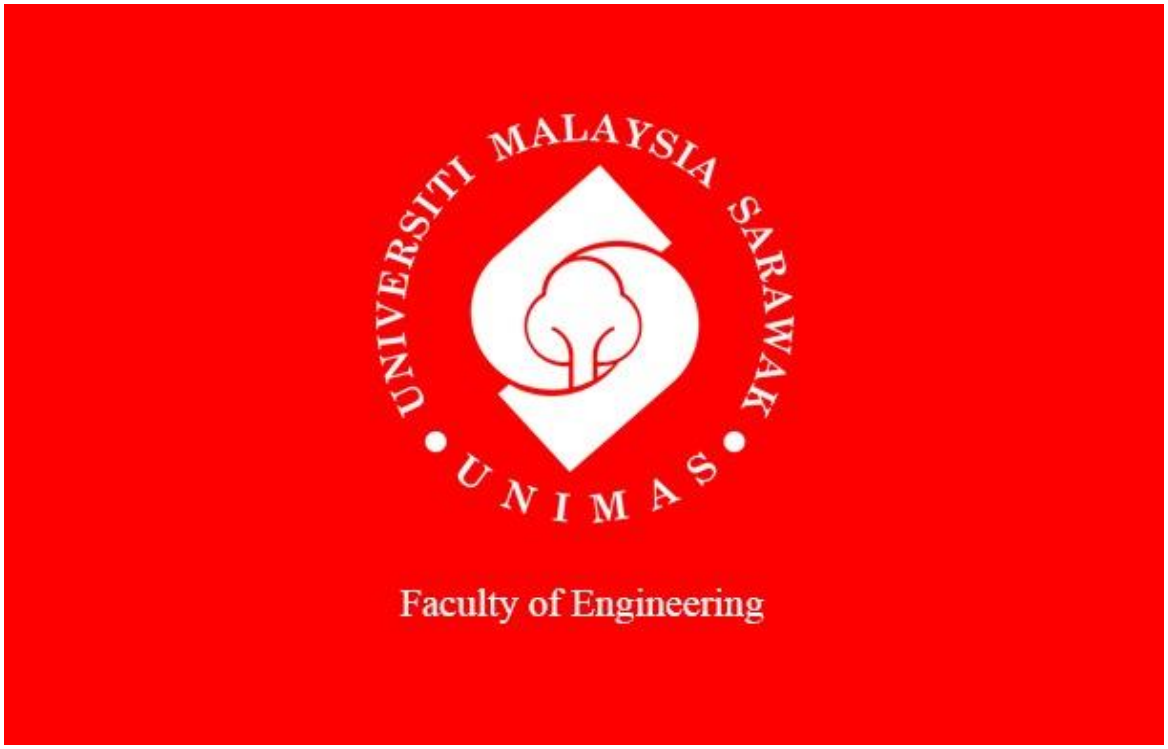

MyRA (MALAYSIAN RESEARCH ASSESSMENT) DATABASE SYSTEM

NUR MULTAZIMAH BINTI ADENAN

Bachelor of Engineering (Hons)
In Electronics (Telecommunication)
2016/2017

UNIVERSITI MALAYSIA SARAWAK

Grade: _____

Please tick (√)

Final Year Project Report [/]

Masters [ ]

PhD [ ]

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This declaration is made on the 19 day of JULY 2017.

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20 JULY 2017
Date submitted

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MyRA (MALAYSIAN RESEARCH ASSESSMENT) DATABASE SYSTEM

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Thesis is submitted to

Faculty of Engineering, University Malaysia Sarawak

In Partial Fulfilment of the Requirements

For the Bachelor of Engineering

(Hons) in Electronic (Telecommunication)

2017

Dedicated to God, my beloved family and friends.

