

LIBRARY MANAGEMENT SYSTEM (LMS)

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A FINAL PROJECT REPORT SUBMITTED TO THE FACULTY OF PHYSICAL
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DECLARATION

I hereby declare that this project is based on my original work except for citations and quotations which have been duly acknowledged. I also declare that it has not been previously and concurrently submitted for a degree or any other award in any other educational institution.

I also declare that this project work has neither been submitted to any other board nor published at any time by me in the first.

Student Name:

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Signature:

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Date:

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APPROVAL

This project was conducted under our supervision and is submitted with our approval as university supervisor.

Supervisor Name:

Signature:

Date:

DEDICATION

I dedicate this project to God Almighty my creator, my source of inspiration, knowledge and understanding. He has been the source of my strength throughout this program.

As well as everything that I do, I am honored to dedicate this compilation to my parents. They both gave me the tools and values necessary in order for me to be where I am today. My parents have been supporting me on every step I make, and decision I take, they do allow me to make decisions by my own so that I can easily learn from my mistakes. They have been guiding me and giving me advices whenever I need to. I really thank them for all the opportunities they have offered and given to me. I am so grateful with them for trusting that I would do a good job in the university and allowing me come to achieve a higher education.

This is the reason as to why I dedicate this project to my parents, whom expect my effort on everything I do, and I think that this compilation is the perfect image and reflection of my effort and hard work in reading and writing skills. Mom and Dad: I hope that I can make you proud, the same way that I am proud of having both of you as my parents and as the compass of my life.

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ABSTRACT

The Library Management system (LMS) acts as tool to transform traditional libraries into digital libraries. In traditional libraries, the students used to search for the books which are hassle process and there was no proper maintenance of database about issues. The overall progress of work is slow and it is impossible to generate a first report. The librarians have to work allot on arranging, sorting books in the book shelves. At the same time, they have to check and monitor the lend and borrow book details and ensure its fine. It is a tedious process to work simultaneously in different sectors. LMS will assist the librarian to work easily. The LMS supports the librarians to encounter all the issues concurrently. The users need not stand in a queue for a long period to return or to borrow a book from the library. The single PC contains all the details in it. The librarians have to assess the system and provide an entry in it. Through LMS the librarian can easily find books in the bookshelves. The LMS is designed with the basic features such that the librarian can add and delete books with student's details in it. Once he/she ingress into the system they can modify any data in the database. The complete model is developed in Dot net technology; the C# language is used to build the front end application.

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CHAPTER ONE: INTRODUCTION

This chapter discusses background of study, problem statement, objectives, justification and scope.

1.1 BACKGROUND INFORMARTION

Information technology has revolutionized the life of human beings and has made lives easier by the various kinds of applications. In the light of the rapid changes with the use of the Information Technology, there are many tools, technologies and systems that have been produced and invented. The main objective of this project is to develop a LMS for the library tasks and make the library management more efficient and easy to handle. Library is a place where all kind of books are available in hard copy or digital format. The library management system enables a fully automated library service and will be a web base application where only registered users will have access to the system.

1.2 Problem Statement

A library management system is a project which aims at developing a computerized system to maintain and automate all the daily work of library. In the existing system all the transactions of books such as borrowing and returning are done manually which takes time to complete. Another major disadvantage is that to operate the list of books borrowed, returned and the available books in the library takes almost a day to complete this process. Library management system is a project which aims in developing a computerized system to maintain all the daily work of library.

Major draw backs in existing systems are:

- ✓ Inconsistency in data entry, room for errors.
- ✓ Lack of security
- ✓ Tracing a book is difficult
- ✓ System is dependent on good individuals
- ✓ Duplication of data
- ✓ Time consuming and costly to produce report

LMS is designed to help the librarians maintain and organize library. My project is being developed to help students as well as library staffs to maintain the library in the best way possible and also reduce human efforts in the library. With this computerized system there will be no loss of books record or member record which generally happens when services in the library are done manually.

1.3 Objectives

1.3.1 General Objective

- To reduce the cost of maintaining a traditional library

Comprehensive storage of large repository of data that can be accessed by authorized users.

But can access library resource once he/she is connected to the server.

