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Library Software's: An Overview

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Abstract – Due to information explosion whole scenario of libraries changed. There is shift from traditional libraries to automation particularly in the second half of it, Institutions or libraries need information to avoid duplication or repetition of research work and to know the latest development in the field of their interest. Everybody needs information according to his needs and requirements and without this it is difficult exist or to move ahead. Library software's are gaining the attention of library fraternity since the last few years. This research article deals with the different kinds of library softwares, features, advantages and modules.

Keywords:- Automation, Library Software's, In-House Software, Categories

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INTRODUCTION

Success of higher education depends on the presence of a well -developed library system that is easily accessible from every department in the School college/university. The academic library provides a number of effective and powerful user services to students, faculty, and research scholars. Thus library automation, which directly impacts the provision of library services, is indirectly connected with the higher education system. India has a long history of higher education and libraries, which started very early with the Gurukul educational system when a huge university was set up at Takshashila (now in Pakistan called Taxila) in the sixth century BC. Nalanda and Vikramshila were established in the fourth and fifth centuries AD, respectively.

We have been observing a revolution in the area of library automation software industry. In the library automation market, news of libraries choosing variety of software's Such as Commercial Software's,IN-House Software,and the most trending Open Source arena by the library fraternity.

Requirements for Library Automation

Library automation has become necessity in almost all libraries to provide efficient library services to their clientele. However to achieve the mission of library automation the library should have the following essential requirements for its automation. These include; Adequate Collection Computerisation is not just for the sake of computerisation. Computerisation of library collection and other services is to serve the users better and to provide access to information. For this purpose first of all the collection of the library should be adequate and tolerably comprehensive. If the collection is not adequate what is the use of automation. Hence every library should aim at the good collection building first and computerise the library collection and its services next.

Software: Computer software generally includes :

- Utilities/format conversion programmes
- Application software Database management system and data dictionary software
- Data communication software Programming aids, testing aids etc, Additional system software

SOFTWARE DEFINITION:

The term software refers to a set of computer programmes, procedures, and associated documents (flow charts, manuals, etc.) that describe the programme and how they are to be used. To be precise, software is a collection of programmes to enhance the working capabilities of the hardware. Software is a set of programmes written or developed to enable the computer to do desired operations

CATEGORIES OF SOFTWARE

The software are also categorised, based on their functions as:

1. Basic software for data entry, validation, etc.

2. Word processing software to manipulate text storage;

3. Database Management System (DBMS) for management of databases;

4. Text-Retrieval packages for storage and retrieval of numeric records;

5. Software associated with searching on-line retrieval system and CD-ROM databases;

6. Library housekeeping software

Software packages for Library Automation

Library Automation refers to the use of computers to serve the needs of library users. The operations of a library get a quantum jump with the introductions of computers. The computers help to provide fast and reliable access to the resources available in the library as well as elsewhere. The application of computers in the library operations avoids repetitive jobs and saves lot of labour, time, speeds up operations, increases use of library resources. Computers are not only used as a tool for processing the data, but also for data storage and accessing. Planning for an automated system, no matter how big or small, should be part of an overall long-range plan for the library. Automation should always be used as a means to achieve overall better patron service. Careful planning for technology will assure that your automation project is "sustainable", i.e. enhances the organization's ability to meet its service mission without disrupting the organizational stability of the institution.

The present scenario of library worldwide is

- vastly expanded storage of indexes, statistical data bases, and document databases within the library;
- full-text storage of documents, complete with full-text keyword searching and on-demand printing;
- access by users to library databases from home or office, with direct downloading of information and text on demand;
- the ability to access remote databases across the country and the world, and to download information and text on demand;
- storage of pictorial and graphic material; and,
- availability of "intelligent systems" providing transparent, one-step searching and access to various library in-house and remote databases.

