

A Comparative Study of Library Web-OPAC on Different Library Management Software

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Abstract: This paper is discussed about a comparative study of library Web-OPAC on five major LMS (Library Management System) software. The ter OPAC (Online Public Access Catalogue) is an online database of materials held by a library or group of libraries. Web-OPAC is nothing but while the OPAC is accessed through a web browser over Internet. The selected five LMS software are Koha, Libsys, Alice for Windows, NewGenLib and Virtua. It focused on their Web-OPAC attributes and properties. This study describes the five LMS software to find out suitable Web-OPAC attributes by visiting the Web-OPACs of institutions / organizations where using those software. There is a table of comparative statement by putting the attributes and properties on those five software. As result, it found the major attributes which should be integrated in an efficient Web-OPAC.

Keywords: OPAC, Web-OPAC, Koha, Libsys, Alice for Windows, NewGenLib, Virtua, AJAX, Web 2.0.

I. INTRODUCTION

At present the Library Management Software are rapidly implementing in advanced library and information centres. In developed countries computerization of libraries started in 1940s. The first use of computers in library and information centres in India was reported in 1965 at INSDOC, now known as National Institute of Science Communication and Information Resources (NISCAIR), New Delhi. Now the libraries and information centres are equipped with Library Management System and other computer applications [9]. A LMS (Library Management System) contains different modules like acquisition, cataloguing, circulation, serial, OPAC (Online Public Access Catalogue), Web-OPAC etc. Web-OPAC is an important module of a Library Management System. The users from outside of the library can access the Web-OPAC and get the bibliographical information. There is a discussion on Web-OPAC of different Library Managements Software in this paper [5].

II. LIBRARY WEB-OPAC

An OPAC (Online Public Access Catalog) is an online database of materials held by a library or group of libraries. Users search a library catalog principally to locate books and other material physically located at a library. Generally, libraries have developed their OPAC through a LMS software. It is a simple database which contains the all library materials (printed and non-printed). When an OPAC is available on Internet, it is called Web-OPAC. It is an advancement of traditional OPAC especially in terms of remote access by users and their potential to integrate many document types and sources via a single interface. A good Web-OPAC depends on its interfaces. At presents the OPACs come in Web 2.0 version which is more advanced than web 1.0 [5], [8].

