



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: KEY MANAGEMENT SYSTEM OF eBPSP

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UNIVERSITI TEKNOLOGI MARA KELANTAN

01 FEBRUARY 2019 – 30 JUNE 2019

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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 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 about plagiarism and will be penalized by the university if found guilty.

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Munirah Mohamad

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Date of submission: 3th July 2019

ABSTRACT

The trainee as the final semester student of Bachelor of Science of Information System Faculty had decided 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 at this organization, the trainee had learnt a lot of things which is useful for the development of the trainee for the future. The trainee had learnt regarding the CodeIgniter platform as a better PHP development framework. Besides, the trainee had also learnt about the formatting of computer, disposition of organization assets. 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: *internship, training, data migration, mini system*

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Besides, I would like to express my great appreciation and gratitude to my organizational supervisor, Madam Azlizawati Ab Latiff as an information technology officer, as well for all staff in application section and technical support section for their excellence supervision, valuable advice, tips and feedback as well as their kindness give guidance through this internship period.

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TABLE OF CONTENTS

Declaration.....	i
Abstract.....	ii
Acknowledgement.....	iii
Table of content.....	iv-viii
List of tables.....	ix
List of figures.....	x
List of appendices.....	xi-xiii
List of abbreviations.....	xiv-xv
CHAPTER 1: INTRODUCTION.....	1-4
1.1 Background of an organization.....	2-3
1.1.1 History to the organization.....	2
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
CHAPTER 2: ORGANIZATION DEPARTMENT.....	5-12
2.1 Background of department.....	5-6
2.1.1 Mission of department.....	6
2.1.2 Quality objective.....	6
2.1.3 Department structure of the department.....	7
2.2 Department function of the department.....	8-12
2.2.1 Application section.....	8-9
2.2.2 Infrastructure section.....	9-11
2.2.3 Technician support section.....	12
CHAPTER 3: INDUSTRIAL TRAINING ACTIVITIES.....	13-54
3.1 Training activities.....	13-20
3.1.1 Learn about technical stuff about computer.....	13

3.1.2	Learn the process of how to dispose of Personal Computer	13-14
3.1.3	Learn about company's profile.....	14
3.1.4	Joined as organized workshop.....	14
3.1.4.1	Ionic workshop.....	14-15
3.1.4.2	CodeIgniter workshop.....	15
3.1.4.3	GitHub basic workshop.....	15-16
3.1.5	Enrolled an orientation of department.....	16
3.1.5.1	Orientation session with application section.....	16
3.1.5.2	Orientation session with technical support department	16
3.1.5.3	Orientation session with infrastructure department	17
3.1.5.4	Orientation session with administration department.....	17
3.1.6	Involved in PC auditing.....	17-18
3.1.7	Briefing programmed	18
3.1.7.1	Briefing program about data and Artificial Intelligence (AI).....	18
3.1.7.2	Briefing program about Enterprise Architecture (EA)	18-19
3.1.7.3	Exploration about meeting room, PABX, & telephonies room	19-20
3.1.7.3.1	An introduction about live meeting situation.....	19
3.1.7.3.2	Visiting at the PABX and telephonies room.....	19-20
3.1.8	Supporting USM's event	20
3.1.8.1	Religious talk program.....	20
3.1.8.2	Hand hygiene campaign.....	20
3.2	Special project	21-54
3.2.1	Project overview	21
3.2.2	Problem statement	22
3.2.2.1	Key tracing difficulties	22
3.2.2.2	Inspection of key status difficulties	22
3.2.2.3	Inefficiency of record management	22
3.2.3	Objectives	23
3.2.4	Scope of project.....	23
3.2.4.1	Staff of BPSP (Admn)	23
3.2.4.2	Student and Staff (End User)	23
3.2.5	Users target.....	24
3.2.5.1	Staff of BPSP (Admn)	24

3.2.5.2 Student and Staff (End User)	24
3.2.6 Project Planning Phase	24
3.2.6.1 Timeline of The Project	25
3.2.7 System Analysis Phase	25
3.2.7.1 The requirement of hardware and software that used in system.....	26
3.2.7.1.1 MySQL	26
3.2.7.1.2 Sublime	26
3.2.7.1.3 Xampp.....	26
3.2.7.1.4 CodeIgniter	27
3.2.7.1.5 GitHub.....	27
3.2.8 System design phase.....	28-39
3.2.8.1 Function & flowchart of the system.....	28
3.2.8.1.1 Function & flowchart of login in system	28
3.2.8.1.2 Function & flowchart of dashboard in system	29
3.2.8.1.3 Function & flowchart of key registration in system	30
3.2.8.1.4 Function & flowchart of QR Code in system	31
3.2.8.1.5 Function & flowchart of Status of key in system	32
3.2.8.1.5.1 Function & flowchart of key registration in system	32
3.2.8.1.5.2 Function & flowchart of available key in system	33
3.2.8.1.5.3 Function & flowchart of in used key in system	34
3.2.8.1.6 Function & flowchart of return key in system	35
3.2.8.1.7 Function & flowchart of log in system	36
3.2.8.2 Illustration of diagram.....	37-39
3.2.8.2.1 Context diagram of Key Management System eBPSP	37
3.2.8.2.2 Data flow diagram of Key Management System eBPSP	38
3.2.8.2.3 Overall flowchart of Key Management System eBPSP	39
3.2.9 System implementation phase	40-54
3.2.9.1 Entity relationship diagram.....	40
3.2.9.2 Data dictionary.....	41
3.2.9.2.1 Data dictionary of ebpskey database.....	41
3.2.8.2.1.1 Data dictionary of ebpskey database in keys table	41
3.2.8.2.1.2 Data dictionary of ebpskey database in loan table	41
3.2.8.2.1.3 Data dictionary of ebpskey database in staff table	42

3.2.8.2.1.4	Data dictionary of ebpskey database in student table.....	42
3.2.9.2.1.5	Data dictionary of “identity” database	42-43
3.2.9.3	Interface design.....	44
3.2.9.3.1	Login interface.....	44
3.2.9.3.2	Dashboard interface.....	44
3.2.9.3.2.1	Popup of list available key interface	45
3.2.9.3.2.2	Popup of list borrowed key interface	45
3.2.9.3.2.3	Popup of list in used key interface	46
3.2.9.3.3	Key registration interface	46
3.2.9.3.3.1	Key registration form.....	47
3.2.9.3.3.2	Filled an information as existence room interface	47
3.2.9.3.3.3	The notification an existence room number interface.....	48
3.2.9.3.3.4	Filled up non-existence information of key number.....	48
3.2.9.3.3.5	The notification about the successfully registered room ...	49
3.2.9.3.4	View QR code interface	49
3.2.9.3.5	Key status interface	50
3.2.9.3.5.1	List of key interfaces.....	50
3.2.9.3.5.2	Available of key interface	51
3.2.9.3.5.2.1	Form popup interface for borrow key	51
3.2.9.3.5.2.2	The notification an existed user interface	51
3.2.9.3.5.2.3	Filled an information based on existence ID	52
3.2.9.3.5.3	In used key interface	52
3.2.9.3.6	Return key interface	53
3.2.9.3.6.1	Write comment interface.....	53
3.2.9.3.7	Log interface.....	54
3.2.10	System Maintenance phase	54

CHAPTER 4: CONCLUSION	55-61
4.1 Application of skills and experience	55-56
4.2 Personal thought and opinion.....	56-57
4.2.1 Gaining of knowledge and experience that related with the course taken	56-57
4.2.2 Supportive environment	57

4.2.3 Working environment.....	57
4.2.4 Knowledge and skill provided by UiTM.....	57
4.3 Lesson learnt	58-60
4.3.1 Critical thinking skills	58
4.3.2 Teamwork.....	58
4.3.3 Improved positive characteristics	59
4.3.4 Ability to work under pressure	59
4.3.5 Understand real working environment	59-60
4.3.6 Learnt to be more confident	60
4.4 Limitations and recommendations	60-61
4.4.1 Limitations.....	60
4.4.1.1 Specific planning schedule is not being prepared.....	60
4.4.1.2 Lack of facilities	60-61
4.4.2 Recommendations	61
4.4.2.1 Provide planning schedule	61
4.4.2.2 Provide enough facilities.....	61
References	62
Appendices.....	63-118
1.0 Storyboard	64-71
2.0 Developer guide.....	72-81
3.0 Internship activities	82-115
4.0 Attendances	116
5.0 Slide presentation	117
6.0 Logbook.....	118

LIST OF TABLES

Table 1: Timeline of the project.....	25
Table 2: Data dictionary of ebpskey in table of keys.....	41
Table 3: Data Dictionary of ebpskey in table loan	41
Table 4: Data Dictionary of ebpskey in staff table	42
Table 5: Data Dictionary of ebpskey in student table.....	42
Table 6: Data Dictionary of ebpskey in table “pengguna”	42

LIST OF FIGURES

Figure 1: Logo of USM.....	2
Figure 2: Image of Vision & Mission in 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: Flowchart of login system	28
Figure 7: Flowchart of dashboard system	29
Figure 8: Flowchart of key registration system	30
Figure 9: Flowchart of QR code for the key after registration process	31
Figure 10: Flowchart for register key form page	32
Figure 11: Flowchart of available key	33
Figure 12: Flowchart of in used key	34
Figure 13: Flowchart of return key	35
Figure 14: Flowchart of log system	36
Figure 15: Context Diagram of Key Management System eBPSP	37
Figure 16: Data Flow Diagram of Key Management System eBPSP	38
Figure 17: Overall Diagram of Key Management System eBPSP	39
Figure 18: Entity Relationship Diagram of Key Management System eBPSP	40
Figure 19: Login interface of Key Management System eBPSP	44
Figure 20: Dashboard interface of Key Management System eBPSP	44
Figure 21: Popup of available key interface of Key Management System eBPSP	45
Figure 22: Popup of borrowed key interface of Key Management System Ebpsp.....	45
Figure 23: Popup of key not return interface of Key Management System eBPSP	46
Figure 24: Key registration interface of Key Management System eBPSP	46
Figure 25: Required to fill the form interface in key registration of Key Management System eBPSP	47
Figure 26: Form had been registered interface in dashboard interface.....	47
Figure 27: The notification about an existed room number interface in register key	48
Figure 28: Inserting for not existing room number in dashboard interface	48
Figure 29: Notification for the successful key registration interface.....	49
Figure 30: View QR code interface in Key Management System eBPSP.....	49
Figure 31: List of available key interface of Key Management System eBPSP	50
Figure 32: Popup for borrow key in available key interface	51
Figure 33: The notification of not exist will pop up with invalids' ID or ID not register	51
Figure 34: An interface when inserting the information based an existing ID	52
Figure 35: In used key interface in Key Management System eBPSP	52
Figure 36: Return key interface	53
Figure 37: Pop up to inserting comment in return key interface	53
Figure 38: Log interface of Key Management System eBPSP	54

LIST OF APPENDICES

Appendix 1: Storyboard for login interface	65
Appendix 2: Storyboard for dashboard interface.....	65
Appendix 3: Storyboard for key registration interface	66
Appendix 4: Storyboard for view barcode interface.....	66
Appendix 5: Storyboard for in used key interface	67
Appendix 6: Storyboard for comment interface	67
Appendix 7: Storyboard for available key interface.....	68
Appendix 8: Storyboard for scan ID interface.....	68
Appendix 9: Storyboard for scan key ID interface	69
Appendix 10: Storyboard for log interface	69
Appendix 11: Storyboard of a user's option for borrow or return interface	70
Appendix 12: Storyboard of a inserting ID number interface	70
Appendix 13: Storyboard of a inserting key ID interface.....	71
Appendix 14: Storyboard of successfully borrow interface	71
Appendix 15: Demonstration the way to make backup for hardisk using docket by the technician staff.....	83
Appendix 16: Image of hardisk in CPU of PC	84
Appendix 17: Technician staff displayed the way how to back up the hardisk.....	84
Appendix 18: The process to insert the hardisk in CPU.....	85
Appendix 19: Personal Computer (PC) backup session	85
Appendix 20: The list of the system that need to be installed after format PC process	86
Appendix 21: The complete process in installing all of the system software after format process.....	86
Appendix 22: The amount of PC that need to be disposed.....	87
Appendix 23: Capturing of PC's data by using Microsoft Excel & Scanner to scan PC's barcode.....	87
Appendix 24: The data of the PC disposal.....	88
Appendix 25: Official portal of USM.....	88
Appendix 26: Profile of USM.....	89
Appendix 27: Mission and Vision of USM	89
Appendix 28: IONIC session that was conducted by Mr. Syamim Rosli.....	90
Appendix 29: An interface of the system that was created during the workshop session	92
Appendix 30: Within all the staff in PPKT that was joined CodeIgniter workshop.....	92
Appendix 31: An introduction about the basic Git Hub by Mrs. Nuru Asyikin Binti Mamat Saman.....	95
Appendix 32: Teaching & Learning session the basic of GitHub in Head of Department's room	95
Appendix 33: The interface of git config --list displayed.....	96
Appendix 34: The interface of git config --list displayed.....	96

Appendix 35: The interface of inserting cd learnGIT to store in master	97
Appendix 36: The interface of git cd learnGIT displayed there is in master.....	97
Appendix 37: The interface of git status displayed	98
Appendix 38: Creating an issue interface	98
Appendix 39: The issue form that need to fill by the trainee to create an issue	99
Appendix 40: List of the issue after created	99
Appendix 41: the interface displayed after the submit issue had been done	100
Appendix 42: the interface of the Git Bash Here to change checkout from master to branch	100
Appendix 43: The interface by using git checkout master	101
Appendix 44: The interface of the issue that was mentioned it was still in branch 4 ("form daftar")	101
Appendix 45: The interface displayed by using git add	102
Appendix 46: The interface of the git commit displayed	102
Appendix 47: Git push interface to update all the task in master	103
Appendix 48: The interface of the index that was used during GitHub Basic Workshop.....	103
Appendix 49: An introduction about the application that was presented by Mr. Wan Faizal Wan Azman	104
Appendix 50: Orientation session about the technician support section by Mr. Azahari Omar	104
Appendix 51: An Introduction about infrastructure section by Mr. Md Darimi Yusof.....	105
Appendix 52: A little bit sharing about the organization, attitude and behavioral in work environment by Head of Department (HOD) Mr. Hj Nik Nashron Ab Aziz	105
Appendix 53: The form & sticker that should bring during PC auditing session.....	106
Appendix 54: Mrs. Azlizawati Ab Latiff gave briefing to the trainee how to audit the PC..	106
Appendix 55: An auditing sticker that need to be jot down for reference number, audit date, audit team & status of hardware	107
Appendix 56: The sticker needs to attach at the hardware of the PC to ensure that it had been checked by the team.....	107
Appendix 57: The trainee and the team partner were inserting the auditing data in Microsoft Excel	108
Appendix 58: The members of team C were discussing to divide the task based on the room given.....	108
Appendix 59: Knowledge session about AI that was presented by Mr. Fadzali Bakar.....	109
Appendix 60: Knowledge sharing session by Mrs. Jamilah about Enterprise Architecture (EA).....	109
Appendix 61: The live view on using conference room & introducing tool session.....	110
Appendix 62: The live view on using meeting room & introducing tool session	110
Appendix 63: Speaker tool that was used during meeting or conference session	111
Appendix 64: Briefing session before visiting telephonies unit & PABX room.....	111
Appendix 65: Telephonies Unit.....	112
Appendix 66: The situation in telephonies unit	112
Appendix 67: An entrance door of PABX room	113
Appendix 68: The wired rack that was connect with 3000 extension wired	113

Appendix 69: The trainee was observed for 3000 bundle of extension wired that was used in USM.....	114
Appendix 70: Sharing knowledge session about Inventor Apps by Nik Muhammad Hazim and the Zatul Adaniah Bin Zahari.....	114
Appendix 71: Religious talk Program with PU Muhammad Rozi	115
Appendix 72: Hand Hygiene Week that was organised by USM's hospital.....	115

LIST OF ABBREVIATIONS

AI	Artificial Intelligence
EA	Enterprise Architecture
APP	Patient Meeting Application
BPSP	Blok Pembelajaran & Sumber Pelajar
CI	CodeIgniter
CPU	Central Processing Unit
DFD	Data Flow Diagram
eBPSP	electronic Blok Pembelajaran & Sumber Pelajar
ERD	Entity Relational Diagram
HRS	Hospital Management System
ID	Identification
ICT	Information and Communication Technologies
LIS	Lab Information System
NACSA	National Cyber Security Agency
NCSP	National Cyber Security Policy
PABX	Private Automatic Branch Exchange
PC	Personal Computer
POLS	Prescribing Online System

PPKT	Pusat Pengetahuan, Komunikasi & Teknologi
RAM	Random Access Memory
USM	Universiti Sains Malaysia
SDLC	System Development Life Cycle
WIFI	Wireless fidelity

CHAPTER 1

INTRODUCTION

The industrial training subject which is IMC690 gives an insight towards the pre-professional working experience by having the need to conduct a lot of assignments and responsibilities. This paper involves 480 hours equivalent work placement, whether paid or otherwise, which located within an approved industrial site, then working under the close supervision of a professional officer of that certain industrial site.

Basically, internship brings the means of having some sort of real-life working experience under an organization. All of the experience gained through the internship would basically enhance the fellow students in their future working career. Through all of the assignments that they had done throughout their internship period.

Not only that, by going for the internship, a student can practically learn varieties of new things that they do not even imagine in that industrial site. The outcome of that benefit is that the students will be equipped with a lot of new useful knowledge which will become in handy for them in the future when they wish to apply for the job that they want.

Besides, the internship period itself will make the student be well ready to face the real working environment in the future since that the student will face a lot of challenge and difficulties that other people that working whether for government or private industry do. The students will be exposed to this kind of stressful job and eventually, they will know how to handle those stress once they got used to it.

So, for the students under the faculty of information system management, all of the students need to undergo any industrial site for their industrial training for the final semester. The period for the industrial training will be at least about five months. The industrial training period will start from the 1st February until 30th of June.

This trainee had decided to choose the Universiti Sains Malaysia (USM) as the place for the industrial training which was located at Kubang Kerian, Kota Bharu, Kelantan. The trainee has conducted the industrial training under the unit of the Centre of Knowledge, Communication, and Technology in the section of the application.

1.1 Background of the organization

1.1.1 History to the organization



Figure 1: Logo of USM

Universiti Sains Malaysia (USM) is one of the oldest and well-known universities in Malaysia. Not only that, but the USM also recognized one of the top universities in the global stage by a lot of educational experts. In February 1979, Prime Minister, YAB Dato Seri Dr. Mahathir Mohamad has announced the government's decision to set up the third Faculty of Medicine in USM after setting up the same faculty at UM and UKM.

The campus began to function fully in June 1983 to house the School of Medical Sciences, Universiti Sains Malaysia Hospital and supporting departments such as libraries, student dormitories, nurse dormitories and hostel doctor dormitories. The Phase I Project involves the construction of lecture halls, laboratories, sports complexes, clinics, student dormitories and office space completed in May 1990. The Center for Medical Sciences moved to Kubang Kerian in June 1990. The Phase II Project was completed in 1996 Includes ward, hall, laboratories and office space.

Main Components of USM Health Campus such as:

- a) Universiti Sains Malaysia Hospital (1983)
- b) School of Medical Sciences (1979)
- c) School of Dental Sciences (1998)
- d) School of Health Sciences (1999)
- e) Molecular Medicine Research Institute (2003)
- f) Clinical Research Platform (2003)
- g) Research on Health Sciences and Biomedical Research (2004)
- h) Departments under the Director of Campus

1.1.2 Vision

Transforming 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.

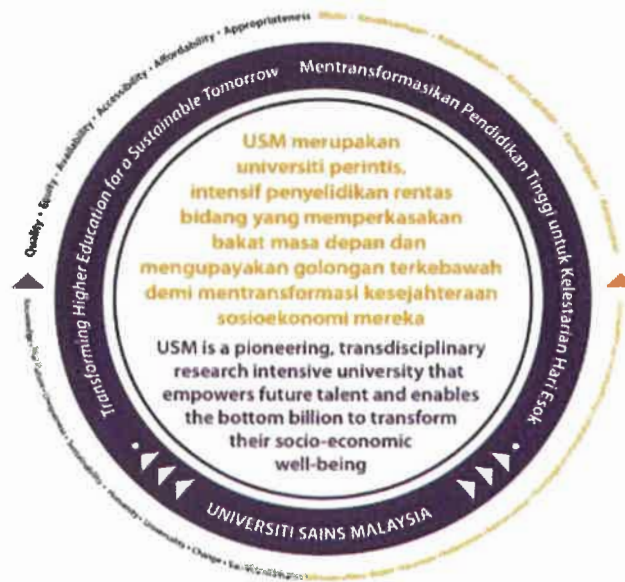


Figure 2: Image of Vision & Mission in USM Organization

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 Dzul kifli 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

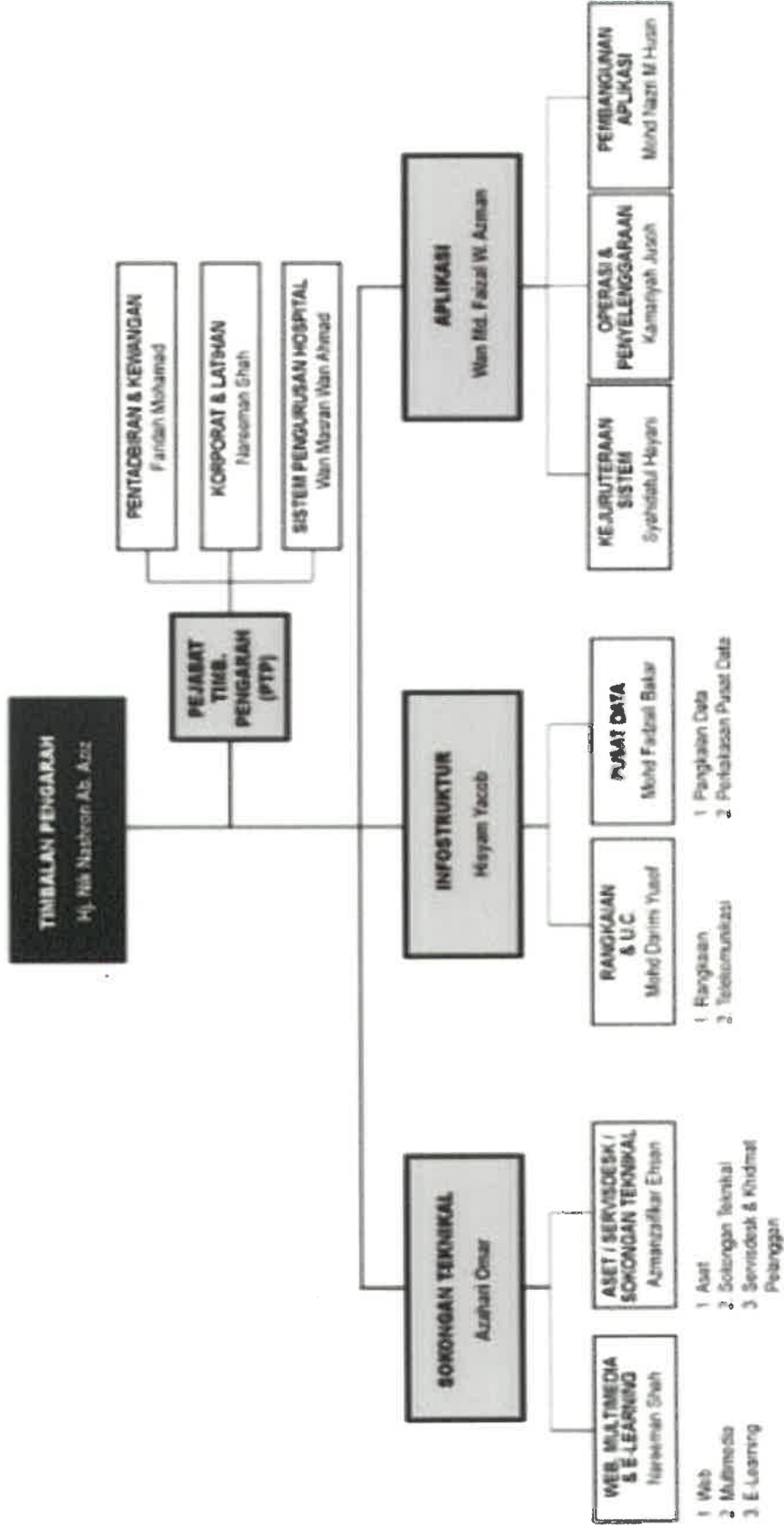


Figure 5: Organization chart of PPKT department

2.2 Department Function of PPKT

The department that involved by the trainee is the Centre for Knowledge, Communication & Technology which also known as the “Pusat Pengetahuan Komunikasi dan Teknologi” (PPKT). So basically, within this PPKT, there is three separated section which consists of application section, info-structure section, and technical support section. All of these units play a major role in ensuring that the well-being of the USM organizations can be assured.

2.2.1 Application Section

Application unit in the PPKT department actually was divided into three unit which are application development, System engineering and operation and maintenance.

2.2.1.1 The Function of Application Development

- Coordinate with the Head of Section and Deputy Director of Information Systems on integrated development and management information systems
- Assisting the standardization of work / operational procedures (SOPs) involving Information Systems at all USM campuses
- All new application development & system upgrades will be coordinated by the Application Development Unit by collecting multi-unit developers.
- The completed system will be returned to the relevant unit for maintenance purposes.

2.2.1.2 The Function of System Engineering

- Determine the direction of application development related to the language of the dictionary, database and integration of all applications under the management of PPKT Health Campus
- Hold discussions with users to get a rough idea of the needs and scope of the new application being applied.
- It is responsible for obtaining user consent if necessary before making application system reviews and specifications
- Coordinate feasibility studies and analysis of user and system requirements including the development of more complex systems

- Coordinate any system design according to analysis results including the development of more complex systems
- Provides URS (User Requirement Specification) in accordance with mutual agreement with the user.
- Build and provide database structure, data-flow-diagrams, mock User Interface, URS process flow diagram for guidance to the System Development Team
- Manage and regulate application projects developed and maintained.
- Plan and implement strategic planning to coordinate existing application systems and be developed.
- Provides planning and upgrading of application systems in terms of operation and database.

2.2.2 Info-structure Section

2.2.2.1 Data Center

The Info-structure section is a section under the Health Campus Communication & Technology Center (PPKT). The main service of the Info-structure Section is to manage, maintain and provide technical assistance for network systems, ICT security, telecommunications, data centers and databases at the Health Campus

2.2.2.2 Objectives

- To assist Deputy Director & management of PPKT in implementing PPKT ICT strategy & plan
- Provide and manage comprehensive network and telecommunication systems including installation and technical support
- Coordinate the video conferencing system in terms of operation and technical support
- Manage and oversee internal and off-campus network and Internet systems
- Responsible for generating alerts and alerts if there is a risk at risk of causing interference with ICT security, telecommunications, operating systems and application systems at the USM Health Campus.
- Forms a complete data center operations management strategy
- Ensuring the operation of the network, telecommunications and data center operating system runs smoothly to support PTJ administration operations, HUSM services as well as teaching and learning at the Health Campus

2.2.2.3 Role & Functions

2.2.2.3.1 Network System

- Managing DNS records for KK.USM.MY.
- Manage static IP distribution and DHCP.
- Manage network hardware configurations.
- Design routing of health campus network.
- Provides access to the MYREN and 1Gov * Net Networks.
- Provides access by users off-campus to the USMNet network safely through the use of VPN (Virtual Private Network).
- monitor the level of use, availability of each equipment and network through NAGIOS reports.
- Manage users and configure WIFI health campus (WIFI Controller).
- Manage WIFI coverage on health campus.
- Always monitor the level of use and availability of WIFI equipment and coverage via
- Prime and WISM Reports

2.2.2.3.2 ICT Security

- Manage ESET antivirus installation, updating and configuration
- Prepare and Manage Anti-Spam Solution with the help of Master ICT Security Unit.
- Monitor the level of ICT security through reports from Forti Analyzer and Baracuda Spam Gateway.

2.2.2.3.3 Telecommunications

- To provide and manage Phone Infrastructure
- Manage “telesidang”
- Phone number management includes extension numbers (extensions), number category upgrades, number transfers by location of applicants, hunting, diversion and termination of phone numbers.

2.2.2.3.4 Data Center Operation

- Provide access by users outside the campus to USMNet network safely through hosting services for server, security equipment, communication, application and network integration according to specification set by Server Hosting.
- Provide and standardize disaster recovery plan services for each responsible server.
- Coordinate and manage basic security features (Baseline Security).
- Provides advisory and technical support related to server computers.
- Ensure that Data Center operations and facilities operate smoothly 24 x 7 and 365 days.
- Review and plan ICT infrastructure requirements for system operation, hardware and software.
- Supervise and implement the Data Center operations procedures to ensure the operation of the Data Center is clear, adhered to and implemented smoothly
- Prepare and update documentation and carry out hardware inventory audits.
- Reviewed and analyzed user requirements in terms of current technology.

2.2.2.3.5 Database Management

- Provide databases, manage, monitor and improve in terms of security, capacity, backup & recovery and database replication.
- Provides MSSQL and MySQL based Database requirements for applications.
- Provide storage space, manage, monitor and improve in terms of security, capacity and continuity of storage.
- Plan, review and analyze user needs in terms of disaster recovery and implement disaster recovery plans to ensure the operation of systems runs with minimal disruption.
- Reviewed and analyzed user requirements in terms of current technology.

2.2.3 Technician Support Section

The Technical Support Section is one (1) out of three (3) main sections under the Health Campus Communication & Technology Center (PPKT). The role of the Technical Support Section is to provide technical services, procurement, distribution and management of ICT equipment. In addition, it also works in managing assets, website management and multimedia.

2.2.3.1 Objective

Its establishment in ensuring the availability of ICT equipment, maintenance and technical assistance in support of learning and teaching, research and innovation, administrative and management productivity and health services of USM Hospital. This section also needs to identify the needs and planning of procurement of ICT equipment. On the other hand, this section will manage all the requirements, official website and multimedia applications. The next objective is to ensure that assets are managed in accordance with the procedures set by USM.

2.2.3.2 Function of Technician Support Section

The Technical Support Section provides the following services;

- Manage new application / replacement and maintenance of ICT equipment from the Center for Responsibility (PTJ) at the Health Campus applied through the Desk Services (SD).
- Manage docking of ICT equipment complaints from the Center of Responsibility (PTJ) at the Health Campus which is applied through the Desk Services (SD).
- Managing Hotline (1111) and Customer service counter.
- Managing periodic Maintenance of USM ICT equipment.
- Manage new application / maintenance and Responsibility Center website (PTJ) at Health Campus.
- Manage multimedia applications for the official event of the Center for Responsibility (PTJ) at the Health Campus.
- Managing PPKT assets in terms of monitoring, policy and documentation

CHAPTER 3

INDUSTRIAL TRAINING ACTIVITIES

3.1 Training Activities

The trainee acting as the Industrial training's students during the industrial training period which is at the Universiti Sains Malaysia (USM) Health Campus. 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 in Computer

The trainee had gained the opportunity to visit another section located under the same building and room and learn various new environments about that certain section. For that reason, the trainee went to the technical section in order for the trainee to pick up varieties of new knowledge. Besides, the trainee had gone to the computer room under the section of technical and during the time spent at the computer room, the trainee gains a huge opportunity to learn about the formatting of the computer. Before this, the trainee had no idea at all on how to format the computer.

However, in the Personal Computer (PC) clinic, the technical staff working in the PC clinic was willing to teach the trainee on how to perform the computer format from one step to another. Apart from that, the trainee also managed to learn about the computer operation process. So, within this operation process, the trainee had the chance to operate the motherboard of the computer to see the inner component that makes up the computer. The technical staff also told each function of the inner component in order to make the trainee more aware of the build-up process within a computer.

3.1.2 Learn the Process of How to Dispose of a Monitor as an Organization Asset

Apart from that, the trainee also had the chance to learn about the scanning of the monitor which is for the distribution reason. During the scanning, the staff needs to scan the inventory and serial number. These numbers were very crucial because it will serve as the asset and the property of that organization. The trainee also told by the staff that when the computer in the computer room was no longer to operate well, it must be disposed of in a proper manner. At

the of this process, it should be checked by the head of the department of the PPKT department to ensure all of the information given by the discharged staff was related each to another without any mistake.

3.1.3 Learn About the Company's Profile

During the early week of the internship at the USM, the trainee had been assigned with the task of learning about the organizational background. The trainee was asked to do this so that the trainee would be more alert with the true function of this organization and the goals that the organization trying to achieve in the future. Hence, to find out in detail about the background of the USM, the trainee had surfed the official portal of the USM and from there the trainee was exposed to a lot of useful information.

3.1.4 Join an Organized Workshop

During the internship session at the USM, a couple of workshop sessions about the usage of software had been organized by the department in order to make the staff and also the practical student to be more flexible and expertized in using that software. There are three workshops that were joined by a trainee which are IONIC, CodeIgniter and GitHub.

3.1.4.1 Ionic Workshop

So, the first workshop that is organized within the department is the workshop about the Ionic software. For a fact, within USM, it can be said that all of the staff in the IT department had no specialization when it comes to using Ionic software in developing a website or application. Basically, this workshop was instructed and lead by two former practical students of the USM which are Muhammad Syamim Rosli and Nur Fatihah Hayuza that have experienced in using Ionic when they were assigned to do the project about the Ionic during the internship. Actually, Ionic is a computer open-source for hybrid mobile app development.

Within that workshop, the trainee had been exposed regarding the concept of the Ionic framework itself. Then, the trainee had followed the instructor step by step in developing a system using the Ionic platform starting from the installation of the various component needed in Ionic to the coding execution. The system that was about to be developed in that workshop is the half day-leave system. For note, the system did not manage to be fully developed due to insufficient time.

During the workshop, the trainee had learned that the Ionic is definitely not as same as another programming language such as PHP and also HTML. Even the installation of the Ionic itself needs to be written in the command prompt. Then, the trainee also exposed to a new term and software that included in the Ionic platform which is the Angular. Basically, 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.

3.1.4.2 CodeIgniter Workshop

For the next organized workshop, the workshop is about the utilization of CodeIgniter (CI). CI is a framework specially established for the likes of programmers to develop a proper website. For this platform, it can be said that most of the staff that works under the section of application within this department have the required skill in using CI.

The workshop was led and instructed by one of the most skillful staff in using CI platform who named Encik Nazri Mat Husin. The workshop was made for the likes of students and also the staff of the application section. In addition, the input based on joined this workshop, it was gained a trainee knowledge by using this software. Besides, the trainee also successfully creates one system as a guide to implementing in a special project.

3.1.4.3 GitHub Basic Workshop

For the GitHub workshop, the workshop was instructed by one of the experience staff within PPKT who was named Mrs. Nuru Asyikin Binti Mamat Saman. The instructor possessed a vast experience when it comes to use the Git Hub for a project management. For the information, the Git Hub is a web development platform which commonly used by a project team for a better development environment over a system. Through the usage of Git Hub, a project manager could assign the task that firstly need to be done by the team for the system development.

This will basically result towards a better system production since the fellow developers can fully focus on specific task which need to be done first. In the workshop, the instructor firstly showed to the trainee regarding the way to install the Git Hub and the trainee was being informed that the trainee needs to possess a Git Hub account first before the trainee can use all features of the Git Hub. The trainee already has an account that was created by supervisor who is Mrs. Azlizawati Ab Latiff. Then, once the trainee had installed the GitHub, the

instructor showed to the trainee on the way to use the Git Hub such as the Git Status, Git Add, Git Commit, Git Pull, and also the Git Push features.

3.1.5 Enrolled an Orientation Session

During the time the trainee spent at the intern, there are few orientation sessions that the trainee needed to join. These orientations were started in the middle of March and it ended in early April.

3.1.5.1 Orientation Session with an Application Section

Within this first orientation which leads by the senior staff under the application section which is from the chief application section named Mr. Wan Md. Faizal Wan Azman. During this session, the staff had briefed about the role of the application section and then he also told the practical students about all of the systems that had been developed by the application unit such as Lifeline, Patient Meeting Application (APP), Lab Info System (LIS), Prescribing Online System (POLS) and Itemize billing. In addition, the staff also explained that the database which has a relation with the system in this building was stored in three parts which stand from application building, hospital building and PPKT department itself. This can be summarized as the distributed database which was used to accommodate the backup process and also faster reach for system utilization.

3.1.5.2 Orientation Session with The Technical Support Section

After that, for a second orientation which lead by the senior staff under the technical support section named Mr. Azahari Omar, all the practical students had been exposed about the function of the technical section which are they covered report and applicant that related with Wireless fidelity (WIFI), access door, auto gate system, tools of ICT, computer and printer, teleconference and installation for related software. The staff had significantly briefed about the major role of the technical section and the importance of the existence of this section which is encompassing the implementation, management, coordination, monitoring, technician improvements, work processes, delivery of services more efficiently, effectively and quality. Besides, the staff told 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 session that was organized for the practical students. This time it was about the network section. It was also led by one of the staffs of the infrastructure section named Mr. Md Darimi Yusof. During this session, 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. Besides, the staff also shared some knowledge about the security agency National Cyber Security Agency (NACSA) and National Cyber Security Policy (NCSP).

3.1.5.4 Orientation Session from The Administration Part

Upon the next meeting, it was about the administration part. This session was led by the deputy director which is Mr. Hj Nik Nashron Ab Aziz. For this meeting, the deputy director told how the organization operates their daily quest and the method used by the organization in order to communicate with another party that was far in terms of geographical location.

3.1.6 Involved in PC Auditing

The trainee had also involved in Personal Computer (PC) Auditing at the School of Dental Sciences which also a part of the faculty that contained in the USM. The reason for this audit is in order to conduct some observation and calculation towards the CPU, monitor and other PC devices condition which had been the responsibility of the Center of Knowledge, Communication, and Technology to bear.

Basically, the number of teams had been established for this reason and the trainee had been assigned with the C group and there were seven members that got involved who is Mrs. Azlizawati Ab Latiff, Mrs. Nor Marlisa Saudi, Mrs. Nor Erma Nordin, Nuru Asyikin Binti Mamat Saman, Mrs. Subaikah Jusoh, Siti Zunnurain Zainuddin and the trainee. All of the information that related to the PC component would be recorded such as the serial number, name of the model or devices, department series, fortune code, name and staff number for the owner of the equipment or device and the total amount of the Random-Access Memory (RAM) and hard disk space in each of the PC.

In addition, during the auditing process, the trainee was required to check the sticker whether there was the presence of the property sticker, inventory sticker and fortune barcode attached towards the device. This monitoring process was very crucial in order to conduct a census for

the allocation delegation towards the fortune and asset which involved devices such as the Central Processing Unit (CPU) monitor and also the printer.

Therefore, based on the thorough observation, there was still a lot of staff who stand from the fellow lecturers still using the old model laptop which was not up to date at all. Apart from that, there were plenty of lecturers leave a complaint that their laptop was not well-functioning. However, there were some of the fellow lecturers that had acquired for the grants and purchased for the latest monitor without the CPU itself.

Then, all of the data would be embedded within the google form to serve as the evidence of the survey as the primary sources. To be frankly said, the trainee had gained a lot of useful and exciting experience that the trainee never had before regarding the PC component survey and also the process in making sure that the component of the PC would always be taken care of.

3.1.7 Join Knowledge Sharing or Briefing Program

3.1.7.1 Briefing Program About Data and Artificial Intelligence (AI)

Not only that, but the trainee also had the chance to enroll in the knowledge sharing or storytelling program. There were several people that provided the talk regarding the topic. For the first person that provided the sharing session was Mr. Mohd Fadzali Bakar. During this second talk given by the man himself, he briefed 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 assist the healthcare department in boosting the performance of the healthcare management into a whole new level. In addition, Mr.Fadzali 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)

Then, the next session of the program was given to Mrs. Zamilah Hussin. In that first session, Mrs. Zamilah had briefed about Enterprise Architecture (EA). There Mrs.Zamilah explained the benefit of the EA and the objective of the EA itself. Then, the staff had the chance to tell about MyGovea. The staff had briefed regarding the background of MyGovea, the vision it tried to achieve, the framework, methodology and benefits of the MyGovea. After that, the

staff had briefed about the Hospital Management System (HMS). Therefore, the staff explained a lot about the whole function of the system itself such as the flow of the system and how it actually works. The staff 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, Private Automatic Branch Exchange (PABX) & Telephonies Room

3.1.7.3.1 An Introduction About Live Meeting Situation

The next session is about the demonstration for the trainee by the staff which is Mr. Solahasni Abdul Aziz regarding the usage of the meeting and conference room during a meeting. During this session, one of the staffs of PPKT had displayed to us on the device that being used during a meeting with the party that located far from the department. The staff had introduced to the trainee all devices that being used in order to make the meeting with the other party through a live view.

Firstly, the staff introduced the trainee towards the audio devices which is very important 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 not like the usual camera, 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 Visited at the PABX & Telephonies Room

For the next knowledge sharing session, it was given to Mr. Solahasni Abdul Aziz. Actually, the instructor was in charge of the telecommunication unit of the department. During the session, he 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 chilling sensation was in order to avoid all of the cables to absorb all the heat generated. 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, the instructor also told us about the hardware and software being used in order to make the video conferencing works.

3.1.8 Supporting Event of USM

3.1.8.1 Religious Talk Program

The trainee also had joined some events that were solely organized by the USM organization. Basically, the first event that the trainee joined was the religious talk which was conveyed by Pencetus Ummah (PU) Muhammad Rozi. The topic that was being conveyed was regarding the peace and the uniqueness of Al-Quran. During the talk, PU Rozi had specifically briefed about the greatness of Al-Quran and the impact that the Quran could give to us when we deeply digested all of the true meanings behind each word that stated in the Quran which is the phrase from the God (Allah) himself.

3.1.8.2 Hand Hygiene Campaign

Then, the second event that the trainee had joined was about the hand hygiene campaign. Within that event, the trainee had been exposed to a lot of useful information regarding the importance of taking care of hand hygiene. One of the nurses that took charge of the campaign told the trainee that people that easily got sick commonly did not even concern about their hand hygiene which then would affect their whole-body system. This is because when someone eats, they would use their hands, so that if they tend to neglect the hand hygiene, a lot of dangerous germs which keep sticking to their hands may also be immersed in the food that they ate. Afterward, the nurse also gave a piece of card that specifically instructed us the proper way to wash the hands with hand sanitizer.

3.2 Special Project

3.2.1 Project Overview

Key Management System is a system that facilitate the key loan process for the fellow staff and students in this organization. This loan key system was created in order to make the user to be easier for them to borrow the key for the “Blok Pembelajaran & Sumber Pelajar” (BPSP) or known as Student’s learning and Resource Block. The BPSP is the room building that cover the likes of examination wards, examiner room, main area, On-call rooms, secretariat room and also tutorial rooms. In the past, there was no presence of this kind of system. All of the process for borrowing the key towards those mentioned buildings just now need to be done in manual. By manual it basically means that all of the records for those who borrows the keys will be recorded within a log book.

As we all know, this paper-based system is not really an ideal way of managing things. By recording the information about the borrower of the key into a log book, the information faces a huge tendency to be missing in a certain moment. Besides, it is also quite hard for the user to inspect regarding the status of the key that they want to borrow whether the key is available or else. Then, for the staff in charge over the loaning of the key, they also face some hardship whenever they want to check if certain users had successfully returned the borrowed key. This will lead to the inefficiency of key management. Because of all of these reasons, the key management system was being put into the round table and being implemented.

