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JUDUL: **E-Course Web-Based Management System (ECMS)**

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 (TANDATANGAN PENULIS)

Alamat Tetap : No 48, Kampung
 Guar Jering, Guar Perahu, 14400
 Bukit Mertajam, Pulau Pinang
 Tarikh : 17/10/2006



 (TANDATANGAN PENYELIA)

Nama Penyelia : En. Yahya b. Abd
 Rahim

Tarikh : 20 Nov. 2006

CATATAN: ****Jika tesis ini SULIT atau TERHAD, sila lampirkan surat daripada pihak berkuasa.**

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E-course web-based management system (ECMS) / Noor
Suhaila Nordin.

E-COURSE WEB-BASED MANAGEMENT SYSTEM
(ECMS)

NOR SUHAILA BT NORDIN

This report is submitted in partial fulfillment of the requirements for The Bachelor Of
Computer Science (Software Development)

FACULTY OF INFORMATON AND COMUNICATION TECHNOLOGY
KOLEJ UNIVERSITI TEKNOLOGI KEBANGSAAN MALAYSIA
2006

DECLARATION

I hereby declare that this project report entitled
E-COURSE WEB-BASED MANAGEMENT SYSTEM (ECMS)

Is written by me own effort and that no part has been plagiarized
without citations.

STUDENT : 
NOR SUHAILA BT NORDIN

DATE : 20 NOV 2006

SUPERVISOR : 
EN. YAHYA B. ABD RAHIM

DATE : 20 Nov 2006

DEDICATION

“To my beloved parents, family, KUTKM lecturer and all my friends”

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I would like to take this opportunity to thank my supervisor, En Yahaya B. Abd Rahim for giving me a planned and guideline to perform these *Projek Sarjana Muda* (PSM) project.

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ABSTRACT

Based on the requirement in helping the worker or staff for manage course for them, there must have one system that help them to achieve these target. Therefore, a research was doing to help this organization to manage the things that related to course management for each staff. Focus of this research is to KUTKM HR (Human Resource) Units. For that, one system was developing to cover the current problems. E-Course system is a system that helps this party who has a thing to be done with HR units about attending and manage the course for them. The E-Course system was able to cover the problem where these system focuses on the systematic course management, the good scheduling planning and the approval system from high level person for approved the course. Because of that, the current system of management makes the E-Course system was developing. Among the method that used now infect the E-Course system to implement with covered the problems arise in the current system that has been used by KUTKM Human Resource Units. By that, difference the current system and system that will develop and have a research between system users and the management organization. The UML model is used to giving a view of the OOAD methodology that required for develop the E-Course system. The phase of E-Course system are categorize to 5 major phase; planning, analysis, design, execute the system and implementation. But, for these part 3 phase is towered the same point, the planning, analysis, and design.

ABSTRAK

Berdasarkan kepada keperluan semasa dalam membantu pekerja dalam pengurusan kursus bagi setiap pekerja, mestilah mempunyai satu sistem yang dapat membantu dalam mencapai target ini. Sehubungan itu, kajian dilakukan dalam membantu pihak ini dalam pengurusan yang membabitkan dengan pengurusan kursus bagi setiap pekerja. Tumpuan kajian dilakukan pada unit sumber manusia KUTKM. Oleh itu, satu sistem dibangunkan untuk menyelesaikan masalah ini. Sistem E-Course adalah sistem yang dapat membantu pihak yang berkaitan berurusan dengan pihak sumber manusia dalam menghadiri kursus yang diperlukan. Sistem E-Course mampu untuk menyelesaikan masalah ini dengan memfokuskan kepada pengurusan yang bersistematik, penjadualan yang baik dan teratur serta pengesahan daripada pihak atasan. Melalui cara pengurusan yang dilaksanakan sekarang menyebabkan sistem E-Course ini dibangunkan. Antara kaedah asas yang dilakukan sebelum sistem ini diimplementasikan adalah dengan mencari kelemahan sistem pengurusan sedia ada yang digunakan oleh unit sumber manusia KUTKM, membezakan sistem yang akan dibangunkan dengan sistem sedia ada dan mengadakan kajian antara pengguna sistem dan pihak pengurusan. Model UML digunakan dalam menggambarkan methodologi OOAD yang diperlukan dalam membangunkan sistem E-Course. Pembangunan sistem E-Course dikategorikan kepada 5 bahagian fasa yang utama iaitu perancangan, analisis, rekabentuk, pelaksanaan dan implikasi. Namun, bagi peringkat ini, pembangunan E-Course tertumpu kepada 3 fasa asas iaitu pembangunan, analisis dan rekabentuk.

TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENT	iv
	ABSTRACT	v
	ABSTRAK	vi
	TABLE OF CONTENTS	viii
	LIST OF TABLE	xiv
	LIST OF FIGURE	xv
	LIST OF TERMS	xvi
	LIST OF APPENDIX	xiv
CHAPTER 1	INTRODUCTION	1
	1.1 PROJECT BACKGROUND	1
	1.2 PROBLEM STATEMENT(S)	3
	1.3 OBJECTIVE	4
	1.4 SCOPES	5
	1.5 PROJECT SIGNIFICANT	6
	1.6 EXPECTED OUTPUT	8
	1.7 CONCLUSION	9

CHAPTER 2	LITERATURE REVIEW AND PROJECT METHODOLOGY	10
2.1	INTRODUCTION	10
2.2	FACT AND FINDING	11
2.3	PROJECT METHODOLOGY	13
2.4	PROJECT REQUIREMENTS	17
2.4.1	SOFTWARE REQUIREMENT	17
2.4.2	HARDWARE REQUIREMENT	19
2.4.3	OTHER REQUIREMENT	19
2.5	PROJECT SCHEDULE AND MILESTONES	20
2.6	CONCLUSION	23
CHAPTER 3	ANALYSIS	24
3.1	INTRODUCTION	24
3.2	PROBLEM ANALYSIS	26
3.3	REQUIREMENT ANALYSIS	29
3.4	CONCLUSION	49
CHAPTER 4	DESIGN	50
4.1	INTRODUCTION	50
4.2	HIGH-LEVEL DESIGN	51
4.2.1	RAW INPUT/DATA	52
4.2.2	SYSTEM ARCHITECTURE	54
4.2.3	USER INTERFACE DESIGN	56
4.2.3.1	NAVIGATION DESIGN	61
4.2.3.2	INPUT DESIGN	62

4.2.3.3	OUTPUT DESIGN	64
4.2.4	DATABASE DESIGN	66
4.2.4.1	LOGICAL DATABASE DESIGN	67
4.3	DETAILED DESIGN	77
4.3.1	SOFTWARE SPECIFICATION	77
4.3.2	PHYSICAL DATABASE DESIGN	78
4.4	CONCLUSION	80
CHAPTER 5	IMPLEMENTATION	81
5.1	INTRODUCTION	81
5.2	SOFTWARE DEVELOPMENT ENVIROMENT SETUP	82
5.3	SOFTWARE CONFIGURATION MANAGEMENT	83
5.3.1	CONFIGURATION ENVIROMENT SETUP	83
5.3.2	VERSION CONTROL PROCEDURE	86
5.4	IMPLEMENTATION STATUS	87
5.5	CONCLUSION	88
CHAPTER 6	TESTING	89
6.1	INTRODUCTION	89
6.2	TEST PLAN	90
6.2.1	TEST ORGANIZATION	91
6.2.2	TEST ENVIROMENT	92
6.2.3	TEST SCHEDULE	92