These capabilities and far more have become reality. Accordingly, today's integrated system must not only provide access to the traditional cataloguing, circulation, public catalog (OPAC) and acquisitions modules, but must be capable of connecting through the local system into the systems of other vendors, remote bibliographic databases, CD-ROM drives on a local area network (LAN), and the Internet. Users are expecting that their library systems be capable of, among other things:

- providing seamless integration between system gateway and OPAC modules;
- providing access for external users on the Internet to the library's OPAC;
- monitoring the usage of remote databases that have been accessed through the gateway; and,
- accessing the Internet using a variety of graphical interfaces.

TYPES OF SOFTWARES:

According to the availability and distribution policy, library software's are divided into two groups, viz., closed source commercial products and open source free to use products.

IN-HOUSE SOFTWARE

is a software that is produced by a corporate entity for purpose of using it within the organization. In-house software however may later become available for commercial use upon sole discretion of the developing organization. The need to develop such software may arise depending on many circumstances which may be non-availability of the software in the market, potentiality or ability of the corporation to develop such software or to customize a software based on the corporate organization's need.

In-house software is developed by many institutions. Mostly, in the beginning, institutions tried to incorporate the database creation and catalogue module. Libraries used the software like dBASE, FoxPro and even some are with Oracle also. Later libraries tried to automate Circulations module also. Many libraries tried to automate entire library housekeeping operations, but in many cases fragmented applications were available as in catalog, circulation, etc. In-house systems require staff expertise in programming and developing software that most libraries do not have. Staff expertise is also needed not only in the development stage but also in the installation, configuration and maintenance of the system.

COMMERCIAL SOFTWARES

Computer Software's for Library Automation Design and development activity of library software packages in India started in a big way during mid-eighties with the introduction of CDS/ISIS software package of UNESCO in Indian libraries by the National Information System in Science and Technology (NISSAT). Besides CDS/ISIS, MINIMIS etc., Since there are many software packages and it may not be possible to discuss all the software packages in detail, only a few selected software packages including recently developed ones are discussed here

Granthalaya It is a complete library automation package designed and developed in Foxpro by INSDOC (NISCAIR), New Delhi. This package is available in MS-DOS.

Salient features of the package are as follows :

The package comprises seven modules (Data administration, query, circulation, acquisition, serials control, technical processing and library administration) designed to handle all functions of a library and information centre. Since the package has different modules, the library can implement complete package or acquire stand-alone module(s) depending upon the needs of the library to implement, and remaining modules can be implemented and integrated with the existing module(s) as and when need arises.

- The package has been developed based on object-oriented design which offers qualitatively superior end product.
- The package adopts Common Communication Format (CCF). It incorporates all mandatory fields of CCF which facilitates import/export of data from/to Granthalaya to/from various plate forms.
- Dictionary facility is provided in the package for data elements like publishers, keywords, accompanying materials, etc.
- The package is provided with sophisticated tools for retrieval of information by different search parameters. Search can be conducted by using boolean logic operators. Search terms can be typed or selected through dictionaries.
- The package is easy to learn and us. It provides on screen messages to help users

ISRO Version

ISRO has developed ISROVERSION, unique and optional stand alone lowcost digital image analysis system with a high resolution image display processor.

SLIM++: System for Library Information Management (SLIM) is a library software package from Algorithms, Pune. SLIM++ is an integrated, multi-user, multitasking library information software for the Windows environment. It helps the librarian to catalogue books, films, sound recordings, drawings, clippings, articles, reports, letters, pamphlets, serial publications, etc. SLIM++ cataloguing adheres to popular international standards. One can share data with others effectively. Retrieval of the data is simple, fast and efficient. It has Cataloguing, Circulation, OPAC, Acquisition, Serials Control, Web based OPAC, Bulletin Printing (CAS), Statistical Analysis, Export/Import in CCF/ MARC, DBridge, Z39.50 server modules.

The general features of SLIM++ are as follows:

- Minimal data entry, pick-up lists during data entry, validation and integrity checks
- Bar code support with multimedia links
- Browsing library information through the Internet/ Intranet
- Multi-script/ Multi-fonts
- Variable length fields/ records, Packing/ purging records
- Existing data conversion to SLIM++
- Optional customized retrospective data entry and data capture
- Multiple selection criteria for reports.

