

BORANG PENGESAHAN STATUS TESIS

JUDUL: KUTKM ALUMNI System

SESI PENGAJIAN: 2005

Saya AINI YUSNINA MOHAMAD YUSOP

(HURUF BESAR)

mengaku membenarkan tesis (PSM/Sarjana/Doktor Falsafah) ini disimpan di Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dengan syarat-syarat kegunaan seperti berikut:

1. Tesis adalah hakmilik Kolej Universiti Teknikal Kebangsaan Malaysia.
2. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan untuk tujuan pengajian sahaja.
3. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan tesis ini sebagai bahan pertukaran antara institusi pengajian tinggi.
4. ** Sila tandakan (/)

_____ SULIT (Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)

_____ TERHAD (Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)

_____ TIDAK TERHAD


(TANDATANGAN PENULIS)


(TANDATANGAN PENYELIA)

Alamat tetap: NO 2, TAMAN TG. MALIM,
JALAN KEDYONG, 35900 TG. MALIM, PERAK.

EN. AHMAD FADLI NIZAM
ABD. RAHMAN

Nama Penyelia

Tarikh: 28/11/2005

Tarikh: 28/11/2005

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

^ Tesis dimaksudkan sebagai Laporan Projek Sarjana Muda (PSM)

KUTKM ALUMNI

raf

LB2411 .A36 2005



0000038013

KUTKM alumni / Aini Yusrina Mohamad Yusop.

AINI YUSRINA MOHAMAD YUSOP

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

**FACULTY OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA
2005**

DECLARATION

I hereby declare that this project report entitled

KUTKM ALUMNI SYSTEM

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

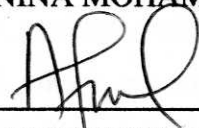
STUDENT

: 

(AINI YUSNINA MOHAMAD YUSOP)

Date : 28/11/2005

SUPERVISOR

: 

(EN. MOHD KHANAPI ABD. GHANI)

Date : 28/11/2006

ACKNOWLEDGEMENTS

First of all I would like to thank Allah S.W.T for giving me the permission to complete my Projek Sarjana Muda II (PSM II) for this semester as to fulfill the requirement to get a Bachelor in Computer Science majoring in Software Development. Without Allah's help and guidance, I would not be able to complete this course.

Then, I would like to thank En. Mohd Khanapi Abd. Ghani, my PSM II Supervisor, who have given me such many helpful tips and guide in order for me to complete this course. He was very helpful throughout the process in completing this PSM II. I would not be able to know the necessary information if he didn't guide me.

Not forgetting to all my friends and my beloved parent who have support me by giving moral support and also help me to overcome many problems during the completing of this PSM II. When I am down or lost hope, they were always there to guide and help me get my feet back on the ground.

Lastly, I would like to express my grateful gratitude to Allah S.W.T once again in helping me. En. Mohd Khanapi Abd. Ghani, my supervisor, friends and parent are also the most important persons in this PSM II period. For those, who I did not mention I am also would like to thank you all for giving me support and willing to help me to achieve my dream to come true.

ABSTRACT

The proposed software system called KUTKM Alumni as the final project for PSM. KUTKM Alumni is a system that has been proposed to be developed and implemented for ex-students of Kolej Universiti Teknikal Kebangsaan Malaysia. The gain for this system is to make the ex-students of KUTKM easy to keep in touch with friends either old, new or current friends. This system will work out as the “man in the middle” for the members to stay reconnects with their friends. This KUTKM Alumni is maybe the same as other alumni website, but new features and other function that suitable for the students environment will be added and this will make the system is little different from other alumni website in this country. These systems also apply a new communication technology which is SMS. The methodology applied in developing this system is OOAD. So with all chapter that will do, such as introduction, literature review, design and analysis, all the problem can be identify and this problem can be solved. Therefore, with this new system members can still reconnect with each other no matter what, how, where they are.