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ABSTRACT

MyRA (Malaysian Research Assessment) system is an online database comprising of all research related materials concerning academicians in public universities. This system is deals with information on the lecturer details, academic qualification, grade details and other related details. The aim of this project is to build a MyRA database for Faculty Engineering of University Malaysia Sarawak (UNIMAS). Besides, the system is developed mostly using Notepad++, XAMPP, and Adobe Dreamweaver that makes the system user friendly which is easy to process the management in handling the information. The system allows the administration to save money on paperwork, time to search, retrieving and synchronize data by using computer technology while enhancing as the faculty's practices the 5S standard. This system will store all database that related to lecturer's details in all aspect. Moreover, the information will be well-organized under MyRA database system.

ABSTRAK

Sistem MyRA (Penilaian Penyelidikan Malaysia) adalah pangkalan data dalam talian yang terdiri daripada semua bahan-bahan penyelidikan yang berkaitan tentang ahli-ahli akademik di universiti awam. Sistem ini adalah memperkatakan jenis butiran pensyarah, kelayakan akademik, butiran gred dan butir-butir lain yang berkaitan. Tujuan projek ini adalah untuk membina pangkalan data MyRA untuk Fakulti Kejuruteraan Universiti Malaysia Sarawak (UNIMAS). Selain itu, sistem ini dibangunkan kebanyakannya menggunakan Notepa++, XAMPP dan Adobe Dreamweaver yang membuat sistem mesra pengguna yang memudahkan proses pengurusan dalam mengendalikan maklumat. Sistem ini membolehkan pihak pentadbiran untuk menjimatkan wang pada kertas kerja, masa untuk mencari, mendapatkan semula dan menyegerakan data dengan menggunakan teknologi komputer yang sama meningkatkan amalan standard 5s di fakulti. Sistem ini akan menyimpan semua pangkalan data yang berkaitan dengan butiran pensyarah dalam semua aspek. Selain itu, maklumat yang akan teratur di bawah sistem pangkalan data MyRA.

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LIST OF ABBREVIATIONS

MyRA	–	Malaysian Research Assessment
RAE	–	Research Assessment Exercise
FENG	–	Faculty of Engineering
UNIMAS	–	University Malaysia Sarawak
RU	–	Research Universities
MoE	–	Ministry of Education
PHP	–	Hypertext Preprocessor
XAMPP	–	Cross-Platform (X) Apache (A) MySQL (M) PHP (P) Perl(P)
DBMS	–	Database Management System
MOHE	–	Ministry of Higher Education
PC	–	Personal Computer
XHTML	–	Hypertext Markup Language
HTML	–	Hypertext Markup Language
CSS	–	Cascade Style Sheet
HTTP	–	Hypertext Transfer Protocol
VB	–	Visual Basic
JSP	–	Java Server Page
ASP	–	Active Server Page
SQL	–	Structured Query Language
API	–	Application Programming Interface
ID	–	Information Details

CHAPTER 1

INTRODUCTION

1.1 Introduction

MyRA (Malaysian Research Assessment) is an online database comprising of all research related materials concerning academicians in public universities. MyRA adopted the concept from Research Assessment Exercice (RAE) in United Kingdom and is utilized to evaluate the capacity of the Higher Education Providers in Malaysia achievement in research. This project aims to build a MyRA database for FENG UNIMAS. Generally, a university is known as a place for tertiary education system in all countries. Nowadays, instead of act as a foundation for spreading knowledge, university also served as a place for scattering and delivering information as well as commercializing and producing many talented graduates. Apart from that, all the talented graduates not only be a part of nation pride, they also may contributed to the improvement of nation's economic sector in utilizing all their professional skills obtained during study in any sectors [1].

The improvement of research university system in Malaysia which is still at early stage contrasted with Research Universities (RU) in the United States and United Kingdom which called as Research Assessment Exercise (RAE) but in 2014 is replaced by the Research Excellence Framework. Due to modern era, Malaysian universities are undergoing an education revolution in order to become centres for academic excellence. In order to achieve this, several Research Universities (RUs) has been established to drive research and development, commercialization and production of postgraduates [1]. The Malaysian University Research Assessment Instrument (MyRA) for measuring the research, development and commercialization

(R & D & C) at the Public University and PHEIs University, Campus Abroad and College in Malaysia [2].