SOUL Software for University Libraries :

The SOUL state of the art library automation software is designed and developed by the INFLIBNET. It is user-friendly software and work under client-server environment. It is suitable for any library including university and college libraries. It has six modules viz. acquisition,cataloging, circulation, serials control,OPAC & administration

Features of soul:

- Windows based user friendly software
- Well-designed screen
- Logically arranged functions with expensive help message.
- Based on client server architecture.

- Allows scalability to users.
- Barcoding facility.
- Does not need extensive training.
- Multi-user and multi-language facilities.
- No Limit on simultaneous accesses.
- Supports Internationally known standards such as CCF and AACR II, MARC-21 etc.
- OPAC is very user friendly and accessible-over the web usin any GUI based browsers.
- Available at low cost
- Manual available in English and hindi language

Open Source Library Software's

Open source options are now well represented in the ILS products to which libraries are migrating. In the current library automation marketplace, news of libraries selecting open source ILS products has become routine. In the United States and Canada, three open source ILS products dominate – Koha, OPALS and Evergreen. While Evergreen and OPALS have not yet found wide adoption outside the United States and Canada, Koha finds use in libraries worldwide. The demographics of the libraries that have so far chosen to adopt these open source ILS products provide interesting information. Within certain bounds, open source ILS products are making great strides in adoption in libraries within the United States. Koha, while it attracts far more public libraries than other types, serves the most diverse audience. Evergreen finds use primarily in public libraries with a strong orientation to consortia.

The implementation of open source software in libraries represents a method for improving library services and collections,

Librarians should select the open source software for following reasons:

1. It is generally acquired freely.
2. Manufacturer or developer has no rights to claim royalities on the distribution or use.
3. Source code is accessible to the user and distributed with the software.
4. No denial to an individual or to a group to access source code of the software
5. It has provision of modifications and modifications and derivations under the programme's original name.
6. Rights of facilities attached to the programme must not depend on the programme's being part of a particular software distribution.
7. Licensed software cannot place restriction on other software that is distributed with it.
8. Distribution of license should not be specific to a product and license should be technology neutral, etc.

Popular **open source library management system software** packages are as follows:

Koha: Koha is an integrated library management system that was originally developed by Katipo Communications Limited of Wellington, New Zealand. The name Koha has taken from Maori language. Koha is the first open source library management software and it was released in the year 2000. In comparison to other open source library management software,KOHA is relatively more popular in India due to an active user's community.

The major features and different modules of **Koha** are:

- It is free to download, fast, web centric, fully customizable, user friendly.
- No license fee is required.
- It supports both Windows and Linux platform and web OPAC.
- Different modules are Acquisition, Cataloguing, Circulation, OPAC & WebOPAC, Serial control, etc.
- Free from Vendor Monopoly.
- Frequent release of versions with new features.
- Various web 2.0 facilities like tagging and RSS Feeds.
- Easy barcode printing facility.
- Union Catalogue Facility.
- Ability to cope with any numb

New GenLib

It has been developed by Verus Solutions Private Limited located in Hyderabad, India. Verus Solutions is a registered private limited company under the Ministry of Corporate affairs, Government of India. Company has he been incorporated in May 2003.

KIIKM has provided the domain expertise for the development of New GenLib.

- The software has the following important features.
- Functional modules are completely web based.
- Compatibility: compiles with international metadata and interoperability standards viz.MARC21, MARC-XML, z39.50, SRU/W, OAI-PMH
- Uses open source components
- Scalable, manageable and efficient
- OS independent – Windows and linux flavours available
- Z39.50 client for federated searching automation.
- Internationalized application
- Unicode 4.0 complaint
- Easily extensible to support other languages
- Data entry, storage and retrieval in any Unicode 3.0 language
- RFID integration
- Networking – Hierarchical and distributed networks
- Automated email/instant messaging integrated into different functions of the software
- Form letters are configurable and use XML-based Open Office templates
- Extensive use of set up parameters enabling easy configuration of the software to suit specific needs
- Supports multi-user and multiple security levels
- Allows digital attachments to metadata.