6.3	TEST STRATEGY	94
6.3.1	CLASSES OF TEST	95
6.4	TEST DESIGN	97
6.4.1	TEST DESCRIPTION	99
6.4.2	TEST DATA	99
6.5	TEST RESULT AND ANALYSIS	100
6.6	CONCLUSION	102
CHAPTER 7	PROJECT CONCLUSION	103
7.1	OBSERVATION ON WEAKNESS AND STRENGTHS	103
7.2	PROPOSITIONS FOR IMPROVEMENT	106
7.3	CONTRIBUTION	107
7.4	CONCLUSION	107
	REFERENCE	108

LIST OF TABLE

TABLE	TITLE	PAGE
1.0	Project Schedule and Task	22
3.3.1	The Required Data for E-Course System	46
4.1	RAW/Input Data	53
4.2	Input Design Table	63
4.3	Output Design Table	65
4.4	Data Dictionary	76
5.4	ECMS Status of the Implementation System	87
6.2.3	Test Schedule of ECMS System	93
6.5	Test Result and Analysis for ECMS System	101

LIST OF FIGURE

FIGURE	TITLE	PAGE
3.2.0	The Use Case of the Current System.	27
3.3.1	The Use Case Diagram for the E-Course System.	31
3.3.2	The Use Case Diagram from users view.	34
3.3.2.1	The Activity Diagram of View Course and Course Calendar Process without Login Process for Users.	35
3.3.2.2	The Activity Diagram Of Manage Schedule and Assign Course Process with Login Process for Users.	37
3.3.3	The Use Case Diagram from HR administrator view.	39
3.3.3.1	The Activity Diagram of the Process That Used Login Process for Administrator User.	40
3.3.4	The Use Case Diagram from university officer / dean view.	42
3.3.4.1	The Activity Diagram of the Process with Login Process for University Officer / Dean.	43
4.1	3-Tier architecture	55
4.2.1	Login interface	56
4.2.2	Staff interfaces	58
4.2.3	Admin interfaces	59
4.2.4	Officer interfaces.	60
4.3	Navigation Design Diagram.	61
4.4	ER Diagram for E-Course system (ECMS)	70
4.5	A dependencies diagram. First normal form (1NF)	72
4.6	2nd Normal Form (2NF)	74
4.7	Class Diagram	78
4.8	Package Diagram For Design Model E-Course System Architecture Layer.	78
6.4	The V models that often separate test design from test implementation.	98

LIST OF TERMS AND ABBREVIATIONS

ABBREVIATIONS	DEFINITION
PSM	Projek Sarjana Muda
KUTKM	Kolej Universiti Teknikal Kebangsaan Malaysia
HR	Human Resource
MIS	Management Information System
MBO	Management By Objectives
PHP	Personal Home Pages Hypertext Preprocessor.
RUP	Rational Unified Process
SDLC	Software Development Lifecycle
UML	The Unified Modeling Language
PC	Personal Computer
HTML	Hyper Text Markup Language
URL	Uniform Resource Locator
XML	Extensible Markup Language
OOAD	Object-Oriented Analysis And Design
IIS	Microsoft Internet Information Server
MTS	Microsoft Transaction Server
EJB	Enterprise JavaBeans
ER	Entity-Relationship
RDBMS	Relational Database Management System
DBMS	Database Management System
DDL	Data Definition Language
ECMS	E-Course Web-Based Management System

LIST OF APPENDIX

APPENDIX	TITLE	PAGE
Appendix A	Gantt Chart	110
Appendix B	Software Requirement Specification Document	111
Appendix C	Configuration Environment Setup	112
Appendix D	ECMS User Manual	113

CHAPTER 1

INTRODUCTION

1.1 PROJECT BACKGROUND

Education is now no longer seen as some thing just has when you are young rather its regular doses are required throughout our academic life. In the fast changing competitive world, information and communication technologies have made education a commodity freely traded the world over. Nowadays, they are other way to be educated like attending and following the course or training.

