

A
Project Report
On
Library Management

Submitted in partial fulfillment of the requirement for the III semester

Bachelor of Computer Science

By

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STUDENT'S DECLARATION

We, **Aman Bhatt, Jeewan Chandra Kandpal** here by declare the work, which is being presented in the project, entitled “LIBRARY MANGEMENT”, “BRICK BRACKER” in partial fulfillment of therequirement for the award of the degree **B.Tech** in the session **2023-2024**, is an authentic record of my own work carried out under the supervision of “**Mr. Lalit Mohan**”, **Assistant Professor, Department of CSE,**
Graphic Era Hill University, Bhimtal.

The matter embodied in this project has not been submitted by us for the award of any other degree.

Date:

Aman Bhatt

Jeewan Chandra Kandpal

CERTIFICATE

The project report entitled “LIBRARY MANGEMAENT”, “BRICK CRACKER” being submitted by Aman Bhatt and Jeewan Chandra Kandpal to Graphic Era Hill University Bhimtal Campus for the award of bonafide work carried out by them. They have worked under my guidance and supervision and fulfilled the requirement for the submission of report.

(Mr. Lalit Mohan)

Project Guide

(Dr. Ankur Bisht)

(HOD, CSE Dept.)

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TABLE OF CONTENTS

Declaration.....	I
Certificate.....	II
Acknowledgement.....	III
Abstract.....	IV
Table of Contents.....	
List of Publications.....	
List of Tables.....	
List of Figures.....	
List of Symbols.....	
List of Abbreviations.....	

CHAPTER 1:	INTRODUCTION.....
1.1	Objective.....
1.2	Background and Motivations.....
1.3	Problem Statement.....
1.4	Objectives and Research Methodology.....
1.5	Project Organization.....
CHAPTER 2:	PROPOSED SYSTEM.....
2.1	History.....
2.2
CHAPTER 3:	S/W AND H/W REQUIREMENTS (UP TO FULLEST EXTENT)

3.1	S/W and H/W requirements (up to fullest extent).....

3.1.1	Security.....
3.2	Resources and Technology used.....
CHAPTER 4:	DFD (AT LEAST UP TO 2 LEVEL).....
4.1	DFD (At least up to 2 level).....
CHAPTER 5:	ER DIAGRAM.....
5.1	ER Diagram.....
CHAPTER 6:	CODING OF FUNCTION.....
6.1	Basic modules of the project.....
CHAPTER :	LIMITATIONS (WITH PROJECT)
CHAPTER :	CONCLUSION
	REFERENCES.....

PROJECT ABSTRACT

Library management system is a project which aims in developing a computerized system to maintain all the daily work of library. This project has many features which are generally not available in normal library management systems like facility of user login and a facility of teacher's login. It also has a facility of admin login through which the admin can monitor the whole system. It has also a facility where student after logging in their accounts can see list of books issued and its issue date and return date and also the students can request the librarian to add new book. The librarian after logging into his account i.e., admin account can generate various reports such as student report, issue report, teacher report and book report. Overall this project of ours is being developed to help the students as well as staff of library to maintain the library in the best way possible and also reduce the human efforts.

INTRODUCTION

A library management system is software that is designed to manage all the functions of a library. It helps librarian to maintain the database of new books and the books that are borrowed by members along with their due dates. This system completely automates all your library's activities. A library management system is used to maintain library records. It tracks the records of the number of books in the library, how many books are issued, or how many books have been returned or renewed or late fine charges, etc. You can find books in an instant, issue/reissue books quickly, and manage all the data efficiently and orderly using this system. The purpose of a library management system is to provide instant and accurate data regarding any type of book, thereby saving a lot of time and effort.

1.1 Purpose: -

The purpose of this application are as follows:

- The Website is for automation of library.
- It provides following facilities to Operator:
- Can enter details related to a particular book.
- Can provide membership to members.

Admin:

- Can read and write information about any member.
- Can update, create, delete the record of membership as per requirement and implementation plants.

2.) Scope:

The different areas where we can use this application are :

- Any education institute can make use of it for providing information about author, content of the available books.
- It can be used in offices and modifications can be easily done according to requirements.

Technology Used :

Front End : HTML, CSS

Assumptions

- This application is used to convert the manual application to the online application.
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- Customized data will be used in this application.
- User does not have right to enter information about books.

