Library Automated Management System in St, Ann's College of Engineering & Technology, Nayuneplli (V), Chirala – Using Smart Campus Software[1]

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ABSTRACT

Library is a fast-growing organism. The Ancient methods of maintaining it are no longer dynamic and efficient. For expeditious retrieval and dissemination of information and better service for the clientele, application of modern techniques has become absolutely indispensable. A properly computerized library will help its user with quick and prompt services. Library automation refers to mechanization of library housekeeping operations predominantly by computerization. Objectives of this study. To develop an updated database of books and other resources of the Engineering College Library, St, Ann's college of Engineering & Technology, Chirala, JNTU, Kakinada University. To implement automated system using Smart Campus integrated Open Source Software. To provide various search options to know the availability of books in the Library. To generate the list of books due by a particular member and also the overdue charges. Smart Campus is integrated software system with the required models for small to very large libraries. It is found that this automation project will serve as a model for any Library. Being an open source resource, any library wanting to go for automation for their library housekeeping operations can make use of this software.

Keywords: Open Source Software, Library Management, Automation in Library**.**

1. INTRODUCTION

Library is a fast-growing organism. The ancient methods of maintaining it are no longer dynamic and efficient. For expeditious retrieval and dissemination of information and better service for the clientele, the application of modern techniques has become absolutely indispensible. A properly computerized library will help its users with quick and prompt services. Library automation refers to mechanization of library housekeeping operations predominantly by computerization. The most commonly known housekeeping operations are acquisition control, serials control, cataloguing, and classification, and circulation control. Library automation or Integrated Library system (ILS) is an enterprise resource planning system for a library, used to tracks items owned, orders made,

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bills paid, etc. Plethora's of delimitations are found in library literature. Sometimes the terms 'mechanization and automation' looked overlapped, although there is a difference of one degree between the two. Automation is the name gives to an automated system of working.

Aim and objectives of the Study: The following were the objectives of this study:

- To develop an updated database of books and other resources of the engineering college library, St, Ann's college of Engineering & Technology, Chirala.
- To implement automated system using Smart Campus library Integrated Open source Software.
- To carry out the charging and discharging functions of the circulation section more effectively.
- To provide various search options to know the availability of books in the Library.
- To generate the list of books due by a particular member and also the overdue charges.

Statement of Problem: The present study aims for implementation of Library automation for the University Department Library and integrated that with University Central Library. The title is "Implementation of Automated Library Management System in the Engineering College, Using Smart Campus Open source software".

The College now has a well-equipped, fully computerized automated Library House Keeping operation using Smart Campus Library Module with Barcode Equipment and a modern library housed on the Ground Floor itself. The total area of the Library is 922.33 Sq. M. The books are classified and arranged according to the Dewey Decimal Classification (DDC) system and an "OPEN ACCESS" system is followed. The library has OPAC – on-line public assess catalogue. Through this OPAC search, the Library database can be searched to know the status of book by entering title, author and accessing number and published.

Manual catalogue is also available to learn the availability of books. Books are issued using online Barcode circulation method. National and International Journals & Periodicals in various disciplines of Engineering, covering the entire study spectrum. The Library is constantly updated by acquiring books & journals in different fields from time-to-time based on needs. Our College library has a Digital Library network. The capacity has the ability to facilitate Teleconferences. The Subscription also provides access to IEEE ON-LINE Journals and DELNET- J-Gate - AICTE Online Journals. The library is rich with facilities and recommended volumes of all subjects both prescribed and recommended.

Plan of Action

- ❖ Visited and observed of the Engineering College Library.
- ❖ Taking the stock of the situation.

- ❖ Physical exam of the books.
- ❖ Bibliographic data has been collated and entered in Excel sheet.
- ❖ Classification humanities for all the books general devised and assessment visited Dewey Dicimal Classification (DDC) 21'st edition.

The Engineering College Library following books has been entered in Smart campus Software:

Table 1: Total number of books in the Library

Branch / Courses	Titles	Volumes
Engineering & Technology	7805	33844
MCA	562	5130
MBA	554	5097
Total	8411	44071

Table: 2 Total Number of Journals

Branch/ Courses	International	National
Engineering & Technology	49	89
MCA	06	12
MBA	12	12
Total	67	113

USEFUL INTERNET LINKS

- ➢ Free Online Journals : www.doaj.org
- ➢ Open Access Journals : http://www.openj-gate.com
- ➢ Free Full-Text Journals on-line : http://www.freefulltext.com
- ➢ Online Course Materials from IIT : http://nptel.iitm.ac.in
- ➢ Catalogue of world libraries: http://www.libdex.com
- ➢ Innovative INTERNET applications in Libraries: http://www.wiltonlibrary.org/Innovate.html
- ➢ Open Source Books: http://www.gutenberg.org
- ➢ Public Library of Science: www.plos.org/journals/index.html