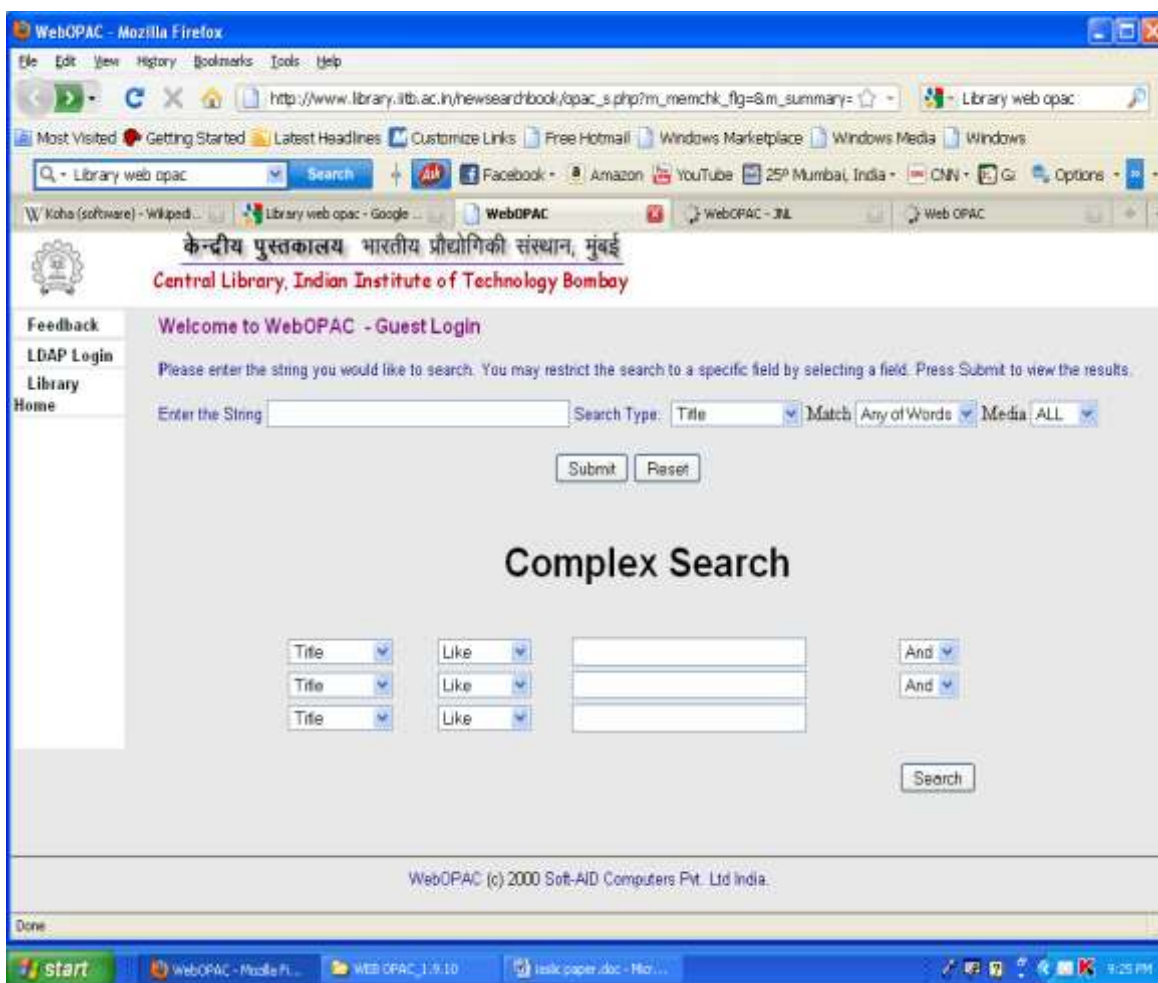


Fig. 1: Library Web-OPAC

III. METHODOLOGY

The main purpose of this paper is to draw a comparative study of Web-OPAC five popular LMS software with basis of their attributes and properties. I have taken the five LMS software i.e KOHA, Libsys, Alice for Windows, NewGenLib and Vitua. All of them are using widely in libraries and Information Centres. Then I have drawn the attributes and properties on basis advancements what should be in the Web 2.0 environment. The attributes and properties like that – general, types of searches, field level searches, search strategies, display, extension services for users through Web-OPAC, integration of Web 2.0 features with Web-OPAC, technological aspects. Finally I have prepared a table of comparative statement of that software on the basis of these attributes and properties.

IV. LIBRARY MANAGEMENT SOFTWARE WITH WEB-OPAC

A. KOHA:

Koha is a FOSS (Free and Open Source Software) based integrated library management software which supports all library modules and it provides Web OPAC for the intranet and the internet users. Koha was created in 1999 by Katipo Communications for the Horowhenua Library Trust in New Zealand, and the first installation went live in January 2000 [3].

KOHA Web-OPAC: at present Koha is available it's recent version 3.22 which is based on AJAX technology and it's Web OPAC is also support Web 2.0 component for social community. They study has been involved by visiting some Koha Web-OPACs of national and international organizations.

National organizations:--

- 1) Delhi public library (version-3.03), <http://59.276.17.111>
- 2) Chitkara University library.Himachal Pradesh(version-3.03), <http://library.chitkarauniversity.edu.in>
- 3) Jindal Global law School, Guru Govind Singh IP University. Sonapat. (version-3.03)
- 4) Kalpataru recreation library private Ltd. (version-3.0)
- 5) Christ university, Bangalore. <http://library.christuniversity.in>

