

**E-THESIS MANAGEMENT SYSTEM  
(ETMS)**

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## **ABSTRACT**

E-Thesis Management System (ETMS) is proposed to provide an efficient management system for PSM/PTA thesis in faculty's collection. The objective of ETMS is to provide the prototype of searching the thesis for student in order to find the suitable title of PSM/PTA project from previous semester. It also provides information and availability of the thesis by transforming the process into the computerize system. The system's interface design is developed using Adobe Dreamweaver CS4, and will used Spiral Life Cycle Model as the methodology. MySQL is used to construct the database and store the thesis information. This system is a web based application and to be used by Student, lecturer and Coordinator. The system's performance is expected to be better than the conventional system because it manages the thesis easier and faster. This project it will contribute towards a better thesis management in future. It also aims to overcome the problem of missing thesis's data as well as the fast retrieval of thesis information.

## ABSTRAK

E-Tesis Management System (ETMS) bertujuan untuk menyediakan sistem pengurusan yang cekap untuk PSM / PTA tesis dalam koleksi fakulti. Tujuan ETMS adalah untuk menyediakan prototaip mencari tesis bagi pelajar untuk mencari tajuk yang sesuai PSM / PTA projek dari semester sebelumnya. Ini juga menyediakan maklumat dan ketersediaan tesis dengan menukar proses tersebut ke dalam sistem komputerisasi. Sistem ini dibangunkan dengan menggunakan Adobe Dreamweaver CS4, dan akan menggunakan Spiral Life Cycle Model sebagai metodologi. MySQL digunakan untuk membina database dan menyimpan maklumat tesis. Sistem ini adalah aplikasi berasaskan web dan akan digunakan oleh Mahasiswa, Pensyarah dan Koordinator. Prestasi sistem dijangka akan lebih baik berbanding dengan sistem konvensional kerana menguruskan tesis lebih mudah dan lebih cepat. Projek ini akan turut menyumbang terhadap pengurusan tesis yang lebih baik di masa depan. Hal ini juga bertujuan untuk mengatasi masalah kehilangan data dan juga mudah mencari maklumat tesis.

## TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	<b>ACKNOWLEDGEMENT</b>	v
	<b>ABSTRACT</b>	vi
	<b>ABSTRAK</b>	vii
	<b>TABLE OF CONTENTS</b>	viii
	<b>LIST OF TABLES</b>	xi
	<b>LIST OF FIGURES</b>	xii
	<b>LIST OF APPENDICES</b>	xiv
	<b>LIST OF SYMBOLS</b>	xv
<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
	1.1 Introduction	1
	1.1.1 Project Overview	1
	1.2 Problem Statement	2
	1.3 Objective	2
	1.4 Scopes	3
	1.5 Thesis Organization	4

<b>2</b>	<b>LITERATURE REVIEW</b>	<b>5</b>
2.1	Introduction	5
2.2	E-Thesis Management System	5
2.2.1	Function of ETMS	6
2.3	Type of Application	6
2.4	Existing Management System	8
2.4.1	UMP library Catalogue	8
2.4.1.1	Example Interface	9
2.4.2	Airlines Reservation System	10
2.4.2.1	Flight details	10
2.4.3	Comparison of Existing System	12
2.5	System Features	13
2.6	Software Approach	14
2.7	Chapter Summary	16
<b>3</b>	<b>METHODOLOGY</b>	<b>17</b>
3.1	Introduction	17
3.2	Project Methodology	17
3.2.1	Spiral Life Cycle Model	18
3.3	Model Usage/Approach	20
3.3.1	Planning	20
3.3.1.1	Preliminary Investigation	20
3.3.2	Requirement Analysis	22
3.3.3	Design	23
3.3.4	Construction	24
3.3.5	Testing	24
3.3.6	Deployment and Acceptance	25
3.4	Justification Methodology Requirement	25
3.5	Chapter Summary	26