The key management system was recommended by the trainee’s supervisor Mrs. Azlizawati Ab Latiff. The supervisor was also the one that gave all of the ideas regarding the features need to be input into the system. This system was specifically developed by two assigned trainees who is the trainee herself and her partner for this project. With the availability of this system, the users will no longer need to go to the central department of the building in order to inspect the key status. Instead, they just need to open their laptop or any digital devices to check for the key availability. Frankly said, this system would hugely be a beneficial towards the organization by making sure that the management of the key building would be boost into a whole new level.

The trainee was started by created for admin part of the which is in admin system it was divided into 7 modules and for the user maybe it will continue by the other staff since it was a short time to the trainee to complete the system on that time. The 7 modules that was

mentioned by the trainee which are login & logout, dashboard, key registration, list of QR code keys, key status, return key and log system.

The trainee only develops the interface for the admin system. Meanwhile, for the user interface, it would be continued by other staff. The reason for this was due to the insufficient of time to develop both admin and user interface and the trainee also does not possess enough skills to develop the interface for the user since the trainee only just began to learn about the CodeIgniter during these few months.

3.2.2 Problem Statement

3.2.2.1 Key Tracing Difficulties

Before the existence of this key management system, it is quite difficult for the staff that being assigned with the responsibility to handle the key loaning process to trace the key movement. Sometimes, they may not aware at all about the borrowed key whether it had been returned by the user or not. As a result, some of the borrowed key went missing just like that and it could not be traced any longer. Then, this may also result towards the things that contained within the specific room gone missing due to the non-responsible user has the possession towards the key.

3.2.2.2 Inspection of Key Status Difficulties

With the paper based key management system, the user finds it hard for them to sometimes check for the status of the key that they wish to borrow. This may be due to reason that they need to go all the way long towards the central department just to check for the key availability. Other than that, once the user had arrived at the central department, they do not really will be informed right away if the key is available for them to borrow. Unfortunately, they still need to wait for some minutes to give the staff the time to check for the key status.

3.2.2.3 Inefficiency of Record Management

Inefficiency of record management here means the difficulties in keeping track towards the records towards all of those keys that been borrowed. Through the paper-based system, it may be difficult for the staff in BPSP section to keep all of the records of the users that had borrowed the key. All the records of the user would be recorded into the log book which

seems not really an organized method to be implemented for this case. With all those varieties records about all of the users, the staff may become confused once they want to record all of the information into that log book which may result the information impossible to be retrieved whenever needed. There was also a case where the user tends to input the wrong information which also result the key would not be able to be retrieved.

3.2.3 Objectives

- To develop a system that can facilitate the key management within the organization
- To reduce the tendency of the borrowed key to be missing without a trace
- To increase the efficiency of record management towards the borrowed key.

3.2.4 Scope of Project

Key Management System is the online system that facilitate the user in the process of borrowing any key for the specific room area. This system was built with varieties of astonishing features in order to assist the user to be more organized in going through this process. This system will basically serve three audiences which stands from the staff of BPSP as the admin and then the end-user which was divided into two categories which are the students and staff in Universiti Sains Malaysia (USM). The detail for the categories of audiences of the system are as follows:

3.2.4.1 Staff of BPSP(Admin)

The staff of BPSP will be able to view all of the information about the user of the borrowed key while being able to trace the key's activity.

3.2.4.2 Student and Staff (End-user)

The fellow staff and students can use this system in order to check for the status of the key if the key is available for them to borrow at that time.

3.2.5 Users Target

3.2.5.1 Staff of BPSP

As mentioned earlier, the staff of BPSP will act as the admin for this system where they have the ability to oversee all of the information that contained within the system regarding the key borrowed by those users. They can check whether the returned had been returned by the user or yet to be returned successfully. So here they can take any appropriate action if any case the key not being returned.

3.2.5.2 Staffs and Students (End-user)

The fellow staffs and students of USM will act as the end-user for this system where they can make any application for the key that they want to borrow for any room as a platform for them to run the process in teaching and learning process. Then, they also can check for the status of the key whether the specific key available to be borrowed or else.

3.2.6 Project Planning Phase

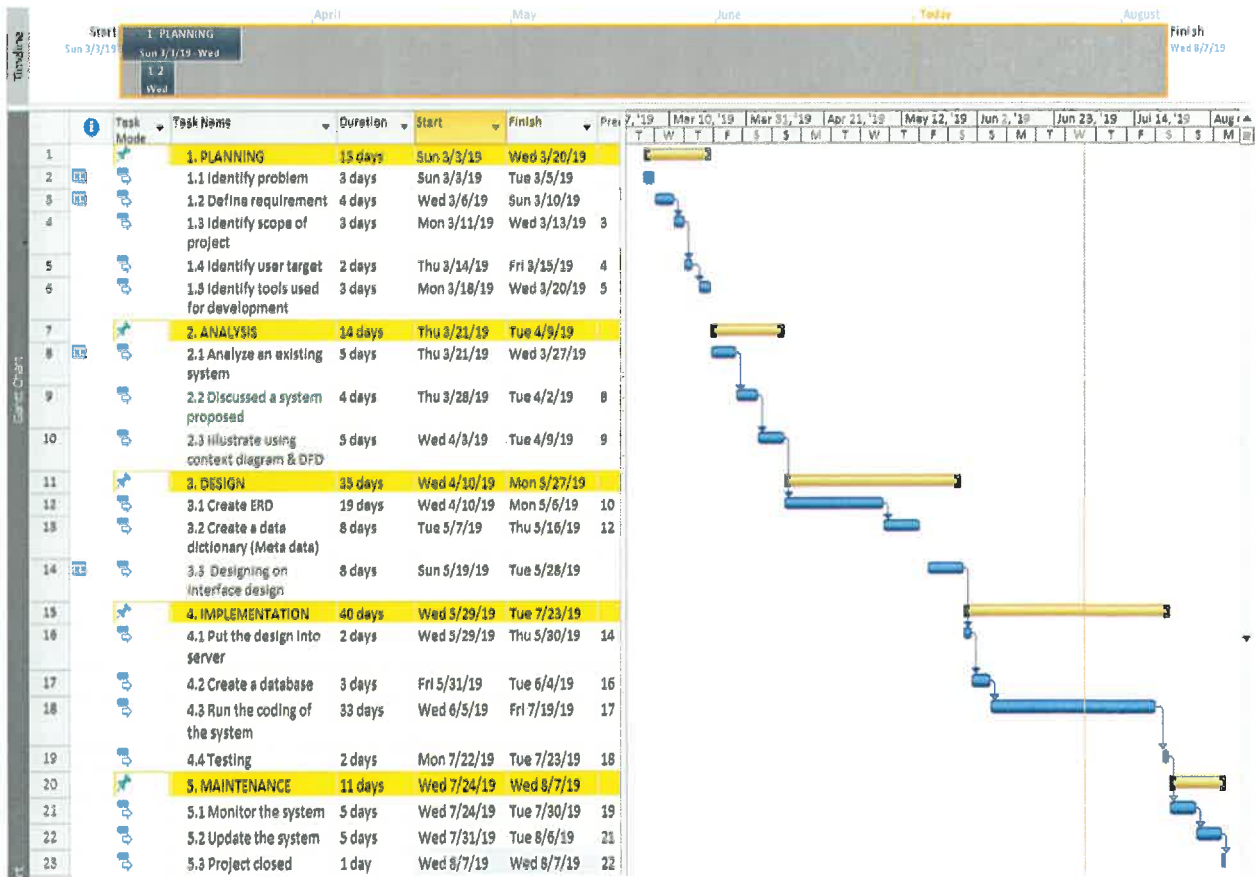
The planning phase is one of the most integral phases when discussing about the phase of the System Development Life-Cycle (SDLC). Through the execution of planning for the system development, a developer may know the kind of risk that may land upon the project. Thus, from that risk identification, the developer can directly draft the best solution to overcome of all those risks while ensuring the project would not be delayed.

By using this method of the SDLC model, the trainee had managed to identify the problem based on identifying the problem statement in point 3.2.2 that arise within the system while also being able to clarify the objectives which had been mentioned by the trainee in point 3.2.3, and the required resources such as the cost of hardware and software, also the equipment.

Besides, in this phase of the system also, the trainee with the partner and organization supervisor (OS) had been decided for the duration of the system which is to ensure the trainee can complete the task given based on the accurate time. Besides, OS also assigned the task in GitHub for the trainee based on duration of time and date.

3.2.6.1 Timeline of the project

Table 1: Timeline of the project



3.2.7 System Analysis Phase

For the analysis phase, the trainee and Organization Supervisor (OS) was conducted some survey by having an informal interview session with the other staff of BPSP about the features that may be added into the systems. This method will be approached by the trainee and OS due to the success of this method once properly done. Besides, the trainee also planned to undergo some interview session with the students in USM in order to inquire them regarding their acceptance towards the availability of this system.

Through the system analysis, the trainee had analyzed all of the requirements needed towards the development of this system especially in term of hardware and software that are important requirement to write and run the coding process.

3.2.7.1 The Requirement of Hardware and Software That Used in System

3.2.7.1.1 MySQL

MySQL is an open source Relational Database Management System (RDBMS) which based on Structured Query Language (SQL), MySQL runs on all platforms that involving the Linux, UNIX, and Windows. The trainee chose to use this MySQL because MySQL is the most popular language when it comes to 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.

3.2.7.1.2 Sublime

Sublime text is the proprietary cross-platform source code editor with a Python Application Programming Interface (API), it supports most of the programming languages and markup languages. Besides, the Sublime's function can be added by the users using the plugins which usually community-built and maintained under free software licenses. The trainee decides to use this code editor because of the advantage that the trainee may gain through using it and the trainee will write all of the codes for the system development using this single code editor.

3.2.7.1.3 Xampp

Xampp is a free and open source cross platform web server solution stack package which was specifically developed by Apache Friends. The product of the Apache mainly includes the Apache HTTP Server, MariaDB database, and the interpreters for the scripts written within the PHP and Perl programming language. The trainee needs to utilize the Xampp just in order for the trainee to test all of the codes written in the code editor on her own laptop. The Xampp is also a powerful platform because it possesses the ability to serve the web pages on the World Wide Web.

Furthermore, Xampp is equipped with the specific tool which was provided for the password-protection. In facts, that part is the most essential 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.

3.2.7.1.4 CodeIgniter

CodeIgniter is an open source software rapid development web framework, which used for the building of dynamic functional web sites using the PHP. The Code Igniter was literally based on the well-known model-view-controller (MVC) development pattern. The controller part is the necessary part of development under the CodeIgniter. Meanwhile, the model and view are the optional one. This CodeIgniter is very different from other PHP framework and it has turned out to be the most sought platform for the developers to build a truly well-developed website. The things that make the CodeIgniter being on top of other are because of its faster execution time. Within this framework, the PHP responds way faster.

3.2.7.1.5 Git Hub

Git Hub is a development platform to increase the efficiency and effectiveness over a developer's work or task. From open source to business, a developer can host and also review codes, manage projects and build software alongside 36 million developers. The trainee was asked to use this platform because this platform will provide the trainee the facility to collaborate with the project manager in a more convenient manner. By using Git Hub, the trainee can track, update the work within one place. It also making sure that the trainee always aware which task needs to be given priority. Besides, the project manager can also leave their comment if the trainee makes a mistake during the project execution and they can also show where is the error coming from by using this platform.

3.2.8 System Design Phase

Then, for the design phase, the trainee planned to design the system with a simple interface that can be easily understand by the users regarding how the system really functions. The trainee also had been undergone some consultation with the organization supervisor regarding the Context diagram, Entity Relationship Diagram (ERD), Data Flow Diagram (DFD) and overall flowchart of the system by using swimlane.

Besides, in this phase of the system also, the trainee was developed a storyboard. It takes a long time to design the interface of the system. It is because to ensure all the requirement needs by user can be satisfied. Besides, these methods will be implemented in order for the trainee to oversee the flow of the system and clearly see how the system really functions and works.

Apart from that, the trainee also was created the flow of the system in every module including the function that was used to connect each other to run this system in model and controller. It was created because to ensure it can easily understand by OS or another staff to continue in creating and running the coding of this system until the system successfully complete.

3.2.8.1 Function and Flowchart of The System

3.2.8.1.1 Function and Flowchart of Login in System

First of all, before the system can be fully used, certainly the user needs to log into this system first where in the login interface for this system, it required the fellow user to input their email and also staff number. The user will be required to input the email and staff number once again if the system detect the email and the number are not matching with the authorization for the system. Once they had successfully input the right information, then only they can move on to use the features of the system.

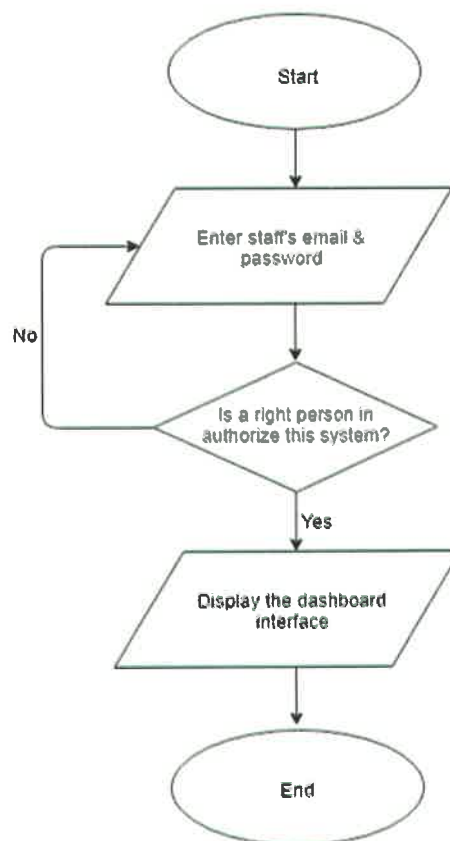


Figure 6: Flowchart of login system

3.2.8.1.2 Function and Flowchart of Dashboard in System

Then, once they had log into the system, the user will see the dashboard interface. At the dashboard interface, the system will display the amount of the available key, total of borrowed key that had been returned, and total number of borrowed keys that not being returned. Not only that, it will also display the room number, room name and level for each type of available key, borrowed key and returned key.

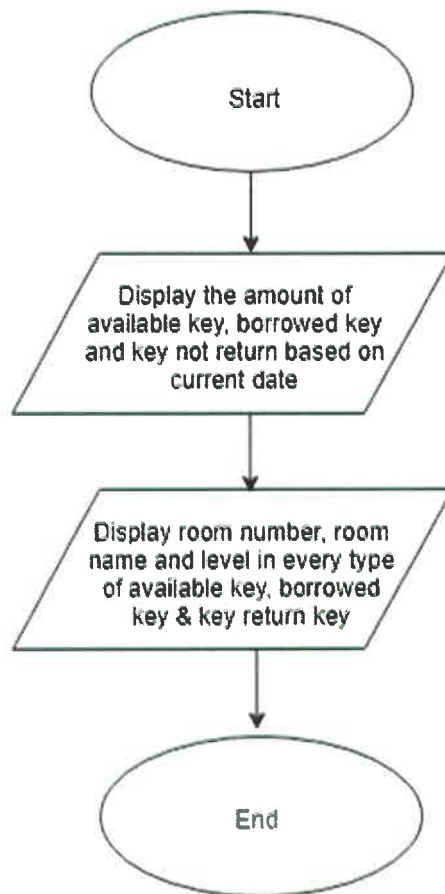


Figure 7: Flowchart of dashboard system

3.2.8.1.3 Function and Flowchart of Key Registration in System

Then, the user would see the key registration interface. For this interface, the users are required to input the information relating to the room number, room name, and also level of that room. Then, after all of information had been input, the system will recognize if the room number have been registered or not. If the room number is yet to be registered, then only the key would be successfully registered.

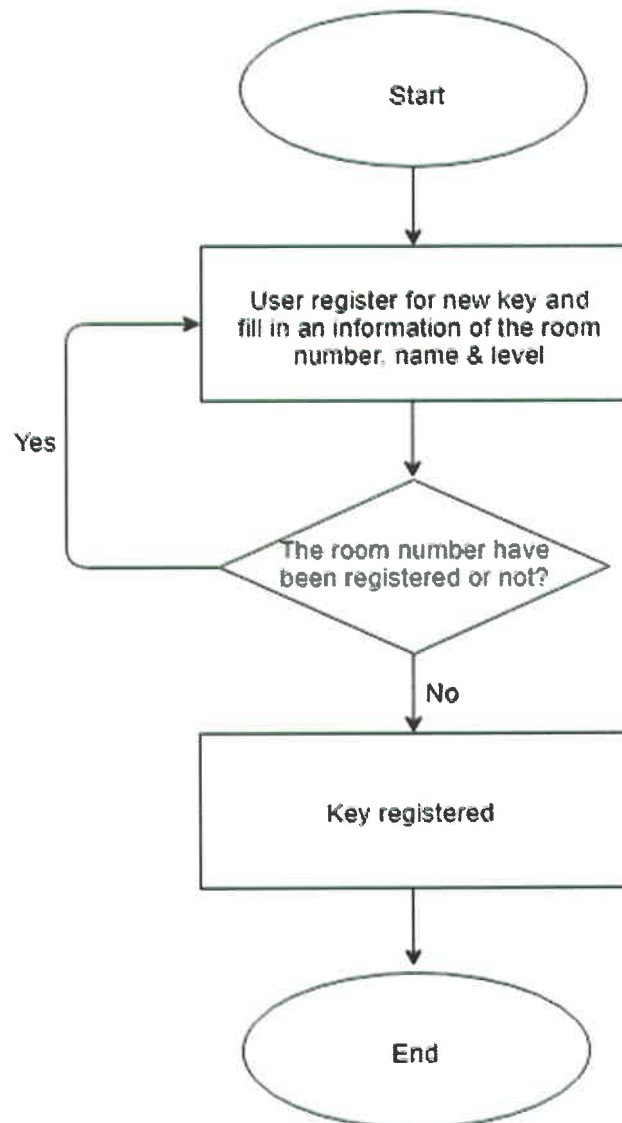


Figure 8: Flowchart of key registration system

3.2.8.1.4 Function and Flowchart of Generate QR Code of The Key in System

After that, the user will also view the interface for the QR code. Within this interface, the system will display a list of QR code based on the room number, room name, level and also QR code. The user will also possess the ability to print the QR code at the action column.

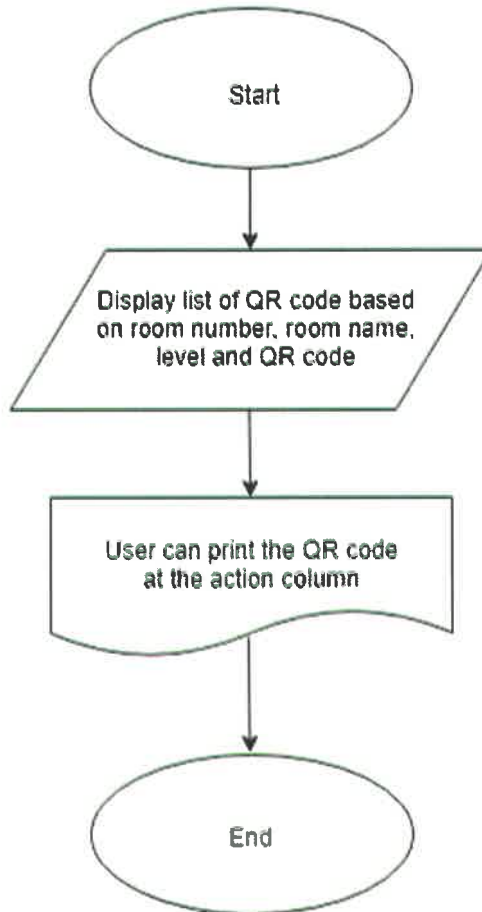


Figure 9: Flowchart of QR code for the key after registration process

3.2.8.1.5 Function and Flowchart of Key Status in System

3.2.8.1.5.1 Function and Flowchart of List Key Registration in System

Then, the user will also see the list of key interfaces. Through this interface, the user can register for any key by clicking on the key button. Once they had clicked on the button, the system will display all of the list room number, room name, level and registration date for the key.

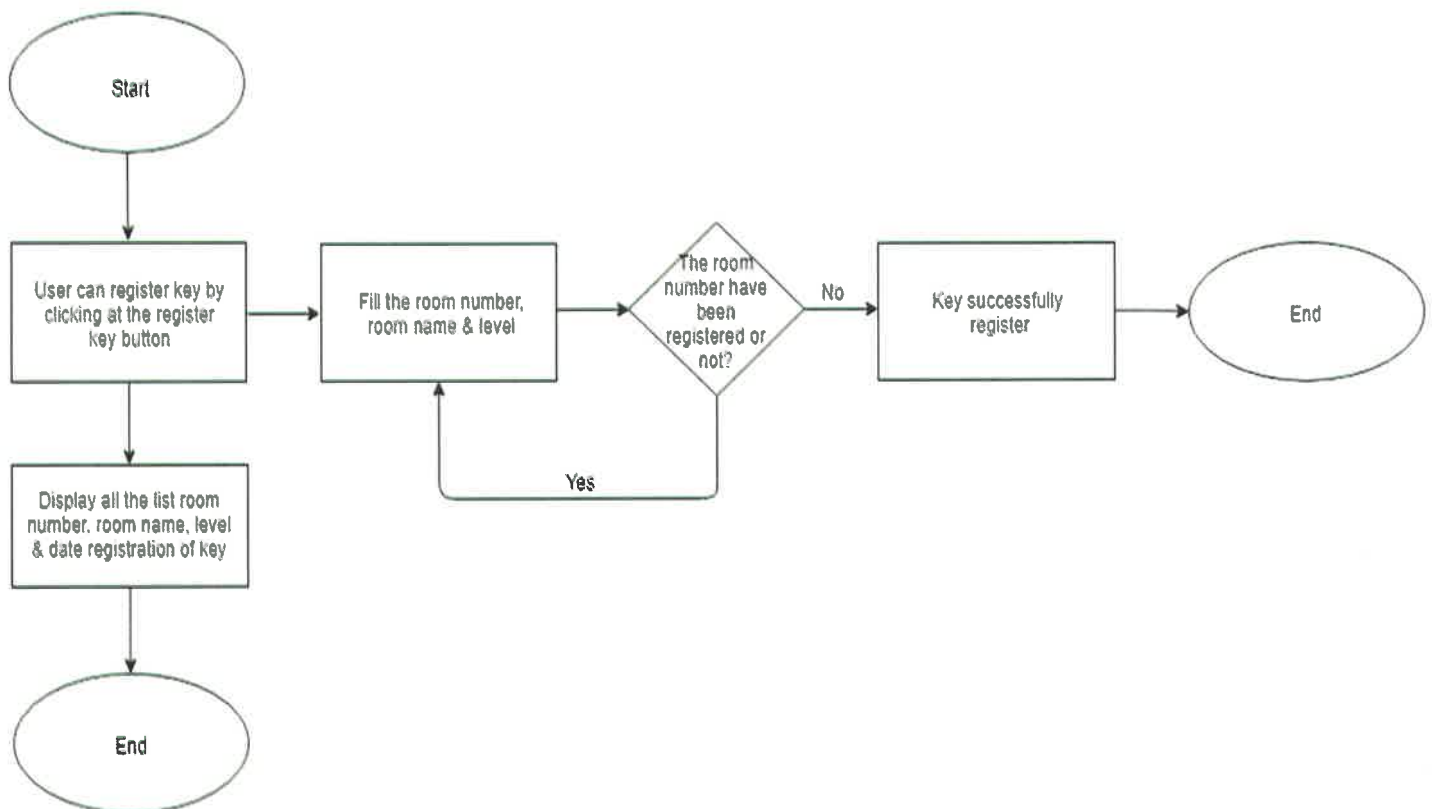


Figure 10: Flowchart for register key form page

3.2.8.1.5.2 Function and Flowchart of Available Key

Afterwards, the user will also see the available key interface. When the user gone through this interface, the system will display all information regarding the key that available at the moment. To borrow any key, the user needs to click on the borrow button in the option column in order to borrow the specific key. The user required to fill in their staff and also phone number. Then only they can borrow any key that they wish to borrow.

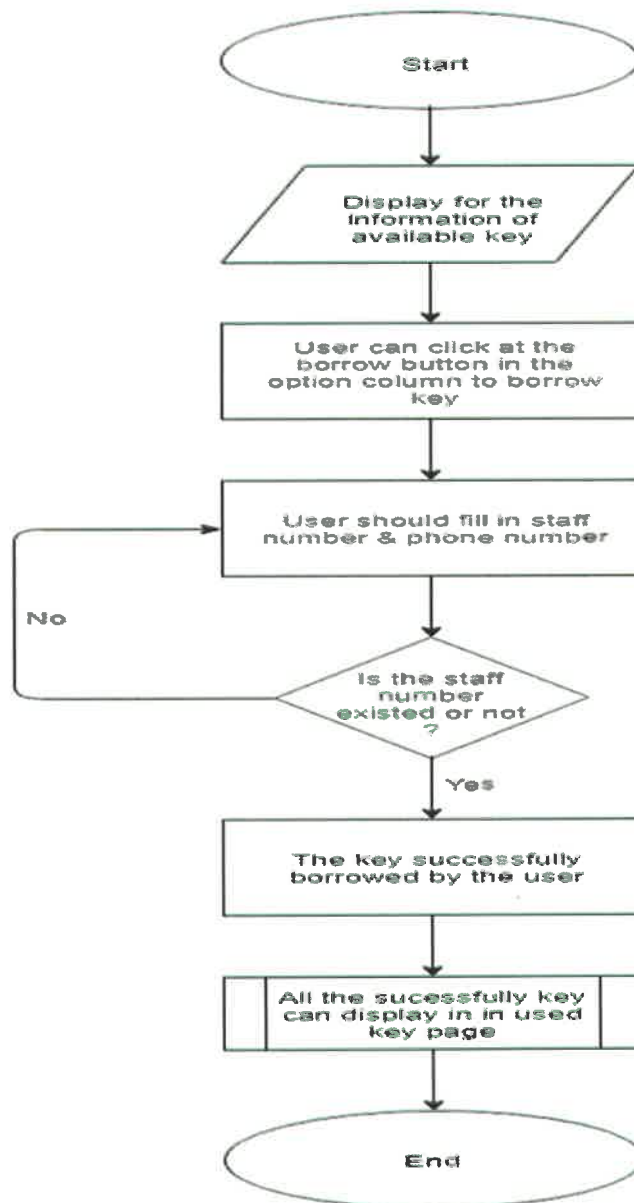


Figure 11: Flowchart of available key

3.2.8.1.5.3 Function and Flowchart of in Used Key in System

Besides, the user will also view the used key interface. Basically, through surfing this interface, the system will display all information relating to the key that had been used or borrowed by other user. The user can also return the borrowed key by clicking on the return key button. As usual, the user still required to input both their phone and staff number.

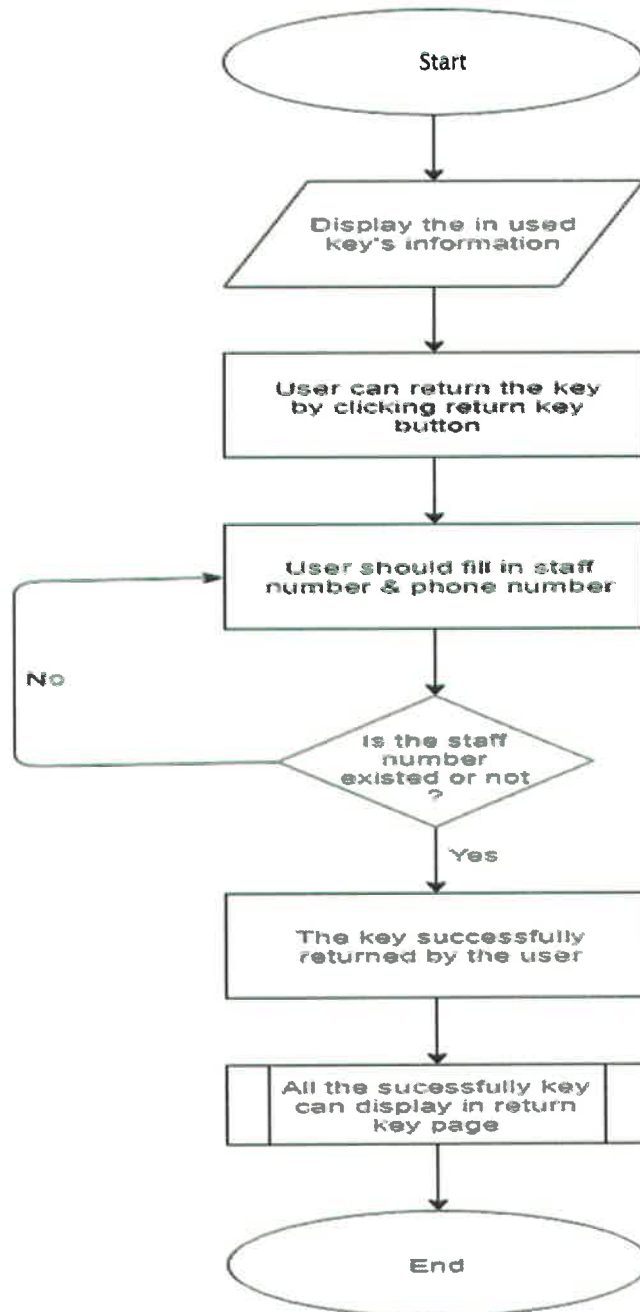


Figure 12: Flowchart of in used key

3.2.8.1.6 Function and Flowchart of Return Key in System

Then, there is also the return key interface. In this interface, the system will display all information of the list of the returned key such as the return name, ID number, room number and return date. The user can also leave any comment by clicking on the comment button. After they had left the comment that they want, the comment will be displayed on the log interface.

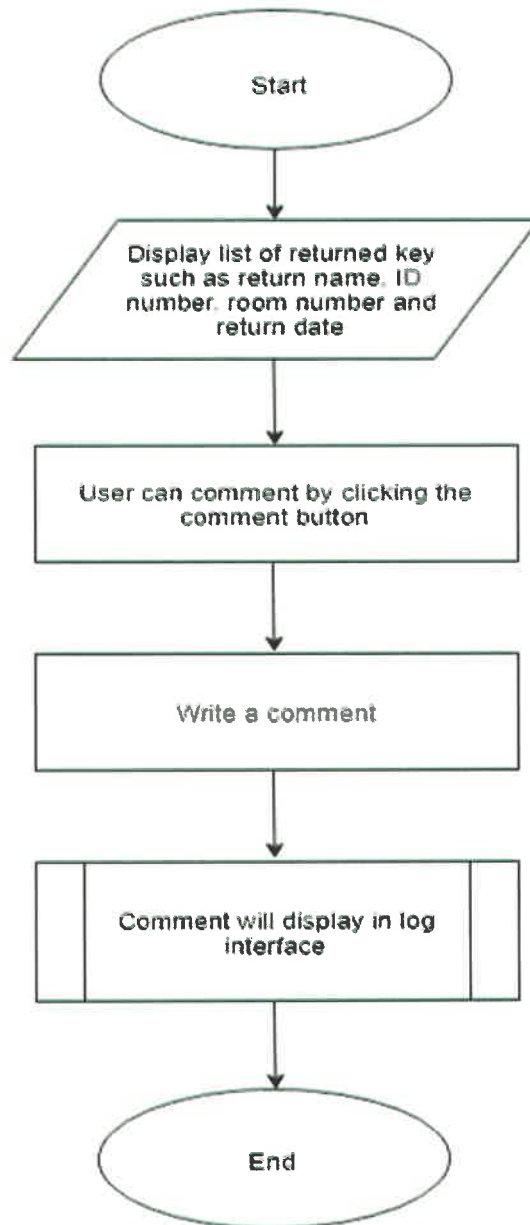


Figure 13: Flowchart of return key

3.2.8.1.7 Function and Flowchart of Log in System

Finally, there is the log interface. Within this interface, the system will display all the room name, room number, borrower name, ID name, borrow date and also comment by the users.

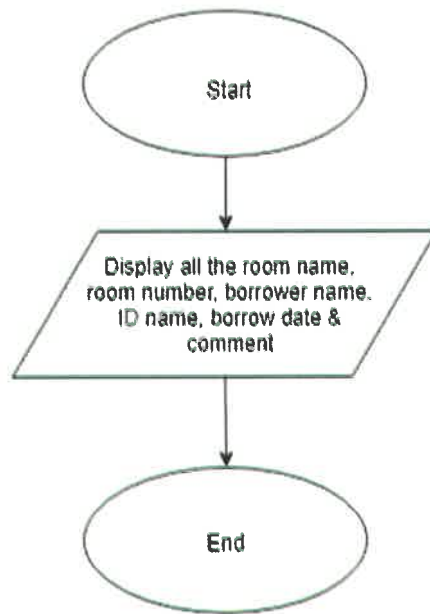


Figure 14: Flowchart of log system

3.2.8.2 Illustrations of Diagram

3.2.8.2.1 Context Diagram of Key Management System eBPSP

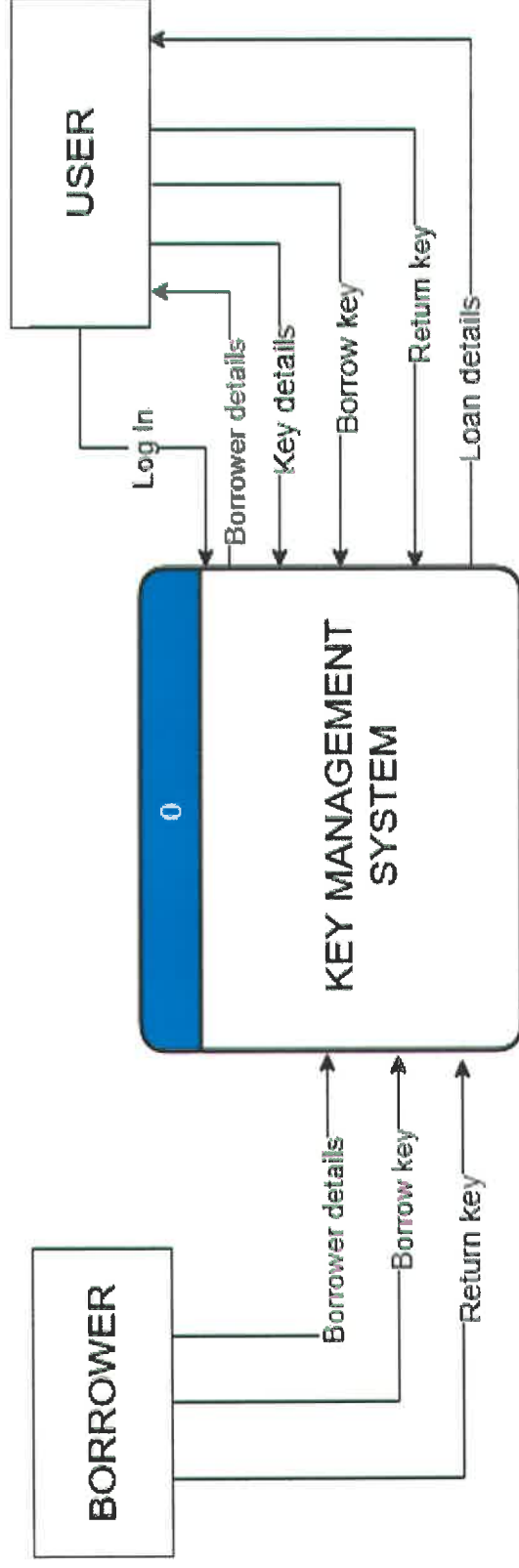


Figure 15: Context Diagram of Key Management System eBPSP

3.2.8.2.2 Data Flow Diagram of Key Management System eBPSP

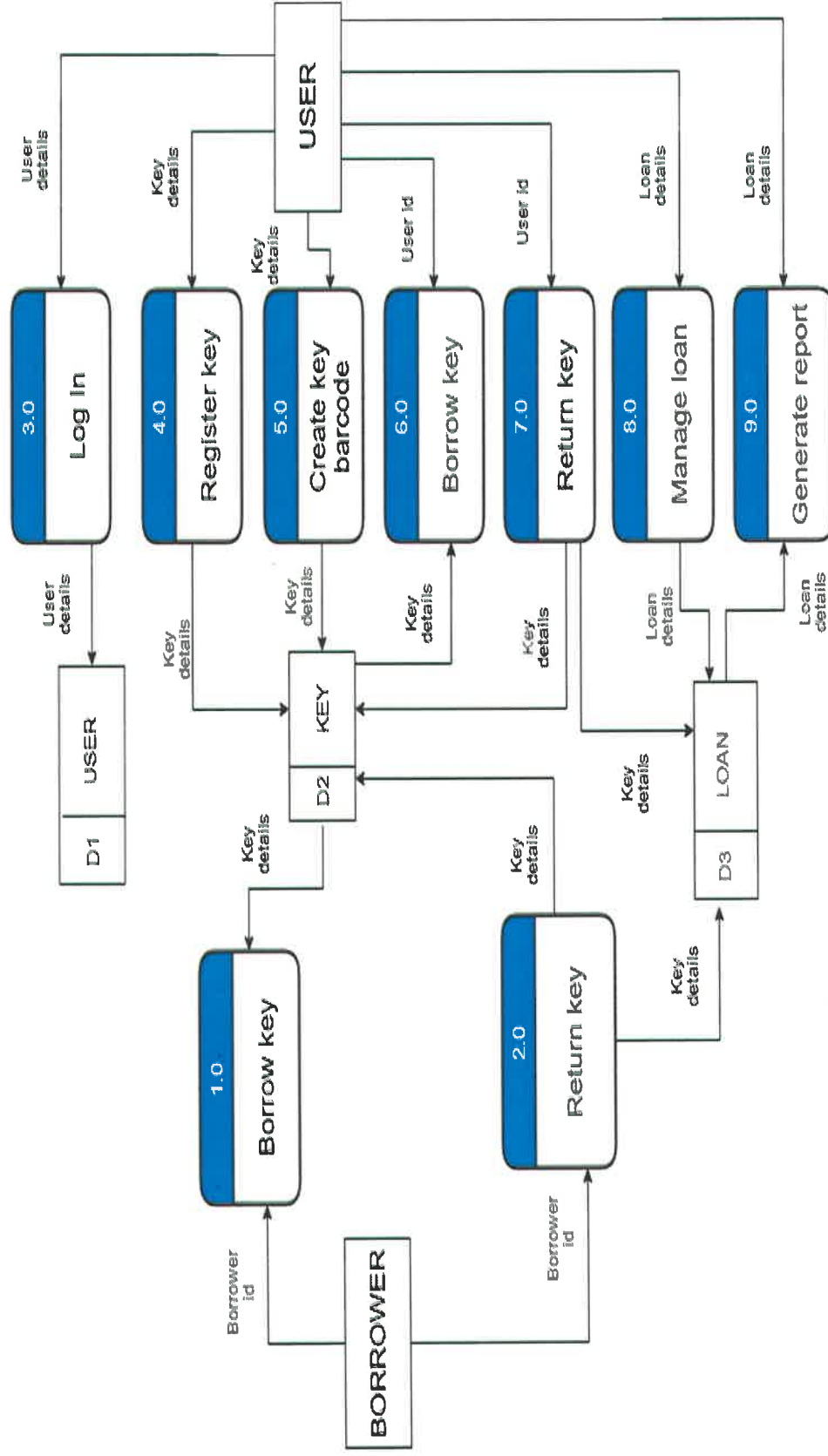


Figure 16: Data Flow Diagram of Key Management System eBPSP

3.2.8.2.3 Overall Flowchart of Key Management System eBPSP

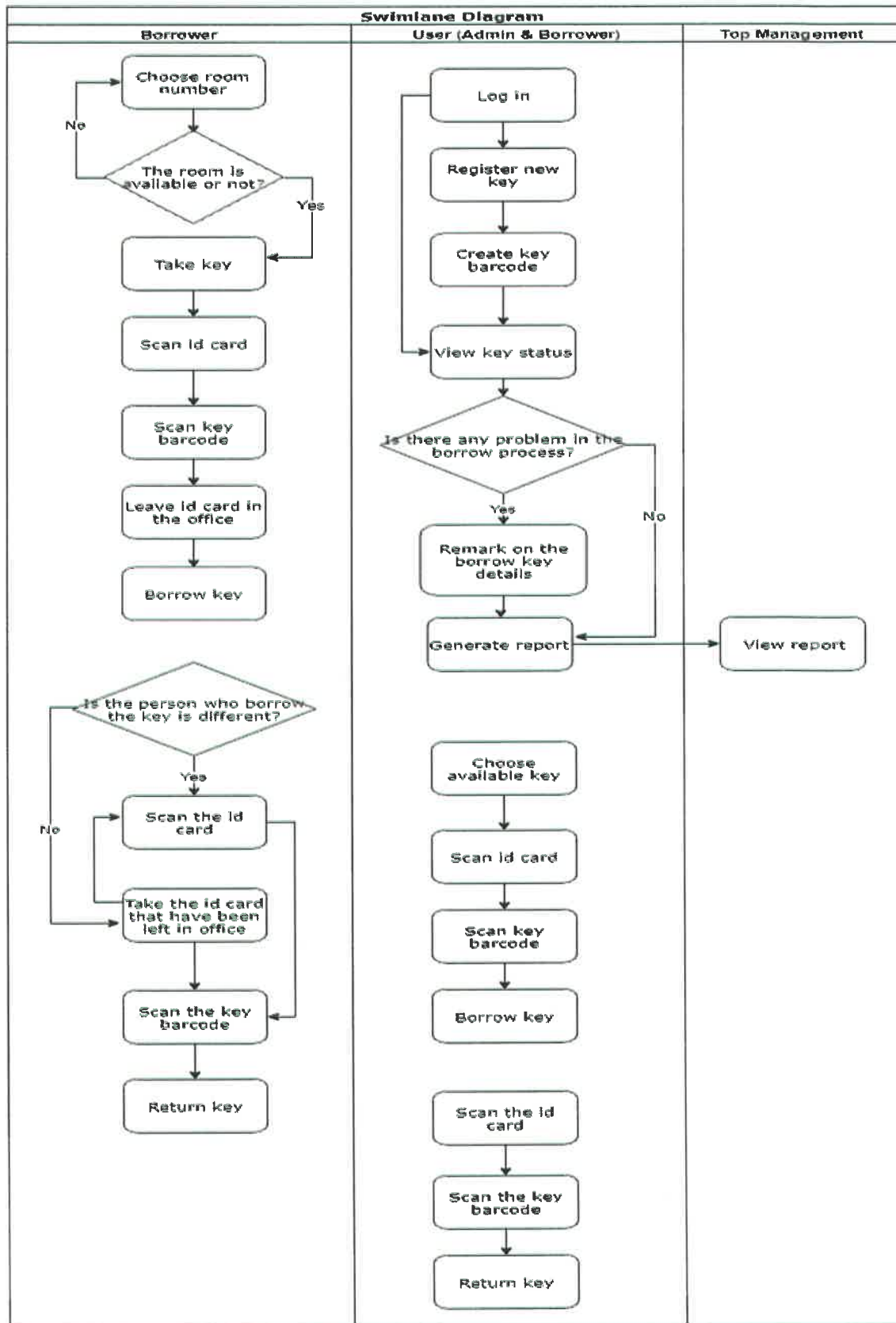


Figure 17: Overall Diagram of Key Management System eBPSP

3.2.9 System Implementation Phase

Then, for the implementation phase, the trainee planned to install all of software such as the Gitlab, CodeIgniter and also Sublime 3 in order to develop the system. After that, the trainee planned to allow the supervisor to test this system in any case any features need to be added towards the system.

