

INTERNSHIP PLACEMENT DATABASE USING PHP, MYSQL AND RFID

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ABSTRACT

This project describe about in higher education learning centres especially in engineering field, it is a common practice for student to do their internship to gain experience at organization which much related to their field of study. To cater a big number of students where they do apply internship placement to several organization will involve abundance of clerical works toward faculty. Hence, one of the approach to ease this burden is by letting student to key in data by themselves. Hence, for this project, creating and setup an online database using PHP and MySQL and a matter to control the access towards the system is by using RFID which can be found in student's matrix card.

Index terms- RFID, PHP, MySQL, Database.

ABSTRAK

Projek ini menerangkan tentang di pusat-pusat pendidikan tinggi pembelajaran khususnya dalam bidang teknik, itu adalah amalan umum bagi pelajar untuk melakukan latihan industri untuk mendapatkan pengalaman di organisasi yang banyak berkaitan dengan bidang pengajian mereka. Untuk mengawal sejumlah besar pelajar di mana mereka perlu mengisi borang penempatan latihan industri ke beberapa organisasi akan melibatkan berlakunya kehilangan borang serta ia akan lebih merumitkan pihak fakulti. Oleh kerana itu, salah satu pendekatan untuk meringankan beban ini adalah dengan mencipta satu system dimana pelajar perlu memasukkan data secara '*online*' dengan sendiri. Oleh kerana itu, untuk projek ini, mencipta sebuah database '*online*' dengan menggunakan PHP dan MySQL dan pangkalan data lain untuk mengawal akses terhadap sistem adalah dengan menggunakan RFID yang boleh ditemui dalam kad matriks pelajar.

Kata Kunci- RFID, PHP, MySQL, Pangkalan Data.

CHAPTER 1

INTRODUCTION

This chapter will briefly discuss on the project overview. The project background, problem statement, scope, objective and methodology will be presented in this chapter.

1.1 Project Background

In higher education learning centres especially in engineering field, it is a common practice for student to do their internship to gain experience at organization which much related to their field of study. To cater a big number of students where they do apply internship placement to several organizations will involve abundance of clerical works toward faculty. Hence, one of the approach to ease this burden is by letting student to key in the data by themselves. Hence, for this project, students are required to setup an online database using PHP and MySQL and a matter to control the access towards the system is by using RFID which can be found in student's matrix card.

1.2 Problem statement

In order to handle a big number of students during they do apply internship placement to several organization that will result abundance of clerical works toward faculty. This system will help faculty to ease the clerical job, where student will key in by themselves all the data related to them.

1.3 Project Objective

For this project, there are several objectives, which are:-

- To study develop an online database for purpose of student internship management by using PHP, MySQL, and RFID
- To develop a proper and more systematic internship placement system
- System will help faculty to ease the clerical job, where student will key in by themselves all the data related to them.

1.4 Scope of work

There are several scopes that need to be considered in order to fulfill the requirement of this project. The main scope of this project is:

- Develop an online database system for internship placement database using PHP and MySQL.
- Utilize RFID method for managing record at student when they come to collect letter related to industrial placement application related to them.

1.5 Methodology

The diagram below show the flow of this project:

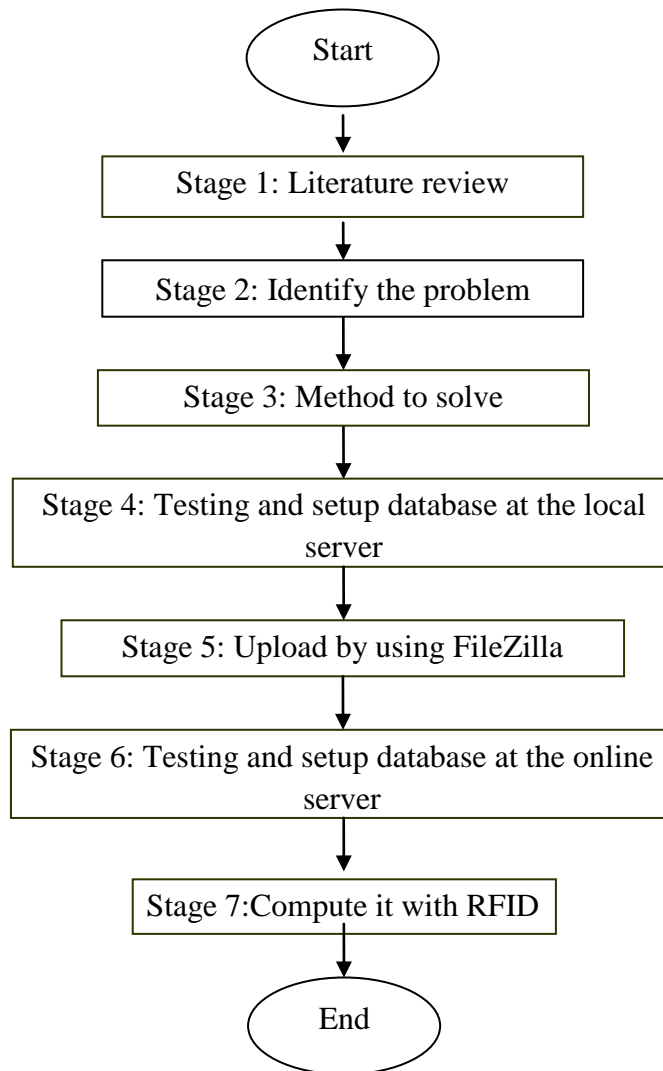


Figure 1.1: Flow of Methodology

The planning and development are divided to 7 stages. The first stage is Literature review whereby this stage is about collecting information and data from book, journal and internet. The second and third stage is identify the problem and find relevant method to solve it and also starts to do the project as planned by first creating using database phpmyadmin. All the data (images) will be stored in the database. Next is by creating program code, by using user authentication in macromedia Dreamweaver. The next stage is stage 4 which is, testing the setup

database at the local server (localhost) and then stage 5 is uploading the script using FileZilla. Stage 6 is about testing and setup database at online server. During this stage, user can already use the website, log in and key in their data of internship programme. The last is stage 7 where this stage for RFID implementation for user access. The **Table 1(in appendix)** shows the project planning.

1.6 Project Overview

In this part, it will discussed about the summary or overview for each chapter contained in this report. Chapter 1 will be discussed about the introduction of this project. There are problem statements, objectives of the project, project scope and project methodology. In Chapter 1 also consists the summary of this thesis.

Chapter 2 describes the Literature Review of the project. All the theoretical and the basic idea for the project are explained in detail manner.

In the Chapter 3, further discussion about Project Methodology which has included in Chapter 1. In this chapter, there is explanation of the method selected in preparing the system. Project methodology is important in providing exact method and corrective action that can be made if problems occur. This chapter will provide clear view of the project.

In Chapter 4, will explain regarding the development process of this project.

In Chapter 5, has been describing about the results of this project and briefly explain the discussion of overall regarding this project.

The end of the chapters is Chapter 6, project conclusion. This chapter was summarized the whole project. Some additional idea is discussed for future improvement or to implement the project in the actual field.

CHAPTER 2

LITERATURE REVIEWS

Nowadays, there are many software and interface being used to do the own web page. Database also can be creating, so from that the detail can be managed by web designers. All this method can be handle or manage in proper way and more secure. The chapter starts with brief discussion on dreamweaver8 (PHP), MySQL/phpMyAdmin), FileZilla and 000webhost.

2.1 Online Database

Online database is a database that created by the programmer to link with network that is internet. Normally, the software is designed to manage the database and to create the database itself [1].

Online database is differ in form of the online database are primarily via a web browser. Currently, there are several database products designed specifically as hosted databases delivered as Software as a Service products [1].

2.2 PHP



Figure 2.1: PHP Logo[2]

PHP is a general-purpose scripting language that is especially suited to server-side web development where PHP generally runs on a web server [2]. Any PHP code in a requested file is executed by the PHP runtime, usually to create dynamic web page content. PHP is the language that being used to communicate with MySQL database, and PHP, Dreamweaver takes care of much of the complex coding on behalf by offering an extensive suite of server behaviors [2].

It can also be used for command-line scripting and client-side GUI applications. PHP can be deployed on most web servers, many operating systems and platforms, and can be used with many relational database management systems . It is available free of charge, and the PHP Group provides the complete source code for users to build, customize and extend for their own use[3].

PHP primarily acts as a filter, taking input from a file or stream containing text and PHP instructions and outputs another stream of data and most commonly the output will be HTML[3].

