ONLINE LAB COAT BOOKING SYSTEM

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Signature :
Supervisor's Name : Pn. Noor Mazlina Binti Mahmod
Date : 29th April 2011

This report is dedicated to my beloved family.

Especially to mom and dad.

Your love and motivation are my inspiration.

APPRECIATION

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ABSTRAK

Sistem tempahan baju bengkel dalam talian adalah sistem pangkalan data yang telah dibentuk untuk menerima tempahan baju benkel pelajar di Fakulti Kejuruteraan Elektronik dan Kejuruteraan Komputer (FKEKK) melalui sistem komputerisasi. Baju bengkel merupakan salah satu pakaian wajib yang perlu dipakai oleh pelajar semasa sesi makmal. Oleh itu, tujuan sistem ini dibina adalah untuk memastikan bahawa idea untuk membeli baju benkel pelajar FKEKK dilakukan dengan bantuan sebuah sistem pangkalan data komputer dan bukan menggunakan proses manual. Sistem ini menerima tempahan baju bengkel pelajar secara automatik dengan menggunakan tempahan dalam talian (internet) dan semua data disimpan di dalam database pada pelayan komputer untuk diakses oleh pentadbir bagi proses selanjutnya. Bagi tujuan keselamatan pentadbiran, pengenalan nama pengguna dan kata kunci diperlukan untuk membenarkan akses oleh pihak pentadbir ke dalam pangkalan data sistem. Projek ini tertumpu pada pembangunan sistem tempahan baju bengkel dalam talian dengan menggunakan perisian Visual Basic NET bersama penggunaan Microsoft Office Access sebagai pangkalan data untuk sistem dan sistem ini dimuatnaik ke pelayan untuk rujukan pentadbir.

ABSTRACT

Online lab coat booking system is a database system that has been set up to receive student's lab coat booking in Faculty of Electronics and Computer Engineering (FKEKK) via a computerized system. Lab coat is one of the compulsory attire required for student to be wear during the lab session. Thus, the goal of this new online lab coat booking system is to make sure that the idea of buying lab coat for FKEKK students is done by the aid of a computer database system and not by manual booking process. This system receive student's lab coat booking automatically using the online booking (internet) and all the records are saved in the database on a computer server to be access by the administrator for the next process. For administration security purpose, username and password identification is required in order to authorize the administrator to access through the system database. This project is focusing on developing the online lab coat booking system using Visual Basic .NET software with the use of Microsoft Office Access as system database and then uploading this system onto the server for administrator references.

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INTRODUCTION

1.1 Project Background

Every academic institute has certain criteria for students regarding their attire in laboratory for safety purposes. That is why lab coat is one of the compulsory attire required to be wear by student during laboratory session. In this paper, a system that automates the whole process of buying lab coat and maintaining its records in an academic institute is proposed. This system receive student's lab coat booking automatically using the online booking (internet) and all the records are saved in the database on a computer server to be access by the administrator for the next process. In order to buy the lab coat, student need to go through the identification process where they have to key-in their student's ID and select their course. Note that students' information for the online booking will be directly registered by the administrator to avoid access by unauthorized personal. Therefore, only the registered students are allowed to make the online booking process. Upon identification, student's is allowed to start the booking process and the information then is updated in the database and saved into the server. For administrator, username and password identification is required in order to authorize the access through the system database. No need of all the stationary material and special personal for keeping the records. Furthermore, an automated system replaces the manual system.

1.2 Problem Statement

At the beginning of every academic year, students are required to book lab coat for their laboratory session. At present, there is no automated system in place to be used to book the lab coat and the booking is done manually where students are required to fill given forms in order to buy student lab coat. This manual process is slow, inconveniencing and tedious.

The problems associated with the current system is time consuming since a lot of time is taken by the students to fill-in the forms and similarly more time is taken to verify that the correct details are filled before the booking process is completed. Furthermore, the current system causes congestion at the lab coat booking office and this causes occurrence of several errors in the process and to correct such errors at a later time is costly and inconveniencing.

As the information regarding the booking process is not stored on computers, when any information is required, manual labor is needed to search for it and find out the required information. Moreover, the manual system using a lot of space which is occupied by the storage of paper based files.

According to the above, a better or systematic system needs to be developed, as it will help to provide a reliable system than using the present system. Not only changing to the computerized system, which is important in providing an effective management process, but also as an efficient way to ease student's effort in buying lab coat.

1.3 Objectives

Below is the predefined objective and main purpose of this project. This objective outlines the needs in this project which important in ensuring the development and success of the project.

The project aims is to develop online lab coat booking system for Faculty of Electronics and Computer Engineering (FKEKK) student to automate the lab coat booking system which enables students to book lab coat via the internet. This will involve the development of online booking system using Visual Basic .NET software in order to develop dynamic system content and system interfaces whereby the student will be able to buy lab coat without necessarily having to travel to school as long as the student has access to the internet. This goal of this project is to increase the efficiency and effectiveness of student's lab coat booking and to provide a systematic and reliable booking system.