3.2.9.1 Entity Relationship Diagram (ERD) of Key Management System EbpSP

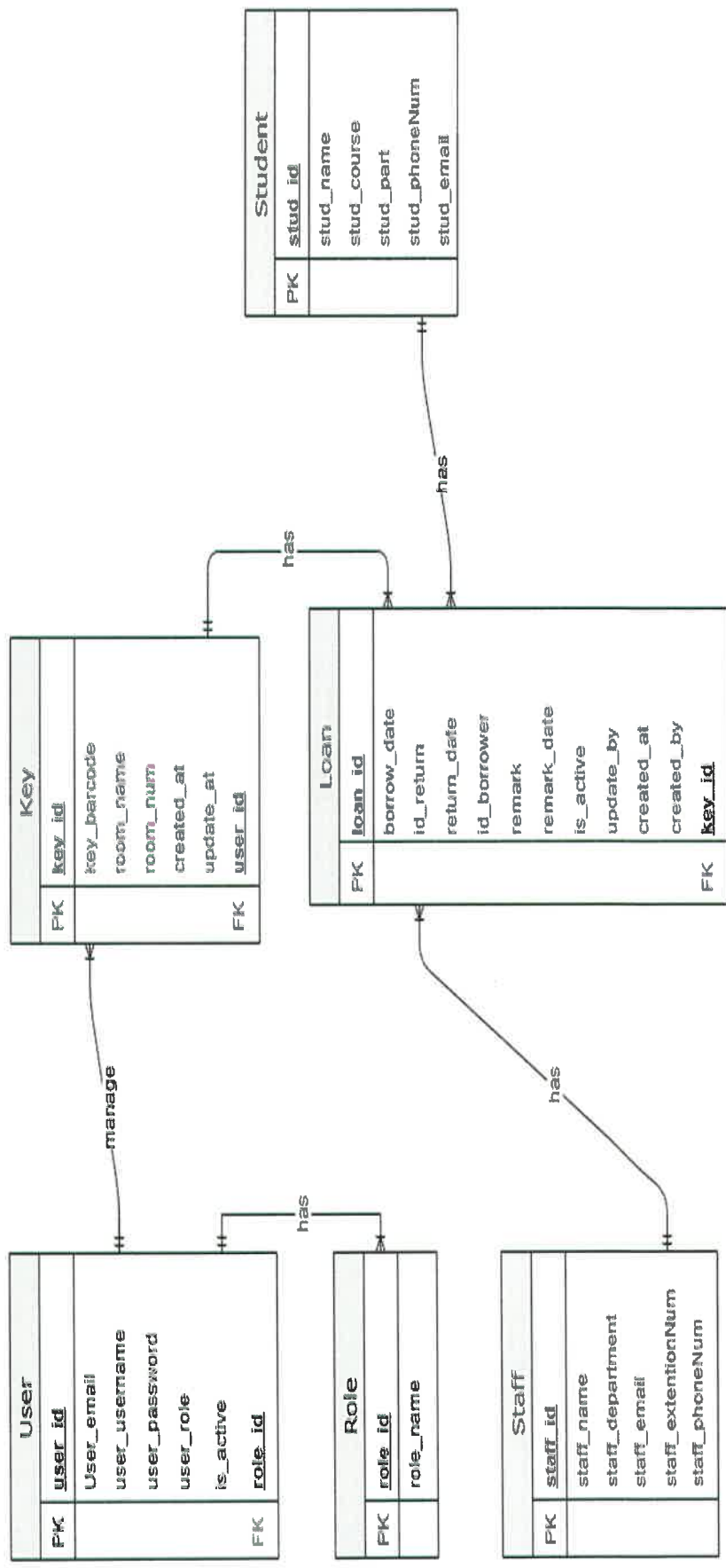


Figure 18: Entity Relationship Diagram of Key Management System eBPSP

3.2.9.2 Data Dictionary (Meta-data)

3.2.9.2.1 Data Dictionary Database of ebpspkey

3.2.9.2.2.1 Data Dictionary of ebpspkey in Keys Table

Table 2: Data dictionary of ebpspkey in table of keys

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
keys	1	key_id	int(11)			No	None		AUTO_INCREMENT
	2	room_num	varchar(255)	latin1_swedish_ci		No	None		
	3	room_name	varchar(255)	latin1_swedish_ci		No	None		
	4	imageqr	varchar(200)	latin1_swedish_ci		No	None		
	5	imagebc	varchar(200)	latin1_swedish_ci		No	None		
	6	level	int(11)			No	None		
	7	is_borrow	tinyint(4)			No	0	1=dipinjam, 0=tidak dipinjam	
	8	is_active	tinyint(4)			No	1	1=aktif, 0= tidak aktif	
	9	created_at	datetime			No	None		
	10	created_by	varchar(50)	latin1_swedish_ci		Yes	NULL		
	11	updated_at	datetime			Yes	NULL		
	12	admin_id	varchar(20)	latin1_swedish_ci		No	None		

3.2.9.2.2.2 Data Dictionary of ebpspkey in Loan Table

Table 3: Data Dictionary of ebpspkey in table loan

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
loan	1	loan_id	int(11)			No	None		AUTO_INCREMENT
	2	borrow_date	datetime			No	None		
	3	id_borrower	varchar(255)	latin1_swedish_ci		No	None		
	4	hphone	varchar(20)	latin1_swedish_ci		No	None		
	5	return_date	datetime			No	None		
	6	id_return	varchar(255)	latin1_swedish_ci		No	None		
	7	remark	varchar(255)	latin1_swedish_ci		No	None		
	8	remark_date	date			Yes	NULL		
	9	remarks_date	datetime			No	None		
	10	is_active	tinyint(4)			No	None		
	11	created_by	varchar(255)	latin1_swedish_ci		No	None		
	12	key_id	int(11)			No	None		
	13	created_at	datetime			Yes	NULL		
	14	update_at	datetime			Yes	NULL		

3.2.9.2.2.3 Data Dictionary of ebpskey in Staff Table

Table 4: Data Dictionary of ebpskey in staff table

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
staff	1	staff_id	int(16)			No	None		AUTO_INCREMENT
	2	staff_name	varchar(255)	latin1_swedish_ci		No	None		
	3	staff_department	varchar(255)	latin1_swedish_ci		No	None		
	4	staff_email	varchar(255)	latin1_swedish_ci		No	None		
	5	staff_extnum	int(20)			No	None		
	6	staff_phonenum	int(20)			No	None		

3.2.9.2.2.4 Data Dictionary of ebpskey in Student Table

Table 5: Data Dictionary of ebpskey in student table

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
student	1	stud_id	int(11)			No	None		AUTO_INCREMENT
	2	stud_name	varchar(255)	latin1_swedish_ci		No	None		
	3	stud_course	varchar(255)	latin1_swedish_ci		No	None		
	4	stud_part	varchar(255)	latin1_swedish_ci		No	None		
	5	stud_phonenum	int(20)			No	None		
	6	stud_email	varchar(255)	latin1_swedish_ci		No	None		

3.2.9.2.2.5 Data Dictionary of “identity” in User Table

Table 6: Data Dictionary of ebpskey in table “pengguna”

Table	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
user	1	id	int(11)			No	None		AUTO_INCREMENT
	2	nostaf	varchar(255)	latin1_swedish_ci		Yes	NULL		
	3	nostaf_jama	varchar(255)	latin1_swedish_ci		Yes	NULL		
	4	no_doktor	varchar(255)	latin1_swedish_ci		Yes	NULL		
	5	pwd	varchar(255)	latin1_swedish_ci		Yes	NULL		
	6	nama	varchar(255)	latin1_swedish_ci		Yes	NULL		
	7	nokp	varchar(255)	latin1_swedish_ci		Yes	NULL		
	8	jantina	varchar(255)	latin1_swedish_ci		Yes	NULL		
	9	kelas_jawatan	varchar(255)	latin1_swedish_ci		Yes	NULL		
	10	no_gred_jawatan	int(11)			Yes	NULL		
	11	nama_jawatan	varchar(255)	latin1_swedish_ci		Yes	NULL		
	12	tarikh_jantikan	date			Yes	NULL		
	13	email	varchar(255)	latin1_swedish_ci		Yes	NULL		
	14	gambar	varchar(255)	latin1_swedish_ci		Yes	NULL		
	15	ext	varchar(255)	latin1_swedish_ci		Yes	NULL		
	16	campusonline	varchar(255)	latin1_swedish_ci		Yes	NEVER		

Cont's
Table
student

17	is_huam_staff	tinyint(1)	Yes	NULL
18	is_student	tinyint(1)	Yes	NULL
19	admin	tinyint(1)	Yes	0
20	aktif	tinyint(1)	Yes	1
21	synced_at	datetime	Yes	NULL

3.2.9.3 Interface Design

3.2.9.3.1 Login Interface

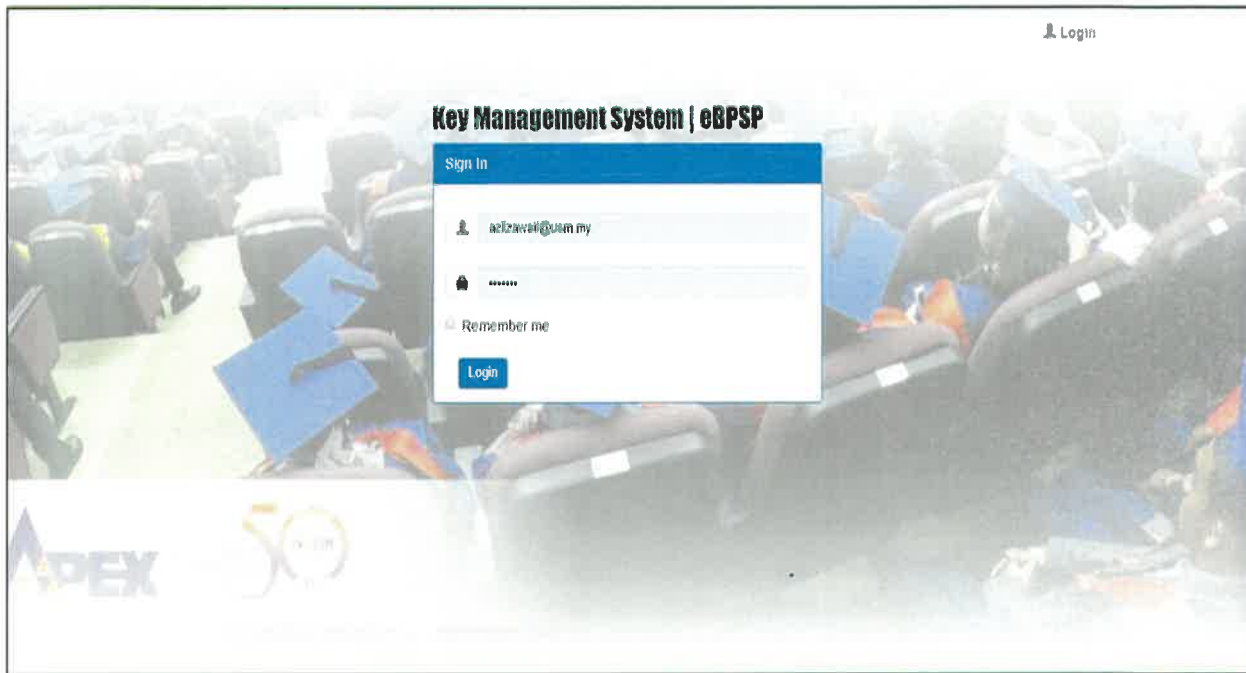


Figure 19: Login interface of Key Management System eBPSP

3.2.9.3.2 Dashboard Interface

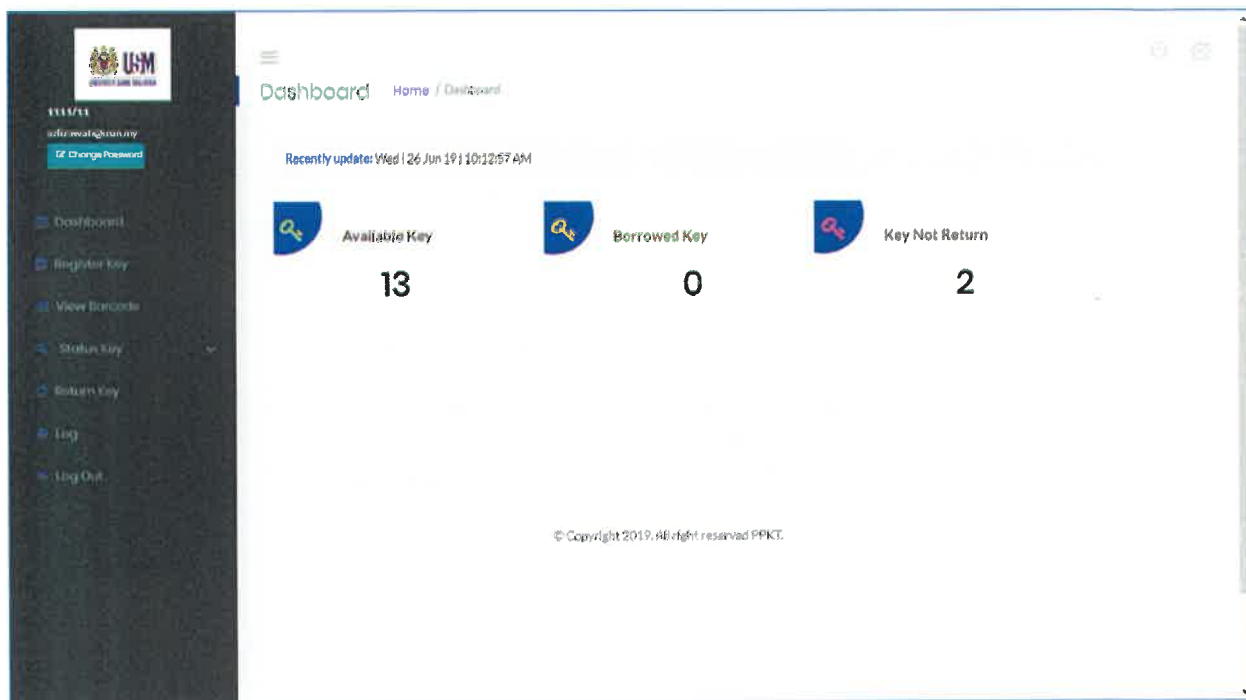


Figure 20: Dashboard interface of Key Management System eBPSP

3.2.9.3.2.1 Popup for List Available Key Based on Current Date Interface

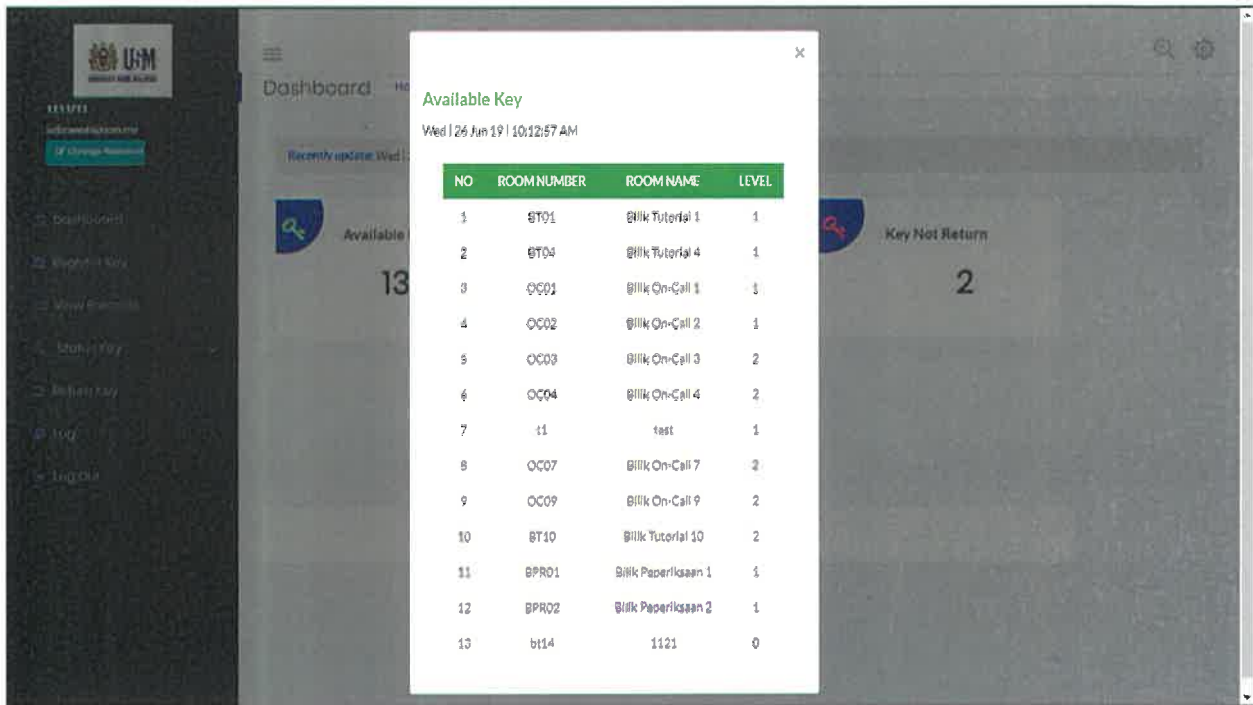


Figure 21: Popup of available key interface of Key Management System eBSP

3.2.9.3.2.2 Popup for List Borrowed Key Based on Current Date Interface

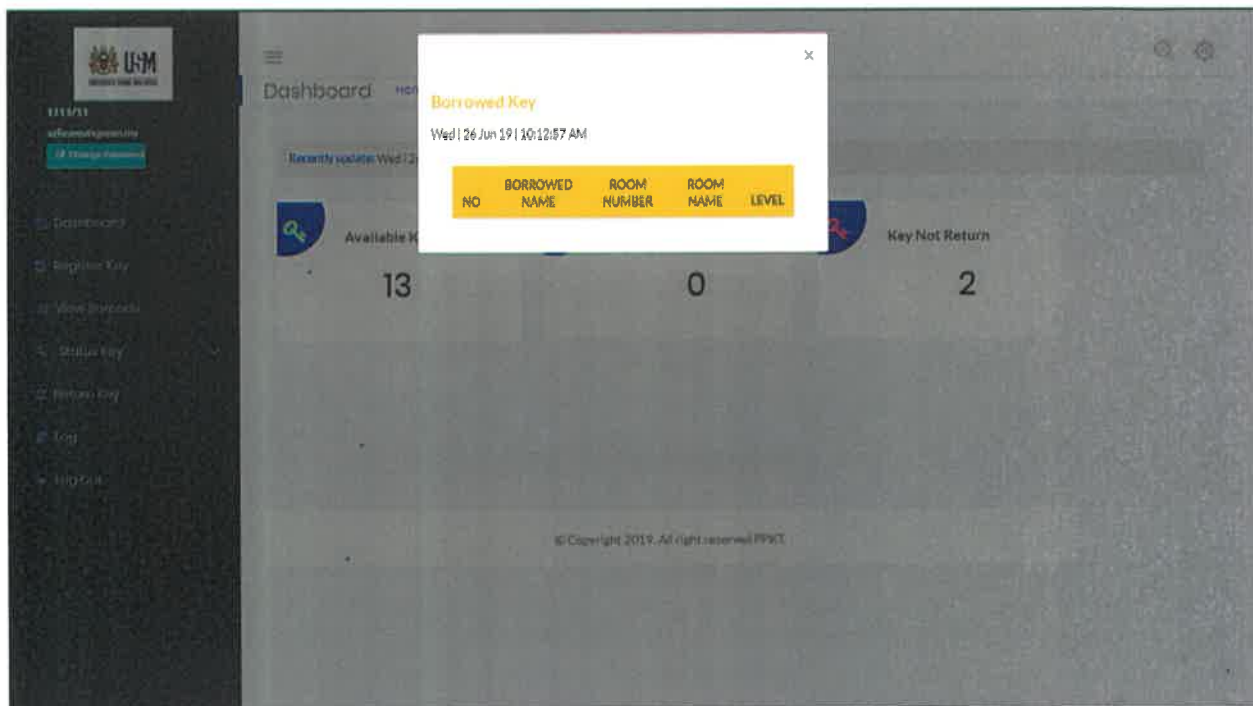


Figure 22: Popup of borrowed key interface of Key Management System Ebpsp

3.2.9.3.2.3 Popup for List Key Not Return Based on Current Date Interface

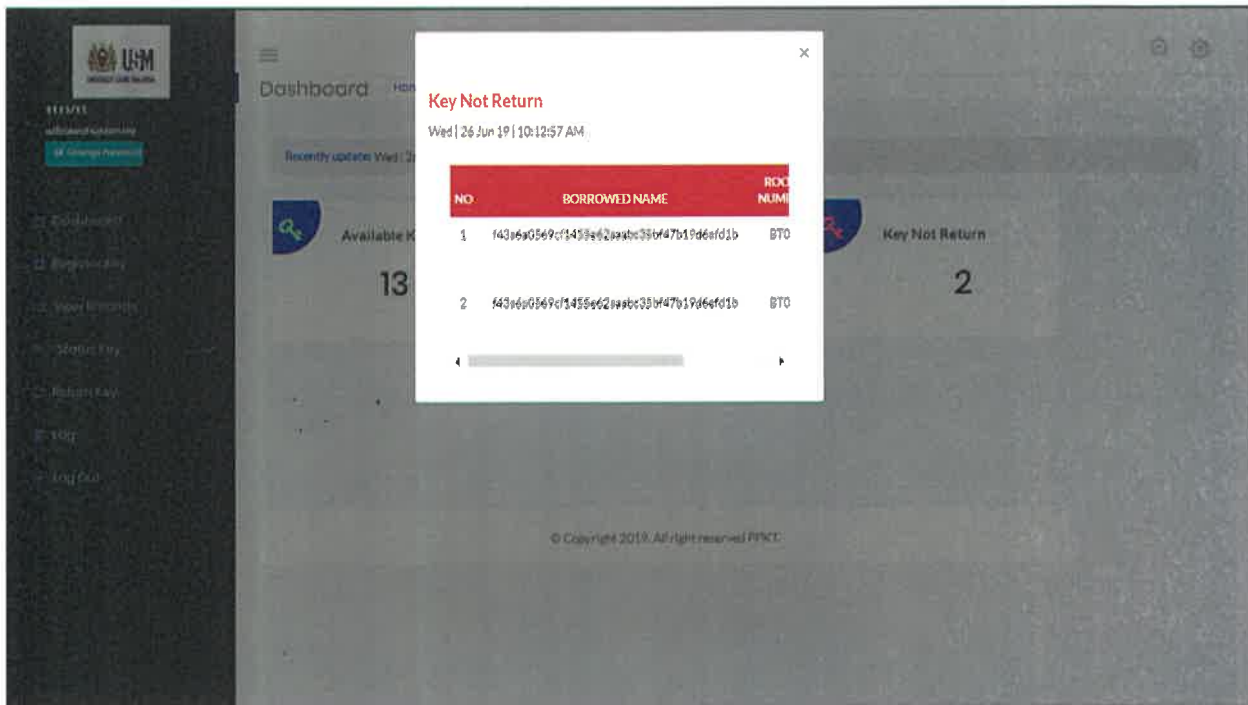


Figure 23: Popup of key not return interface of Key Management System eBPSP

3.2.9.3.3 Key Registration Interface

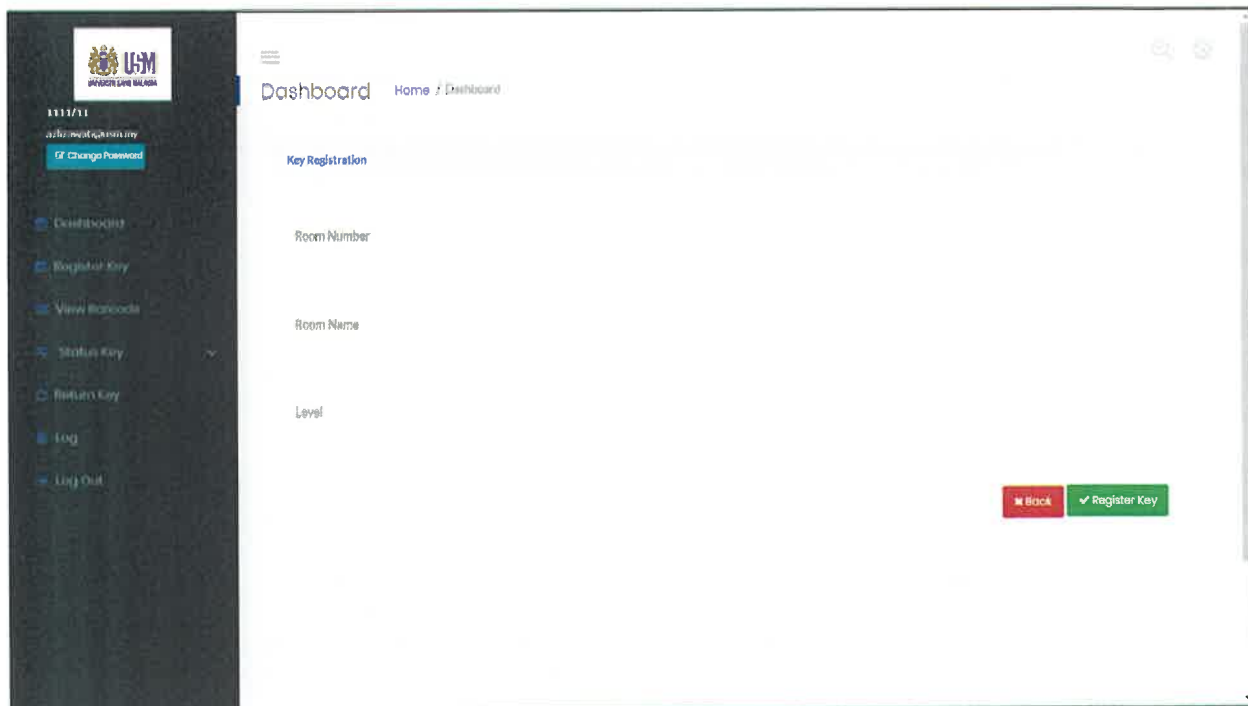


Figure 24: Key registration interface of Key Management System eBPSP

3.2.9.3.3.1 Key Registration Form Interface

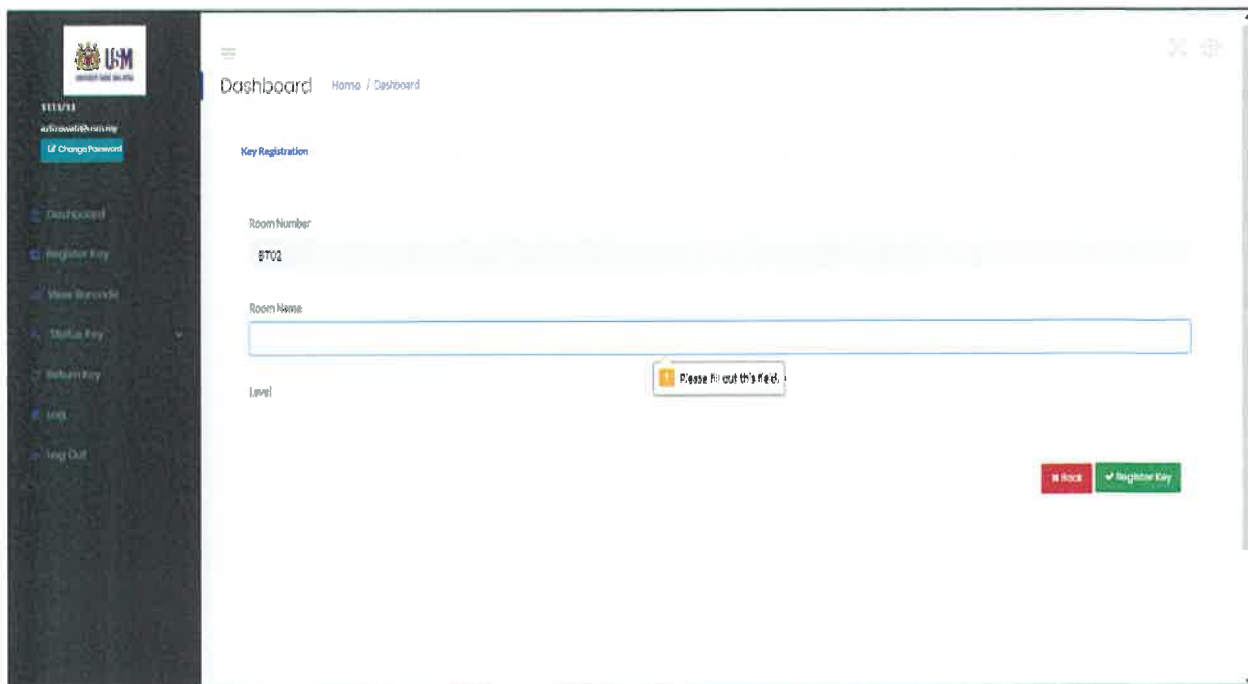


Figure 25: Required to fill the form interface in key registration of Key Management System eBPSP

3.2.9.3.3.2 Filled Information an Existence Room Number in Key Registration Interface



Figure 26: Form had been registered interface in dashboard interface

3.2.9.3.3.3 The Notification About an Existence Room Number Interface

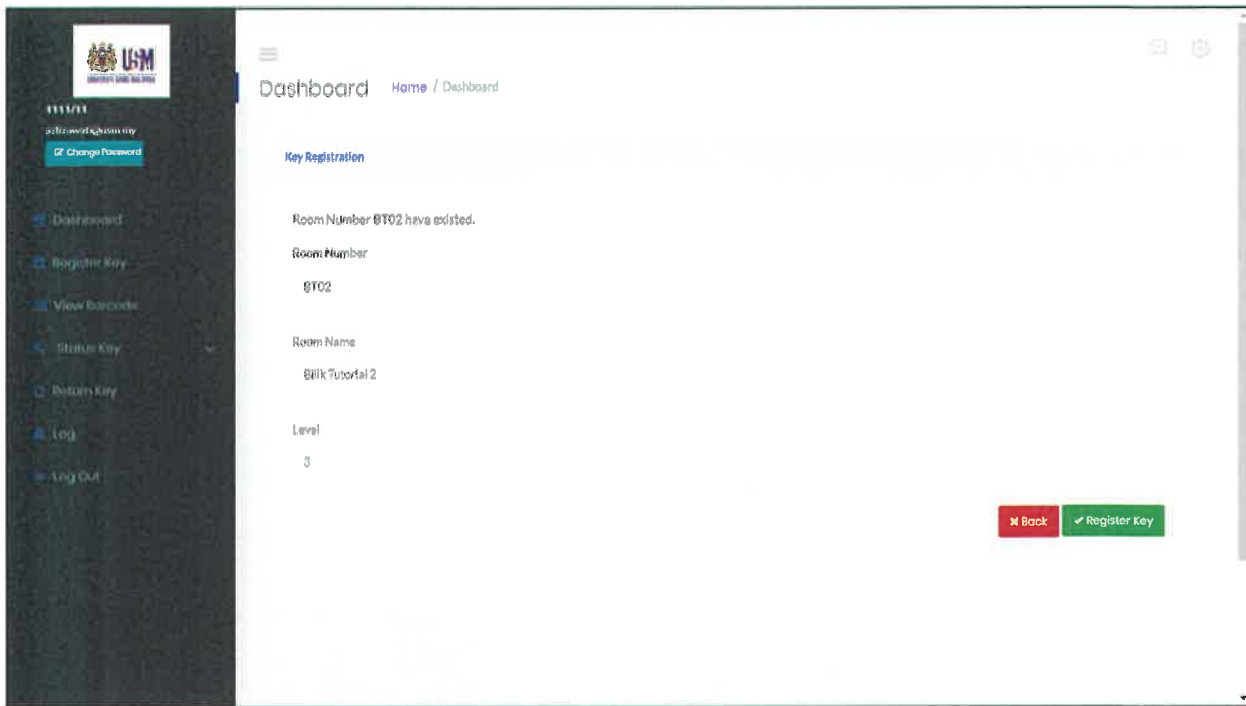


Figure 27: The notification about an existed room number interface in register key

3.2.9.3.3.4 Filled Information Non-existence Room Number in Key Registration Interface

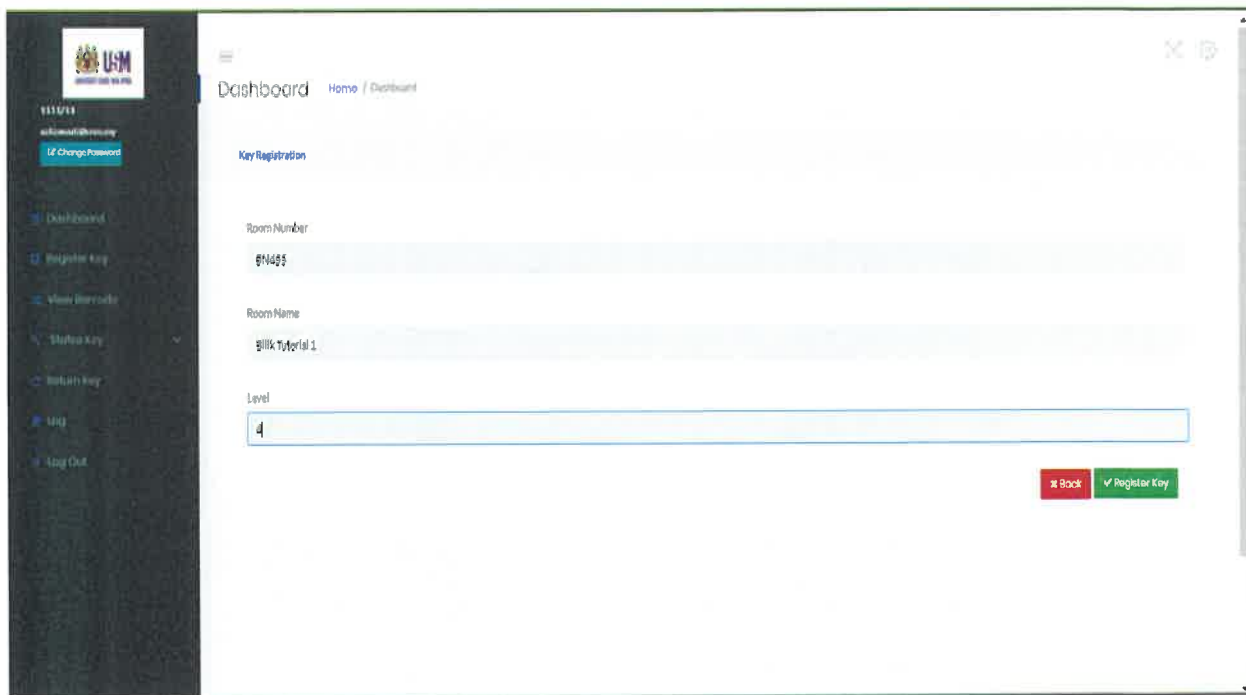


Figure 28: Inserting for not existing room number in dashboard interface

3.2.9.3.3.5 The Notification About the Successfully Registered Room Number Interface

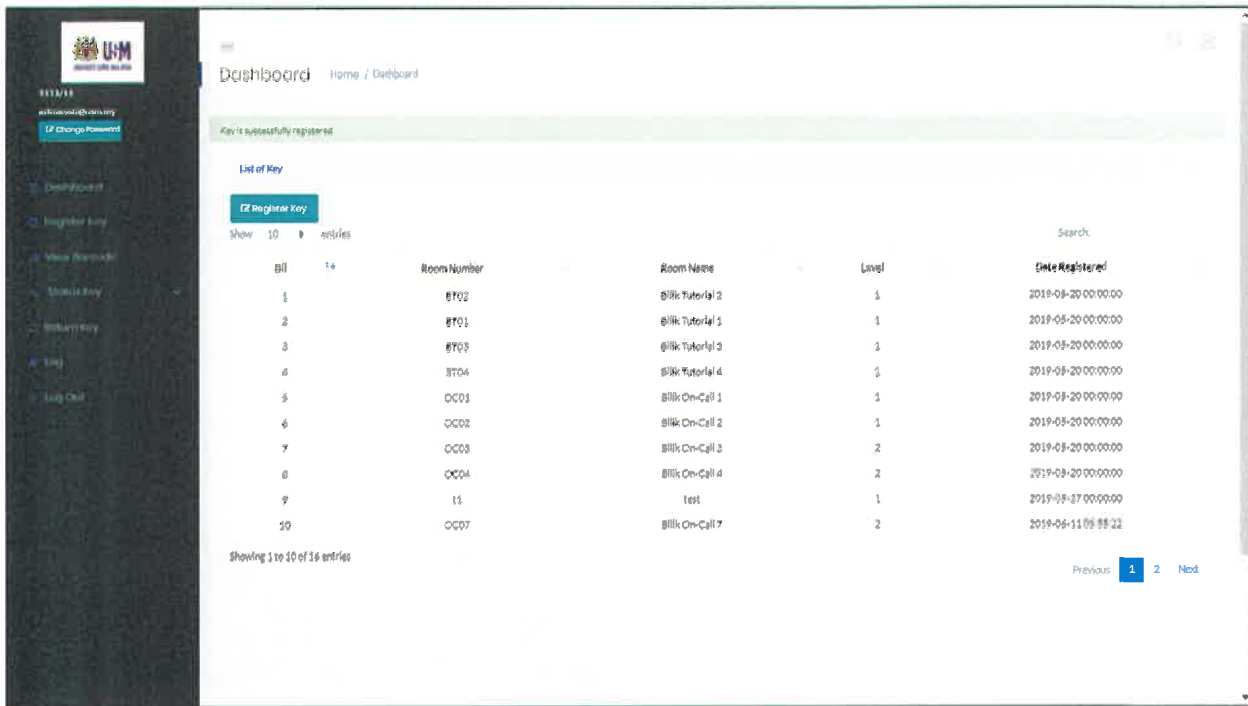


Figure 29: Notification for the successful key registration interface

3.2.9.3.4 View QR Code Interface

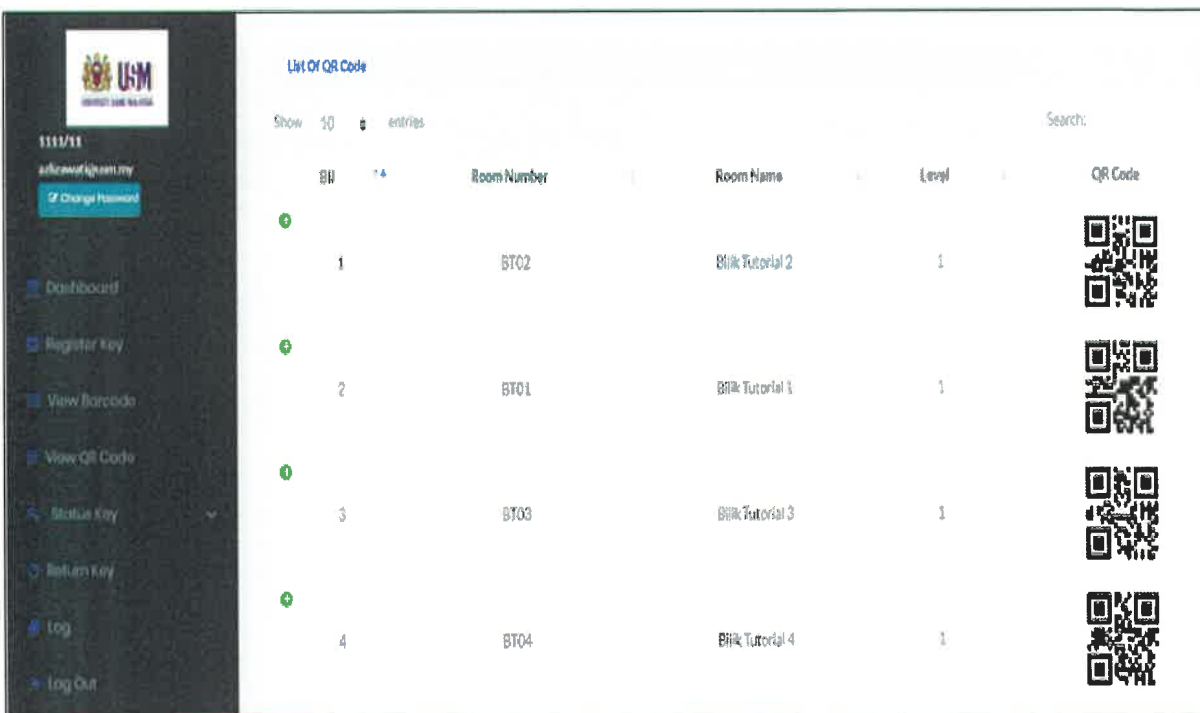


Figure 30: View QR code interface in Key Management System eBPSP

3.2.9.3.5 Key Status Interface

3.2.9.3.5.1 List of Key Interface



3.2.9.3.5.2 Available Key Interface

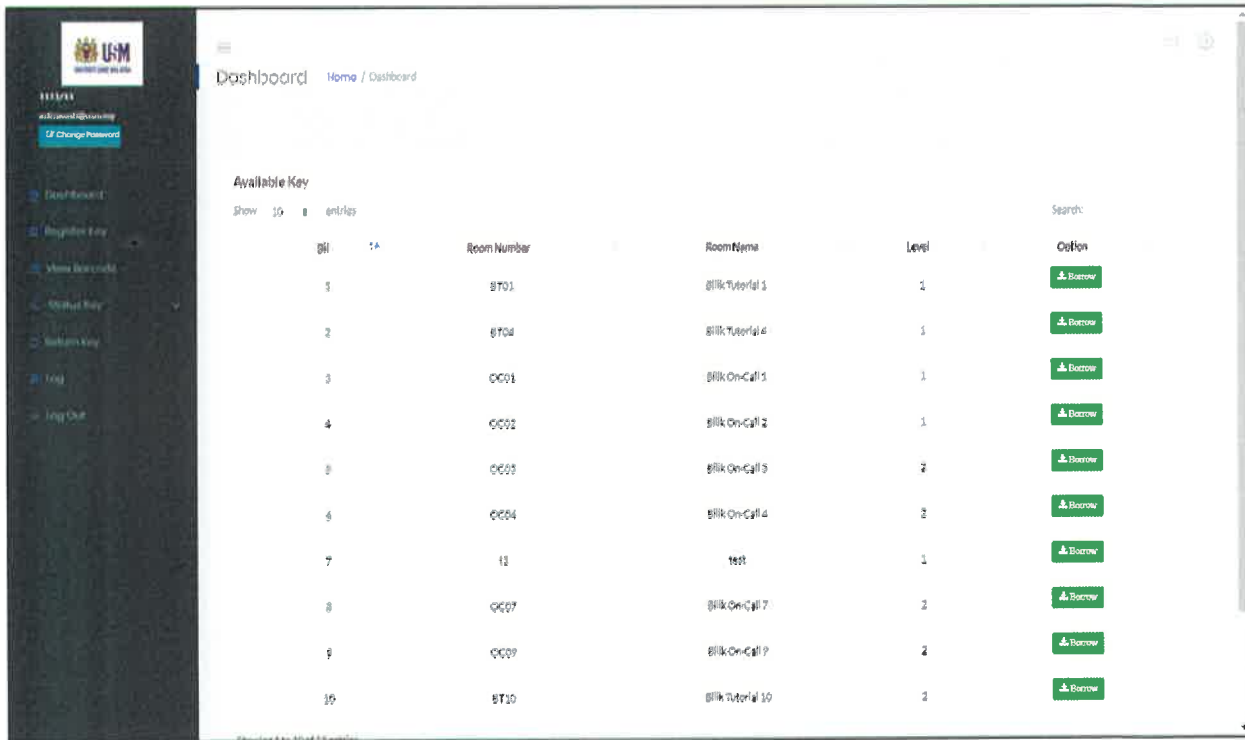


Figure 31: List of available key interface of Key Management System eBPSP

3.2.9.3.5.2.1 Form Popup Interface for Borrow Key

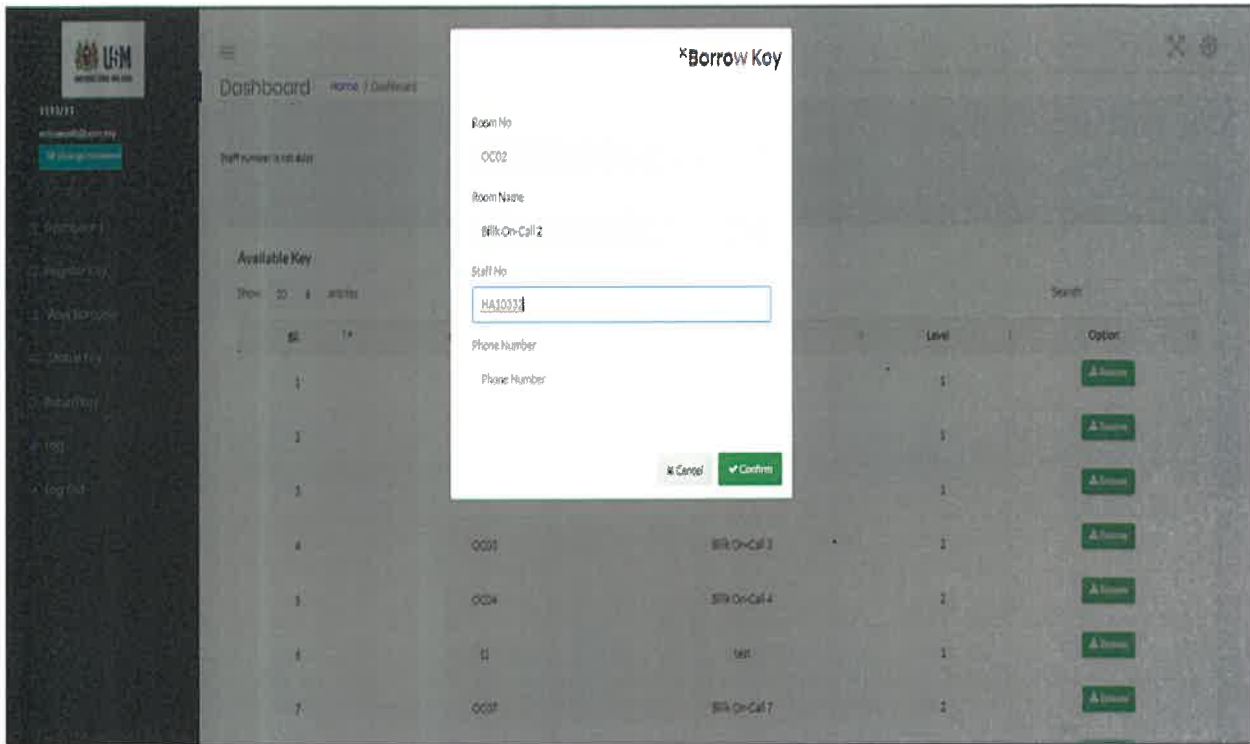


Figure 32: Popup for borrow key in available key interface

3.2.9.3.5.2.2 The Notification About an Existed User Interface



Figure 33: The notification of not exist will pop up with invalids' ID or ID not register

