

MINI LIBRARY THESIS SYSTEM

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DECLARATION

"We hereby declare that this is our original work except for any reference and summaries that we have already explain about each sources."

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ABSTRACT

MINI LIBRARY THESIS SYSTEM

Before the existence of data information management there are different methods of keeping records in the library. Records are kept in the library on shelves and each shelf are labeled in an alphabetical or numerical order, in which the categories of books available are arranged on different position on the shelves and as well are recorded on the library manuscript. After the invention of computer, different researchers have carried out various approaches on an automated library management system in which this project is all about. Mini Library Thesis System is implemented to replacing the current manual system at School of Science Informatics Labuan (SSIL) Mini Library. This library management system is mainly use by admin, librarian, lecturer and student of SSIL. This system is proposed to develop a system that able to manage a number of thesis of the final year project and as well the references books. It will improve the management of thesis and book property in the library. Mini Library Thesis System also aims to develop a systematic system which is able to monitoring the thesis and books data efficiently. Any loss of the thesis and books are being able to be detected by the admin and librarian. Other than that, this system also provides a function of returning and borrowing books from SSIL Mini Library. By using this system, the operation of borrowing books and recording thesis data is paperless. This system is developed using PHP programming as well as the site is supported by the MYSQL database.



ABSTRAK

MINI LIBRARY THESIS SYSTEM

Sebelum wujudnya pengurusan data maklumat, terdapat beberapa kaedah yang berbeza untuk menyimpan rekod di perpustakaan. Rekod disimpan di perpustakaan di rak dan setiap rak dilabel dalam abjad atau nombor, di mana kategori buku tersebut disusun dalam kedudukan yang berbeza dan juga direkod di dalam manuskrip perpustakaan. Selepas terciptanya komputer, penyelidik telah menjalankan pelbagai pendekatan yang berkaitan dengan sistem pengurusan perpustakaan secara automatik di mana secara keseluruhannya projek ini berkaitan dengan sistem pengurusan perpustakaan secara automatik. Mini Library Thesis System dilaksanakan bagi menggantikan sistem manual di Perpustakaan Mini Sekolah Sains Informatik Labuan (SSIL). Sistem pengurusan perpustakaan ini digunakan terutamanya oleh admin, pustakawan, pensyarah dan pelajar SSIL. Sistem ini dicadangkan bagi pembangunan sistem yang mampu menguruskan bilangan tesis bagi projek tahun akhir dan juga buku rujukan. Secara tidak langsung, sistem ini dapat memperbaiki pengurusan tesis dan harta buku di perpustakaan. Mini Library Thesis System ini juga bertujuan untuk pembangunan sistem yang sistematik yang mampu memantau pengurusan data tesis dan buku-buku secara cekap. Sebarang kehilangan tesis dan buku-buku akan dapat dikesan oleh admin dan pustakawan. Selain daripada itu, sistem ini juga mempunyai fungsi untuk pengembalian dan peminjaman buku dari Perpustakaan Mini SSIL. Melalui penggunaan sistem ini, operasi pinjaman buku dan merekodkan data tesis dilakukan tanpa kertas. Sistem ini dibangunkan dengan menggunakan pengaturcaraan PHP serta disokong MySQL sebagai tapak pangkalan data.

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LIST OF ABBREVIATIONS

<i>SSIL</i>	<i>Sekolah Sains Infomatik Labuan</i>
<i>UML</i>	Unified Modeling Language
<i>DFD</i>	Data Flow Diagram
<i>ERD</i>	Entity Relationship Diagram
<i>RFID</i>	Radio-Frequency Identification

CHAPTER 1

INTRODUCTION

1.1 Introduction

Nowadays, our world has been changed gradually from one condition to one another. The revolution of view ideas always comes up to make the mind of every person especially the idea to improve technology in order to make better living. At the same time, the application of internet has rapidly growing fast nowadays. Anything can be done through network nowadays. For instance, exchange information can be done easily through network as a result of the advance technology. It is practical to manage and store information without even need to utilize paper or perhaps some other stationary

Mini library thesis system is design to provide one systematic system for librarians to manage thesis, reference books, inventory and borrowing process. The Mini library thesis system will store all the thesis and reference book and member information that consists thesis ID, thesis title, author name and racks of the system database. The system also provides search function to of help student find the thesis by name of thesis. Search function will search through the thesis and reference book database to look for the thesis and reference book and view where the thesis and book situated. For the administrator user, only admin have access to view data from the system database. Administrator user will handle administrative functions such as decide the number of days allowed for borrowed book. User needs to enter correct password and user ID before user can access this function. From here system admin can add, delete or update the thesis and borrower database.

