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Next Generation of Catalogues : Comparative study of Five Indian Universities OPACs

Sunil M.V.[1] and Chandrappa N.[2]

Abstract

Libraries worldwide have started rethinking and reworking their catalogs in order to increase the attractiveness and efficiency of their core information product – the OPAC. The Next Generation OPAC or generally termed as OPAC 2.0 offers improved searching experiences. In this paper, the OPAC functionalities are compared across the criteria framed in line with the expectations in Next Generation OPAC in three software types – commercial, open source and free. Further, the paper attempted to address the narrow objective to understand where our Indian university OPAC stands when analyzed / evaluated against the essential criteria of a Next Generation OPAC (NGO).

Keywords

Catalogue, OPAC, Information Retrieval, Web 2.0, OPAC 2.0.

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1. Introduction

OPAC, as a distinct module of Integrated Library System (ILS), made appearance substantively in the mid-1980s. The OPAC basically fulfills two functions – giving location of availability of documents/works in a collection/set of collections based; and identifying the documents in the database that cover a given search term by the user. The OPAC supports administration in housekeeping activities; and, acts as a service presentation layer to the user community.

The last decade has seen the considerable development in the presentation layer. The discovery services, federated searching, integration of database, interoperability, search engine architecture, etc., are the areas of R&D in this layer. Developers of ILS have executed ambitious development agendas to extend and integrate new services into their products to challenge the notion that innovation can be accomplished only in the newly minted systems. Seamless ebook integration, web-based interfaces for staff and patrons, and built-in social networking capabilities are projected as the 'soon in your software' column by many ILS like Voyager, Millennium, Horizon, Virtua, Symphony, Polaris, Apollo, etc.

The Open Source Integrated Library Systems (OS ILS) developers have not lagged behind. Evergreen (www.open-ils.org), Koha (www.koha.org), NewGenLib (www.newgenlib.com) and Open Source Library Automation Systems (OPALS) (www.opals-na.org) have been doing the rounds of library circles and in the literature, mailing lists and blogs of librarians. The ILS industry report (Breeding, 2013) says that the features offered are on-par with many commercial ILS which has made many libraries to migrate from commercial to OSILS.

In this paper, the OPAC functionalities are compared across the criteria framed in line with the above mentioned functionality dimensions in three software types – commercial, open source and free. This paper also addresses the narrow objective to understand where our Indian university OPAC stands when analyzed / evaluated against the essential criteria of a Next Generation OPAC (NGO).

2. Methodology

The study adopted is 'Evaluation method'. There are many evaluative studies in the past. Some of them include Mercun & Žumer (2008), Ballard & Blaine (2011), Luong & Liew (2009), Naun (2010), Tam & Bussey (2009), Yang & Wagner (2010), and Yang & Hofmann (2011).

The study has adopted Phoenix Public Library OPAC as a 'model of reference' to evaluate the OPAC features available in top five university OPACs in India.

The universities are selected considering the list of general universities available in 'Handbook of Universities' (Gupta & Kumar, 2006) and the availability of OPAC on public domain. This study selected following catalogues of five oldest universities in India.

S.N.	University Name	University Code	Year of Estb.	ILS Used	OPAC URL
1	University of Mumbai	MUM	1857	SOUL	http://121.241.25.77/soulwebopac/main.aspx
2	University of Calcutta	UOC	1857	SOUL	http://www.caluniv.ac.in/opac/index.html
3	Aligarh Muslim University	AMU	1875	LibSys	http://webopac.amu.ac.in:8080/opac/
4	University of Mysore	UOM	1916	Koha	http://libcatmysore-koha.informindia.co.in/
5	Osmania University	OUH	1918	NewGen Lib	http://14.139.82.46:8080/newgenlibctxt/

Apart from Phoenix Public Library OPAC, the study also considers some of the web 2.0 features available in Amazon, the online bookstore. Amazon features have user-friendly features and hence considered for the study (Murcun and Zumer, 2008). Some of the features available on search display in Phoenix Public Library OPAC are presented below as Figure 1 & 2. The model of reference will also act as source

for reference to the reader for understanding what we can expect in next generation OPACs.