3.2.9.3.5.2.3 Filled an information based on existence ID

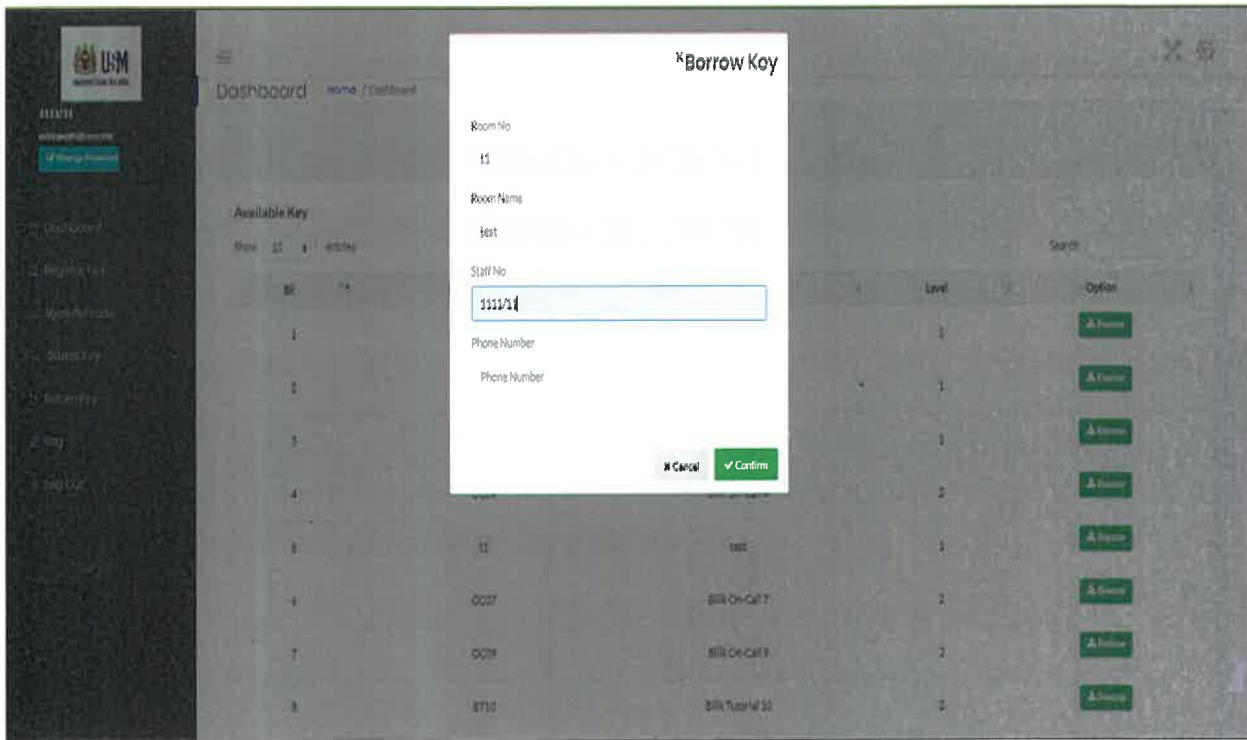


Figure 34: An interface when inserting the information based an existing ID

3.2.9.3.5.3 In Used Key Interface

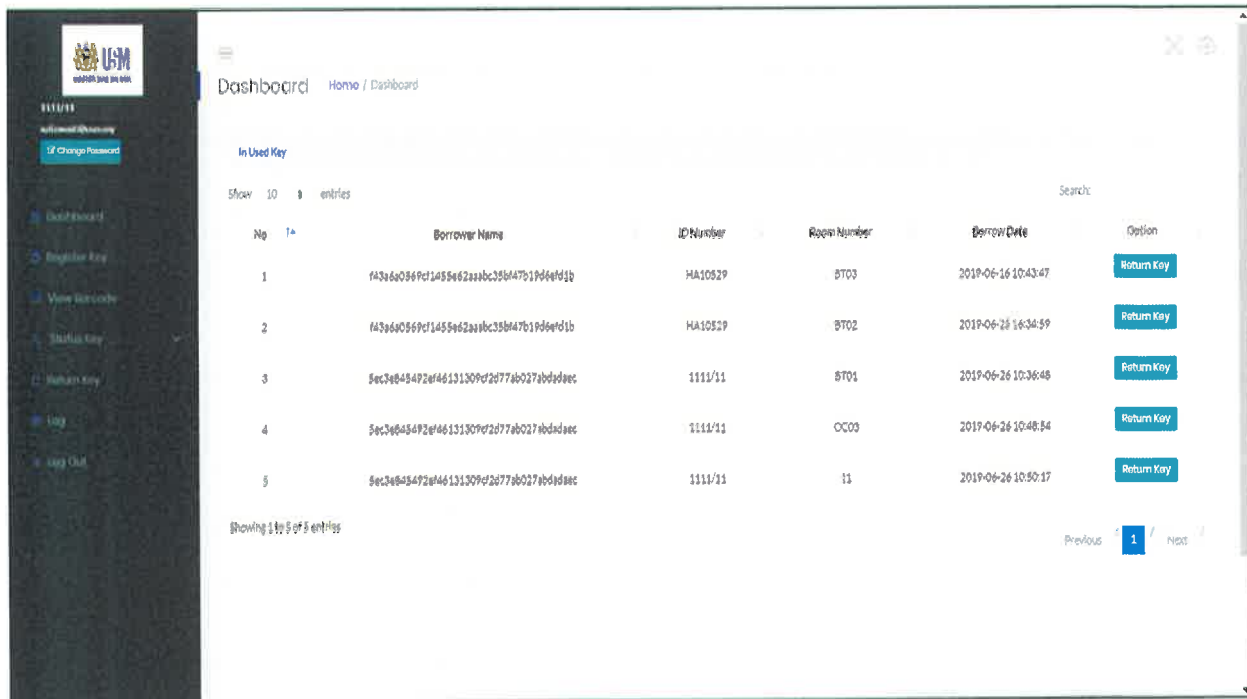


Figure 35: In used key interface in Key Management System eBPSP

3.2.9.3.6 Return key Interface

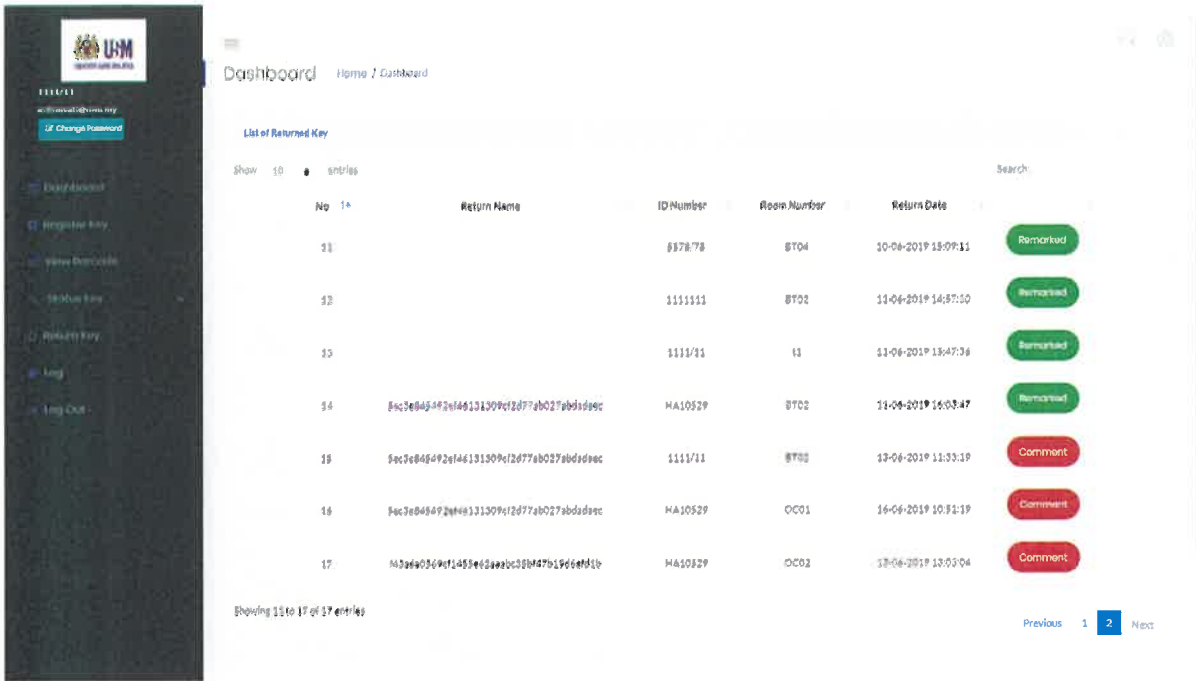


Figure 36: Return key interface

3.2.9.3.6.1 Write comment Interface

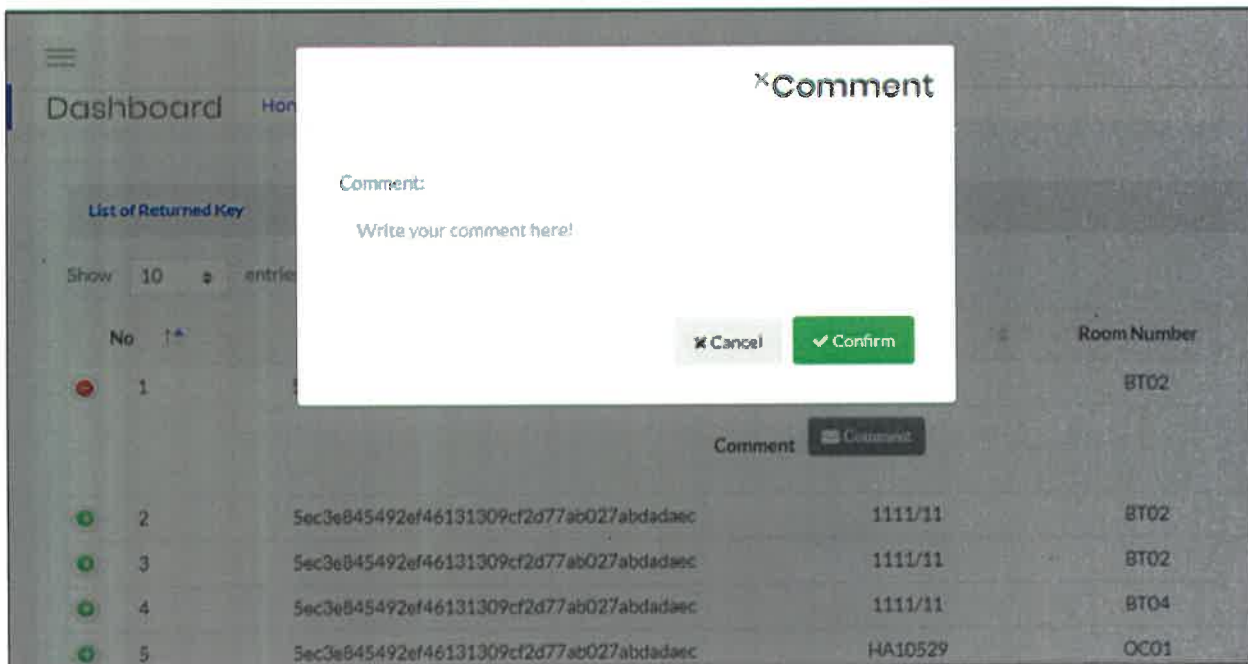


Figure 37: Pop up to inserting comment in return key interface

3.2.9.3.7 Log Interface

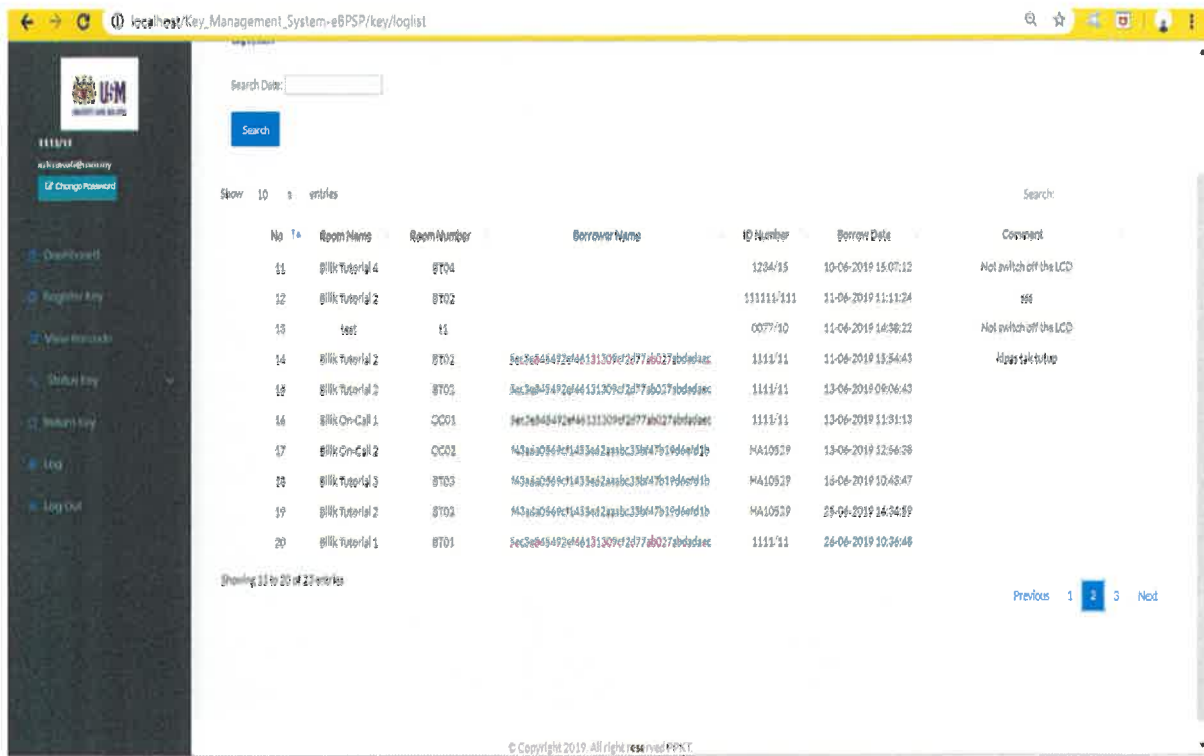


Figure 38: Log Interface of Key Management System eBSPS

2.10 System Maintenance Phase

Maintenance is inevitable on most system development, so it is important to develop and follow a process to monitor and control changes. But for the trainee, this stage is still in the process of waiting. This is because this stage still not running yet. Actually, the trainee not involve with the process of maintenance at all because the trainee only responsible to develop the system and connecting it to the server. After this it will depend on this department whether to use the system in the future or not. If they decide to continue in used the system, the process of maintenance will be taken over by the staff at the department. They will do the maintenance while implementing the update and repair of the system if any problem appears in future.

CHAPTER 4

CONCLUSION

4.1 Application of knowledge, skills and experience

Along the period spent by the trainee at the internship, the trainee had applied all of the knowledge, and skills that the trainee had directly learnt through the previous subject which was System Analysis and Design I and II. The reason for that application is in order for the trainee to be able to properly develop the system towards the user. Not only that, the trainee had also explored in detail about the CodeIgniter framework independently by referring to its official sources such as the CodeIgniter official website and by the staff in this organization.

In addition, through the knowledge gain from the sources, the trainee had managed to develop a beautifully structured key management system for the organization. Besides, the trainee also learnt a little bit about JavaScript and CSS that need to be written in the codes to ensure it can be displayed a smart and interesting interface. Moreover, the experience that the trainee gained from the event management which also involve the user training program during the studies also had benefited the trainee when the trainee wants to have a conversation or communication with the fellow staff.

Apart from that, the trainee gained new knowledge in developing a real system. To be honest, it was not easy for the trainee to create the system because the trainee needs to be open minded, creative and keep up to date in exploring for something new in order to create all codes and run all of the function in developing the system. The trainee also learnt the importance of protecting the information during creating the system. Regarding the development of the codes for Key Management System eBPSP, the trainee needs to create the function such as identifying an existing ID number before running any process in this system. It is to ensure this system can be used for certain user only. In addition, the trainee also learnt the real life as a developer. Actually, to be a developer, an individual need to put high moral and ethical especially in term of protecting the secure information which is the connection with the database that stored a lot of secure and confidential information.

Besides, the trainee also can be more understanding in term of the connection with the database. The trainee had explored regarding the connection to more than one database in the system

because before this the trainee had no chance to learn about it. Other than that, the trainee also had experienced in combining the table in the database to ensure all the functions in the system can be run smoothly through strictly following the flow of the system.

Furthermore, through the experience of formatting the computer, installing software and also data back-up gain by the trainee through the training session at the organization site, the trainee can now independently done all of those mentioned skills without the need to hire some expert to do the task on behalf of the trainee in case the laptop that the trainee used to do the work possess some problems and need to be backed up all of the data while upgrading new software towards the laptop.

In addition, the trainee had gained the significant experience especially in the stress management. Throughout the industrial training period at the organizational site, the training had faced a lot of stressful and pressures due to the demand by the client that always changing in the process of the system development. However, the trainee had managed to deal with all of that while managed to fulfill all the requirements requested by the client.

Then, the trainee had now known the most suitable way when developing a system in a working team environment which is by using the Git Hub platform. The trainee had learnt a lot about the critical function of the platform which is very important especially in helping the leader of the system project to effectively collaborate with other developers. Besides, the trainee had also learnt about the importance of the network towards the operation within an organization by seeing in live the way the network working inside the organization. The trainee had also learnt how the network cable being extracted in order to provide a strong network connection towards all departments in the organization.

4.2 Personal Thoughts & Opinion

4.2.1 Gaining of knowledge and experience that related with the course taken

In term of the opinion and thoughts from the trainee about this organization is this place can really be the organization that suitable for other student that want to do the industrial training here, but it depends on what kind of course that the student involved with. This is because for the student that is from the background of ICT it would be easy for them to undergone to this industrial training in this department. It would be easier for the student in conducting all of their

daily activity and their task which related to the ICT activity. Besides, the trainee thought this organization is a suitable organization for industrial training because this organization used a large of server to connect with the database that can kept all the health data of the patients. It can be beneficial for the student in linking the database in server when developing the system.

4.2.2 Supportive Environment

The trainee grabs the feeling that the organization gives varieties of 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 over something. The same goes for the top management of the organization. The top management was also very generous and humble towards the trainee where the top management kindly provides all sort of useful advices for the trainee in order to be successful when the trainee step into the real working life in the future.

4.2.3 Working Environment

Apart from that, the trainee could feel the working environment in term of time management especially in term of the submission of the task given. In addition, the trainee also had closely observed the attitude of the staff that can be adopted by the trainee when the trainee faces the real working environment in the near future. Besides, based on industrial training also, it will increase a high discipline level within the trainee's self-attitude.

4.2.4 Knowledge and skill provided by UiTM

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 nowadays. Here it means that the faculty may need to give more emphasize towards the basic of programming language such as Python, Ruby, Ionic and also CodeIgniter 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

Lesson learnt is the lesson that was gained by the trainee during 5 months in Universiti Sains Malaysia (USM) Health Campus.

4.3.1 Critical Thinking Skills

This skill is very important when performing the tasks given to the trainee. This skill will help the trainee to produce decision making that will solve any sort of problem. Any tasks such as special project need an appropriate critical thinking the most. There are many problems that can be faced when developing a system such as the error of the coding through the utilization of model, controller and view in CodeIgniter and make connection with database. This will lead the trainee in using the critical thinking to formulate a suitable solution for the problem. Sometimes, the trainee needs to think outside of the box. When the trainee had found the appropriate solution, the trainee will work on that solution until the problem would be extinguished for good. If the solution was not enough, the outside of the box thinking would be a huge beneficial towards the trainee to formulate another solution.

4.3.2 Teamwork

Teamwork is important for managing varying tasks within a group. Every member in the group must play their role and also take responsibility for each task that they need to do. In developing the system, all of group members including the supervisor as the team leader would be grouped together in order to discuss about any problems that happened in the midst of implementing the codes for the system. In addition, the trainee and the team had collaborated with each other to ensure all the functions in the system can be run without an error. The benefit that the trainee had gained is that all of the hard tasks can be easier when it was done within a team environment. Although one of the team members has little problem in managing their task, another team member will be there for them in order to guide them in completing the task. Teamwork skill are commonly displayed in a situation not only where the team members are involved but also the team leader themselves is important in order to manage the collaboration manner.

4.3.3 Improved a Positive Characteristic

Through the time the trainee had spent at the internship, the trainee had learnt to be more independent, discipline, multi-tasking and punctual. Besides, the trainee had also improved in term of the communication and interpersonal skills. By making self-involvement within the working environment, the trainee had learnt to be more alert with time and also multiple tasking. For instance, the trainee had been assigned with a lot of tasks and duties by the supervisor which was to join the other activities while developing a system for the organization.

4.3.4 Ability to work under pressure

The trainee had possessed this ability along the time the trainee spent at the industrial training. Certainly, when an individual cannot well-managed the pressure that keep pressuring them, that individual will tend to commit a mistake when conducting any task. The pressure would stand from the task or work done by the trainee being rejected by the supervisor for more than couple of times. Pressure also comes when personal problem comes during performing task. However, the trainee managed to handle all of that by being calm and keep on thinking in a positive manner so that all the positive vibe would surround the trainee and lead to a better performance by the trainee.

Hence, the trainee had become adapted with all of the pressure that keep landing towards the trainee and the trainee would see all of the pressure as a mere challenge or a stepping stone for the trainee to success. As everybody would already aware, the process of developing a system is very pressuring especially for the developer. Without the calm and positivity by the developer, the developer may not be able to complete the task being given because of the overwhelming pressure rise upon them. The trainee had managed to be always relax and calm in the process of the system development and thus it led the trainee always finding the best solution towards all problem that arise within the system.

4.3.5 Understand real working environment

Along this training period, the trainee had been exposed to a real working environment that the trainee never faced before. Now, the trainee can differentiate that there is huge difference between studying and working. The trainee needs to implement all of the skills learnt during the

period for instance the communication skill to interact with all people within the department. All skills are required to be used for the sake of the trainee itself to suit with the challenging working environment.

4.3.6 Learnt to be more confident

The trainee also had acquired a lot of confidence along the industrial training period. Before this, the trainee always had an issue when the trainee wants to communicate with other people since that the trainee would think about what other people think about the trainee's appearance. However, the trainee no longer has that kind of feeling but instead, the trainee is now able to freely communicate with other people such as the staff within this organization in order to extract all information that they do have regarding the system development. Fortunately, because of the communication, the trainee acquires a lot of useful information which then could be used to complete the trainee's difficult task.

4.4 Limitations and recommendations

4.4.1 Limitations

4.4.1.1 Specific planning schedule is not being prepared

This schedule should be prepared to give clear job description to trainee. So, the trainee can prepare their mind and know their work flow during the industrial training period. Systematic planning will allow student to well prepare before they conduct any of their given task. Most of the task being given towards the trainee was not based on a proper plan which leaves the trainee shocked when the supervisor unexpectedly requests for the trainee to display the system to them. There were quite various times the trainee was being asked by the supervisor to display the system to them without any earlier notice which is not really an appropriate application to be applied throughout an organization.

4.4.1.2 Lack of facilities

The equipment provided by the organization was limited. The trainee here may like to suggest the organization to put this matter into the discussion forum where the organization may need to allocate more computer facilities such as the personal computer, motherboard for the practical

students. This is because there may be a certain time where the student's laptop may be broken without their consent which then emerge as the boundary for them to successfully developing a system. They have zero money alongside them to buy the new one which is very difficult for them when the laptop went broken. This is the main reason on why a table fully equipped with computer system need to be considered by the organization in the near future.

4.4.2 Recommendations

4.4.2.1 Provide planning schedule about trainee functions

Organizations supervisor is advisable to prepare earlier planning schedule for the trainee to enhance the trainee skill. Planning schedule allow student to have clear understanding about their responsibility. The supervisor should mention early regarding the certain date that they want to see the work progress over the developed system. This will make the trainee to be more organized in arranging all of their work and being able to differentiate on which task need to be done first.

4.4.2.2 Provide the facilities

The department should have consideration in preparing an adequate facility for the practical student especially the students that was assign in system development or the other field that need to use the computer to perform the task given during internship session. The responsibility person needs to take attention in term of facilities and manage the budget to spend in providing enough facilities for practical student.

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 STORYBOARD

1.1 Admin Interface

The screenshot shows a web browser window with the title "e-BPSP (KMS) Admin". The address bar contains the URL "http://localhost/e-bsp_key/login/admin". The main content area features a central box with the following text and form elements:

Key Management System
Student's Learning & Resource Block System

Username :
Password :

Remind me
Forgot password? [click here](#)

Appendix 1: Storyboard for login interface

The screenshot shows a web browser window with the title "e-BPSP (KMS) Admin". The address bar contains the URL "http://localhost/e-bsp_key/dashboard". The main content area features a dashboard with a sidebar and three main cards:

Dashboard

LOGO

Dashboard

Register Key

View Barcode

Status Key

Borrow Key

Return Key

Log

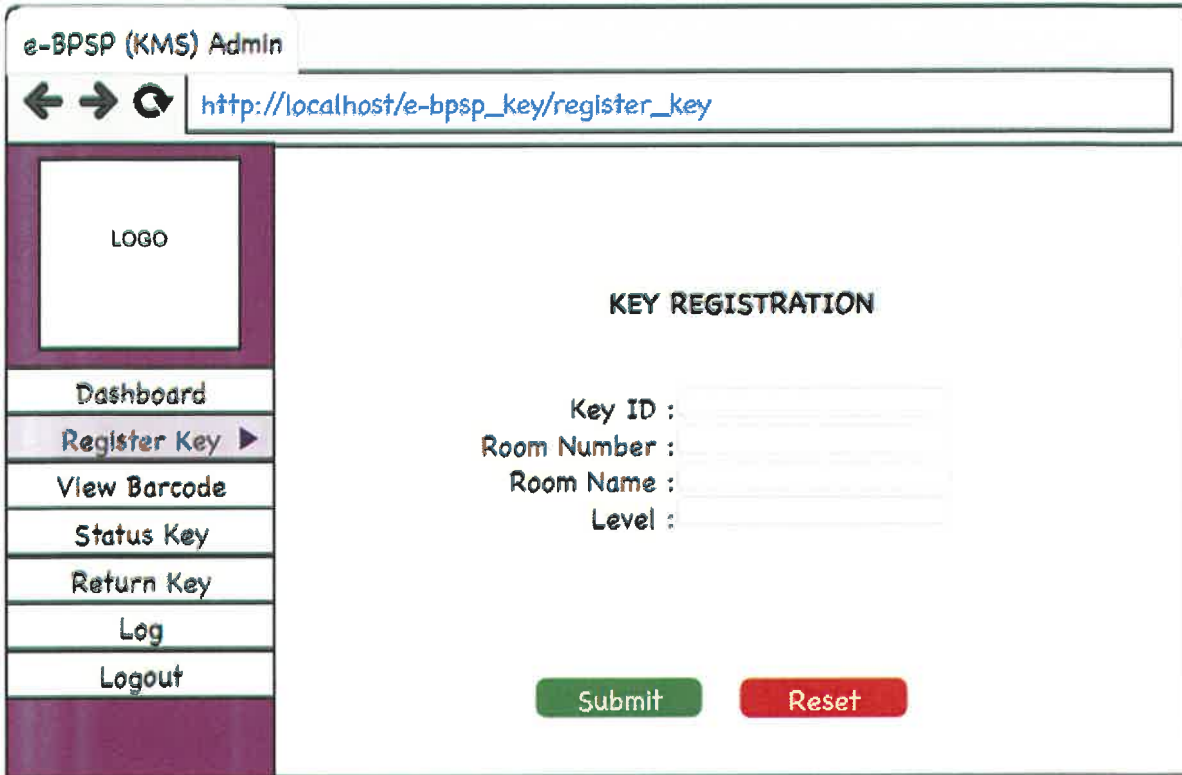
Logout

30
Available Key

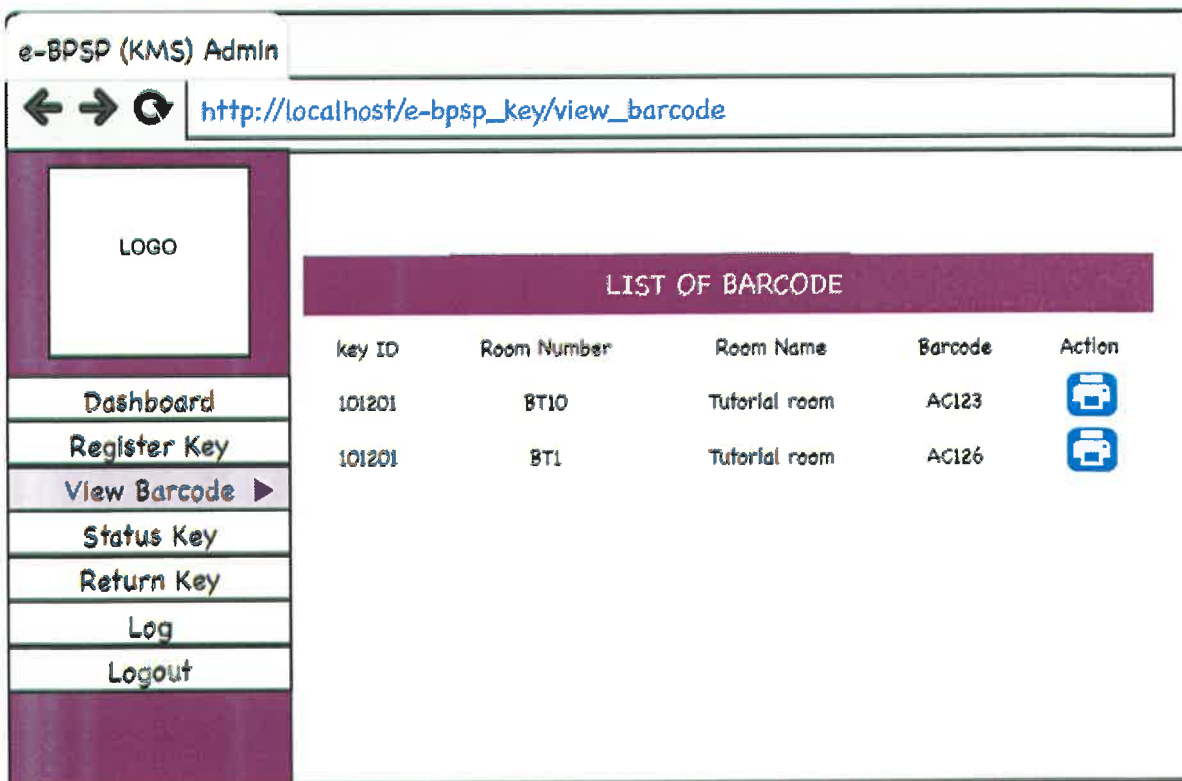
23
Borrowed Key

5
Key Not Return

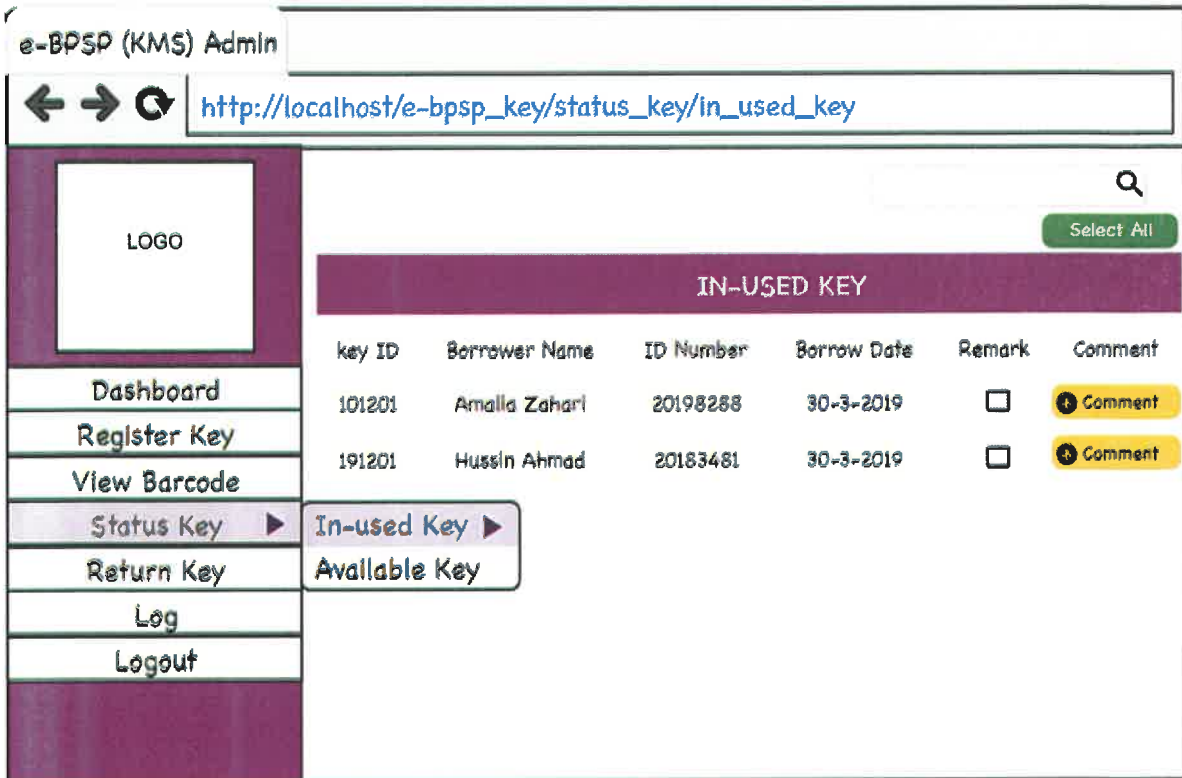
Appendix 2: Storyboard for dashboard interface



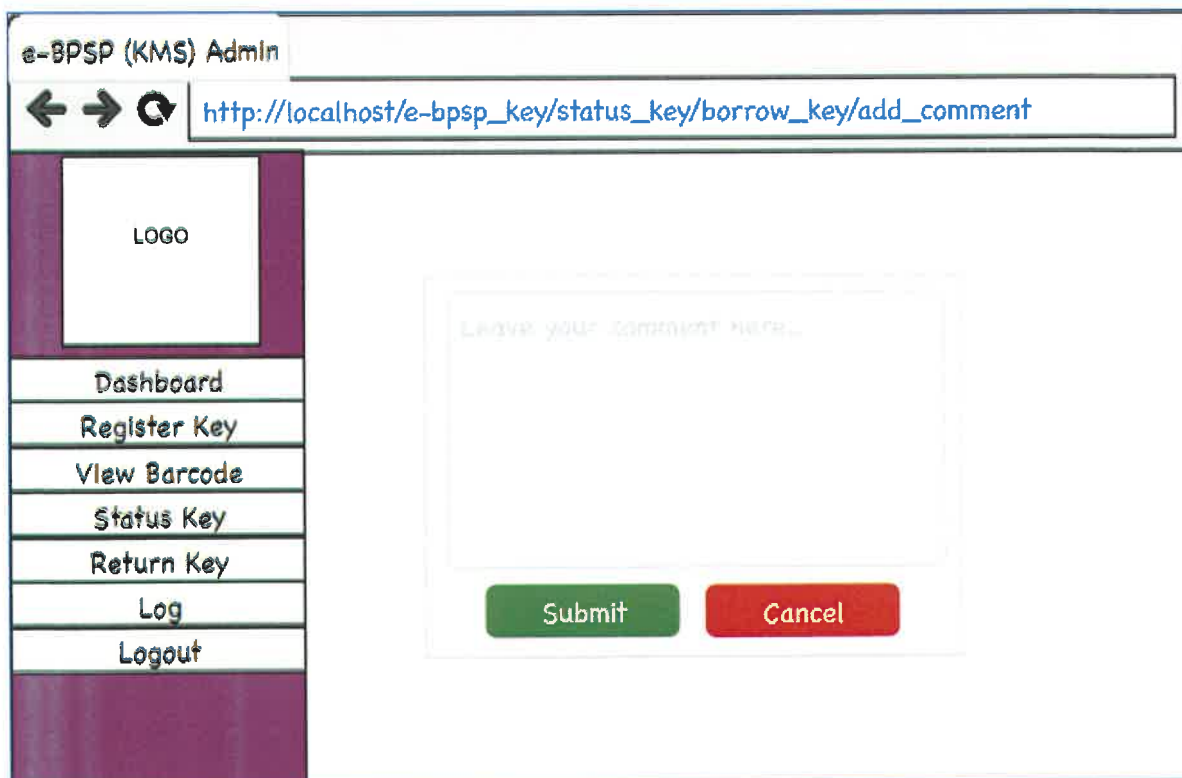
Appendix 3: Storyboard for key registration interface



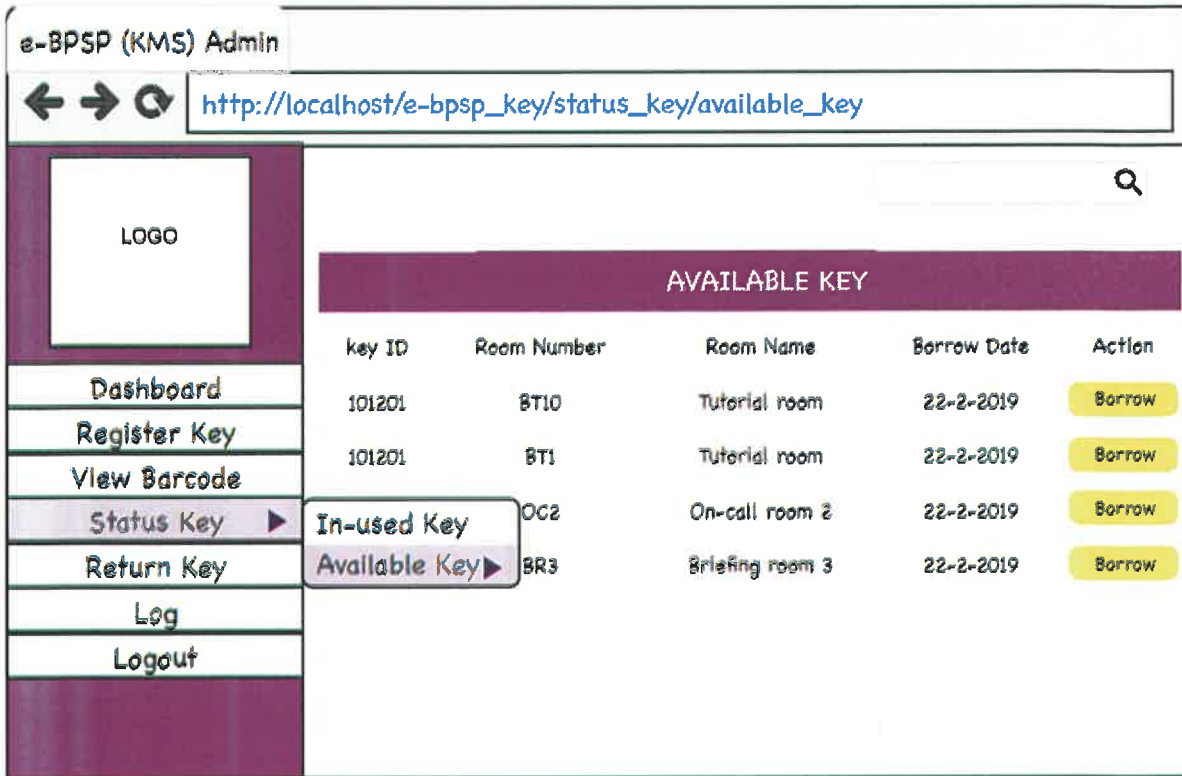
Appendix 4: Storyboard for view barcode interface