Referred to Dictionary.com, Course is a complete body of prescribed studies constituting a curriculum or a unit of such a curriculum to be fulfill by person. The meaning of training is the process or routine of one who trains. Within these two word combine, means the stage that one person have to take to improve their knowledge and skill through other method of education, that's what course and training means. Course and training plays significant roles in today working environment as a way to capture knowledge from exiting workers and to retain it for future workers. This method of education improves performance and is focused on what business those people want to achieve in the future.

This method of education improves performance and is focused on what business those people want to achieve in the future.

Therefore, these PSM project takes an action of study case on manual system that used by Human Resource Department at KUTKM in managing the task that related to KUTKM staff for following and attending course and training. With the problem arise using the current system of management, the new system; ECMS will develop to replace the current system. ECMS is a short name for ECMS Management System, for KUTKM. ECMS is being designed and developed to enhance efficiency and effectiveness in the management of HR in organization. It is also helping HR departments to make the difficult shift from administrative cost center to competitive player in the working area. Using Web-based applications, HR can deliver a wider range of services more efficiently and cost-effectively than ever before and also improving organization ability to manage and engage their people and improve individual and collective productivity and performance. Thus, it is important for the KUTKM to have another system which is more users friendly and attractive. In the other hand, it will take a little time in managing the process, fewer problems to the user, save spaces and reduces of using the human being energy, and at the time the management cost will be deducted.

1.2 PROBLEM STATEMENT

The current system that KUTKM used to manage the problem is not suitable for nowadays. There are several problems influencing the development of the new system to replace the current system that they used now.

The main problem is the management. These problems referred to the department that organizes the course activities; KUTKM HR department. The current system is poor in management and not systematic at all. Also, lots of documents are not updated and sometimes data are lost. The new system will help this organization to arrange these data using computerized techniques. It's also able to detect the course name and the latest course that already attend by other staff.

The second problem is timing. The current system takes a long time to deliver the data to be checked by the authorized staffs and the officer (dean/university officer). Sometimes, the staffs don't know that they have to attend the course because the late of information data has sent by that organization that manages it. With the new system, it also can reduce error in course management task.

The other problem that appears is cost. Within the current system is hard to calculate and prepare the cost and budgets that will spend for staffs attend the course. Otherwise, it's hard for that organization to manage the cost and budgets. The new system will cover this problem and save the cost for the management analysis.

1.3 OBJECTIVES

- To have the good and systematic management system for users to manage the course and make the schedule planning for the selected course. With this system, staff can plan their next course or training and arrange it in their free time without distract the other works.
- To give a facility to HR department to have the course management through system. This system will help the HR (*Human Resource*) department in manage the course and training sessions. It's include the function to record and keeping the data, updated and tracking the current data, planning the cost and make budgets, also sent the selected course to be approved by third party, the high-level person.
- To monitoring the movement of outgoing staff. This part is for this party, the high-level person (dean/university officer) for checkup and balancing the total staff for attending the course or training. They have the authorized to approve or disapprove the course that staffs apply to attend, according to the situation. With this system, these people also have authority to manage and approve the budgets and cost for the selected course.

1.4 SCOPE

These are the scopes for that system:-

- a) This system will be focus on the KUTKM HR department, where the management course for staff (academic and non-academic), course planning, and course approval from high-level person. This management includes the 3 group party, where one of them known as users, the admin that manages the system and the high-level person for supervised and approve the process in this system.
- b) This system also helps the HR department calculate and check the quota of staff attending the selected course and making the next follow-up of the next task.
- c) All the management data and information will be stored in the database. Where it comprehend the control of data management in HR department.
- d) To ensure that the process of manage the course data become more efficient and effective.
- e) To simplify the process of recording data in the database.
- f) Only the authorized users are enable to use the system, as for the security to avoid data corrupted or lose. Also, this system gives an authority to the person in higher position likes dean (*Dekan Fakulti*), or university official to monitoring the movement of outgoing staff for attending the course. In any case, they can approve or not approve about the activities for the staff to attend the course.