Originally designed to create dynamic web pages, PHP now focuses mainly on server side scripting, and it is similar to other server side scripting languages that provide dynamic content from a web server to a client [3].

PHP also commonly used as the *P* in this bundle Apache and MySQL. WAMP packages (Windows/ Apache/ MySQL / PHP) has been used to do this project.

2.3 MySQL



Figure 2.2: MySQL Logo

MySQL is a relational database management system .That runs as a server providing multi-user access to a number of databases. MySQL is a popular choice of database for use in web applications, and is a central component of the widely-used LAMP web application software stack LAMP is an acronym for Linux, Apache, MySQL, PHP. Its popularity is closely tied to the popularity of PHP. MySQL is used in some of the most frequently visited web sites on the Internet.[4]

MySQL is written in C, and C++. Many programming languages with language-specific APIs include libraries for accessing MySQL databases.[4]

The official MySQL Workbench is a free integrated environment developed by MySQL that enables users to graphically administer MySQL databases and visually design database structure. MySQL Workbench replaces the previous package of software:-[4]

- Database design & modeling
- SQL development — replacing MySQL Query Browser
- Database administration — replacing MySQL Administrator

2.31 Third-party

Several other third-party proprietary and free graphical administration applications are available that integrate with MySQL and enable users to work with database structure and data visually. Some well-known front ends are: [4]

- phpMyAdmin — a free Web-based front end widely installed by Web hosts worldwide, since it is developed in PHP and requires the LAMP stack or WAMP.
- MySQL ships with a suite of command line tools for tasks such as querying the database, backing up data, inspecting status, performing common tasks such as creating a database, and many more.

2.32 Deployment MySQL

MySQL can be built and installed manually from source code, but this can be tedious so it is more commonly installed from a binary package unless special customizations are required.

It is still most commonly used in small to medium scale single server deployments, either as a component in a LAMP based web application or as a standalone database server. Much of MySQL's appeal originates in its relative simplicity and ease of use, which is enabled by an ecosystem of open source tools such as phpMyAdmin.

2.4 PHP and MySQL works together

PHP and MySQL work very well together. This dynamic partnership is what makes PHP and MySQL so attractive for web database applications development. Whether have database full of information that want to make the available to users(such as product catalog)or database waiting to be filled up by users(for

example, a membership database), PHP and MySQL work together to implement the application.[4]

One of PHP's strongest features is its ability to interact with databases. It provides functions that make communicating with MySQL extremely simple. Use PHP functions to send SQL queries to the database. Do not to know the details of communicating with MySQL, PHP handle the details. Just need to know the SQL queries and how to use the PHP functions.

When time in a username and password, although it seems that had logging in to the phpMyAdmin, but actually not. The authentication systems are a function of the MySQL server. Merely using phpMyAdmin (which is running on the web server) as an interface that sends our username and password information to the MySQL server. Strictly speaking, it does not log in to phpMyAdmin, but through phpMyAdmin[5].

This is why phpMyAdmin is very useful interface, authentication are often referred back to their MySQL server's administrator, because a lost MySQL user or password is not really a phpMyAdmin problem.

2.41 Reason of choosing PHP/MySQL

All the languages supported by Dreamweaver are good, but it's a good idea to pick one and get to know it well. Once you have become proficient at one server-side language, can be find the transition to another a lot easier, because they share many elements in common. Strictly speaking, it is possible to mix different server-side technologies in the same website, as long as the server supports them. The hybrid in PHP was run the Web's most widely available server-side language MySQL is also reputed to be the most popular open source database because PHP is a server-side language, it needs to work in connection with a web server. More often than not, found that it in combination with Apache, the software that runs more than two out of every three web servers .Apache, PHP, and MySQL run on just about every operating system[5].

2.5 Macromedia Dreamweaver8



Figure 2.3: Dreamweaver Logo[5]

Dreamweaver is a powerful web page creation and web site management tool. It offers numerous, sophisticated functions that can be used to create professional quality web sites. Because of this, it's one of the most popular web authoring tools among web designers [6].

Dreamweaver also allows users to preview websites in locally installed web browsers. It provides transfer and synchronization features, the ability to find and replace lines of text or code by search terms and regular expressions across the entire site, and a templating feature that allows single source update of shared code and layout across entire sites without server side includes or scripting[5].