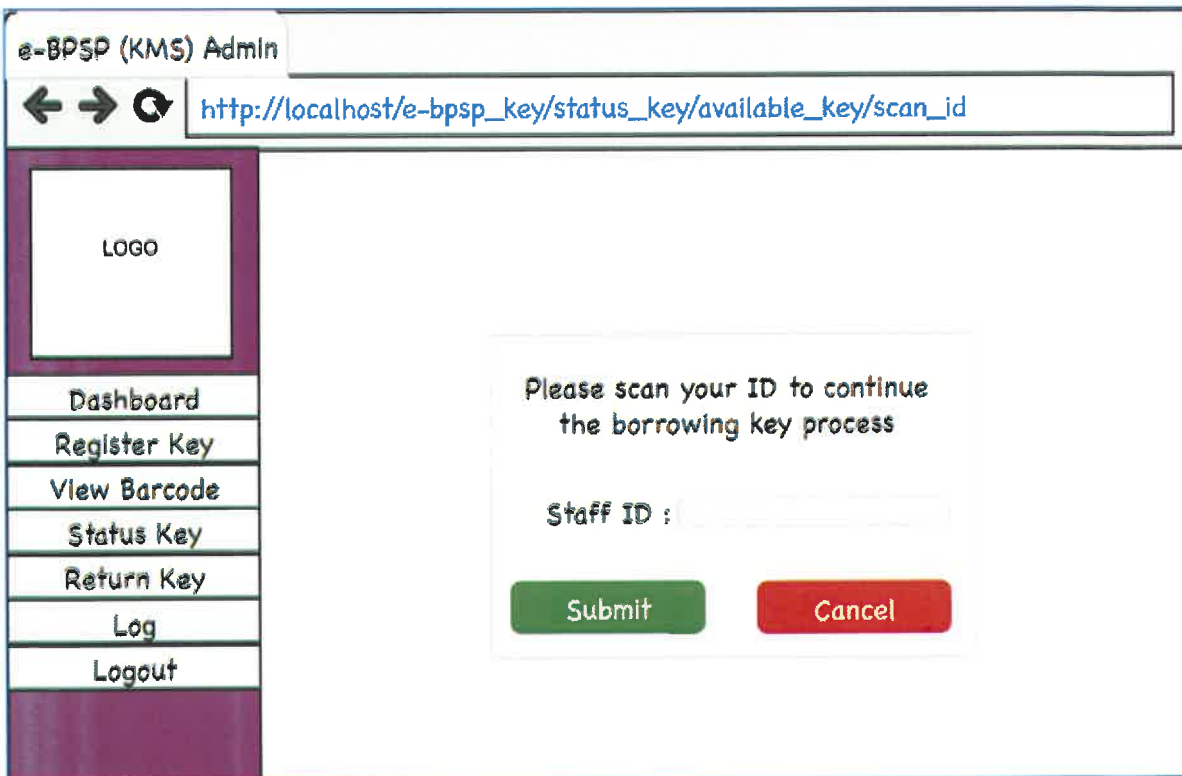
Appendix 5: Storyboard for in used key interface



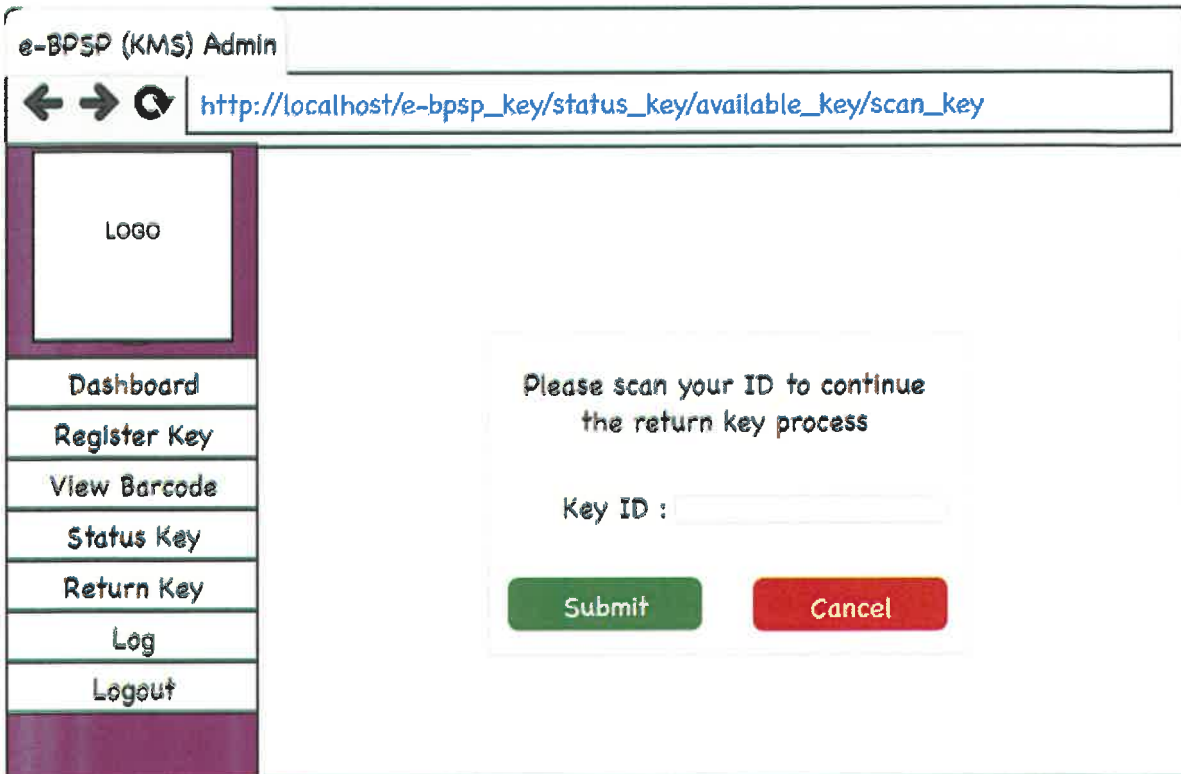
Appendix 6: Storyboard for comment interface



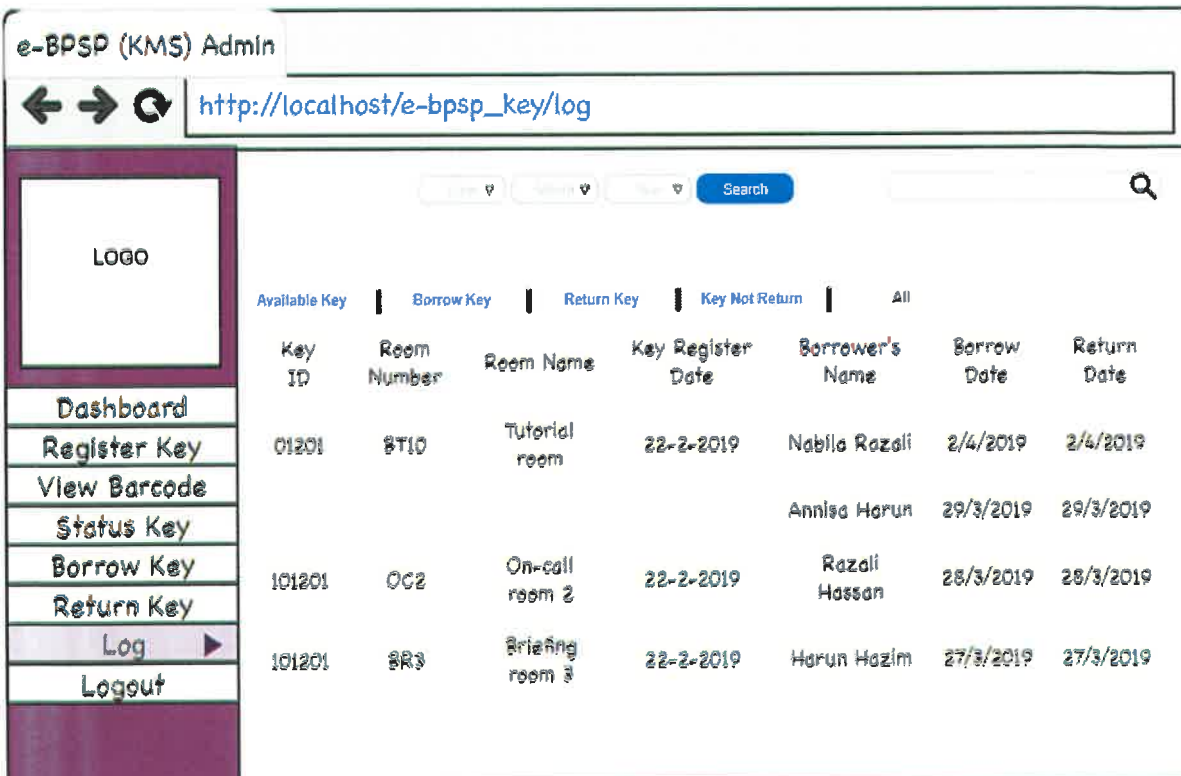
Appendix 7: Storyboard for available key interface



Appendix 8: Storyboard for scan ID interface

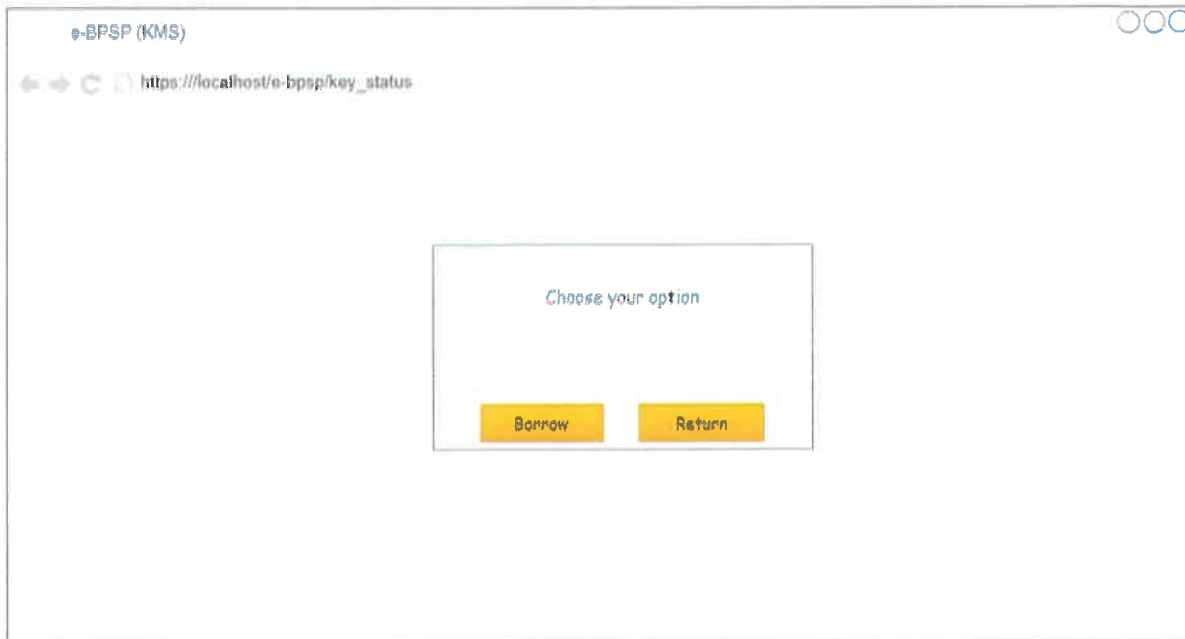


Appendix 9: Storyboard for scan key ID interface

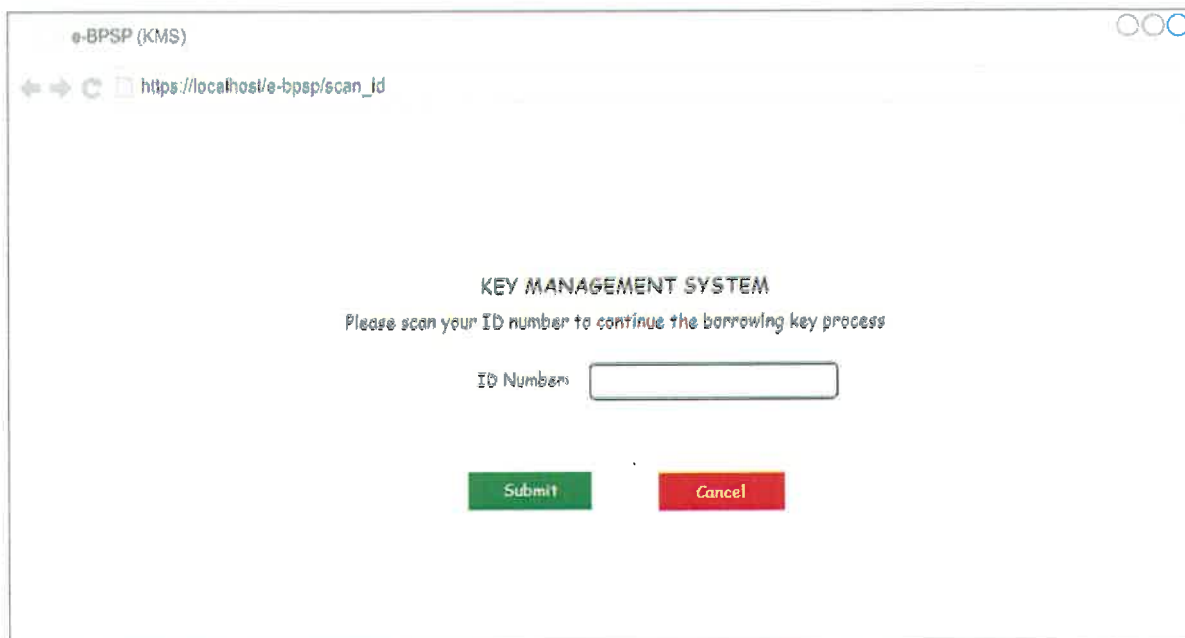


Appendix 10: Storyboard for log interface

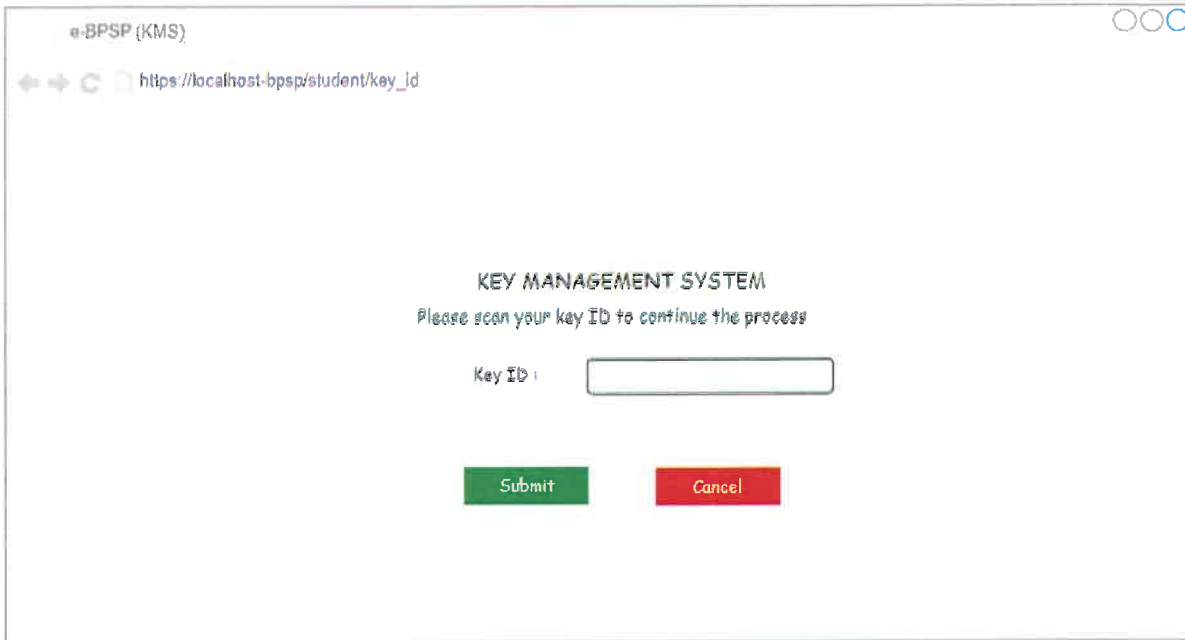
1.2 User Interface



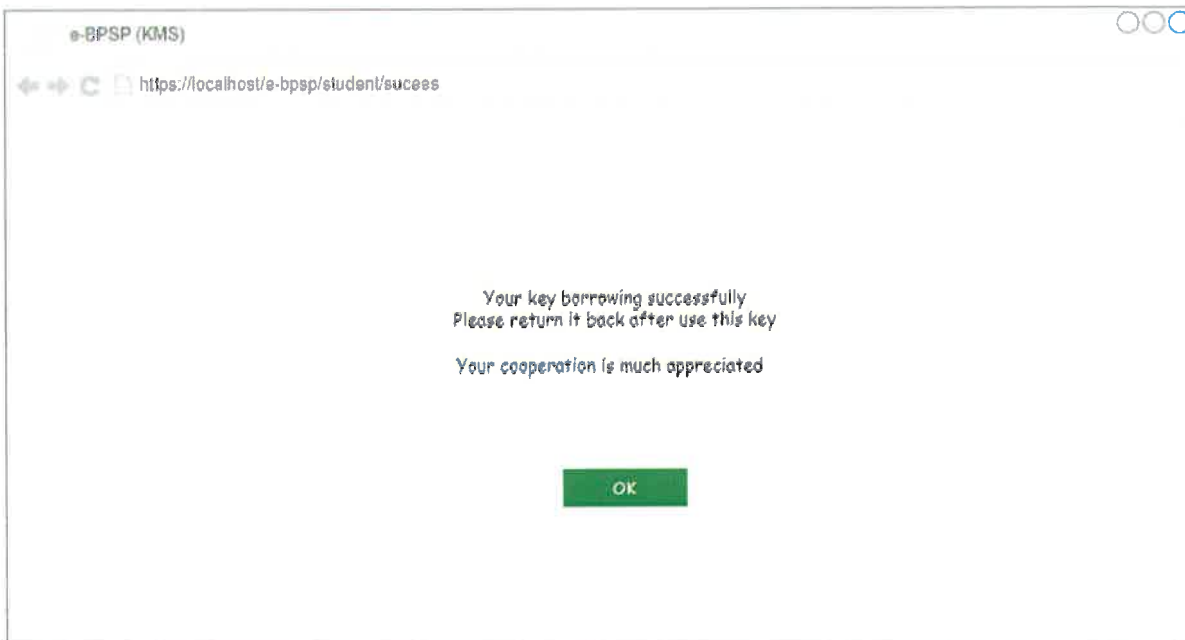
Appendix 11: Storyboard of a user's option for borrow or return interface



Appendix 12: Storyboard of a inserting ID number interface



Appendix 13: Storyboard of a inserting key ID interface



Appendix 14: Storyboard of successfully borrow interface

2.0 DEVELOPER GUIDE

2.1 Login Interface

File	Function
Model: Key_Management_System-eBPSP/application/models/Auth_model	Authentication
View: Key_Management_System-eBPSP/application/views/auth/login	Login & logout
Controller: Key_Management_System-eBPSP/application/controllers/Key	

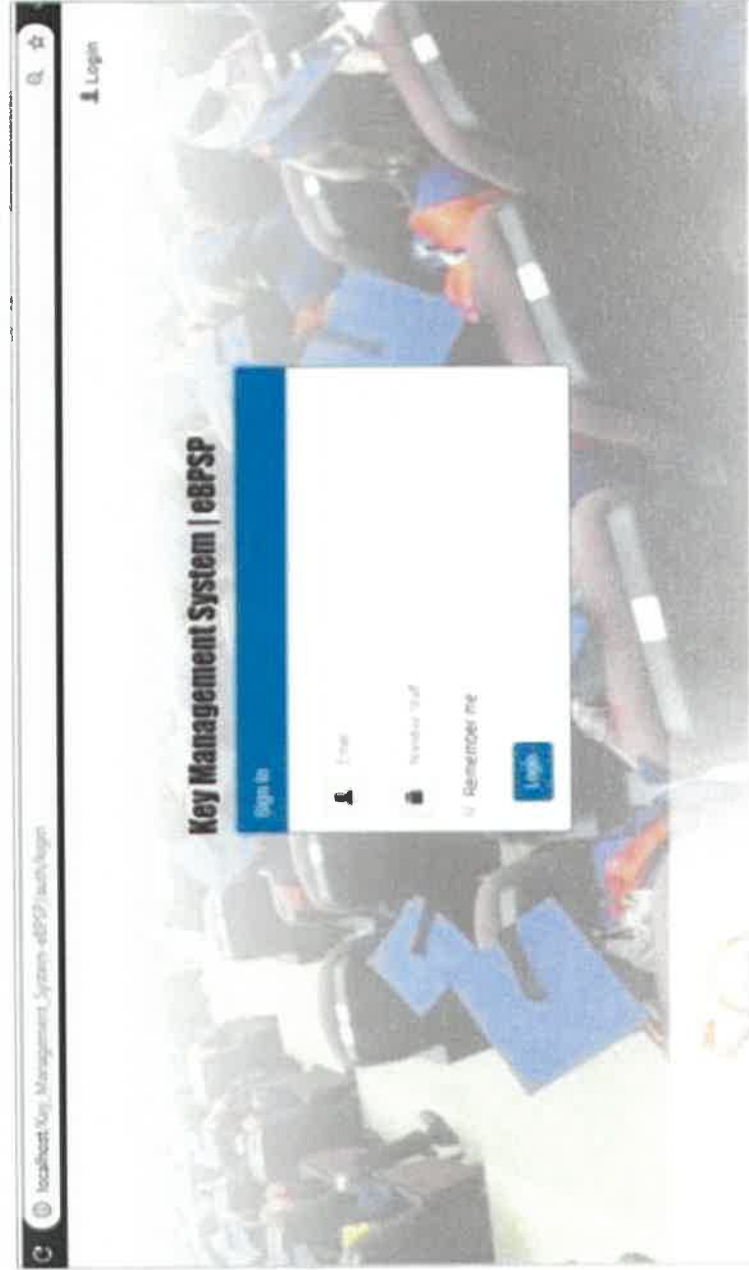


Figure 1. Login interface

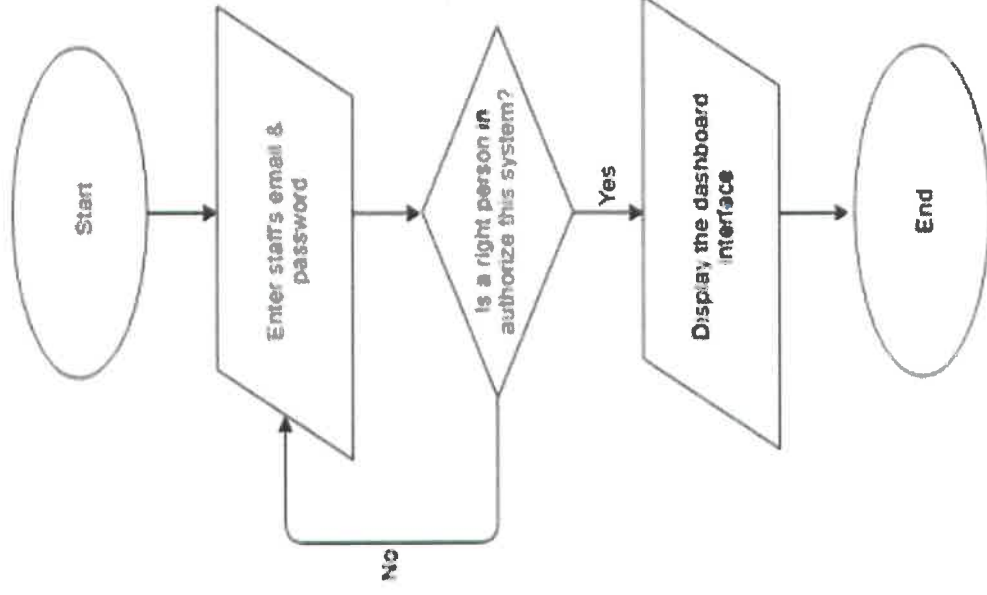


Figure 2: Flowchart for login page

2.2 Dashboard Interface

File	Function
Model: Key_Management_System-eBSP/application/models/Key_model	Dashboard, available_dashboard, borrow_dashboard_count, borrow_dashboard, notreturn_dashboard, date_dashboard
View: Key_Management_System-eBSP/application/views/dashboard	dashboard
Controller: Key_Management_System-eBSP/application/controllers/KKey	dashboard

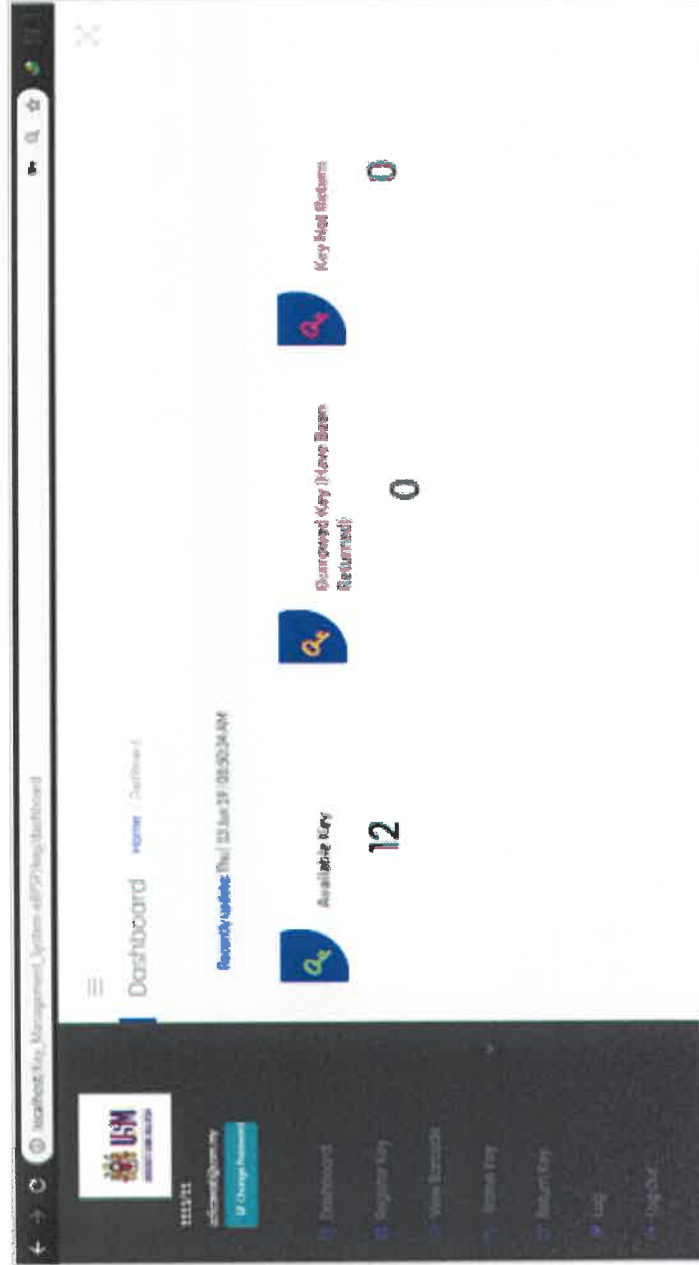


Figure 3: Dashboard interface

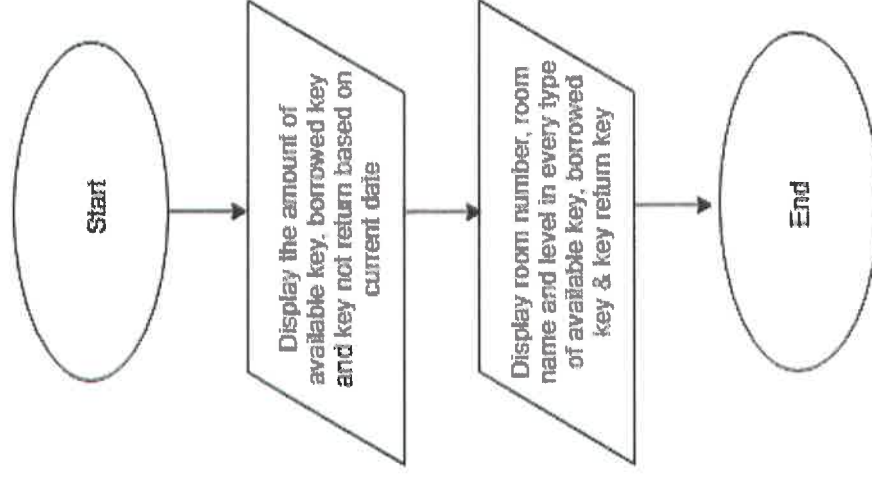


Figure 4: Flowchart for dashboard page

2.3 Key Registration Interface

| File |

| Function |

Model: Key_Management_System-eBPSP/application/models/Key_model registerkey

View: Key_Management_System-eBPSP/application/views/formregkey

Controller: Key_Management_System-eBPSP/application/controllers/Key registerkey

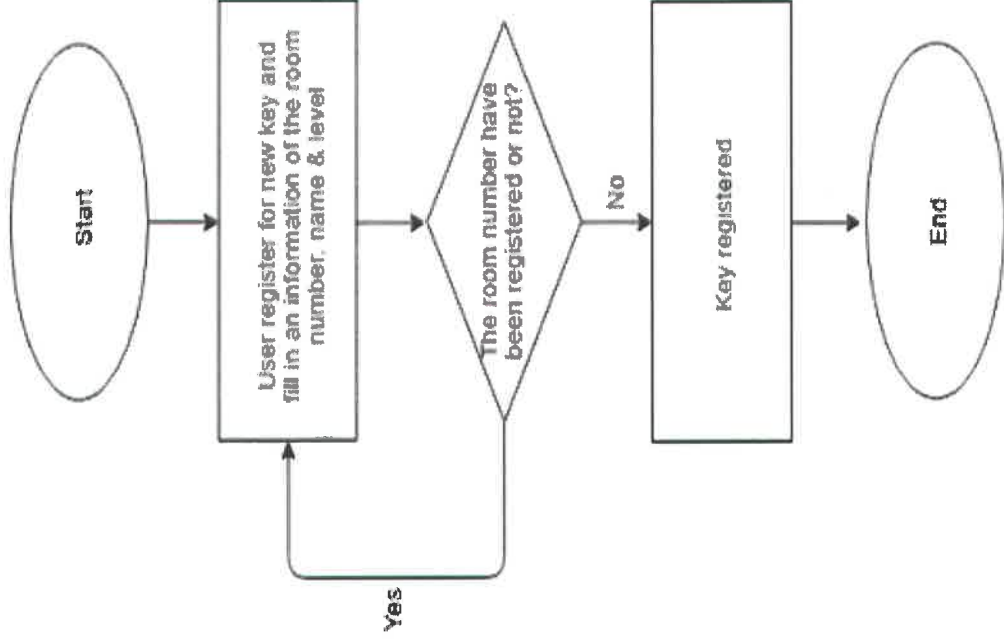
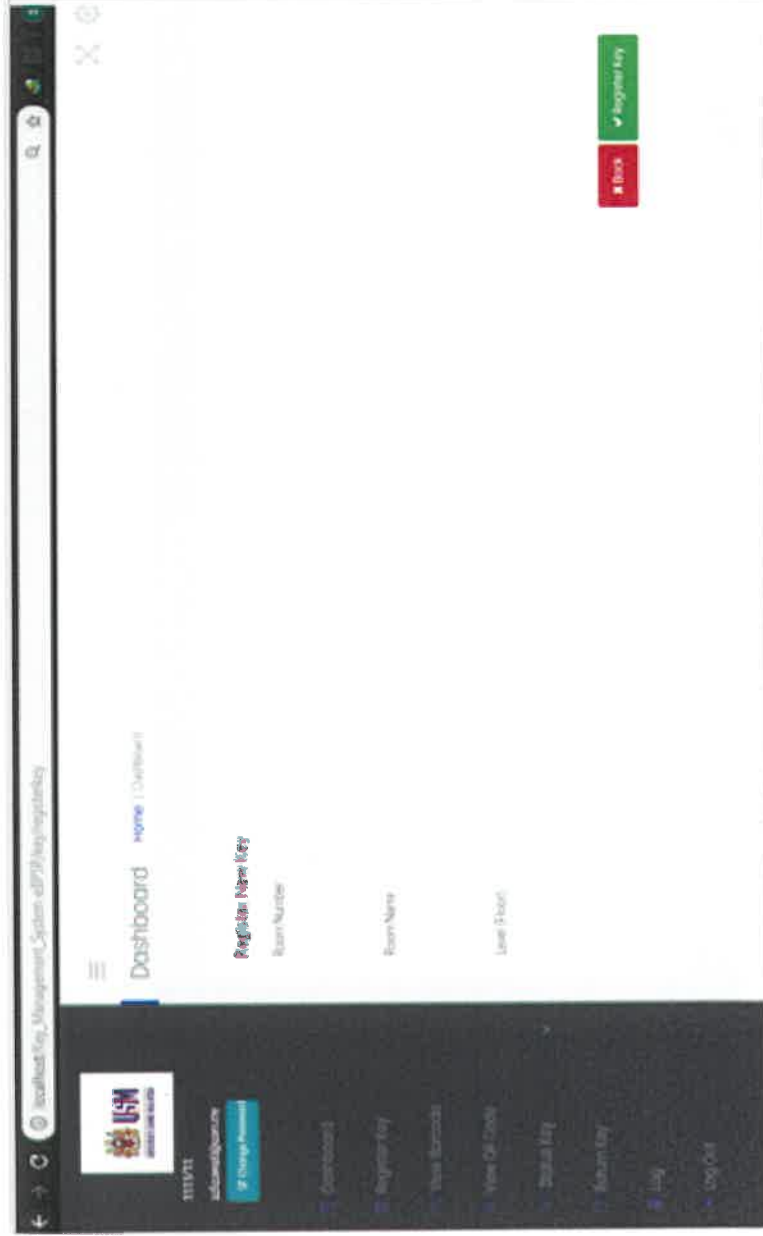


Figure 5: Key registration interface

2.4 View QR Code & QR Code

|| File |

| Function |

Model: Key_Management_System-eBPSP/application/models/Key_model

View_barcode,
view_qrcode

View: Key_Management_System-eBPSP/application/views/viewqrcode

Controller: Key_Management_System-eBPSP/application/controllers/Key

Viewbarcode,
viewqrcode



Figure 7: View bar code interface

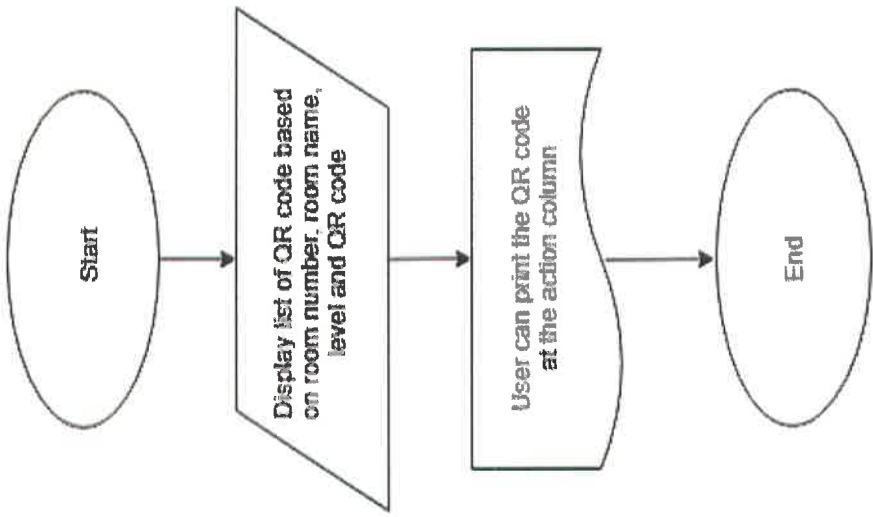


Figure 8: Flowchart for view bar code page

2.5 List of Key Interface

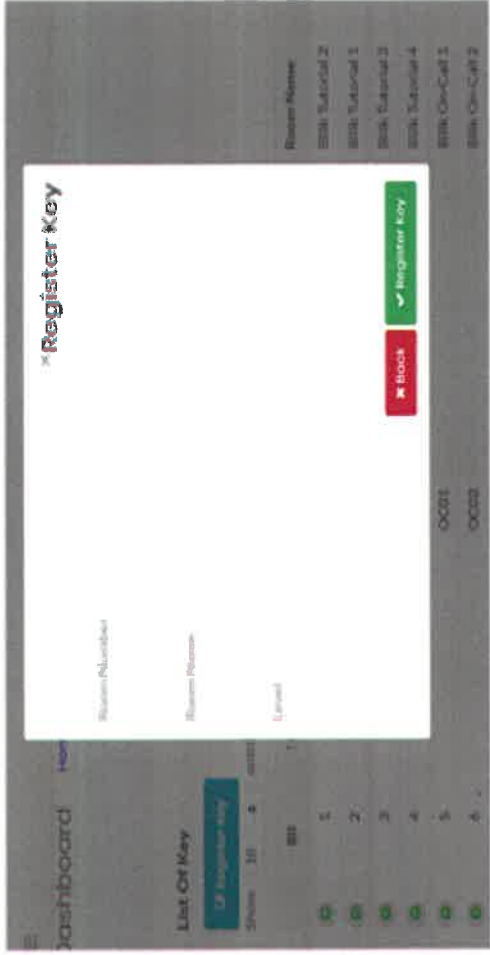
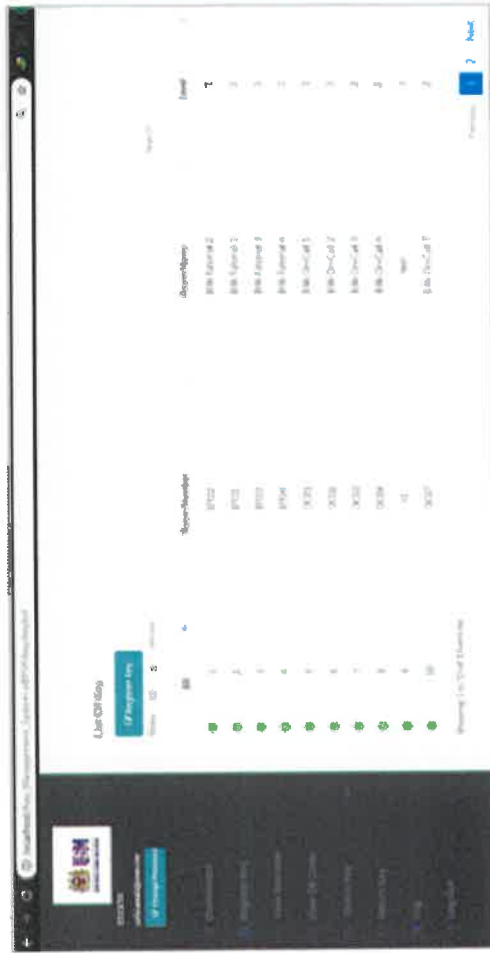


Figure 4: Register key form popup interfaces

Figure 3: List of key interfaces

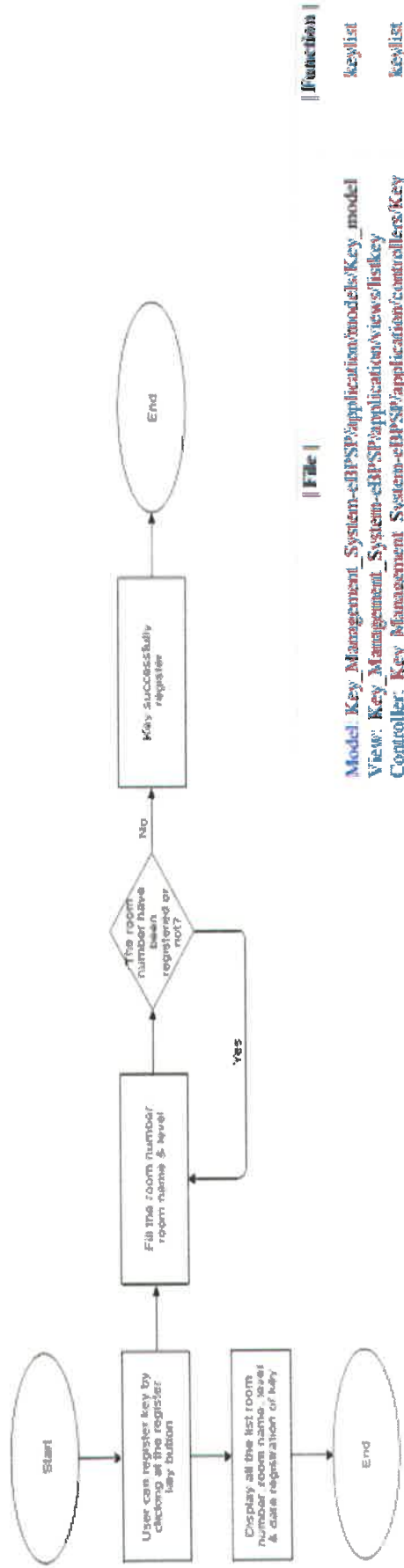


Figure 11: Flowchart for register key form page

2.6 Available Key Interface



Figure 12: Interface of Available Key

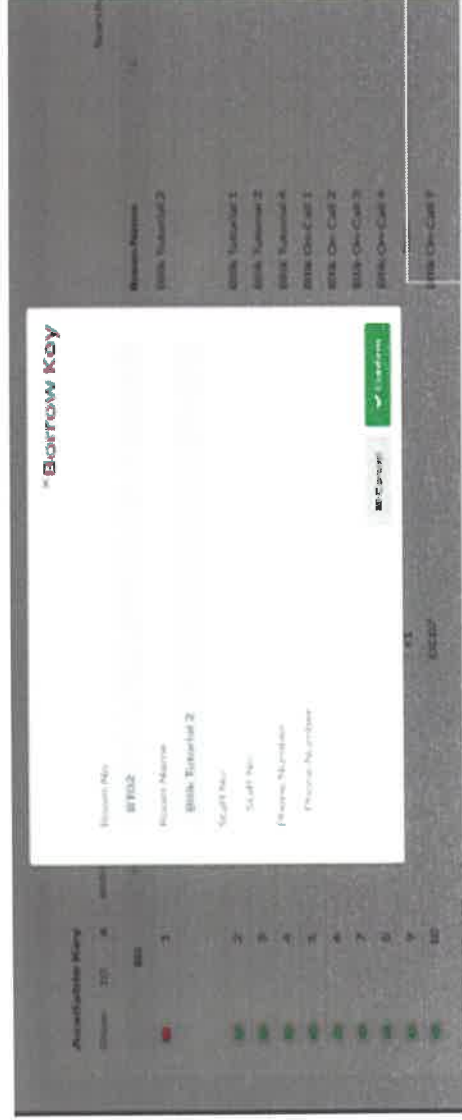


Figure 15: Borrow key form popup

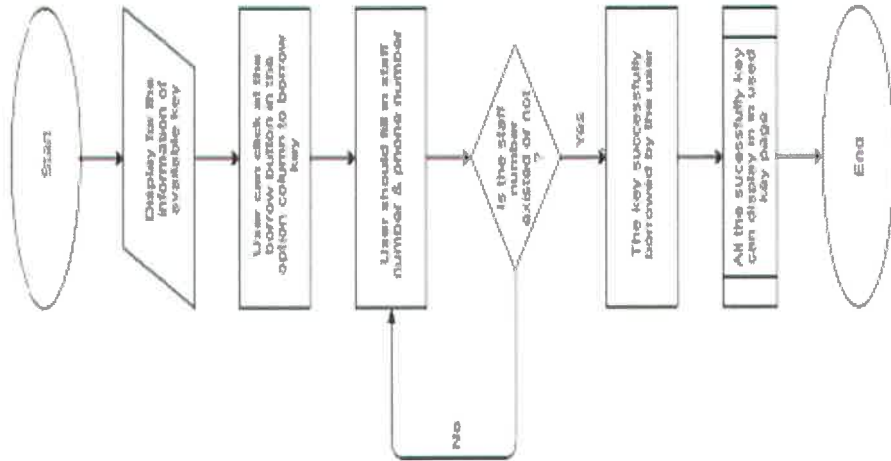


Figure 14: Flowchart for Available Key page

Function | Available_key availablekey

File | Model: Key_Management_System-eBSP/application/models/Key model View: Key_Management_System-eBSP/application/views/available_key Controller: Key_Management_System-eBSP/application/controllers/Key

