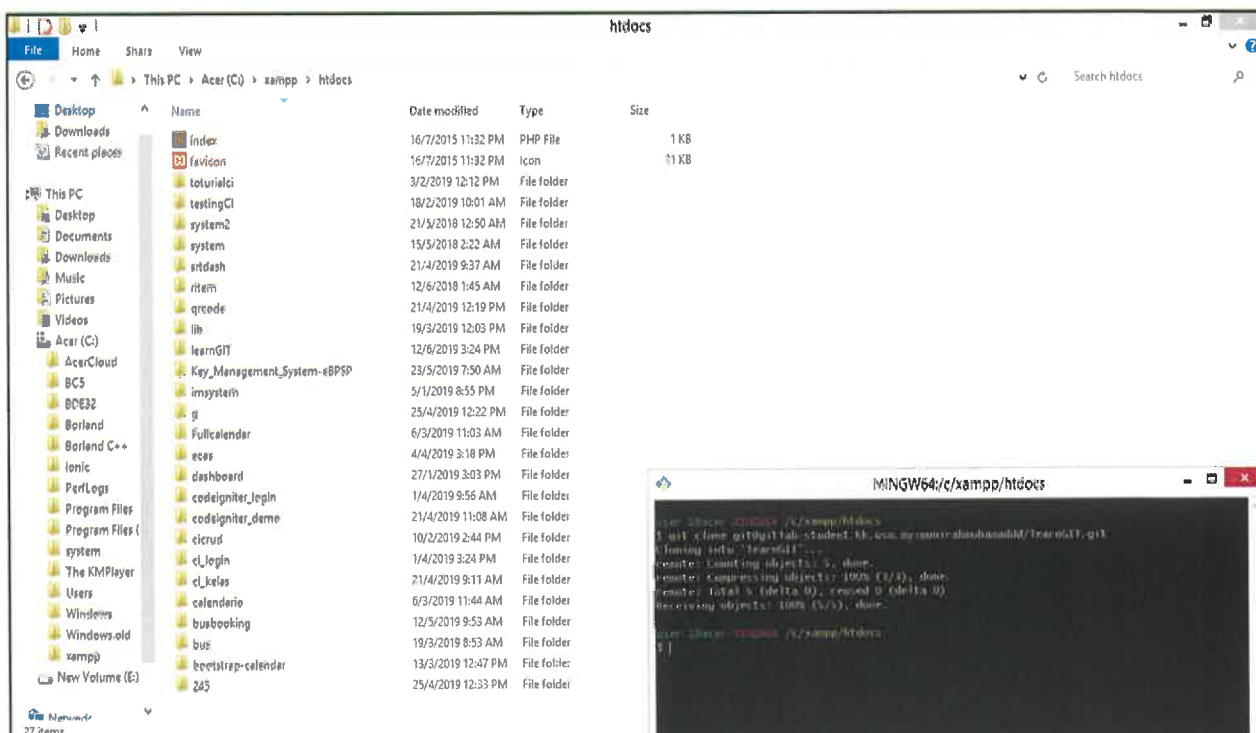
### 3.1.3.3.1 The process in learning the basic of GitHub

