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E-KOLEJ KEDIAMAN

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Bachelor of Computer Science (Database Management)

**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
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2006

DECLARATION

I Hereby Declare That This Project Report Entitled

E-KOLEJ KEDIAMAN

Is Written By Me And Is My Own Effort And That No Part Has Been Plagiarized

Without Citations.

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DEDICATION

“To my beloved parents, family, KUTKM lecture, Unit Kolej Kediaman staff, and
all my friends”

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I would like to extend my gratitude to everyone who has supported me to complete PSM I and PSM II especially to my supervisor, Encik Amir Syarifuddin Bin Kasim who has given information about *Projek Sarjana Muda* (PSM) via database management, supportive, ideas, comments and suggestions have been invaluable and also assisting in project completion.

I would like to thank to all lecturers of Faculty of Information and Communication Technology especially to Database System Department staff who has guided me in completing my thesis.

Finally, to all my family members and friends that always supported me, a million thanks.

ABSTRACT

This project paper is about development process for E-Kolej Kediaman. It works to documentation the development process of E-Kolej Kediaman which includes of the project Introduction, Literature Review and Project Methodology, Analysis, Design, Implementation, Testing and Project Conclusion. E-Kolej Kediaman that will be discussed in this documentation will eliminate the current system constraint such as system functionality and availability. The current system will be enhanced by adding more features that can be used by student and staff and eliminate paper usage. Chapter one will record the overview of this project and followed by list of problem statements of the current system. This chapter will also state the system objectives and scopes. In chapter two, literature review will be collected from books, journals, technical report and websites about system availability problem issues. After defining project methodology, the project schedule and milestone will also prepare. Chapter three will divide into two major parts which are analyst of the current system and to-be system. In current system, it will produce a set of business flow and problem statements of the current system. For to-be system will be included with the functional requirement, software requirement, hardware requirement and network requirement. Chapter four will discuss on activities and result of the high level design of the system and prototype. Chapter five will cover software development environment setup, database implementation, software configuration management and implementation status. Chapter six will discuss on testing which consist list of tasks that are test plan, test strategy, test design and test result and analysis. The last chapter will conclude the project paper and will also comment on project weakness and strength, proposition for improvement for future and contribution of the project.

ABSTRAK

Kertas projek ini adalah mengenai proses pembangunan E-Kolej Kediaman. Kertas ini adalah bertujuan untuk mendokumentasikan semua proses pembangunan sistem untuk E-Kolej Kediaman yang mengandungi topik pengenalan, rujukan sastera dan metod, analisis, rekabentuk, pelaksanaan, ujian dan kesimpulan projek. E-Kolej Kediaman yang akan dibincangkan dalam kertas ini akan menghapuskan kekangan sistem semasa seperti *system availability* dan *system functionality*. Sistem yang sedia ada akan ditambah dengan lebih banyak fungsi yang akan memudahkan pelajar dan kakitangan Unit Kolej Kediaman. Sistem ini juga bertujuan untuk menghapuskan penggunaan kertas. Bab pertama akan melampirkan pandangan secara keseluruhan untuk projek ini termasuk objektif dan skop projek. Aktiviti mengumpul dan merujuk kajian kesusasteraan dari sumber seperti buku, jurnal, laporan teknikal dan laman web mengenai masalah sistem semasa. Setelah memilih metod pelaksanaan projek, jadual pelaksanaan projek disediakan. Bab ketiga akan dibahagi kepada dua bahagian iaitu analisis mengenai sistem sedia ada dan sistem yang akan dibangunkan. Pada sistem sedia ada, aktiviti sistem dan masalah sistem dilampirkan. Untuk sistem yang akan dibangunkan pula, akan melibatkan keperluan sistem, keperluan perisian, keperluan perkakasan dan keperluan rangkaian. Bab keempat akan membincangkan tentang rekabentuk sistem secara ringkas. Bab kelima akan meliputi *software development environment setup*, *database implementation*, *software configuration management* dan *implementation status*. Bab keenam akan membincangkan tentang rancangan ujian, strategi ujian, rekabentuk ujian dan keputusan ujian dan analisis. Bab terakhir adalah kesimpulan kertas projek dan akan memperkatakan tentang kelemahan dan kekuatan projek, cadangan pada masa depan dan sumbangan projek.

