ATTENDANCE LIST FOR MAAHAD AHMADI STUDENT WITH RFID

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This report is submitted in partial fulfillment of the requirements for the Bachelor of Computer Science [Software Development]

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DEDICATION

First and foremost, I would like to say my gratitude towards both of my parents who have supported me thorough my degree life. Second, all my friends who have been with me from first day and last day of university.

Both to my supervisor, Puan Nor Hafeizah Bt. Hassan, who have guided me to finish my final year project and Maahad Ahmadi, Gemencheh who have given opportunity and trust for me to do this project.

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Even though I done this project alone, I know that it would be impossible without the encouragement from individuals and organization. I would like to say my profound thank you to all of them.

To my supervisor, Puan Nor Hafeizah Bt. Hassan . I'm truly grateful for their continuous advice and help giving information regarding of finishing the project.

Thank you so much to them.

ABSTRACT

ATTENDANCE LIST FOR MAAHAD AHMADI STUDENT WITH RFID is a system that developed for boarding school that need to keep track of their student attendance. It helps them to stored student data and warden data. Moreover, its also help admin to manage the schedule of event efficiently and systematically. The system is focused on two type of user which are warden and students. At first, admin will register and store the personal data of the warden in the system. The system will also assist warden in providing information regarding the attendance of student by viewing the time to see whether they are late or not. Other than that, warden can also insert and view the new schedule event. This system also can email a warning letter to parents whom are late more than three times. Warden can also easily update student's personal data without having the admin to do so. Registering student will be handled by warden and provide them with an RFID card that has their unique number. Parents can also view their children late time and schedule by using the website provided.

ABSTRAK

ATTENDANCE LIST FOR MAAHAD AHMADI STUDENT WITH RFID adalah sistem yang dibangunkan untuk sekolah berasrama yang ingin mempunyai rekod kehadiran pelajar . Ia membantu dalam menyimpan data pelajar dan data warden. Selain itu, ia juga membantu admin untuk menguruskan jadual secara cekap dan sistematik. Sistem ini fokus kepada dua jenis pengguna iaitu warden dan juga pelajar. Pada permulaan, admin akan mendaftarkan dan menyimpan data peribadi warden dalam sistem. Sistem ini juga akan membantu warden dalam mendapatkan maklumat kehadiran pelajar dengan merujuk kepada masa keluar dan masuk pada setiap aktiviti. Selain itu, warden juga boleh menambah dan melihat aktivit jadual baru. Sistem ini juga boleh menghantar e-mel iaitu, surat amaran kepada ibu bapa mengenai pelajar yang terlambat lebih daripada tiga kali. Warden juga boleh mengemas kini data peribadi pelajar dengan mudah tanpa perlu melakukan admin. Pendaftaran pelajar akan dikendalikan oleh warden dan memberi mereka kad RFID yang mempunyai nombor unik mereka. Ibu bapa juga boleh melihat kehadiran anak mereka dan jadual dengan menggunakan laman web yang disediakan.

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RFID	-	Radio Frequency Identification

CHAPTER I

INTRODUCTION

1.1 Introduction

Attendance List for Maahad Ahmadi Student with RFID is the system that enable warden to manage their student data, check-ins and check-out for outing and overnight. Meanwhile the boarding school is using manual attendance procedures which write down their details and have warden signature before overnight or outing. With this system it will make it more efficient, effective and save time. Other than that, warden also can keep track their student attendance history and if the student come back late more than 3 times. It will notify the warden to give a warning letter. It also provide monthly attendance percentage.

The objectives of this project is to develop a device to replace manually system with using Radio frequency identification (RFID). The proposed

system will keep track and monitor student check-ins and check-outs during their outing and overnight..

Waterfall Model methodology approach is being choosed as System Development Life Cycle(SDLC) approach. With using this approach , effective misscommunication between client and developers since there is meeting or having feedback from client to make them satisfied with our system.

1.2 Problem Statement

i) Used manual attendance record book
   a. Student should write details and have warden's signature before going back and probability to lost attendance record book is higher.

ii) Wastage food
   a. Number student outing and overnight will be print out for canteen staff for food preparation to avoid wastage food.

iii) Difficult for warden to keep track student's attendance
   a. Warden cant find any record of late student comeback because data can be missing or lost.

1.3 Objective

i) To develop and design a web application for boarding school
   a. The system will help warden to manage and keep track student attendance and facilitate student to sign up their attendance by using Radio frequency identification(RFID).

ii) To keep track student attendance
   a. The system can simplify for warden to keep track student attendance and can reduce time for warden to find student's who come back late

iii) To notify the warden
   a. The system can generate report if a student come back late more than 3 times and also can notify warden.

1.4 Scope

Admin

i. Login into the system
ii. Update student, teacher and attendance status
iii. Add new student , warden and attendance status
iv. View student, teacher and attendance status

Warden

i. The warden can login into the system
ii. The warden can view their own data
iii. If the attendance of student that come late for 3 times and it will pop out notification and also can print out that report

1.5 Project Significance

Attendance List for Maahad Ahmadi Student with RFID is a system that have 3 types of user which is admin, warden and students. Each of them have different types and special rights or prvilege. This system will help warden to monitor student attendance and also can save their time and energy. This system is built to make process more effeciently and effective if compare with manual system.

i. Facilitate information of attendance to be stored .
ii. Facilitate the teacher to monitor number of student who come back late more than 3 times.

1.6 Expected Output

The proposed system have more benefits and advantage that can have by the user.For example it will minimize time and energy while monitor and manage student attendance. With using Hostel Attendance List for Maahad Ahmadi Student with RFID it ease of use, to save time of warden'work and to increase security. Beside that, this system is using Radio frequency identification(RFID) to taking student attendance will be main objective.

1.7 Conclusion

We can summarize this chapter discuss about problem occured in this system. This system will provide the user the way to overcome their problem

CHAPTER II

LITERATURE REVIEW AND METHODOLOGY

2.1. Introduction

In the second chapter will be discuss about details of project that related to literature review and project methodology. It will be focus on facts and finding, methodology of project, requirement of project, schedule of project and milestones.

2.2. Facts and findings

2.2.1. Domain

Main part of this plan is directly on the Attendance List for Ahmad Ahmadi Student with RFID and web based as a platform. Radio-Frequency Identification(RFID) history is "RFID is a combination of radar and radio broadcast technology. Radar was developed in the U.S. in the 1920s." (Scanlon, 2003). Next, Radio-Frequency Identification (RFID) is apply to this system is because the high chance to lose the manual book of attendance and warden can be very remiss of their duty since the data is a lot.

2.2.2. Existing System

This section will discuss about the present system that used by Maahad Ahmadi Boarding School to keep their student attendance in a right way and also can minimize the absence of student to class.

i. ***Outing Book Maahad Ahmadi Boarding School* (Manual way)**

Outing Book Ahmad Ahmadi Boarding School is an existing system that use to record system attendance of student. This system was be used if student outing or overnight. Students should insert their details manually and leave the outing book at the security guard post. If the student come back they should insert the return time at the outing book and for those who come back late, their name will be taken to report to the warden that on duty. This book is holding student data for 5 years.

Figure 2.1: Outing Book for Maahad Ahmadi Boarding School

ii. University Attendance System

University Attendance System is have been use to university for lecturer to get student's attendance.This method is use to replace the old method which is take the attendance using paper and lecturer need to spend a lot of time to dig out the information that they want. The students data will recorded in database and is using centralized server, which the administrator can get any information from anywhere

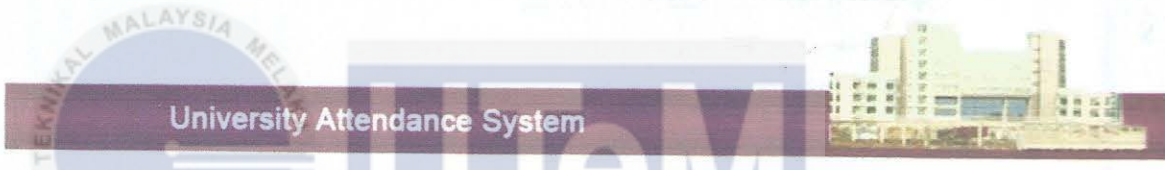

Figure 2.2: Header for University Attendance System

2.2.3. Technique

The method to get information from Maahad Ahmadi Boarding School is:

a. Interview

This session was conducted by interview the warden and several students to understand about their needs about previous system. The benefits of using this method is can get better requirement needed by them and also can develop relationship and trust with client.

2.3. Project Methodology

This project will use System Development Life Cycle (SDLC) which is waterfall model. It is a classic way to the life cycle in developing a system. This project methodology explains a development approach that is linear and sequential. It is very simple to use and understand. Besides that, each phases of development must be completed and then proceed to another phases. There is no turning back and overlapping phase. Its work for smaller project since focusing to Maahad Ahmadi Boarding School.

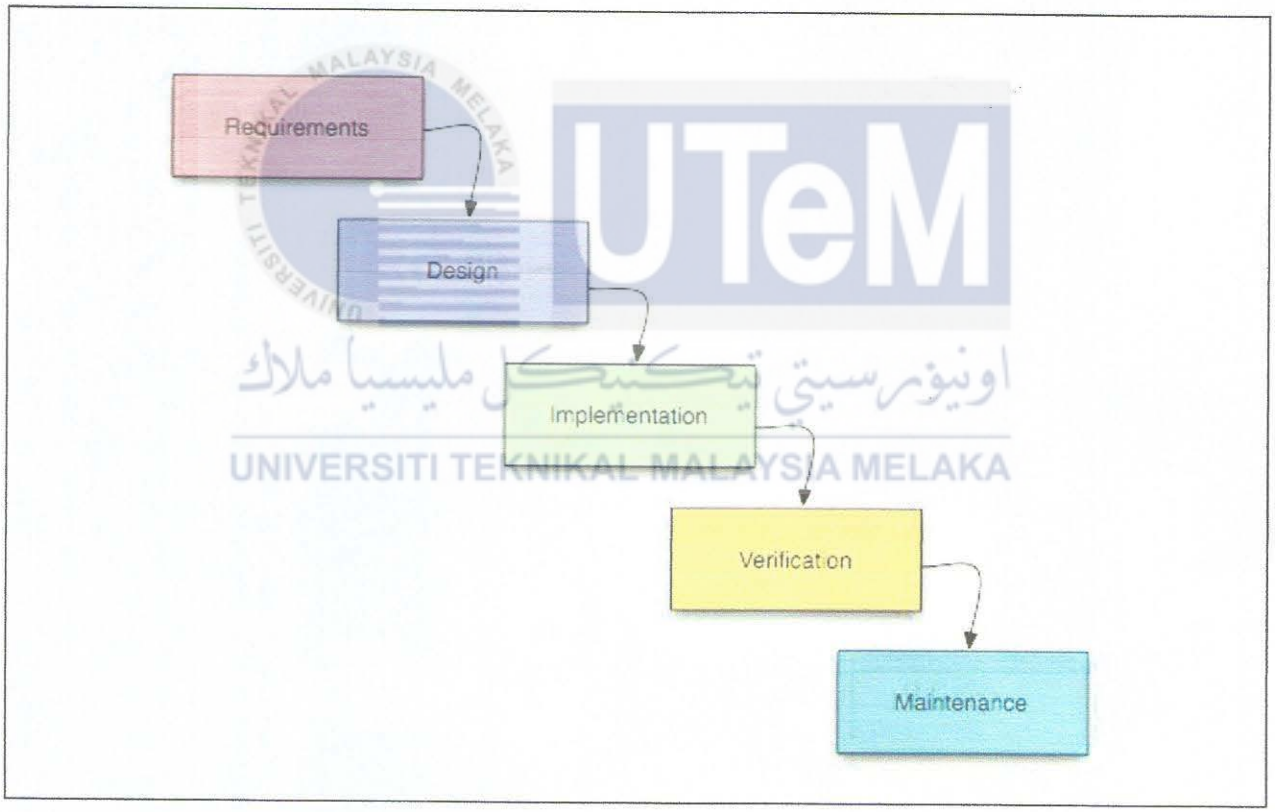

Figure 2.3: Waterfall Methodology

2.3.1 Requirement

In this early phase, the process of identifying a problem and capture all the requirement is needed to get the objective of this system. Furthermore, by doing brainstorming and walkthrough the current system its can define and priorities of the user requirement. Requirement of client can be collected through traditional methods which are questionnaire, interview observation and documentation to student and warden.