#### a) git config --list



Appendix 16: The interface of git config --list displayed

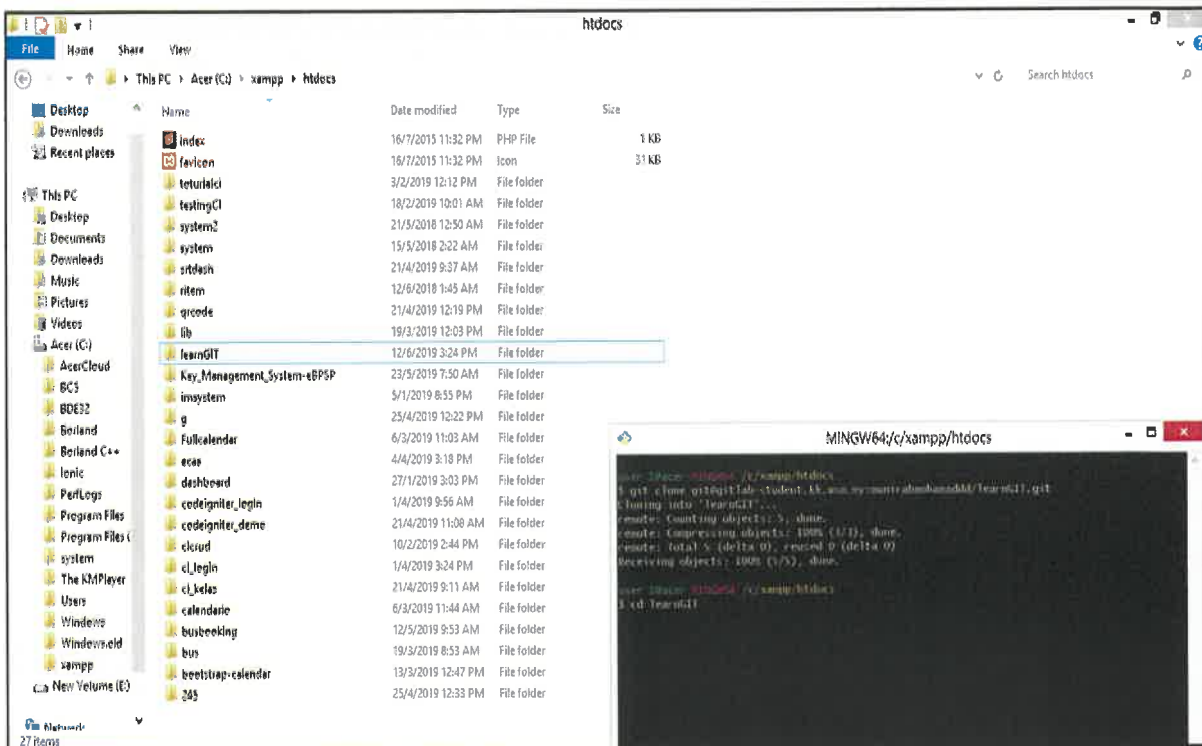
#### b) git clone



Appendix 17: The interface of git clone displayed

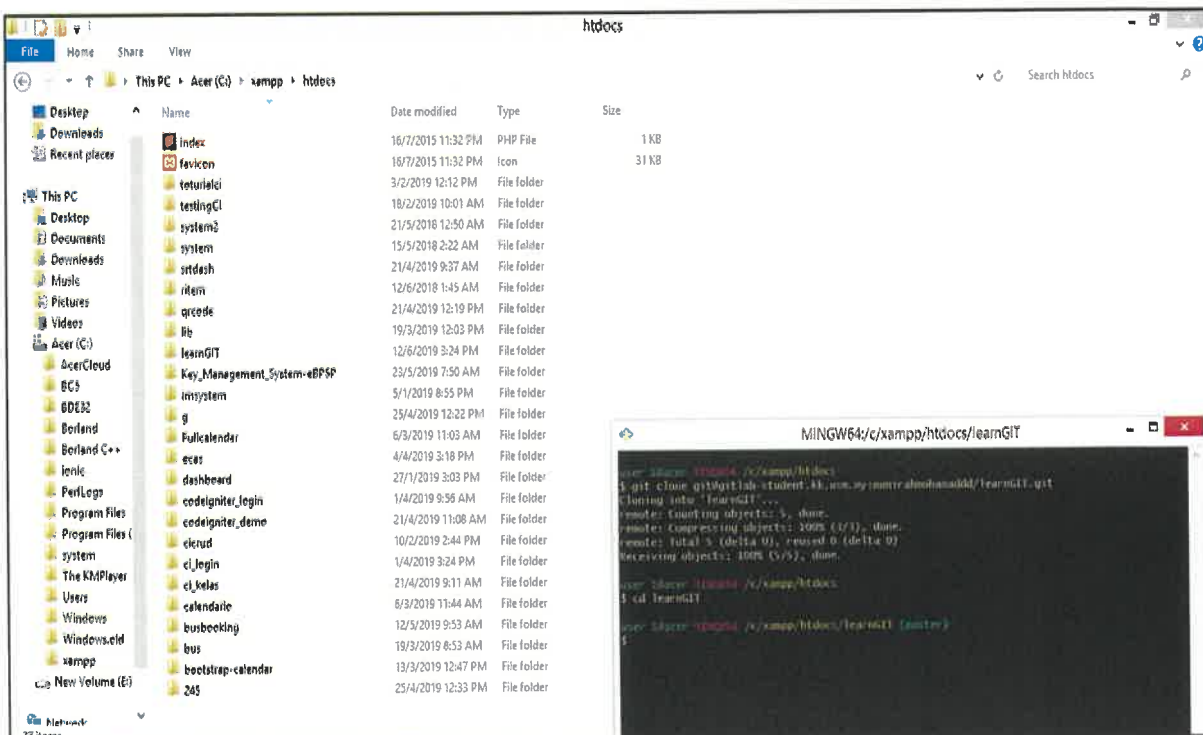


c) Insert cd file **learnGIT** for first-time used



Appendix 18: The interface of inserting cd learnGIT to store in master

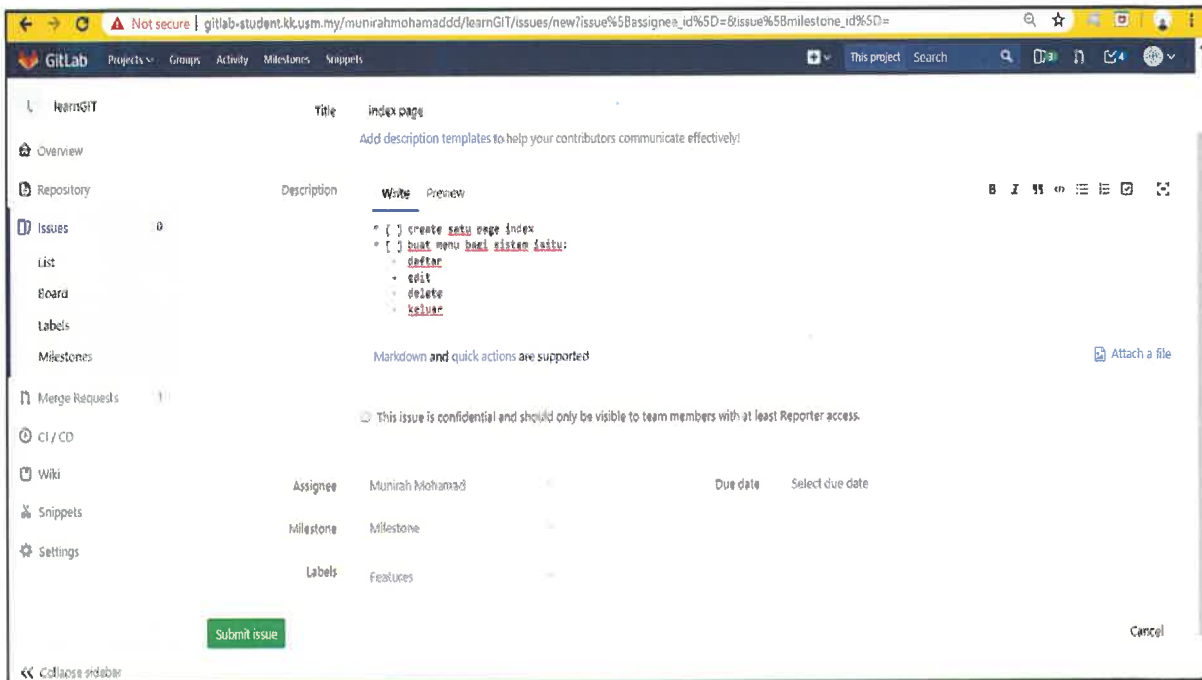
d) Then, the file **learnGIT** can store in master