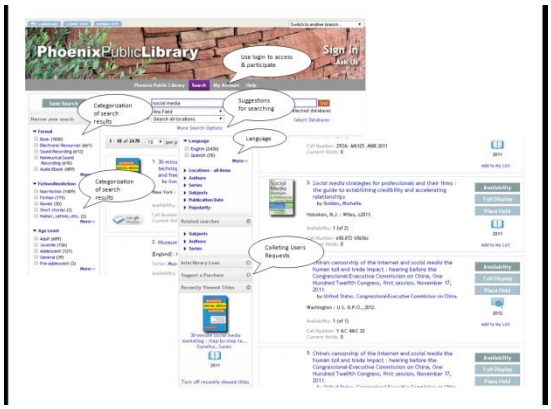

Figure 1: Search result display and features available

Source: http://catalog.phoenixpubliclibrary.org/

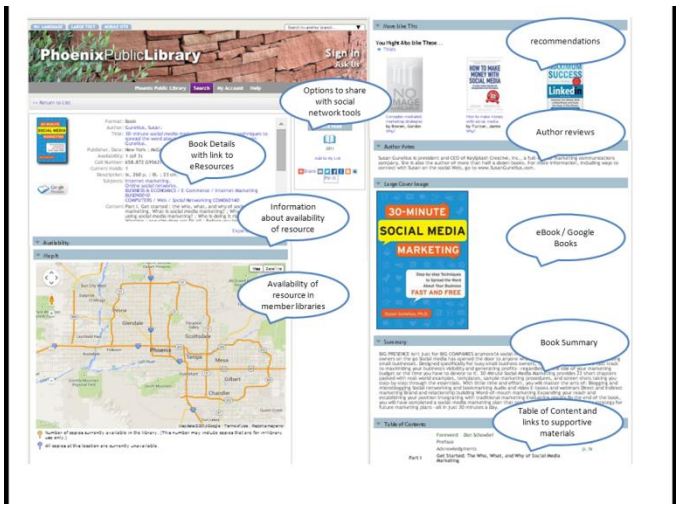

Figure 2: Availability of features for individual record display

Source: http://catalog.phoenixpubliclibrary.org/

The features identified are grouped into different categories; and, the authors used the following scale for evaluation:

Rank	Meaning
0	Unacceptable/No
1	Poor/if attempt is seen
2	Acceptable/feature with minimum or basic information
3	Good/Application with sufficient features for college libraries
4	Excellent/above expectations/with additional features/Yes

Based on the score obtained in each of the categories the authors discussed the performance of the university OPACs. Further, the learning in this exercise and expectations from the Next Generation ILS is discussed.

3. Evaluation of University OPACs

Libraries worldwide have started rethinking and reworking their catalogs in order to increase the attractiveness and efficiency of their core information product – the OPAC. Until now, OPAC systems are tied directly to the library's main catalog restricting the user to search/browse the collection and status. In the last few years, the diffusion of digitization and digital library repositories has urged libraries to digitize their content and provide this content directly to their users through the various digital library systems (Lorcan, 2006). Furthermore, in order to encourage users to organize and access the existing resources according to their needs, libraries have enhanced their services using Web 2.0 technologies (Golder, 2006). Keeping these expectations the present day OPAC with a strong search engine and database structure offer the user much evolved Web 2.0 features on Social Networking synchronization.

The Next Generation OPAC or generally termed as OPAC 2.0 offers improved searching experiences through configurable relevance ranking, subject tag maps or clouds, clustering or faceting for filtering and expanding search results, suggestions for additional searching based on authority headings, indexing of data from several sources, such as circulation data (for most popular items) and other catalogues or databases (incorporating results from federated search and OpenURL linking), spelling corrections using the catalogue database contents and community/user

reviewing or tagging. Based on these expectations the authors tabulated the performance of top 5 universities OPAC and model of reference OPAC in the following Table 1.

