**Report on Library Management System**

**Library management system:**

It is a software used to manages the catalogue of a library.  This helps to keep the records of whole transactions of the books available in the library.

**Why we need Library Management?**

Libraries rely on library management systems to manage asset collections as well as relationships with their members. Library management systems help libraries keep track of their documents inventory and loans, and member subscriptions and profiles, sometimes for multiple physical locations. This type of software can be used by educational institutions’ libraries, as well as public or private libraries. Library patrons use library management systems to find, reserve, and loan documents while library staffs employ it to manage the acquisition, cataloguing, and inventory of documents.

**Set of requirements while designing the Library Management System:**

* Any library member should be able to search books by their title, author, subject category as well by the publication date.
* Each book will have a unique identification number and other details including a rack number which will help to physically locate the book.
* There could be more than one copy of a book, and library members should be able to check-out and reserve any copy. We will call each copy of a book, a book item.
* The system should be able to retrieve information like who took a particular book or what are the books checked-out by a specific library member.
* There should be a maximum limit (5) on how many books a member can check-out.
* There should be a maximum limit (10) on how many days a member can keep a book.
* The system should be able to collect fines for books returned after the due date.
* Members should be able to reserve books that are not currently available. The system should be able to send notifications whenever the reserved books become available, as well as when the book is not returned within the due date.
* Each book and member card will have a unique barcode. The system will be able to read barcodes from books and members’ library cards.

**Who can use the library management system?**

The Library management system is nowadays essential for schools, colleges, private libraries, and other organizations. They can use this software as the purpose of books issuing and returning for renewal. Moreover, this software helps the librarian to maintain information about book issuing and returning the book before the last date.

**Library management system are useful for such organization:**

* School libraries
* Collage libraries
* Private libraries
* Reference libraries
* National libraries
* Public libraries
* Modern Public libraries
* Public leading libraries

Effective library management system to manage all your library efficiently and organically, provide for your organization.

**Importance of Library Management System:**

* A library management system is the most proficient and easy to use system for managing all the processes involved in a Library in the most effective ways.
* This system will reduce all the manual work and the whole process can be managed just through single clicks and edits.
* There will be no headache and doubtfulness of storing the data securely and searching the records of any individual afterward.
* Any book seeker can rent a book just by signing in with their details and return it with the date of returning.
* The staff can also facilitate themselves with some extra authorizations and privileges.
* Only, one person is required to take care of the whole system, without any chances of mistakes.

**Advantages of the library management system:**

* To automate the workflow
* To reduce handling cost
* To reduce errors
* To support the continued visibility of your services
* To add value
* To retain intuitive usability
* To make access convenient
* To reach relevant content
* To maintain the database
* To leverage functionality
* To enable information sharing
* To manage your portal efficiently
* To support growth and innovation
* To take control and eliminate discrepancies
* To retain existing readers
* To generate new readers

**Features of Library Management System:**

* Keep record of different categories like, Books, Journals, Newspapers, Magazines, etc.
* Classify the books subject wise.
* Easy way to enter new books.
* Keep record of complete information of a book like; Book name, Author name, Publisher’s name, Date/ Year of publication, Cost of the book, Book purchasing date/ Bill no.
* Easy way to make a check-out.
* Easy way to make a check-in.
* Automatic fine calculation for late returns.
* Different criteria for searching a book.
* Different kind of reports like; total no. of books, no. of issued books, no. of journals, etc.
* Easy way to know how many books are issued to a particular student.
* Easy way to know the status of a book.
* Event calendar for librarian to remember their dates.
* My Notes section for librarian to write any note.
* Online access for registered user to see the status of their books.
* Completely **cloud based Library Management System**.
* No need to invest heavily on Hardware.
* SAAS based pricing.

**Specific technique to gather the information:**

**First technique:**

One obvious source of information about library management is the managers themselves. The qualitative portion of the study was based on the views of library managers.