International organization:--

- 1) Alzheimer,s Australia WA library and resource centres.It is a special library (version-3.03) <http://aawa-library.calyx.net.au/>
- 2) Bibliotaca national university,Spain(version-3.0). <http://biblio.famaf.unc.edu.ar/>
- 3) Childcare information resource centres.university of Toronto. Canada. It is a special library. <http://circonline.ca>
- 4) Faculty of human and social science library. France, <http://koha.ffzg.hr>
- 5) Geauga country public library. <http://gcpl.kohalibrary.com>
- 6) Muhammadiyah university of surakarta library. It is a university library.indonesia. (version- 3.01), <http://search.lib.oms.ac.id>
- 7) National library of engineering science and technology. It is a National Library of Engineering Science. (version-3.0), Lahore , Pakistan. <http://library.uet.edu.pk>
- 8) West liberty public library,U.S. it is a public library. (version-3.0). <http://opac.wpl.org>
- 9) Our book library, Capetown, South Africa.it is a community library by 4 library. <http://www.ourbooks.org.za/>
- 10) Misr International university. Misr, Egypt. <http://opac.miuegypt/cgi-bin/koha/opac-main.pl>

B. LIBSYS:

LibSys is a proprietary integrated library management software. It is developed by Libsys Corporation. The current version of Libsys is available 7.0 (Rel- 1.0) and it's Web-OPAC is newest which supports Web 2.0 technology. Generally the Web-OPAC of Libsys is available in three versions- the older version is LS-4 and it is based on CGI Web interface, second is LS-5 version which is based on Java (JSP/Servlet) technology. The 3rd and newest version is 7.0 and it is also based on Jvav and AJAX (*Asynchronous JavaScript and XML*) technology which supports web 2.0 components like – collaborative tagging, sharing etc [4].

Some LibSys Web-OPACs have been visited on nationally are following:-

- 1) National Social Science Documentation Center, Version 5, <http://.202.71.128.164:9080/icssr/html/searchform>
- 2) National Chemical Laboratory, Version 5, Pune , <http://lib.ncl.res.in:8080/webopac/html/searchform>
- 3) West Bengal Public Library Network, State Central Library, Kolkata, Version 7.0, <http://www.wbpublibnet.gov.in:8080/sclopac>
- 4) Tata Institute of Fundamental Research, Version 4, Mumbai, <http://158.144.68.87/lssearch.html>
- 5) Jamia Hamdard University, New Delhi, Version 4, <http://www.jamiahamard.ac.in/libraryopac.html>
- 6) National Institute of Technology, Nalanda, <http://www.nalanda.hitc.ac.in>

C. Alice for Windows:

Alice for Windows is proprietary integrated library management software. It performs all the functions of a library system. It is developed and marketed by Softlink Asia. In Alice software, the Web-OPAC is called “web catalogue”

module which allows library staff to catalogue a website into Alice by simply pressing a button in the web browser [10]. Some national and international websites have been visited who are using Alice Web-OPACs:-

National Web-OPACs:

- 1) Jaypee Institute of Information Technology. Noida. <http://210.21.127.10:8080/scripts/afwiing.dll>
- 2) Pandit Deendayal Petroleum University. Gandhinagar, <http://203.77.192.116/scripts/afwiing.dll>
- 3) Institute of Management, Nirma

International Web-OPACs:

- 1) University of Colombo, Srilanka, http://www.lib.cmp.ac.lk/opac_a.htm
- 2) University of Peradeniya, Srilanka, <http://www.lib.pdn.ac.lk/scripts/afwiing.dll>
- 3) International Centre for Diarrhoeal Disease Research Bangladesh, <http://catalogue.icddr.org/scripts/afwiing.dll>
- 4) National Library Documentation Service Board, Sri-Lanka, <http://panhinda.natlib.lk/scripts/afwiing.dll>
- 5) North of England Institute of Mining and Mechanical Engineers, <http://mininginstitute.org.uk/tools/searchlibrary.html>

D. NewGenLib:

NewGenLib 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 been incorporated in May 2003 [6]. Some Web-OPACs are followed which are using NewGenLib:

- 1) Bangalore University Library, http://202.141.128.115:8080/newgenlibtxt/Opac2_0.jsp
- 2) ICRISAT Library and Information Services, <http://ngl.icrisat.org/newgenlibtxt/jsp/aportal/cataloguing/index1.jsp>
- 3) SDM Institute for Management Development, Mysore, http://58.68.5.50:8080/newgenlibtxt/Opac2_0.jsp