ABSTRAK

KUTKM Alumni ini merupakan projek yang akan dibangunkan untuk memenuhi keperluan Projek PSM ini. Sistem ini dibangunkan bertujuan untuk memenuhi keperluan bekas pelajar Kolej Universiti Teknikal Kebangsaan Malaysia. Matlamat utama sistem ini dibangunkan adalah untuk memastikan bekas pelajar-pelajar KUTKM akan sentiasa berhubung diantara satu sama lain samada berhubung dengan pelajar lama mahupun pelajar baru.. Sistem ini akan bertindak sebagai “orang tengah” dalam memastikan hubungan antara pelajar-pelajar KUTKM tidak terputus atau akan sentiasa berhubung. Fungsi-fungsi yang terdapat di dalam sistem ini mungkin berlainan dengan fungsi-fungsi yang terdapat dilaman-laman web alumni di negara ini bersesuaian dengan kemajuan dan tahap pengetahuan pengguna. Sistem ini juga mengaplikasikan penggunaan SMS sebagai salah satu fungsi yang terdapat di dalam sistem ini. Metodologi yang digunakan untuk membangunkan sistem ini ialah menggunakan konsep OOAD iaitu melalui program UML. Oleh itu diharapkan dengan adanya dokumen yang mengandungi maklumat seperti pengenalan, kajian literature, rekabentuk dan analisis ini dapat membantu dan mengatasi semua keperluan. Diharapkan sistem yang dibangunkan ini dapat merapatkan hubungan bekas pelajar-pelajar KUTKM pada masa akan datang.

TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE
	DECLARATION.....	ii
	ACKNOWLEDGEMENTS.....	iii
	ABSTRACT.....	iv
	TABLE OF CONTENTS.....	vi
	LIST OF TABLES.....	x
	LIST OF FIGURES.....	xi
	LIST OF ABBREVIATIONS.....	xiii
CHAPTER I	INTRODUCTION	
	1.1 Introduction.....	1
	1.2 Project Background.....	1
	1.3 Problem Statement(s).....	3
	1.4 Objective.....	4
	1.5 Scope of Project.....	5
	1.6 Project Significance.....	7
	1.7 Expected Output.....	7
	1.8 Conclusion.....	9
CHAPTER II	LITERATURE REVIEW AND PROJECT METHODOLOGY	
	2.1 Introduction.....	10
	2.2 Fact and Finding.....	10
	2.3 Project Methodology.....	20
	2.4 Project Requirement.....	25

2.4.1 Software requirement.....	25
2.4.2 Hardware requirement.....	25
2.4.3 Other requirement.....	25
2.5 Project Schedule and Milestone.....	26
2.6 Conclusion.....	28

CHAPTER III ANALYSIS

3.1 Introduction.....	29
3.2 Problem Analysis.....	30
3.2.1 Background of current system.....	30
3.2.2 Problem statement.....	32
3.3 Requirement Analysis.....	32
3.3.1 Functional requirement.....	33
3.3.2 Business flow.....	36
3.3.3 Use case view.....	39
3.3.4 Actors.....	39
3.3.5 Use case description.....	40
3.3.6 Interaction diagram.....	48
3.4 Software Requirement.....	56
3.5 Hardware Requirement.....	57
3.6 Network Requirement.....	58
3.7 Conclusion.....	58

CHAPTER IV DESIGN

4.1 Introduction.....	59
4.2 High-level Design.....	59
4.2.1 Raw input/data.....	59
4.2.2 System Architecture.....	61
4.2.2.1 Static Organization.....	64
4.2.2.2.1 High-level Class Diagram.....	66
4.2.3 User Interface Design.....	67
4.2.3.1 Navigation Design.....	68

4.2.3.2 Input Design.....	69
4.2.3.3 Output Design.....	81
4.2.4 Database Design	83
4.2.4.1 Logical Database Design.....	83
4.2.5 Deployment View.....	84
4.3 Low-level Design.....	84
4.3.1 Detailed Design.....	84
4.3.2 Physical Database Design.....	88
4.4 Conclusion.....	90

CHAPTER V

IMPLEMENTATION

5.1 Introduction.....	91
5.2 Software Development Environment Setup.....	91
5.3 Software Configuration Management.....	93
5.3.1 Configuration Environment Setup.....	93
5.3.2 Version Control Procedure.....	94
5.3.2.1 Procedure.....	94
5.3.2.2 Numbering of Product Version.....	95
5.4 Implementation Status.....	95
5.5 Conclusion.....	97

