

KTD E-LIBRARY SYSTEM

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ABSTRAK

Perpustakaan adalah satu keperluan penting di pusat pembelajaran. Ia adalah tempat di mana maklumat dan pengetahuan diperolehi. Hari ini, teknologi dilihat sebagai satu cara untuk mempertingkatkan kualiti hidup baik dari segi pendidikan, kesihatan, dan sebagainya. Kolej Teknologi Darulnaim (KTD) sebuah institusi pengajian tinggi di Kelantan mempunyai misi untuk menjadi sebuah pusat pendidikan yang terulung melahirkan graduan yang professional dan beretika kepada masyarakat dan negara. Masalah utama pengurusan KTD adalah tidak terdapatnya satu sistem berkomputer untuk menguruskan perolehan perpustakaan dengan baik dan penggunaan perpustakaan yang sangat minimum daripada pihak pelajar mahupun kakitangan sendiri. Oleh kerana itu, sistem perpustakaan elektronik telah dibangunkan dengan harapan dapat menyelesaikan masalah tersebut dan membantu pelajar memperolehi dan berkongsi ilmu pengetahuan. Sistem ini juga dibina untuk memberi manfaat kepada organisasi dan juga kepada ahli-ahlinya. Sistem perpustakaan elektronik ini adalah sistem berasaskan web yang dibangunkan menggunakan pendekatan berorientasikan objek, manakala bahasa pengaturcaraan ialah PHP, MySQL untuk pangkalan data, Internet Information Server (IIS) sebagai pelayan dan phpMyAdmin untuk melakukan kerja pengeditan pada pangkalan data.

ABSTRACT

Library is one of the most important requirements in educational centre. It is a place where information and knowledge can be gain. Nowadays, technology seems to be one of mean in improving quality for life either in education, health and many more. Kolej Teknologi Darulnaim (KTD) is one of a higher educational centre in Kelantan has a mission to be one of an excellent educational centre to produce graduates with professionalism and good ethics for the community and nation. The main problem for management is there is no computerize system to organize library procurements in a good way and because of the minimum use of library from the students or staffs. Because of that, electronic library system (e-library) was developed with the hope that it can solve the problems and facilitate students to gain and share knowledge. This system also developed to have some features that provide benefits to organization and to the members. This e-library system is a web based application developed with object oriented approach while PHP is use as a programming language, mySQL for database, Internet Information Server (IIS) for the server and PhpMyAdmin as an editing tool for database.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Library can be described as a place or building where a collection of books, newspapers, magazines or things such as films or records is kept to be used by members. Library can be used as a resource place to find useful information. It is very important especially in educational fields such as schools, colleges, universities and many more.

Now, in a global world where Information Technology (IT) becomes an important element in real life, concepts of using library can change according to people's satisfaction. Using an e-library system, computer with an Internet access is needed.

Kolej Teknologi DarulNaim (KTD) is one of the University Technology Malaysia (UTM) franchise colleges run diploma for several courses such as Diploma in Computer Science (IT and Multimedia), Diploma in Electronic Engineering, Diploma in Management Technology and Management Technology (Accountancy). As one of an educational centre, library becomes the most important facility in this college and needs to be organized and managed properly. Students are the main asset as well as knowledge where we want to produce an excellent, professional and ethical graduates in their fields.

KTD e-library system provides benefit to their members in order to use all the knowledge resources in an effective way. This system use to facilitate students, top management and staffs with an online technology in searching materials, borrowing process, make request, renewing and reserving educational materials while helping librarians manage the library record properly beside improve performance because of reducing time taken for usual activities. The most important reason why this e-library system was developed is to help management improve business process using IS/IT technology available to align with their business strategy, while this system can be realism in order to share knowledge among students and staffs to find as many as information needed from wide area of knowledge such as business and management, information technology, journals, articles, reference works and newspaper.

1.2 Background of the Problem

From my research findings using questionnaire, interviews and observation, there are several problems occurred give a direct influence to students and lecturers. Because of many complaints received by management about library, top management need to take an action to overcome the problems. Most corresponds do less go to the library. I found that a main factor is because of a manual process with no computerized system in library contributed to some other factors. With this reason it gives big impact to students and lecturers.

Students need to wait if they want to borrow a book especially in peak hours where many student queue to be serve. In manual process, information about books, magazines, industry reports and collection of past exams papers had been recorded and stored in files. It does contribute a difficulty to find these records. Sometime, librarians do not know and alert about books available. From my own experience when I ask for a book to see if the book available they cannot give an immediate answer.

Another problem faced by librarian is about losing books. This happens because they do not have a system or appropriate process to keep track of a borrower. What always happens is they only realize at the end of semester when they need to check and update all of the library inventory records. Students are allowed to borrow a book in one week and need to return it back in that period time but they always take more than that time to return it back because of no enforcement.

Sometimes lecturers complain about difficulty in searching books that are available in library. Usually they need to ask a librarian about a book and wait for the librarian to search the book in their records. If the book is available in library record, lecturers need to wait for a while to know the status of the book even if it is available on the shelves or has been borrowed. This process takes time and is inefficient.