Dreamweaver can use third-party extension to extend core functionality of the application, which any web developer can write (largely in HTML and JavaScript). Dreamweaver also can supported by a large community of extension developers who make extensions available (both commercial and free) for most web development tasks from simple rollover effects to full-featured shopping carts[5].

Dreamweaver, like other HTML, edits files locally then uploads them to the remote web server using FTP. Dreamweaver 8 has a lot of new features to improve the productivity when working with PHP. Dreamweaver makes connecting to a database a breeze. It creates the code that displays the results of a database query in

seconds, and it automatically sets up navigation systems to page through a long set of results.

2.6 Introduction of PhpMyadmin

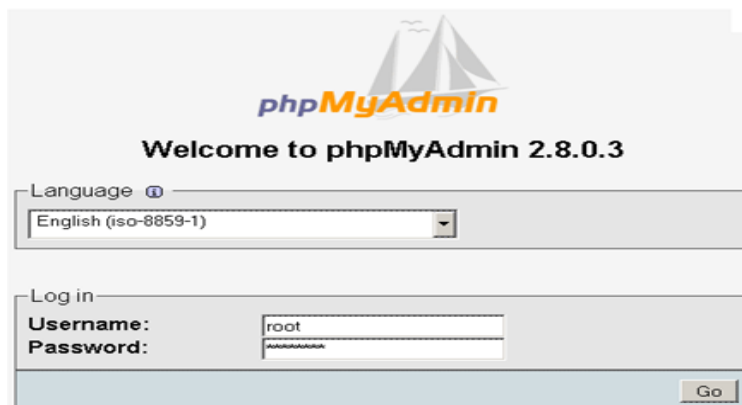


Figure 2.4:PhpMyAdmin login[6]



Figure 2.5:PhpMyAdmin home[6]

This section describes the place of phpMyAdmin in the context of PHP/MYSQL web applications and summarizes its features.

Phpmyadmin is a web application written in PHP and contains (like most applications) XHTML,CSS,and JavaScript client code. It provides a complete web

interface for administering MySQL databases, and widely recognized as the leading application in this field [6].

Host providers everywhere are showing their trust in phpMyAdmin by installing it on their servers. In addition, phpMyAdmin can be installed inside the webspace as long as our provider respects the minimum requirements.

2.61 PhpMyAdmin features

The goal of phpMyAdmin is to offer complete web-based management of MySQL servers and data, and to keep up with MySQL and web standards evolution. While the product is not perfect, it currently includes the most commonly requested features and other extra features [7].

The development team constantly fine-tunes the product based on the reported bugs and requested features, releasing new versions regularly.

PhpMyAdmin offers features that cover basic MySQL database and table operations. It also has an internal relational system that maintains the data to support advanced features.

Finally, system administrators can manage users and privileges from phpMyAdmin. It is important to note that phpMyAdmin's choice of available operations depends on the rights the user has on a specific MySQL server [7].

The basic features consist of:-

- Database creation,deletion,renaming, and attribute changes
- Table creation,renaming,copying and deletion
- Table structure maintainance, including indexes
- Special table operations(repair,optimization, and changing type)
- Data insertion,modification,deletion
- Data display in horizontal/vertical mode, and Print view

- Data navigation and sorting
- Binary data uploading
- Data search(table or database)
- Querying by example(multi-table)
- Batch loading of data(import)
- Exporting structure and data in various formats,with compression

Multi-user and multi-server installation with web-based setup

The advance features include:

- SQL queries history
- PDF relational schema and dictionary
- Support for MySQL 5.0 features-views,procedures,triggers,profiling
- Support for MySQL 5.1 features-events and partitions

The server administration features consists of:-

- User and privileges management
- Database privileges check
- Verify server's runtime information and obtain configuration hints
- Full server export

2.62 Web applications

The web has evolved because of the changes in the web dramatically. In its infancy, the web was a medium used mainly to convey static information. The parts of the web carry information that is dynamically generated by application programs, on which enterprises, and even individuals, or public websites [8].

Because of the clear benefits or databases, better accessibility and structuring of information, web applications are mostly database driven. While the front end used is usually a well known (and quickly deployed) web browser, there is a database systems at the back end. Application programs provide the interface between the browser and the database [8].

