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LIBRARY MANAGEMENT SOFTWARE

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Abstract

A college library management is a project that manages and stores books information electronically according to student needs. It becomes necessary for colleges to keep a continuous check on the books issued and returned and even calculate fine. This task if carried out manually will be tedious and includes chances of mistakes. These errors are avoided by allowing the system to keep track of information such as issue date, last date to return the book and even fine information and thus there is no need to keep manual track of this information which thereby avoids chances of mistakes. Thus, this system reduces manual work to a great extent allows smooth flow of library activities by removing chances of errors in the details. The transactions like login, register, add, search, delete, issue is provided. The Library Management System stores the details like name, address, ID number, Date of Birth of members working in the library and users who come to library. The details of books like book name, book number, subject to which it belongs, author, edition, year of publication, the total number of books that are present in the library etc. are also stored.

Introduction

Manual process of keeping student records, book records, account details, managing employee is very difficult. There are various problems also faced by the student in library such as finding any particular book, information whether book is available or not, for what time this book will be available, searching of books using ISBN number etc. To eliminate this manual

system, library management system has been developed. To build software that automates the library management Library management System is specially design for automation of library.

- Application can be used by administrator for providing and managing library works.
- Administrator able to see the book records.
- Administrator can classify the number of books according to their categories.
- Administrator can decide the proper employee for proper post.
- It also includes the facilities for admin login for security purpose.
- The administrator can assign the book to students.
- The administrator able to search books and students record easily.

Improvisation in technology causes the demand for developing a way to enhance the traditional library set up to digital one. Numerous tedious processes reduce the efficiency of the library. For example, it always needs manual support to do any activities in the traditional library. The count and details of books are scribbled in the paper for reference. Each data is fetched in the notebook for future citations. To examine any data then they have to refer the notebooks. At the same time while distributing the books to the students they have to enter into the notebook where they need to represent the book id, distribution and renewal date, and student id. The librarians/staff have to assign a tag for each book and provide an id for it. They have to align and arrange the books on the shelves and marked it. Missing or theft of the book builds a serious issue and confusion to the librarians. While collecting the book from the students

they have to verify the penalties of the books. It builds an uninteresting among the student due to the slow progress of the staff. To evoke the library into the technological era, we presented a system called the Library Management system (LMS). It is an automatic system that reduces the work burden of the staff/librarians through a single click. The LMS supports the librarian to add/view/delete/update details from the library stock. Here we integrate all the library data into the SQL server. Preliminarily the librarian has to add student and book details into the database. After that he/she can view/delete/update those details through the Library Management system. Each data is retrieved from the database. If he/she access any user details then it shows username, id, book details, and penalty details. They no need to write it on paper for any references. By editing the data, they can change the parameter in it. It has more additional features such as librarian can maintain library records, student's history of penalties and issues. It always tracks the count of the book in the library and issued book details. It is a user-friendly interface, so basic computer knowledge is enough to access the LMS. The system is a customizable and user-configurable one which causes it to use in different organizations. We represent the LMS with Admin module. We built the LMS in .Net Technology which is considered as the one of the upcoming technologies in IT industries. By the integration of all the modules, it will be presented on the desktop of your computer. As aforementioned the data are stored and secured in the database. The related data are stored together and maintained properly. It allows the user to create their database as per the requirement. The database gets manipulated by the programs which provide an interface between the databases. The database management system (DBMS) receives the command from the administrator based on the instruction it changes the data in the database. This instruction may load, retrieve or modify the existing database. It is better to assign a DBMS as a centralized one which helps multiple users to access the database in a controlled manner at a different location. Based on the scheme of DBMS, the system can assign a view mode for each user like some people can see only some data and authorized one can see all the data existing in the database. The Open database connectivity (ODBC) provides an application programming interface that allows the client-side program to call the DBMS on the server-side.