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LIST OF ABBREVIATION

KUTKM	-	Kolej Universiti Teknikal Kebangsaan Malaysia
PSM	-	Projek Sarjana Muda
E-KK	-	E-Kolej Kediaman
DBLC	-	Database Life Cycle
RAM	-	Random Access Memory
ASP	-	Active Server Pages
ERD	-	Entity Relationship Diagram
DFD	-	Data Flow Diagram

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CHAPTER I

INTRODUCTION

1.1 Project Background

In this competitive world today, technology such as information and communication technology or ICT play an important role in the development of a country. ICT does give advantages to many industries generally in educational field. Having all that data readily available is a matter of convenience.

The idea of this system is to make easier for Unit Kolej Kediaman staff to monitor and manage the hostel activity prolifically. This system will also give several advantages to KUTKM student since it will provide online form for student to fill in and submit on the spot. Means that the student does not have to go to the office except to make payment, get or return the hostel key and any others equipments. E-Kolej Kediaman utilized an open and robust architecture leveraging on the scalability and extensibility of service-based platform.

Proposed system for Projek Sarjana Muda is called E-Kolej Kediaman. KUTKM student and Unit Kolej Kediaman staff will use this system. Firstly, E-Kolej Kediaman will provide an online application to leave in or not in the hostel. The student application will processed automatically by the system and the status of the application can be checked by online. This system will help the staff to arrange the hostel placement for the KUTKM students. This system will also has features for students to make equipment rental, electrical devices registration and permission to

keep student's vehicle during semester break all by online. E-Kolej Kediaman also will have a feature, which the student can make online hostel report and the staff in charge will keep track the report to settle the problem.

The current system for Unit Kolej Kediaman now is the staff has to handle many forms filled by the student before processing. That means the possibility of the form to be lost is high. The current system practiced is not an automate system since the staff has to process the form submitted before enter the data into the system.

1.2 Problem Statement(s)

1. Abundant of paper forms

Nowadays, most of the educational related field has applied ICT services into their management system. A study in management field, most big company has a legacy of paper forms. According to N. Jakob (2005), even there is ICT services provides, paper form still be used in their management process.

The problem of paper form is when the paper lost before being processed by the staff. Other problem is whenever the staff overlooked the form. The current process for KUTKM student to make application to leave in or not in the hostel is by fill in the paper form. Therefore, this project is looking forward to create an online application form where the status of the application can be checked after being processed by an automate system.

Now, process for KUTKM student to make hostel report is by fill in a paper form. Then the staff has to get through the form submitted to solve the reported problem. In the future, E-Kolej Kediaman has a feature where student can make online report and the staff can keep track the reported problem using this system.

2. By hand submission

Process of submitting any related form to Unit Kolej Kediaman is by hand submission. This may cause time and cost consuming. E-Kolej Kediaman is looking forward to settle this problem where this system provide online form services and student can submit the form on the spot without going to the office except to make payment, collect or return the hostel key and any other equipments.

3. Human fault or bias

Application form to leave in and not in the hostel is being processed manually. There will be human fault or bias during the election of the student.

1.3 Objective

1. To eliminate paper forms usage

The system will ensure that the student do not have to fill in any paper form which has possibility to be lost before being processed by the staff. E-Kolej Kediaman benefits the organization since there is no more manual typing of information into the database.

2. To ease up the application form submission process

E-Kolej Kediaman is a web-based system. KUTKM student can fill and submit the form related form to Unit Kolej Kediaman directly over the internet without going to the office and this service is on twenty-four hours a day. The student can access the system without have to wait for office hour. Student can also check the status of their application to leave in or not in the hostel by online.

3. To automate the hostel allocation process

The staff has to evaluate the student criteria before approving their application. This system will check every application form and approve the student application that meets the criteria.

1.4 Scopes

Enhance the current system that is not very efficient to be used by Unit Kolej Kediaman staff and KUTKM student. Complete system that meets the project objectives listed in previous is the deliverable of the project.