Since the amount of final year's student is increasing, it is necessary to prepare a space to store them. It need well organized and it is hard to find the record in a short time because they need to find it one by one. This will cost extra time and is not efficient at all

Based on present method, the person in charge record the entire thesis list manually and there is no borrowing system for the reference books. This manual system is currently misspend time and might cause mistakes while recording process. The library inventory such as thesis is always changes within certain time because of additional or loss of those inventories. With the present manually system, the monitoring process for this inventory become complicated. For example, if one over hundreds of thesis and book is lost, they need to check one by one of the thesis list through list of hundreds from logbook to search for the lost thesis data.

Therefore, with the systematic system, the librarians are able to monitor and manage the library inventory much easier and more efficient. There is large amount of database to support the future needs and will give added advantages to the all library operation.

1.2 Problem Statement

SSIL mini library is a mini library that keeps the entire final year student project. All of the final year student thesis will be record by the person in charge manually.

As a consequent, these will cause problem such as:

- i. Ineffective system in recording and managing SSIL Mini Library thesis and books data information.

The number of student thesis record is increase years by years in the SSIL mini library. When updating the record, the person in charge of FYP thesis will faced some problem since they need to record the data and information of student thesis according to the thesis title, years, and supervisor and student course of the FYP manually. Problems get complicated especially when the thesis record was missing. Other than that, there are several books in Mini Library but there is no system to manage the book data and information because the current system used is still conventional.

- ii. In the manual system, the monitoring process for this inventory is complicated. This current system takes lot of time to monitor the loss of thesis and book data. For example if one over hundreds of thesis and book is lost, they need to check one by one of the thesis and book list through list of hundreds from logbook to search for the lost thesis and books data.
- iii. Borrowing issue.
Currently, there is no system for borrowing any material from the SSIL Mini Library. As for the thesis, user are unable to borrow or bring the thesis outside from Mini Library since it was restricted from doing that as the thesis is the SSIL Mini Library property and it was confidential. There are lot of reference books in SSIL Mini Library which is useful for the student to refer. However students are unable to borrow those books.

1.3 Goal

The main goal of Mini Library Thesis System is develop a system that can support and manage thesis data as well references book in SSIL Mini Library.

1.4 Project Objective

The objective is to develop Mini Library Thesis System for:

- i. To manage all of the FYP thesis and books data and information.
All of the thesis and book record data and information will be more organized.
The data also is kept confidentially through this system.
- ii. To build a monitoring system that is able to monitor and manage all thesis and books data operations efficiently.
Through this system the loss of thesis and books data can be monitored efficiently within the short time.
- iii. To develop a system of borrowing and returning books.
Through this system student are able to borrow references books from SSIL Mini Library.

1.5 Project Scope

The scope of Mini Library Thesis System is to replace the manual system of managing thesis and references book data in SSIL Mini Library. This system will be able to record the thesis and reference books data which is control by the admin and librarian. Other than that, the loss of thesis and books can be monitored efficiently. This is system also provide a searching process which is more efficient and makes the process of searching for thesis and references books become easier. User only needs to insert information of thesis and books such as its title, author, and category. Since this system provide a borrowing function for reference book so the process of keeping borrower information and books inventory data become more sophisticate. Each operation for both functions is handling by the system to decline the period of time for borrowing, penalty calculation

for late return book and total of book that remain every years for inventory check. This system also provides an analysis and report statistic for thesis and book data.

1.6 Target User

i. Lecturer

Lecturer will use this system when they want to refer back to their student thesis. Usually, lecturer refer for their student thesis because they want the final year student to improve the past final year project or to suggest them a better idea for the final year project.

ii. Student

Through this system, student can easily search for information especially when they want to find any thesis as a reference for their assignment or the final year project. Student can review any thesis title or the thesis abstract first by using this system instead of directly search for the thesis on the mini library one by one.

iii. Librarian

The librarian will use this system to monitoring the borrowing and return of the thesis in the SSIL Mini Library. So that, any missing thesis will be easily detected.

1.7 Project Descriptions

This project will develop a system that manages all of the SSIL final year student thesis and books data and information. Through this system, all the data and information about the FYP and references books can be access by lecturer and student so that it will become easier for the user to find any data about the thesis that they want to refer instead of finding the thesis and books one by one at the SSIL mini library. In this

system also, the target user can know the availability of the thesis and references books at the SSIL mini library. Besides that, the admin of this system will be easier in updating and managing the record of FYP thesis and books data and information. This is because the complete thesis of student will keep in SSIL mini library. Through this system the target user also can borrow the references books from SSIL Mini Library. Furthermore, this system will provide an analysis and report statistic for all categories of thesis data. One of the example for the analysis is lecturer can get a report and analysis about how frequently a project been improved by student during Final Year Project. The manual figure of SSIL Mini Library can be seen in **Appendix A Figure A.1** and propose figure for this system can be seen in **Appendix A Figure A.2**

1.8 Project Methodology

The development of Mini Library Thesis system project has been developed by practicing the System Development Life Cycle (SDLC) concept which is consisting of five major steps; planning, analysis, design, implementation and testing and evaluation to achieve the project objective of this project. On every phase of methodology, detail result is obtained based on the work done on that particular phase.