E. Virtua:

The Virtua is an integrated, flexible library management system. With advanced features such as FRBR (Functional Requirements for Bibliographic Records), Update Notifications through SDI, User Reviews & Ratings, and support for mobile computing, Virtua sets a new standard of excellence for the library world. Providing full multilingual support and leveraging a solid Oracle™ foundation, Virtua is designed for libraries that expect more than meets the eye [7]. This software is developed by VTLS Inc. Some Virtua Web-OPACs are followed:-

- 1) Batchelor Institute on Indigenous Tertiary Education, Australia, <http://jimjim.ntlib.nt.gov.au/cgi-bin/chameleon?skin=bc>
- 2) Central Queens University, Australia, <http://library.cqu.edu.au/cgi-bin/chameleon/>
- 3) Central Institute of Indian Languages, Mysore, <http://www.ciillibrary.org:8000/cgi-bin/gw/chameleon/>
- 4) George C. Marshall Foundation, Virginia, <http://zippo.vtls.com/cgi-bin/gmarshall/chameleon/>
- 5) Grand Canyon University Library System, <http://gcu.mcladaz.org/Search/>
- 6) India International Centre, New Delhi, <http://164.100.38.6:8000/cgi-bin/gw/chameleon/>
- 7) India Institute of Technology, Madras, <http://iportal.cenlib.iitm.ac.in:8000/cgi-bin/gw/chameleon/>
- 8) Indian School of Business, <http://opac.exchange.isd.edu:8000/cgi-bin/gw/chameleon/>
- 9) Lund University Libraries, Sweeden, <http://lovisa.lub.lu.se/cgi-bin/webgw/chameleon>

Table 1 – Comparative statement

SL. No.	Particulars	Koha	LibSys	Alice for Windows	NewGenLib	Virtua
1	General					
	Provision for interfaces of user login and password	√	√	√	√	√
	Provision for customization as per library requirements	√	√	√	√	√
	Has time out features (session out)	×	√	×	√	√
	Provision for upgrading or adopting new version	√	√	√	√	√
2	Types of searches					
	Basic search	√	√	√	√	√
	Advance search	√	√	√	√	√
	Additional search/Authority search	√	√	×	√	√
	Phrase search	√	√	√	√	√
	Browse capability	√	√	×	√	√
	Boolean search	√	√	√	√	√
	Truncation search	√	√	×	√	√
	Proximity search	√	√	×	√	√
	Hyperlink to full bibliographic records	√	√	√	√	√
	Multiple databases search	√	√	×	√	√
	Provision for saving the result temporarily (Cart concept)	√	√	×	×	√
	Provision for federated search using Z39.50 for external sources	√	√	×	×	√
4	Field level searches					
	Author	√	√	√	√	√
	Title	√	√	√	√	√
	Subject	√	√	√	√	√
	Keyword	√	√	√	√	√
	Class number/call number	√	×	√	√	√
	ISBN	√	√	√	√	√
	ISSN	√	√	×	√	√
	Series	√	√	√	√	√
	Accession number/Barcode	√	√	√	√	√
	Location	√	√	×	√	√
5	Search strategies					
	Display search techniques	√	√	√	√	√
	Provision for hints/instructions for each type of search	√	√	×	√	√
	Option for search history	√	×	×	×	√
	Option for saving search strategy	×	×	×	×	×
	Provision for search limit by time, language, database, type of materials	√	×	×	√	√
	Option for sorting of results by relevance, author, title, year, etc	√	×	×	√	√
	Option for sorting by title, author, year, call number, etc.	√	√	×	√	√
6	Display	√	√			
	Provision for short bibliographic description of search results	√	√	√	√	√
	Provision for full description of search results	√	√	√	√	√
	Option of the number of search results per page	√	√	×	√	√
	Result in AACR-II / ISBD format	√	√	×	×	×