Table 1:

Comparison of Features in Phoenix Public Library catalogue and Top Indian University Library OPACs

	Phoenix	MUM	UOC	AMU	UOM	OUH
Basic Features						
MARC21	4	3	0	4	3	4
ISBD	4	3	0	4	3	0
Normal View	4	3	0	4	3	4
General View	4	0	3	0	3	3
Types of materials catalogued	4	2	3	4	4	2
Unicode language access points	4	0	0	4	4	3
Total	24	11	06	20	20	16
Search						
Simple search box as available in general search engines	4	4	3	3	4	4
Spell checking & Suggestions	4	0	0	0	0	0
Begin search by browsing	4	3	3	4	4	4
Full-text searching	0	0	0	2	4	0
Total	12	07	06	09	12	08
Results page and navigation						
Relevance ranking & Clustering	4	2	2	3	3	3
Navigation	3	0	0	0	1	0
Recommendation to other resource available on open or subscribed e-Resources	4	0	0	0	2	0
Total	11	02	02	03	06	03
Enriched content and recommendation						
Cover art images collected from Google books, etc.	4	0	0	0	4	4
Sharing of resource on social	3	0	0	0	0	0

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	Phoenix	MUM	UOC	AMU	UOM	OUH
networking platforms like facebook, twitter, etc.						
Summaries/annotations	4	0	0	0	0	0
Excerpts (author review, reviews on social networking platforms, etc.)	3	0	0	0	0	0
Tables of content and linking of resources	4	0	3	0	3	3
New items, most popular, recently returned items and recommendations lists	4	0	0	3	3	3
"More like this"	4	0	0	0	0	0
Audio in video content	4	0	0	0	0	0
Total	30	00	03	03	10	10
User participation						
Ratings and reviews	4	0	0	0	0	2
Comments	4	0	0	0	0	0
Tags	4	1	1	1	3	3
Sharing on Social Networking platforms	4	0	0	1	1	0
Uploading content from other Social Networking sites	4	0	0	0	0	0
Tools to interact with library staff like instant messaging, links to social networking sites, etc.	4	0	0	0	2	1
Total	24	01	01	02	06	06
User profile and personalization						
Automatic log-in based on IP, etc.	4	0	0	1	0	2
Saved searches	4	0	0	0	3	3
Recent activities	4	0	0	0	2	2
Overview and editing of created content	4	0	0	0	0	0
Saved items lists	4	0	0	0	3	3
Personalised web page	4	0	0	0	0	1
Personalised e-mail notices	4	0	0	0	0	0

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	Phoenix	MUM	UOC	AMU	UOM	OUH
Personalised recommendations	4	0	0	0	0	0
Total	32	00	00	01	08	11
Other trends						
RSS feeds	4	0	0	0	4	3
Blogs	4	0	0	0	0	0
Content Synchronization with library website	3	0	0	0	0	0
Display synchronization with different access tools like PC, Tab, Mobile, etc.	3	0	0	0	1	0
Downloadable e-media	4	0	0	0	0	0
Total	18	00	00	00	05	03
Grant Total	151	21	18	38	67	57

4. Performance analysis

The OPAC of University of Mumbai, University of Calcutta, Aligarh Muslim University, University of Mysore and Osmania University are evaluated with the listed criteria in the scale of 5. The results are mapped with the model of reference – Phoenix Public Library OPAC. It may be noted that out of 6 OPACs 2 Universities – University of Mysore and Osmania University are using Open Source ILS – Koha and NewGenLib respectively. 2 are using commercial software – Polaris and Libsys by Phoenix Public Library and Aligarh Muslim University. The Inflibnet offered software - Software for University Libraries (SOUL) – is adopted by University of Mumbai and University of Calcutta, developed using the commercial license tools. Hence for the analysis, the author had the chance to look into the OPACs offering in all the 3 flavours of software categories – Commercial, Free software and Open Source.

The features are evaluated on basic features, search, result page & navigation, enriched content & recommendations, user participation, user profile & personalization, and other trends. The performance of each of the OPAC in these categories, the score and the grand total is presented above in Table 1.

The performance among Indian university OPACs shows that Koha is offering considerably much evolved OPAC in comparison with commercial, free and open

source counterpart NewGenLib. However it is observed that user participation in the Indian universities are very rare or not seen. Even though Koha offers rich features to integrate and perform on social networking sites it is not used effectively.

