MAKLUMAT PROGRAM SISWAZAH (MPS):
THE DIGITIZATION OF POSTGRADUATE PROGRAMS INFORMATION FOR THE CENTRE FOR GRADUATE STUDIES (CGS)

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ABSTRACT

The Centre for Graduate Studies (CGS) at UNIMAS plays a vital role in coordinating and developing Doctor of Philosophy and Master's Degree programs while upholding their quality standards in line with regulations set forth by the Ministry of Education and the Malaysian Qualifications Agency (MQA). Currently, manual filing systems are utilized, resulting in time-consuming and inefficient processes. To address this issue, CGS has commissioned the development of a digitization system named 'Maklumat Program Siswazah' (MPS). This system aims to efficiently store and present postgraduate program information in a structured and tabular format. MPS encompasses essential features such as data creation, reading, updating, and deletion, alongside a quick filter search function for time-saving convenience. The system's development follows the Rapid Application Development (RAD) methodology, and hardware and software requirements are meticulously outlined, while data flow diagrams and wireframes illustrate the user design. To enhance the system, it involves resolving file updating limitations, optimizing system navigation, and providing training for administrators to improve functionality and usability. As a result, the implementation of the MPS system has led to significant achievements, including thorough documentation of system requirements and functionalities, a user-friendly interface for efficient program management and viewing, as well as a robust system ensuring organized categorization and display of correspondence.

ABSTRAK

Pusat Pengajian Siswazah (PPS) di UNIMAS memainkan peranan penting dalam menyelaraskan dan membangunkan program Doktor Falsafah dan Ijazah Sarjana serta mengekalkan piawaian kualiti program-program tersebut selaras dengan peraturan Kementerian Pendidikan Malaysia dan Agensi Kelayakan Malaysia (MQA). Saat ini, sistem fail manual digunakan yang menyebabkan proses yang memakan masa dan tidak efisyen. Untuk mengatasi masalah ini, PPS telah meminta pembangunan sistem digitalisasi yang dikenali sebagai 'Maklumat Program Siswazah' (MPS). Sistem ini bertujuan untuk menyimpan dan memaparkan maklumat program siswazah secara berstruktur dan tabulasi. MPS merangkumi ciri-ciri penting seperti penciptaan, bacaan, pengemaskinian, dan pemadaman data, serta fungsi carian penyaringan cepat untuk menjimatkan masa. Pembangunan sistem ini mengikut kaedah Pembangunan Aplikasi Pantas (RAD), dan keperluan perkakasan dan perisian telah dihuraikan dengan teliti, manakala gambaran aliran data dan gambar rajah wayar disediakan bagi rekabentuk pengguna. Untuk meningkatkan sistem ini, langkah-langkah termasuk menyelesaikan had pembaharuan fail, mengoptimumkan navigasi sistem, dan menyediakan latihan untuk pentadbir bagi meningkatkan fungsi dan kemudahan penggunaan. Hasilnya, pelaksanaan sistem MPS telah mencapai pencapaian penting, termasuk dokumentasi menyeluruh keperluan sistem dan fungsi, antara muka yang mesra pengguna untuk pengurusan dan paparan program dengan mudah, serta sistem yang kukuh untuk menyimpan dan memaparkan surat-menyurat dengan penstrukturan dan penyelesaian yang tersusun.

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

The Centre for Graduate Studies (CGS) at UNIMAS plays an important role in coordinating and developing Doctor of Philosophy and Master's Degree programs. CGS is responsible for generating and developing knowledge in order to produce excellence in teaching, learning, and research. To maintain the quality of the programs offered, CGS needs to constantly refer to documents that are recognized by the Ministry of Education, Malaysia and the Malaysian Qualifications Agency (MQA).

Currently, the staff at CGS rely on a manual filing system to refer to these documents which is time-consuming and inefficient. To address this issue, CGS has requested a digitization system called ‘Maklumat Program Siswazah’ (MPS) to store and display information about postgraduate programs in a structured and tabular style. The system allows for the creation, reading, updating, and deletion of data and information. It also has the ability to store correspondence letters that display the validity of each program. Additionally, the system includes a quick filter search function to save time when looking for specific information. Overall, ‘Maklumat Program Siswazah’ (MPS) is expected to help the staff at CGS quickly and efficiently refer to information about postgraduate programs.

1.2 PROBLEM STATEMENT

The Centre for Graduate Studies (CGS) is facing a number of challenges with their current manual filing system for organizing and storing documents related to postgraduate programs. The information on postgraduate programs needs to be referred to constantly, and documents must be accessed quickly as soon as they are requested. However, due to understaffing, CGS only has one person responsible for organizing all of the postgraduate program documentation. This creates difficulties when that employee is unavailable, such as taking a day off, making it difficult for others to access the necessary documents. Furthermore, manual filing systems contribute to the excessive use of paper and carbon emissions. This not only harms the environment but also leads to additional costs for the organization. CGS needs a more efficient and sustainable solution to manage and access their postgraduate program documents to make their daily tasks easier and more manageable.