Meanwhile, MyRA system online (Amyra) is an on-line system developed by the Ministry of Education (MOE) to enable public universities and private universities to self-assess the achievements of research (R & D & C) in each institution. Access to the system on the website Amyra Kementerian Pendidikan Tinggi was started in April 2009, while the launch was held on August 8, 2009 by the Deputy Prime Minister of Malaysia during 2009. Figure 1.1 and Figure 1.2 show the pages to access the system. [3]

Figure 1.1: Official Page of Ministry Higher Education

Figure 1.2: Amyra Link in Official Page of Ministry Higher Education

It is also an assessment method used to evaluate the performance of current RUs, as well as other universities vying to become one.

1.2 Objectives

The objectives of the Malaysian Research Assessment (MyRA) of Faculty Engineering (UNIMAS).

The objectives are summarized as follows:

- To develop a data collecting system for MyRA.
- To build database for MyRA system.
- To create user friendly interface for the MyRA system.

1.3 Problem Statement

The current practice in Faculty of Engineering is manually store in Microsoft Excel format. This can be further improved by storing the data in systematic database.

1.4 Scope of Project

This project focused on applying the programming language to develop a system for Faculty Engineering in UNIMAS which can help the lectures in monitoring and storing data relating to the research assessment area.

1.5 Expected Outcome

This system is a user friendly system which is available to all level of personnel in Department Electrical and Electronic Engineering. This system will enable Microsoft Excel in csv format and save into database using PHP. The administration section is responsible in ensuring all the data in the system is correct and up-to-date. It is hoped that all the objectives of MyRA for Faculty Engineering UNIMAS will be fully achieved with the development of in-house MyRA System.

1.6 Project Outlines

This section describes all the chapter outline for this final year project. This report is divided into five chapters that describe the project of "Database for Malaysian Research Assessment (MyRA) of Faculty Engineering UNIMAS" in a detailed manner which are introduction, literature review, methodology, result and discussion and conclusion and recommendations. The brief information of each chapter is described as follows. This section describes all the chapter outline for this final year project.

Chapter 1 describes about the introduction of the project. This chapter provides the general overview of system for MyRA which included the background of the project that must be achieved. This chapter also explains briefly about objective of project, scope of the project, problem statement, expected outcome and project outline. It also highlights some problems statement and the project scope that may lead to this project development.

Chapter 2 focuses on literature review of the previous research topic that is related to this project. It also summarizes the research of developing this system. This chapter provides the studies, researches and reading process which are related to this project and also includes the application of database system in real life situation. The use of programming language in the study material is also described in this chapter.

Chapter 3 will discuss on the methodology of the project. This chapter explains the chosen method of developing the Database for Malaysian Research Assessment (MyRA) of Faculty Engineering UNIMAS and also discusses about methodology development, analysis process and focuses the design the system through method that has been selected from chapter 2. In this project, PHP language is used as the programming language, while the XAMPP is used as the database. Notepad++ are used to build the system's interface while Template for designing the system's banner and images. In this project, the flow charts and the procedures taken to achieve of project are included.

Chapter 4 will present the result and analysis for the whole system that has been developed for this project.

Finally, Chapter 5 will consist of the conclusions and recommendations for the project. This means this chapter will highlight the overall conclusion of the project by discussing the achievement of the project objectives. This chapter also includes the limitations of this project and recommendations that can be used to improve the project in the future.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

A database can store a collection of data or information which can be shared. Nowadays, every organization use database system to easily access the data collection of the staff. Database Management System (DBMS) is a system that manages the interaction between the user and the database. The database stored and kept by Database Management System (DBMS) is a collection of data, numbers or text, and binary files [4]. A Database Management System is a software programme that enables the creation and management of databases. In administration department, database system plays an important role to make the management progress of organization more effective and efficient.

There are multiple of database systems that are available in market and been used in organization management. This chapter will briefly explain about the researches related to this project. This chapter will review the available and current student record management at the Department of Electrical and Electronic Engineering, Faculty of Engineering, University Malaysia Sarawak (UNIMAS).