1.4 Scope of Work

This project is solely concentrates on a development of an online lab coat booking system to receive student lab coat booking. The booking system will be built using software programming tools. For administrator, a username and password will be used to authorize the access to the system database. The online booking system is built using software programming tools which is Visual Basic .NET and Microsoft Office Access as system database.

The concept of the online lab coat booking system is upon students booking using internet (online) to book for the lab coat and saved the booking information into system database on computer server for administrator references. Therefore, there is no need of all the stationary material and special personal for keeping the records.

In this system, for administrator, the username and password need to be key-in first before accessing the system. The system will then identify the key-in data by matching the data with the information that have been saved in the database. Upon identification, the administrator is authorized to access through the system database for viewing, editing process or updating students' name list.

For student, in order to buy the lab coat, student need to go through the identification process where they have to key-in their student's ID and select their course. Note that students' information for the online booking will be directly registered by the administrator to avoid access by unauthorized personal. Therefore, only the registered students are allowed to make the online booking process. Upon identification, student's is allowed to start the booking process and the information then is updated in the database and saved into the server. Figure 1.1 below shows the overall system block diagram.

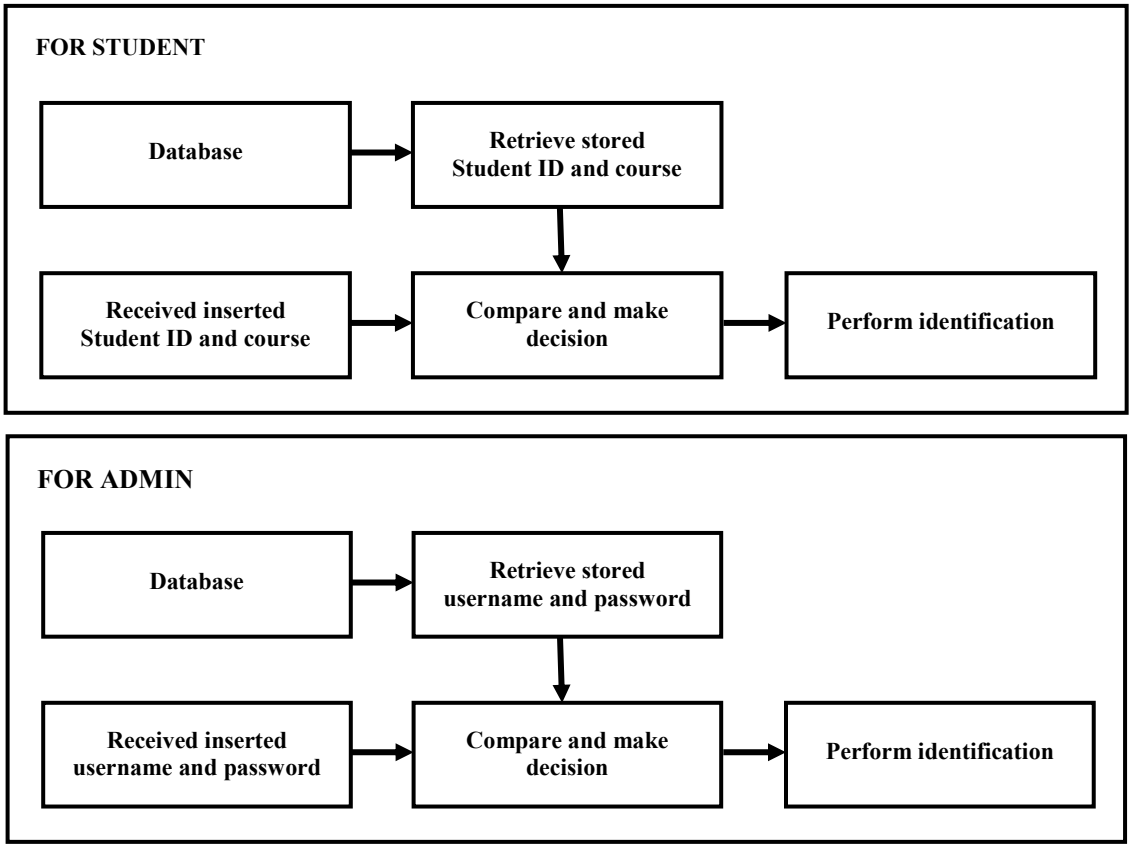

Figure 1.1 System Block Diagram

The software programming is based on the Visual Basic .NET software. It contains an object-oriented computer programming language that suits the system development in creating the online booking system and system databases as well as to run on the web server.

1.5 Expected Result

To access the online lab coat booking system, student need to go through the identification process where they have to key-in their student's ID and select their course. Note that students' information for the online booking will be directly registered by the administrator to avoid access by unauthorized personal. Therefore, only the registered students are allowed to make the online booking process. If the login process failed, they need to contact the administrator. Upon identification, student's is allowed to start the booking process and save the booking information. The information then is updated in the database and saved into the server. For administrator, username and password identification is needed in order to authorize the access through the system database.