**Second Technique:**

This study only used structured interviews. The aims of the interviews were to determine the strategic issues related to library management in the higher institutions and to determine the key success factors in managing library service in higher education facilities. In preparation for the interviews, formal letters were sent to the interviewees stating the research problem, the implications of the problem and the nature of the needed research data. The content of the letters included a general outline of questions for the managers to prepare for these meetings. Seven open-ended questions were prepared. Thirty minutes were allocated to each interview.

**Third Technique:**

A second source of information is the community of library users. A questionnaire was used to ascertain the views of library users regarding service levels.

**Data collection and sampling:**

A small proportion of the population was selected as a pilot sample and the results used to improve the approach to the wider population of users. By doing so time and costs could be saved without sacrificing efficiency, accuracy, and information adequacy in the research process.

**Proposed Solution for Library Management System:**

Students rely more frequently to Internet resources for their information and scholastic needs. The advent of technologies and the rapid development of new ones, especially the Internet have changed the learning and researching behaviour of the students- from the traditional library resources to digital or Internet resources.

Nevertheless, the students still visit the library daily to search for the information that they need for scholastic performance and personal knowledge gain. However, most of them do not get the information that they need. Thus, they believe that the university library management system should be improved.

Consider the point of view of students because they are the primary users and intended audience of the library and programs to improve it. The effectives of improvement programs will solely depend on the acceptability of the project to the students.

Implement comprehensive and effective library management procedures. This will trickle down to better library service from library staff and relevant library experience for the students.

**Time-Driven Activity-Based Costing:**

* Identification of resource groups
* Estimation of the total cost of each resource group
* Estimation of the practical capacity of each resource group
* Calculation of the unit cost of each resource group
* Estimation of the standard time duration of each activity
* Multiplying the unit cost of each resource group by the time duration per activity

## **Improved Human Resources** **Facilities/Services:**

* More librarians
* More tables and chairs to accommodate more students
* Trained Librarians
* Library tour for those who need assistance
* Guards/Guides
* Subscription of online and offline journals

Service quality is the third area of special interest adopted for this study. In an organisation striving towards improving on service, the identification of appropriate criteria for use in evaluating the quality of service to customers is essential.

## **Books Management:**

* More books of subjects
* Better library management in terms of managing resources
* Updated books on monthly basis
* Better borrowing and return system
* More on fiction section along with curriculum books

**Cultural change within an organisation:**

When focusing on cultural change within an organisation it is important to understand culture as a concept. View organisational culture as a representation of the shared understandings of the members of an organisation or group with respect to the values, norms, and beliefs implicit within that organisation.

**Performance metrics:**

Performance is the degree to which a project or institution meets predefined criteria or quality standards, such as, efficiency, effectiveness, and relevance. Similarly, library performance metrics could indicate to management how well it is performing in meeting its objectives. When choosing performance measurement systems these should be linked to a business strategy to be truly successful in helping managers make better decisions.

**Transformation innovation and learning:**

Transformation is a change in the shape, structure, and nature of something. The Balanced Scorecard invokes the idea of innovation and learning as the means to achieve transformation. It may require learning, but it also requires change management. For example, transformation of collection development activities is important to a library and is presently undergoing very significant change with the adoption of new technologies.

**Use case for Proposed Solution:**

We have three main actors in our system:

* **Librarian:** Mainly responsible for adding and modifying books, book items, and users. The Librarian can also issue, reserve, and return book items.
* **Member:** All members can search the catalogue, as well as check-out, reserve, renew, and return a book.
* **System:** Mainly responsible for sending notifications for overdue books, cancelled reservations, etc.

Here are the top use cases of the proposed Library Management System:

* **Add/Remove/Edit book:** To add, remove or modify a book or book item.
* **Search catalogue:** To search books by title, author, subject or publication date.
* **Register new account/cancel membership:** To add a new member or cancel the membership of an existing member.
* **Check-out book:** To borrow a book from the library.
* **Reserve book:** To reserve a book which is not currently available.
* **Renew a book:** To reborrow an already checked-out book.
* **Return a book:** To return a book to the library which was issued to a member.