Module that will be developed is Online Hostel Application Module. Other additional features are to make hostel rental, equipment rental, electrical devices registration and permission to keep student's vehicle during semester break all by online. These features bring benefits to student since they do not have to go to the office to get the paper form. E-Kolej Kediaman also will have a feature, which the student can make online hostel report and the staff in charge will keep track the report to settle the problem.

Staff of Unit Kolej Kediaman and KUTKM student is the main user of this system in which all the requirement retrieve from them. Roughly, 5 months needed to complete the entire project task. Since this project is the enhancement of the current project, Active Server Pages has been chosen as the programming language to develop the system and RDBMS chosen is MS SQL Server 2000. The operating system used in this system is Windows XP Professional Edition and this system will be tested using computer server or Internet Information Services (IIS).

1.5 Project Significance

The enhancement of Unit Kolej Kediaman system into E-Kolej Kediaman benefits Unit Kolej Kediaman staff and KUTKM student. In the site of the staff, E-Kolej Kediaman can change the paper form that brings difficulties in their management system. Paper form disadvantages are it has possibility to be lost before being process and the staff may overlooked the form submitted because there are too many paper form to be processed.

In the KUTKM student site, the system will make easier for them to fill and submit any related form to Unit Kolej Kediaman such as application to leave in the hostel form without have to go to the office. This is because the form can be filled in by online. This online system can be access twenty-four hours a day and it helps the student to reduce cost and time to go to the office. For the Online Hostel Application Module, the system will make easier for the student to check the status of their application. The application will be process by an automate system. Applicants that meet the certain criteria will be accepted to leave in the hostel. E-Kolej Kediaman also will have a feature which the student can make online hostel report and the staff in charge will keep track the report to settle the problem arise.

The deliverable of the system enhancement should meet the system objectives and related parties that have been highlighted in this chapter will satisfy with the system enhancement.

1.6 Conclusion

In this chapter, student can be trained in process of identifying problem. The student will make an interview, observation or many other techniques to get clear view about the problem arisen in an organization.

From the problem statements, student will come out with objectives that will react to the listed problems. The objectives are the aim of the student to improve or develop future system.

The last part in this chapter is project significance in which all parties that may benefits from the future system will be stated here.

As a conclusion, student can learned many things of initial process of developing or enhancing a system in this chapter as well as helps in practicing the student communication and writing skills.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

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 period. Process involved in literature review are searching, collecting, analyzing and making conclusion of the study area. The purpose of writing literature review is to convey the ideas established on certain topic. The sources of literature review include books, journals, technical report and websites.

E-Kolej Kediaman will be developed by using structured approach. It has been chosen because of the suitability of the project and courses taken in this university. This approach is based on two techniques that are data flow diagram (DFD) for process modeling and entity relationship diagrams (ERD) for data modeling. The combination of DFDs and ERDs delivers relatively complete analysis models that capture all the system's functions and data at a desirable level of abstraction independently of software or hardware considerations. The analysis model is transformed later into a design model expressed typically in relational database terms. The implementation phase can then follow.

Waterfall Model chosen as guide milestones to complete each task needed in consistently while Database Life Cycle (DBLC) as an intangible methodology in design phase.

2.2 Fact and Finding

2.2.1 Paperless Environment Issue

The paperless office was a visionary or publicist's slogan, supposed to apply to the office of the future. Paperless office is also a suitable metaphor for the touting of new technology in terms of modernity.

A paperless environment has many advantages. First, by relying on electronic media to enhance presentations, students' interest can be heightened. Second, students can be provided with immediate feedback on assignments and exams. Third, using a computer to grade assignments saves time and promotes a more efficient recordkeeping environment (Jadali, 1999).

The finding of the fact is student is more interest to rely on electronic media in their daily life because it provides immediate feedback. In the context of E-Kolej Kediaman, the current system used in making any application or registration is by filling in the paper form can from the office before transferred into the system database by the staff. The issue is the paper form might be lost or misplace by the staff before being processed and keep in the database.

Words from Sherry Fowler (2003), "A couple of months ago we officially went paperless. It means I no longer have to be afraid that I lost a document (or could lose the one I have just been given to review), or wrote on the original, or otherwise screwed something up. It is wonderful not to have to worry about that anymore. It was never an acute worry, just a constant, low-level guilty sense that I wasn't keeping track of everything I touched."