CHAPTER VI

TESTING

6.1 Introduction.....	98
6.2 Test Plan.....	98
6.2.1 Test Organization.....	99
6.2.2 Test Environment.....	100
6.2.2.1 Environment set-up.....	100
6.2.2.2 Application Software.....	100
6.2.2.3 System Software.....	101
6.2.2.4 System Hardware.....	101
6.2.3 Test Schedule.....	101
6.3 Test Strategy.....	103

6.3.1 Classes of tests	103
6.4 Test Design.....	105
6.4.1 Test Description.....	105
6.4.2 Test Data.....	109
6.5 Test Result and Analysis.....	113
6.6 Conclusion	114
CHAPTER VII	
PROJECT CONCLUSION	
7.1 Observation on Weaknesses and Strengths.....	115
7.2 Proposition for Improvement.....	116
7.3 Conclusion.....	116
REFERENCES.....	xiv
APPENDIX.....	xv

LIST OF TABLES

TABLE	TITLE	PAGE
2.1	The result from findings	17
4.1	Raw Data for Alumni System Database	60
4.2	Alumni System Output Design	81
4.3	Data Dictionary for KUTKM Alumni System	88
5.1	Datasets Used For Version Library	93
5.2	KUTKM Alumni implementation status	96
6.1	Personnel detail	99
6.2	KUTKM Alumni System	100
6.3	KUTKM Alumni Test Schedule	101
6.4	Login module testing	105
6.5	Registration Membership module testing	106
6.6	Messaging module testing	106
6.7	Chat Room module testing	107
6.8	Announcement module testing	107
6.9	Forum module testing	108
6.10	Manage SMS module testing	108
6.11	Manage System Application module testing	109
6.12	Terminate Account module testing	109
6.13	Test Data	110
6.14	Test Result	113

LIST OF FIGURE

DIAGRAM	TITLE	PAGE
2.1	:Project Schedule and Milestone	27
3.1	Activity diagram for current system	31
3.2	Overview of KUTKM Alumni	35
3.3	KUTKM Alumni activity diagram	36
3.4	Forum activity diagram	37
3.5	Announcement activity diagram	37
3.6	Chat room activity diagram	37
3.7	Messaging activity diagram	38
3.8	sms service activity diagram	38
3.9	Global view of use case model for KUTKM Alumni System	39
3.10	Interaction diagram for Member Registration	48
3.11	Interaction diagram for Member Login	49
3.12	Interaction diagram for Terminate Account	49
3.13	Interaction diagram for Messaging (send))	50
3.14	Interaction diagram for Messaging (delete)	51
3.15	Interaction diagram for Chat Room Service	52
3.16	Interaction diagram for Announcement (Send)	53
3.17	Interaction diagram for Announcement (Delete)	54
3.18	Interaction diagram for sms service	55
3.19	Interaction diagram for Manage System Application	56
4.1	CSCI KUTKM Alumni System Overview	62

4.2	KUTKM Alumni System Layering	63
4.3	The CICS KUTKM Alumni System packages	64
4.4	Alumni System High Level Class Diagram	67
4.5	First User Interface and Login Interface	69
4.6	Introduction of KUTKM Alumni function page	70
4.7	Function of KUTKM Alumni function page	71
4.8	Gallery of KUTKM Alumni function page	72
4.9	Pictures in the gallery link page	73
4.10	Kerjaya of KUTKM Alumni function page	74
4.11	Pautan of KUTKM Alumni function page	75
4.12	Member's Registration Interface	76
4.13	Admin Main Page and Function Interface	77
4.14	Chat Room Interface	78
4.15	SMS Service Interface	79
4.16	Forum Interface	80
4.17	Message Interface	81
4.18	KUTKM Alumni System ERD	83
4.19	KUTKM Alumni System Deployment View	84
5.1	The Development Environment for KUTKM Alumni	92
5.2	Version Control Procedure	95
6.1	Testing Phases Involved for KUTKM Alumni system	103

LIST OF ABBREVIATIONS

PSM	Projek Sarjana Muda
SMS	Short Message Services
OOAD	Object Oriented Analysis Design
UML	Unified Model Language
OO	Object Oriented
OS	Operating System
LAN	Local Area Network
ID	Identity
ERD	Entity Relationship Diagram

CHAPTER I

INTRODUCTION

1.1 Introduction

This chapter contains the description of the project background, problem statement, objectives and scopes, project significance, expected output and the conclusion of the project.