2.3.2 Design

Design phase is used to describe in more details about how the system will operate. Its include the hardware, software, design interface, design database, design program and others. The aim of design phase is to create a complete plan for implementing in next phases.

2.3.3 Implementation

This implementation phase is concerned about the functionality of the system. The software needed is xampp and notepad++. In this phase, the builders will combine the design of interface, database and code. For example, the builders will make a form for registration student and if there is something missing it will notify the user; which is they is not fill in the form completely. Towards the later stages of this implementation phase, system components produced by teams are integrated.

2.3.4 Verification

After implementation phases is completed, the Attendance List for Maahad Ahmadi Student with RFID system is test and debug to find any database error or interfaces error, any faults find in earlier phases will be

removed and fix it. For example, developers is create a form to register student, meanwhile there is error while register. The developers will record the error and will modify it.

2.3.5 Maintenance

In this phase, the system is fully integrated and installed within school. A schedule of maintenance of hardware and software is create to ensure the system is continues to work as designed. Training the workers of school is continue during this phase to introduce the new features and give the guidelines to be followed.

2.4. Project Requirement

2.4.1. Software Requirement

For develop this system, there are several software are use which is to be explain in Table 2.1:

Software	Description
Notepad ++	Use as platform to write a coding
Microsoft Visio 2007	Use as platform to draw diagram such as DFD and ERD diagram
Adobe Photoshop CS6	Use as platform to customize image
Adobe Illustrator CS6	Use as platform to make poster
Microsoft Office 2013	Use as platform to write documentation
Microsoft Excel 2013	Use as platform to store data
XAMPP Server V 3.2.1	Use as platform to run the project
PHPMyAdmin	Use as platform to create database and store data

Table 2.1: List of Software Uses for develops this Web Application.

2.4.2. Hardware Requirement

For develop this system, there are several hardware used which is to be explained in Table 2.2:

Hardware	Applicable
Laptop	Yes
Printer	Yes
Arduino Uno R3 with ATmega328P CH340g	Yes
Handheld RFID ID CARD Copier Reader Writer	Yes

Table 2.2: List of Hardware Uses for develops this Web Application

2.5. Project Schedule and Milestones

2.5.1. Project Schedules

Task Name	Duration	Start	Finish
Fully Web Based Integrated Faculty Industrial Training Administration web application (PSM 1)	**86 days**	**Mon 5/2/18**	**Fri 27/5/18**
Proposal	**14 days**	**Mon 5/2/18**	**Sun 18/2/18**
Introduction	**10 days**	**Mon 19/2/18**	**Sun 28/2/18**
Introduction	1 day	Mon 19/2/18	Mon 19/2/18
Executive Summary	1 day	Tue 20/2/18	Tue 20/2/18
Define problem statement	2 days	Wed 21/2/18	Thu 22/2/18

Define objective, scope and significance	3 days	Fri 23/2/18	Sun 25/2/18
Define software and hardware	2 days	Mon 26/2/18	Tue 27/2/18
Conclusion	1 days	Wed 28/2/18	Wed 28/2/18
Literature Review and Methodology	**12 days**	**Mon 5/3/18**	**Fri 16/3/18**
Define facts and findings	2 days	Mon 5/3/18	Tue 6/3/18
Analysis project methodology	2 days	Wed 7/3/18	Thu 8/3/18
Define project requirement	2 days	Fri 9/3/18	Sat 10/3/18
Analysis Project	2 days	Sun 11/3/18	Mon 12/3/18
Define problem analysis	2 days	Tue 13/3/18	Wed 14/3/18
Define requirement analysis	2 days	Thu 15/3/18	Fri 16/3/18
Design Project	**7 days**	**Mon 19/3/18**	**Sun 25/3/18**
High level design	2 days	Mon 19/3/18	Tue 20/3/18
System architecture	2 days	Wed 21/2/18	Thu 22/3/18
Software design	2 days	Fri 23/3/18	Sat 24/3/18
Physical database design	1 days	Sun 25/3/18	Sun 25/3/19
Implementation	**14 days**	**Mon 2/4/18**	**Sun 15/4/18**
Software development environment	9 days	Mon 2/4/18	Tue 10/4/18
Software configuration management	3 days	Wed 11/4/18	Fri 13/4/18
Implementation status	2 days	Sat 14/4/17	Sun 15/4/18
Project Demonstration 1	**1 day**	**Mon 16/4/18**	**Mon 16/4/18**
Testing	**13 days**	**Tue 17/4/18**	**Sun 29/4/18**
Test plan	6 days	Tue 17/4/18	Sun 22/4/18
Test strategy	2 days	Mon 23/4/18	Tue 24/4/18
Test Design	3 days	Wed 25/4/18	Fri 27/4/18
Test result and analysis	2 days	Sat 28/4/18	Sun 29/4/18

Project Conclusion	**2 days**	**Mon 30/4/18**	**Tue 1/5/18**
Observation weakness and strengths	**2 days**	**Thu 3/5/18**	**Fri 4/5/18**
Propositions of improvement and contribution	**3 days**	**Mon 7/5/18**	**Wed 9/5/18**
Project Demonstration 2	**1 day**	**Wed 16/5/18**	**Wed 16/5/18**
End Product and Submit Final Report	**7 days**	**Mon 19/5/18**	**Sun 27/5/18**

Table 2.3: Project Schedule tables

2.5.2. Milestones

Month/Week / Task	February		March				April				May				June	
	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16
Planning																
Analysis																
Design																
Implementation																
Report																
Presentation																
Submit																

Table 2.4 show the milestones table for development.

2.6. Conclusion

The summary of this chapter is discussing the literature review of the system which is existing system attendance and the methodology. Waterfall model approach is used to develop this system since it's easy to understand and ease to use.

Fully analysis of Attendance List for Maahad Ahmadi Student with RFID web application in more details in the next division.

CHAPTER III

LITERATURE REVIEW AND METHODOLOGY

3.1. Introduction

In analysis part, will discuss about the analysis issues between existing system and also about requirement analysis for the new system. In this analysis phase, the process of identify the problem and capture all the requirement needed of existing system and it will be improved.

Its begin with describe the challengers and scenario that faced by Maahad Ahmadi Boarding School. Its provide several diagrams to show the progress of the new system. This part will be review among functional requirement, non-functional requirement and another requirement.

3.2. Problem Analysis

Objective of this division is to identify and recognize the issues before develop the system. Manual file system that have been used is a handwritten on paper. There is many disadvantages if using this manual file system. Below is the difficulties that have been through by student and management:

i. **Warden cant find any record of late student comeback because logbook can be lost or damage.**
   To find any record or data of late student comeback consume more time and energy because they to check and filter manually.

ii. **To avoid wastage food if student outing or overnight.**
   Total number of student that go to outing and overnight is not accurate and will increase the food waste.

iii. **Student has to write their details on the logbook at the guardhouse before go home.**
   Every student have to do this procedure if going back. The probability of logbook missing or damage is higher. This system provide a simple procedure that can be followed by student. They only should wave their id card to the sensor before and after going back.

3.2.1. Overview of Current Manual System

Existing system that have been used is manual attendance procedures which write down their details and leave the outing book at the security guard cottage before going overnight or outing. If parents want to bring their children going home they should prepare a permission letter and should be approve by warden that on duty.

3.2.2. Overview of Proposed System

In Maahad Ahmadi Boarding School is using manual system and as improvement in technology, there are changes will be happen with Radio Frequency Identification (RFID). By developing Attendance List for Maahad Ahmadi Student with RFID it can minimize time and energy in manage student attendance.

This system can manage student and warden details, display time in and out for student and notify the warden. Furthermore, this system can be accessed by admin and warden that have been assigned. They also can register student through the web application and student can register themselves by swiping the Radio Frequency Identification (RFID) that have been provided. This web application will help everyone that involved.

3.3. Requirement Analysis

In this section will describe in term of requirement of data needed by the system.

3.3.1. Data Dictionary

This section will defines the positioned of data dictionary on the database used to record all the information. The information given can be used as data input and output for the system

NO	ATTRIBUTES	DATA TYPE	SIZE	CONSTRAINT	DESCRIPTION
1	rfid_uid	varchar	255	*(Primary)*	Store RFID of student
2	ic	varchar	20	*(Primary)*	Store Identification number of student
3	name	varchar	100	Not Null	Store name of student
4	gender	varchar	10	Not Null	Store gender of student

5	dob	date		Not Null	Store date of birth of student
6	form	int	1	Not Null	Store form of student
7	class	varchar	20	Not Null	Store class of student
8	parentname	varchar	100	Not Null	Store parent's name of student
9	parentemail	varchar	50	Not Null	Store parent's email of student
10	phone	varchar	15	Not Null	Store parent's phone number
11	address	varchar	100	Not Null	Store address of student
12	zipcode	int	10	Not Null	Store zipcode of student
13	city	varchar	50	Not Null	Store city of student
14	state	varchar	50	Not Null	Store state of student

Table 3.1 : Shows data dictionary for table student.

NO	ATTRIBUTES	DATA TYPE	SIZE	CONSTRAINT	DESCRIPTION
1	level	int	10	Not Null	Store level of warden or user
2	warden_id	int	11	(Primary)	Store ID of warden
3	name	varchar	50	Not Null	Store name of warden
4	email	varchar	50	Not Null	Store email of warden
5	phone	varchar	20	Not Null	Store phone of warden
6	username	varchar	30	Not Null	Store username of warden

7	password	varchar	100	Not Null	Store password of warden

Table 3.2 : Shows data dictionary for table warden

NO	ATTRIBUTES	DATA TYPE	SIZE	CONSTRAINT	DESCRIPTION
1	att_id	int	11	(Primary)	Store attendance ID for student
2	ic	varchar	20	(Foreign)	Store ic number of student
3	rfid_uid	varchar	255	Not Null	Store rfid number of student
4	time_out	timestamp	-	Not Null	Store time out of student
5	time_in	timestamp	-	Not Null	Store time in of student
6	id_setting	int	20	*(Foreign)*	Store setting ID of student
7	status	varchar	30	Not Null	Store status of student

Table 3.3 : Shows data dictionary for table attendance

NO	ATTRIBUTES	DATA TYPE	SIZE	CONSTRAINT	DESCRIPTION
1	id_setting	int	20	*(Primary)*	Store setting ID for student
2	status	varchar	30	Not Null	Store status of student
3	date	datetime	-	Not Null	Store date of student outing or overnight

4	time_in	timestamp	-	Not Null	Store time in of student
5	time_out	timestamp	-	Not Null	Store time out of student
6	description	varchar	100	Not Null	Store description of student outing or overnight
7	Num_day	Int	10	Not Null	Store number of day of student can go outing or overnight

Table 3.4 : Shows data dictionary for table setting attendance

3.3.2. Functional Requirement

Functional requirement described about what system able to perform in activities. In this section, will discuss about how this system is working.

3.3.2.1. Scope of functionality

Based on functional requirement , the details of modules and scopes of web application shown In table below.

User	Function	Requirement
Admin	Login	This module allow admin to access web application using username and password.
	Register warden and student	Admin can register warden and student
	View warden, student and attendance information	Admin can view all information about warden, student and attendance.
	Can view notification	Admin can view notification and can send email to parent about student lateness.

	Can view reports	Admin able to view daily report and monthly report , and can search for certain details and can print out
	Change warden details	Admin able to change warden details and update about phone number and email.
	Change student details	Admin able to change student details and update email, phone number and address of student,
Warden	Login	This module allow warden to access web application using username and password.
	Register student	Warden can register student
	View student and attendance information	Warden can view all information about student and attendance.
	Can view notification	Warden can view notification and can send email to parent about student lateness.
	Can view reports	Warden able to view daily report and monthly report , and can search for certain details and can print out
	Change student details	Warden able to change student details and update email, phone number and address of student,

Table 3.5 : Show Functional Requirement table

3.3.3. Non-Functional Requirement

Non-functional requirement will describe about the functionality and limit of system and how its behave.

Requirement	Description
Availability	The system can be use in 24 hours.
Redundancy	System will check either data already store or not.
Maintainability	The system should be easy to maintain because the source code will be store in webserver.
Usability	System has simple user interface. Easy to understand and ease to use.

Table 3.6 : Show Non-Functional Requirement table

3.3.4. Others Requirement

This part, will discuss about requirement that require in this system development which is requirement of hardware and software.