SOME POPULAR INDIAN LIBRARY SOFTWARE PACKAGES USEFUL FOR ACADEMIC LIBRARIES

A number of library software packages have been designed and developed indigenously and these are being used in various Indian libraries and information centres.

IIT KLAS

The Indian Institute of Technology, Kanpur Library Automation System (iitKLAS) is a comprehensive set of programs to automate the various functions of a large academic library. The software supports Acquisition, Technical Processing, Serial Control, Circulation, User Services, Current Aw1areness Service and Retrospective conversion of catalogues

Library Catalogue System

This software is developed by ULTRA Business Systems Pt. Ltd., Bangalore, It is a menu driven program to create a catalogue on disk. Data entry is through interactive filling up of forms at Terminal. Automatic saving of data entered every 5 records is ensued. This system provides for retrieval by all keys and compound keys wherein sub fields are separated by semi colon. About 500 records can kept on a single DSDD floppy. Module for controlled indexed searching and the report generator. It also offers library housekeeping functions

SANJAY

A library automation software package (SANJAY) has been developed in the CDS/ISIS V2.3 environment extensively using the Pascal interface to meet the requirements of a model library. Using SANJAY a user can get instant access to information, responses to queries and reports from multiple databases. It is an interactive, menu driven, and user-friendly package which carries out routine functions of a library. The software is capable of inter-relating two or more databases for a single application like acquisition or circulation.

Special features of the package are :

- User-friendly for library house-keeping operations;
- Has a set of 70 pascal programs and 25 special menus;
- Faster response time- 1 minute for a query on 12000 documents;
- Effective inert linking of database;
- Modified CDS/ISIS augmented to cover several additional applications.

Scimate

The Institute for Scientific Information introduced this microcomputer-based software package in 1982. It is designed for use with the IBM-PC, the Apple II, the TRS 80 model II microcomputers running on the microprocessors Z-80 or 8086 supported by CP/M-80 operating system. This package includes a personal off-line database

management system and a system for accessing numerous commercial online databases. The online component called the SCIMATE

DELSIS

DELSIS, the networking software, as an integrated modular package developed on Basisplus by DELNET to undertake complex cataloguing and union cataloguing functions in the libraries, library networks and information centres. Some of its special features include : Enquiries through OPAC by author, title, subject, call no., series and keyword etc.,

It supports:

- Boolean enquiries
- Full text search retrieval
- Display records in AACR II format
- Data import/export
- Automatic index generation
- Input format : Common Communication Format (CCF) developed by UNESCO
- Duplicate checking of records
- Creation of bibliographic records in Indian languages for 131 languages
- Interface to CDS/ISIS

CRITERIA TO SELECT LIBRARY AUTOMATION SOFTWARE

Readymade software packages are available in the market for a wide range of applications including library housekeeping operations, and information storage and retrieval. Their capabilities differ, prices vary and their versions keep on changing. Selection of suitable software package is an important factor in library automation systems. There are not many publications or case studies discussing the criteria for selecting suitable software. The selection is based on specific needs of the institution, its environment, budget, users, aims and objectives. These are some selected evaluation works, studies and reports. Various criteria which emerge from these reviews are discussed**.**

To evaluate a particular software package, a simple procedure is to read the literature supplied by the manufacturer, look at the reviews and advertisements published in various computer magazines and to ask the salesperson for a demonstration of the programme. What is often found to be missing in this procedure is the basic conceptual understanding of what a computer does on a physical level and how the software works. It is not necessary to know the details of computer components, such as accumulators, registers, clock signals, instruction set of 380 microprocessors or computer programming, etc. But, when deciding on the best suitable software, more computer knowledge is required than just how to insert a disc into the slot and press a key.

However, the following general guidelines may be useful in selecting a software.

Locate and evaluate a knowledgeable dealer or sales person

Thoroughly examine the documentation for the software you are considering

Arrange for a demonstration of the software

Prepare yourself before the demonstration

Put the program through its paces

Evaluate the quality of support you can expect from the dealer or vendor.