Web applications improve the user experience and involve them in the process by opening up possibilities such as [8]:-

- Gathering feedback about the site
- Letting users communicate with us and with each other through forums
- Ordering goods from our e-commerce site
- Enabling easily editable web-based information(content management)
- Designing and maintaining databases from the Web

2.7 FileZilla



Figure2. 6: The FileZilla logo

FileZilla Client is software that uses to upload the database to the web. It is open source FTP client. FileZilla Client is a fast and reliable cross-platform (Windows, Linux and Mac OS X) FTP, FTPS and SFTP client with lots of useful features and an intuitive graphical user interface[9].

FileZilla Client is often referred as **FileZilla**, and is the Client software everyone can use on the own machine (for Servers, FileZilla Server is the right software)[8]. FileZilla is known as one of the most reliable and updated FTP client.

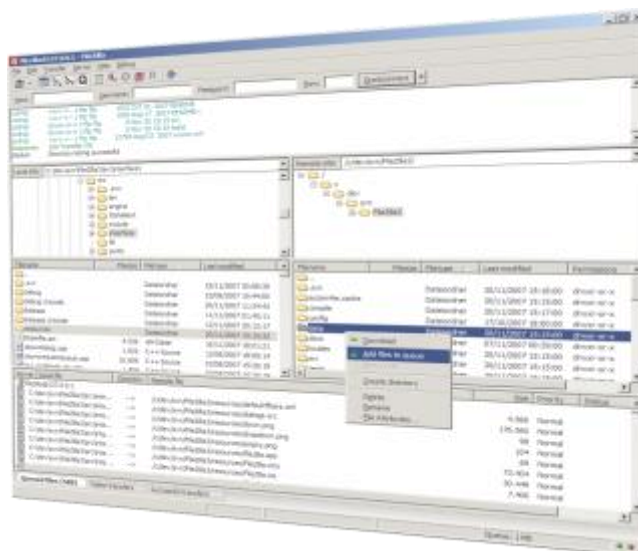


Figure 2.7: The FileZilla login page

2.7.1 Features

i. Site manager

Allows a user to create a list of FTP sites along with their connection data, such as the port number to use, the protocol to use, and whether to use anonymous or normal logon. For normal logon, the username is saved and optionally the password[9].

ii. Message log

Displayed along the top of the window. It displays the console type output showing the commands sent by FileZilla and the remote server's responses [9].

iii. File and folder view

Displayed under the message log, provides a graphical interface for FTP. Users can navigate folders and view and alter their contents on both the local and remote machines using an Explorer-style tree interface. This FileZilla can drag and drop files between the local and remote computers[9].

iv. Transfer queue

Displayed along the bottom of the window, shows the real-time status of each queued or active file transfer[9].

2.8 000WebHost



Figure 2.8: The 000Webhost page

000webhost.com is an industry leader in providing top class free web hosting services without advertising. 000 webhost also has no hidden costs, no adverts, and no restrictive terms [9]. The features such as Lightning fast speeds, maximum reliability and fanatical user support.

a) 1500 MB Disk Space, 100 GB Data Transfer

Every account receives 1500MB space and a whopping 100GB bandwidth, made possible by the unmetered connections our servers utilise. Should the site ever need more than the standard package can offer, wide range of upgrade options also available in 000webhost[10].

b) with MySQL Database Support

000 webhost support PHP and MySQL with no restrictions. Latest version of PHP and MySQL can be access. The following PHP features are fully supported [10]:

- PHP mail function and Sendmail
- safe_mode is OFF, file uploads are ON

c) cPanel Control Panel

cPanel is the most advanced control panel in industry. It has tons of features and it is easy to use .Interactive help, video tutorials will help to understand why cPanel is the best and cPanel is widely used by the paid hosts[10].

d) Website Builder Software

This hosting is supercharged with SiteReptile website builder. SiteReptile is the easiest to use website builder in the market. 3steps needed [10]:-

- i. enter the login details,
- ii. select one of 330 high quality templates
- iii. click 'publish'

Then, the website is ready online for editing.

2.9 Taking a peek behind the scenes

Without getting too technical, let's take a quick look behind the scenes to see how a dynamic page is served up when a request comes from a user. Figure below shows the sequence of events [5].

