Managing Registration of New Student Intake using Online Registration New Student Intake System (ORNSIS)-Integrated Barcode Technology

MUHAMMAD SYAFIQ BIN JOHARI

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ABSTRACT

The rapid progress in education impacts the significant requirement to manage the educational globalization resources through the use of modern technology. In addition, an online system is the electronic interactive medium that delivers information to users via telephone lines to personal computers (PCs) or via cables to terminals. This paper presents on how to manage the registration of new student intake by using Online Registration New Student Intake System (ORNSIS). Integrated barcode technology with ORNSIS has been developed in order to overcome the manual system weakness, which involves the registration through the traditional methods and time consuming. Understanding the importance and limitations the register process, ORNSIS is a collaborative of web application concept that provides a platform for University Malaysia Pahang administrator to monitor the progress of each new student who did the register online. It has been developed by using the PHP language, Dreamweaver cs4 and database MySQL in the Windows 7. By using ORNSIS, the actual number of student will register in university can be obtain, thus decrease the time-consuming in registration event.
ABSTRAK

Kemajuan pesat dalam sektor pendidikan memberi kesan dalam mensignifikan untuk menguruskannya sumber globalisasi pendidikan melalui penggunaan teknologi moden. Selain itu, sistem online adalah media interaktif elektronik yang memberikan maklumat kepada pengguna melalui saluran telefon ke komputer peribadi (PC) atau melalui kabel ke terminal. Tulisan ini memberikan tentang bagaimana menguruskan pengambilan pendaftaran mahasiswa baru dengan menggunakan Online Registration New Student Intake System (ORNSIS). Integrasi dengan teknologi barcode ORNSIS telah dibangunkan untuk mengatasi kelemahan sistem manual, yang melibatkan pendaftaran melalui kaedah tradisional dan memakan masa dalam pendaftaran. Memahami kepentingnya dan keterbatasan proses pendaftaran, ORNSIS merupakan kolaborasi konsep aplikasi web yang menyediakan platform untuk Universiti pentadbir Pahang Malaysia untuk memantau kemajuan setiap pelajar baru yang melakukan pendaftaran online. Sistem online ini telah dibangunkan dengan menggunakan bahasa programming PHP, Dreamweaver cs4 dan database MySQL di Windows 7. Dengan menggunakan ORNSIS, jumlah pelajar yang akan mendaftar di universiti yang boleh diperolehi, sehingga mengurangkan masa memakan dalam acara pendaftaran.
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CHAPTER 1

INTRODUCTION

This chapter briefly discuss on the overview of the research that includes introduction, followed by the problem statements, objectives of the system, scope of the system, and the organization of thesis.

1.1 Introduction

Education is greatly influence by major developments includes the increased use of Information Technology and the forces of globalization. The rapid progress in education impacts the significant requirement to manage the educational globalization resources through the use of modern technology. In addition, an online system is the electronic interactive medium that delivers information to users via telephone lines to personal computers (PCs) or via cables to terminals. Through the use of technology, managing educational resources are becomes more effectively, thus overcome the manual system weaknesses. In Malaysia, the registration process of all students as members of the Institution Higher Learning Education usually concentrated into a very
short period of time. Mostly, the institute sends the official offer letter to select students to continue their study in Universities in any courses had been offered. The new student intake or new academic session usually starts in early of July every year. The purpose of new students’ registration is to determine which student will register for particular course within the university. From the new students’ perspective, their registration is just to let them know that they have been accepted to study in university and have authorized in any university facilities. The main reason of registration process is for administrator to keep record up-to-date and this will help universities administrator keep track on their new student activities and can give them access to all necessary facilities that universities provide.