Literature Survey

As the economic growth increased the peoples are led to the higher aspiration to excel in education and work through better access to information and knowledge. Technologies for building user-centered digital library environments and making computer-user interactions more intelligent should be explored. Earnshaw discussed in his article about the old libraries and its drawbacks to keeping records. A book provided an irreducible deposit of information that could be read, reviewed, criticized, as well as providing the basis for the development of its ideas into further volumes. Information is no longer exclusively library-centric but is also network-centric. The center of gravity has moved from information provision to information access. Online search (via engines such as Google) is replacing physical search. Combining the best of both worlds i.e., the traditional library and the online search – to meet the developing requirements of users is a key challenge for the future. In this article, the author discussed the digital media consideration, the initial development in digital libraries and the long-term preservation of digital data. As mentioned in this article digital library is a repository where a significant proportion of content is in the digital form. Which can be indexed and searchable via electronics means which is an advantage over the paper-based information. The difficulty and expense of preserving digital information is a potential impediment to digital library development. Preservation of traditional materials became more successful and systematic after libraries and archives integrated preservation into the overall planning and resource allocation. Digital preservation is largely experimental and replete with the risks associated with untested methods. Digital preservation strategies are shaped by the needs and constraints of repositories with little consideration for the requirements of current and future users of digital scholarly resources. This article discusses the present state of digital preservation, articulates requirements of both users and custodians, and suggests research needs in storage media, migration, conversion, and overall management strategies. Additional research in these areas would help developers of digital libraries and other institutions with preservation responsibilities to integrate long-term preservation into program planning, administration, system architectures, and resource allocation. Most of the research and writings on library management have focused on academic libraries and only recently has there been more interest in the administration of public libraries. The skill and style of public library managers – the directors, branch managers, and department and service managers who are leading these institutions – strongly affects the

culture of a public library.

Library staff looks to these managers to help them navigate through the rapid changes that are occurring in public libraries as these changes in technology, roles, and user expectations strongly alter their daily routines of public service. Contemporary library managers need a wider array of skills and attributes than their earlier and more traditional counterparts and will need to seek continual professional development to remain effective as public libraries transition into the twenty-first century. These managers will also need to distinguish between management and leadership skills and learn to identify and mentor leaders within their staff who can assist in the transition. This paper is a brief scan of the literature currently available on managing libraries and includes information on academic as well as public libraries due to the above-mentioned lack of public library material. Weiner reviewed the literature extant on leadership in academic libraries and surveyed materials on "recruitment, leadership potential identification, career development, roles and responsibilities, and characteristics and management style"

Project Module

Modules:

❖ Administrator:

He able to add new books to the database also can assign selected book to the student. Administrator able to search any book or student records from the database. The operation such as insert, update and delete perform by administrator.

Proposed System

Due to some drawbacks and limitations of manual work of library management, we decided to develop the computerized system with online facility because system need data regardless of their location.

Following are some proposed solutions to enhance the application.

To overcome the drawbacks and limitations of existing system here we are propose the Stock Inward Outward System: -

1. Easiness in modification of data:

The proposed system provides managing of huge data effectively and efficiently for efficient results, storing the details of the employees, administrator etc. in such a way that the database can be modified.

2. User friendly:

The proposed system is user friendly because the retrieval and storing of data is fast and data is maintained efficiently. Moreover, the graphical user interface is provided in the proposed system, which provides user to deal with the system very easily.

3. Reports are easily generated:

Reports can be easily generated in a proposed system. So, any type of reports can be generated in a proposed system, which helps the managers in a decisions-making activity.

4. Sharing the data is possible:

Data can be shared in proposed system. This means that two or more persons can use the same data in existing system provided that they have right to access that data. Also, the two or more departments in an organization can easily interact with each other without the actual movement of data.

5. No or very few Paperwork:

The proposed system either does not require excel work or very few paper works is required all the data is feted into the computers. Since all the data is kept in a database no data of the organization can be destroyed. Moreover, work becomes very easy because there is no need to keep data on papers.

- **Book Information Recording:** All the information of each book should be recorded into the system to provide the borrowers or the students the book references that they want to borrow.
- **Administrator Login:** The admin login will require the school librarian their email and password to have the main access to the system and secure every information and transaction done in the system.
- **Users/Borrowers' Login:** This will also require the users or students email and password provided when they were registered into the system. Their email and password will serve as their access to the system in terms of borrowing books or inquiring for books.
- **Book Monitoring and Updates:** The system should save the borrowers info and the count of books that are borrowed. These records should also be updatable when the books are returned.
- **View and Check Information:** The admin can view and check the books that are borrowed and who were the students that borrowed them. Students can also view their borrowing