- Preservation and conservation of data

Removal of physical bounding to ensure that the users do not always go to the library physically,

The project objectives that will be achieved after the completion of this project are discussed in this sub-chapter. Objectives areas are as follows:

- ❖ Online book issue,
- ❖ Request column for librarian for providing new books
- ❖ A search column to search availability of books
- ❖ A separate column for digital library

1.4 Scope

The LMS application keeps track of all the information about the books in the library, their cost, their complete details and total number of books available in the library. The user will find it easy in this automated system rather than using the manual writing system. The system contains a database where all the information will be stored safely. The system user-friendly and error free. This project will help to track all the book and library information and to rate the maximum number of books, the visitors wished to read. The software will be able to handle all the necessary information.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

The literature review is about finding related topics in books, scholarly articles and any other sources relevant to a particular issue, area of research, or theory, and by doing so, it provides a description, summary, and critical evaluation of these works in relation to the research problem being investigated.

In social sciences, a literature review usually has an organizational pattern and combines both summary and synthesis, often within specific conceptual categories. A summary is a recap of the important information about the source, but a synthesis is a re-organization, or reshuffling, of that information in a way that informs how the researcher is planning to investigate a research problem.

2.1 Purpose of the Review

The review is the first step towards understanding a problem that has been conceived and proposed to be taken-up as a project. After completion of the review, one can visualize what is already done by others and where there is a gap. It helps to prevent duplication of effort, point the way in fulfilling a need for additional research, locate own research within the context of existing study.

2.2 Review of Literature

Present chapter gives an outline of various kinds of interrelated literature, which may guide a perception to the present study. A comprehensive view of literature is a necessary and integral part of any research endeavor, as it helps to identify the gap in research and aids the investigator in designing and analyzing research work. In this chapter attempt has been made to review the available literature on the relevant topic especially the use and impact of collection management, collection development, information and communication technology, information technology, e-resources and digital resources etc of the universities libraries in Assam keeping in mind the objectives set forth in the study. Following are the literatures found as related to the study. Those literatures are reviewed and mentioned below: Krishna Kumar (1982) “library organization” in this book the author discussed about the functions of management like planning, organizing, staffing, direction, leading, controlling, reporting, budgeting and principles of management in context of library management and organization. Author briefed the aspects of collection in university libraries including importance of collection, quality, size of collection, objectives of the collection, book selection policy, what book should be selected, criteria for evaluation of resources, collection development policy, classification, cataloguing, library automation for proper collection management etc.

Chaudhry, A.S.(1996) “Exploring Network Information Resources Collection Development in Libraries” the study explained the information resources and the network

environment. Author stated that network environment is vital need to access and disseminate information resources. The role of information and communication technology is important in access and dissemination of e-resources in libraries for collection development in the information explosion age. Author studied the information and communication technology, library automation, skilled professional and e-resources in context of collection development.

Parmer, H. N. (2012) “problems of collection development in university libraries” the study discussed the factors

2.3 Conceptual Framework

A Framework for Smart-library Management System View Users’ usage by User Profile
E-Resources User Resources Usage -Visit per number of pages -Users visited by day of week -Visit per duration -Visits over view graph -Users (Students/Staff Dashboard) Profile -Issued books, Books--Requested books/journals -Students registration -Staff registration.

2.4 Conclusion

The library management system is a software application that automates the tasks involved in operating a library, such as book purchasing, cataloging, indexing, circulation, and stock checking. The system also provides features for searching, reserving, and issuing books, as well as managing members and fines. The system is designed using object-oriented principles and consists of several modules, such as book, member, librarian, and database. The system uses a relational data base management system to store and retrieve data. The system is Implemented in Java programming language

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

The project's main purpose is concerned with the investigation of the use of transaction logs, reduce the cost of maintaining a traditional library and other methods for the evaluation of online catalogues. In this chapter the two phases of methodological approach adopted for the study are described. In the first phase, field test of a basic screen logging facility will be undertaken. A set of evaluative experiments will then be carried out in these phases to explore various methods of addressing the different test research questions.

3.1 System design

1. Allow the librarian to add and remove new members.
2. Allow the user to search for books based on title, publication date, author, etc., and find their location in the library.
3. Users can request, reserve, or renew a book.
4. Librarian can add and manage the books.
5. The system should notify the user and librarian about the overdue books.
6. The system calculates the fine for overdue books on their return.

Non-Functional Requirements

Usability

Usability is the main non-functional requirement for a library management system. The UI should be simple enough for everyone to understand and gather relevant information without any special training. Different languages can be provided based on the requirements.

Accuracy

Accuracy is another important non-functional requirement for the library management system. The data stored about the books and the fines calculated should be correct, consistent, and reliable.

Availability

The System should be available for the duration when the library operates and must be recovered within an hour or less if it fails. The system should respond to the requests within two seconds or less.

Maintainability

The software should be easily maintainable and adding new features and making changes to the software must be as simple as possible. In addition to this, the software must also be portable.