Appendix 19: The interface of git cd learnGIT displayed there is in master

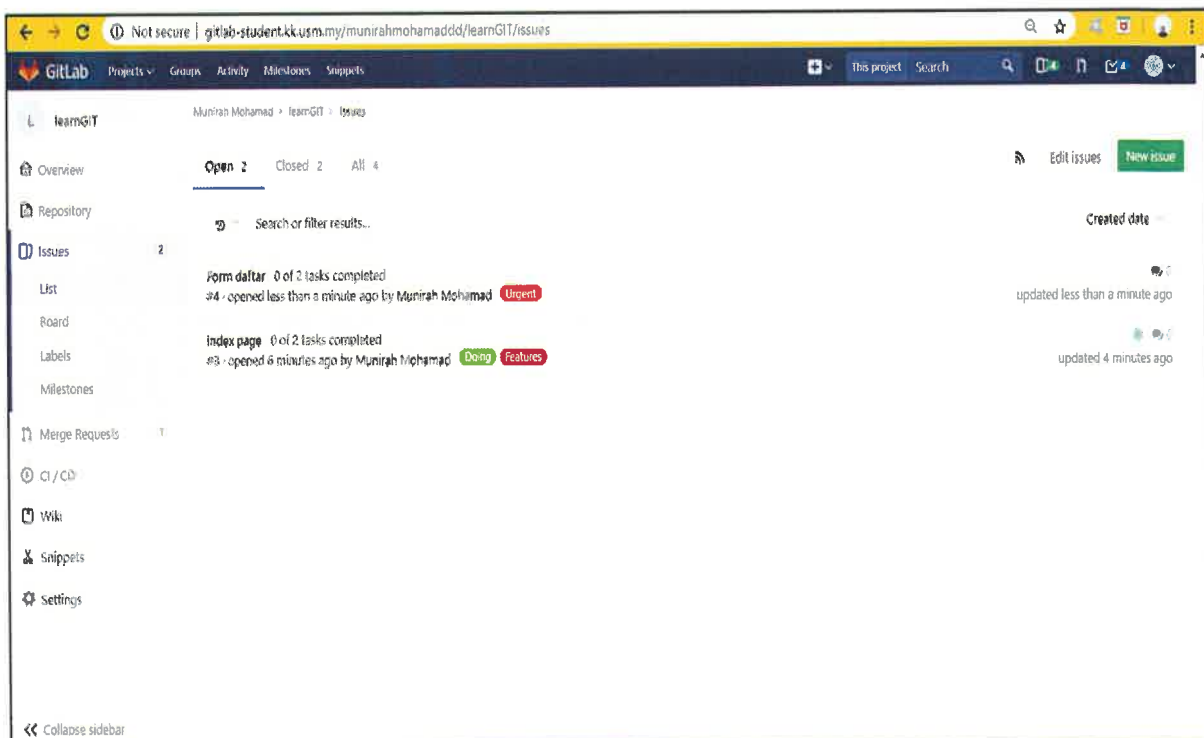


### g) Assign the task after clicking **New issue**



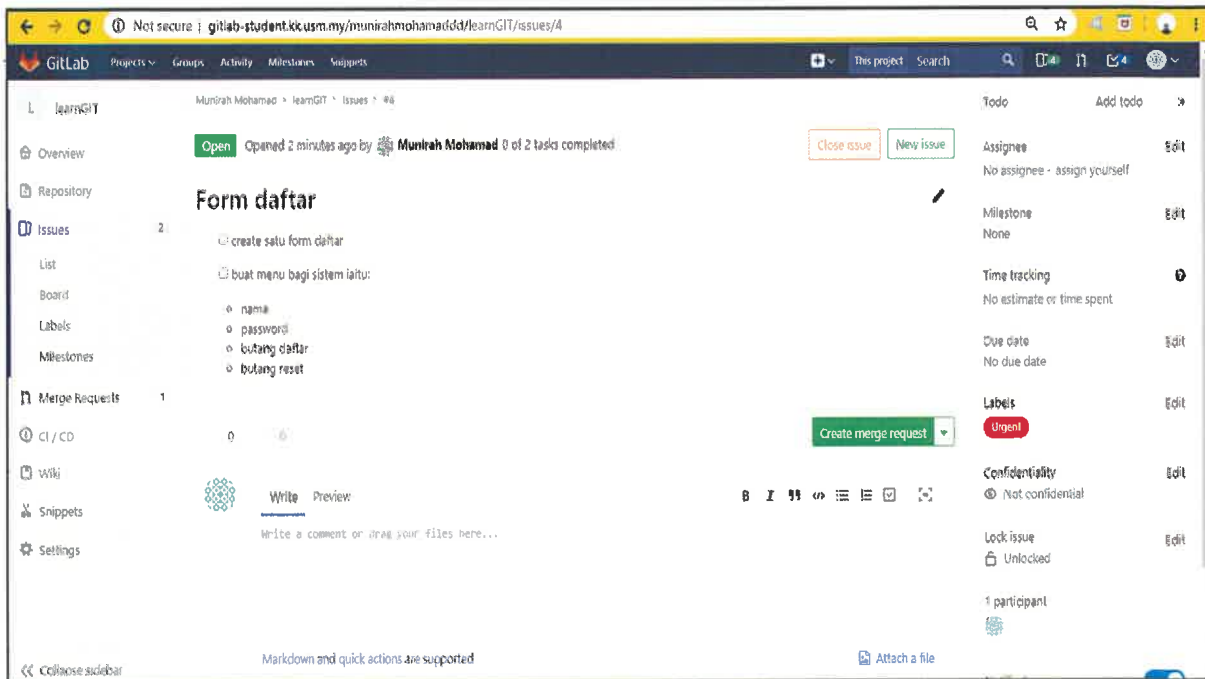
Appendix 22: The issue form that need to fill by the trainee to create an issue

### h) List of the issue that was displayed after created. So that, GitHub automatically can give the number for every issue that was created



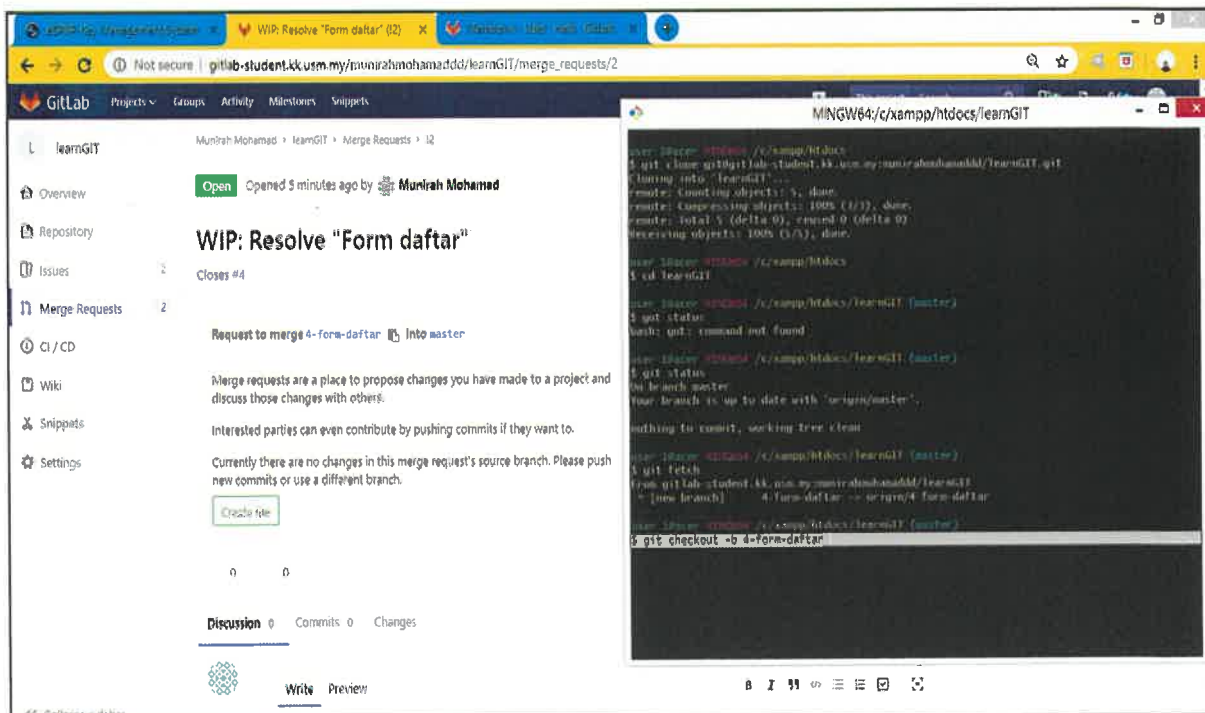
Appendix 23: List of the issue after created

- i) To start write any coding based on issue created, the trainee needs to click the button for **“Create Merge Request”**. Notes: should ensure it related with issue created



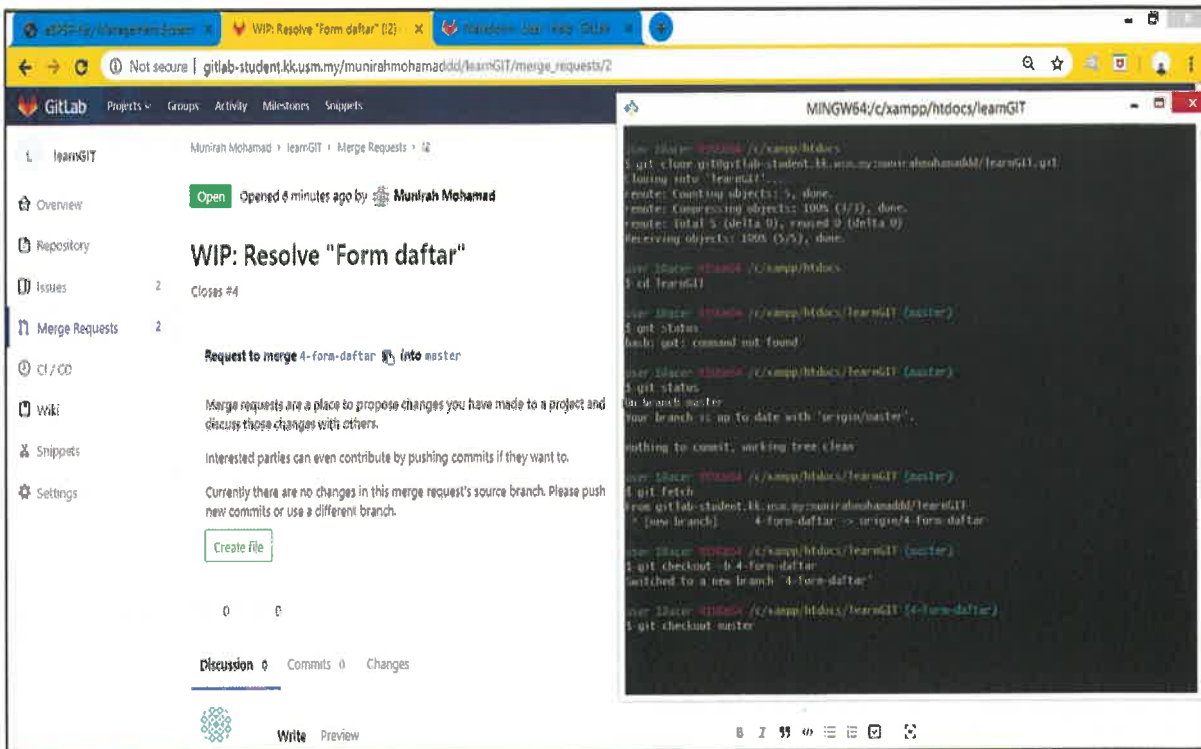
Appendix 24: the interface displayed after the submit issue had been done

