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ijircce@gmail.com

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Library Management System

Srushti Gonjari¹, Aarya Chodankar¹, Yuvraj Savekar¹, Koustubh Shah¹, Suraj Jamadar²

Diploma Student, Dept. of CSE, Sanjay Ghodawat Polytechnic, Atigre, Kolhapur, India¹

Lecturer, Dept. of CSE, Sanjay Ghodawat Polytechnic, Atigre, Kolhapur, India²

ABSTRACT: The title of our project is Library Management System. Our project is to develop a website which manages library books and user records in digital view. Now a days it's difficult for students and staff to go into the library and find the books which they want. And if user goes library and the book is not available it will be waste of time for user. For librarian also it is difficult data and record in manual manner. This can help librarian to keep record in digital view. We will be trying to make a website which helps librarian and user.

We will be trying to make a website which helps librarian to reduce load to record data in digital view.

KEYWORDS: library management, manual, websites.

I. INTRODUCTION

Our website is for maintaining the information about the books present in the library. While collecting requirement, we understood that current website of our library is accessible only for admin which is not stored properly. So we decided to make a website which will help for librarian as well as user.

There are purpose of our website, one is that user can see the availability of books from anywhere there is no need to come in library and search for particular book and second purpose is for librarian can keep record in digital view.

By using our system, librarian can get all data related to each and every user on one system. Admin can view all issued book by user and the book is not return they can take related actions. Whereas, Admin can add book, add user can change status of return book when user will return the book.

In our Project-

There are 2 Portals in our project:

1. Admin (Can view, update and add books and users)
2. User (Can view availability of books and issued books of particular user itself)

II. RELATED WORK

Library management system websites are online platforms designed to provide access to library resources and services, including cataloging and search tools, digital collections, and user accounts. Research on library management system websites focuses on a range of areas, including website design and usability, user behavior and preferences, and the impact of website features on user satisfaction and engagement. Overall, the research on library management system websites highlights the importance of designing user-friendly and engaging websites that meet the needs and preferences of library users. As online access to library resources and services becomes increasingly important, library management system websites will need to continue to evolve and adapt to new technologies and user expectations.

III. PROPOSED ALGORITHM

A Library Management System is a software application designed to help manage and organize library resources. Here is a proposed algorithm for a basic library management system:

- Start the program and display the main menu.
- Prompt the user to enter a selection (e.g. search the catalog, check out a book, return a book, etc.).
- Based on the user's selection, display the appropriate sub-menu or prompt for additional information.
- If the user selects to search the catalog:

a. Prompt the user to enter a search term (e.g. title, author, keyword).

- b. Search the library database for books that match the search term.
- c. Display the list of matching books and any available information (e.g. author, ISBN, availability).
- d. If the user selects a book, display the book's detailed information (e.g. summary, reviews).
 - If the user selects to check out a book:
 - a. Prompt the user to enter their enrollment or staff unique id number.
 - b. Check if the book is available for checkout.
 - c. If the book is available, update the library database and display a available
 - d. If the book is not available, display an not available.
 - If the user return a book:
 - a. Prompt the user to enter their enrollment or staff unique id number.
 - b. Check if the book is currently checked out to the user.
 - c. If the book is checked out to the user, update the library database to reflect the return
 - d. If the book is not checked out to the user, display not return
 - If the Admin selects to add a new book to the library:
 - a. Prompt the Admin to enter the book's information (e.g. title, author, ISBN, publication date).
 - b. Add the book to the library database.
 - If the Admin selects to remove a book from the library:
 - a. Prompt the Admin to enter the book's ISBN.
 - b. Remove the book from the library database.
 - If the user selects to view their account:
 - a. Prompt the user to enter their enrollment or staff unique id number.
 - b. Display the user's current checked-out books and their due dates.
 - If the user selects to exit the program, display a confirmation message and terminate the program.

This algorithm provides a basic framework for a library management system, but additional features and functionality could be added to meet specific requirements or needs.