Online catalogues are evaluated in terms of system performance by testing retrieval effectiveness through search outcomes or measures of recall and precision. However, my concern here is to focus on the user and the insight which could be gained in to user

information seeking behavior, particularly through transaction log analysis as well as other methods of eliciting information from users.

3.2 Target population

The target population for a research project on library services and information on literacy typically includes individuals who use library services and resources, such as:

- Undergraduate and graduate students
- Faculty and staff
- Researchers and scholars
- Members of the community who utilize the library

It's important to define the specific demographic characteristics and criteria for inclusion in the study, such as age, educational background, and frequency of library use, to ensure the research project's findings are applicable to the intended audience

3.3 Data collection methods

Observation

Staff members can observe and take qualitative notes during programs/events. Develop a simple checklist to take notes and include options such as capturing participant interactions, notable conversations, or observed changes in attitudes or behaviors. While not quantitative data, these insights can still provide valuable information. This template can help: [Observation Template](#). docx.

External survey for research studies:

Collaborate with universities, research institutions, or external evaluators who can conduct surveyor's studies on behalf of the library. These external entities can handle data collection and analysis while adhering to privacy protocols.

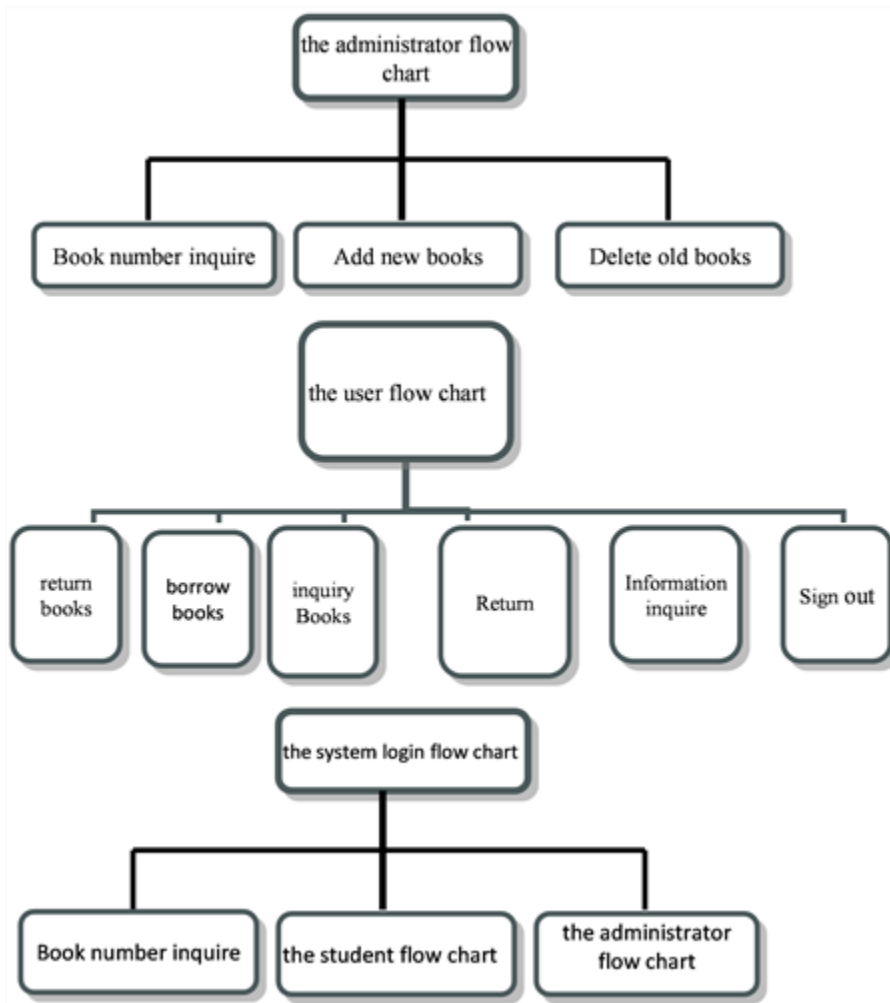
3.4 System design management

User –The user can login, view the catalog, search for books, checkout, reserve, renew and return a book.

Librarian –The librarian registers new users, and maintains the books, collects fines for overdue books, and issues books to users who need them.

System –The system is the library management system itself. It keeps track of the borrowed books and sends notifications to the user and librarian about the overdue books.

The main flow chart consists of three parts: the system login flowchart, the user flowchart, the administrator flowchart



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