- j) **git checkout 4 using -b** for basic checkout, which is to change checkout from master to branch



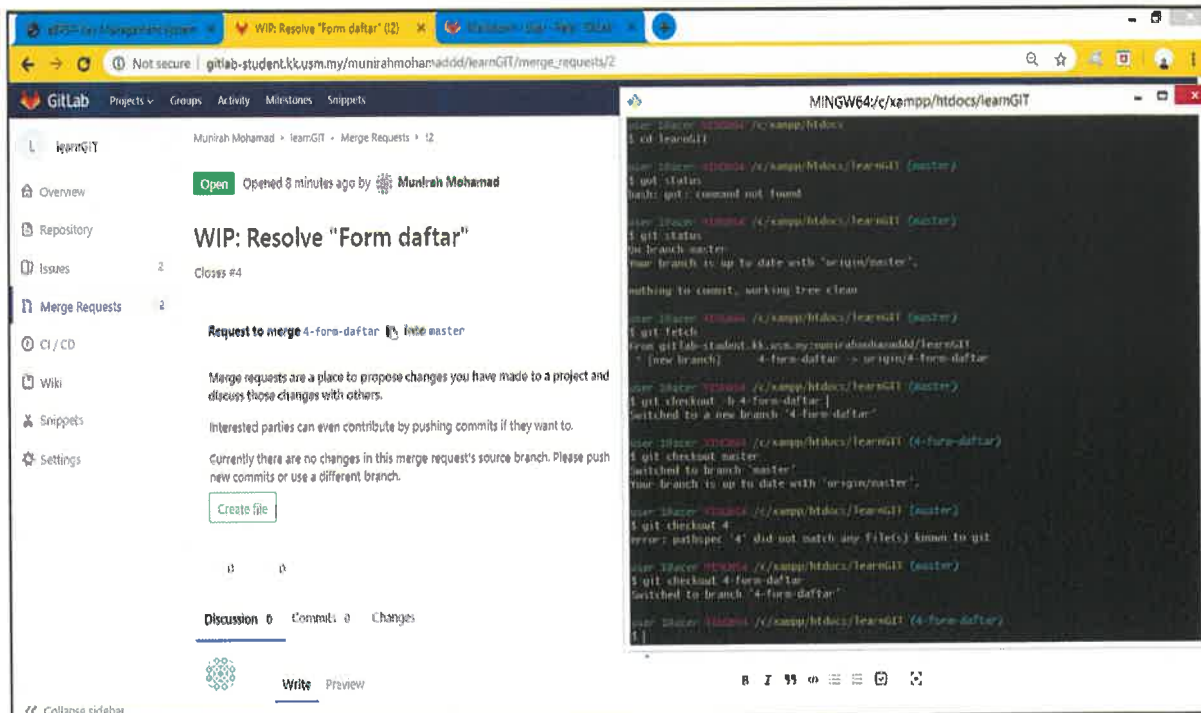
Appendix 25: the interface of the Git Bash Here to change checkout from master to branch

### k) git checkout master to exit from master (cloud storage)



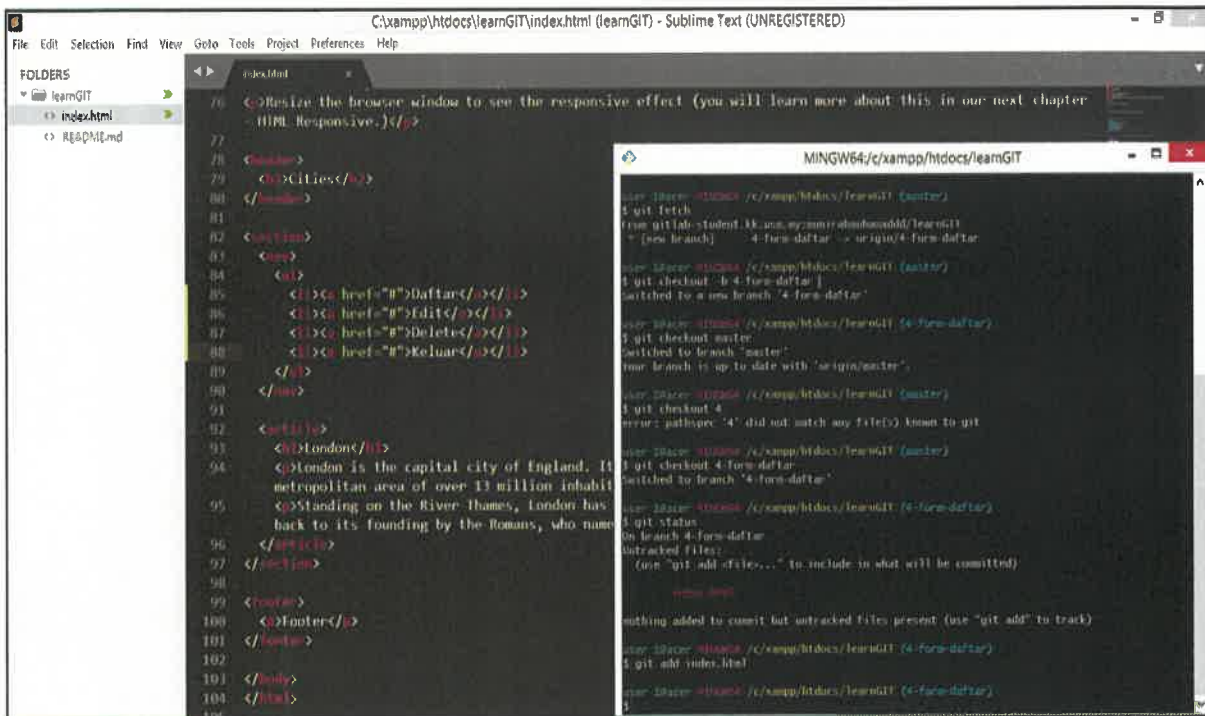
Appendix 26: The interface by using git checkout master