- The Engineering Libraries Division http://eld.lib.ucdavis.edu of the American Society for Engineering Education http://www.asee.org has recently created a blog on the Scholarly Communication in Engineering.
- An international directory of publishers and vendors used by libraries

  http://acqweb.library.vanderbilt.edu/pubr.html
- To Access Newspapers and Magazine: http://www.world-newspapers.com/ http://www.onlinenewspapers.com
- Librarian Internet Index: http://iii.org
- Web Portal for Engineering students: www.btechguru.com.

2. DESIGN AND IMPLEMENTATION OF SMART CAMPUS SOFT WARE IN THE ENGINEERING COLLEGE LIBRARY

Home Page of Smart Campus: Engineering College Library so all sections are available from this front page, including circulation (check in, Check out), patrons information, Search for the catalogues, Reports, Smart Campus Administration link, tools, About Smart Campus for all links available for the home page.

Smart Campus is an Education ERP (Education Management System) that has been designed to cover the in-depth functionalities of all types of Educational Institutes such as Schools, Colleges, Universities & Group of Institutions. It lets you manage all the information in a time sensitive manner along with the rules and policies applicable at that time, so whenever required, the exact information can be re-produced as it is.

The Smart Campus Education ERP has been developed after an in-depth analysis of the requirements of various education institutes and in close coordination with the educationists, chartered accountants and quality management personals of distinction, to help you to run all your Institute related functions in more efficient, productive and comfortable manner. The primary purpose of our Education ERP is to provide mechanisms for automated processing and management of the entire institution. It reduces data error and ensures that information is managed efficiently and is always up-to- date. Complete student histories for all school years, can easily be searched, viewed and reported on press of button with the help of.

At Smart Campus, we continue to serve educational institutions by developing additional programs and by updating our solutions with new, more efficient and customized versions that incorporate new administrative features requested by different Universities and Colleges.

Administration: Parameters administration is a very important feature of the intranet module of Smart Campus Various default parameters can be changed using this functionality. It allows us to define different parameters for the functioning of Smart Campus like the library branches, book funds, currencies, item types, the categories of borrowers, the charges taken for the different types

of items etc.

"System Preferences" is the most important module of Smart Campus. It deals with administration and maintenance part of Smart Campus Library System. Only Chief Librarian, Chief Administrator or person of similar designation can hold access rights to this module.

There are two methods of acquisition in Smart Campus one is Normal acquisition and other one is Simple acquisition. If we want to keep track of budget we have to follow.

Normal Acquisition and in Simple acquisition we aren't concerned with budget. Simple budget module is useful for smaller libraries where limited amount of money is allotted.

Clicking on the acquisition link on the home page of intranet takes us to the page where new orders can be made and old ones can be modified. Here, we can verify the exchange rates and the budgets and book funds before going for a new order. It very clearly mentions the total budget, the amount that has been spent, and the available amount under each category.

The Smart Campus Education Management System includes a variety of activities that have been broken into various modules to serve education institutions help modernize the way academic organizations work, so your school, college or your university can run more smoothly and focus on providing better teaching to students. It offers the tools to overcome the challenges of daunting economic pressures and to support a growing no of students fewer resources and staff.

The complete list and details of Smart Campus Education ERP modules are as following: Academic Setup College management is an essential module where you define the existing setup of your college along with the applicable rules and policies. It actually replicates the process as how your institute was formed and how you proceeded further from then on by defining the existing Departments, Affiliations, Courses, Programs, Sessions, Subjects etc. and how each of these entities get linked with others. The module also gives you the flexibility to change the setup at any point of time "without losing" the previous setup information. This actually helps in retrieving the information exactly as how it was stored previously.

Request Tracker: The Request Tracker Management process keeps users informed of all relevant service events, actions and request changes that are likely to affect them. It enforces the Service Level Agreements (SLA) across different Departments of the Organization and bridges the gap between organization's requirements and IT administration.

The common Request Management functions include:

- Submission of Requests to concerned Individuals
- Recording and tracking Requests for various incidents or complaints.
- Keeping the Users informed on their request status and progress
- Making an initial assessment of requests, attempting to resolve them or refer them to someone who can Monitoring and Analysis relative to the appropriate SLA

- Closing Requests and sending confirmation to Users

Book Fund Administration: Budget and funds administration are the most difficult part of library job to be handled by a librarian. This module helps in that. Another important functionality available, funds can be allot to different item categories using this and we can even edit the already allotted funds. Following window appears after clicking on the link in the parameters. Here the details displayed are: Book Fund number/identifier, Name of the book fund, Budge total period and total budget allocated.