In this paper, we consider the registration process case study in University Malaysia Pahang (UMP). In particular, UMP needs to send an offer letter to student who accepted to continue their study and wait for the registration day at UMP. Administrator will receive or update the total of registered student on the event day in UMP. Due of ineffectiveness from manual system for the registration, Online Registration New Student Intake System (ORNSIS) has been developed to handle the registration management. ORNSIS purpose is to help and make a new flow of registration system to a new brand way much easier with a little effort in order to replace UMP manual registration. It has been developed by using the PHP language, Dreamweaver cs4 and database MySQL. By using ORNSIS, administrator need to key in the record for students that have chosen to continue their study in UMP on database created. Later, UMP staff sends an offer letter to students that had been selected to study in UMP. The offer letter will enclose a barcode that identify the student itself. The barcode is already in the database before the letter is send to student address. When student decided that they want to continue their study in UMP, they need to browse to internet and go to the system to put in their data as a confirmation the student accept the offer with the courses given. This process helps administrator to keep the data up-to-date and know how many student confirm to come and study in UMP. After student accept the offer they need to register officially at UMP with the offer letter will hand over to the staff in charge to scan the barcode on offer letter to complete the process.
A barcode is an optical machine-readable representation of data, which shows data about the object to which it attaches. Originally, barcodes represented data by varying the widths and spacing of parallel lines, and may be referred to as linear or 1 dimensional (1D). Barcodes are just about everywhere and are used for identification in almost all fields of business. When barcode technology is utilized in business processes, procedures are automated to increase productivity and reduce human error. Bar-coding should be used whenever there is a need to accurately identify or track something. Barcode technology is used in ORNSIS to help the process of student registration. The purpose of using barcode is, it is more reliable, applicable for the system and to reduce human error, just scan the barcode simultaneously it will recognize the data of the student registered or not.

1.2 Problem Statement

Problem statement is the description of an issue currently existing which needs to be addressed. This problem provides the context for the research study and generates the questions which your research aims to answer. The registration process using previous system (manual system) has several problems. The problems that have been facing for a past year are:

a. Administrator cannot know how many students will register as new students before the time registered. Because the manual system can’t determine how many student will register as student in UMP

b. When the actual registration process in the university took place, it will be very time-consuming, since the university did not have the initial number of people that will come on that day

c. There might be happen a human error because sometimes staff might key in student information by mistake.
1.3 Project Objective

A goal or objective is a projected computation of affairs that a person or a system plans or intends to achieve—a personal or organizational desired end-point in some sort of assumed development. It is roughly similar to purpose of aim, the anticipated result which guides reaction, or an end, which is an object, either a physical object or an abstract object, that has intrinsic value. The general aim of this project is to improve the registration process of new students' intake during registration day in university, using barcode technology. Meanwhile, this project embarks specific objectives as follow:

a. To get actual number of student will register in university.
b. To decrease time-consuming in registration part.
c. To integrate the barcode system with ORNSIS

1.4 Project Scope

Project scope is the work that needs to be accomplished to deliver a product, service, or result with the specified features and functions. The scopes of this project are:

a. Target user — new student who will register as UMP students.
b. To record new student data before they need to register in UMP.
c. To create a database that has combination of barcode technology.
1.5 Project Organization

This thesis consists of six (6) chapters. Chapter one (1), discuss on introduction of this project. This chapter has several parts such as introduction, problem statement, objectives, scopes and thesis organization. Chapter two (2) is literature review that will explain the previous projects that have been done on baseline on-line system. This chapter consists of two parts, i.e., studies on current or existing system and explains about hardware and software requirement that have been used to implement this project. For this chapter, the related information can get via book, internet, article, journal and others.

Chapter three (3) is methodology. This chapter will discuss the proposed approach and the entire draft of the project that taken in the development of this project. It also will explain the justification of the proposed approach, hardware and software requirements. This topic also explains project development that has designed.

Chapter three (4) is implementation. This chapter discusses about the environment used and coding used to develop the system. It also contains some of the coding like the engine for the system.

Chapter three (5) is result and discussion. This chapter briefly discusses how the system runs. System testing will be showed here if got any error or not. The system must have error handling and user friendly.

The last chapter will be the conclusion which will summarize the results of this project. It also presents the summarization of project's methodology, implementation that has used, and finally suggestion for possibility to enhance this project for the future research.
CHAPTER 2

LITERATURE REVIEW

This chapter briefly discusses a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic.