### l) After checkout master, it can back to the branch for every issue that was created



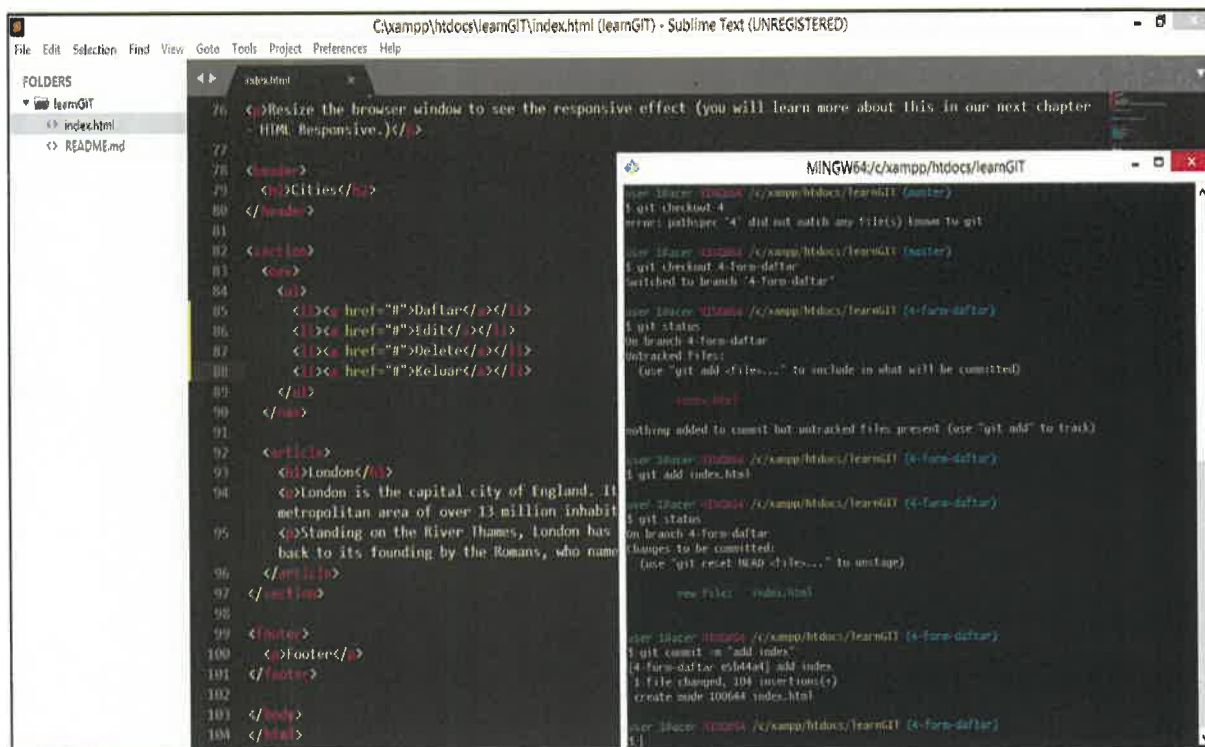
Appendix 27: The interface of the issue that was mentioned it was still in branch 4 ("form daftar")

m) After modifying any coding in any issue on that branch, the trainee needs to use **git add** to add all the modified task



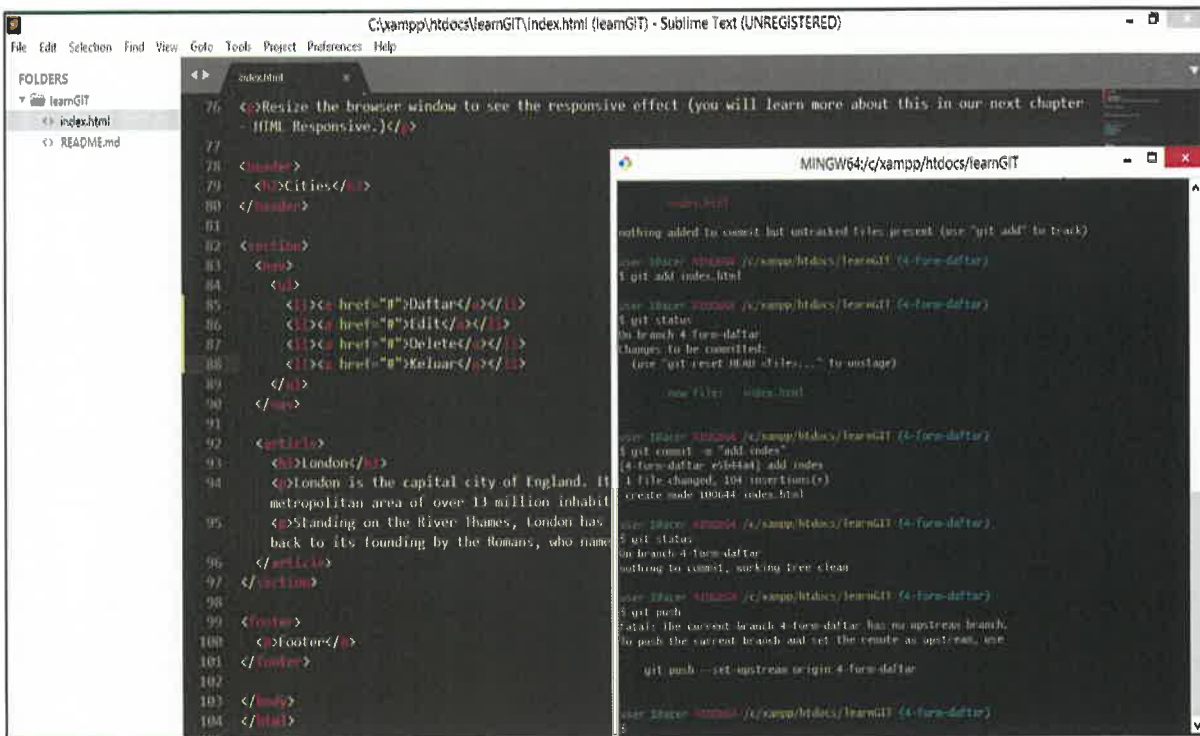
Appendix 28: The interface displayed by using git add

n) **git commit**. It used to notify project manager for every progress of the system



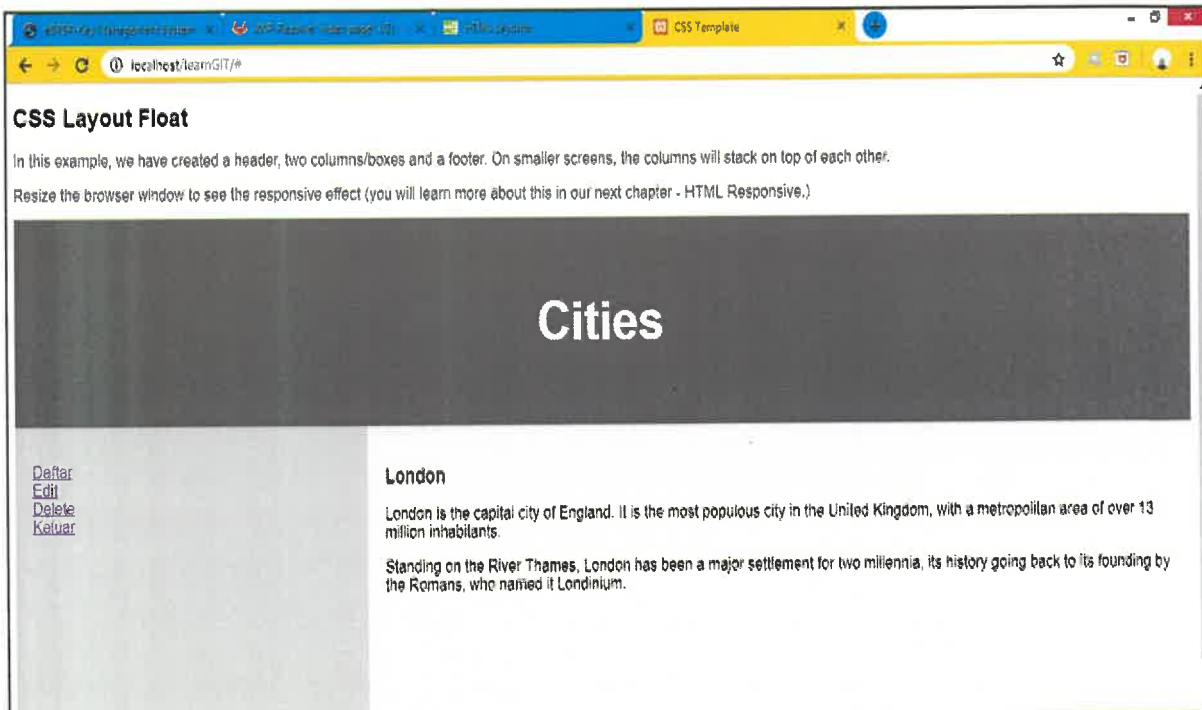
Appendix 29: The interface of the git commit displayed

o) Then, use **git push** was used to push all of the updating system in **master**