5.) Overview :

Project is related to library management which provides reading services to its members. Any person can become a member of the library by filling a prescribed form.

They can get the book issued, so that they can take home and return them.

6.) Functionality :

- Online membership.
 - Keeps the track of issues and submission of books .
-

OBJECTIVE

The main objective of the Project on Library Management System is to manage the details of Student, Books, Issues, Librarian, Member. It manages all the information about Student. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build a web-based application program to reduce the manual work for managing the Student, Books, Address, Issues. It tracks all the details about the Issues, Librarian, Member, etc.

1. The objectives of a library management system is to operate a library with efficiency and at reduced costs. The system being entirely automated streamlines all the tasks involved in operations of the library.
 2. The activities of book purchasing, cataloging, indexing, are done by the software. Such software eliminates the need for repetitive manual work and minimizes the chances of errors.
 3. The library management system software helps in reducing operational costs. Managing a library manually is labor intensive and an immense amount of paperwork is involved. An automated system reduces the need for manpower and stationery. This leads to lower operational costs.
 4. The system saves time for both the user and the librarian. With just a click the user can search for the books available in the library. The librarian can answer queries with ease regarding the availability of books.
 5. Adding new members or cancelling existing memberships can be done with ease.
 6. Verification of books in the library can be done within a few hours. The automated system saves a considerable amount of time as opposed to the manual system.
 7. The library management system software makes the library a smart one by organizing the books systematically by author, title and subject. This enables users to search for books quickly and effortlessly.
 8. Students need access to authentic information. An advanced organized library is an integral part of any educational institution.
 9. In this digital age a web-based library management system would be ideal for students who can access the library's database on their smartphones.
 10. The main objective of the Project of Library Management System is to manage the details of users as well as books.
-

PROBLEM STATEMENT

The current library system is outdated and inefficient. There is a lack of organization in book management, user registration, and book borrowing. The system relies heavily on manual processes, leading to errors in book availability and delays in user requests. Additionally, there is no proper system for tracking overdue books and fines.

As a part of our skill development project we implement design thinking steps to make our solution more effective.

Project Organization

We are 2 members in this project and contributing to this project as

- Aman Bhatt
 - Jeewan Chandra Kandpal
-
- Aman Bhatt is working on Brick Bracker Project.
 - Jeewan Chandra Kandpal is working on Frontend (Library Management).

Present Status of development of project

- ❖ We completed the planning phase of application.
- ❖ Currently we are making this Webpage more user friendly.

LIBRARY MANGEMENT OVERVIEW

A Library Management System (LMS) is a software solution designed to manage and automate the various activities of a library. It helps in efficiently organizing, cataloging, and managing library resources, including books, journals. Here's an overview of the key features and functionalities typically found in a Library Management System:

1. Cataloging and Classification:

- The system allows librarians to catalog and classify books and other materials systematically.
- Each item is assigned a unique identifier for easy tracking and retrieval.

2. Member Management:

- The LMS maintains information about library members, including their personal details, borrowing history, and contact information.
- It may also include features for member registration, issuing library cards, and managing member categories.

3. Circulation Management:

- This feature handles the lending and returning of library materials.
- It keeps track of borrowed items, due dates, and any fines or fees associated with late returns.

4. Search and Discovery:

- Users can search the library catalog using various parameters such as title, author, subject, or keywords.
- Advanced search options may include filters to refine search results.

5. Reservation and Hold Requests:

- Members can reserve or place holds on items that are currently checked out, ensuring they get priority when the items become available.

6. Acquisition and Budget Management:

- The system assists in managing the acquisition of new materials, including the ordering and receiving of books.
- It may include features for budget tracking to monitor library expenditures.

7. Reporting and Analytics:

- LMS provides tools for generating reports on various aspects, such as circulation statistics, overdue items, and usage patterns.
- Analytics features can help libraries make informed decisions about collection development and resource allocation.

- Different user roles and permissions ensure that staff members have appropriate levels of access.