<b>4</b>	<b>IMPLEMENTATION</b>	<b>27</b>
	4.1 Introduction	27
	4.2 SQL Explanation	27
	4.2.1 Student Table	28
	4.2.2 Thesis Table	29
	4.2.3 Staff Table	31
	4.2.4 Coordinator Table	32
	4.2.5 Memo Table	33
	4.3 Coding Explanation	34
	4.4 Chapter Summary	39
<b>5</b>	<b>RESULT AND DISCUSSION</b>	<b>40</b>
	5.1 Introduction	40
	5.2 Result of System	41
	5.2.1 User Module	41
	5.2.2 Thesis Module	42
	5.2.3 Admin Module	44
	5.3 Constraint of Project	48
	5.4 Discussion	48
	5.5 Advantages and Disadvantaged	49
	5.5.1 Advantages	49
	5.5.2 Disadvantages	49
	5.6 Assumption	50
	5.7 Chapter Summary	50
<b>6</b>	<b>CONCLUSION</b>	<b>51</b>
	6.1 Summary	51
	6.2 Future Development of ETMS	52
	6.3 References	53
	<b>REFERENCES</b>	<b>54</b>
	Appendices A-D	54

**LIST OF TABLES**

<b>TABLE NO</b>	<b>TITLE</b>	<b>PAGE</b>
2.1	Benefits of Web Based Application	7
2.2	Pros and Contra of Existing System	12
2.3	User Module	13
2.4	Coordinator Module	13
3.1	Hardware Requirement	21
3.2	Software Requirement	22
5.1	Black Box testing for User Login	42
5.2	Black Box testing for Admin Login	44

## LIST OF FIGURES

FIGURE NO	TITLE	PAGE
2.1	Login Form	9
2.2	Searching Form	9
2.3	Flight Form	10
2.4	Customer Form	11
2.5	Reservation Form	11
3.1	Spiral Life Cycle Model	18
4.1	INSERT statement	28
4.2	SELECT statement	28
4.3	INSERT Thesis Statement	29
4.4	UPDATE Thesis Statement	30
4.5	DELETE Thesis Statement	30
4.6	SEARCH Thesis Statement	30
4.7	INSERT Staff Statement	31
4.8	SELECT Staff Statement	32
4.9	INSERT Memo Statement	33
4.10	Login Interface	34
4.11	Admin Login Interfaces	35
4.12	Student Homepage	36
4.13	HTML Button	37
4.14	HTML Image Hyperlink	38
5.1	User Login Interface	41
5.2	Searching Interface	42
5.3	List of Thesis	43
5.4	List of Memo	43
5.5	Admin Login Interfaces	44



5.6	Homepage for Admin	45
5.7	Thesis form	45
5.8	List of Thesis	46
5.9	Supervisor Form	46
5.10	Memo Interfaces	47
5.11	List of Memo	47

**LIST OF APPENDICES**

<b>APPENDIX</b>	<b>TITLE</b>	<b>PAGE</b>
A	Software Development Plan (SDP)	54
B	Software Requirement Specification (SRS)	55
C	Software Design Development (SDD)	56
D	User Acceptance Test Plan (UATP)	57

**LIST OF SYMBOLS**

ETMS	- E-Thesis Management System
DFD	- Data Flow Diagram
SQL	- Structured Query Language
SLCM	- Spiral Life Cycle Model
JS	- Java Script
PTA	-Projek Tahun Akhir
PSM	-Projek Sarjana Muda

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

This chapter describes the overview of E-Thesis Management System in project overview, problem statement which describes the issues by the current manual system. Besides, the objective and project scope are also describes as the reason why Thesis Management System is developed.

##### **1.1.1 Project Overview**

E-Thesis Management System (ETMS) is developed to provide an efficiency management system for PSM/PTA thesis in faculty's collection. The main objective of ETMS is to provide the prototype of searching the thesis for student find the suitable topics of PSM/PTA project from previous semester and store the information of the thesis. Also, provide information about the thesis and availability of the thesis

The system is a web based application, easier to student, lecturer and coordinator to use the application. Student and lecturer can search the PSM/PTA title and can view the details about the project which is done by the seniors.

The system is divided into 3 modules. The first and second modules are specified as user for student and lecturer that wants to search the thesis title, in order to get the idea of PSM/PTA project as a guide to student. The third module is for coordinator to manage such as add, delete the thesis information and also update about the thesis status.