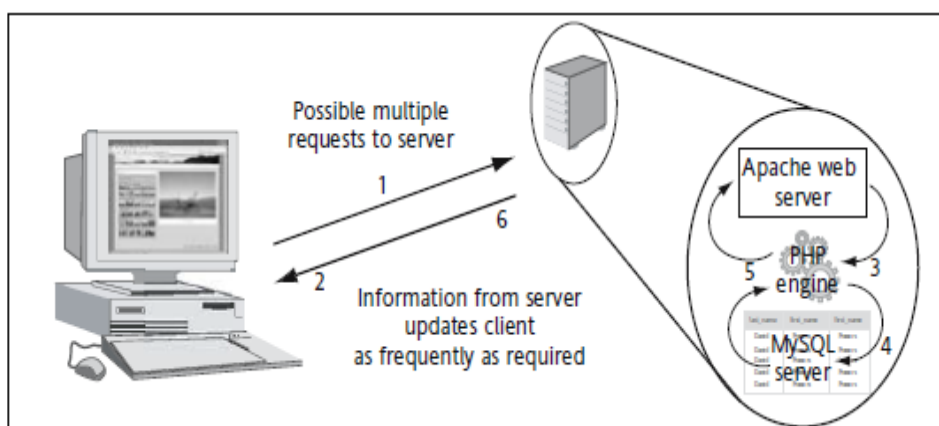


Figure 2.9: The diagram on internship process flow[5]

- i. The client computer sends a request to the web server (normally Apache).

- ii. If the requested page contains no PHP script, the XHTML, CSS, images, and any other pageassets are sent to the client.
- iii. If the requested page contains any PHP, the web server passes the script to the PHP engine for processing.
- iv. If the PHP script initiates a database query, a request is sent to the MySQL server.
- v. The results of the database query are sent back to the PHP engine for processing and insertion into the page.
- vi. The web server assembles the entire page as XHTML and sends it to the client, together with any images or other assets.

Once the client receives the data from the server, the page is displayed in the browser, which is ready to receive any input from the user.

There's a lot going on here, and this process can be repeated many times as the user interacts with the page. Sometimes all six stages are required, and, at other times, PHP may simply do all the processing itself without having to query the database. Although it sounds complicated, PHP, MySQL, and Apache can search through many thousands of records in a fraction of a second, so the user may be totally unaware of anything going on in the background. The biggest delay is often caused by a slow Internet connection or network bottlenecks [6].

2.10 RFID

Radio frequency identification (RFID) is a generic term that is used to describe a system that transmits the identity in the form of a unique serial number of an object or person wirelessly, using radio waves. It is grouped under the broad category of automatic identification technologies [11].

Unlike ubiquitous UPC bar-code technology, RFID technology does not require contact or line of sight for communication. RFID data can be read through the chip that had been editing into the card or else [11].

But for this project, RFID will be used as detection the identity of the student (user) by detected it using the matric card. So that, if the student (user) forgets the password or else, they just can use the matric card to the RFID systems, then all the information of the student internship programme will appear.

A basic RFID system consists of three components [11]:

- i. A Matric card electronically programmed with unique information
- ii. A RFID systems box
- iii. A computer and software infrastructure

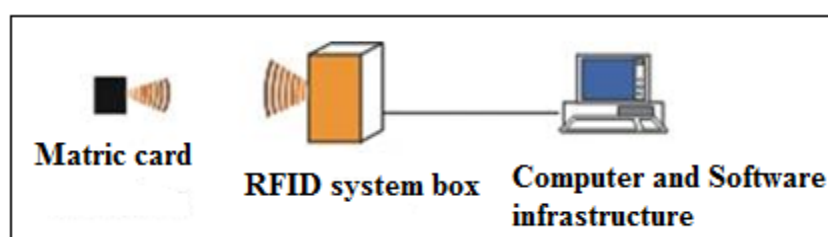


Figure 2.10: The RFID transmits data[10]

The matric card count of each own id or chip that has been programmed. The RFID systems box reader emits the signal from the id or chip (matric card), then it will pass the information to the computer that has been programmed. When a matric card passes through thr RFID systems box, it detects the details of the user identity card and internship placement details.

- The computer that was programmed will detects the signal from the RFID systems box information that come from the silicon chip or matrix
- Card and the data are passed to the host computer for processing.

The purpose of an RFID system is to enable data to be transmitted by a portable device, called a chip or id, which is read by an RFID reader and processed according to the needs of a particular application. The data transmitted by the chip (matric card id) may provide identification.