Appendix 30: Git push interface to update all the task in master

p) The index interface created after using GitHub as a workgroup platform in developing system

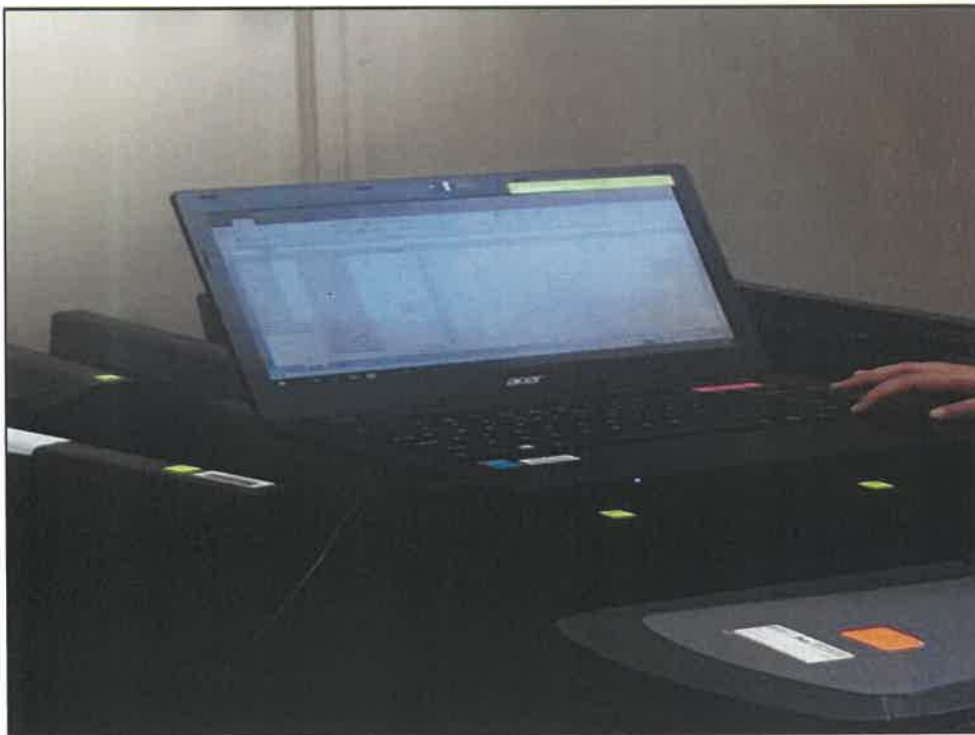


Appendix 31: The interface of the index that was used during GitHub Basic Workshop

### 3.1.4 Learn the process of how to dispose of a monitor as an organization asset

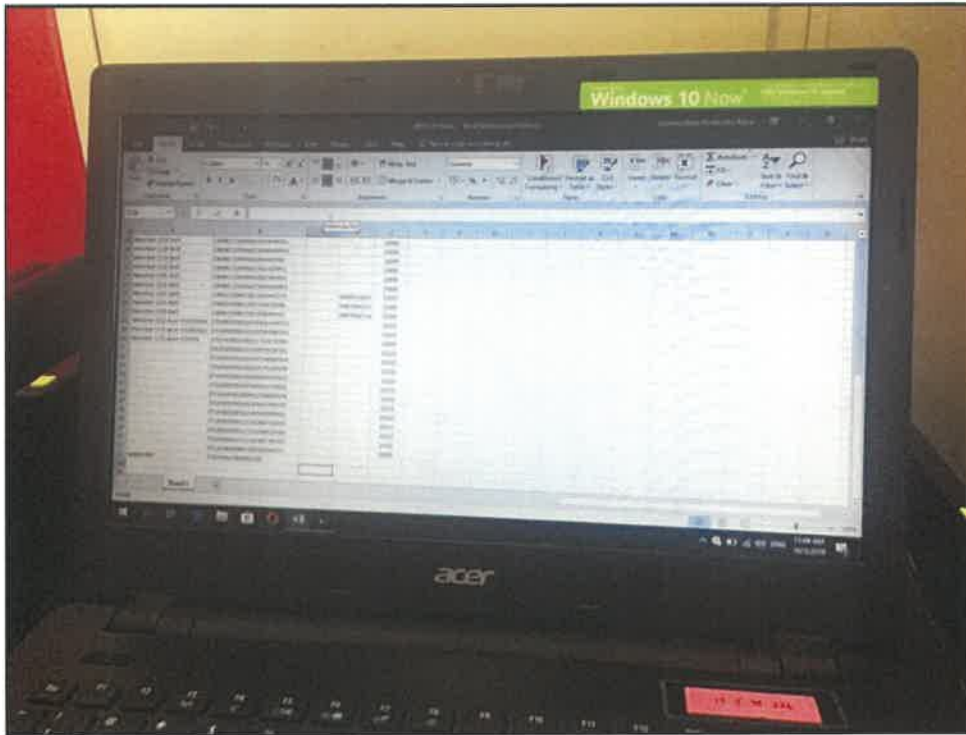


*Appendix 32: The amount of PC that need to be disposed*



*Appendix 33: Capturing of PC's data by using Microsoft Excel & Scanner to scan PC's barcode*





*Appendix 34: The data of the PC disposal*

### **3.1.5 Enrolled an orientation session**

#### **3.1.5.1 Orientation session with an application section**



*Appendix 35: An introduction about the application that was presented by Mr. Wan Faizal Wan Azman*

### 3.1.5.2 Orientation session with the technician support section



*Appendix 36: Orientation session about the technician support section by Mr. Azahari Omar*

### 3.1.5.3 Orientation session with infrastructure section





*Appendix 37: An Introduction about infrastructure section by Mr. Md Darimi Yusof*

### 3.1.5.4 Orientation session from the administration part



*Appendix 38: A little bit sharing about the organization, attitude and behavioural in work environment by Head of Department (HOD)  
Mr. Hj Nik Nashron Ab Aziz*