## **1.2 Problem statement**

Generally, in FSKKP office there is no electronic system to record the detail of PSM/PTA Thesis. All process for searching is done manually. The actual problem is student difficult to find the suitable title for their PSM/PTA project because there are not enough references. This system will help the student to find the PSM/PTA project from previous semester. This situation may cause some difficulties to find the thesis and availability of the thesis as for student references. The data might easily lose if there is no record stored in a manageable system.

From this problem, ETMS is developed in order to solve the problems by providing the function to searching via online. The coordinator can manage the data of thesis and update the availability of the thesis.

## **1.3 Objective**

Objective for this system:

- i- Converting the manual system to online system.
- ii- Develop database for thesis.
- iii- Facilitate the user to search the suitable title as references in order to find PSM/PTA project.

## **1.4 Scope**

The scope of the project is:

**i- Three types of user:**

There are three users that can use the system is student, lecturer and Coordinator of PSM/PTA in the FSKKP. The student and lecturer can search and view the thesis information.

The coordinator can modify all data about thesis in the system. Its also can update the status of thesis availability.

**ii- Web Based Application**

Thesis Management System is a web based system. The system consists of two modules; which is student and lecturer have are similarity. The second module is coordinator. The online application must be performed in order to run the system.

**iii- Documentation.**

The documentation that involve on this system are Software Development Planning (SDP), Software Requirement Specification (SRS) document and Software Design Document (SDD).

## **1.5 Thesis Organization**

This chapter consists of the four (6) chapters. All of this chapter will explain each of part of the system.

Chapters 1 will illustrate the introduction of project. It's included about project scope, project identification, system overview, document overview and relationship to other plan.

Chapter 2 is briefly explanation the literature review that used in this system. This chapter is divided into two sub-reviews that require the students to study and get complete information. This chapter also will explain about the comparison between the manual systems.

Chapter 3 is description of methodology and approach of hardware and software necessary that will use during development. It also explains about the phases of Spiral Life Cycle Model (SLCM) that start with project planning, requirement analysis, design, construction, testing and deployment acceptance.

Chapter 4 is an explanation of implementation in this system. This chapter will explain about the design and coding. There are some functions like message box, alert or warning which make it become a complete system.

Chapter 5 is briefly details of the result and discussion for this system. The weakness of ETMS will be identified on this chapter. The result and recommendation of the system will be discussed for further research of the system.

Chapter 6 is conclusion of developed system. The purpose of this chapter is to briefly summarize about the developed project and will be explains overall about an application.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter elaborated on the current system in E-Thesis Management System. There are many research is related on the system that want to develop. In addition, it also explains the importance of E-Thesis Management System.

#### **2.2 E-Thesis Management System**

E-Thesis Management System is an application that had been used in FSKKP to manage the PSM/PTA thesis in easily way to give information by searching using web application. This system also helps coordinator to manage and update the details of thesis and status of thesis into system.

Now days, web based E-thesis management system is become intention to the student and lecturer who's want to find the suitable idea/title for undergraduate project. It's for the student who does not know how to find the suitable project or not get idea from their supervisor and from any source. By develop this system; it will help student and lecturer to solve this problem



### **2.2.1 Function of E-Thesis Management System**

The E-Thesis Management System provides functions that help user of the system. The functions that provide by this system are:

- i. This system provides the searching module which user can search the thesis using many methods like grade, year of publish, author name and courses.
- ii. Besides that, user can view all the information about the thesis like author name, technique used and the project's summary.
- iii. This system also shows the status and availability of the thesis for users view.

### **2.3 Type of application.**

E-Thesis Management System is developed based on web application. A web application is an application that is accessed over a network such as the internet or an intranet. The term may also mean computer software that hosted in a browser controlled environment or coded in a browser supported language such as HTML, JavaScript, Java and others.

Beside that, web applications are popular due to the ubiquity of web browsers, and the ease of using a web browser as a client [1]. The ability to update and maintain web applications without distributing and installing software on potentially thousands of client computers is a key reason for their popularity, as is the inherent support for cross- platform compatibility. Common web applications include webmail, online retail sales, online auction, wikis and many other functions.

