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LIBRARY MANAGEMENT SYSTEM

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Abstract - The library management system aims in developing a computerized system to maintain all the daily work of the library. This project has many features that 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 also has the facility of an online notice board where teachers can student can put up information about workshops or seminars being held in our colleges or nearby colleges and librarian after proper verification from the concerned institution organizing the seminar can add it to the notice board. It has also a facility where students after logging in their accounts can see a list of books issued and its issue date and return date and also the students can request the librarian to add new books by filling the book request form. The librarian after logging into his account i.e. admin account can generate various reports such as student reports, issue reports, teacher reports, and book reports. Overall this project of ours is being developed to help the students as well as the staff of the library to maintain the library in the best way possible and also reduce the human efforts.

Key Words*: *Personal computer, Barcode scanner, GSM module.

1. INTRODUCTION

From ancient times the knowledge is spread by people across the world in written form. First, the information is stored by carving words on copper using the sharp tool; by the time the papers are invented and using the ink and feather of bird the information is started to store on paper, which helped a lot for storing purpose. It's very difficult to store the data stored in books secured and safe; as we know the paper can be torn apart or they got stolen by someone or in worst scenario pages get eaten by bugs. So as we know from old times the libraries are managed manually by a group of people. The methods are really difficult as compare to today's digitized world, nowadays we can find anything on just one click, but we see at past methods they kept written records for each thing and that record goes on increasing as time pass. If the records got lost then there is no other for retrieving them back, so the loss is permanent. Digitization of library helps to keep all the records secured and retrievable which saves the paperwork and made library records easy to store. This project not only helps to store the library records but it also provides access to the library management staffs and students to check the information related to the books like availability of books, issue and returning dates, fine related to the delay in returning the book and the information is accessed by both librarian and students so it will be transparent system.

LITERATURE REVIEW

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 [1].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 [2]. 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 [2]. 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 [3].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. [4]

2. BLOCK DIAGRAM

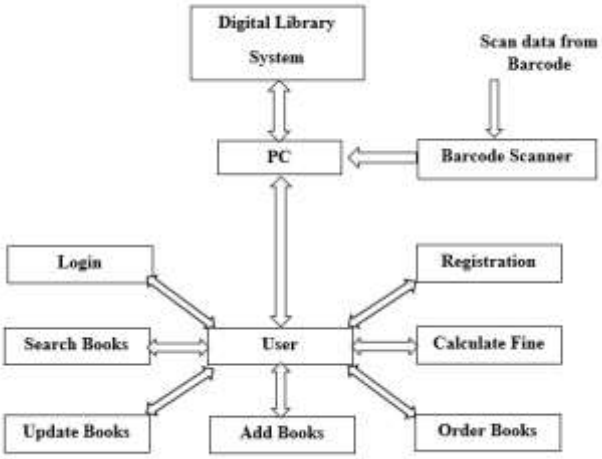

Fig 1. Block Diagram

2.1 Block diagram description-

User Login: This feature used by the user to login to the system. They are required to enter the user id and password before they are allowed to enter the system. The user id and password will be verified and if the invalid id is there the user is allowed to not enter the system. Functional requirements:-User id is provided when they register. The system must only allow the user with valid id and password to enter the system. The system performs an authorization process that decides what user level can access. The user must be able to logout after they finished using the system.

Register New User: This feature can be performed by all users to register a new user to create an account. Functional requirements: The -System must be able to verify the information. The system must be able to delete information if the information is wrong.

Register New Book: This feature allows for adding new books to the library. Functional requirements: The-System must be able to verify the information. The system must be able to enter many copies into the table. The system must be able to not allow two books having the same book id.

Search Book: This feature is found in the book maintenance part. We can search for books based on book id, book name, and publication or by author name. Functional requirements:-System must be able to search the database based on select search type. The system must be able to filter the book based on the keyword entered. The system must be able to show the filtered book in table view.

Issue Books And Return Books: This feature allows us to issue and return books and also view reports of the book issued. Functional requirements: The -System must be able to enter issue information in the database. The system must be able to update several books.

Event Addition: This feature allows the Librarian and student to add information about various workshops being conducted in college and colleges nearby. Functional requirements:-System should be able to add detailed information about events. The system should be able to display information on the notice board available on the homepage of the site.

Fine Calculation:

This feature allows both librarians and students to calculate the late fine from the date of expiry and onward.

Functional requirements: The -System must be able to keep track of the issue and expiry date information from the database. The system must be able to calculate the fine onwards of the expiry date.

Barcode:

A barcode (also spelled bar code) is a method of representing data in a visual, machine-readable form. Initially, barcodes represented data by varying the widths and spacing of parallel lines.

Barcode Scanner:

A barcode reader (or barcode scanner) is an optical scanner that can read printed barcodes, decode the data contained in the barcode and send the data to a computer.

3. FLOW CHART

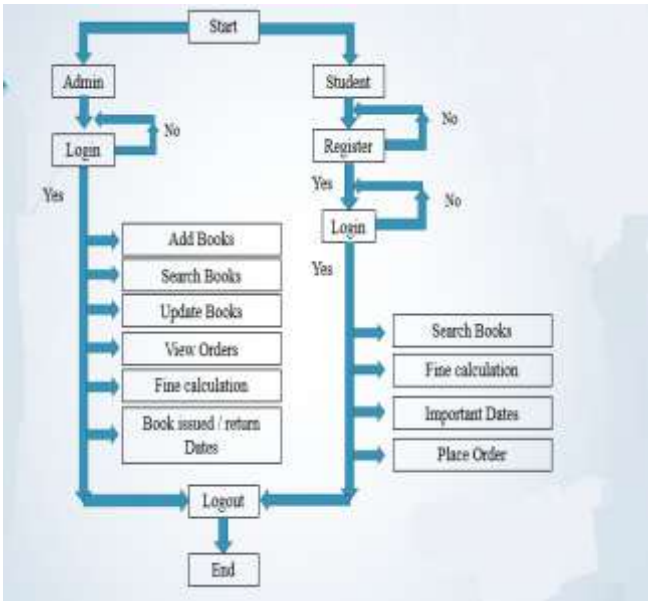

Fig 2. Flow chart

4. WORKING-

The main purpose of our project is to provide a convenient digital interface between students and the library. Nowadays nearly everything becomes digital and so libraries also became digitized. It's nothing but the organization of library records into the digital way, which will simply allow students to check the booking status, due dates, issue books and also to check new arrivals of books in a library, all activities can be done by simple login by the registered user.

5. CONCLUSION

This project will provide a computerized version of a library management system that will benefit the students as well as the staff of the library. It makes the entire process online where a student can search books, staff can generate reports and do book transactions. It also has a facility for student login where the student can log in and can see the status of books issued as well as request for a book or give some suggestions. It has a facility of teacher's login where teachers can add lecture notes and also give necessary suggestions to the 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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