### 3.1.6 Preparing slides for supervisor

<p style="text-align: center;"><b>2019</b></p> <p style="text-align: center;"><b>AI AND BIG DATA USAGE IN HEALTHCARE INDUSTRY</b></p> <p style="text-align: center;">Prepared by: <b>Abdulkareem Hassan Ali Hajej</b></p>	<p style="text-align: center;"><b>Big Data in Healthcare</b></p> <p>Big Data refer to data sets that are too large or complex for traditional data processing application software</p> <p>Estimate in 2020,</p> <ol style="list-style-type: none"> <li>a. 2.314 exabytes of healthcare</li> <li>b. one Esabyte = one billion GBs</li> </ol> 	<p style="text-align: center;"><b>Big Data Analysis in Healthcare</b></p>  <ul style="list-style-type: none"> <li>- Disease Surveillance</li> <li>- Treatments and Procedures</li> <li>- Medications</li> <li>- Procedures, Patients' Cares</li> <li>- Equipments</li> <li>- Claims, Frauds</li> <li>- Patient Behaviour, Social Network</li> </ul>	<p style="text-align: center;"><b>What is AI in Healthcare</b></p> <ol style="list-style-type: none"> <li>01. AI in healthcare is the use of algorithms and software to approximate human capabilities in the analysis of complex medical data.</li> <li>02. The AI is the ability for the computer algorithms to detect a conclusion without the involvement of human input.</li> <li>03. The ability to gain information and producing output to be used by AI in healthcare is not contradictory through the assistance of machine learning algorithms.</li> <li>04. The machine learning algorithms itself has the potential to recognise the patterns of behavior and create its own logic.</li> </ol>
<p style="text-align: center;"><b>1</b></p>	<p style="text-align: center;"><b>2</b></p>	<p style="text-align: center;"><b>3</b></p>	<p style="text-align: center;"><b>4</b></p>
<p style="text-align: center;"><b>Major Categories of AI Devices</b></p> <p>The AI devices within the healthcare industry may be divided into two major categories which are the <b>Machine Learning (ML) technique and Natural Language Processing (NLP) methods</b>.</p> <p><b>Machine Learning technique</b></p> <p>It typically involves the historical data such as imaging, genetic analysis, data, the ML procedures attempt to predict patients' health in order to probability of the disease's occurrence.</p> <p><b>Natural Language Processing</b></p> <p>The NLP basically extracts the information from the unstructured data such as clinical notes, of medical records, to supplement and process structured medical data. The NLP processes images as input and the results is machine-readable structured data which can then be analyzed by ML techniques.</p>	<p style="text-align: center;"><b>AI Advances Devices Used in Healthcare</b></p> <p><b>AI-assisted radiology support</b></p> <ul style="list-style-type: none"> <li>- The AI or software value of \$4 billion to build over the radiology analysis the data from the past month records to guide a surgeon's decisions during surgery, which can lead to a 25% reduction in a patient's hospital stay. Such evidence supports a monthly revenue to the patients would not need to be paid from large insurers.</li> </ul> <p><b>AI Clinical judgment to diagnosis</b></p> <ul style="list-style-type: none"> <li>- The study will assess the AI's algorithm has the potential to assist the doctor in accurate diagnosis, and to be trained at the level of their human support. The algorithm analyzed with a gender, age, race, and background noise, and the diagnostic results are ranked at 85% accuracy rate compared to 75% by the human.</li> </ul>	<p style="text-align: center;"><b>Benefits of AI Healthcare</b></p> <ol style="list-style-type: none"> <li>I. An AI system can assist the physician by providing up-to-date medical information from journals, textbooks, and clinical practices to inform proper patient care.</li> <li>II. AI system has the ability to reduce diagnostic and therapeutic errors that inevitable in the human clinical practice.</li> <li>III. AI system extracts large of useful information from a large patient population to assist in making real time inferences for health risk alert and health outcome prediction.</li> <li>IV. AI system use sophisticated algorithms to learn features from a large volume of healthcare data, and use it to assist the clinical practice.</li> </ol>	<p style="text-align: center;"><b>Implications of AI Healthcare</b></p> <ol style="list-style-type: none"> <li>□ The usage of AI is expected to decrease the cost for medical since there will be more accuracy of diagnosis and better predictions in treatment plan as well as more disease prevention.</li> <li>□ There will be the presence of Brain Computer Interfaces by using the AI where it will mostly assist those with trouble in moving, speaking or with a spinal cord injury.</li> <li>□ Virtual nursing assistants are predicted to become more common and it will be used as the answer towards all of the patients inquiries regarding their disease which will eventually help reduce the hospital's cost.</li> </ol>
<p style="text-align: center;"><b>5</b></p>	<p style="text-align: center;"><b>6</b></p>	<p style="text-align: center;"><b>7</b></p>	<p style="text-align: center;"><b>8</b></p>

### **3.1.7 Join knowledge sharing or storytelling program**

#### **3.1.7.1 Briefing program about data and Artificial Intelligence (AI)**



*Appendix 39: Knowledge session about AI that was presented by Mr. Fadzali Bakar*

#### **3.1.6.2 Sharing knowledge about Enterprise Architecture (EA)**



*Appendix 40: Knowledge sharing session by Mrs. Jamilah about Enterprise Architecture (EA)*

### 3.1.7.3 Exploration about meeting room, telephonies unit and Private Automatic Branch Exchange (PABX) room

#### 3.1.7.3.1 Visited in meeting & conference room



*Appendix 41: The live view on using conference room & introducing tool session*



*Appendix 42: The live view on using meeting room & introducing tool session*



*Appendix 43: Speaker tool that was used during meeting or conference session*

### **3.1.7.3.2 Visiting telephonies unit**



*Appendix 44: Briefing session before visiting telephonies unit & PABX room*



*Appendix 45: Telephonies Unit*



*Appendix 46: The situation in telephonies unit*



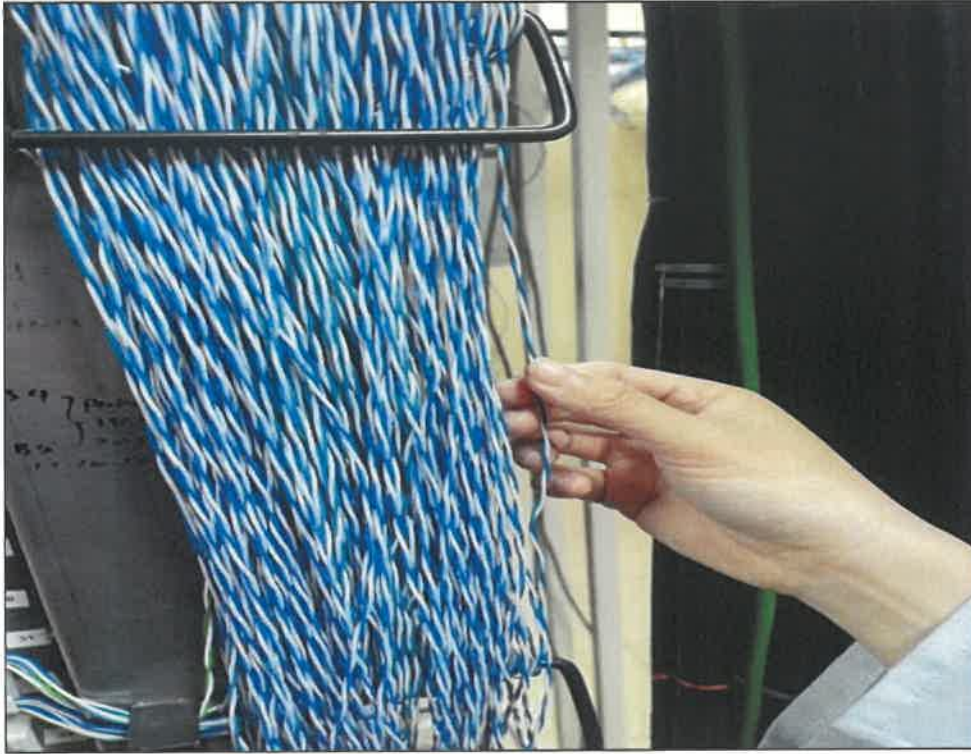
**3.1.7.3.3 Visited Private Automatic Branch Exchange (PABX) room**



*Appendix 47: The situation in telephonies unit*



*Appendix 48: The wired rack that was connect with 3000 extension wired*



*Appendix 49: The trainee was observed for 3000 bundle of extension wired that was used in USM*

#### **3.1.7.4 Sharing knowledge about Inventor Apps**



*Appendix 50: Sharing knowledge session about Inventor Apps by the trainee and the partner, Zatul Adaniah Bin Zahari*

### 3.1.7.4.1 Slide Presentation of Inventor Apps

**App Inventor**  
Everyone can make a very eye catching app

1

**About App Inventor**

- > An intuitive, visual programming that allows almost everyone to build full functional apps
- > Used the block based tool which facilitates creation of complex apps in less time than traditional programming environments
- > Small team of CSAIL staff and students led by professor Hal Abelson forms international movement of inventors
- > As a result, there were currently over 6 million registered users of the MIT App Inventor

2

**What is App Inventor**

- > Browser based
- > Android App tool
- > Designed for non-programmers
- > Block based