3.3.4.1. Software Requirement

Certain software is use in developing this system are explaining in table:

Software	Description
Notepad ++	Use as platform to write a coding
Microsoft Visio 2007	Use as platform to draw diagram such as DF and ERD diagram
Adobe Photoshop CS6	Use as platform to customize image
Adobe Illustrator CS6	Use as platform to make poster
Microsoft Office 2013	Use as platform to write documentation
Microsoft Excel 2013	Use as platform to store data
XAMPP Server V 3.2.1	Use as platform to run the project
PHPMyAdmin	Use as platform to create database and store dat

Table 3.7: Show Software Requirement table

3.3.4.2. Hardware Requirement

In developing this system, certain hardware have been use is explain in table :

Hardware	Applicable
Laptop	Yes
Printer	Yes
Arduino Uno R3 with ATmega328P CH340g	Yes
Handheld RFID ID CARD Copier Reader Writer	Yes
Ethernet Shield	Yes
Dupont Cable M/M	Yes
RJ45 Cable	Yes

Table 3.8 : Show Hardware Requirement table

3.4. Conclusion

It can be conclude that, this chapter define and discuss about the obstacle that experience by Maahad Ahmadi boarding school. With explanation about module description and activity diagram to make them understand about the flow of the system. Design of the system will be review on the next division.

CHAPTER IV

DESIGN

4.1. Introduction

The phase of design is to described how the system will operate and it is include the design interface, design of system and design database that will be discussed details in this chapter. These three designs are very important before implementation is done because can define how the system will function and perform.

4.2. High-Level Design

In this section, it is cover all the system design which is system architecture and database design. With using data flow, flow charts and data structure it will described the modules and function.

4.2.1. System Architecture

System Architecture is a set of rule and standards that are use in actual system which can satisfy the client's requirement. It is a conceptual model that describe the structure and behavior of proposed system. Three-Tier Architecture is being used because it's suitable for web-based application which is Attendance List for Ahmad Ahmadi Student with RFID.

Figure 4.1 : Shows Three-Tier Architecture for Maahad Ahmadi Boarding School

System Architecture that practice in this system is shown in Figure 4.1. Architecture of Three-Tier is consist of three layers which is client tier, application tier and database tier. The client tier contain user interface and its been design to make client or user easy to interact with the system. For Application tier is called business layer where do the data verification, calculation and data insertion. The third is database tier is a data source or database. Its contain methods to connect with database to perform insert, update ,delete and search from database.

4.2.2. User Interface Design

4.2.2.1. Navigation Design

In this part, a navigation diagram will give instruction to a process of the system and inform for the next step. Figure below explains the navigation diagram for Maahad Ahmadi Boarding School.

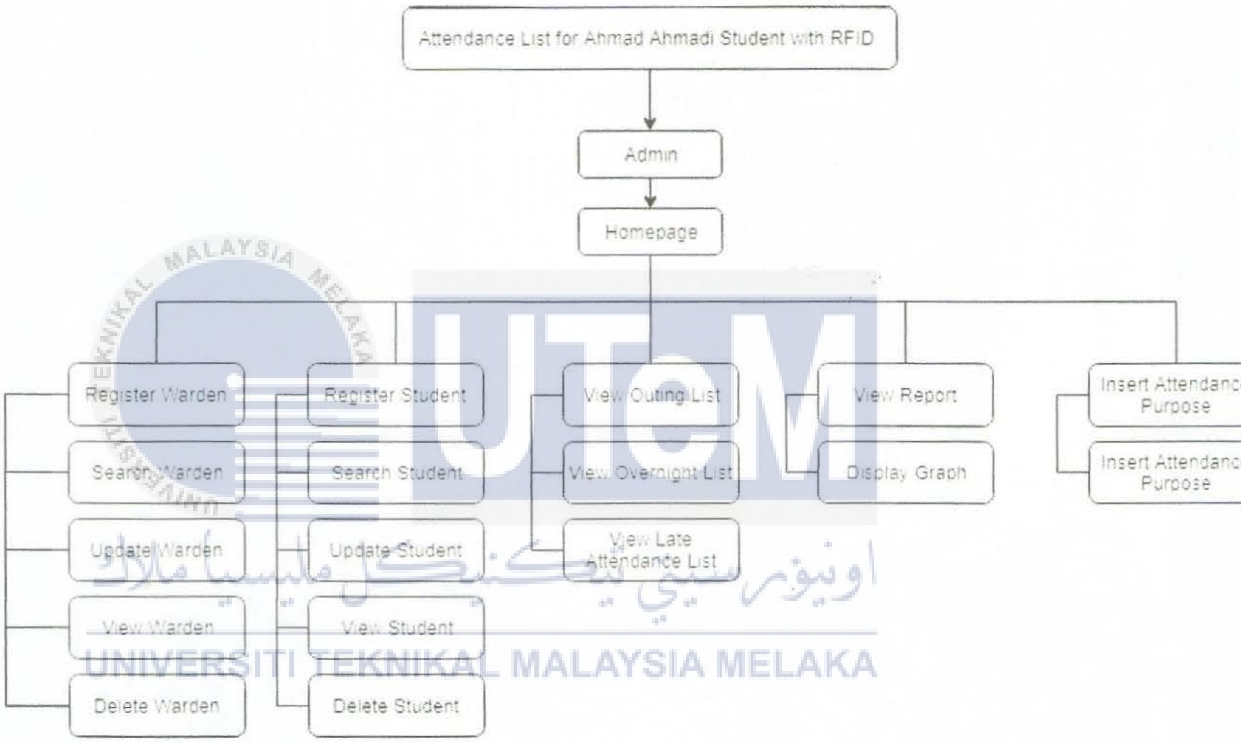

Figure 4.2: Show navigation system for admin

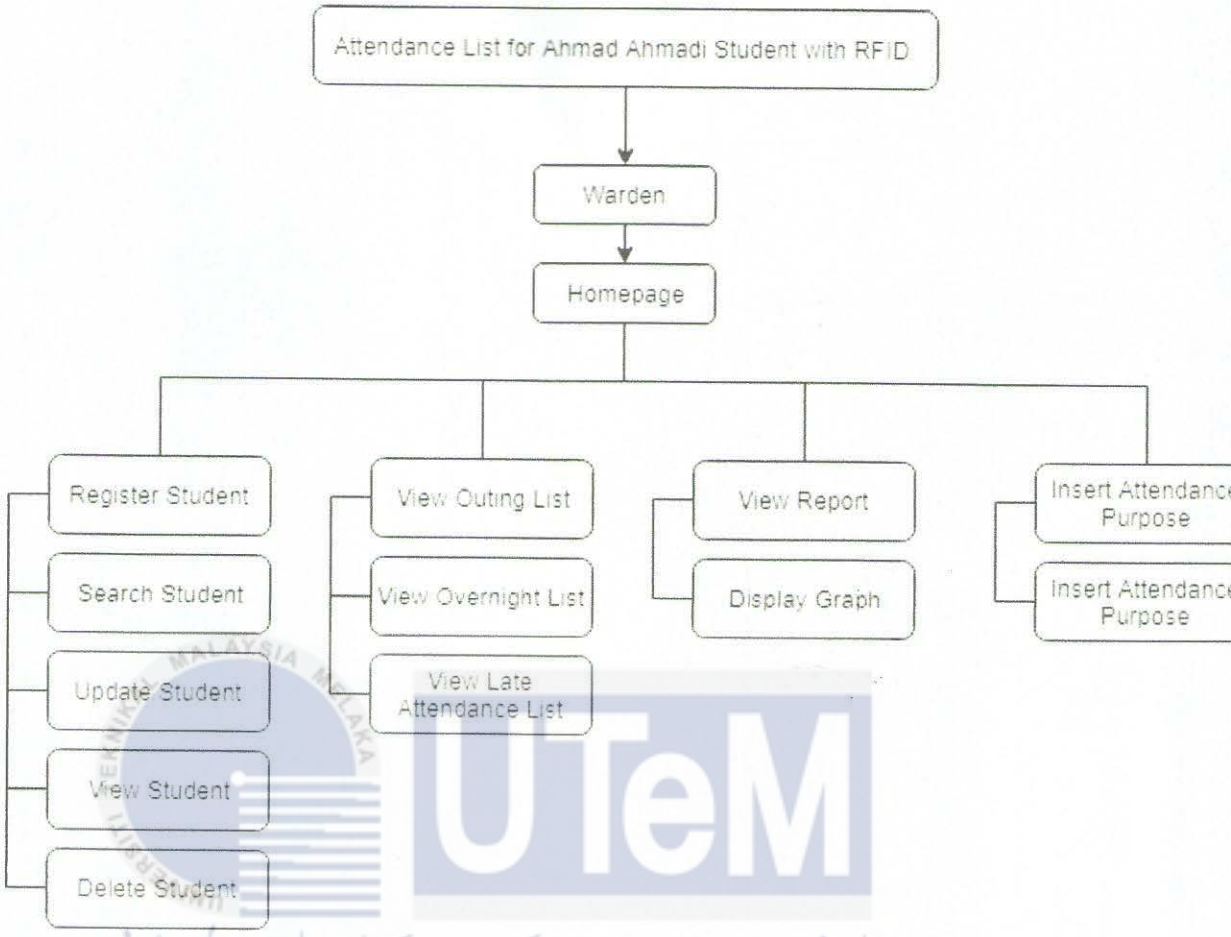

Figure 4.3: Show navigation system for warden

4.2.2.2. Input Design

Input design is the process that allowed a system to capture information. For examples, register new student or register new warden. It is designed to define type of inputs for interface such as text box, text area, alphanumeric, radio button and more. The input designs for this system are shown in table 4.1 below:

Interface/Form	Field Name	GUI Control	Validation Control
Login Admin/Warden	Username	Text Field	Not Null
	Password	Password Field	Not Null
Register Warden	Username	Text Field	Not Null
	Password	Password Field	Not Null
	Warden ID	Text Field	Not Null
	Name	Text Field	Not Null
	Email	Text Field	Not Null
	Phone	Text Field	Not Null
	Username	Text Field	Not Null
	Password	Password Field	Not Null
Register Student	Rfid	Text Field	Not Null
	Ic	Text Field	Not Null
	Name	Text Field	Not Null
	Gender	Selection	Not Null
	Dob	Text Field	Not Null
	Form	Selection	Not Null
	Class	Selection	Not Null
	Parent Name	Text Field	Not Null
	Parent Email	Text Field	Not Null
	Phone	Text Field	Not Null
	Address	Text Field	Not Null
	Zipcode	Text Field	Not Null
	City	Text Field	Not Null
	State	Text Field	Not Null
Attendance	ID Attendance	Text Field	Not Null

			IC	From student table	Not Null
			RFID	From student table	Not Null
			Time In	Datepicker	Not Null
			Time Out	Datepicker	Not Null
			ID Setting	Text Field	Not Null
			Status	Text Field	Not Null
Attendance Setting	ID Setting	Text Field	Not Null		
	Status	Text Field	Not Null		
	Date	Datepicker	Not Null		
	Time In	Datepicker	Not Null		
	Time Out	Datepicker	Not Null		
	Description	Text Field	Not Null		
	Number of day	Text Field	Not Null		

Table 4.1: Input Design for Maahad Ahmadi Boarding School

These are example of input design:

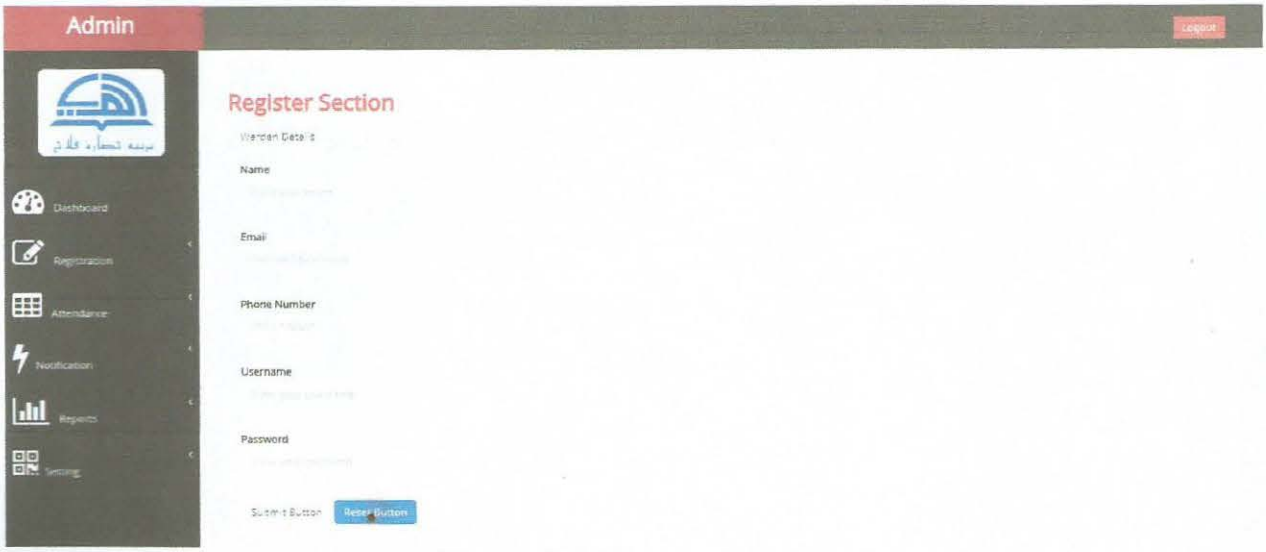

Figure 4.4: Show register form for warden

Figure 4.4 show the registration form for admin to register new warden. In this form admin require to input details of warden that required in order to register warden.