IV. METHODOLOGY

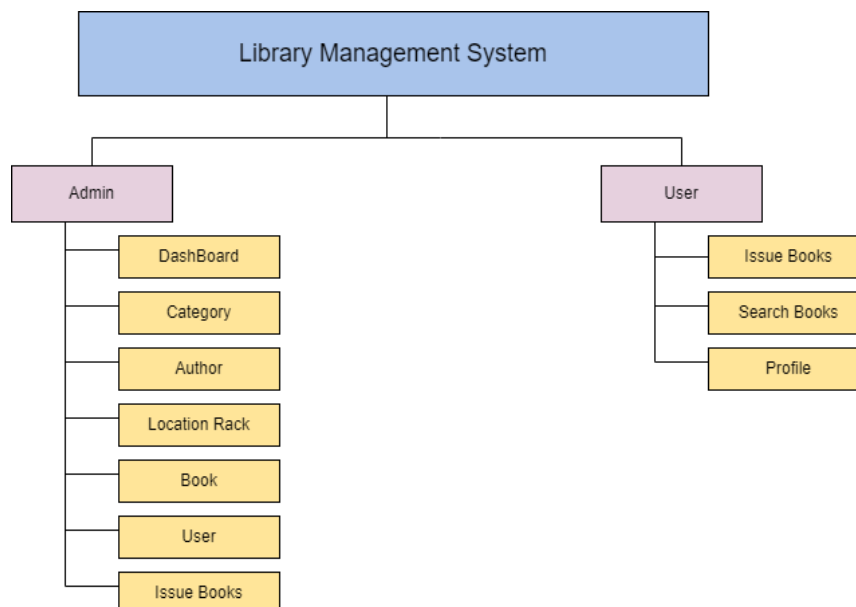


Fig 3.1 Methodology

The working of our project is –

By using our system; Admin can get all data related to each and every user on one system. User can see availability of books and how many books he/she has issued. Whereas Admin can add books and can update record and can change the status if user returns the book it will show return and if not then not return status.

V. TECHNICAL

HTML

HTML stands for Hypertext Markup Language. It is a coding language used for creating web pages on the internet. HTML is used for creating and formatting text, images, videos, and other content on web pages. HTML uses a series of tags to identify and format different elements on a page.

HTML tags are enclosed within angle brackets <> and are used to create headers, paragraphs, lists, links, images, forms, and other elements on a web page. HTML documents can also include CSS (Cascading Style Sheets) and JavaScript code to enhance the layout and functionality of the page. HTML documents can be viewed in web browsers such as Chrome, Firefox, Safari, and Edge. The latest version of HTML is HTML5, which includes new features such as video and audio playback, canvas drawing, and improved support for mobile devices. HTML is an essential part of web development and is used by developers and designers across the globe.

CSS

CSS or Cascading Style Sheets is a language utilized to define the appearance of HTML (HyperText Markup Language) or XML (Extensible Markup Language) documents. CSS allows web developers to separate the presentation of a document from its content, making it easier to create and maintain websites.

CSS defines how HTML elements should be displayed on a web page, such as the font size and color, spacing between elements, layout and positioning, and visual effects like shadows and gradients. Styles can be applied to individual elements, groups of elements, or to the entire document.

CSS has a cascade system, which means that styles can be inherited from parent to child elements, and multiple styles can be applied to a single element. Styles can also be overridden by specifying a more specific selector or by using the !important rule.

XAMPP

XAMPP is a free and open-source web server software package that allows developers to set up a local web server environment on their own computer. The term "XAMPP" represents cross-platform, Apache, MySQL, PHP, and Perl, as an abbreviation

Here are some key features of XAMPP:

1. **Cross-Platform:** XAMPP is available for Windows, Linux, and Mac OS X, making it a versatile choice for developers using different operating systems.
2. **Apache Web Server:** XAMPP includes the Apache web server, which is one of the most widely used web servers in the world. Apache is fast, reliable, and can handle large amounts of traffic.
3. **MySQL Database:** XAMPP also includes the MySQL database server, which is a popular open-source database management system. MySQL is widely used for web applications that require a database backend.
4. **PHP Programming Language:** XAMPP includes PHP, a popular server-side programming language that is widely used for web development. PHP is easy to learn and can be used to create dynamic and interactive web pages.
5. **Perl Programming Language:** XAMPP also includes the Perl programming language, which is widely used for system administration and web development tasks.

My SQL

MySQL is an open-source relational database management system (RDBMS) that is widely used for web applications and other types of software. It was first released in 1995 and is now owned by Oracle Corporation.

Here are some key features of MySQL:

1. **Relational Database:** MySQL is a relational database, which means that it stores data in tables with defined relationships between them. This allows developers to store and retrieve data in a structured and organized way.
2. **Scalability:** MySQL is designed to be highly scalable, allowing it to handle large amounts of data and high levels of traffic. It can be used in everything from small websites to large-scale enterprise applications.
3. **Security:** MySQL includes a wide range of security features, including encryption, user authentication, and access control. This makes it a secure choice for storing sensitive data.