1.2 Project Background

Kolej Universiti Teknikal Kebangsaan Malaysia Alumni (KUTKM Alumni) is a business opportunity as yet another alumni website that develop special for ex-KUTKM's students use as one of the outcomes of the Internet and Telecommunication Technologies Revolution and the way to still connected with each other.

Since the number of KUTKM's students become larger each year, probability for students to see or meet their old friends are small. Especially if their friends are from other country. Besides, lack of time also can bring the problem for students to make a discussion or conversation with friends about their life and works.

As the consequences from all this problems therefore, this KUTKM Alumni is the answer to reduce those problems. This system will work out as the "man in the

middle” for the members to stay reconnects with their friends. This KUTKM Alumni is maybe the same as other alumni website, but new features and other function that suitable for the students environment will be added and this will make the system is little different from other alumni website in this country.

Basically, this system will work out as to make the ex-students of KUTKM easy to keep in touch with friends either old, new or current friends. Besides that, this system allow the members to share files, notes or tutorials among members. Members also can find and reconnect with friends from other faculties like FTMK, FKM or FKE.

Other features that the system has are chat room and messaging services. With this features members can have their own chat, conference or discussion with their friends by using this system.

KUTKM Alumni is not an ordinary alumni website. Although this system still using the basic idea and function of other alumni website, the new features and idea that will be use to develop this system will make it like a new brand. This system will combined some features that have in the “friendster.com” website with some new features like chat room and card service.

Some of the features of this system will require creativity and technical competence. To develop this system is not an easy job. More research and reference are needed to ensure this system will meet their requirement. Therefore, with this new system members can still reconnect with each other no matter what, how, where they are. Besides, this system can be as another way for ex-students to get information besides KUTKM website. As we know, the more exiting the features are, the more the website will be visited.

1.3 Problem statement

Developing a new system usually has a connection with upgrading a current system to become more interesting or to make the system more exciting and reliable to use suitable with the growth of the technologies day by day. However, to develop a new system needs a reason why the system had to be performed? What are the problems that make the system needs to be developed? All this questions needs to be answer before the new system can be developed.

The main purpose of the KUTKM Alumni exists are to make the ex-students of KUTKM easy to keep in touch with each other although they have graduate. Besides, this system allows the members to share files or other documents among members and also other features that exists in this system.

From the analysis, the number of students that registered in this campus become larger each year. Since the students getting more and more, probability for each student to know and still connected are less after their graduate.

KUTKM Alumni is the outcome of all those problems. This new system will act as the “man in the middle” for the members. This system will ensure that the students will stay reconnect with their friends. They can find their friends using this system if only their friends are registered with this system too. KUTKM Alumni will make the students easy to keep in touch with each other. Besides that, this system allows the members to share files, notes or any documents among members.

This system also contains chat room and messaging service. For those who do not have much time to see each other they can use this service to make a discussion or chatting with friends. Members also can send a message among members to ensure they are still connected each other.

Basically, this system is develop to make the ex-students feel enjoy and fun to use it besides the information that the system have and feel reconnect with each others even they have graduate from KUTKM.

1.4 Objectives

The objectives of this system are stated as below:

- a. **To make the ex-KUTKM student easy to stay in touch.**
This system will be present as ‘the man in the middle’ for the ex-KUTKM students from loosing their friends. By using this system, user can stay in touch with their friends either the old, new or current friends.

- b. **To find and reconnect with friends from other faculties**
Since the numbers of KUTKM students are huge, there are not easy for each student can meet or find each other everyday. So, this system can be used to find and reconnect with friends from other faculties by the features/ function that it has.

- c. **To develop an interactive and systematic system**
Since this system will be use more by teens, so the features in this system will be more interactive and user- friendly. User also can use this system to discuss in the chat room among members.

1.5 Scope of Project

KUTKM Alumni scope is focusing more on community service for KUTKM community. This KUTKM Alumni will be play as 'the man in the middle' role for the ex-KUTKM students to make sure that they will still connected with each other. Basically, this system will be used by the ex-students of KUTKM. Each user needs to setup an account before they can use this system and this system will be controlled by the administrator. The features/modules of the system are as stated below:

Login

This module provides the system with security features which only allowed valid user to login to the system. User is required to enter a unique user ID and password.