2.8 Return Key Interface

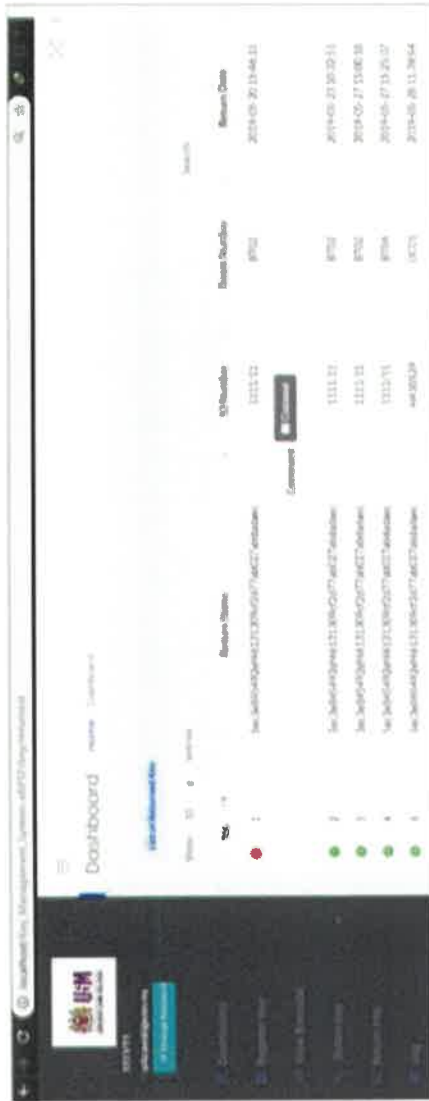


Figure 20: List of Return Key interface

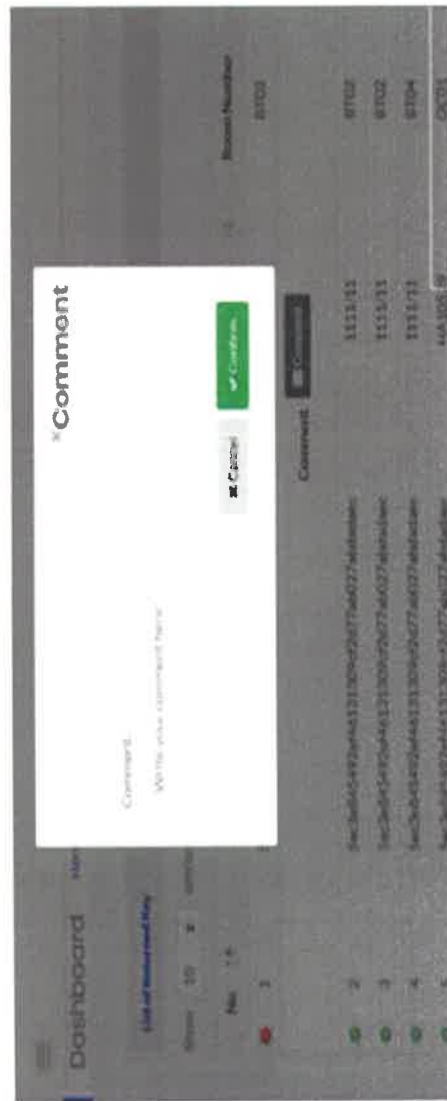


Figure 22: Comment popup interface

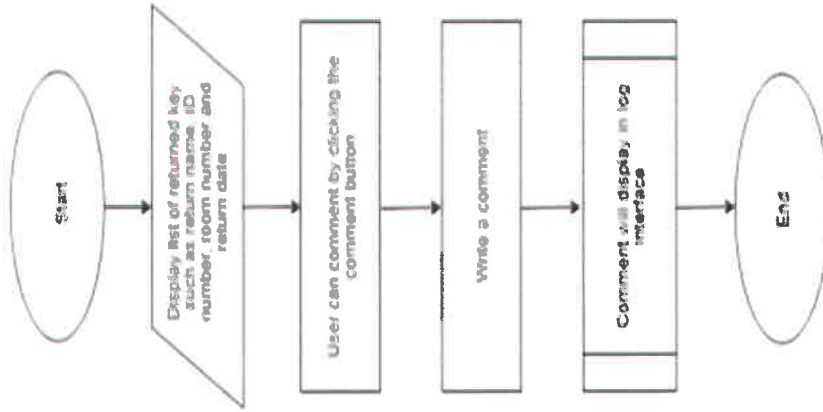


Figure 21: Flowchart for Return Key page

| File |

| Function |

Model: Key_Management_System-eBSP/application/models/Key_model
 View: Key_Management_System-eBSP/application/views/return_key
 Controller: Key_Management_System-eBSP/application/controllers/Key

return_key,remark
 returnkey, returnlist,
 remark

2.7 In Used Key Interface



Figure 18: In Used Key Interface

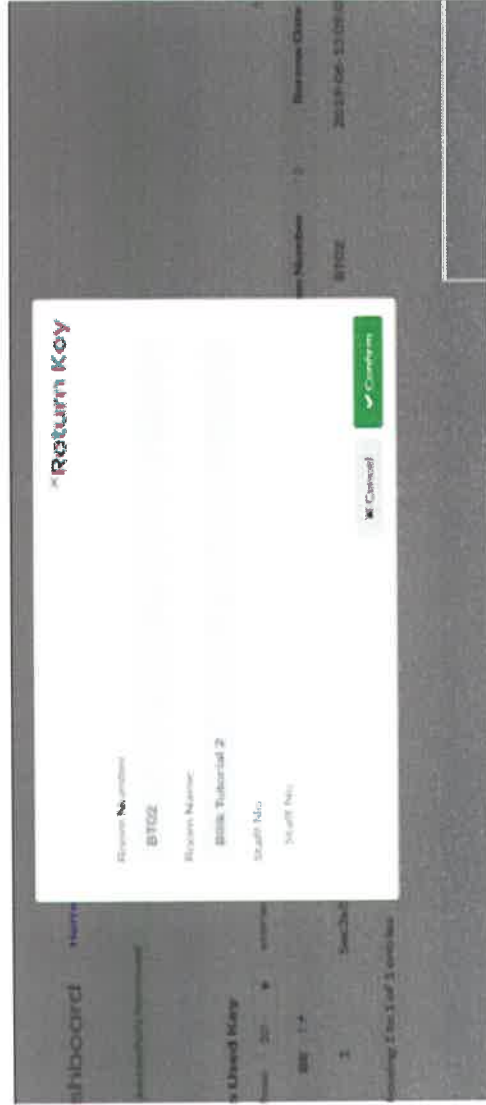


Figure 19: Return Key popup

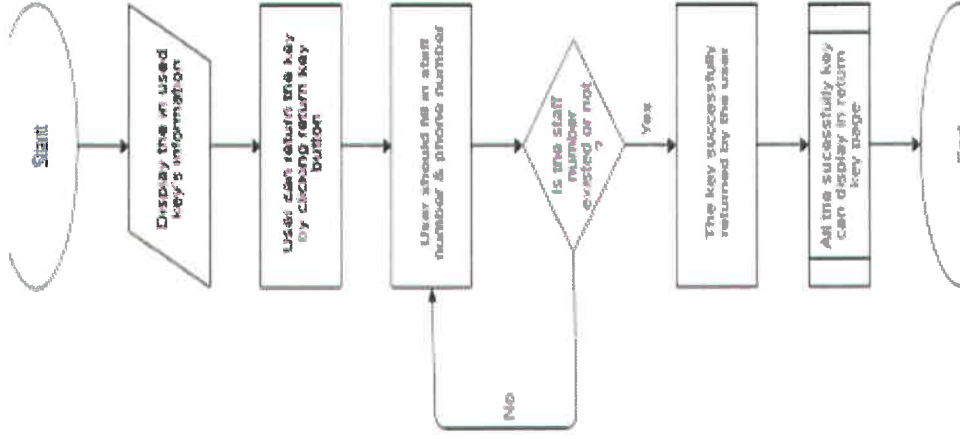


Figure 20: Flowchart for In Used Key Interface

| File |

| Function |

Model: Key_Management_System-eBSP/application/models/Key_model
 View: Key_Management_System-eBSP/application/views/in_used_key
 Controller: Key_Management_System-eBSP/application/controllers/Key

in_used_key
 inusedkey

2.9 Log Interface

| File |

| Function |

Model: Key_Management_System-eBPSP/application/models/Key_model

loglist, searchlog

View: Key_Management_System-eBPSP/application/views/loglist

Controller: Key_Management_System-eBPSP/application/controllers/Key

loglist, carian_tarikh

The screenshot shows a web browser window displaying a dashboard titled 'Dashboard'. Below the title, there is a navigation menu with 'Log System' highlighted. The main content area contains a table with the following columns: No, Room Name, Room Number, Borrower Name, ID Number, and Borrow Date. The table lists five log entries, each with a red status indicator. The first entry has a comment 'Isue ul tular'. The second entry has a comment 'Tularan larat dalam kaedah file larat'. The third entry has a comment 'Isue ul tular'. The fourth entry has a comment 'LCD BOSM'. The fifth entry has a comment 'LCD BOSM'.

No	Room Name	Room Number	Borrower Name	ID Number	Borrow Date
1	B16A Tularan 2	B162	Sec.2616492646131306420746027460461	111111	2024-05-20 04:02:13
2	B16A Tularan 2	B162	Sec.2616492646131306420746027460461 Comment: Isue ul tular	111111	2024-05-21 14:31:28
3	B16A Tularan 2	B162	Sec.2616492646131306420746027460461 Comment: Tularan larat dalam kaedah file larat	111111	2024-05-26 15:24:11
4	B16A Tularan 2	B164	Sec.2616492646131306420746027460461 Comment: Isue ul tular	111111	2024-05-27 14:18:51
5	B16A On-Cat 1	(K01)	Sec.2616492646131306420746027460461 Comment: LCD BOSM	111111	2024-05-27 15:11:29

Figure 23: Log system interface

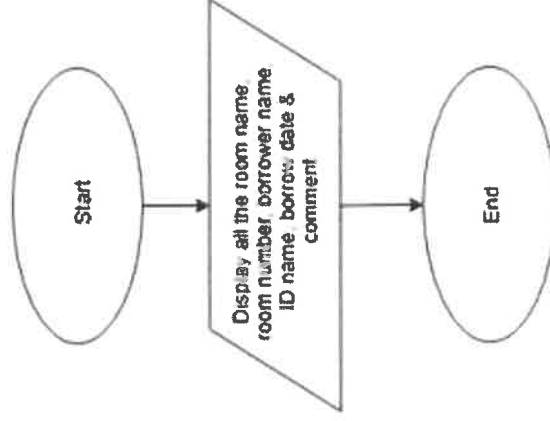


Figure 24: Flowchart for log page

3.0 INTERNSHIP ACTIVITIES

3.0 INDUSTRIAL TRAINING ACTIVITIES

3.1 Introduction

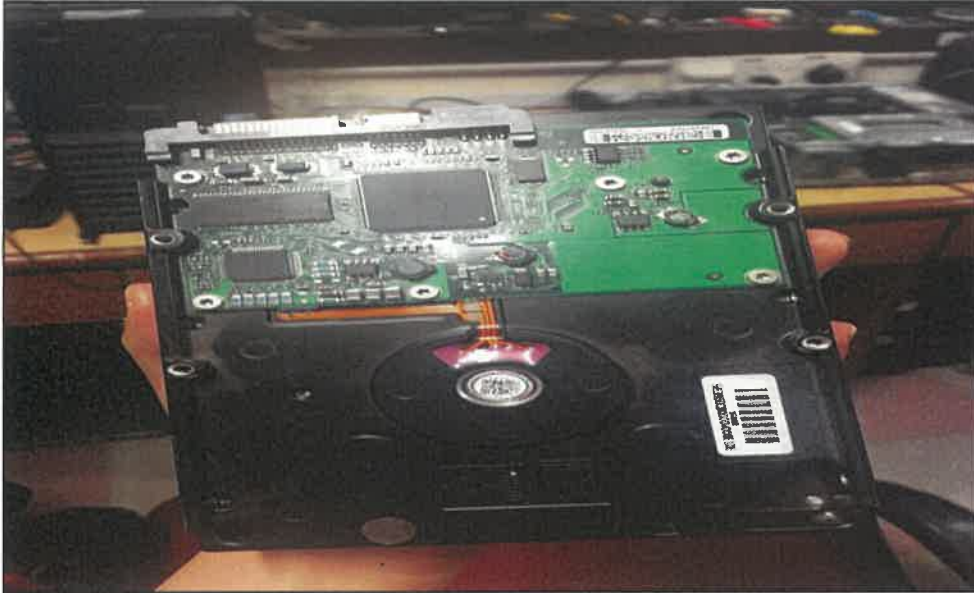
All the image of the industrial training activities arranged by the trainee to ensure it can be used as evidence for all the activities that had been involved in the Centre of Knowledge, Communication & Technology Department under the organization of USM Health Campus. The involve student activities 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 15: Demonstration the way to make backup for hardisk using docket by the technician staff



Appendix 16: Image of hardisk in CPU of PC

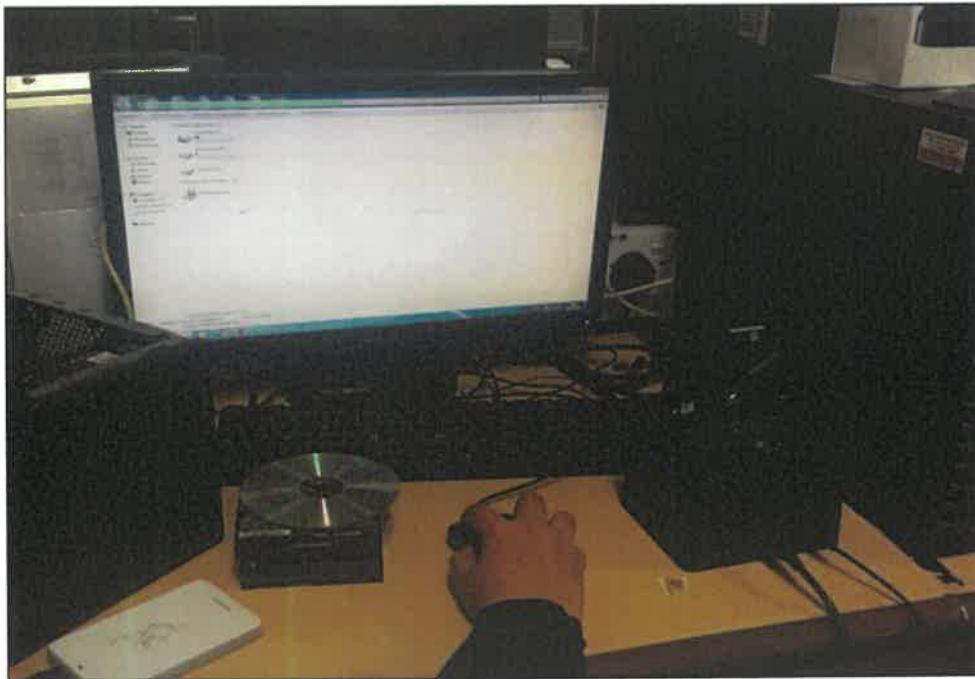


Appendix 17: Technician staff displayed the way how to back up the hardisk



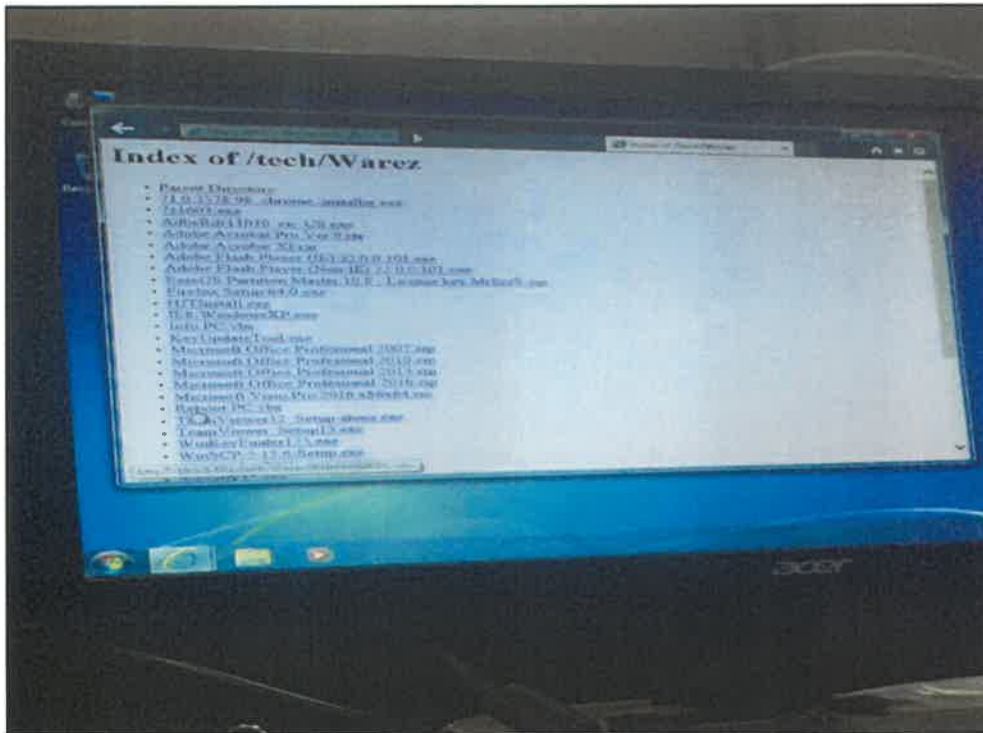
Appendix 18: The process to insert the hardisk in CPU

3.1.1.2 Personal Computer (PC) backup process

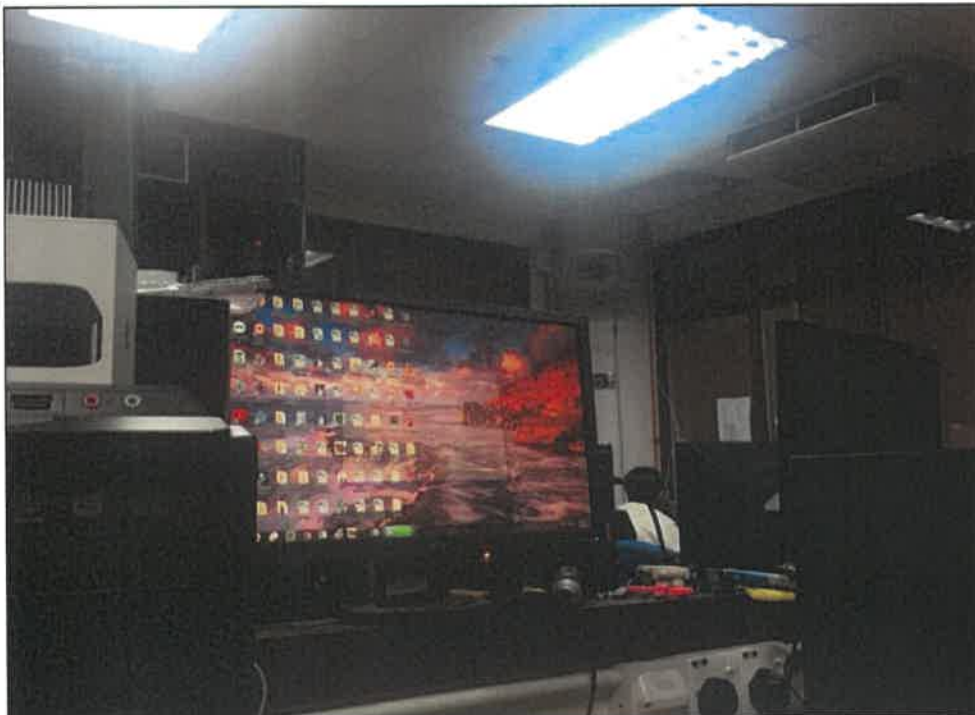


Appendix 19: Personal Computer (PC) backup session

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



Appendix 20: The list of the system that need to be installed after format PC process

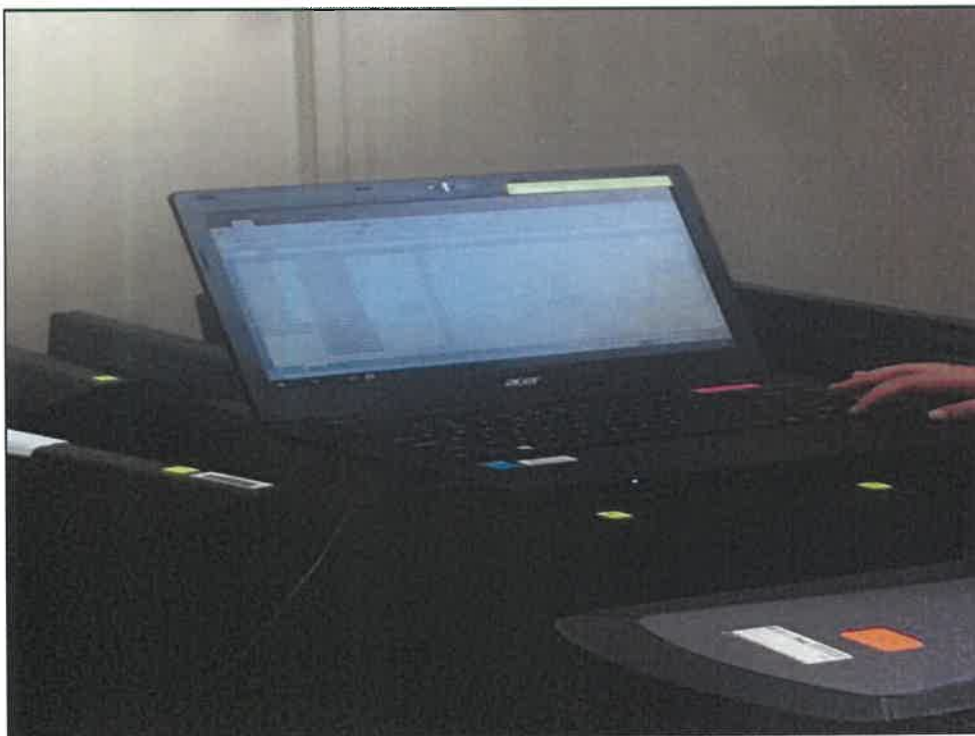


Appendix 21: The complete process in installing all of the system software after format process

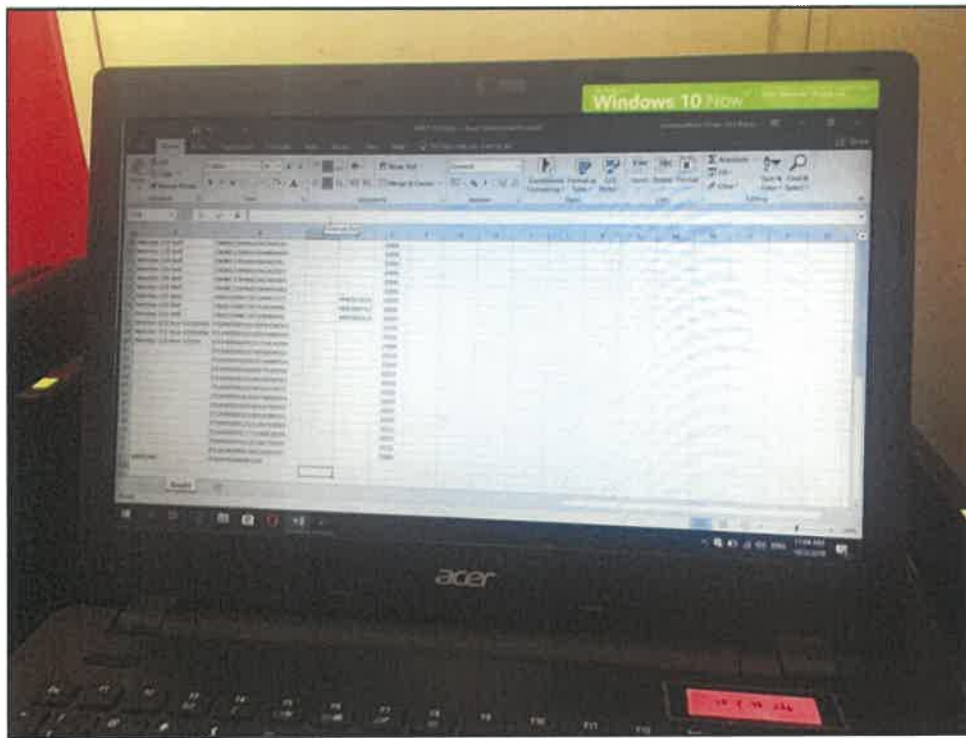
3.1.2 Learn the process of how to dispose of a monitor as an organization asset



Appendix 22: The amount of PC that need to be disposed

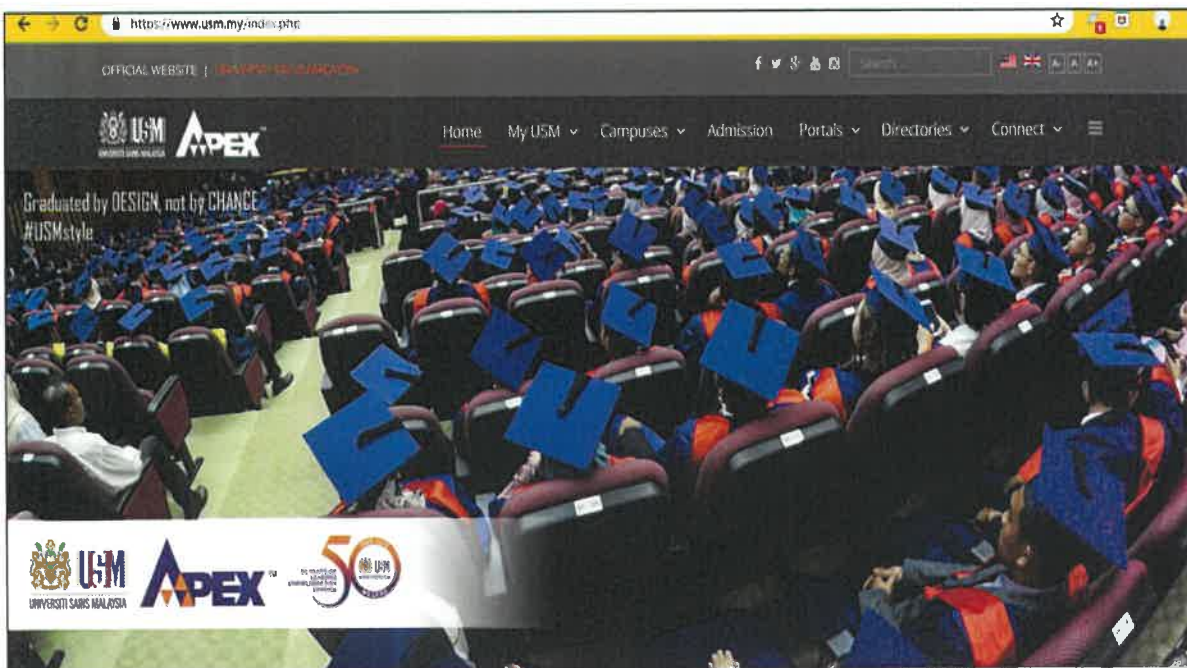


Appendix 23: Capturing of PC's data by using Microsoft Excel & Scanner to scan PC's barcode

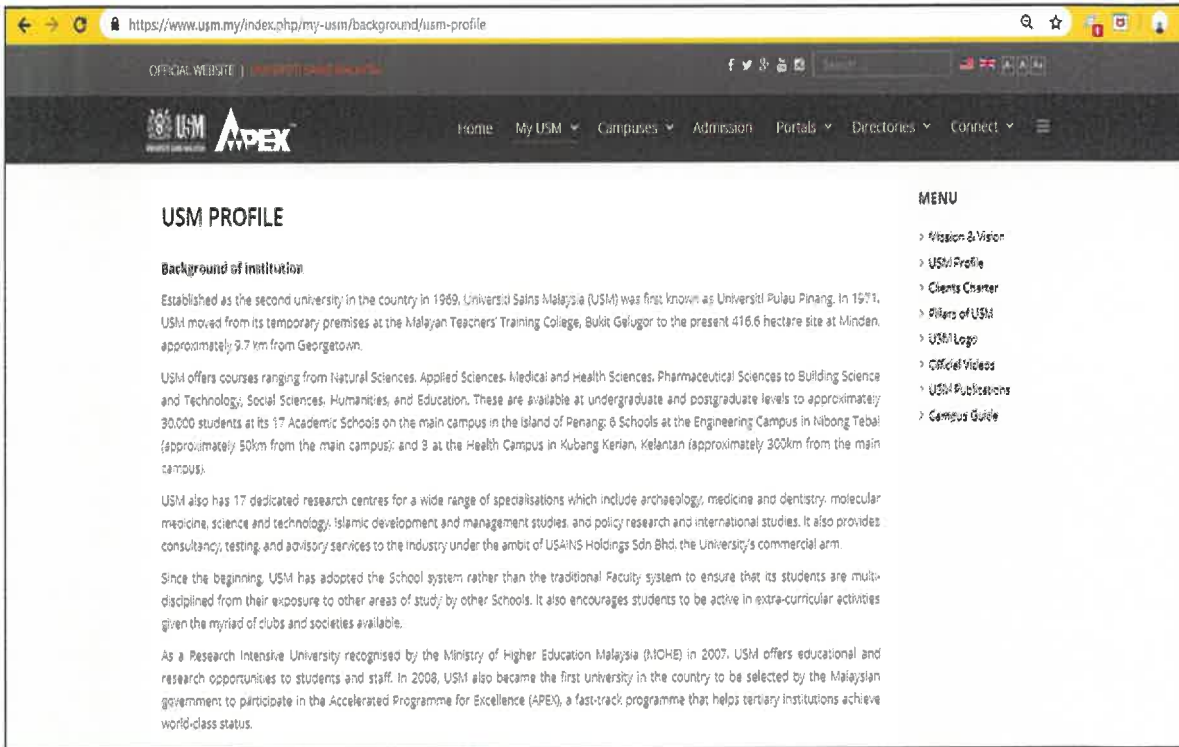


Appendix 24: The data of the PC disposal

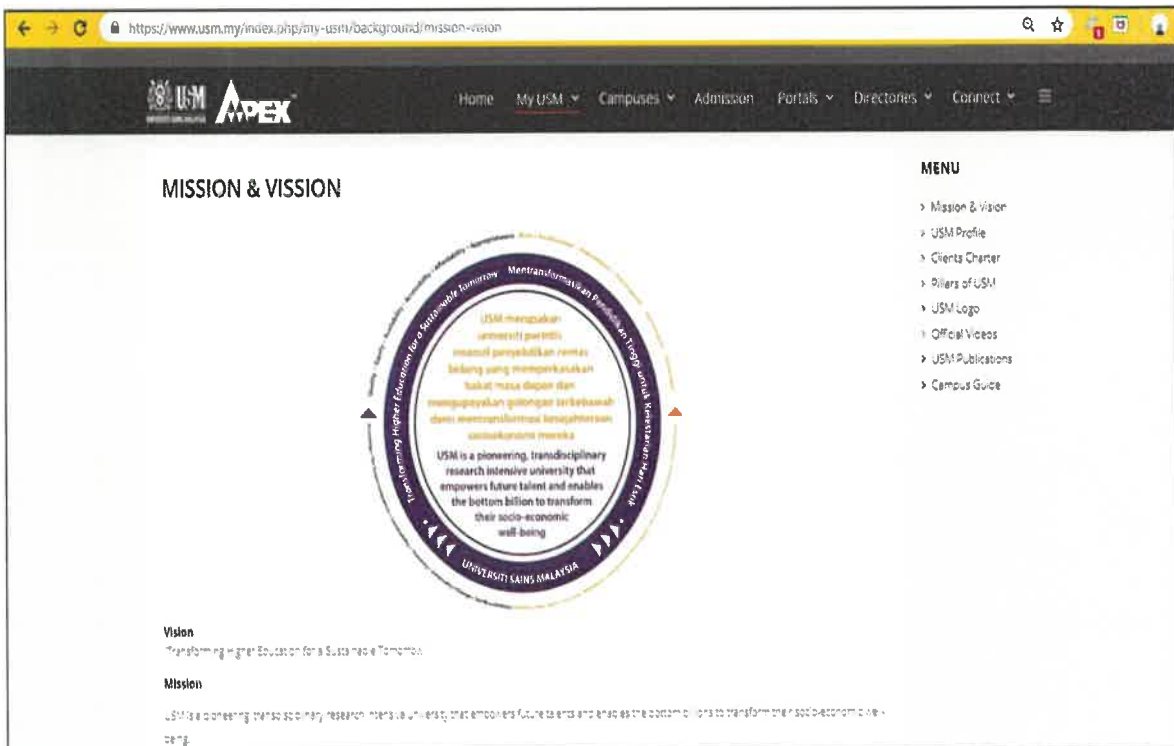
3.1.3 Learn about the company's profile



Appendix 25: Official portal of USM



Appendix 26: Profile of USM



Appendix 27: Mission and Vision of USM


3.1.4 Join an Organized Workshop

3.1.4.1 Ionic Workshop



Appendix 28: IONIC session that was conducted by Mr. Syamim Rasli

2.3.4.2 Slide for Ionic workshop


INTRODUCTION TO IONIC
SPONSORED BY
MULTIMEDIA CENTER BOUL & HAÏR ENTREPRENEURIA

1

Outline

- ▶ Introduction
- ▶ Motivation
- ▶ UI Components

2

INTRODUCTION

- ◻ What is Ionic
- ◻ Hybrid Applications
- ◻ How to Apache Cordova
- ◻ How to Angular

3

WHAT IS IONIC

- ◻ An open source framework for developing hybrid mobile application using **CSS3, HTML5, Sass, Angular JS, Cordova**
- ◻ Currently supported platforms is **iOS, Android & Windows**
- ◻ Original version released in 2013, uses **AngularJS** and **Apache Cordova**
- ◻ The recent releases, Ionic 2 are built on **Angular**.

▶ <https://ionicframework.com>



4

SUPPORTED OPERATING SYSTEM

Ionic V1

- ▶ iOS
- ▶ iOS 7+
- ◻ Android devices
- ▶ Android 4.1+

Ionic V2

- ◻ iOS
- ▶ iOS 8+
- ◻ Android devices (currently)
- ▶ Android 4.4+

5

HYBRID APPLICATION

- ◻ An approach to programming for mobile devices that combines strengths of native programming and HTML5 mobile app development.
- ◻ iOS, Android & Windows
- ◻ HTML5, CSS or JavaScript

6

WHAT IS ANGULAR

- ◻ A structural framework for dynamic web application

▶ <https://angularjs.org/>

7

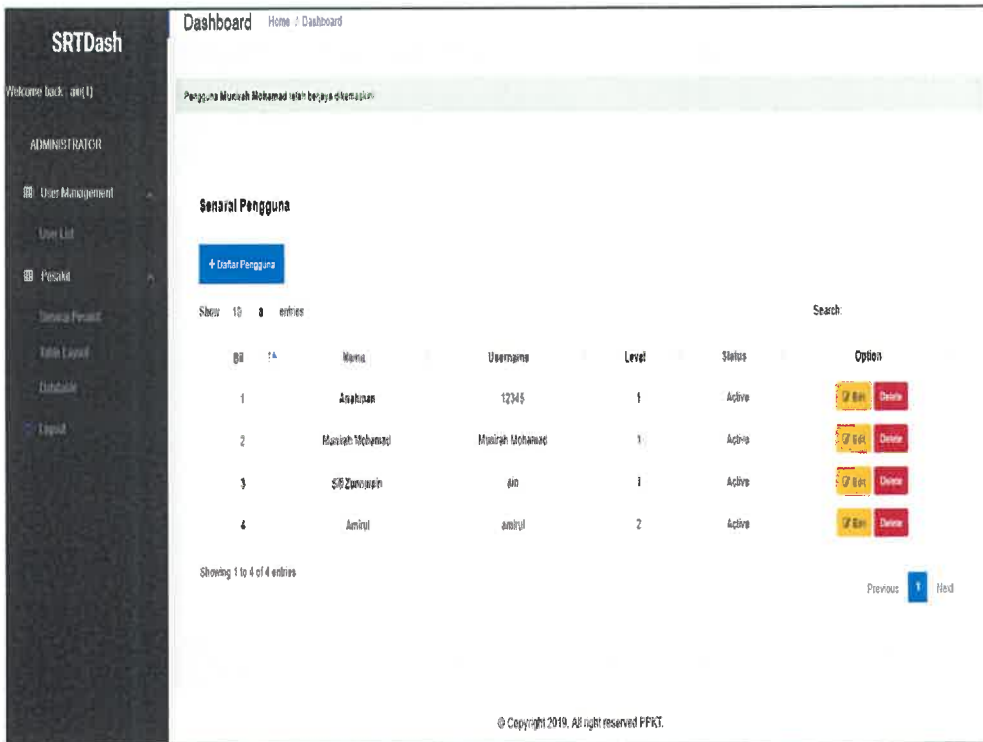
WHAT IS APACHE CORDOVA

- ◻ An Android application library that allows for Cross-Platform projects to run built for the android platform.

▶ <https://cordova.apache.org/>

8

3.1.4.2 CodeIgniter Workshop



Appendix 29: An interface of the system that was created during the workshop session



Appendix 30: Within all the staff in PPKT that was joined CodeIgniter workshop

3.1.4.2 CodeIgniter Cheat Code



Git is the open source distributed version control system that facilitates GitHub activities on your laptop or desktop. This cheat sheet summarizes commonly used Git command line instructions for quick reference.

INSTALL GIT

GitHub provides desktop clients that include a graphical user interface for the most common repository actions and an automatically updating command line edition of Git for advanced scenarios.

GitHub for Windows
<https://windows.github.com>

GitHub for Mac
<https://mac.github.com>

Git distributions for Linux and POSIX systems are available on the official Git SCM web site.

Git for All Platforms
<http://git-scm.com>

CONFIGURE TOOLING

Configure user information for all local repositories

```
$ git config --global user.name "[name]"
```

Sets the name you want attached to your commit transactions

```
$ git config --global user.email "[email address]"
```

Sets the email you want attached to your commit transactions

```
$ git config --global color.ui auto
```

Enables helpful colorization of command line output

CREATE REPOSITORIES

Start a new repository or obtain one from an existing URL

```
$ git init [project-name]
```

Creates a new local repository with the specified name

```
$ git clone [url]
```

Downloads a project and its entire version history

MAKE CHANGES

Review edits and craft a commit transaction

```
$ git status
```

Lists all new or modified files to be committed

```
$ git diff
```

Shows file differences not yet staged

```
$ git add [file]
```

Snapshots the file in preparation for versioning

```
$ git diff --staged
```

Shows file differences between staging and the last file version

```
$ git reset [file]
```

Unstages the file, but preserves its contents

```
$ git commit -m "[descriptive message]"
```

Records file snapshots permanently in version history

GROUP CHANGES

Name assets of commits and combine completed efforts

```
$ git branch
```

Lists all local branches in the current repository

```
$ git branch [branch-name]
```

Creates a new branch

```
$ git checkout [branch-name]
```

Switches to the specified branch and updates the working directory

```
$ git merge [branch]
```

Combines the specified branch's history into the current branch

```
$ git branch -d [branch-name]
```

Deletes the specified branch

GIT CHEAT SHEET

REFACTOR FILENAMES

Relocates and remove versioned files

```
$ git rm [file]
```

Deletes the file from the working directory and stages the deletion

```
$ git rm --cached [file]
```

Removes the file from version control but preserves the file locally

```
$ git mv [file-original] [file-renamed]
```

Changes the file name and prepares it for commit

SUPPRESS TRACKING

Exclude temporary files and paths

```
*.log  
build/  
temp-*
```

A text file named `.gitignore` suppresses accidental versioning of files and paths matching the specified patterns

```
$ git ls-files --other --ignored --exclude-standard
```

Lists all ignored files in this project

SAVE FRAGMENTS

Shelve and restore incomplete changes

```
$ git stash
```

Temporarily stores all modified tracked files

```
$ git stash pop
```

Restores the most recently stashed files

```
$ git stash list
```

Lists all stashed changesets

```
$ git stash drop
```

Discards the most recently stashed changeset

REVIEW HISTORY

Browse and inspect the evolution of project files

```
$ git log
```

Lists version history for the current branch

```
$ git log --follow [file]
```

Lists version history for a file, including renames

```
$ git diff [first-branch]...[second-branch]
```

Shows content differences between two branches

```
$ git show [commit]
```

Outputs metadata and content changes of the specified commit

REDO COMMITS

Erase mistakes and craft replacement history

```
$ git reset [commit]
```

Undoes all commits after `[commit]`, preserving changes locally

```
$ git reset --hard [commit]
```

Discards all history and changes back to the specified commit

SYNCHRONIZE CHANGES

Register a repository bookmark and exchange version history

```
$ git fetch [bookmark]
```

Downloads all history from the repository bookmark

```
$ git merge [bookmark]/[branch]
```

Combines bookmark's branch into current local branch

```
$ git push [alias] [branch]
```

Uploads all local branch commits to GitHub

```
$ git pull
```

Downloads bookmark history and incorporates changes

GitHub Training

Learn more about using GitHub and Git. Email the Training Team or visit our web site for learning event schedules and private class availability.