8. Interlibrary Loan Management:

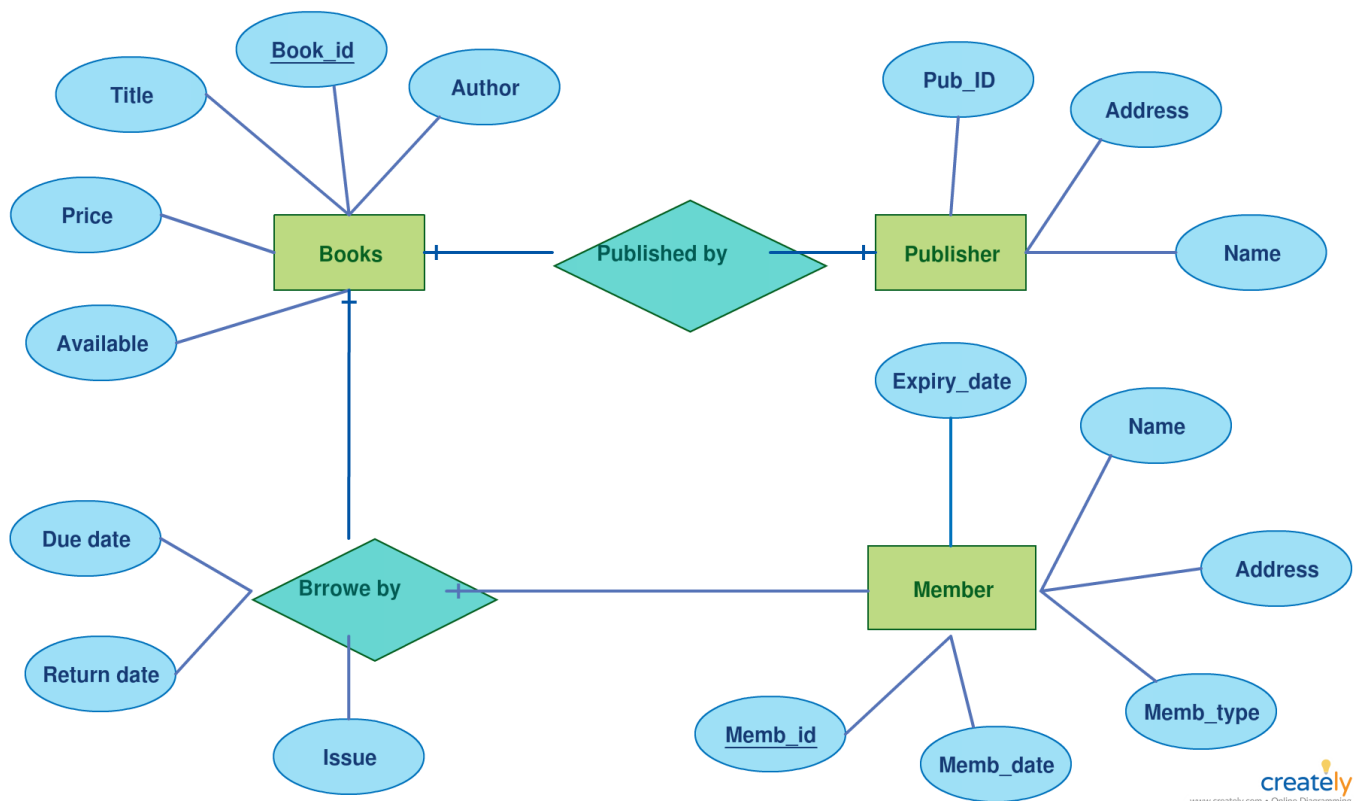
- For libraries participating in interlibrary loan programs, the system may facilitate borrowing and lending materials from/to other libraries.

9. User-Friendly Interface:

- An intuitive and user-friendly interface is essential for both librarians and library patrons to easily navigate and use the system.

Implementing a Library Management System streamlines library operations, reduces manual workload, and enhances the overall efficiency of library management. It contributes to a more organized and user-friendly experience for both library staff and patrons.

E-R Diagram for Library Management System



BASIC MODULE OF PROJECT

Modules

Library Management Software has a user-friendly framework that consists of three modules- Librarian, student interface and admin Interface Let's go through each of them

1. LIBRARIAN

In a Computerized Library Management System, the librarian manages the library activities in digital set-up. It negates the chances of losing and damage of paper works, documents and files. The transaction can be conducted with less time and more effect by the user. The books can be managed properly in the library with the system. Besides that, library management system also allows user to manage the publisher as well as lost book module. The library staff can handle the staff and view the report module.