Adding Bibliography to Smart Campus: The module is called marc biblio Framework.

To create biblio record of a document, once goes to the catalogue search page and there we find link to add new biblio page. If we click on that link, we reach the following page.

Below screen shows the bibliography screen to enter the details of the book. To ease the data entry work one marc record is divided into 0 to 9. We can click on the respective number to fill into the specific marc tags. For example, 0 will contain tags like 010, 020, 043, etc. This also makes the work of maintaining MARC tags.

We have to just click on add biblio after finishing up with the details of the bibliographic item and the item get added to the list.

Adding new patrons: When we click on the add Patrons link in the above search result, then the following form will appear which prompts us to fill in the member particulars, the Smart Campus system automatically allots one card number to the Patrons; However it can be changed later if need be. Once the details are filled in, then it prompts us to confirm the record mentioning the joining and expiry date for the Patrons ship, we can edit the details here if something has been written mistakenly. This information is shown only when the user sees his/her membership information in the OPAC (details discussed in the INTRANET module).

Borrower categories: It can be defined by clicking on the same link in the parameters window.

We can edit or delete the details of a particular borrower type in the following window and we can even add new categories.

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3. OUTCOME OF THE STUDY

Based on this project at St, Ann's college of Engineering & Technology library, the following are the outcome of the study

- St, Ann's college of Engineering & Technology library collections are in single database
- It gives the full control over the library collections and operations

- Faculty members and research scholars can check the required books by the OPAC module
- Research scholars and faculty members can check the status of their barrowed books
- They can get the complete details about the books for their further reading and research
- Data entry of the books can be done through the downloading of bibliographic details from Library of congress and other catalogues.
- This library can share their data with various library are other department libraries.

4. SUMMARY AND CONCLUSION

In this research work, a sincere attempt has been made towards finding out ways and means for automating activities in the St, Ann's college of Engineering & Technology Library. The objective of this study is to use the Smart Campus Open Source software system for the automation of the major day to day activities of the various section of the St, Ann's college of Engineering & Technology Library, which is tiresome and cumbersome. After the investigation, the researcher has found that Smart Campus Software is more suitable for the library Automation. This project had the basic objective of designing a bibliographic database for the St, Ann's college of Engineering & Technology library, with which the automation of circulation routines is carried out. From this point of view it may be concluded that Smart Campus is a useful package for the creation of a database and for information retrieval. This set of Manuals for the automation of circulation section is tested with the database created from the collection of St, Ann's college of Engineering & Technology library.

A sample database for a few thousand works and a database of the users/borrowers was created. With that test sample the Manuals for each function of the circulation section is tested with the available computer system. Smart Campus is an integrated software system with all the required models for small to very large libraries. It is found that this automation project can serve as a model for any library. Being an open source, any Library wanting to go for automation for their library housekeeping operations can make use of this software. The following problems were faced during implementation of the automated library management system in the St. Ann's College of Engineering & Technology library.

- Lack of Infrastructure facility
- Lack of Environment support
- Lack of Financial Resources

Lack of Infrastructure facility: The Problems relating to infrastructure could be studied from the following angles: Lack of Hardware, Lack of Software, Lack of Network facility, Lack of Financial Resources.

Lack of Environment support: The environment problem is taken seriously by St, Ann's college of Engineering & Technology Library. But this problem can be divided into two categories: External and internal. Internal problem can be solved by the institution, but it may be difficult to solve the external problem. The library is also one of the targets for environment problem. The problem related to environmental are power and lighting. But chemistry library to be implemented re–charging batteries anywhere to power supply in library.

Lack of Financial Resources: The university support for all departments to be allocated in books and racks only, but they are not to allot any fund for Automation software package, so free open software to be implementation in chemistry library. However, we have implemented this automation software on LINUX operating Systems with required other open source software. Even its open source has very good features and can meet any library needs with latest technologies; it also has a very good forum to support issues and developments. Hence we are recommending this approach if libraries can go for automation without spending single money to get their library to automate all their operations and to meet the library to automate all their operations and to meet the present and future technological trends.

To conclude the researcher had explained in identify the issues, opportunities, challenges perfect to automate small libraries. If is found that Smart Campus enables systematic designing and examination of all library operations in automated environment. All the documents details and the member details of the St, Ann's college of Engineering & Technology has been completed soas to enable us to have full-fledged automation of the library and also thus also to be easier to integrate the St, Ann's college of Engineering & Technology Library with the main library of the University.

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