Another problem faced by lecturers is about renewal date for borrowed books. Duration given to lecturers to borrow a book is one month but most of the lecturers need to use that book for one whole semester. Because of less enforcement in returning books, students and lecturers sometimes do not know about the return date. For lecturers, they keep the book until the end of semester. If a student or other lecturer wants to borrow that book, there is a possibility she/he cannot find that book.

Reservation process is not available in KTD library, but this process is necessary. Without this process, there is a difficulty in borrowing books besides it is not fair to students or lecturers that need to borrow books. Every semester, lecturers will get an updated syllabus from the UTM coordinator about their subjects. Sometimes it required them to buy a new book or a new updated version. Usually they will buy the books and they need to take an order from the students that want to buy the book. Quotation will be sent to vendor and wait for the reply. From my opinion I suggest that the librarian should do all of the ordering process where lecturers just submit the book information needed.

For magazines and past exams papers, all of the resources are not displayed or located on the shelves. The materials are kept in another place that cannot be seen

by students. This is because of the limited space, they need to ask librarian for any magazine and past exams papers. Students are not comfortable with this limited service.

1.3 Problem Statement

According to problems discover in library, vulnerabilities arise because of the manual process flows and its affected librarians, students, lecturers and also management. A functionality of library can be improved with new computerized system using a web based technology. Using this system, members can use services and facilities provided. This system can reduce time taken for every activity such as borrowing and searching books and improving time management. Besides that it can reduced maintenance cost in term of less paper, file or folder use. New features are also added according to member satisfaction and increase competitiveness.

1.4 Project Objectives

The objectives of the project are as follow:

- i) To study current manual library system at KTD.
- ii) To design and develop a web based KTD e-library system.
- iii) To formulate KTD strategy for the successful implementation of the system

1.5 Project Scope

The scope of the project is described below:

i) The functionalities available for this system are listed in Table 1.1 below:

Table 1.1: System Functionalities in KTD e-library

User	Function
KTD library members consist of students, staffs, alumni student and outsider.	<ul style="list-style-type: none"> • Member Registration • Search Procurements • View General Information • Access Knowledge Links • Online Borrow of Book • Online Reservation of Book • Status Information of Book • Book Request • New Arrival of Book • New Arrival of Magazine • View Magazine Listing • Magazine Request • View Multimedia Listing. • View CD Listing • View Floppy Disk Listing.

	<ul style="list-style-type: none"> • View Past Year Exam Listing, • View Industry report Listing, • View Organization yearly report Listing. • View Bulletin Listing. • View News and Events • Answer Questionnaire.
Librarian or Library Executive	<ul style="list-style-type: none"> • Edit Library Information • Manage Library Members • Manage Procurement Record • Manage Poll • Manage News / Events • Calculate Library Fine • Reply “Ask a Librarian”
Top management	<ul style="list-style-type: none"> • Approve purchase order. • View procurement reports • View members report.

ii) Sample data available in KTD library is used.

iii) The software that will be used are PHP version 5.1.1 as a scripting language, Internet Information Server (IIS) as a server, MySQL for the database, phpMyAdmin as an editing tool for database, Rational Rose Enterprise Edition as a tool for Unified Modelling Language, an Internet browser, Microsoft Office 2003 for documentation and Microsoft Project 2000 for project management.

- iv) The hardware that will be used are a personal computer or notebook, Pentium based server or equivalent, 128Mb RAM, Apache or IIS Server, Windows or Linux Operating system, while for client are personal computer or notebook, 64Mb RAM, Windows or Linux operating system, hub or switches, network interface card (NIC) and Unified Twisted Pair (UTP) cable. For network LAN connection is required.

1.6 Importance of Project

Project importance describe on potential benefits to the organization and users. For the management, system will improve business processes and align with technology. This is a transformation for the organization where manual processes in library are computerized. Besides, information and data about library procurement can be managed properly. System provides a sharing knowledge environment between members and it gives a good effect to the organization. Besides that, this e-library system can be used in marketing strategy in order to promote KTD to the community.

System will help librarian in organize and manage all the library inventory record properly, can keep track on library asset such as books, magazines, industry report and many more for being loss. It can increase performance of the work quality because of reducing time taken and cut cost. System provides some new features that are not available before to facilitate users.

1.7 Chapter Summary

Library as we know is a collection of books and periodicals, it is a large collection that is funded and maintained by an institution and it is shared for the benefits. These collections can be reference and borrow by the library members.

According to my observation, survey and interviews that I had done with students, lecturers, librarian officer and some people in management, I saw a problem will come out if there is no action taken to improve library functionalities in the future. The main problem discovers is because of the manual system used. To improve the functionality of the library processes IS/IT is used as one of the solution. Because of that reason, e-library system was proposed and developed to improve business process activities where a computerized system with new value added features provided to solve the problem. A web based technology is used to replace a legacy manual system. This system provides many features to facilitate students, lecturers, librarian and other members.

This e-library system provides a wider knowledge for online resources, books, journals and articles. It is use a client server architecture where it can be access any where and any time by members. This system used a Rational Unified Process (RUP) for the methodology where UML is used for analysis and design phases. This system was developed using PHP programming language, Internet Information Server (IIS) and mySQL for the database.

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