2.1 Introduction

A literature review discusses published information in a particular subject area, and sometimes information in a particular subject area within a certain time period.

A literature review can be just a simple summary of the sources, but it usually has an organizational pattern and combines both summary and synthesis. A summary is a recap of the important information of the source, but a synthesis is a re-organization, or a reshuffling, of that information. It might give a new interpretation of old material or combine new with old interpretations. Or it might trace the intellectual progression of the field, including major debates. And depending on the situation, the literature review may evaluate the sources and advise the reader on the most pertinent or relevant.
2.2 Manual system

In certain university and places, the process to register a new user as a new member are in some way using the manual registration system. For International Islamic University Malaysia, IIUM, they use the manual system to register students as their new student in IIUM.

Likewise in the UNIVERSITI KEBANGSAAN MALAYSIA (UKM), they also provide the manual registration system even though they have an online system for student to register. This is because the UNIVERSITI KEBANGSAAN MALAYSIA (UKM) gives two ways for student to register either manual or online (only for December intake).

The manual system in IIUM need student to download a registration form from the IIUM website then they need to Student completing relevant section in the form. The next step, student need to seek for signature and official stamp from lecturer, Head of Department and Deputy Dean (if applicable) after that Course Registration Form is forwarded to the Registration Unit, CPS. Then the registration is made after being verified by REGISTRATION UNIT. Finally, student needs to prints confirmation slip for reference from IIUM student portal. The registration may be considered complete if the students are able to print their confirmation slip which indicates the correct course code and course title. The flow chart of the registration for IIUM student is in Figure 1.

Figure 2.1: Flowchart for Manual Registration in IIUM
Some of the registration form provide by IIUM are shown in the figure below:

![Registration Form](image)

**Figure 2.2: Section A: Programed applied for**
Figure 2.3: Section B and C: personal details and family details

Figure 2.4: Section D and E: Academic background and Language proficiency
Similarly in UUM, the UNIVERSITI KEBANGSAAN MALAYSIA (UKM) students need to download the form (figure 5) from the UNIVERSITI KEBANGSAAN MALAYSIA website. After filling up the form, students need to send the form Deputy Registrar Academic Management Division Registry Universiti Kebangsaan Malaysia. Below figure shows the example of the registration form (figure 6) for UNIVERSITI KEBANGSAAN MALAYSIA:

![Registration Form](image)

**Figure 2.5: Download registration form**
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**Tahun Akademi MUET :**

**Tahun SPMMF :**

**Angka Gila :**
Figure 2.6: UKM Student’s Application Form
2.2 Concept of the registration

Why do we need to register? Does a registration give any benefit? Registration is a process to get information for those who want to join any club, school, university or as an employee. The concept of register is to gain any information of members. With the given information, members will get any update of the organization via letter or email. Another thing is they will get benefit with the registration made (if applicable). Registration can improve overall performance, remove uncertainty and widen market opportunities. \(^1\)

2.3 Existing systems

Online registration system is a system that use service of internet to access the system through. The requirement needed to access the system is a physical device which is computer or any notebook, then make sure there have any web browser in the devices. University Industry Selangor, UNISEL has been using the online registration system. UNISEL need the user to have these requirements to access their system. If the requirement fulfilled, user have granted to use the system. The requirements are shown below:

a. Please use **Internet Explorer 6.0** and above.

b. Please Make Sure Your Browser is Configured to Accept 'Cookies'.

c. Please enable **JavaScript** for your Browser.

User need to browse to web browser to access the online registration system provide by UNISEL. User should be at Enrolment to Undergraduate Programs page to begin the registration process.
Figure 8: identification card, telephone information

Figure 8 shows user need to fill in identification card, telephone number and particular of parents’ information. The input of user will be recorded in the database of UNISEL. After fill out the form, user needs to fill in the academic information. Then press the submit button to send all the information insert to UNISEL administrator or their registration unit.