1.3 PROJECT SCOPE

The scope of this project mainly focuses on the information and documentation of postgraduate program in the Centre for Graduate Studies (CGS).

1. The system is proposed for the use of Centre for Graduate Studies (CGS).
2. All the information displayed on the postgraduate programs are organized in a structured tabulated design that perform view, edit, and delete functions in the 'Actions' column.
3. There will be two types of user, which is admin and staff in CGS.

1.4 PROJECT OBJECTIVE

The objectives of this postgraduate program information system are as below: -

1. Identifying and documenting the requirements needed for the system.
2. To design a structured and tabulated data system that allows for the addition, editing, viewing, and deletion of programs.
    - Users are able to add new program, edit the information of existing program, view the postgraduate program individually by clicking on the eye icon at the 'Actions' column on each of its row, and delete existing program.
3. To develop a functional system for storing and displaying all types of correspondence for each postgraduate program.

1.5 BRIEF METHODOLOGY

In order to achieve this project objective, Rapid Application Development (RAD) methodology is used. RAD is an approach that emphasises creating apps quickly through multiple iterations and ongoing feedback (Chien,2020). Moreover, according to Andrey Glaschenko (2021), frequent incremental improvements and ongoing user feedback iterations help to ultimately produce better outcomes.

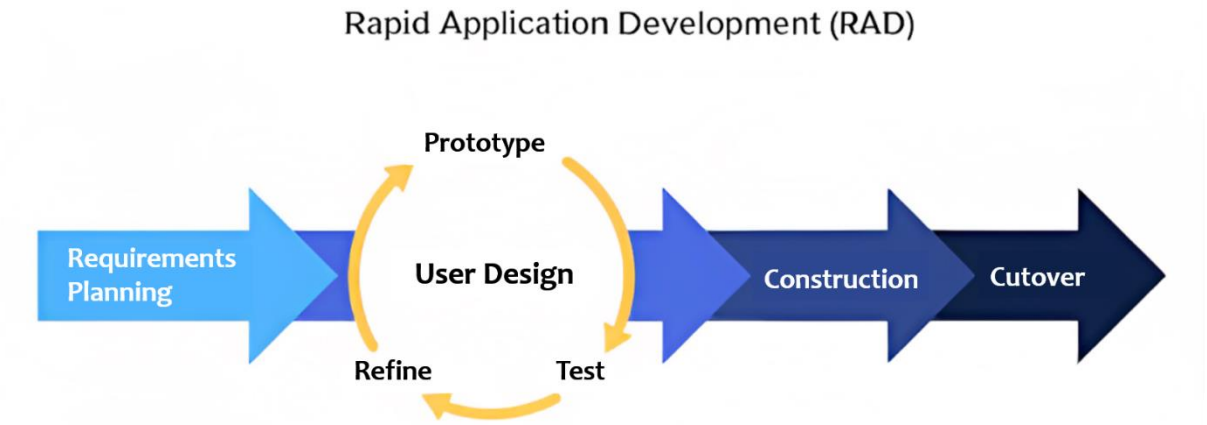

Figure 1.1 Rapid Application Development (RAD)

There are 4 main phases in RAD that is, requirement planning, user design, construction and cutover.

1.5.1 Requirement Planning

In this phase, the objective is to identify the requirement that is to support this proposed system. The involvement of the user is crucial in gathering information to meet the requirement needed for the system. Observations and interviews regarding the type of postgraduate program's information that are needed for the system were made.

1.5.2 User Design

During this phase, it is time to build the prototype, demonstrate, and to refine the prototype. According to Andrey Glaschenko (2021), it is fine if the prototype only

satisfies some of the requirements or only addresses a portion of the scenarios during the build phase. After building the prototype, it will be demonstrated and refined in order to better satisfy their needs.

1.5.3 Construction

Construction is the process of turning prototype and beta systems into a functional model by coding applications, testing systems, and unit integrating (Chien, 2020). After refining prototype and receiving feedback from the previous phase, system construction begins. For the back-end development, PHP, HTML, MySQL, and JavaScript are used. Then, the system is thoroughly tested to ensure it does meet the user's requirements. They need more things to be added for the program's information. Other than that, they are happy with the user interface.

1.5.4 Cutover

This is the final stage in the development process where the system is launched. This includes converting data, testing and user training to ensure smooth transition with minimal disruptions to the business.

1.6 SIGNIFICANCE OF PROJECT

"Maklumat Program Siswazah" (MPS) is an innovative solution developed by Centre for Graduate Studies (CGS) to address the need for a more efficient system to manage and access information about the postgraduate programs offered by CGS. The system aims to display and store all information related to postgraduate programs in a structured and tabular style. It allows users to quickly search and view individual programs, giving them a better view of the information. The system also offers a quick filter search function to help users save time and make the process of searching and accessing information more efficient. Overall, MPS is designed to improve the way CGS manages and accesses information about postgraduate programs, making it more convenient for staff and students alike.