Criteria for Selection:

It emphasises the need to identify systems requirements before the selection of either software or hardware. According to her, the functional requirements are important. Therefore in the evaluation of any package for a given application, priority must be given to establish whether the software is capable of performing the tasks for which it is to be acquired. She gives a checklist for the evaluation of software, which is briefly described below:

(a) General Criteria

Useful in indicating the potential and problems of a software package; some users may offer help and advice in implementing the package.

Cost: Comparisons of prices of packages be made. What is included in the price of the package and what is excluded should be understood. Cost of hardware and database creation are additional costs or not.

Originator: The originator's reputation, and experience in developing software is helpful. An established software house is more likely to be able to offer continuing support.

Supplier: Sometimes the supplier is the same as the originator, if the supplier is a separate agency acting as an intermediary between the user and the originator, it may hinder direct communication between the user and the originator.

(b) Technical Criteria

In addition to the general criteria of the selection, the following technical criteria should also be considered, both when selecting between packages and also in assessing whether any specific package is suitable for a given purpose.

Language: The programming language in which the software is written. Whether a compiler or interpreter is available on the given system to run it efficiently in terms of machine time and storage requirements.

Operating System : The package must be suitable for running under the operating system on the hardware being used. Whether it is a single user or multiuser operating system that will function on a network.

Hardware: Compatibility with software, its various versions and also ability to run other necessary or useful software on the computer system. B Ease-in-use : The quality of the operator - machine interface, menus, commands, screen displays, documentation, etc. will enhance ease in use of the software.

Supplied format : Software must be supplied on disks, tapes, etc., that can be run on the system and when required transferred to another medium such as hard disk.

(c) Support Criteria

It is an important criteria for using the software and to fully exploit the various features of the software.

Documentation: It includes both printed documentation and online help facility. The documentation should cover introductory exploration of the basic features, a full account of all features, a list of commands, an online help system, additional tutorial support, choice to interface at different levels depending on user's experience, etc.

Advice to setting up : Assistance in installing and implementing the package must be provided. This may cover creation of databases, input formats, report formats, initialisation, etc.

Maintenance: This may include removing any bugs or errors that might become evident in the software as it is used for a greater variety of applications and improving the software so that it incorporates new facilities and concepts (e.g., mouse, windows, popup menus).

User groups: Many of the larger and well-established software packages (e.g., CDS/ISIS, LIBSYS) have user groups or user clubs. These groups share expertise and experience in application of the software, discuss problems and limitations in using the software and present a concerted front to the software supplier for solving problems and asking for improvements.

It is necessary to know the various criteria that could be applied in selecting the suitable software. This wider perspective of such criteria will be helpful and provide better pitch and outfield to play the serious game of selecting the suitable player-that is, the required software package.

Advantages of Library Automation :

There are multiple advantages in library automation. Some important advantages are the following.

- It Increases productivity in terms of both collection as well as services.
- It extends of library services beyond the library peripherals.
- It allows participation in outside networking system for resource sharing between libraries
- It results in economy in expenditure.
- It enables proper and optimum utility of library materials.

CONCLUSION:

The present work has been undertaken with the sole purpose of deeply studying the salient features of IN-HOUSE Commercial & Opensource, library software and also to modify the program on scientific lines. In India automation and networking of library are still in their formative stages. Recently, ICAR and its institutes/ SAUs taken a decision to implement Koha open source software initially in 12 Libraries from National Agricultural Research System (NARS)

Selection of library software is a difficult job, because these software has its own merits and demerits. It is the duty of the LIS professionals should keep eyes on development and to choose appropriate technology depending upon needs. Since numbers of libraries worldwide are using OSS for managing their library systems more economically and effectively. Librarians and programmers may worked together to implement open source integrated library systems and at the same time, library professional are required to acquire new skills for developing and managing the digital library by using Library Management Systems. For taking benefit from OSS additional technology, education, and training are essentially required.

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