3

**What makes App Inventor Interesting**

- Easy to use even for the children level
- Anybody can pick it up and make great apps for android
- Simple to use yet very powerful
- Normal programming tech such as for each, if, when

4

**App Inventor Vs Standard android Development**

- Pros
  - ✓ Much Faster
  - ✓ No programming knowledge needed
  - ✓ Simple, straightforward very intuitive
- Cons
  - ✓ No access to hardware buttons
  - ✓ Messy for large projects
  - ✓ Limited Debugging
  - ✓ No multiple screens

**Why Use App Inventor**

- > A stepping stone for a standard android development
- > App tutorial on the site that include the creation of simple game tutorial such as simple quiz
- > Great tools to use as teaching and learning session

**Tutorial on the App Inventor Webpage**

Tutorials by App Inventor

**Steps to Create an AI app**

1. Register for app inventor using Google account
2. Download app inventor exten software such as AI companion, emulator
3. Create new project on website
4. Drag & drop UI elements/components into designer page
5. Open the blocks editor
6. Drag and drop functionality
7. Compile, debug, test
8. Download APK to phone or upload to the web



### INDUSTRIAL TRAINING STUDENT'S CHECKLIST

**Student's Name** : Nik Mohammad Hazim Bin Nik Najib  
**Student's Id** : 2016329505  
**Unit / Department** : Centre for Knowledge, Communication & Technology  
**Organization** : USM Health Campus (Kubang kerian)  
**Semester** : September 2018 – January 2019

NO.	DESCRIPTION	APPENDICES IN REPORT	TICK (√)	DATE
1.	Receive, read and understand the documents;		√	5/2/2019
	1. Industrial Training Handbook		√	5/2/2019
	2. IMC690 Assessment		√	5/2/2019
	3. Definition of Special Project (IM225/245 Only)		√	5/2/2019
	4. Insurance Letter (UiTM)		√	5/2/2019
	5. Industrial Training Report Overall Contents		√	5/2/2019
	6. Cover & Title Page Guideline		√	5/2/2019
	7. Declaration Guideline		√	5/2/2019
2.	8. Abstract Guideline		√	5/2/2019
	Receive, read and understand the rubrics;		√	5/2/2019
	1. Rubric – Industrial Evaluation		√	5/2/2019
	2. Rubric - Individual Presentation		√	5/2/2019
3.	3. Rubric - Industrial Training Report (Overall)		√	5/2/2019
	4. Rubric - Industrial Training Report (Reflection Assessment)		√	5/2/2019
3.	Receive, read and understand all the forms		√	5/2/2019
4.	Report duty to organization and submit report duty form to the Industrial Training Coordinator ('Borang Report Duty') within the first week of internship Email : nurul1217@kelantan.uitm.edu.my <b>OR</b> Fax : 09-9762156 – HEA (please put a note : "U.P : Puan Nurulannisa Binti Abdullah")		√	10/2/2019
5.	Understand that students are <b>NOT ALLOWED</b> to take any leave during internship, unless for emergency leave / MC / special case (not more than 6 days in 5 months); or else the internship status is automatically <b>FAIL</b> . Get the permission from Organizational Supervisor before taking any leave. <b>**Any extra leave provided by organization is not counted under this clause. Organization may provide extra leave / benefits to students, if necessary**</b>	<b>YES (MC / Letter)</b>	√	8/4/2019-9/4/2019 (MC)  15/4/2019 (Fever)  30/6/2019 (Interview session)
6.	Understand that <b>NO</b> semester break during internship.		√	12/2/2019

7.	Understand that public holidays/special leaves/weekend are different between states; follow current state during internship / organization's policy. (put remark in the logbook)		√	12/2/2019
8.	Record every attendance in the form (' <b>Borang Kedatangan Latihan Industri</b> ') or use any method provided by organization (thumbprint or punch card).	<b>YES (Copy of attendance)</b>	√	12/2/2019
9.	Record every task given in the logbook every day. Ask the Organizational Supervisor to sign/verify on daily <b>OR</b> weekly <b>OR</b> monthly basis.	<b>YES (Copy of logbook entries)</b>	√	12/2/2019
10.	Fill up Organizational Supervisor's details (' <b>Template Maklumat Penyelia</b> ') and submit to the Industrial Training Coordinator once the supervisor has been assigned. (**You may include the topic for Special Project, if you already have it**) Email : nurul1217@kelantan.uitm.edu.my		√	28/2/2019
11.	Discuss with Organizational Supervisor regarding Special Project (must be ISM <b>OR</b> IM related tasks).		√	10/4/2019
12.	Plan and strategize all the tasks given during internship (discuss with the Organizational Supervisor regarding duration for the tasks, especially Special Project). You may use the planner (' <b>Jadual Perancangan Latihan Industri</b> ') <b>OR</b> make your own custom planner using MS Office / MS Project <b>OR</b> use the planner provided by the organization (if any).	<b>YES</b>		
13.	Consult with your Faculty Supervisor regarding the tasks (especially Special Project) at least <b>4 TIMES</b> , via face-to-face <b>OR</b> email <b>OR</b> phone calls <b>OR</b> any types of communication medium, which necessary.		√	9/5/2019
14.	Hand over the industrial evaluation form ( <b>Rubric – Industrial Evaluation</b> ) to the Organizational Supervisor (softcopy or hardcopy, any way preferable by the supervisor). The Organizational Supervisor will make an evaluation on the student's performance.		√	25/6/2019
15.	<b>PAY</b> your fees Refer Academic Calendar for the date.		√	22/2/2019
16.	<b>REGISTER</b> for IMC690 (Industrial Training) course– Refer Academic Calendar for the date.		√	24/2/2019
17.	<b>VALIDATE</b> for IMC690 (Industrial Training) course.– Refer Academic Calendar for the date.		√	27/3/2019
18.	Update your MUET status to the HEA (to those who not yet submitted the result/status).		√	3/7/2019
19.	Have a visit from the Visiting Supervisor (from nearest campus / faculty) during internship. Prepare the evaluation form (' <b>Borang Penilaian Visiting Supervisor</b> '). Students may discuss or seek		√	27/6/2019

	for opinions from the Visiting Supervisor. But approval for the tasks (especially Special Project) may only be done by the Organizational Supervisor & Faculty Supervisor.			
20.	Submit the evaluation form (Rubric – Industrial Evaluation) to Industrial Training Coordinator OR Faculty Supervisor within the last week of internship		√	27/6/2019
21.	Attend the presentation (viva) at the faculty *subject to change. Bring along the evaluation form ('Borang Penilaian Pelajar') during the presentation.		√	2/7/2019
22.	Submit the Industrial Training Report (hard cover bind, dark blue)		√	6/7/2019
23.	Provide a softcopy of Industrial Training Report in a CD, sealed in an envelope nicely, and attached at the back of the report.	YES	√	6/7/2019
24.	Attach this checklist in <b>Appendices</b> section.	YES	√	2/7/2019
25.	Attach any other necessary documents which related to your tasks in Appendices section (i.e. : user manual, photos of activities, forms, sketches of storyboard, sample of interface, etc.).	YES	√	2/7/2019

#### NOTES :

1. Organizational Supervisor – supervisor assigned by the industry / organization.
2. Faculty Supervisor – supervisor (lecturer) assigned by the faculty / campus, of which students come from. (i.e.: A faculty supervisor from Kelantan campus will be assigned for students from Kelantan campus).
3. Visiting Supervisor – supervisor (lecturer / staff) assigned by the faculty / campus, from the nearest campus/state to the organization. (i.e.: A visiting supervisor from Shah Alam will be assigned for students who undergo the internship in Selangor / Kuala Lumpur).