Figure 4.5: Show login form for admin and warden

Figure 4.5 show the login interface of the system. User require username and password based on database to login to the system. If the username and password is wrong or does not exist in the system, user cannot login to the system.

4.2.2.3. Output Design

Output design is a way system provides information to the user. For examples can display a report to the user or display a page of registration. An output design could be in term of message box, notification of error and more.

Form	Output Component	Description
Login	1. Display authentication form	Let user interact and communicate with the system.
Register Patient	1. Display the register form for new patient.	Let the user register new patient into this system.
Patient Registered	1. Display the information of patient registered. 2. Update patient information.	System will display the list of patients registered.
Treatment record	1. Display list of treatment 2. Update treatment record	Let the dentist to insert the treatment record using interactive interface of tooth chart.
Appointment	1. Display all the appointment queued.	Let the registrar and dentist know the list of patients waiting to be served.

Table 4.2: Output Design for Maahad Ahmadi Boarding School

These are example of output design:

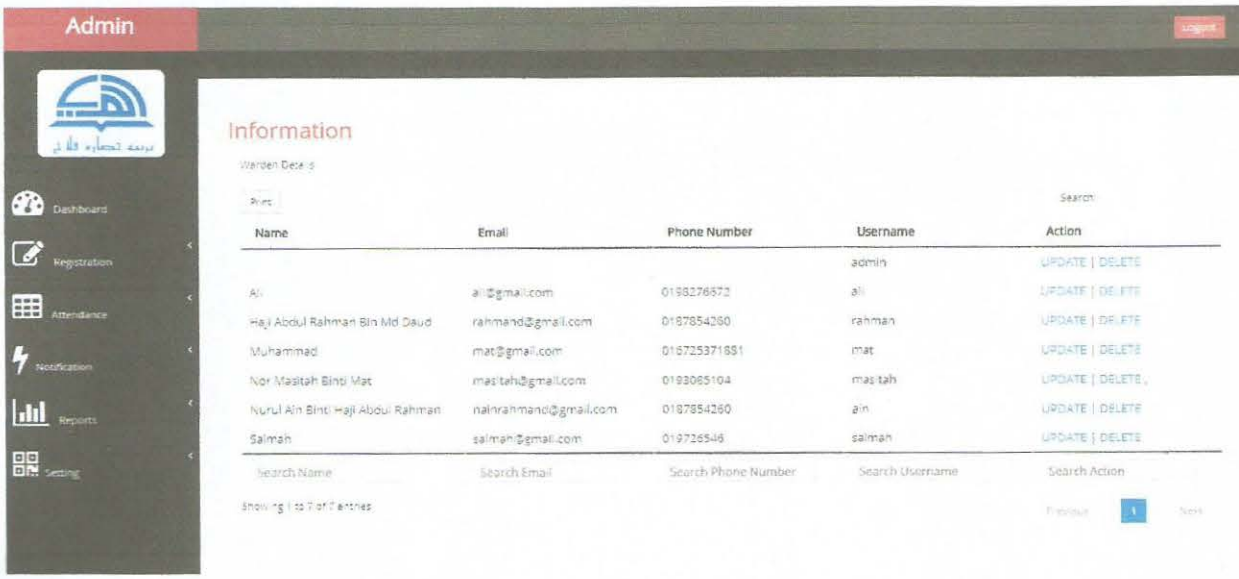

Figure 4.6: Show list of warden

Figure 4.6 show the list of warden. It will display information of warden that registered. Only admin can see the list of warden, update information and delete warden.

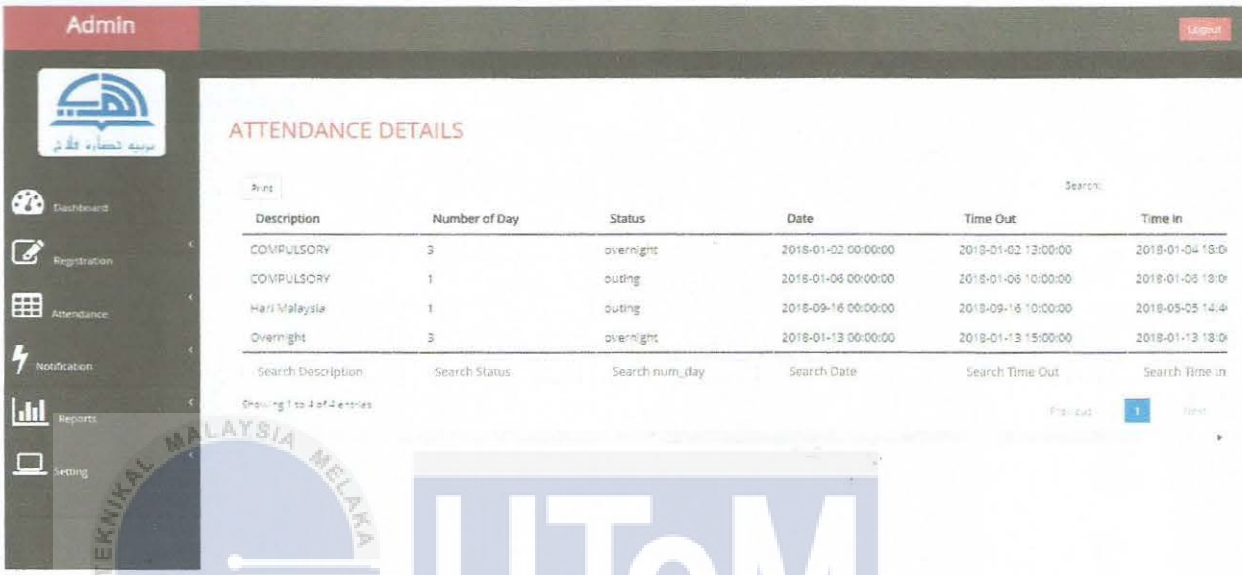

Figure 4.7: Show information of attendance list.

Figure 4.7 show the output of attendance that have been insert by admin and warden.

4.2.3. Database Design

4.2.3.1. Conceptual and Logical Database Design

Conceptual and logical model is use by business analyst for modeling the data required and produce by system from a business angle. Conceptual design is created by business stakeholder and data architects for organize ,scope and define concepts and rules. The goal of conceptual design is to establish entities, attributes and relationship. Next is logical design , that defines how the system should be implemented. The goal of this design is to developed technical map of rules and data structure.

4.2.3.1.1. Entity Relationship Diagram (ERD)

Entity Relationship Diagram is graphical representation of information system that describe the relationship between object within the system. There are three component of Entity Relationship Diagram which is entities, attributes and relationship among entities.

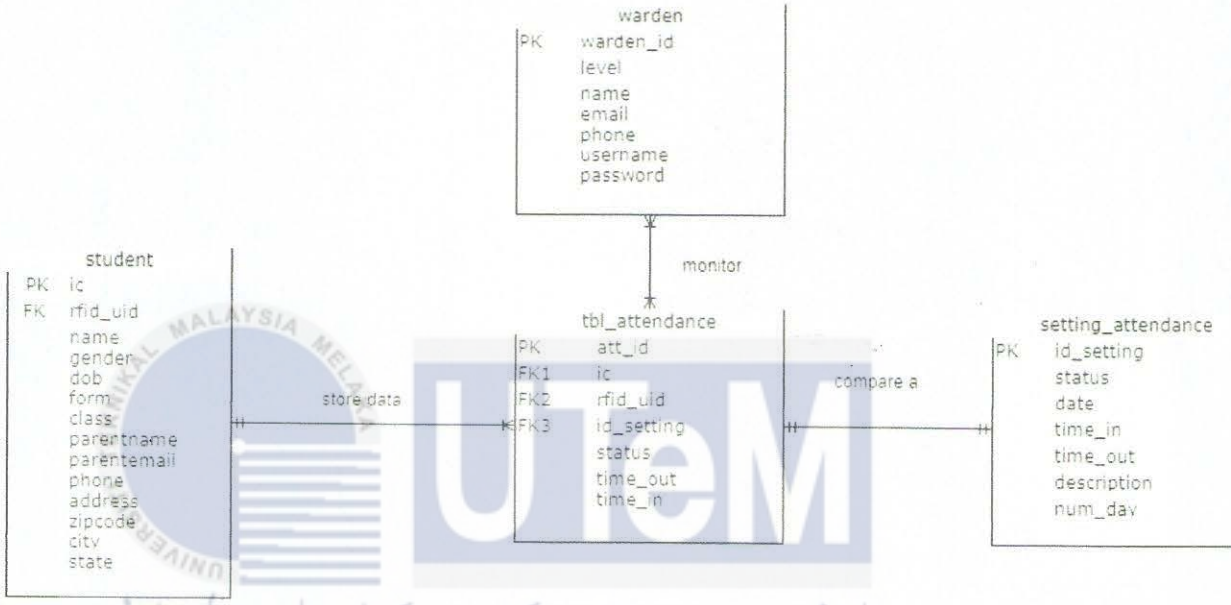

Figure 4.8: Entity Relationship Diagram for Maahad Ahmadi

Figure 4.8 show the entity relationship diagram for Maahad Ahmadi boarding school. Every table is related to each other. Every table have primary key and also have foreign key to combine two tables or more into one tables.

4.2.3.1.2. Business Rules

A business rule can be seen as a description of the operations, definitions and constraints applied by an organization in aiming to achieve its goals. It contains the knowledge behind any business operation or structure. Business rules can be viewed in two different ways: the business view and the information system view

Business rule of this system are as follow :

I. One admin can register many student and warden
II. One attendance can have one student at one time
III. One warden can manage many student

4.2.3.1.3. Data Dictionary

Attribute Name	Content Name	Data Type	Length	Primary Key
warden_id	Warden ID	INTEGER	10	Yes
level	Level	INTEGER	1	
name	Wardens' Name	VARCHAR	50	
email	Wardens' Email	VARCHAR	50	
phone	Wardens' Phone Number	VARCHAR	20	
username	Wardens' username	VARCHAR	30	
password	Wardens' password	VARCHAR	100	

Table 4.3: Data Dictionary for Table Warden

Table warden is for store the warden and admin information. This table is used in module login and module register warden. Both user which is admin and warden need to used username and password that exist in database. For module register warden, admin need to fill all requirement needed in register form an will store in database.

Attribute Name	Content Name	Data Type	Length	Primary Key
ic	Students' NRIC number	VARCHAR	20	Yes
rfid_uid	Students' RFID number	VARCHAR	255	
name	Students' Name	VARCHAR	100	
gender	Students' gender	VARCHAR	10	
dob	Students' date of birth	DATE		
form	Students' form in	INTEGER	1	

	school			
class	Students' class in school	VARCHAR	20	
parentname	Parent name	CHAR	100	
parentemail	Parents' email	VARCHAR	50	
phone	Parents' phone number	VARCHAR	15	
address	Students' address	VARCHAR	100	
zipcode	Students' zipcode	INTEGER	10	
city	Students' city	VARCHAR	50	
state	Students' state	VARCHAR	50	

Table 4.4: Data Dictionary for Table Student

This table is store student details that have been registered. This table is used in register student module.