CHAPTER 3

PROJECT METHODOLOGY

Project methodology is the analysis that is conducted on the principles of methods that used for this project. It is very important to apply the appropriate methods while doing the thesis in order to obtain the desired outcome and it is important part which it shows the whole range work procedure. In this chapter, this project methodology based on the project scope that will focus on simulation study on the PHP and MySQL. All the research, finding and approaches that required solving the problem will discussed here.

3.1 Project Flowchart

The diagram below show the flow of this project:

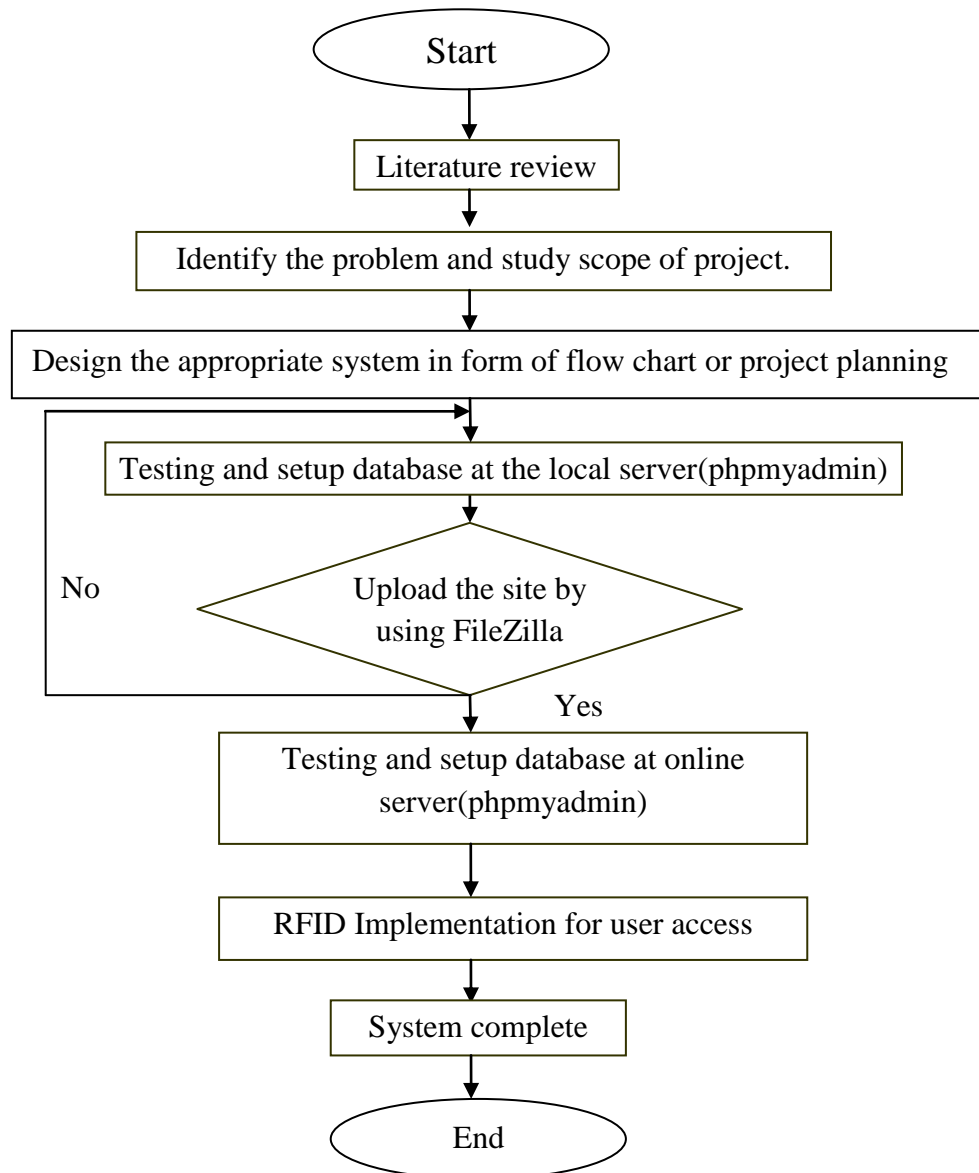


Figure 3.1: Project Methodology