- 4. Compatibility: MySQL is widely supported by many programming languages, including PHP, Java, Python, and others. This makes it a flexible choice for web development.
- 5. Open-Source: MySQL is open-source software, which means that it is free to use and can be modified and distributed by anyone. This has helped make it one of the most popular database management systems in the world.

Overall, MySQL is a powerful and flexible database management system that is widely used for web applications and other types of software. It is easy to learn and use, and provides a wide range of features and capabilities for storing and retrieving data.

V. RESULTS

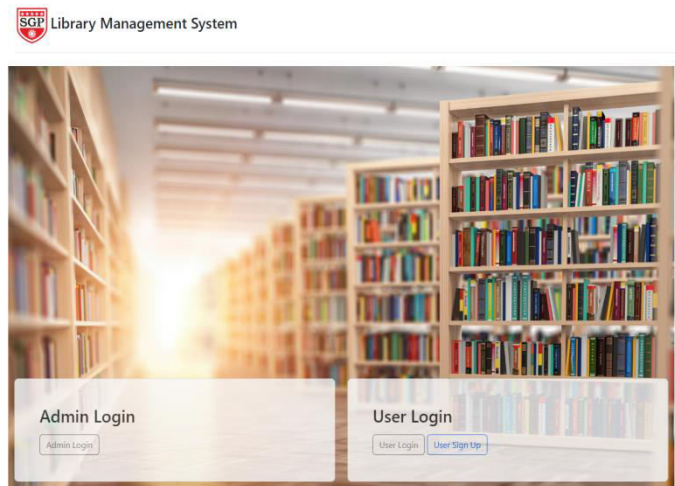


Fig 5.1 Home Page

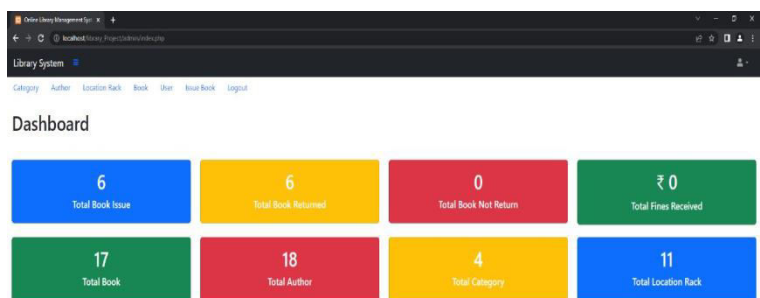


Fig 5.2 Admin Index Page

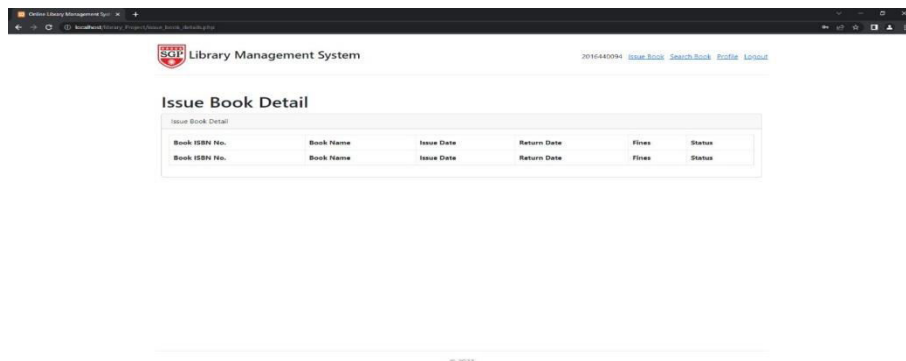


Fig 5.3 User Index Page

VI. CONCLUSION AND FUTURE WORK

The motto of our project is to make digital visualization of library management. We try to make it simple and easy to use for both admin and user. This project can be a useful tool for libraries to manage their work efficiently. The system can help to streamline processes, reduce errors, and provide better services to library users. The system is user-friendly and easy to navigate for both staff and library users. Overall, a well-designed and implemented library management system can be a valuable asset to any library, improving its efficiency and effectiveness in serving its patrons.

FUTURE ENHANCEMENT-

- In future this system can also be app based.
- In the next deploy the system in other college.
- Data analysis and insights
- Mobile and cloud-based solutions: Integration with emerging technologies

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