Attribute Name	Content Name	Data Type	Length	Primary Key
att_id	ID for table attendance	INTEGER	11	Yes
ic	Students' NRIC number	VARCHAR	20	
rfid_uid	Students' RFID number	VARCHAR	255	
time_out	Time out for table attendance	TIMESTAMP		
time_in	Time in for table attendance	TIMESTAMP		
id_setting	ID for table setting	INTEGER	20	
status	Status for table setting attendance	VARCHAR	30	

Table 4.5: Data Dictionary for Table Attendance

Table attendance is for student time in and time out for outing and overnight.

Attribute Name	Content Name	Data Type	Length	Primary Key
id_setting	ID for table setting attendance	INTEGER	20	Yes
status	Status for table setting attendance	VARCHAR	30	
date	Date for table setting attendance	DATETIME		
time_in	Time in for table setting attendance	TIMESTAMP		
time_in	Time out for table setting attendance	TIMESTAMP		
description	Description of table setting attendance	INTEGER	20	
Num_day	Number of day that student can outing or overnight	INTEGER	100	

Table 4.6: Data Dictionary for Table Setting Attendance

Table setting attendance is for warden and admin can set date and time for outing and overnight. Its require to insert details needed to set outing and overnight detail.

4.3. Detailed Design

4.3.1. Software Design

Software design is a process to transform software requirement into software implementation. The design process takes the user requirement as barrier and work to find the optimum solution. The plan that use must be the best design for implement the intended solution.

4.3.1.1. Use Case Description

U1: Register Warden

Name of the use case: Register user

1. **Brief description:** This use case contains form to register new warden.
2. **Actor:** Admin
3. **Characteristics of activation:** On user demand
4. **Pre-conditions(s):**
   - 1.1. Actor must have logged in into the system.
5. **Flow of Events:**
   - **5.1.** Normal flow
     - **5.1.1.** This use case starts when the actor initiate login by clicking the sign in button.
     - **5.1.2.** Actor clicks on registration menu and clicks on warden registration.
     - **5.1.3.** Actor filled in warden' information.
     - **5.1.4.** Submit button is clicked.
     - **5.1.5.** Warden information will displaty.
     - **5.1.6.** Warden' data has been saved into database.
     - **5.1.7.** The use case ends.
   - **5.2.** Exceptional flow

     Not applicable
6. **Post-condition(s):** Warden has been registered.
7. **Rule(s):** Not applicable

Constraint(s): Not applicable

U2: Register Student

Name of the use case: Register student

5. **Brief description:** This use case contains form to register new student.
6. **Actor:** Admin and warden
7. **Characteristics of activation:** On user demand
8. **Pre-conditions(s):**

   1.2. Actor must have logged in into the system.

8. **Flow of Events:**

   8.1. Normal flow

   8.1.1. This use case starts when the actor initiate login by clicking the sign in button.

   8.1.2. Actor clicks on registration menu and clicks on student registration.

   8.1.3. Actor filled in student' information.

   8.1.4. Submit button is clicked.

   8.1.5. Warden information will displaty.

   8.1.6. Warden' data has been saved into database.

   8.1.7. The use case ends.

   8.2. Exceptional flow

   Not applicable

9. **Post-condition(s):** Student has been registered.
10. **Rule(s):** Not applicable

Constraint(s): Not applicable

U3: View Warden List

Name of the use case: View warden list.

1. **Brief description:** This use case displays information for every warden.
2. **Actor:** Admin
3. **Characteristics of activation:** On user demand
4. **Pre-condition(s):**

    4.1. Actor must have logged in into the system

2. **Flow of Events:**

    5.1. Normal flow

    5.1.1. This use case starts when the actor initiate login by clicking the sign in button

    5.1.2. Actor clicks on the Registration menu and clicks on Information Warden.

    5.1.3. The list of registered warden is displayed.

    5.1.4. The use case ends.

    5.2. Exceptional flow

    Not applicable

3. **Post-condition(s):** Data of warden has been displayed
4. **Rule(s):** Not applicable
5. **Constraint(s):** Not applicable

U4: View Student List

Name of the use case: View student list.

1. **Brief description:** This use case displays information for every student.
2. **Actor:** Admin and warden
3. **Characteristics of activation:** On user demand
4. **Pre-condition(s):**

    4.1. Actor must have logged in into the system

6. **Flow of Events:**

    5.1. Normal flow

    5.1.1. This use case starts when the actor initiate login by clicking the sign in button

    5.1.2. Actor clicks on the Registration menu and clicks on Information Student.

    5.1.3. The list of registered student is displayed.

    5.1.4. The use case ends.

    5.2. Exceptional flow

    Not applicable

7. **Post-condition(s):** Data of student has been displayed
8. **Rule(s):** Not applicable
9. **Constraint(s):** Not applicable

U5: View Report

Name of the use case: View report.

1. **Brief description:** This use case displays statistic report of student and attendance.
2. **Actor:** Admin and Warden
3. **Characteristics of activation:** On user demand
4. **Pre-condition(s):**
   4.1. Actor must have logged in into the system.
5. **Flow of Events:**
   5.1. Normal flow
   5.1.1. This use case starts when the actor initiate login by clicking the sign in button.
   5.1.2. Actor clicks on the Report menu .
   5.1.3. The report is displayed by graph.
   5.1.4. The use case ends.
   5.2. Exceptional flow
   Not applicable
6. **Post-condition(s):** Report has been displayed successfully.
7. **Rule(s):** Not applicable

Constraint(s): Not applicable

U6: View Attendance List

Name of the use case: View attendance list.

1. **Brief description:** This use case displays attendance list of student outing and overnight.
2. **Actor:** Admin and Warden
3. **Characteristics of activation:** On user demand
4. **Pre-condition(s):**
   4.1. Actor must have logged in into the system.
5. **Flow of Events:**
   5.1. Normal flow
   5.1.1. This use case starts when the actor initiate login by clicking the sign in button.
   5.1.2. Actor clicks on the Attendance menu and click on Outing report or Overnight report .
   5.1.3. The attendance list is displayed .
   5.1.4. The use case ends.
   5.2. Exceptional flow
   Not applicable
6. **Post-condition(s):** Attendance list has been displayed successfully.
7. **Rule(s):** Not applicable

Constraint(s): Not applicable

U7: Send email

Name of the use case: Send email.

1. **Brief description:** This use case send email from admin or warden to parent.
2. **Actor:** Admin and Warden
3. **Characteristics of activation:** On user demand
4. **Pre-condition(s):**
    a. Actor must have logged in into the system.
5. **Flow of Events:**
    a. Normal flow
        i. This use case starts when the actor initiate login by clicking the sign in button.
        ii. Actor clicks on the Notification menu.
        iii. The attendance list of late student is displayed .
        iv. Actor can send email to parent
        v. The use case ends.
    b. Exceptional flow
        Not applicable
6. **Post-condition(s):** Email has been sent successfully.
7. **Rule(s):** Not applicable

Constraint(s): Not applicable

U8: Insert Purpose Attendance

Name of the use case: Set purpose attendance.

10. **Brief description:** This use case contains form to set purpose attendance.
11. **Actor:** Admin and Warden
12. **Characteristics of activation:** On user demand
13. **Pre-condition(s):**

    4.1. Actor must have logged in into the system.

5. **Flow of Events:**

    5.1. Normal flow

        5.1.1. This use case starts when the actor initiate login by clicking the sign in button

        5.1.2. Actor clicks on Purpose Attendance option at Setting List menu.

        5.1.3. Actor filled in purpose attendance' information

        5.1.4. Submit button is clicked.

        5.1.5. Attendance Information saved into database.

        5.1.6. The use case ends.

    5.2. Exceptional flow

        Not applicable

6. **Post-condition(s):** Purpose Attendance has been set for table attendance.
7. **Rule(s):** Not applicable
8. **Constraint(s):** Not applicable

U9: Set Number of Day

Name of the use case: Set Number of Day.

14. Brief description: This use case contains form to set number for table attendance.

15. Actor: Admin and Warden

16. Characteristics of activation: On user demand

17. Pre-condition(s):

4.1. Actor must have logged in into the system.

9. Flow of Events:

5.1. Normal flow

5.1.1. This use case starts when the actor initiate login by clicking the sign in button

5.1.2. Actor clicks on Set Day option at Setting List menu.

5.1.3. Actor filled the time.

5.1.4. Submit button is clicked.

5.1.5. Number of day has been saved into database.

5.1.6. The use case ends.

5.2. Exceptional flow

Not applicable

10. Post-condition(s): Number of day has been set for table attendance

11. Rule(s): Not applicable

12. Constraint(s): Not applicable

4.3.2. Physical Database Design

4.3.2.1 Data Definition Language (DDL)

Data definition language used to create, modify, alter and drop table and object in database. There are commonly elements that had been used :

i. CREATE – Create objects in database.
CREATE TABLE <table_name>;

ii. DROP – Delete objects in database
DROP TABLE <table_name>;

iii. TRUNCATE – To delete elements in database
TRUNCATE TABLE <table_name>;

iv. ALTER – Alter objects of the database.

Adding New Column.
ALTER TABLE <table_name> ADD
(<new_column_name><data_type>);

Modify Table
ALTER TABLE <table_name> MODIFY
(<column_name><new_data_type>);

4.4. Conclusion

The conclusion of this chapter is about the architecture that have been used , the design of interface and database design. This information will be used in next chapter which is implementation.

CHAPTER V

PROJECT IMPLEMENTATION

5.1 Introduction

This chapter is explaining about the construction and implementation process to deliver the Maahad Ahmadi into operation framework. " An implementation plan for a project refers to a detailed description of actions that demonstrate how to implement an activity within the project in the context of achieving project objectives, addressing requirements, and meeting expectations(Eric Mcconnell,2010)." The main target of the implementation phase is to complete the functions in the system and follow all the requirement needed. Information explained in this chapter is appointed to clients, maintainers or on-going support by the future developer to make the system accessible and understandable for them ,In this stage, this is the part where IT specialist completing execution or routine of plan, technique and outline for the system that has been construct. In this chapter includes system development environment, system configuration management and the security characteristic of Maahad Ahmadi.

5.2 Software Development Environment Setup

5.2.1 Web Server (Apache Server)

Apache Server is been used in this system development and is an open source software. This software support multiple language and enables to read files. It also helps in become a server that serve to localhost.

5.2.2 Web Browser (Google Chrome)

Web browser used to launch the full system is google chrome. It is used for retrieving, presenting and traversing files that being code. Any error due to HTML code will be shown in the browser page. By the aid of localhost server , programmer display file in PHP and HTML format usin web browser to see the result of the code.

5.2.3 MySQL Database (Version 1.8.3-5)

Database used in this system development is PhpMyAdmin. This software is a free software tool. Programmer store all data required by the system into a database and it can be retrieved by using php and MySQL code. Besides that, programmer also can modify and delete the data.

5.2.4 Arduino(Version 1.8.5)

Arduino is an open-source platform used for building electronics projects. Its consists of circuit board and a software. Programmer needs to run the codes and upload it to the physical board. Additionally , the Arduino has become popular with people that starting out with electronics.

5.3 Software Configuration Management

On this stage, it will display the correct step of configuration of each software development.

5.3.1 Configuration Environment Setup

Install XAMPP www.apachefriends.org application, XAMPP is a package contain a web server, PHP, database and others application needed to start building web-application. Open XAMPP application and configurable setting such as Ports, PHP version, Web Server and MySQL is included on start-up GUI

5.3.2 Configuration Connection Arduino RFID With Host.

Install Arduino IDE to perform the RFID device. Connect the device with the system through the IP address.

5.4 Implementation Status

Based on table 5.1, the table is describing the version control procedure. It keep tracks on when the module is being update.

Module	Description	Duration	Date Complete
System Authentication (Login and logout)	Handles user authentication to use the system. All information from register form.	1 week	28/2/2018
Registration	Admin can handle the registration of warden and new student. Warden only can register for a new student	2 week	16/3/2018
Add new purpose attendance	Admin can insert new purpose	2 week	31/3/2018

	attendance for student		
Admin view student attendance	Admin and warden can view the report of attendance	3 week	19/4/2018
Admin receive alert notification	Admin and warden can sent notification of late	3 week	11/5/2018
Admin can view report	Admin and warden can view graph of attendance	3 week	25/5/2018

Table 5.4.1: Version Control Procedure

5.5 Conclusion

In conclusion , this chapter describe about project's software configuration, development environment and version control procedure and implementation status. In the next chapter will discuss about testing of the project that achieve the requirement given.