	Result in MARC format	√	√	×	√	√
	Result in tabular format	×	×	×	√	×
	Result in Mnemonic format	√	√	√	√	√
	Result in CCF format	×	×	×	×	×
	Provision for print or save of display results in ASCII text format with full bibliographic details	√	√	×	√	√
7	Extension services for users through Web-OPAC					
	Provision for reservation	√	√	√	√	√
	Provision for ILL (Inter Library Loan)	×	×	×	×	×
	Provision for renewals	√	√	×	√	×
	Provision for Document Delivery Services	×	×	×	×	×
	Provision for library patrons' mail box, suggestions or command box Options for online HELP	√	√	×	√	√
	Provision for multilingual interfaces of Web-OPAC and supported UNICODE	√	√	×	√	√
8	Integration of web 2.0 features with Web-OPAC					
	provision for RSS Feeds	√	√	×	×	√
	Provision for adopting social networking, social sharing for the social communities like- Facebook, Twitter, Delicious, etc	√	×	×	×	√
	Provision for collaborative tagging on a document by the library users for increasing the frequency of retrieval	√	×	×	×	√
	Provision for Library Blog	√	×	×	×	×
	Provision for display tag clouds of the entire documents	√	×	×	×	√
9	Technological aspects					
	Search engine	Zebra	Own	Own	Lucene search Engine	Own
	CGI technology (web 1.0)	√	√	√	J2EE	CGI
	AJAX TECHNOLOGY(web 2.0)	√	√	×	×	×
	Other technology	×	×	×	Java	-
	Provision for customization of interface layouts through source code or through administrator's interface	√	√	√	Admin interface	Admin interface

V. FINDINGS AND CONCLUSION

From above statement, we could see that there are nine broad areas which contains the various attributes for a ideal Web-OPAC. The first area is general area and all five area supports the all attributes except "Alice for Windows" and "Koha" which have not support the "Has time out features (session out)" property. The second area is "Types of searches". It contains the various attributes like – basic search, advance search, additional search, phrase search, browse capabilities, Boolean search, truncation search, proximity search, hyperlink to full bibliographic records, multiple databases search, provision for saving the result temporarily (Cart concept), provision for federated search using Z39.50 for external sources. Here the Z39.50 searching is a very important searching and Koha, Libsys and Virtua support this type of searching. The third area is "field level searches". It includes various field like – author, title, subject, keyword, class number/call number, ISBN, ISSN, series, accession number/Barcode, location. Most of all LMS software support all the field level searching except Libsys does not support class number/call number searching and "Alice for windows" does not support ISSN field searching. The next area "Search strategies" contains display search techniques; provision for hints/instructions for each type of search; option for search history; option for saving search strategy; provision for search

limit by time, language, database, type of materials; option for sorting of results by relevance, author, title, year, etc; option for sorting by title, author, year, call number, etc. Koha, NewGenLib and Virtua support most of attributes. Here Libsys and Alice for Windows support least attributes than them. In OPAC interface, the most important thing is display. In this display area, there are several attributes on display, like short bibliographic descriptions, full bibliographic descriptions, MARC format, CCF format, tabular format, provision for saving the bibliographic data in ASCII text format. Koha and Libsys support most of them. The next area is "Integration of web 2.0 features with Web-OPAC" [5]. The web2.0 is an advanced technology for Internet. It includes blogs, wiki, social networking, RSS (Really Simple Syndication), tagging, sharing etc. Koha supports all the web 2.0 attributes, especially it supports RSS. There is a option of tag clouds which is embedded in Koha. Only Koha supports the users' define tagging as subject descriptor in the database. The last area is technological aspects which contains search engine CGI technology, Ajax technology, provision for customization of interface layouts through source code or through administrator's interface. Koha is built on Zebra search engine here NewGenLib is on lucene search engine. The Zebra and Lucene search engine [9] are both very strong and effectiveness for string operation.

It is very difficult that all attributes of Web-OPAC should be in one LMS software. The study found that Koha supports maximum attributes for providing a efficient Web-OPAC. It is embedded Web 2.0 tools for advanced services. It has been enabled with Zebra search engine which handles string type data. Also it supports administrator interface for customizing and configuring the system. All other software support advanced features of Web-OPAC. It very difficult to say that one LMS software supports and facilitates all attributes and services, but select anyone from them and then could customize and configure as per institution / organization requirement.

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