✉ training@github.com

🌐 training.github.com

3.1.4.3 GitHub basic Workshop



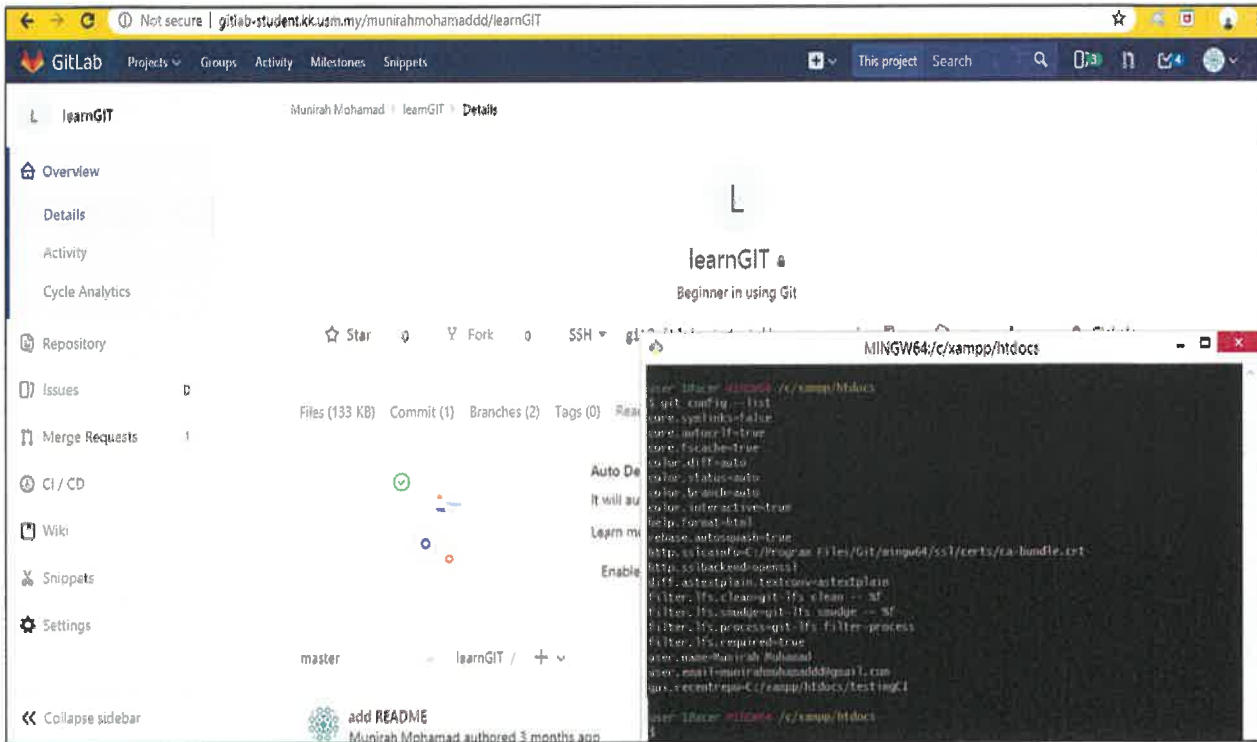
Appendix 31: An introduction about the basic Git Hub by Mrs. Nuru Asyikin Binti Mamat Saman



Appendix 32: Teaching & Learning session the basic of GitHub in Head of Department's room

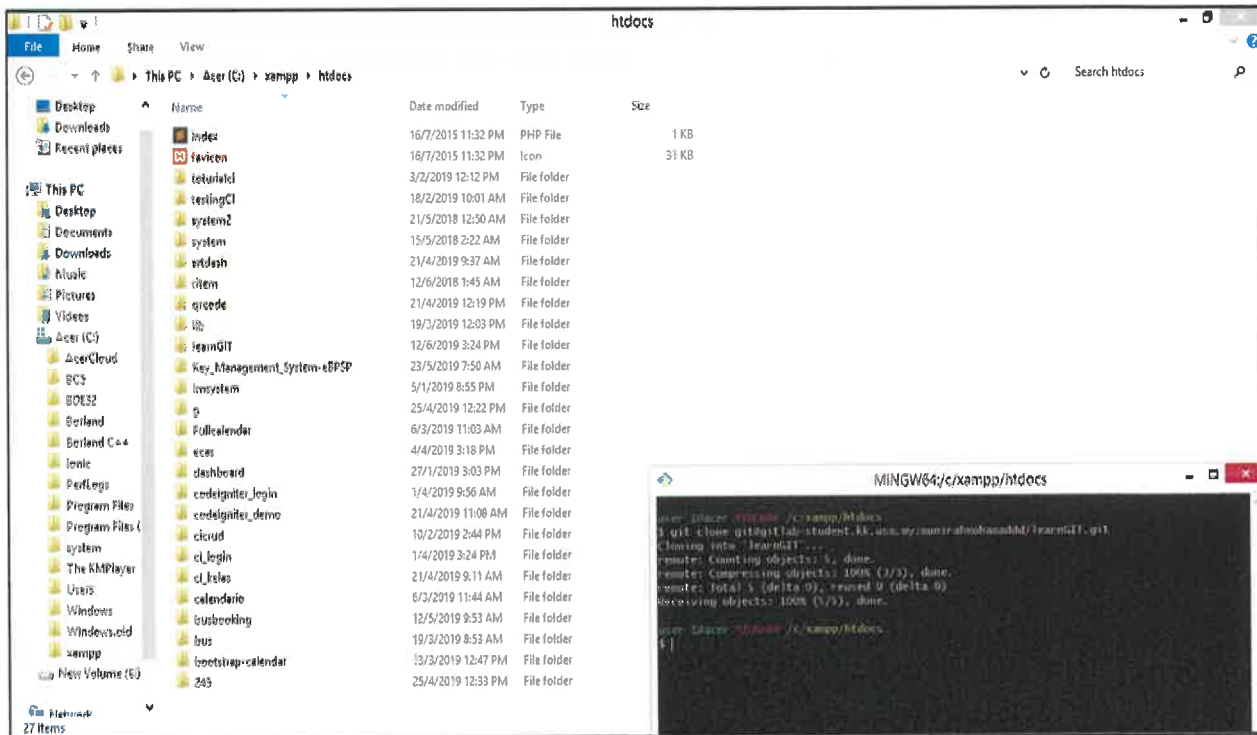
3.1.4.3.1 The process in learning the basic of GitHub

a) git config --list



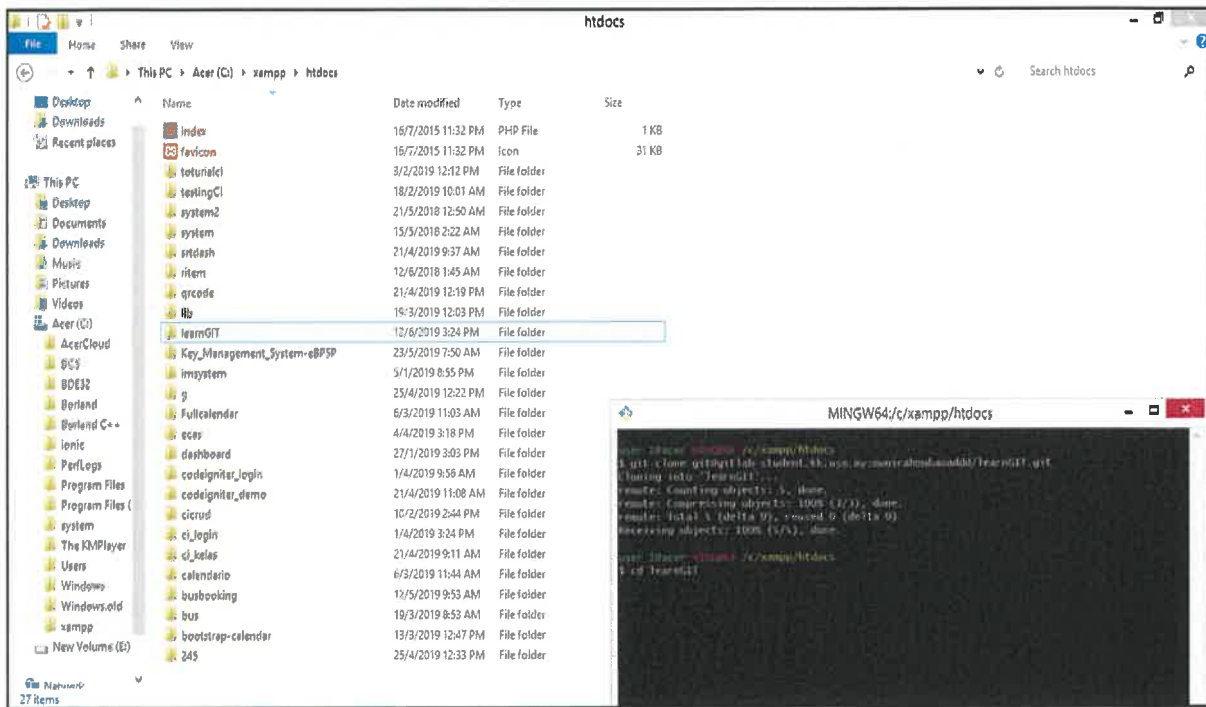
Appendix 33: The interface of git config --list displayed

b) git clone



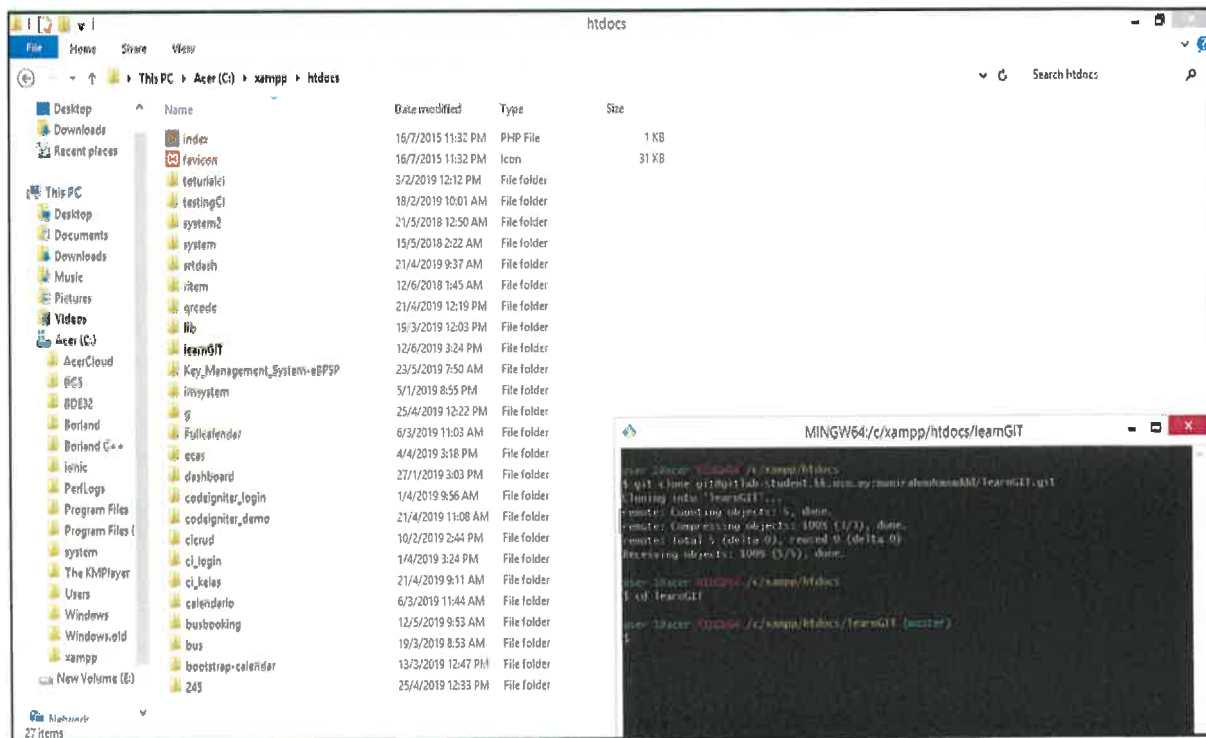
Appendix 34: The interface of git clone displayed

c) Insert cd file learnGIT for first-time used



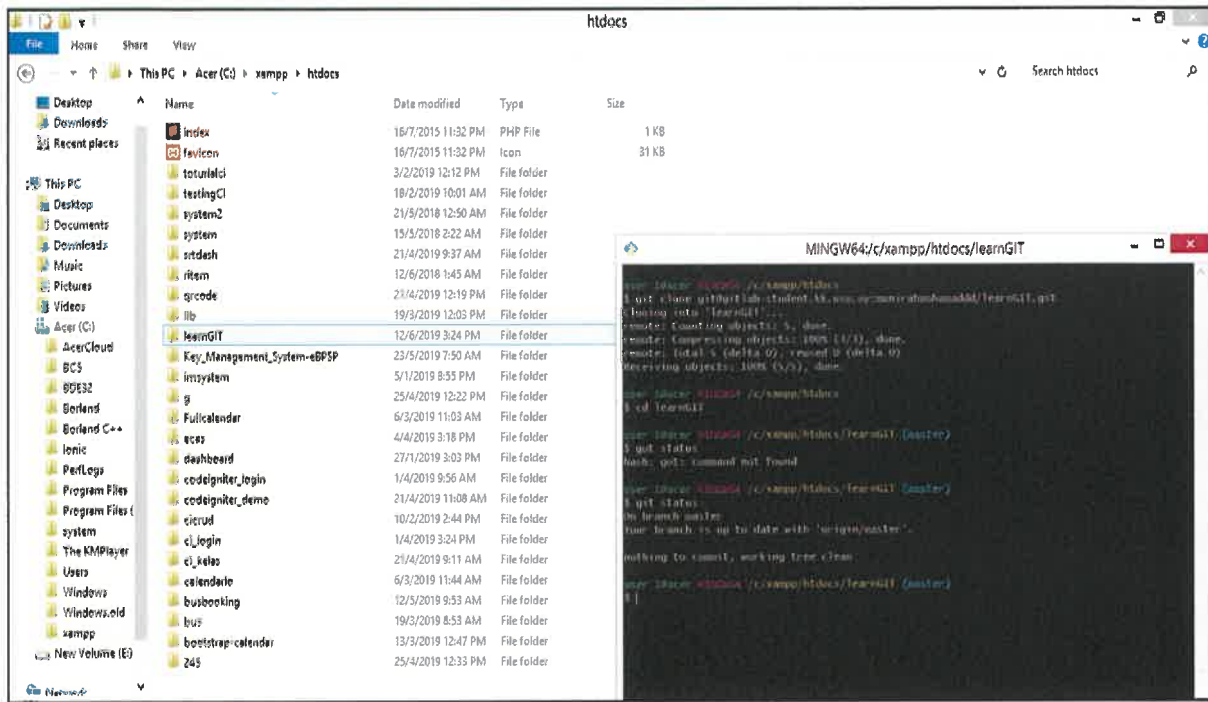
Appendix 35: The interface of inserting cd learnGIT to store in master

d) Then, the file learnGIT can store in master



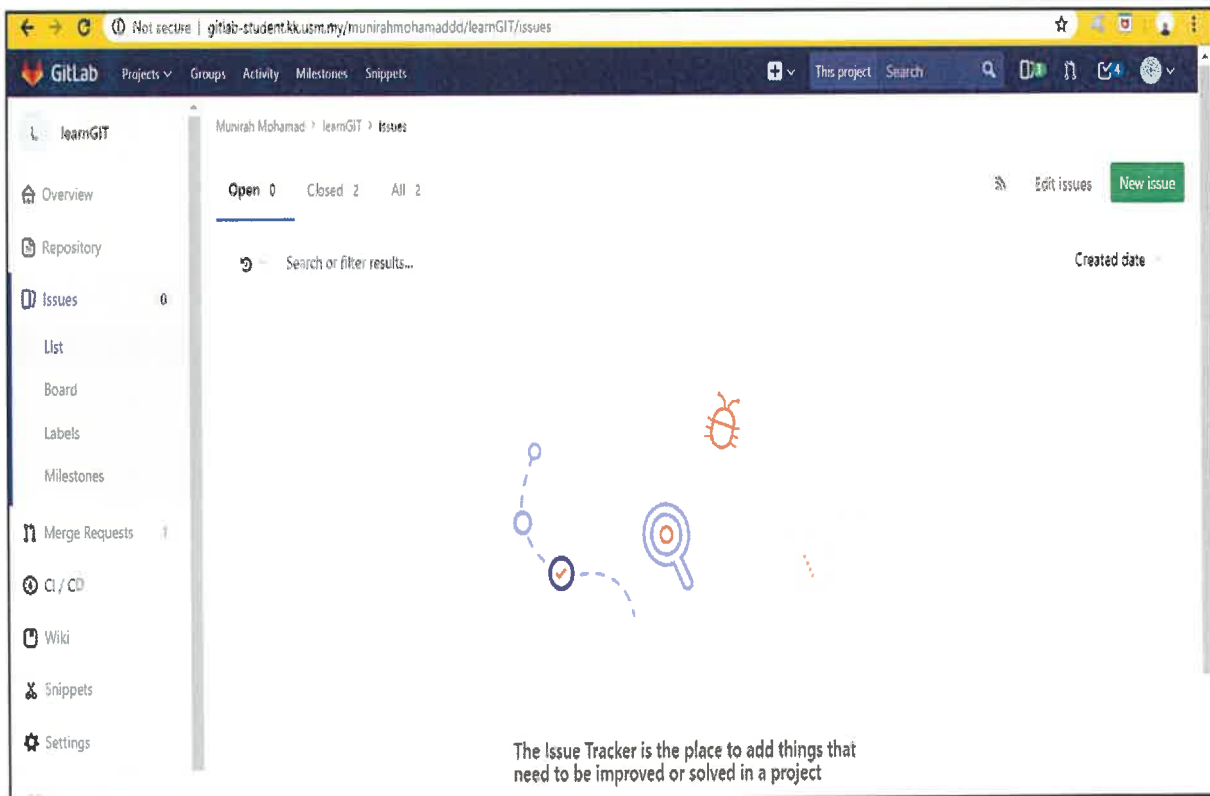
Appendix 36: The interface of git cd learnGIT displayed there is in master

e) **git status.** It used as a checking any status of the updated file



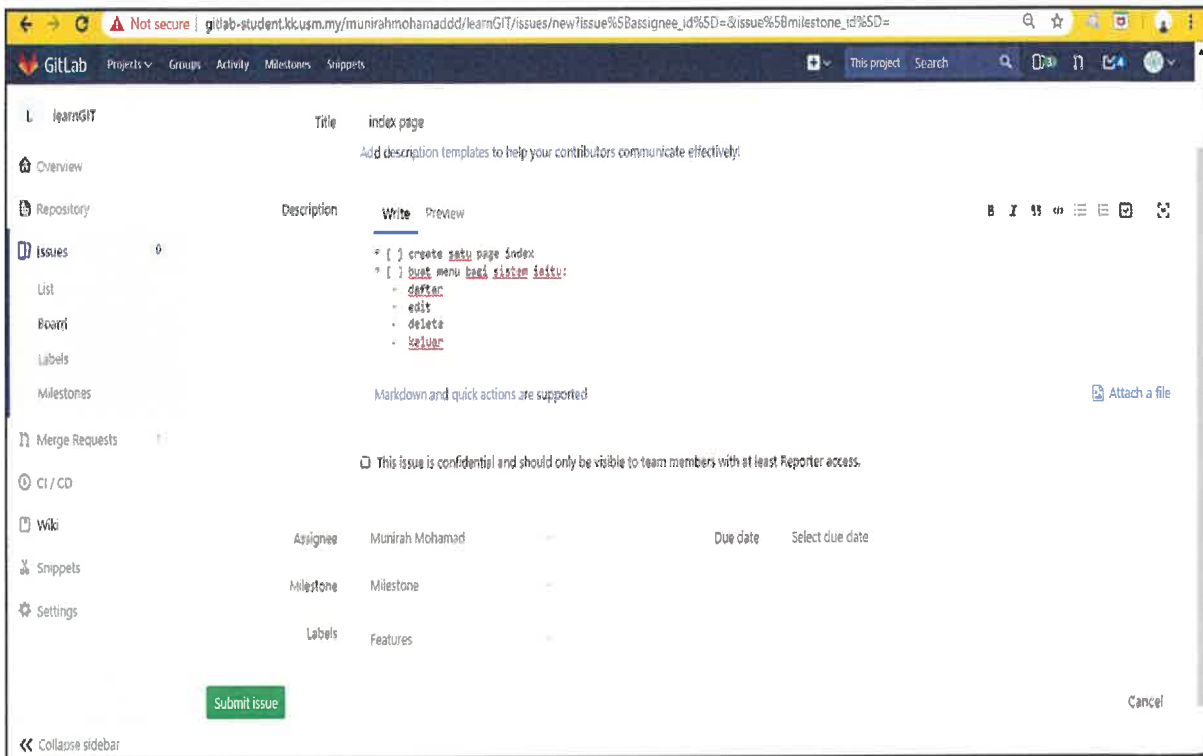
Appendix 37: The interface of git status displayed

f) **To add any tasks by creating an issue**



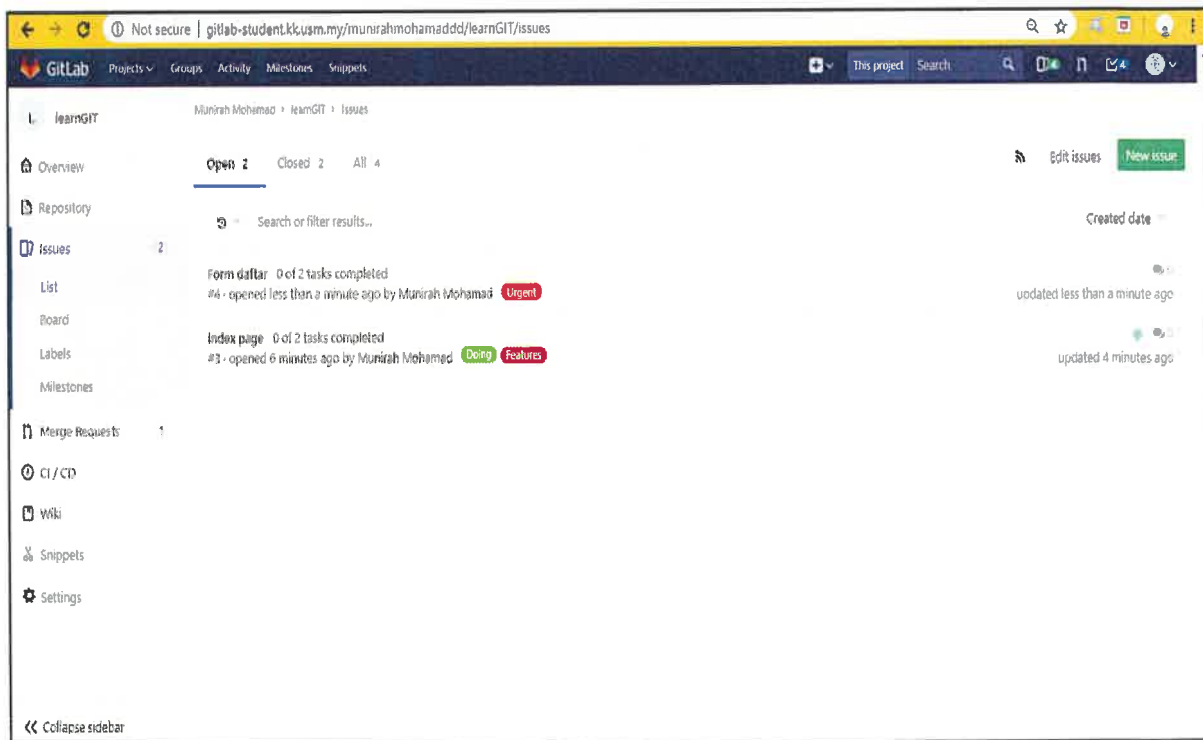
Appendix 38: Creating an issue interface

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



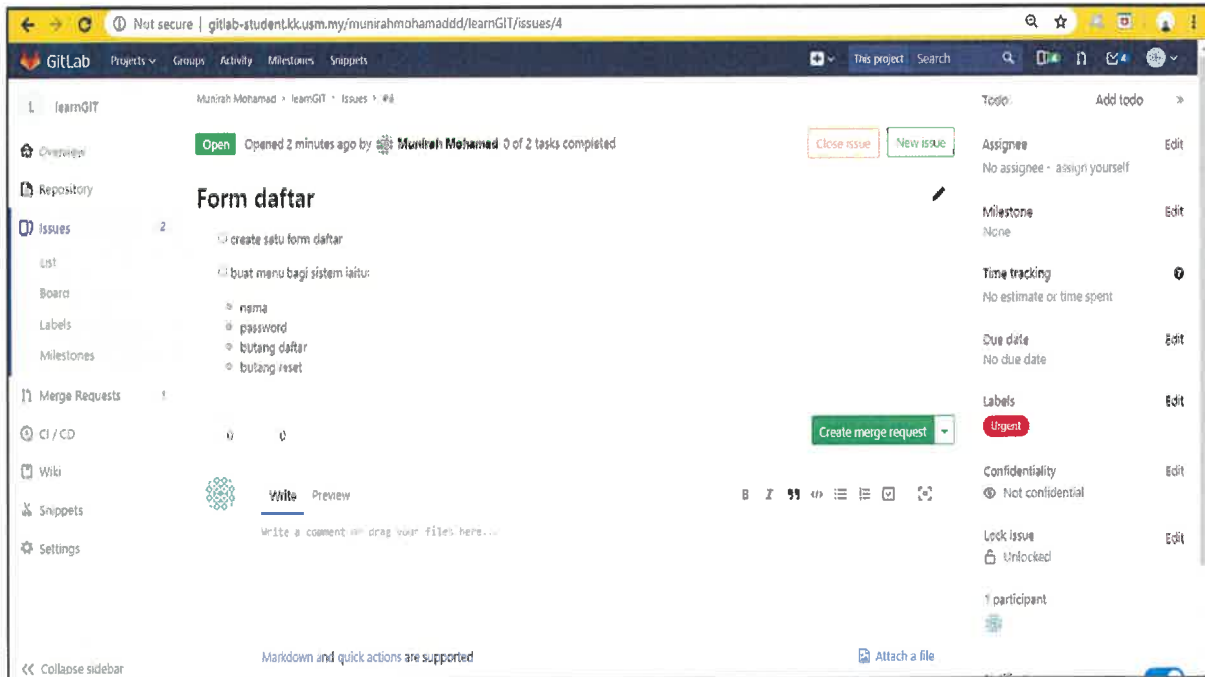
Appendix 39: The issue form that need to fill by the trainee to create an issue

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



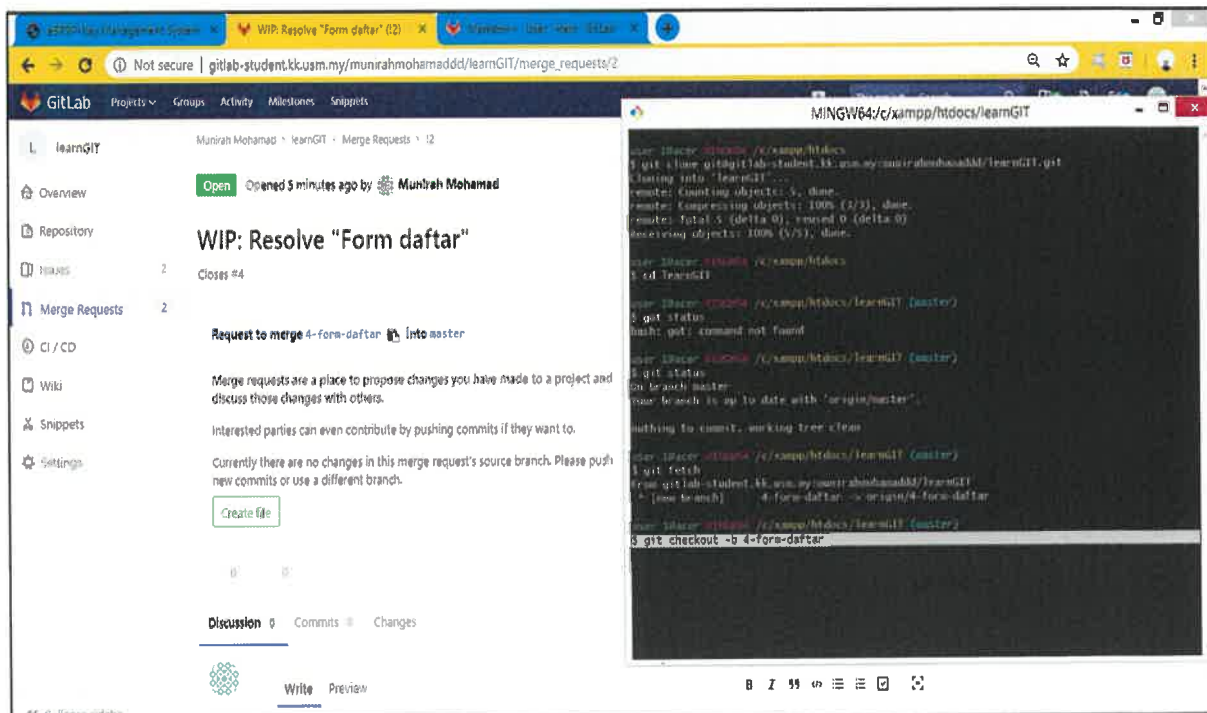
Appendix 40: List of the issue after created

- h) 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



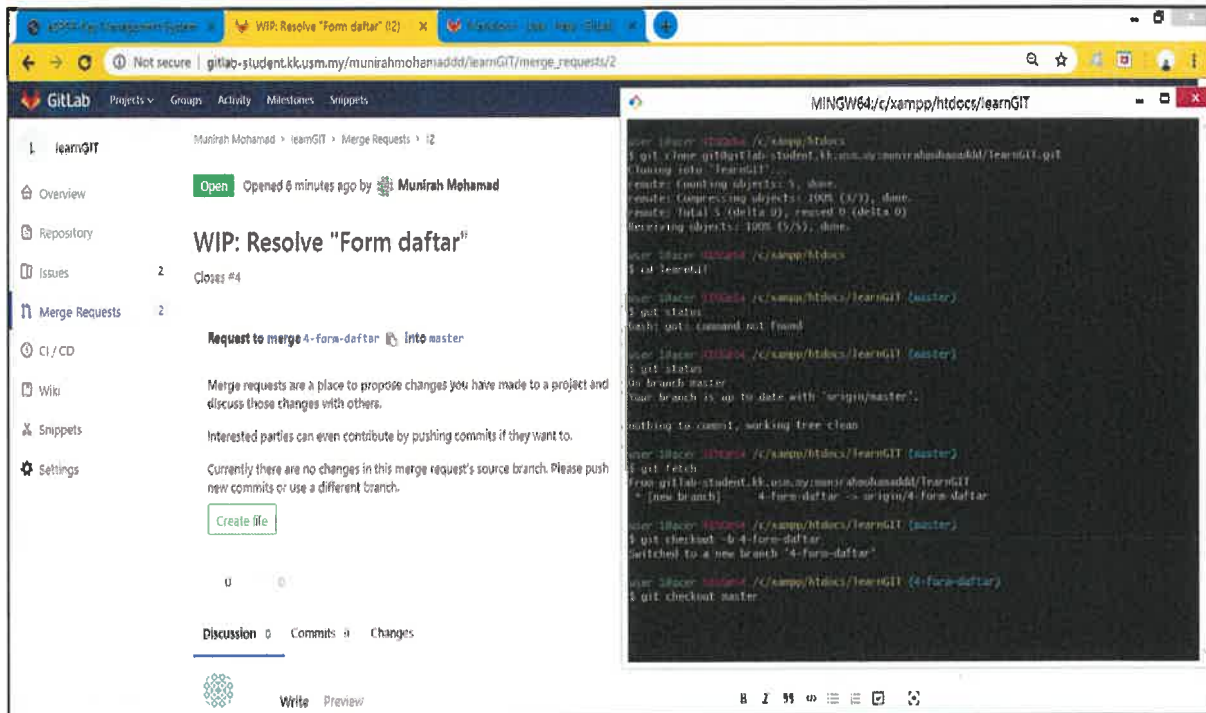
Appendix 41: the interface displayed after the submit issue had been done

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



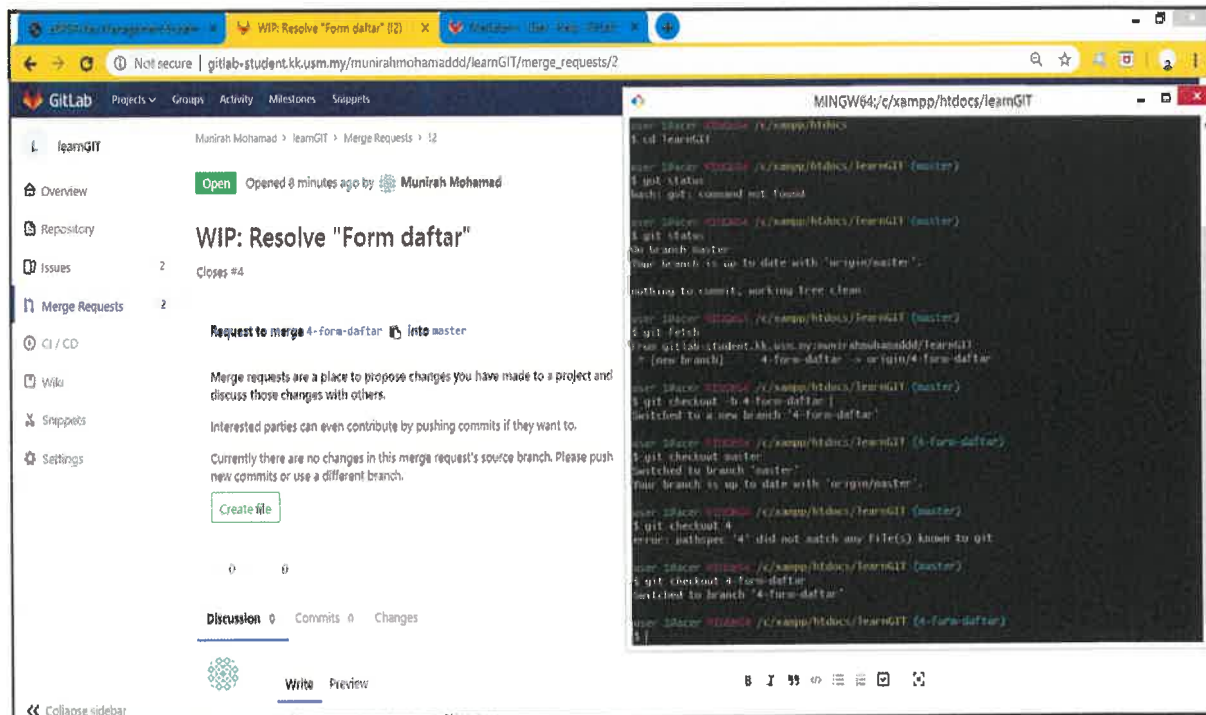
Appendix 42: the interface of the Git Bash Here to change checkout from master to branch

j) git checkout master to exit from master (cloud storage)



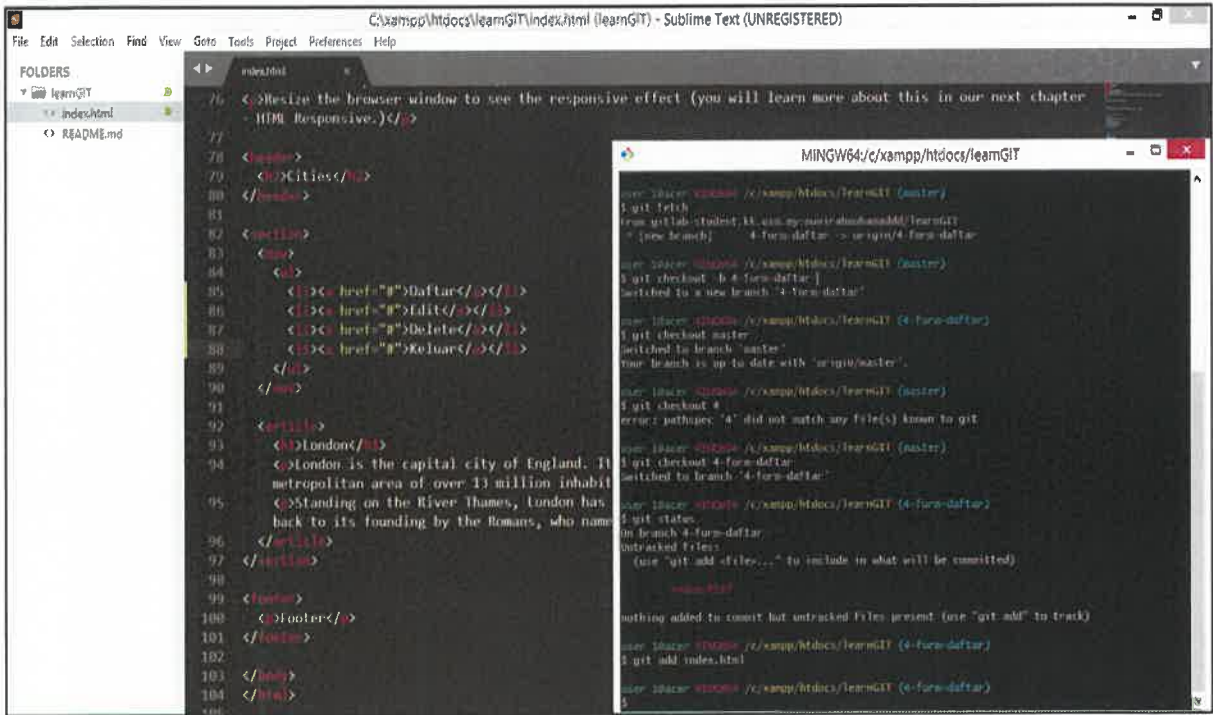
Appendix 43: The interface by using git checkout master

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



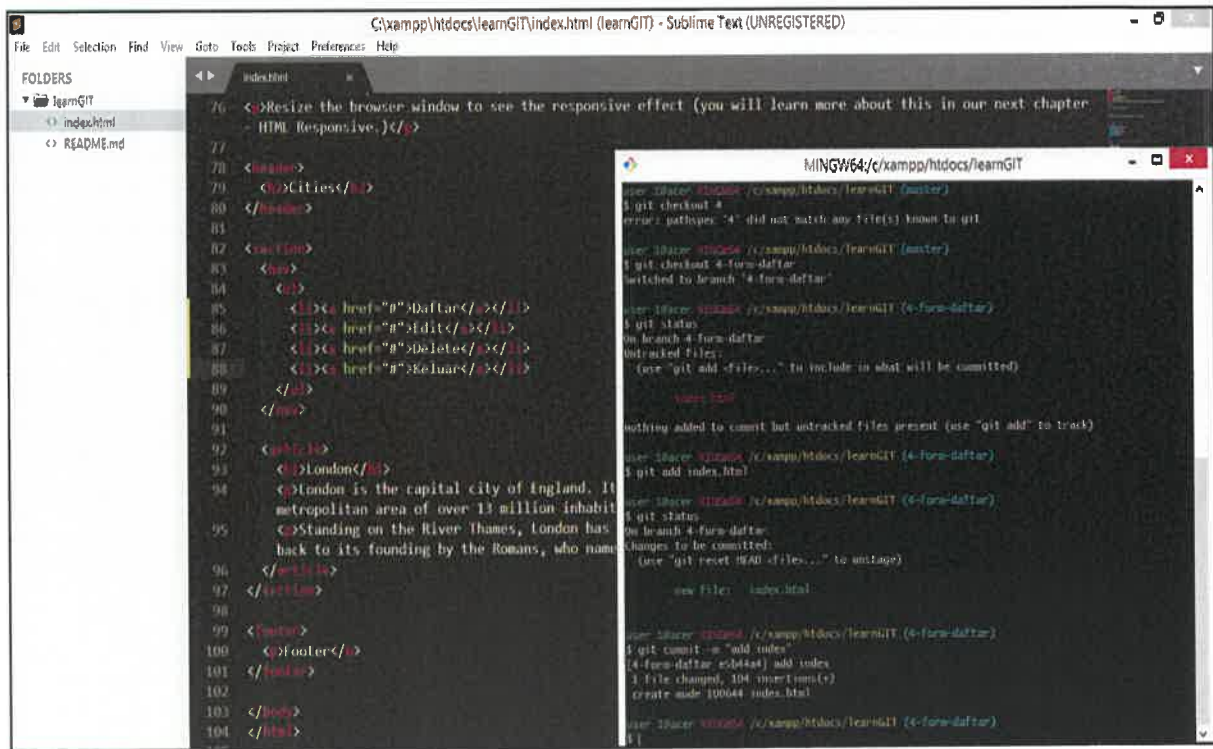
Appendix 44: The interface of the issue that was mentioned it was still in branch 4 ("form daftar")

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



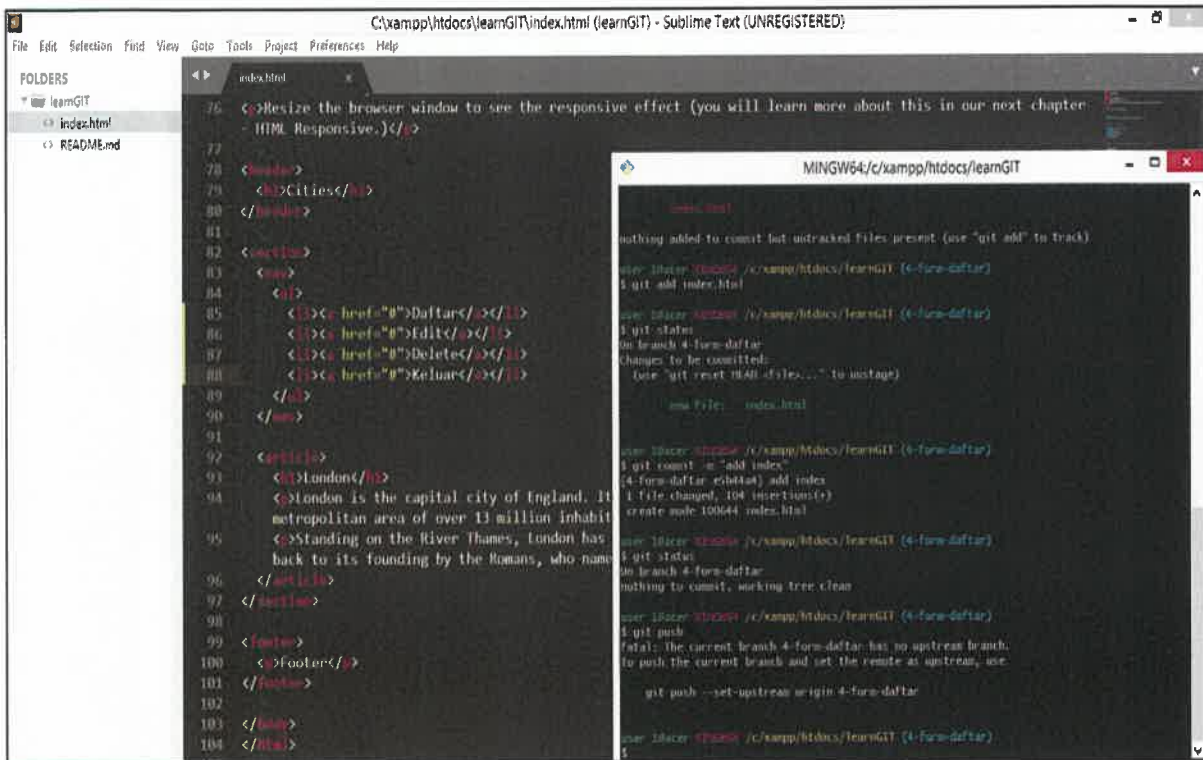
Appendix 45: The interface displayed by using git add

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



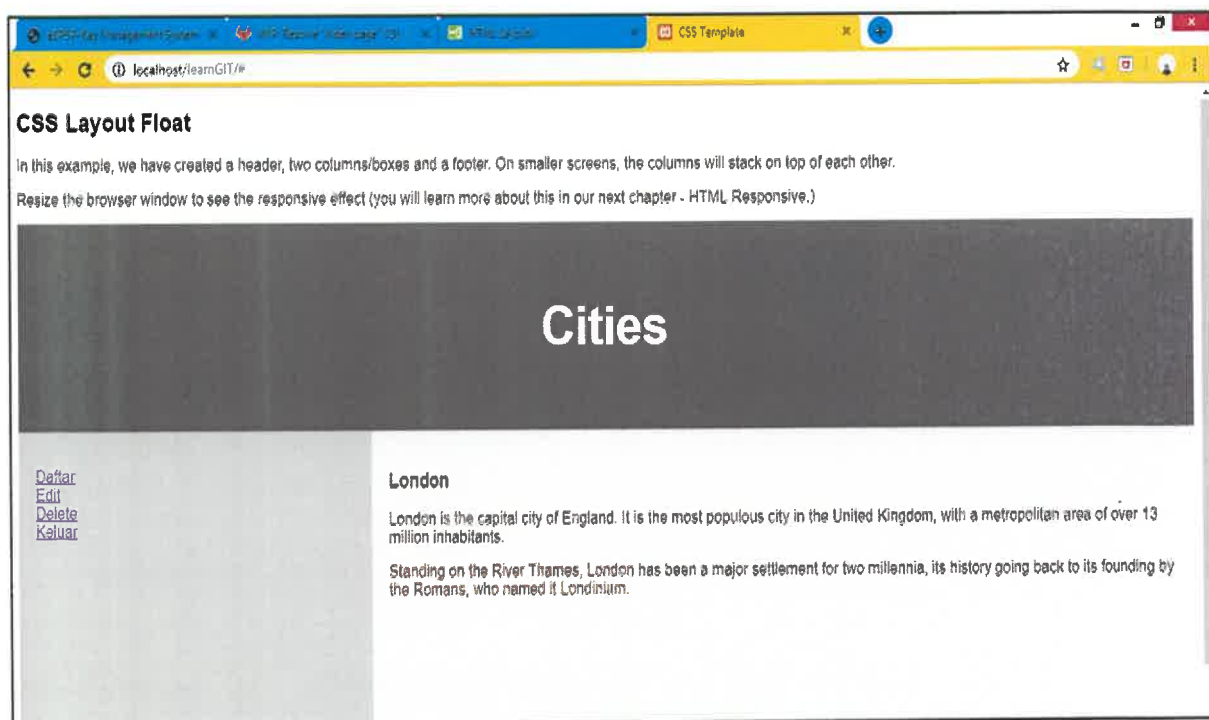
Appendix 46: The interface of the git commit displayed

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



Appendix 47: Git push interface to update all the task in master

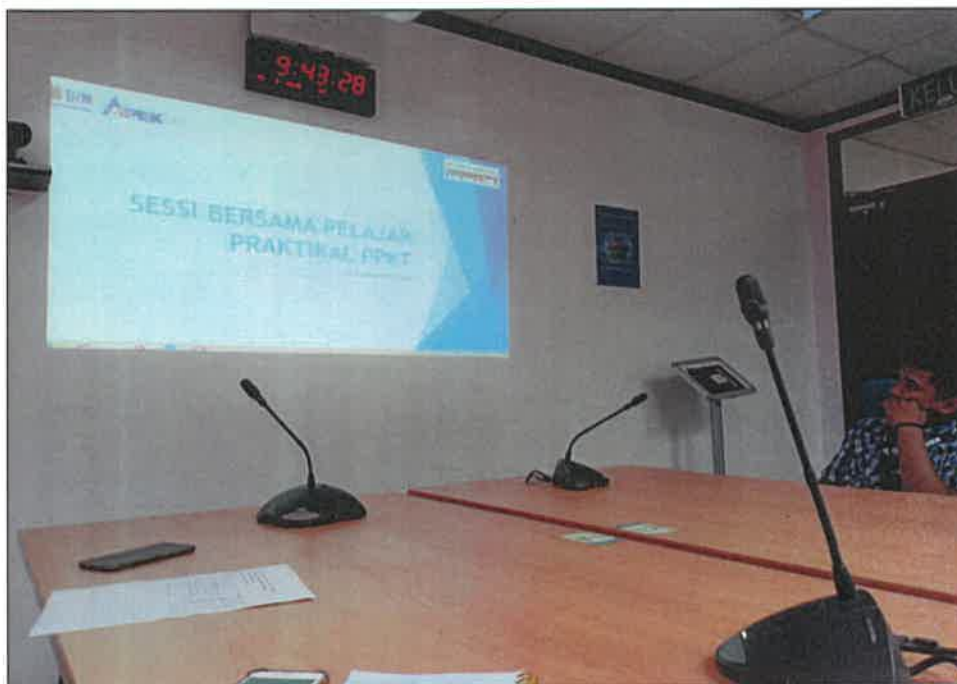
n) The index interface created after using GitHub as a workgroup platform in developing system



Appendix 48: The interface of the index that was used during GitHub Basic Workshop

3.1.5 Enrolled an orientation session

3.1.5.1 Orientation session with an application section



Appendix 49: 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 50: Orientation session about the technician support section by Mr. Azahari Omar

3.1.5.3 Orientation session with infrastructure section



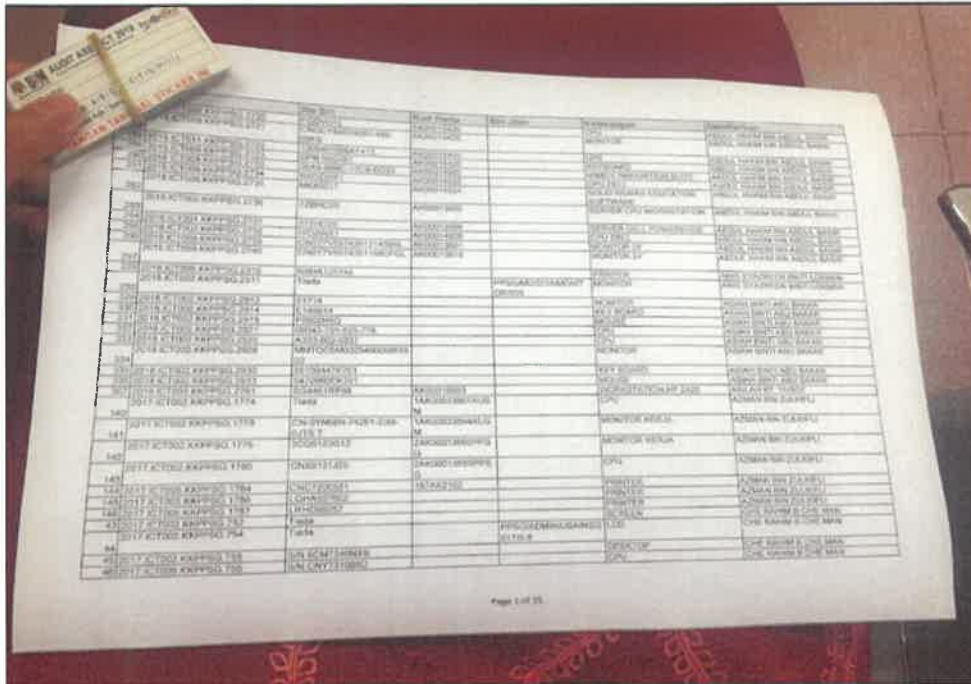
Appendix 51: An Introduction about infrastructure section by Mr. Md Darimi Yusof

3.1.5.4 Orientation session from the administration part



Appendix 52: A little bit sharing about the organization, attitude and behavioral in work environment by Head of Department (HOD) Mr. Hj Nik Nashron Ab Aziz

3.1.6 Involved in PC Auditing



The image shows a large printed table with multiple columns and rows, likely a checklist or data sheet for PC auditing. A small yellow sticky note is attached to the top left corner. The table contains various entries, possibly related to system components or audit findings. At the bottom center of the page, it says "Page 1 of 25".