It is crucial that data management is needed to be efficient because there are always times when some particular data need to be accessed on the reporting event. Therefore, an efficient way of managing the data leads to faster and accurate in doing the reporting of the data in the database. In the development of the database of MyRA

for Faculty of Engineering, UNIMAS, the previus format can be used as a reference as to construct the design of the database.

2.2 System Review

2.2.1 Anjung Universiti Malaysia Sarawak [5]

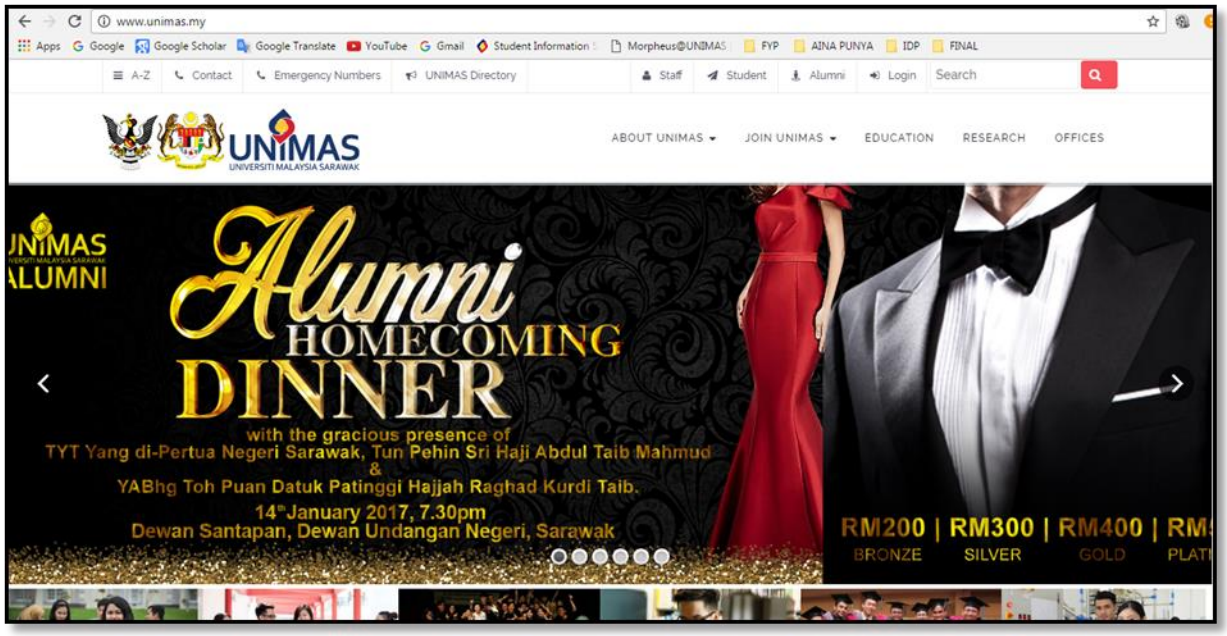

Figure 2.1: Anjung Unimas page of UNIMAS

Anjung UNIMAS controlled all the information about UNIMAS. Any general news or activities in UNIMAS will be announced through this system and we can view easily. Apart from that, we will also able to obtain information about UNIMAS from this system as it provides us specific directory to get access to staffs, facilities, students and others information. Anjung UNIMAS is a centralized system that provided the link that important such as semester registration, course registration, payment gateway (e-Payment). Figure 2.1 is Homepage for Anjung UNIMAS.

2.2.2 e-Student of University Malaysia Sarawak [6]

Figure 2.2: E-Pelajar System Page of UNIMAS

E-pelajar is an online system for all students of Universiti Malaysia Sarawak (UNIMAS) that enable students to refer all details about academic purposes and update the personal information of students as shown in Figure 2.2. All students are able to view the pre-transcript of academic result, check on clearance and residential college status and many others information via *e-pelajar* which available. The system consists of biographical data of students, academic information, the result now, see pre-transcript and many other options the information provided. This system is a student database management system.