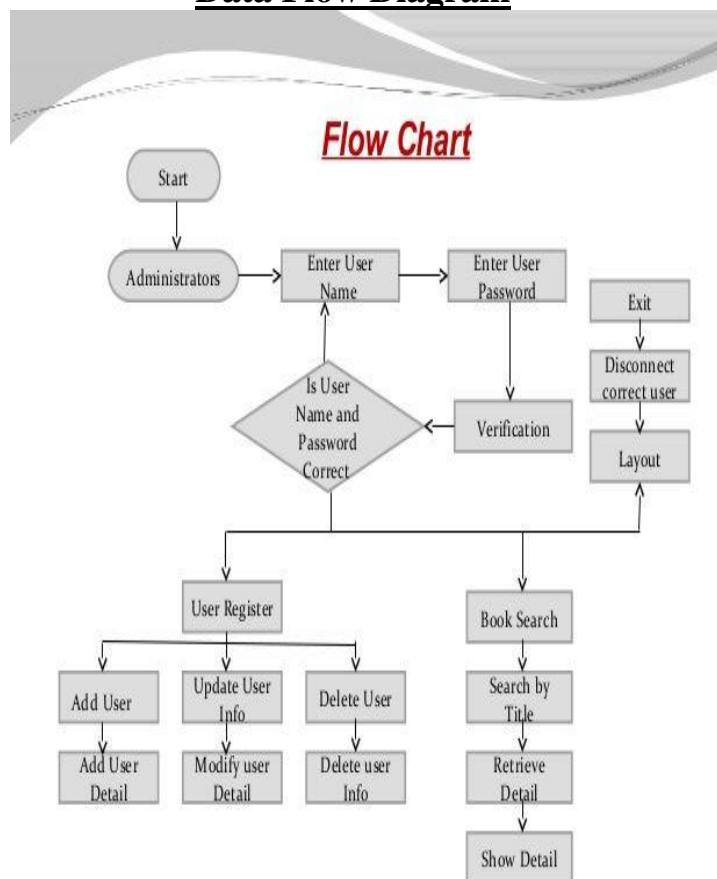
transactions just like the book information, date of book borrowing and returning.

- **Borrowing Information:** The borrowing information should consist the important details of the borrowers and the books borrowed by each borrower. This information should also record the day of borrowing as well as the returning of the book.
- **Borrowing Records:** This will record all the transaction made and are stored for a period of time to serve as reference for important matters.

Working

The LIBRARY MANAGEMENT SYSTEM contains an Admin module where it demonstrates the activates of the admin. Admin is considered as the authorized person to access the LIBRARY MANAGEMENT SYSTEM. At the time of login, the system is loaded and opens the home page where he/she has to enter the Id and password which is illustrated. Once, he/she login to the system, then they can access/modify the data in it. The admin can add students/Book details, issues the book, return the book, view/update the book, and view/update the student details. In LIBRARY MANAGEMENT SYSTEM, while adding the student's details we enroll the register number, name, date of birth, blood group, email id, mobile number, and gender, etc. Similarly, to add a new book we enroll the book id, author name, copies, prices etc. which is depicted. Those adding data can be view/update/delete through Admin. The admin can view and search any book through search option in LIBRARY MANAGEMENT SYSTEM is illustrated. We implemented the library management system in .Net for front end and SQL for the back end. In the existing system, the users can illegally change the date of the entry because the entry will be in a notebook which can be overwritten. These disadvantages are surmounted by the LIBRARY MANAGEMENT SYSTEM. All the details will be updated on the LIBRARY MANAGEMENT SYSTEM. So, they can verify every book detail in it. The clumsiness of the existing system is removed for the librarians. Thereby it creates fast progress in the library by verifying the database, the librarian has to check and maintained the database properly.

Data Flow Diagram



Advantages

1. Simple & Easy to Use
2. Increased Library Engagement
3. Highly Secure, Scalable & Reliable
4. Mobile Access
5. Dynamic Reports
6. Error-free
7. Innovation
8. Fully Customizable
9. Cost-effective

Limitations

- The data stored is prone to cyber hacks. Opting for a reliable online system eliminates the risk.
- Costly and Expensive.
- Complicated to operate.
- Online Systems require high-speed internet connectivity
- Risk of computer virus.
- The automation feature is not available in offline/opensource systems thus, requires manual action to perform operations.
- Unlike online systems that utilize cloud computing, Open-source systems store data on a computer hard drive. This increases the risk of data loss.

Conclusion

This website provides a computerized version of library management system which will benefit the students as well as the staff of the library. It makes entire process online where student can search books, staff can generate reports and do book transactions. It also has a facility for student login where student can login and can see status of books issued as well request for book or give some suggestions. It has a facility of teacher's login where teachers can add lectures notes and also give necessary suggestion to library and also add info about workshops or events happening in our college or nearby college in the online notice board.

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