Registration Membership

This module manages the new member registration process before they can join the Alumni System. This will be done via an online from with the proper scripting. All the information/data about members will be stored in related database for references.

Terminate Account

This module provides the Administrator with an account termination service. They will terminate the user account when the user is no longer wanted to be the Alumni members or the account is not active in a long period of time.

Manage System Application

This module allowed the Administrator to manage all application that the system have. They can update, delete and monitor the data or information in the system. All the

information that the Administrator has modified or created will be store into the specific database for references.

Manage SMS

This module provides the SMS service. Alumni members will get new information or news via this application. The Administrator will send the news to the member's hand phone from their pc using this sms service.

Messaging

This module allowed the user to send message among members through the system. User is required to type a message and the receiver's identification (user's id or name).

Chat Room

This module manages the chat room for user to use. User can chat with their friends using this service. Systems will display list of members that contain in the chat room every time user use the system.

Announcement

This module manages the announcement or any bulletin that user (Administrator) want to display for members information. All the information will be stored in the database.

Forum

This module provides the user with discussion or forum service. They can use this service to post any topic or story and discuss it among members. This entire forum will be store in the database for a few moments.

This system will use Windows as the platform and Apache as the server. Apache is a powerful Web server that can provides a highly reliable, manageable, and scalable Web application infrastructure for all versions of Windows. It will help organizations increase Web site and application availability while lowering system administration costs.

1.6 Project significance

KUTKM Alumni is not an ordinary alumni website as we can see at the internet nowadays. This system is develop to make the user enjoy and fun to use it. This system is completely full with new features that other alumni website does not have. Besides to make the user stay reconnects and easy to keep in touch with members, this system allows the user to send message and chatting among members.

This system can give benefits for all ex-KUTKM students. Developing this new system will be as a hope for those students to get information. Formal website makes those students easily get boring to use it. Furthermore, the more exciting and fun features are, the more the website will be visited.

1.7 Expected Output

Since the process of developing the system still in the first phase and the real system did not develop yet, the expected output from the system are still in the progress. But the idea about the basic features and functions that the system have and the kind of data that the system needs are stated as below:

1. **Member Registration** – new member are required to complete a registration process to join the system. This will be done via an online form with the proper scripting.
2. **Member login** – Members are required to login the system to access all features.
3. **Member messaging** – The system acts as the “man in the middle” to send a message from one member to another. This helps ensure privacy of members.
4. **Terminate Account** – Administrator will manage the user’s account and will terminate the account that not active in a period of time.
5. **Chat room** – Members can use this features to chat or do a discussion or conference among members.
6. **Announcement** – Administrator will post any announcement or news using this service for members information.
7. **Forum** – Members can post any forum using this service.
8. **Manage sms** – This service will be used by admin to send a message to all member about new news or information about KUTKM Alumni.
9. **Manage System Application** - Admin can update, delete and monitor the data or information in the system. All the information that the Administrator has modified or created will be store into the specific database for references.

1.8 Conclusion

KUTKM Alumni is a new system that will be develop special for ex-KUTKM students. The main objective for this system exists is to make the ex-students of KUTKM easy to keep in touch even they have graduated. This system will act as “the man in the middle” for the members to stay reconnects. This system also allows students to share files or documents among members. Since the students do not have much time to do a discussion, they can use chat room to discuss with friends. Other features like messaging and forum also give a lot of benefits to the user. The next activities that to be developed are literature review and project methodology. Those activities will be described in the next chapter, Chapter 2.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

This chapter contains the description of the literature review and project methodology that will be used in the development process. The topics that will be discuss in this chapter are fact and finding based on the research, project methodology, project requirement, project schedule and milestone and the conclusion of this chapter.

2.2 Facts and finding- Review of some websites

The proposed project is related to creation of a website for the use of both students and lecturers to share their information. For this, a lot of effort has been put on exploring different similar websites like;

a. friendster.com

- An online community website that connects people through networks of friends for dating or making new friends. Main purpose of this website are to stay in touch with friends, to find and reconnect with old friends, to see how your friends are connected, to be reminded about friend's birthday, to meet