CHAPTER V1

TESTING

6.1 INTRODUCTION

In this chapter, testing is being carried out to see whether the system satisfies the prerequisite requirement of the system state in the objective. Black box testing will be carried out which involves testing from an external or end-user perspective. Test environment, schedule, strategy, and others will be described in this chapter to show if this system has been tested thoroughly.

6.2 TEST PLAN

The test plan is used to represent the objective, processes, and schedule. There are two phases of testing which is a test environment and test schedule. For a test environment, it will discuss what kind of hardware and software that need to test over the whole system. The test schedule represents the test schedule among the tester on a certain task.

6.2.1 TEST ORGANIZATION

Test organization explain about individual activity of testing.

Testing Activity	Testing Member
Unit Testing	Munirah , Nor Hafeizah
Integration Testing	Munirah
System Testing	Nor Hafeizah
User Acceptance Testing	Munirah

Table 6.2.1.1: Type of testing

6.2.2 TEST ENVIRONMENT

A test environment is a setup of software and hardware for the testing teams to execute test cases during testing activity above. Several key areas to set up is a Database server, Arduino IDE, Operating System and Web Browser.

Sofware	Specification
Web Browser	Google Chrome
Database Server	MySQL
Operating System	Window 8.1
Arduino IDE	Arduino 1.8.5

Table 6.2.2.1: Type of Software

6.2.3 TEST SCHEDULE

Type	Description	Start Date	End Date
Unit Testing	Confirm that subsystem is correctly coded and carries out the intended functionality	15.10.2018	18.10.2018
Integration Testing	Test the interface among the subsystem	18.10.2018	20.10.2018
System Testing	Determine if the system meets the requirements	22.10.2018	26.10.2018

User Acceptance Testing	Demonstrate that the system meets customer requirements and is ready to use	26.10.2018	1.11.2018

Table 6.2.3.1: Type of Test Schedule

6.3 TEST STRATEGY

Test strategy provides the framework for estimating the duration and cost of the testing effort at the required confidence level for the business case. This system or project will use top-down testing strategy approach and black-box testing.

6.3.1 CLASSES OF TESTS

There are four classes of testing that consist of unit testing, integration testing, system testing and acceptance testing. The description about classes of test are explain below:

6.3.1.1 UNIT TESTING

In unit testing, source code of software is being tested for validation purpose, implements required functionality, satisfies performance and properly handles exceptional situations. Several activities done during unit testing are code inspection which checks the code against a list of problems or defects that are commonly found in programs, check for mismatch of implementation and incorrect use of logical, arithmetic, or relational operators.

6.3.1.2 INTEGRATION TESTING

Integration testing begins with testing the interfaces between the top-level module that corresponds to the overall system and modules that are invoked by the top-level module.

6.3.1.3 SYSTEM TESTING

During the system testing phase, the software system is integrated with other systems and tested against the system requirements. System testing is usually performed in the development environment. The product of system testing is a system that is ready for

deployment and acceptance test in the customer's target environment. As indicated in the above, system testing is performed against the software/system requirements including functional and non-functional requirements. The objective is to ensure that the system satisfies the functional and non-functional requirements. In addition, the system must also satisfy the constraints stated in the requirements specification.

6.3.1.4 ACCEPTANCE TESTING

Acceptance testing is to conduct testing the system in the customer's target environment to ensure that the system operates properly in that environment. Since the difference between system testing and acceptance testing is the environment, acceptance testing can be carried out by executing a subset of the test cases used during system testing.

6.4 TEST DESIGN

There are two types of approach in test design which are top-down and bottom-up approach. Top-down approach is a way of resolving the problem from higher level module to lower level module. This approach start solving from the big picture of the problem and break into smaller problem. Bottom-up approach is by identifying lower-level tools that can compose to bigger system. This approach only focus on the parts of the problem that need to be solved one by one. Approach that being used in this system is bottom-up approach. Developer start developing the system one by one based on the problem faced by the client. Test design is creating a set of inputs that will provide a set of expected outputs which will be simplify in test description and test data below.

6.4.1 TEST DESCRIPTION

This project test has test case ID to identified, description to explain what the test is about, the system module and lists of test activity conducted with expected and actual result is recorded.

Test Case ID	Login_Function_10		
Description	To test login functionality of the system		
Module	User Authentication		
Prepared By	Nurul Ain	Date Prepared	

Review/ Updated		Date reviewed	
Tested By		Date Tested	
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
1	To check whether textbox is not null.	Username =”” Password=””	Alert box display “Please fill out this field ”		
2	To check whether email and password is match.	Username =”Khadijah” Password=”abc123”	Alert box display “Username and/or password incorrect. Try again”		
3	When both match	Username= “ain” Password=”ain123”	Direct to homepage		

Table 6.4.1.1: Test Case of User Authentication Module

Test Case ID	Registration_Staff_Function_10		
Description	To test registration of warden		
Module	Staff Registration		
Prepared By	Nurul Ain	Date Prepared	

Review/ Updated		Date reviewed	
Tested By		Date Tested	
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
1.	If text field Name is empty	Name=”” Email=”othman@ gmail.com” Phone=”0197628365” Username=”othman” Password = “abc123”	Alert display”Please fill out this field”		

2.	If text field Email is empty	Name="Othman Zahar" Email="" Phone="0197628365" Username="othman" Password = "abc123"	Alert display"Please fill out this field"		
3.	If text field Email is invalid	Name="Othman Zahar" Email="othman@ .com" Phone="0197628365" Username="othman" Password = "abc123	Alert display " '.' Is used at a wrong position in '.com' "		
4.	If text field Phone is empty	Name="Othman Zahar" Email="othman@ gmail.com" Phone="" Username="Othman" Password = "abc123"	Alert display"Please fill out this field"		
5.	If text field Username is empty	Name="Othman Zahar" Email="othman@ gmail.com" Phone="0197628365" Username=" Othman" Password = "abc123"	Alert display"Please fill out this field"		
6.	If text field Password is empty	Name="Othman Zahar" Email="othman@ gmail.com" Phone="0197628365" Username="Othman" Password = ""	Alert display"Please fill out this field"		
7.	If press 'Submit' button	Name="Othman Zahar" Email="othman@ gmail.com" Phone="0197628365" Username="Othman" Password = "abc123"	Alert display " New Warden Registered!"		

Table 6.4.1.2: Test Case of Staff Registration Module

Test Case ID	Registration_Student_Function_10
Description	To test the registration of student
Module	Student registration

Prepared By	Nurul Ain	Date Prepared	

Review/ Updated		Date reviewed	
Tested By		Date Tested	
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
1.	If text field RFID_UID is empty	RFID_UID=" " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"		
2.	If text field IC is empty	RFID_UID="56374384 " IC="" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2"	Alert display"Please fill out this field"		

		Zipcode="76100" City="Durian Tunggal" State-"Melaka"			
3.	If text field Name is empty	RFID_UID="56374384" IC="940917055426" Name="" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail="ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"		
4.	If text field Gender is empty	RFID_UID="56374384" IC="940917055426" Name="Zaiton Binti Ali" Gender="" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail="ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please select one of these option"		
5.	If text field Age is empty	RFID_UID="56374384" IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="" Form="5" Class="Khadijah"	Alert display"Please select one of these option"		

		ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"			
6.	If text field Form is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please select one of these option"		
7.	If text field Class is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please select one of these option"		

8.	If text field ParentName is empty	RFID_UID="56374384" IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="" ParentEmail="ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"		
9.	If text field ParentEmail is empty	RFID_UID="56374384" IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail="" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"		
10.	If text field Phone is empty	RFID_UID="56374384" IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail="ali@gmail.com" Phone=""	Alert display"Please fill out this field"		

		Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"			
11.	If text field Address is empty	RFID_UID="56374384" IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"		
12.	If text field Zipcode is empty	RFID_UID="56374384" IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"		
13.	If text field City is empty	RFID_UID="56374384" IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5"	Alert display"Please fill out this field"		

		Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="" State-"Melaka"			
13.	If text field State is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="" State-""	Alert display"Please fill out this field"		
14.	If press 'Submit' button	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display "Succsessfully register student"		

Table 6.4.1.3: Test Case of Student Registration Module

Test Case ID	Insert_Attendance_Purpose_10		
Description	To test the adding of the event		
Module	Adding attendance		
Prepared By	Nurul Ain	Date Prepared	

Review/ Updated		Date reviewed	
Tested By		Date Tested	
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
1	If text field Description is empty	Description S=”” Start_date=”11/11/2018” End_date=”11/11/2018” Status=”Outing”	Alert display”Please fill out this field”		
2	If text field Start_date is empty	Description =”OUTING PILIHAN” Start_date=”” End_date=”11/11/2018” Status=”Outing”	Alert display”Please fill out this field”		
3	If text field End_date is empty	Description =”OUTING PILIHAN” Start_date=”11/11/2018” End_date=”” Status=”Outing”	Alert display”Please fill out this field”		
4	If text field is Status empty	Description =”OUTING PILIHAN” Start_date=”11/11/2018” End_date=”11/11/2018” Status=””	Alert display “Please select an item in the list”		
5	If press ‘Submit’ button	Description =”OUTING” Start_date=”11/11/2018” End_date=”11/11/2018” Status=”Outing”	Alert display ”Succsessfully add event attendance”		

Table 6.4.1.4: Test Case of Adding Attendance Module

Test Case ID	Insert_Hostel_Capacity_10		
Description	To test the update of the hostel capacity		
Module	Update capacity of hostel		
Prepared By	Nurul Ain	Date Prepared	

Review/ Updated		Date reviewed			
Tested By		Date Tested			
Test Activities					
No	Step Description	Test Data	Expected Result	Actual Result	Status
1	If text field Capacity is empty	Capacity =””	Alert display”Please fill out this field”		
2	If press ‘Submit’ button	Capacity =”100”	Alert display” Successfully inserted hostel capacity”		

Table 6.4.1.5: Test Case of Update capacity of Hostel Module

6.4.2 TEST DATA

Test data consists modules, field of modules and test data which is valid data and invalid data when testing the full system. The details are given in the following subsection.

6.4.2.1 INTEGRATE TESTING: CYCLE ONE

Pie chart below show the result of the first cycle that has been conducted with a peer to peer tester.

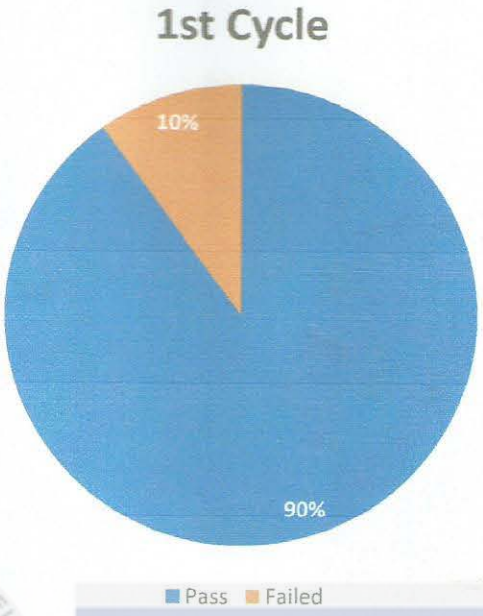

Figure 6.4.2.1.1: Pie chart for testing first

6.4.2.2 INTEGRATE TESTING: CYCLE TWO

Pie chart below show the result of the second cycle that has been conducted with a supervisor of the project.

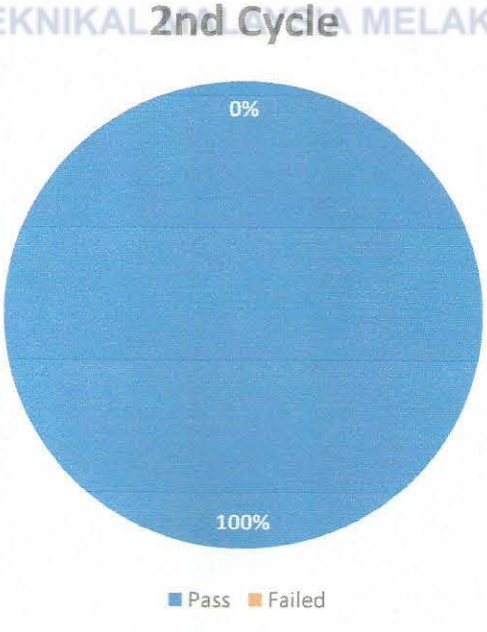

Figure 6.4.2.1.2: Pie chart for testing second cycle

6.5 TEST RESULT AND ANALYSIS

Based on result of testing, all the functionality can be used after it been corrected during the second testing phase. Error is found during the first testing phase. The error has been corrected and later was tested for the second time by the supervisor. The function that has error during first testing is functioning correctly on second testing. At the end of the two cycle, all the function are working properly and ready to use.