1.7 PROJECT SCHEDULE

Table below shows the project schedule for this semester Final Year Project 1 report.

Table 1.1 Project Schedule

No.	Task	Duration	Start Date	End Date
1	Meeting with FYP Supervisor	1 day	13-Oct-22	13-Oct-22
2	Submission of the Approved Brief Proposal	11 days	17-Oct-22	28-Oct-22
3	Feedback and Comment from Reviewer/Examiner	6 days	29-Oct-22	4-Nov-22
4	Submission of Full Proposal	9 days	5-Nov-22	14-Nov-22
5	Submission of Chapter 1	6 days	15-Nov-22	21-Nov-22
6	Submission of Chapter 2	17 days	22-Nov-22	9-Dec-22
7	Submission of Chapter 3	20 days	10-Dec-22	30-Dec-22
8	Submission of FYP 1 Final report & Paper for assessment	12 days	31-Dec-22	12-Jan-23

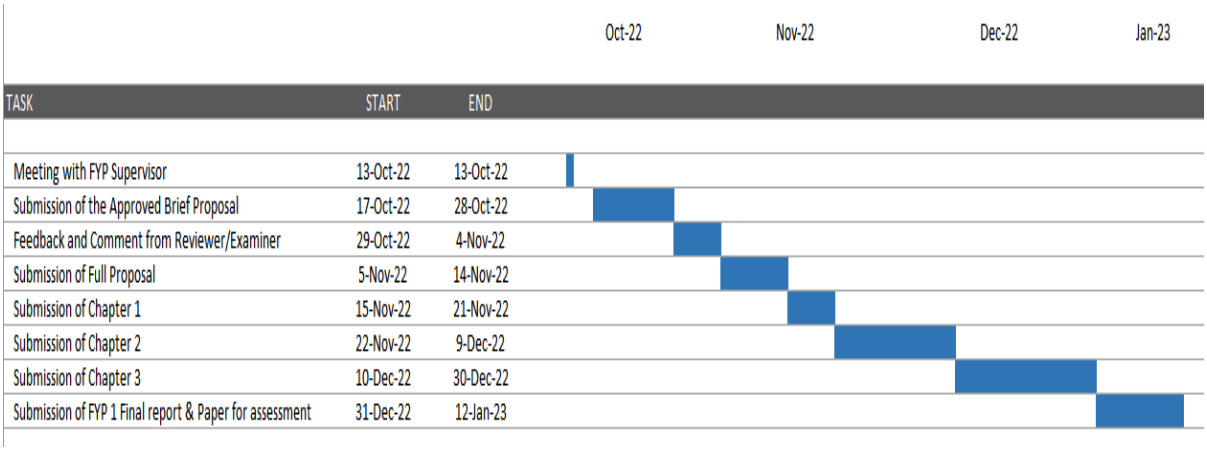

Figure 1.2 Gantt Chart

1.8 EXPECTED OUTCOME

The implementation of 'Maklumat Program Siswazah' (MPS) aims to streamline and enhance information management for postgraduate programs at the Centre for Graduate Studies (CGS). Operating as a stand-alone system on localhost, MPS offers CGS staff a more efficient and organized approach to accessing and handling crucial details about postgraduate programs. By presenting all relevant data in a structured, tabular format, the system enables swift searches and seamless access to necessary information, eliminating the need for cumbersome manual filing. This results in faster information retrieval, significantly improving the overall management and accessibility of postgraduate program information at CGS.

1.9 PROJECT REPORT OUTLINE

Chapter 1: Introduction

Chapter 1 serves as a crucial foundation for the entire document, providing a comprehensive introduction to the proposed system for "Maklumat Program Siswazah" (MPS). The introduction section of the report provides a background and relevant information pertaining to the proposed system. This includes a detailed problem statement and specific objectives that the project aims to achieve. Additionally, it provides a brief explanation of the methodology used to produce the project outcomes, which serves to demonstrate the strength and credibility of the research. Furthermore, this chapter delves into the project scope, outlining the specific parameters and limitations of the project, as well as the schedule and expected outcomes. This chapter is essential in understanding the project's purpose and goals and sets the stage for the rest of the report.

Chapter 2: Literature Review

This chapter looks at what has already been studied about a specific topic. This helps to identify what is already known and what still needs to be studied. It also helps to give a context for the proposed project and show how it relates to other research. This section helps to point out potential issues or limitations in the proposed project and give a theoretical background for the research.

Chapter 3: Methodology

Chapter 3 describes about the methods and techniques used throughout the project. The chapter starts with a discussion on how the interviews are utilized as a tool for the requirement analysis phase, which is an essential step in understanding the needs and expectations of the users. This is followed by the use of Data Flow Diagrams (DFD) and Wireframes to assist in