- g) Managing users (staff) to planning their course that they want to follow for the next year or month. These are easy for them to arrange the course that they want to attend. When they click the process that they want, the system will result will sent to the HR (*Human Resource*) department via network communication.

1.5 PROJECT SIGNIFICANCE

The ECMS is a management system that will gives a lot of benefits, not for users but the organization and their officers too. The system has security that limit to the authorized staffs to enter or view the certain area. For organization it self, HR department can alter the course management structure and roles to provide more support to the business function, reduce HR delivery costs, and develop new and exciting services for its staff.

Thus, this organization moving to the new model of operation will have a strong competitive advantage since they provide new business information to their officer and users, build more productive workforces, and unleash powerful new tools to increase learning and education.

ECMS system is being entrusted with the responsibilities of developing application that successfully fulfills the organization's needs. The processes involved exposing the Management Information System (MIS) personnel to the organization's trade confidential and sensitive information.

It is essential for all the MIS personnel to undergo a personnel development program that provides committed personnel who devotes their integrity and loyalty towards the organization's objective. The benefits of this project can be categorized as follows:

i) Dean / University Officer:-

- a) These person can directly access the ECMS system and make-on-the spot decision about giving the permission to staff attend the course or training, without involving the HR organization function using antiquated paper-based process.
- b) They also can update and view his/her data from their PCs.

ii) HR Department:-

- a) HR staff updates the data inside database via ECMS system by the authoritative access policy.
- b) The entire management task that related to manage the course or training for staff was located in here where the main system and database was store and used in here.

iii) Academic Staff and Non-Academic Staff (User):-

- a) The system allows accessibility of web-based system at user's own pace and time.
- b) Provide the users database where user can schedule their own planning for attend and following course or training. The data that user entered is connected to HR department where the changes through an embedded to the management, which would update the database accordingly.

1.6 EXPECTED OUTPUT

Even the ECMS system can provide a single source of information about management course system, it will replace the manual system and it also has an option to be viewed in lots of place as long as it ware in the KUTKM network area. The information can be gathering easily, because any changes taking effect across the processes that are part of the ECMS system in HR department.

From the idea of developing ECMS system, a set of findings was found and result at the early stage will be delivered such as:-

- a) Proper planning in ECMS system can lead the management and user become better achievement impact in managing data.
- b) ECMS system can reduce time taken to access data.
- c) ECMS system can be opportunities to improve performance of the HR management, contribute to more dynamic, and should be developed to help these organizations adapt to change environment and privatization.
- d) ECMS system can only be successfully implanted when its get the full support from management and staff.
- e) ECMS system should implement in the new environment of KUTKM network.
- f) The system need to be improved over the time by adapting the new technique and implement it to that system.
- g) ECMS system should be upgraded and put more investment in the new software and hardware.

1.7 CONCLUSION

Today, tools to develop database information system for management are increasingly used. Many organizations manage their information by using database technology. Because of many benefits of database, ECMS system using database in many task in managing data. Even this project doesn't have achieved the target, which produces an ECMS system using Web-based. Several suggestions for the enhancement of this system have also been recommended for the future development of this project. A prototype of the system will developed using the data that have been gathered before. The Apache server, MySQL and PHP are quite stable and can be recommended for a small to medium size system. Hopefully, this system can bring up a convenience for the user or organization in managing course or training for them. Therefore, the system also can reduce energy, time and money needed forward to increase KUTKM profits.

Current information management system of course or training staff in KUTKM still using manually, means that information of users still recorded on papers, notebook, some time unable to respond members' requirement immediately, and also ineffectiveness in store, retrieve, and update information. The current system are unable to serve users online, whenever users want to know some related information, their have to come and check at HR department clerk. In order to solve these problems, it is important that the organization have to re-manage the system in form of system and database for more efficiency and effectiveness.