The development of building dynamic web pages is a software program which is called as an application server. The web server will receive a request for a dynamic page and then it will pass this page to the application server. The application reads the code on the page and finishes the page according to the instructions in the code. The page that is returned from the application server to the web server is static. The web server then sends this page back to the requesting browser.

**Table 2.1: Benefits of Web Based Application**

No	Benefits	Description
1	Lower Costs	A good application will provide real value at an extremely low cost.
2	Multi User	A quality application will support multiple users and provide a layered security system that gives administrator access control by user groups, individuals and by content.
3	Document Management	The applications should support any number of document libraries, customized as needed to fit the needs of the organization. It also provides to prevent the loss of documents due to human error or other activity.
4	Collaborations	A good application will support collaborative efforts through information sharing including training, email, discussion, groups, documents sharing, issues management, task management and reporting.
5	Easy of Use	A web application is ease to use because all users will already understand the basic of the interfaces. A quality user manual is a must as is help and self training.
6	Secure	The application should provide a means for disaster recovery, including file restore. Administrator should have full control over user accounts, user profiles and access right.
7	Extensible and Customizable	The application should make it easy for the Coordinator, using nothing other than a browser, to create the library and then limit access to its content to an executive user group.

## **2.4 Existing Management System**

There is some application which shares similarity with this system on the management system in other domain. Below the example of the online application system that is exist at UMP that is UMP Library Catalogue known as Library University Malaysia Pahang. Beside that, one example online application from internet is Airline Reservation System.

### **2.4.1 UMP Library Catalogue**

UMP Library Catalogue developed to make the library management processes smoothly operate. It's also give satisfaction to the patrons by creating a qualitative and fastidious management system [2]. This system give more benefit such as the system will be more arrange and friendly to users and it being quite easy by dividing it into a few modules. It also make easier and smoothly operates the management process so that will not happen demoralized data onto daily information of its operations. Besides that, this system can decrease the librarian.

UMP Library Catalogue allow patron which is student and staff login into the system. This system lists all the title in collection including books, serials, accompanying materials, computer files, sound recording and others. This catalogue is updated daily. The bibliographic records are fully searchable by author, title, subject, publisher, call number and journal title. Results can be printed, saved to disk or e-mailed. The catalogue also provides patron's information and may also renew any loans via online.

Furthermore, system doesn't keep track of damaged items. Users have to manually replace the damaged items with new ones. System will not handle data security and backup. Users have depended on some external or manual backup mechanism to take data backup whenever required.

2.4.1.1 Example Interfaces.

Figure 2.1 Login Form

Beside that, staff library can add items of book into the system. System will allow searching for item in the system based on author name, book name, user name or item name. This system also have some non requirement is system will not generate any alerts if a patron is not returning any items, not maintain any inventory. The figure 2.1 and figure 2.2 shows login and searching form.

Figure 2.2 Searching Form

## 2.4.2 Airlines Reservation System

Malaysia Airlines (MAS) is the national airline of Malaysia, operating scheduled services to over 100 destinations worldwide [3]. It also operates domestic network and charter services. Its main base is Kuala Lumpur International Airport, while Kota Kinabalu International Airport, Penang International Airport and Kuching International Airport serve as regional hubs. The concept booking and register via internet in airlines reservation system similar with make reservation and searching in E-Thesis Management system by student and staff.

A distribution Airline Reservation System stores the following information (The following description may lead to un-normalized relations normalize them whenever required)

### 2.4.2.1 The flight details

1. Please select your preferred time of travel for your flight(s) below.

Departing: KUL > KHH			Returning: KHH > KUL		
From	To	Flight	From	To	Flight
KLIA (KUL) 1200	Kuching (KHH) 1815	MH 98 One Stop	Kuching (KHH) 0800	KLIA (KUL) 1410	MH 97 One Stop

2. Please select your preferred fare option to proceed to the next step. Each fare option has a different set of fare rules.

Please wait a moment as we generate your fare options...

Start a New Search

Figure 2.3 Flight Form

Figure 2.3 shows the system includes the originating flight terminal and destination terminal, along with stops in between, number of seats booked/available seats between two destinations etc.

> Logout

Welcome to your Profile! To proceed to add or update your profile, enter your details to the appropriate sections below.