In addition, this online booking system will helps the faculty to organize students' lab coat booking system systematically without the worries of data losses due to improper storage of manual booking system using booking form or sheet. This system contributes a greater use in providing a system which will be efficient to the students as they can book lab coat online, from anywhere as long as there is access to internet. Hence the students do not have to move up and down from one place to another in order to buy a lab coat. Moreover, the project produce a usable system that is easier to learn to use so as to satisfy the user's needs and it will be more efficient in that less time will be taken to accomplish the task and also reduce paper work hence it will help the University to cut on cost spent on stationery.

1.6 Brief Methodology

Methodology discusses the steps of work engaged in developing the project. It started with gathering information and research that is related to this project. The information searching process and researching process are done by referring to the websites, journals and books available electronically. Based on information gathered, Visual Basic .NET software was chosen as the platform to develop this system.

Visual Basic .NET software contains an object-oriented computer programming language that suits the system development in order to develop a dynamic system content and system interfaces. Thus, the system developed is trained and tested before inserting fingerprint sets (for administrator only) that are different from the sets of training and testing data. Finally, the outputs are discussed and analyze to check the function and effectiveness of the system.

1.7 Report Structure

This report discusses overall the development of the online lab coat booking system. This report is consisting of five chapters, which will cover all the matter that should be discussed in developing this project.

Chapter I give out the information of the introduction to this project. It is including the project background, objectives to achieve from this project, the project problem statement, scope of work and project methodology.

Chapter II contains literature review. It discusses the literature review of the background that is needed in this project. It is about all the study that has been made for this project. It will explain the techniques used in gathering the information, the theory and the case study of previous projects. The literature review will produce a work concept to show the connection between the project with theory and concept.

Chapter III is about project methodology. It will explain the implementation and solution in doing this project. It consist the overall system and the structure needed in the system. Methods used in this project are clearly pointed out such as data collection, data process and analysis, system model, flowchart and et cetera. Factors that were weighed out in selecting the methods and the advantages are also pointed out.

Chapter IV presents the result of this project. This chapter also includes the analysis of this system development. This chapter will discuss the result accordingly to the objective stated earlier in this project.

Chapter V is the final chapter which summaries the research findings. This chapter also identifies problems and obstacles throughout this research. Some suggestions for future work is discussed which might be useful for further development and improvement to the system and also the implementation of the system.

1.8 Conclusion

Full understanding on a research study will assist student to gain more knowledge on the project structure and to move a step forward in starting the project development. At the same time, limitation on the scope shall encourage student to explore more in the future work. With all the information provided above, it highlight a brief outline on this project report and reader will understand the basic idea of the online student lab coat booking system.

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

This chapter concludes all the techniques used for research and fact finding. Sources are obtained from various media by including keywords such as “Microsoft Office Access 2007”, “database system”, “online booking system”, “Visual Basic .NET” and “computer reservations system”. From these, information is gathered from previous projects.

Relevant case studies are essential to carry out the similar yet a better system. Previous projects, studies and et cetera help in analyze, compare and providing guidelines in producing this project. Theories and concepts that are related to the project development are also being studied here in order to petition for wise idea on construction of this project for a better outcome. Based on the review of the various supervised learning methods, the advantages and disadvantages of each approach and technique are discussed.

2.2 Fact-findings and Research

In this section, various method of fact finding is covered in collecting relevant information that has been used in project development. The significant and contributions of conducting research on the related survey areas are also outlined.

2.2.1 Fact-finding techniques

In system development, all the previous similar systems should be review and study. Sampling of documentation or article of existing similar system is a good start in knowing deeper to the core of the system. Research is carried out at this stage.

In research, any related information is collected using the fact finding techniques to collect information on the Visual Basic .NET abilities, programming techniques, technique in building database, online booking system, system problem, opportunities and directives. This information is very important to verify the functional requirement of the system at the early phase of the project development.

Documentation or articles of previous studies are also searched via Internet. Most of the documents such as articles, white papers, thesis or journals were obtained from Institute of Electrical and Electronics Engineers (IEEE) website. This is helpful in gaining more information, solutions and idea that are relevant to this project.

2.2.2 The Important Of Research

Research is very important in developing a system. Through research, all needed information can be study, analyze and compare in providing better system and develop its own criteria that will extinguish this project above others. Through research, all the impairments or the future study of the previous project should be consider in creating a similar system but better and has its own advantages.

2.3 Theory

There is always a theory lies behind every work that we do. Theory is the fundamental knowledge that should be learned in order to understand the application of the certain thing. This section will line out the theory that is fundamentals for this project.

2.3.1 Visual Basic .NET Software

Visual Basic (VB) is a programming language based on the original DOS language called BASIC (Beginners' All-purpose Symbolic Instruction Code). VB.NET 2005, an offshoot of Visual Basic, is an object-oriented programming language based on VB that is implemented using the Microsoft .NET framework. The basic syntax of the Visual Basic language remains unchanged in VB.NET 2005, but includes additional features such as structured exception handling and short circuited expressions to enhance the infrastructure of the programming language [1]. Developers have found VB.NET to be controversial as some of the software and developmental changes clash with the original language within VB and have caused compatibility issues. Visual Studio .NET is the predominant integrated development environment (IDE) that VB.NET developers employ [2].