6.6 QUESTIONNAIRE ANALYSIS

Questionnaire is used in this project to get feedback from users warden, student and parents. Below is the result that have been collected from the users.

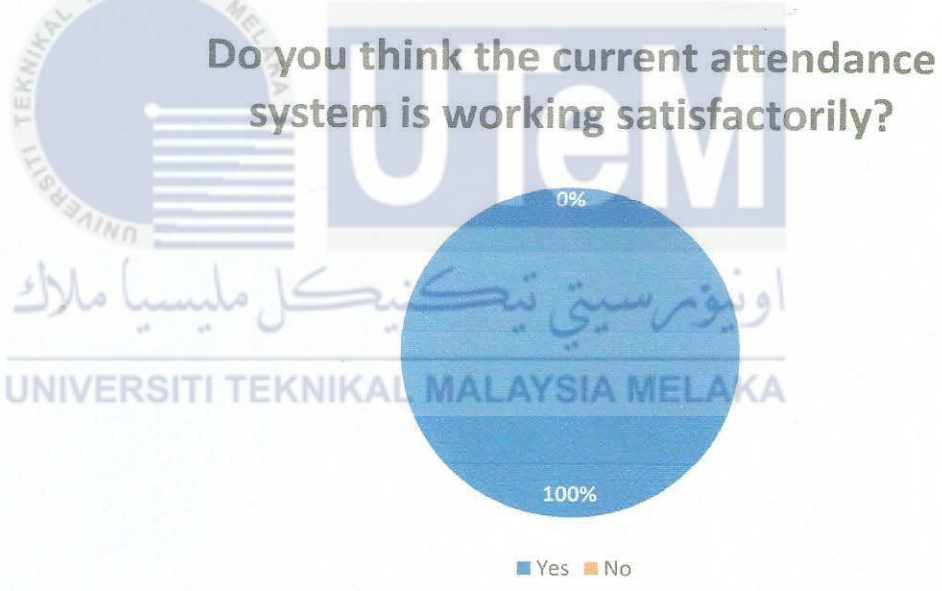

Figure 6.6.1: Pie chart to check user satisfaction

From figure 6.6.1 we can see that all respondents do agree that the current system is working satisfactorily.

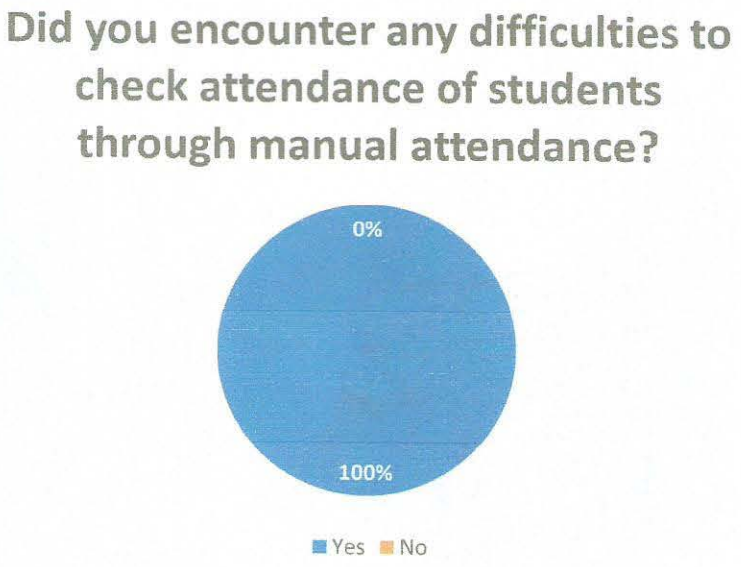

Figure 6.6.2: Pie chart to check current problem

From figure 6.6.2 we can see that all respondents do agree that its difficult to check attendance by using manual attendance and the possibility to lose is very high.

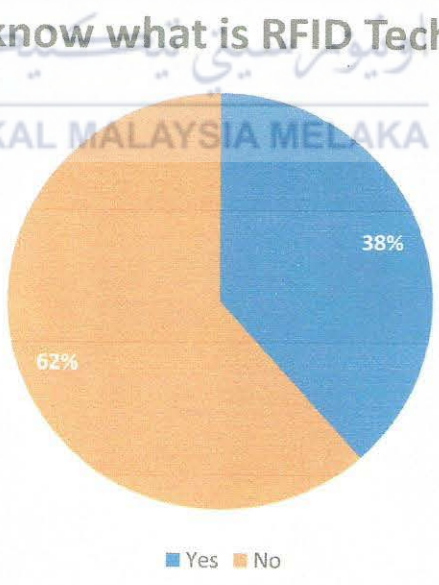

Figure 6.6.3: Pie chart for RFID awareness

From figure 6.6.3 we can see that half of respondent don't have knowledge about RFID Technology.

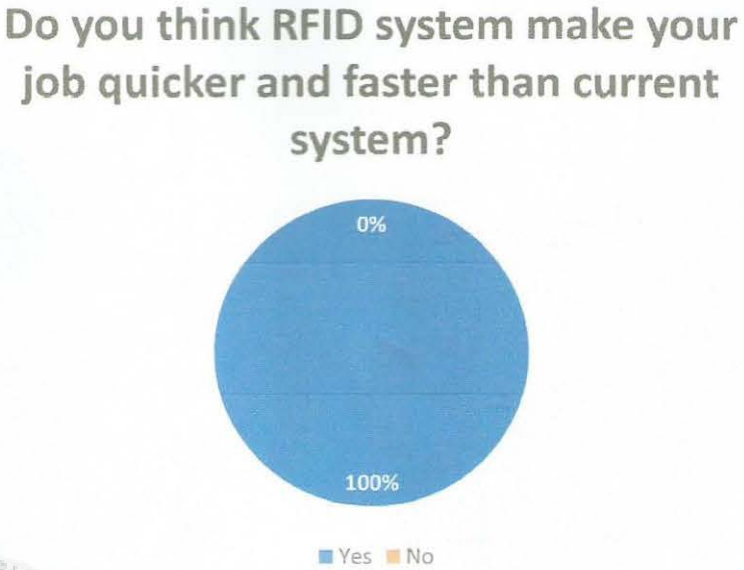

Figure 6.6.4: Pie chart to check RFID system is faster than current system

From figure 6.6.4 we can see that all respondent agree the RFID system make job more quick and fast better than manual system. It will minimize time and energy for warden.

6.7 CONCLUSION

In conclusion, this chapter explain the activity taken to do system test to guarantee the system is accepted by the user. Furthermore, this chapter also discuss the role during testing activity. Next chapter will be the last phase which is conclusion phase where it discusses about this project's successfulness and improvement.

CHAPTER V11

CONCLUSION

7.1 INTRODUCTION

Chapter 7 will be the last part of this report. In this section, it will finish up the entire venture as far as task's qualities and shortcomings, opportunity to get better and commitment.

7.2 OBSERVATION ON WEAKNESS AND STRENGTHS

Below is the weakness and strengths that found on the system.

7.2.1 WEAKNESS

- Student details need to update every year
- System is still not dynamic in showing the data

7.2.2 STRENGTH

- Use a PHP Framework that making development much faster and secure.
- Easy to use
- Will help warden to monitor attendance data in better way

7.3 PROPOSITIONS FOR IMPROVEMENT

Below is the proposition or idea that can be used to improve the system.

7.3.1 PROVIDE ATTENDANCE CHECKER FOR PARENTS

Parents can view and check their children attendance with inserting NRIC number of their children. In this part, parents can monitor their children attendance and provide a better guidance for parents.

7.4 CONCLUSION

In conclusion, this project have meet all objective. The development of the system is following all objective and requirement needed by the system. It can be commercialize to public and can be used by all boarding school in Malaysia. Maybe for the future plan, the database will be on the cloud so that all school can share their information direct to ministry. Altogether, this project has been successfully finished and hopefully one day there is someone can be investor for this project.

REFERENCES

Sweeney, Patrick J. RFID for Dummies. Hoboken: Wiley;2005.

Monk, Simon. *Programming Arduino Getting Started with Sketches*. New York: McGraw-Hill Education; 2016.

M.C Roberts"Radio Frequency Identification(RFID)." *Computers & Security* 25,no.1 (February 2016): 18-26.

Test Case ID	Login_Function_10		
Description	To test login functionality of the system		
Module	User Authentication		
Prepared By	Nurul Ain	Date Prepared	24 /10/2018

Review/ Updated	Cycle 1	Date reviewed	30/10/2018
Tested By	Munirah	Date Tested	30/10/2018
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
1	To check whether textbox is not null.	Username ="" Password=""	Alert box display "Please fill out this field "	error not display	x
2	To check whether email and password is match.	Username ="Khadijah" Password="abc123"	Alert box display "Username and/or password incorrect. Try again"	error message display	✓
3	When both match	Username= "ain" Password="ain123"	Direct to homepage	"	✓

Test Case ID	Registration_Staff_Function_10		
Description	To test registration of warden		
Module	Staff Registration		
Prepared By	Nurul Ain	Date Prepared	24/10/2018

Review/ Updated	Cycle 1	Date reviewed	30/10/2018
Tested By	Munirah	Date Tested	30/10/2018
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
1.	If text field Name is empty	Name="" Email="othman@gmail.com" Phone="0197628365" Username="othman" Password = "abc123"	Alert display"Please fill out this field"	error message display	✓
2.	If text field Email is empty	Name="Othman Zahar" Email="" Phone="0197628365" Username="othman" Password = "abc123"	Alert display"Please fill out this field"	"	✓
3.	If text field Email is invalid	Name="Othman Zahar" Email="othman@.com" Phone="0197628365" Username="othman" Password = "abc123	Alert display " '.' Is used at a wrong position in '.com' "	"	✓

4.	If text field Phone is empty	Name="Othman Zahar" Email="othman@ gmail.com" Phone="" Username="Othman" Password = "abc123"	Alert display"Please fill out this field"		✓
5.	If text field Username is empty	Name="Othman Zahar" Email="othman@ gmail.com" Phone="0197628365" Username="" Password = "abc123"	Alert display"Please fill out this field"		✓
6.	If text field Password is empty	Name="Othman Zahar" Email="othman@ gmail.com" Phone="0197628365" Username="Othman" Password = ""	Alert display"Please fill out this field"		✓
7.	If press 'Submit' button	Name="Othman Zahar" Email="othman@ gmail.com" Phone="0197628365" Username="Othman" Password = "abc123"	Alert display " New Warden Registered!"		✓

Test Case ID	Registration_Student_Function_10		
Description	To test the registration of student		
Module	Student registration		
Prepared By	Nurul Ain	Date Prepared	24/10/2018

Review/ Updated	Cycle 1	Date reviewed	30/10/2018
Tested By	Munirah	Date Tested	30/10/2018
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
1.	If text field RFID_UID is empty	RFID_UID=" " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"	error message display	✓
2.	If text field IC is empty	RFID_UID="56374384 " IC="" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5"	Alert display"Please fill out this field"	"	✓

		Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"			
3.	If text field Name is empty	RFID_UID="56374384 " IC="940917055426" Name="" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"	//	✓
4.	If text field Gender is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2"	Alert display"Please select one of these option"	//	✓

		Zipcode="76100" City="Durian Tunggal" State-"Melaka"			
5.	If text field Age is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please select one of these option"	//	✓
6.	If text field Form is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please select one of these option"	//	✓
7.	If text field Class is empty	RFID_UID="56374384 " IC="940917055426"	Alert display"Please select one of these option"		

		Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"		//	✓
8.	If text field ParentName is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"	//	✓
9.	If text field ParentEmail is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah"	Alert display"Please fill out this field"	//	✓

		ParentName="Ali Bin Mat" ParentEmail="" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"			
0.	If text field Phone is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"	"	✓
1.	If text field Address is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="" Zipcode="76100"	Alert display"Please fill out this field"	"	✓

		City="Durian Tunggal" State-"Melaka"			
2.	If text field Zipcode is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"	//	✓
3.	If text field City is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="" State-"Melaka"	Alert display"Please fill out this field"	//	✓
3.	If text field State is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali"	Alert display"Please fill out this field"		

		Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-""		1/	✓
4.	If press 'Submit' button	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display "Succsessfully register student"	1/	✓

Test Case ID	Insert_Attendance_Purpose_10		
Description	To test the adding of the event		
Module	Adding attendance		
Prepared By	Nurul Ain	Date Prepared	24/10/2018

Review/ Updated	Cycle 1	Date reviewed	30/ 10/2018
Tested By	Munirah	Date Tested	30/ 10/2018
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
	If text field Description is empty	Description ="" Start_date="11/11/2018" End_date="11/11/2018" Status="Outing"	Alert display"Please fill out this field"	Alert message display	✓
	If text field Start_date is empty	Description ="OUTING PILIHAN" Start_date="" End_date="11/11/2018" Status="Outing"	Alert display"Please fill out this field"	"	✓
	If text field End_date is empty	Description ="OUTING PILIHAN" Start_date="11/11/2018" End_date="" Status="Outing"	Alert display"Please fill out this field"	"	✓
	If text field is Status empty	Description ="OUTING PILIHAN" Start_date="11/11/2018" End_date="11/11/2018" Status=""	Alert display "Please select an item in the list"	"	✓
	If press 'Submit' button	Description ="OUTING" Start_date="11/11/2018" End_date="11/11/2018" Status="Outing"	Alert display "Succsessfully add event attendance"	"	✓

Test Case ID	Insert_Hostel_Capacity_10		
Description	To test the update of the hostel capacity		
Module	Update capacity of hostel		
Prepared By	Nurul Ain	Date Prepared	24/10/2018

Review/ Updated	Cycle 1	Date reviewed	30/10/2018
Tested By	Munirah	Date Tested	30/10/2018

- Test Activities

No	Step Description	Test Data	Expected Result	Actual Result	Status
	If text field Capacity is empty	Capacity =""	Alert display"Please fill out this field"	Alert message Display	✓
	If press 'Submit' button	Capacity ="100"	Alert display" Successfully inserted hostel capacity"		✓

Test Case ID	Login_Function_10		
Description	To test login functionality of the system		
Module	User Authentication		
Prepared By	Nurul Ain	Date Prepared	24/10/2018

Review/ Updated	Cycle1	Date reviewed	~~30/10/2018~~ 31/10/2018
Tested By	~~Aqmirah~~ Puan Nor Hafeizah	Date Tested	~~30/10/2018~~ 31/10/2018
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
	To check whether textbox is not null.	Username ="" Password=""	Alert box display "Please fill out this field "	Aler message Duplay	✓
	To check whether email and password is match.	Username ="Khadijah" Password="abc123"	Alert box display "Username and/or password incorrect. Try again"	"	✓
	When both match	Username= "ain" Password="ain123"	Direct to homepage	"	✓

Test Case ID	Registration_Staff_Function_10		
Description	To test registration of warden		
Module	Staff Registration		
Prepared By	Nurul Ain	Date Prepared	24/10/2018

Review/ Updated	Cycle 2	Date reviewed	30/10/2018
Tested By	~~Mynaroth~~ Nur Nor Hafeizah	Date Tested	31/10/2018
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
1.	If text field Name is empty	Name="" Email="othman@ gmail.com" Phone="0197628365" Username="othman" Password = "abc123"	Alert display"Please fill out this field"	Actual Alert display	✓
2.	If text field Email is empty	Name="Othman Zahar" Email="" Phone="0197628365" Username="othman" Password = "abc123"	Alert display"Please fill out this field"	"	✓
3.	If text field Email is invalid	Name="Othman Zahar" Email="othman@ .com" Phone="0197628365" Username="othman" Password = "abc123	Alert display " '.' Is used at a wrong position in '.com' "	"	✓

4.	If text field Phone is empty	Name="Othman Zahar" Email="othman@ gmail.com" Phone="" Username="Othman" Password = "abc123"	Alert display"Please fill out this field"	//	✓
5.	If text field Username is empty	Name="Othman Zahar" Email="othman@ gmail.com" Phone="0197628365" Username="" Password = "abc123"	Alert display"Please fill out this field"	//	✓
6.	If text field Password is empty	Name="Othman Zahar" Email="othman@ gmail.com" Phone="0197628365" Username="Othman" Password = ""	Alert display"Please fill out this field"	//	✓
7.	If press 'Submit' button	Name="Othman Zahar" Email="othman@ gmail.com" Phone="0197628365" Username="Othman" Password = "abc123"	Alert display " New Warden Registered!"	//	✓

Test Case ID	Registration_Student_Function_10		
Description	To test the registration of student		
Module	Student registration		
Prepared By	Nurul Ain	Date Prepared	24/10/2018

Review/ Updated	Cycle 2	Date reviewed	30/10/2018
Tested By	~~Nurnirah~~ Puan Nor ~~Hafeizah~~	Date Tested	30/10/2018
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
1.	If text field RFID_UID is empty	RFID_UID=" " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"	error message display	✓
2.	If text field IC is empty	RFID_UID="56374384 " IC="" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5"	Alert display"Please fill out this field"	"	✓

		Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"			
3.	If text field Name is empty	RFID_UID="56374384 " IC="940917055426" Name="" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"		✓
4.	If text field Gender is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2"	Alert display"Please select one of these option"		✓

		Zipcode="76100" City="Durian Tunggal" State-"Melaka"			
5.	If text field Age is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please select one of these option"	11	✓
6.	If text field Form is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please select one of these option"	11	✓
7.	If text field Class is empty	RFID_UID="56374384 " IC="940917055426"	Alert display"Please select one of these option"		

		Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"			✓
8.	If text field ParentName is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"		✓
9.	If text field ParentEmail is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah"	Alert display"Please fill out this field"		✓

		ParentName="Ali Bin Mat" ParentEmail="" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"			
0.	If text field Phone is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"	))	✓
1.	If text field Address is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="" Zipcode="76100"	Alert display"Please fill out this field"	))	✓

		City="Durian Tunggal" State-"Melaka"			
2.	If text field Zipcode is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="" City="Durian Tunggal" State-"Melaka"	Alert display"Please fill out this field"		✓
3.	If text field City is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="" State-"Melaka"	Alert display"Please fill out this field"		✓
3.	If text field State is empty	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali"	Alert display"Please fill out this field"		

		Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-""		11	✓
4.	If press 'Submit' button	RFID_UID="56374384 " IC="940917055426" Name="Zaiton Binti Ali" Gender="Female" Age="17" Form="5" Class="Khadijah" ParentName="Ali Bin Mat" ParentEmail=" ali@gmail.com" Phone="0178287428" Address="No1 Jalan Bunga Setia 1/2" Zipcode="76100" City="Durian Tunggal" State-"Melaka"	Alert display "Succsessfully register student"	11	✓

Test Case ID	Insert_Attendance_Purpose_10		
Description	To test the adding of the event		
Module	Adding attendance		
Prepared By	Nurul Ain	Date Prepared	24/10/2018

Review/ Updated	Cycle 1	Date reviewed	30/10/2018
Tested By	Puan Nor Hafeizah	Date Tested	31/10/2018
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
	If text field Description is empty	Description ="" Start_date="11/11/2018" End_date="11/11/2018" Status="Outing"	Alert display"Please fill out this field"	error message display	✓
	If text field Start_date is empty	Description ="OUTING PILIHAN" Start_date="" End_date="11/11/2018" Status="Outing"	Alert display"Please fill out this field"	"	✓
	If text field End_date is empty	Description ="OUTING PILIHAN" Start_date="11/11/2018" End_date="" Status="Outing"	Alert display"Please fill out this field"	"	✓
	If text field is Status empty	Description ="OUTING PILIHAN" Start_date="11/11/2018" End_date="11/11/2018" Status=""	Alert display "Please select an item in the list"	"	✓
	If press 'Submit' button	Description ="OUTING" Start_date="11/11/2018" End_date="11/11/2018" Status="Outing"	Alert display "Succsessfully add event attendance"	"	✓

Test Case ID	Insert_Hostel_Capacity_10		
Description	To test the update of the hostel capacity		
Module	Update capacity of hostel		
Prepared By	Nurul Ain	Date Prepared	24/10/2018

Review/ Updated	Cycle 2	Date reviewed	31/10/2018
Tested By	Puan NorHafeizah	Date Tested	31/10/2018
Test Activities			

No	Step Description	Test Data	Expected Result	Actual Result	Status
	If text field Capacity is empty	Capacity =""	Alert display"Please fill out this field"	error message display	✓
	If press 'Submit' button	Capacity ="100"	Alert display" Successfully inserted hostel capacity"		✓

Hostel Attendance with RFID

Objective: To compare current system with the purpose system

Position: Warden/Student/Parents

Current System

1. Do you think the current attendance system is working satisfactorily?

   Yes No

2. Did you encounter any difficulties to check attendance of students through manual attendance?

   Yes No

3. Does the current system allow you to check student/children attendance record?

   Yes No

4. Does it hard for you to update new information about attendance using the current system?

   Yes No

RFID Technology

1. Do you know what is RFID Technology?

   Yes No

2. Do you think RFID system make your job quicker and faster than current system?

   Yes No

3. Do you think that monitoring system with RFID can record data more accurate than current system?

   Yes No

Hostel Attendance with RFID

Answer if you are a warden.

	Strongly agree	Agree	Natural	Disagree	Strongly Disagree
1. Does the system make the warden and staff registration more quicker?	✓				
2. Does the system help you to get information regarding the student attendance?	✓				
3. Does it more easier for you to detect student with attendance problem?	✓				
4. Do you think this system help you to take action more systematically toward student?	✓				
5. Does this system help you to produce more accurate report?		✓			
6. Does the system is user friendly and easy to used?	✓				
7. Does it more flexible for you to update your personal data using this system?		✓			
8. Does the system is user friendly and easy to used?	✓				
9. Does it more flexible for you to update your personal data using this system?	✓				
10. Does the data provide by the system is more clear than the current system?	✓				

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   Yes No ✓

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   Yes No ✓

2. Do you think RFID system make your job quicker and faster than current system?

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3. Do you think that monitoring system with RFID can record data more accurate than current system?

   Yes ✓ No

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2. Does the system help you to get information regarding the student attendance?	✓				
3. Does it more easier for you to detect student with attendance problem?	✓				
4. Do you think this system help you to take action more systematically toward student?		✓			
5. Does this system help you to produce more accurate report?	✓				
6. Does the system is user friendly and easy to used?	✓				
7. Does it more flexible for you to update your personal data using this system?	✓				
8. Does the system is user friendly and easy to used?	✓				
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10. Does the data provide by the system is more clear than the current system?	✓				

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3. Does it more easier for you to detect student with attendance problem?					
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5. Does this system help you to produce more accurate report?					
6. Does the system is user friendly and easy to used?					
7. Does it more flexible for you to update your personal data using this system?					
8. Does the system is user friendly and easy to used?					
9. Does it more flexible for you to update your personal data using this system?					
10. Does the data provide by the system is more clear than the current system?					

```php
if (isset($_POST['status']) && isset($_POST['option'])&&isset($_POST['description']) && isset($_POST['start_date']) && isset($_POST['end_date']) )
{
        $status=$_POST['status'];
        $option $_POST['option'];
        $start_date=$_POST['start_date'];
        $end_date $_POST['end_date'];
        $description=$_POST['description'];
        //$num_day $_POST['num_day'];

        if($status == "1")
        {
            $status = "overnight";
        }
        else if($status == "2")
        {
            $status = "outing";
        }
        // $start_date = date(strtotime($start_date));
        // $end_date = date(strtotime($end_date));

        $sql = "INSERT INTO setting_attendance ( status, option, start_date, end_date, description) VALUES ('" $status."','" $option."','" $start_date "','" $
            end_date "','" $description."')" ;
        $result = $connection ->query ($sql);

         if($result)
         {

              echo "Successfully register";
```

```php
<?php
$connection = mysqli_connect('localhost', 'root', '','attendance1');
if (!$connection){
    die("Database Selection Failed" . mysqli_error($select_db));
}

?>
```



```
byte mac[] = { 0xDE, 0xAD, 0xBE, 0xEF, 0xFE, 0xED };

IPAddress server(192,168,0,13);  // numeric IP for server (no DNS) (reduce sketch size)
IPAddress ip(192,168,0,14);      //numeric IP of the ETHERNET shield (STATIC)

EthernetClient client; //Initialize the Ethernet client library(port 80 is HTTP default):

int first=0;
int counter=0;
String rfid_uid;
```