Features

- The entire system is monitored by the librarian
- By entering the member and media barcode the media can be issued to the members.
- Create different department at the institute.
- The fees collected and to be paid are marked
- Reports of books those are either damaged or missing.
- Management of media created
- Media supplement entry supervision.
- Librarian provides facility of student and staff registration and login.
- Different reports are generated by the Librarian- student, teacher, issue, and book reports
- Each transaction is marked by the librarian
- The search, transaction, report generation, validation can be performed
- The registration or edit of the member or the book
- Either admin or the librarian can have access to the book transaction module.
- The students and the staff maintain Library management system using the software and reduce the workload
- Blacklisting of user profiles – tract users and categorize user profiles with lists.

2. STUDENTS INTERFACE

This system is designed for a user-friendly environment so that student and staff of library can perform the various tasks easily and in an effective way. Through this part of the portal students can log in and have access to the library data.

Features

- Students can see the condition of availability and rate the books after the read
- The books issued, their issue and return dates are visible to the logged in students
- The students can make requests to the librarian to book books for them
- Either the user or the admin himself can have access to the book transaction modules
- The books can be read both online and offline
- The reservation and bibliography can be observed by the client
- Facility for fee collection and receipt creation

3.ADMIN

Library management system is all about organizing, managing the library and library-oriented tasks.

Features

- User Management
- Member Management
- Fine and Fee Management
- Customization and Configuration

Limitations

Online library management systems can offer many benefits over traditional library management systems. However, they also have some limitations and potential problems that should be taken into consideration. Here are some of the main ones:

1. **Technical issues:** Online library management systems rely on computers, servers, and networks to function. Any technical issues with the system can result in downtime, slow response times, or data loss.
2. **Data security:** Online library management systems store sensitive information, such as user details and borrowing records. Therefore, ensuring the security of the data is critical to prevent data breaches, hacking, or unauthorized access.
3. **User skills:** Online library management systems may require users to have a certain level of technical skills to use the system effectively. Users who are not familiar with technology may find it challenging to navigate the system, leading to errors or frustration.
4. **Equipment and infrastructure:** Online library management systems require suitable equipment and infrastructure to function effectively. Libraries that lack the necessary equipment, such as computers or internet access, may find it challenging to use the system.
5. **Cost:** Online library management systems can be expensive to install and maintain. Smaller libraries or institutions with limited budgets may find it challenging to invest in such a system.
6. **System upgrades:** Online library management systems require periodic upgrades to keep up with changing technologies and user needs. Upgrading the system can be time-consuming and costly.
7. **Dependence on the internet:** Online library management systems require a stable internet connection to function. In areas with poor internet connectivity, the system may not work correctly, leading to delays or even system downtime.

Overall, online library management systems can provide many benefits, but it's important to consider their limitations and potential problems when implementing them.

CONCLUSION

In conclusion, a well-designed and efficiently managed Library Management System (LMS) plays a pivotal role in enhancing the overall functionality and user experience of a library. The continuous evolution of technology offers opportunities for improvements and advancements in LMS capabilities. The implementation of these enhancements not only streamlines library operations but also caters to the evolving needs and expectations of both librarians and library patrons.

The user-friendly interface of an LMS, coupled with features such as automation of routine tasks, advanced search and discovery options, and integration with online resources, significantly contributes to the accessibility and convenience of the library services. The mobile app support extends the reach of the library, allowing users to interact with the system on-the-go, fostering a more connected and engaged community.

Data analytics and reporting tools empower librarians with valuable insights into library usage patterns, enabling informed decision-making regarding collection management and resource allocation. The adoption of cloud-based storage and backup solutions enhances the scalability, security, and disaster recovery capabilities of the system, ensuring the integrity and availability of library data.

Multi-language support and accessibility features further contribute to inclusivity, making library services accessible to a diverse user base. Security measures are paramount in safeguarding user data and maintaining compliance with data protection regulations, fostering trust and confidence in the system.

Interlibrary loan management, feedback and ratings systems, social media integration, and event management features add layers of engagement and interaction, transforming the library into a dynamic hub for knowledge sharing and community participation.

As technology continues to advance, it is essential for library management systems to remain adaptable and responsive to emerging trends. Continuous feedback from users, along with regular updates and improvements, will ensure that the LMS evolves in tandem with the changing needs of the community it serves. In essence, a robust and modern LMS is not just a tool for organizing books but a catalyst for fostering learning, collaboration, and a sense of community within the library space.

REFERENCES

- YouTube
- GitHub
- Google
- Friends

*Thank
You*