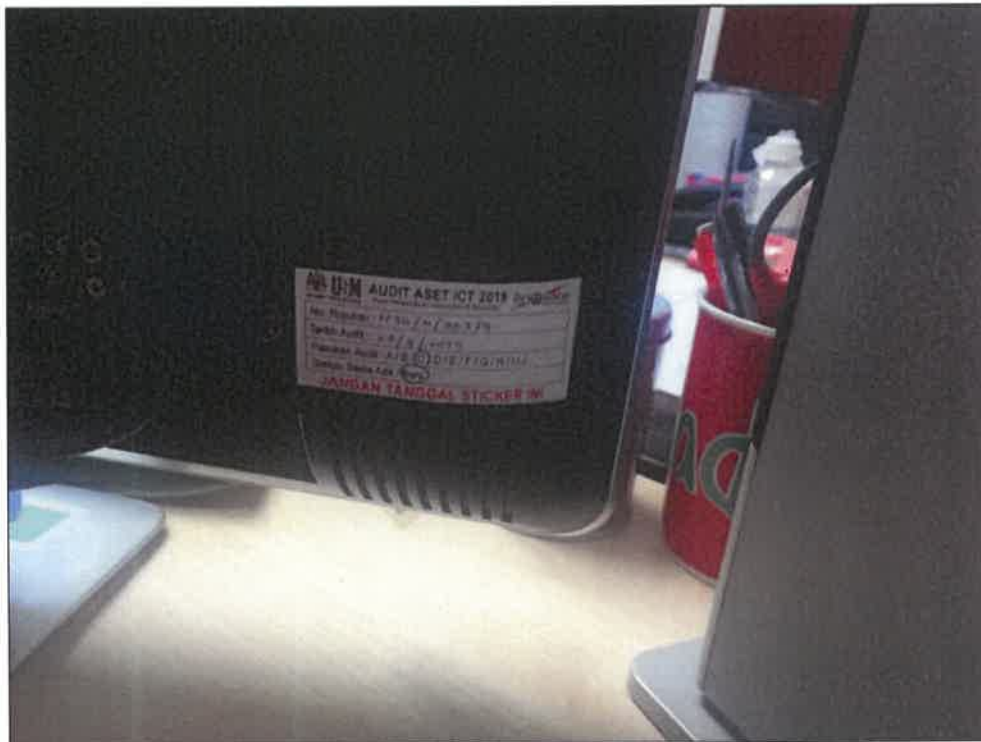
Appendix 53: The form & sticker that should bring during PC auditing session



Appendix 54: Mrs. Azlizawati Ab Latiff gave briefing to the trainee how to audit the PC



Appendix 55: An auditing sticker that need to be jot down for reference number, audit date, audit team & status of hardware



Appendix 56: The sticker needs to attach at the hardware of the PC to ensure that it had been checked by the team



Appendix 57: The trainee and the team partner were inserting the auditing data in Microsoft Excel



Appendix 58: The members of team C were discussing to divide the task based on the room given

3.1.7 Join knowledge sharing or storytelling program

3.1.7.1 Briefing program about data and Artificial Intelligence (AI)



Appendix 59: Knowledge session about AI that was presented by Mr. Fadzali Bakar

3.1.7.2 Sharing knowledge about Enterprise Architecture (EA)



Appendix 60: Knowledge sharing session by Mrs. Jamilah about Enterprise Architecture (EA)

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

3.1.7.3.1 Visited in meeting & conference room



Appendix 61: The live view on using conference room & introducing tool session



Appendix 62: The live view on using meeting room & introducing tool session



Appendix 63: Speaker tool that was used during meeting or conference session

3.1.7.3.2 Visiting telephonies unit



Appendix 64: Briefing session before visiting telephonies unit & PABX room



Appendix 65: Telephonies Unit



Appendix 66: The situation in telephonies unit

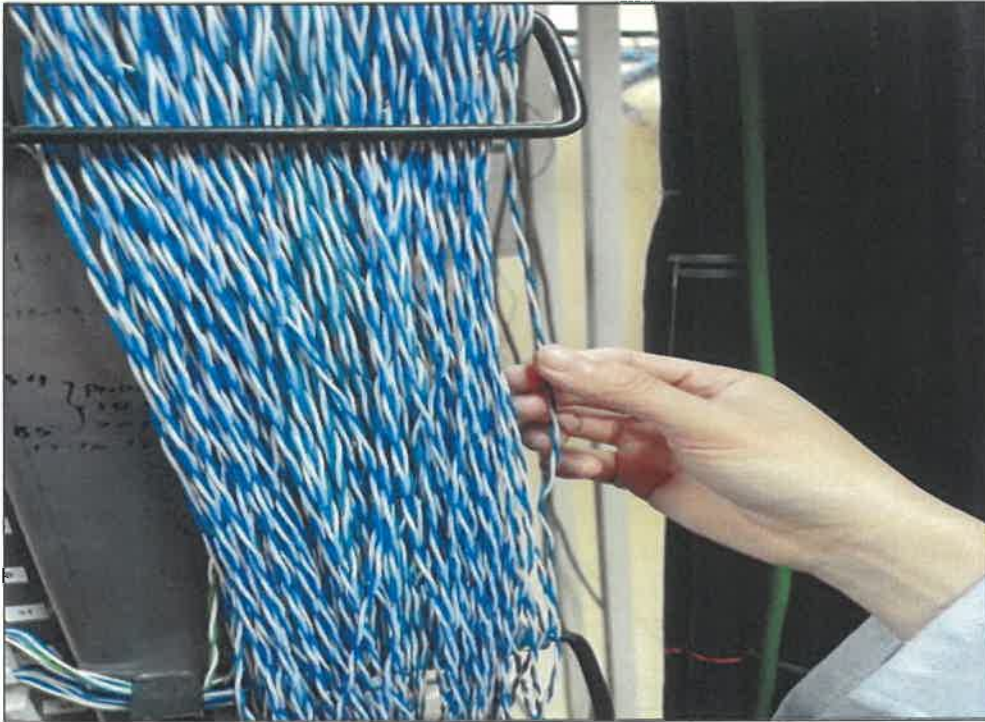
3.1.7.3.3 Visited Private Automatic Branch Exchange (PABX) room



Appendix 67: An entrance door of PABX room



Appendix 68: The wired rack that was connect with 3000 extension wired



Appendix 69: 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 70: Sharing knowledge session about Inventor Apps by Nik Muhammad Hazim and the Zatul Adaniah Bin Zahari

3.1.8 Supporting Event of USM

3.1.8.1 Religious Talk Program



Appendix 71: Religious talk Program with PU Muhammad Rozi

3.1.8.2 Hygiene campaign



Appendix 72: Hand Hygiene Week that was organised by USM's hospital

4.0 ATTENDENCES

SENARAI KEHADIRAN PELAJAR PRAKTIKAL**NAMA: Munirah Mohamad****NO PENGENALAN:**

Tarikh	StatusIN	StatusOUT
3/2/2019	10:13:21 AM	3/2/2019 17:04
4/2/2019	7:13:21 AM	4/2/2019 17:02
7/2/2019	7:13:59 AM	7/2/2019 16:45
10/2/2019	7:06:55 AM	10/2/2019 17:02
11/2/2019	7:06:15 AM	11/2/2019 17:05
12/2/2019	7:13:14 AM	12/2/2019 17:12
13/2/2019	7:26:03 AM	13/2/2019 16:58
14/2/2019	7:26:03 AM	14/2/2019 16:51
17/2/2019	7:55:49 AM	17/2/2019 16:58
18/2/2019	7:17:54 AM	18/2/2019 17:03
19/2/2019	7:37:37 AM	19/2/2019 17:03
20/2/2019	7:26:41 AM	20/2/2019 17:03
21/2/2019	7:20:24 AM	21/2/2019 16:54
24/2/2019	7:26:41 AM	24/2/2019 17:08
25/2/2019	7:44:33 AM	25/2/2019 17:03
26/2/2019	7:26:41 AM	26/2/2019 17:13
27/2/2019	7:32:52 AM	27/2/2019 17:05
28/2/2019	7:26:49 AM	28/2/2019 16:52
3/3/2019	7:32:00 AM	3/3/2019 17:07
4/3/2019	7:23:05 AM	4/3/2019 17:07
5/3/2019	7:20:02 AM	5/3/2019 17:10

6/3/2019	7:22:57 AM	6/3/2019 17:12
7/3/2019	7:20:02 AM	7/3/2019 17:07
10/3/2019	7:25:51 AM	10/3/2019 17:19
		10/3/2019 20:13
11/3/2019	7:44:10 AM	11/3/2019 17:10
12/3/2019	7:25:51 AM	12/3/2019 17:02
13/3/2019	7:29:59 AM	13/3/2019 17:05
14/3/2019	7:50:23 AM	14/3/2019 17:01
17/3/2019	7:27:28 AM	17/3/2019 17:04
18/3/2019	7:20:28 AM	18/3/2019 17:04
19/3/2019	7:34:10 AM	19/3/2019 17:02
20/3/2019	7:46:56 AM	20/3/2019 17:02
21/3/2019	7:34:10 AM	21/3/2019 17:02
24/3/2019	7:56:13 AM	24/3/2019 16:59
25/3/2019	7:24:22 AM	25/3/2019 16:59
26/3/2019	7:24:22 AM	26/3/2019 16:58
27/3/2019	7:32:17 AM	27/3/2019 17:01
28/3/2019	7:52:44 AM	28/3/2019 16:55
31/3/2019	7:44:29 AM	31/3/2019 16:58
1/4/2019	7:28:42 AM	1/4/2019 17:04
2/4/2019	7:44:29 AM	2/4/2019 17:02
4/4/2019	7:28:19 AM	4/4/2019 16:46
7/4/2019	7:48:38 AM	7/4/2019 16:59
8/4/2019	7:28:19 AM	8/4/2019 17:02

9/4/2019	7:30:53 AM	9/4/2019 17:01
10/4/2019	7:45:29 AM	10/4/2019 17:00
14/4/2019	7:48:13 AM	14/4/2019 16:59
15/4/2019	7:25:21 AM	15/4/2019 17:03
16/4/2019	7:48:13 AM	16/4/2019 17:01
17/4/2019	7:28:13 AM	17/4/2019 17:01
18/4/2019	7:51:28 AM	18/4/2019 17:04
		18/4/2019 17:04
21/4/2019	7:44:13 AM	21/4/2019 17:04
22/4/2019	7:25:44 AM	22/4/2019 17:02
23/4/2019	7:21:05 AM	23/4/2019 17:02
24/4/2019	7:29:29 AM	24/4/2019 17:12
25/4/2019	7:31:43 AM	25/4/2019 16:48
28/4/2019	7:41:12 AM	28/4/2019 17:00
29/4/2019	7:15:09 AM	29/4/2019 16:58
30/4/2019	7:29:47 AM	30/4/2019 16:58
2/5/2019	7:26:27 AM	2/5/2019 16:58
5/5/2019	7:29:29 AM	5/5/2019 16:57
6/5/2019	7:49:12 AM	6/5/2019 16:27
7/5/2019	7:20:12 AM	7/5/2019 16:30
8/5/2019	7:18:22 AM	8/5/2019 15:50
9/5/2019	7:14:21 AM	9/5/2019 15:35
12/5/2019	7:09:33 AM	12/5/2019 16:41
13/5/2019	7:15:01 AM	13/5/2019 16:31

14/5/2019	7:11:16 AM	14/5/2019 15:49
15/5/2019	7:15:25 AM	15/5/2019 15:55
16/5/2019	7:22:04 AM	16/5/2019 15:33
20/5/2019	7:18:00 AM	20/5/2019 16:04
21/5/2019	7:16:34 AM	21/5/2019 15:55
		21/5/2019 15:55
23/5/2019	7:13:45 AM	23/5/2019 15:39
26/5/2019	7:05:07 AM	26/5/2019 15:54
27/5/2019	7:17:20 AM	27/5/2019 15:53
28/5/2019	7:15:50 AM	28/5/2019 16:13
29/5/2019	7:26:33 AM	29/5/2019 15:49
30/5/2019	7:13:59 AM	30/5/2019 15:32
		2/6/2019 16:36
3/6/2019	7:13:17 AM	3/6/2019 15:51
4/6/2019	7:13:59 AM	4/6/2019 15:15
9/6/2019	7:32:54 AM	9/6/2019 17:26
10/6/2019	7:12:59 AM	10/6/2019 17:32
11/6/2019	7:13:57 AM	11/6/2019 17:08
12/6/2019	7:23:20 AM	12/6/2019 17:06
13/6/2019	7:33:43 AM	13/6/2019 17:26
16/6/2019	7:13:49 AM	16/6/2019 17:13
17/6/2019	7:33:19 AM	17/6/2019 17:04
18/6/2019	7:23:50 AM	18/6/2019 17:17
19/6/2019	7:13:00 AM	19/6/2019 17:08
20/6/2019	7:23:40 AM	20/6/2019 16:54

		20/6/2019 17:00
23/6/2019	7:20:53 AM	23/6/2019 17:14
24/6/2019	7:44:20 AM	24/6/2019 17:09
25/6/2019	7:50:53 AM	25/6/2019 17:14
25/6/2019	7:20:05 AM	25/6/2019 17:14
26/6/2019	7:13:19 AM	26/6/2019 17:02
27/6/2019	7:20:13 AM	27/6/2019 17:13
30/6/2019	7:30:14 AM	30/6/2019 17:10
30/6/2019	7:09:40 AM	30/6/2019 17:10
30/6/2019		30/6/2019 17:10



PUSAT PENGETAHUAN, KOMUNIKASI DAN TEKNOLOGI
CENTRE FOR KNOWLEDGE, COMMUNICATION AND TECHNOLOGY

BORANG PERMOHONAN CUTI PELAJAR LATIHAN INDUSTRI

1. Nama Pelajar: Muhammad Bilal Mohd Yusoff
2. Nama IPT: UNIVERSITI TEKNOLOGI MARA (UTM) KUALA SELANGOR, MALAYSIA
3. Alamat semasa berikut: 17, Jalan Duta, Kuala Lumpur, Malaysia
4. No. Telefon: 013 3152378
5. Tarikh bercuti: 4/5/2019 Jumlah hari: 1
6. Alasan: Perayaan Hari Raya Aidilfitri

Tandatangan Pelajar: 

Tarikh: 11/5/2019

UNTUK KEGUNAAN PEJABAT:

Permohonan: Diperakukan
 Tidak Diperakukan

Tandatangan Pehyala: 

Tarikh: 29/5/2019

Nama & Cop:

5.0 SLIDE PRESENTATION



UNIVERSITI SAINS MALAYSIA (USM) HEALTH CAMPUS


PREPARED BY: MUNIRAH MOHAMAD
2016524083



INTERSHIP TRAINING PRESENTATION

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

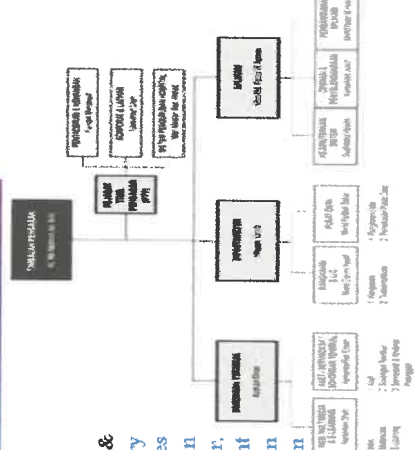
Mission

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




BACKGROUND 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



INDUSTRIAL TRAINING ACTIVITIES

Learn the Process of How to Dispose of a Monitor as an Organization Asset

INDUSTRIAL TRAINING ACTIVITIES

Join an Organized Workshop



Ionic Workshop



CodeIgniter Workshop



GitHub Workshop

INDUSTRIAL TRAINING ACTIVITIES

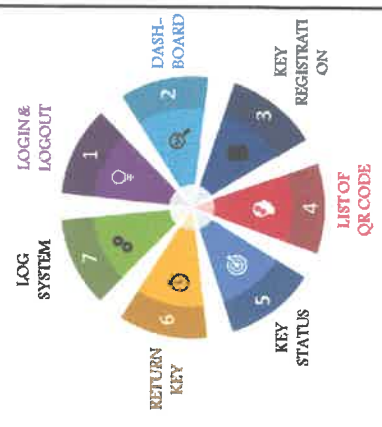
Involved in PC Auditing

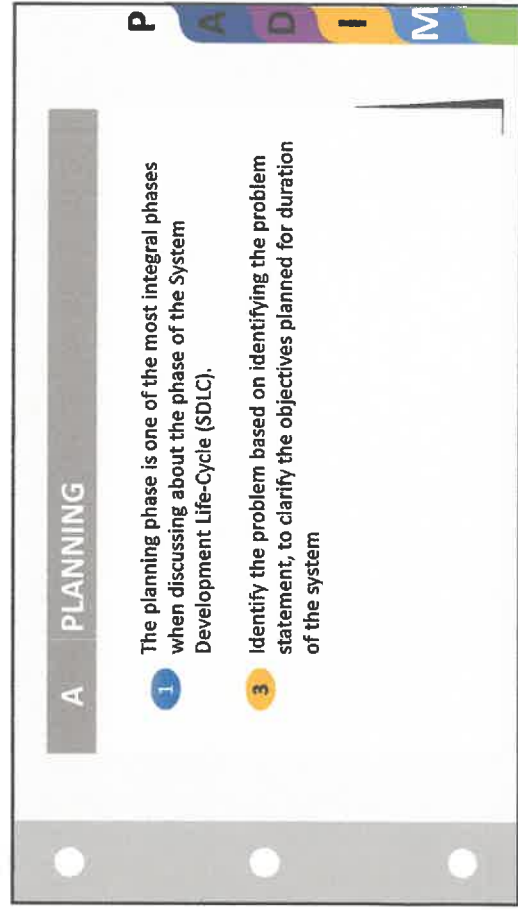
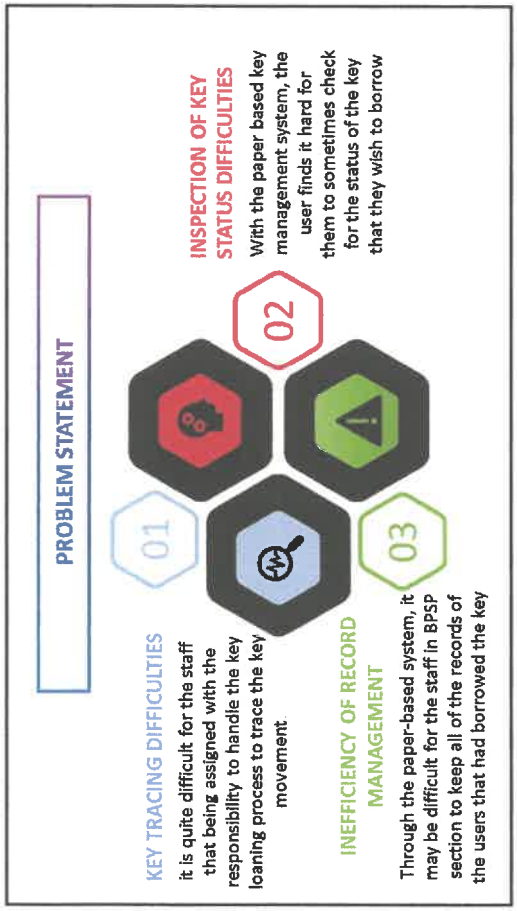


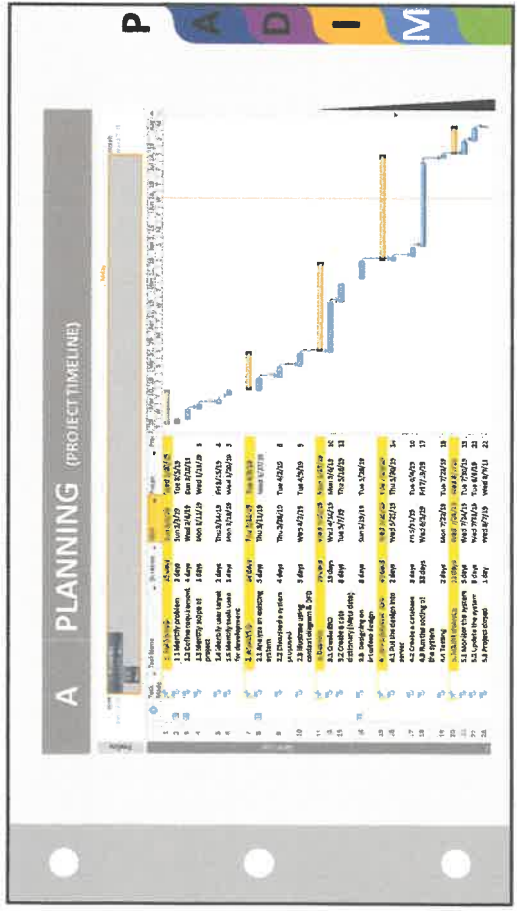
SPECIAL PROJECT

PROJECT OVERVIEW

- Key Management System is a system that facilitate the key loan process for the fellow staff and students in this organization.
- This system was created in order to make the user to be easier for them to trace and trace the status of the key in the "Blok Pembelajaran & Sumber Pelajar" (BFSP) or known as Student's learning and Resource Block







B ANALYSIS

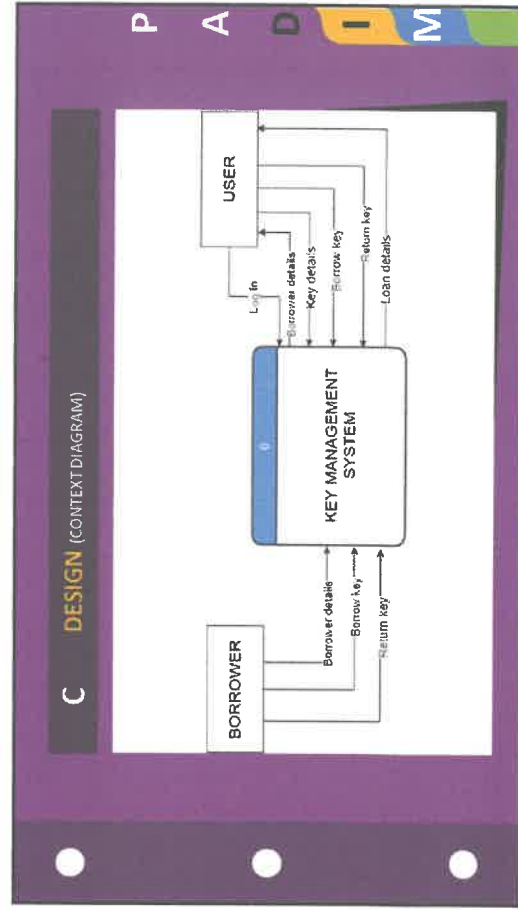
1 INTERVIEW

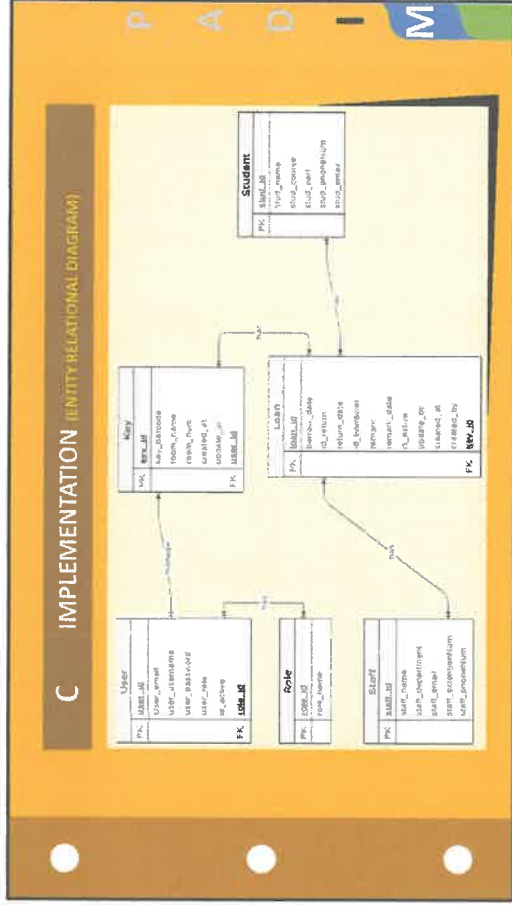
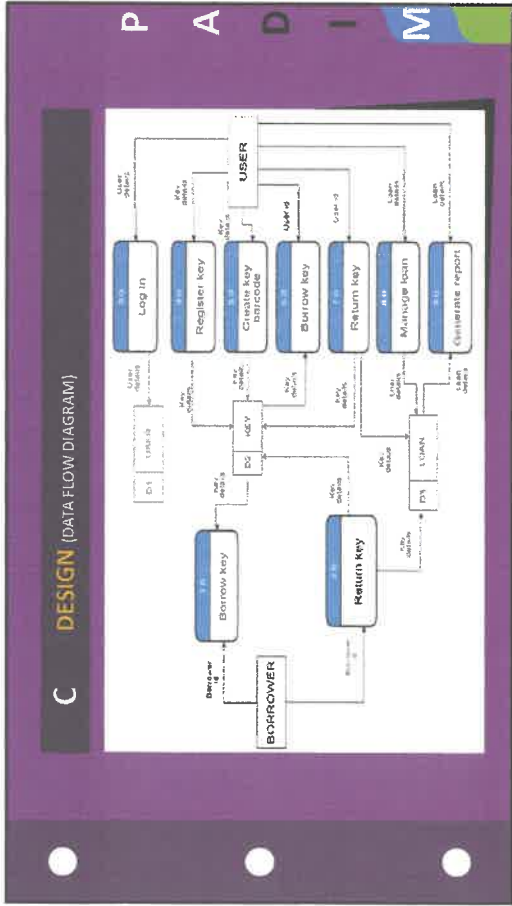
- **Staff BPSP** : The features that may be added into the systems
- **Student** : To inquire them regarding their acceptance towards the availability of this system

B ANALYSIS

REQUIREMENT OF HARDWARE AND SOFTWARE THAT USED IN SYSTEM

- 1 **MySQL** is an open source Relational Database Management System (RDBMS) which based on Structured Query Language (SQL)
- 2 **Sublime** It supports most of the programming languages and markup languages
- 3 **Xampp** is a powerful platform because it possesses the ability to serve the web pages on the World Wide Web.
- 4 **CodeIgniter** is an open source software rapid development web framework, which used for the building of dynamic functional web sites using the PHP
- 5 **Git Hub** is a development platform to increase the efficiency and effectiveness over a developer's work or task





C IMPLEMENTATION (DATA DICTIONARY (in english))

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	key_id	int(11)			Yes	None		AUTO_INCREMENT
2	room_num	varchar(255)	latin1_swedish_ci		No	None		
3	room_name	varchar(255)	latin1_swedish_ci		No	None		
4	imageer	varchar(200)	latin1_swedish_ci		No	None		
5	imagebc	varchar(200)	latin1_swedish_ci		No	None		
6	level	int(11)			No	None		
7	is_borrow	tinyint(4)			No	0	1=0=borrow; 0=not borrow	
8	is_active	tinyint(4)			No	1	1=akti 0=not akti	
9	created_at	datetime			No	None		
10	created_by	varchar(20)	latin1_swedish_ci		Yes	NULL		
11	updated_at	datetime			Yes	NULL		
12	admin_id	varchar(20)	latin1_swedish_ci		No	None		

C IMPLEMENTATION (DATA DICTIONARY (in english))

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	loan_id	int(11)			No	None		AUTO_INCREMENT
2	borrow_date	datetime			No	None		
3	id_borrower	varchar(255)	latin1_swedish_ci		No	None		
4	imageer	varchar(20)	latin1_swedish_ci		No	None		
5	return_date	datetime			No	None		
6	id_return	varchar(255)	latin1_swedish_ci		No	None		
7	remark	varchar(255)	latin1_swedish_ci		No	None		
8	remark_data	data			Yes	NULL		
9	remark_date	datetime			No	None		
10	is_active	tinyint(4)			No	None		
11	created_by	varchar(255)	latin1_swedish_ci		No	None		
12	key_id	int(11)			No	None		
13	created_at	datetime			Yes	NULL		
14	update_at	datetime			Yes	NULL		

C IMPLEMENTATION (DATA DICTIONARY: (In Identity))

#	Name	Type	Collation	Nullable	Default	Comments	Extra
1	id	int(11)		No			AUTO_INCREMENT
2	email	varchar(255)	latin1_swedish_ci	Yes			NULL
3	password	varchar(255)	latin1_swedish_ci	Yes			NULL
4	first_name	varchar(255)	latin1_swedish_ci	Yes			NULL
5	last_name	varchar(255)	latin1_swedish_ci	Yes			NULL
6	phone	varchar(255)	latin1_swedish_ci	Yes			NULL
7	gender	enum		Yes			NULL
8	status	enum		Yes			NULL
9	role	enum		Yes			NULL
10	created_at	timestamp		Yes			NULL
11	updated_at	timestamp		Yes			NULL
12	deleted_at	timestamp		Yes			NULL
13	deleted	boolean		Yes			NULL
14	deleted_at	timestamp		Yes			NULL
15	deleted_at	timestamp		Yes			NULL
16	deleted_at	timestamp		Yes			NULL
17	deleted_at	timestamp		Yes			NULL
18	deleted_at	timestamp		Yes			NULL
19	deleted_at	timestamp		Yes			NULL
20	deleted_at	timestamp		Yes			NULL
21	deleted_at	timestamp		Yes			NULL

C IMPLEMENTATION (LOGIN INTERFACE)

The screenshot shows a login form with the following fields:

- Username:
- Password:
- Remember Me:
- Forgot Password: [Forgot Password](#)
- Log In:

C IMPLEMENTATION (DASHBOARD INTERFACE)

The dashboard displays the following metrics:

- Participatory: 13
- BorrowerKey: 0
- Key Mail Bearer: 2

C IMPLEMENTATION (DASHBOARD INTERFACE)

The screenshot shows a table with the following data:

No	PIN	NAME	KEY MAIL
1	12345678	admin	1
2	12345678	admin	1
3	12345678	admin	1
4	12345678	admin	1
5	12345678	admin	1
6	12345678	admin	1
7	12345678	admin	1
8	12345678	admin	1
9	12345678	admin	1
10	12345678	admin	1
11	12345678	admin	1
12	12345678	admin	1
13	12345678	admin	1



C IMPLEMENTATION (REGISTER KEY INTERFACE)

Dashboard

Register Key

Name: []

Description: []

Level: []

Register

C IMPLEMENTATION (LIST OF INTERFACE)

Name	Description	Level	Register
RT01	RT01-01	1	RT01-01
RT02	RT02-01	1	RT02-01
RT03	RT03-01	1	RT03-01
RT04	RT04-01	1	RT04-01
RT05	RT05-01	1	RT05-01
RT06	RT06-01	1	RT06-01
RT07	RT07-01	1	RT07-01
RT08	RT08-01	1	RT08-01
RT09	RT09-01	1	RT09-01
RT10	RT10-01	1	RT10-01

C IMPLEMENTATION (LIST OF BARCODE INTERFACE)

Name	Description	Level	Register
RT01	RT01-01	1	RT01-01
RT02	RT02-01	1	RT02-01
RT03	RT03-01	1	RT03-01
RT04	RT04-01	1	RT04-01

C IMPLEMENTATION (LIST OF KEY INTERFACE)

Name	Description	Level	Register
RT01	RT01-01	1	RT01-01
RT02	RT02-01	1	RT02-01
RT03	RT03-01	1	RT03-01
RT04	RT04-01	1	RT04-01
RT05	RT05-01	1	RT05-01
RT06	RT06-01	1	RT06-01
RT07	RT07-01	1	RT07-01
RT08	RT08-01	1	RT08-01
RT09	RT09-01	1	RT09-01
RT10	RT10-01	1	RT10-01

C IMPLEMENTATION (AVAILABLE KEY INTERFACE)

ID	Name	Brand Name	Lead	Qty
1	BNC	BNC-01	1	10
2	BPS	BPS-001A	1	10
3	CCC	BNC-01	1	10
4	CCC	BNC-01	1	10
5	CCC	BNC-01	1	10
6	CCC	BNC-01	1	10
7	CCC	BNC-01	1	10
8	CCC	BNC-01	1	10
9	CCC	BNC-01	1	10
10	CCC	BNC-01	1	10
11	CCC	BNC-01	1	10
12	CCC	BNC-01	1	10
13	CCC	BNC-01	1	10
14	CCC	BNC-01	1	10
15	CCC	BNC-01	1	10
16	CCC	BNC-01	1	10
17	CCC	BNC-01	1	10
18	CCC	BNC-01	1	10
19	CCC	BNC-01	1	10
20	CCC	BNC-01	1	10
21	CCC	BNC-01	1	10
22	CCC	BNC-01	1	10
23	CCC	BNC-01	1	10
24	CCC	BNC-01	1	10
25	CCC	BNC-01	1	10
26	CCC	BNC-01	1	10
27	CCC	BNC-01	1	10
28	CCC	BNC-01	1	10
29	CCC	BNC-01	1	10
30	CCC	BNC-01	1	10

C IMPLEMENTATION (AVAILABLE KEY INTERFACE)

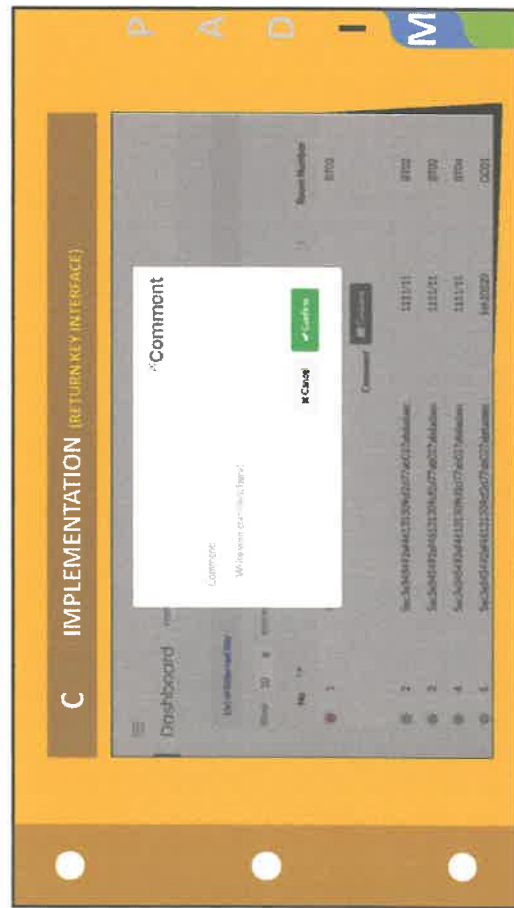
Borrower: []
 Key ID: []
 Borrow: []

C IMPLEMENTATION (AVAILABLE KEY INTERFACE)

ID	Name	Brand Name	Qty	Qty
1	BNC	BNC-01	1	10
2	BPS	BPS-001A	1	10
3	CCC	BNC-01	1	10
4	CCC	BNC-01	1	10
5	CCC	BNC-01	1	10
6	CCC	BNC-01	1	10
7	CCC	BNC-01	1	10
8	CCC	BNC-01	1	10
9	CCC	BNC-01	1	10
10	CCC	BNC-01	1	10
11	CCC	BNC-01	1	10
12	CCC	BNC-01	1	10
13	CCC	BNC-01	1	10
14	CCC	BNC-01	1	10
15	CCC	BNC-01	1	10
16	CCC	BNC-01	1	10
17	CCC	BNC-01	1	10
18	CCC	BNC-01	1	10
19	CCC	BNC-01	1	10
20	CCC	BNC-01	1	10
21	CCC	BNC-01	1	10
22	CCC	BNC-01	1	10
23	CCC	BNC-01	1	10
24	CCC	BNC-01	1	10
25	CCC	BNC-01	1	10
26	CCC	BNC-01	1	10
27	CCC	BNC-01	1	10
28	CCC	BNC-01	1	10
29	CCC	BNC-01	1	10
30	CCC	BNC-01	1	10

C IMPLEMENTATION (AVAILABLE KEY INTERFACE)

Borrower: []
 Key ID: []
 Borrow: []



P A D I M

D MAINTENANCE

The trainee not involve with the process of maintenance at all because the trainee only responsible to develop the system and connecting it to the server

APPLICATION OF KNOWLEDGE

KNOWLEDGE APPLIED	COURSES
System Development	Introduction of Web Content Management & Design (IMD311) Advanced Web Design and Content Management (IMS607) System Analysis in Information Management 1 (IMS606) System Analysis in Information Management 2 (IMS655)
Communication Skills/interpersonal skills	Communication Skills for Information Professionals (IMD121) Information System Interaction and Consultation (IMS556)
Maintenance of the PC	Technical Support and Maintenance for Information Agencies
Multimedia	Electronic Publishing (IMD214) Multimedia for Information Presentation (IMD226)

LIMITATION & RECOMMENDATION

Specific planning schedule is not being prepared

Step 01

Provide planning schedule about trainee functions

Lack of facilities

Step 02

Provide the facilities

CONCLUSION

Internship training is a beneficial training for the student that can undergo for the working environment. Based on this training session, it will gained the experience for the student to apply in workplace later on. In addition, it also can teach the student to implement the positive moral and attitude that can apply during the working environment