Kindly turn off all pop-up blockers to avoid any difficulty during payment process.  
**IMPORTANT! Please read.**

Note: In order for information to be displayed accurately, please ensure that the clock and calendar on your computer are correctly attuned and synchronised to your local current time.

**My Personal Details**

Please complete all fields marked with an \*\*. Please use only alphabetic characters (A-Z and a-z) in the name fields. Your name should be exactly the same as that on your ID/Passport.

Title\*  Solution  First Name\*  Last Name\*

Passenger Gender  Date of Birth (dd/month/yyyy)  /  /

Identity Card Number (for Malaysians)  Name as per Identity Card (for Malaysians)

**UPDATE PERSONAL DETAILS**

My Default | **Other Traveller(s)** | My Login Info

Please click on the appropriate icon to view and edit/update details.

My Postal Address View Details

My Telephone Number View Details

My Email Address View Details

My Passport Details View Details

My Frequent Flyer Miles View Details

MasterCard SecureCode VERIFIED by VISA Powered by DATAFLY

Figure 2.4 Customer Form

Figure 2.4 show the system includes name, ic no, address and phone number, email, passport details and frequent flyer miles. This information may be used for keeping the records of customer for any emergency or for any other kind of information.

HOME > FLIGHT BOOKINGS

1 SELECT FLIGHTS & FARES | 2 ENTER PASSENGER DETAILS | 3 MAKE PAYMENT

Registered User Login >>

New user? Register to speed up your online booking by saving your profile online.

Kindly turn off all pop-up blockers to avoid any difficulty during payment process.  
**IMPORTANT! Please read.**

Note: In order for information to be displayed accurately, please ensure that the clock and calendar on your computer are correctly attuned and synchronised to your local current time.

Single City  | **Multi-city / Stopover**  | Need Help? >>

Search By:  Availability  Lowest Fare

From:  >> To:

Round Trip  One Way

Depart:    Return:

Class:  Passenger:

Reset

MasterCard SecureCode VERIFIED by VISA Powered by DATAFLY

Figure 2.5 Reservation Form

Figure 2.5 shows the reservation form flight after customer register. The form includes from terminal and destination terminal, date of booking, date of traveling. Let us assume that this distributed system is to be used following application:

- I. Requests for booking/cancellation of flight from any source to any destination, giving connected flights in case no direct flights between the specified Source-Destination pair exist.
- II. Calculation of high fliers (most frequent fliers) and calculating appropriate reward points for these fliers.

### 2.4.3 Pros and Contra of the Existing System Studies

**Table 2.2 Pros and Contra of Existing System**

System Name	Pros	Contras
UMP Library Catalogue	<ul style="list-style-type: none"> <li>• Web-based system that allowed user to interact whenever they want</li> <li>• Student can access this websites to searching books that have.</li> <li>• Systematic and smart system.</li> </ul>	<ul style="list-style-type: none"> <li>• Too much features that not used by users.</li> <li>• The arrangement of menu makes the interface crowded.</li> <li>• Slow the user pc's</li> </ul>
Airlines Reservation System	<ul style="list-style-type: none"> <li>• User friendly interface.</li> <li>• Easy to handle of this system.</li> <li>• Arrange the data systematically.</li> <li>• Contains security authority for registered user</li> </ul>	<ul style="list-style-type: none"> <li>• Not web-based system and cannot be view anywhere while no internet connection.</li> <li>• Using of long sentences</li> </ul>

## 2.5. System Features

### i. Module for User

This module is developed for student and lecturer that wanted to search and review the thesis. Beside that, this module will also show the availability of the thesis. This will help user in order to find the suitable thesis. Description of each function are shown in table 2.3

**Table 2.3** User Module

Module	Function
Login	The user must login into the system before doing another task.
Search Thesis	This function is specifically for searching the thesis.
Thesis Details	This function is for user to view the thesis and its availability status.

### ii. Module for Coordinator

This module is developed for coordinator in order to manage the thesis including adds, delete and updates those thesis information. Descriptions of each function are shown in table 2.4.

**Table 2.4** Coordinator Module

Module	Function
Thesis management	Coordinator able to add, delete and update thesis information