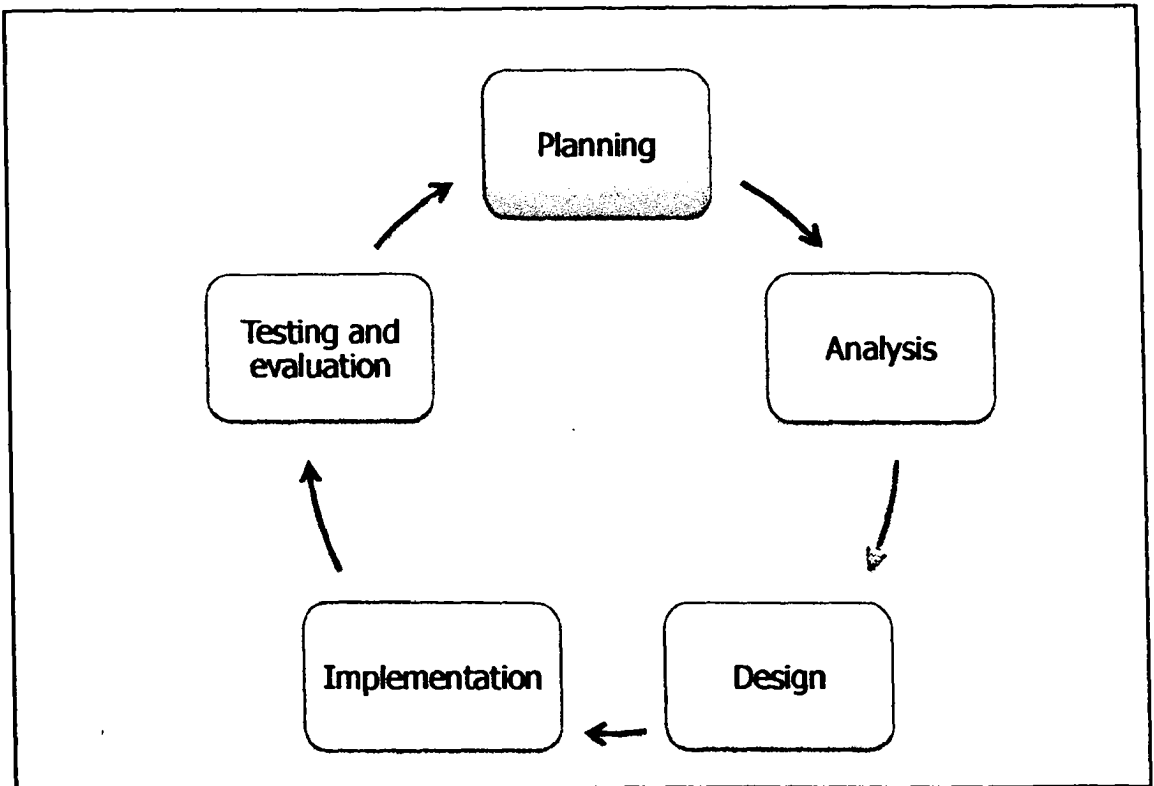


Figure 1. 1 : Methodology process

1.8.1 Planning phase

In planning phase, the brainstorming process was held to discuss the idea to be implemented in the project. After the idea was chosen, this proposal that consist of the project objective, goal, problem statement, scope and target user will be submitted to the coordinator to be approved. Data collection process start after getting approval and assigned supervisor from the project coordinator. This data collection are using interview, questionnaire and reviewing the existing system.

1.8.2 Analysis Phase

In this phase, journals and the application review that has been collected will be analyze in order to figure out what kinds of system requirement of hardware and software as

well as the programming language that suitable to make this system. The analyzed data will be interpreted in a logical design such as Data Flow Diagram (DFD), Entity Relationship Diagram (ERD) and Data Dictionary is created in this phase. Besides, from the research of current system, manual and computerized data might enhanced this project is useful in this phase.

1.8.3 Design Phase

In this phase, the design of interface and the functionalities is produced based on the result of the analysis phase. The detail on how of this system works will be clearly shown in this phase. System flow chart, organizational structure and the design of interface sketches on main process were created on computer by using some drawing tools. A prototype of this system also is produced at the end of this phase. Result from this prototype will be used to improve this system.

1.8.4 Implementation Phase

In this phase, coding and program documentation of the system is produced. The coding is done based on the output from the design phase. During this implementation phase, Mini Library Thesis System will be supervised by project supervisor to ensure the functionality of this system achieve the objective that has been stated.

1.8.5 Testing and Evaluation Phase

In this phase, a test against the requirement will be conducted to make sure that the project actually solving the needs addressed during the analysis phase. If the test is successfully, the development process is proceeds. If the system test is fail the coding of the system will be redo until the test is successful. The user manual also will be conducted during this phase as the guideline to the future user. This guideline should be

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