The authors have shared the observations in each of the categories as follows:

- **Basic features:** The basic features and the display of bibliographic records are considerably well established in all the OPACs. However, the OPAC offering by SOUL adopted by University of Mumbai and University of Calcutta needs considerable improvement. The open source OPAC by University of Mysore and Osmania University has performed equally good with the commercial offering – LibSys, adopted by Aligarh Muslim University.

- **Search:** It is observed that except Koha adopted by University of Mysore none of the other university could able to perform on par with the Model of Reference with regard to search and search result display features. The availability of search option, supports available to user to place the search term, the display of results and the ability to retrieve the relative documents are examined in this category.

- **Result page and navigations:** The presentation / display of search results and the navigation facility available to access the information about the resource and the add-on/accompanied resources (both hardcopy and electronic resources) are considered in this category. It is observed none of the Indian university OPAC has considered the customization or presentation to the requirement of Next Generation OPAC. Even though they have scored considerably good in clustering of search results and ranking, they could not able to perform in navigation features. Further, the ability to integrate or to have interoperability feature to provide lead to the Open Access or Subscribed e-Resources is not seen any of the Indian university OPAC. However, effort is seen by University of Mysore OPAC to link the subscribed eBook resources.

- **Enriched content and recommendation:** The enhancement or value addition service to the search results is essential in NGOs. The links leading to essential / appropriate e-Resource to an information source, gathering information from different social media network sites, recommendations to the users on the area of search, sharing of content contributed by the user community are the value additions which enrich the content display in OPAC. In this category, the performance of Indian university OPAC is highly disappointing. Some efforts were seen by the University of Mysore and Osmania University OPAC which are using Open Source software – Koha and NewGenLib respectively.

- **User participation, User profile and Personalization:** The category 5 & 6 related to user participation in OPAC is considered in this section. The primary objective of NGO is to make OPAC user-centric, and make it more interactive between library and its patrons. In these two categories the authors considered the key activities which make the user to spend time with their library OPAC. Based on the results, the author opines that the Indian universities have not considered the user participation as a key objective. The low performance by all the OPACs and users non-participation even though the feature is available at the University of Mysore's Koha OPAC and Osmania University's NewGenLib OPAC reveals that the University Information Literacy Program has not considered user participation in OPAC as a serious issue.

- **Other trends:** Koha and NewGenLib OPACs by University of Mysore and Osmania University have used RSS feeds. However even though Koha has rich features to allow synchronization of data from different social networking platforms it has not been attempted the University of Mysore. Attempts by other 3 universities are not seen in opting / taking initiative to bring the current social trends in OPAC.

This study adds-on some key features / criteria to the list generally framed to evaluate OPAC. The social networking synchronization, use of web 2.0 technologies and interoperability of software are considered as key elements which make the existing monolithic OPAC a Next Generation OPAC (NGO). Further, the performance score by the Indian university OPAC's is not very encouraging. The

University of Mysore OPAC on Koha has made attempts to bring some of the features which are expected to be present in OPAC 2.0. However, with the available feature in the Open Source Koha much more can be offered to the digital native citizens or users. The Osmania University OPAC has performed nearer to Koha OPAC, it could not able to match University of Mysore in terms of users participation features, search results display, and to some extent in basic features too. The software NewGenLib needs to come out of client server architect model and think of browser model. This change over will certainly open door to bring in several features listed for evaluation. LibSys being commercial and having global presence has not performed as per the expectations of the authors. The authors expected its performance as that of Polaris adopted by the Model of Reference. The SOUL offered by Inflibnet could not able to perform well in any of the listed categories. The performance of OPAC features in SOUL has to be updated to a greater extent and considerable research is expected in the software environment.

5. Conclusion

An important development that will undoubtedly influence the future course, not only of open source ILS, but also commercial vendor offerings, is the content aggregation from Social Networking Platforms. The ability of a software and the service provider to identify, integrate and inbuilt in their service offering will definitely pay a good result. As reported in many surveys and studies traced in the literature review, libraries should focus on 'Content Development' than 'Acquiring the Content'. Further, the authors feel they should focus on 'Content sharing through OPAC'.

The take away of this study is Open Source OPAC has made effort to move towards Next Generation OPACs and the Universities adopted should focus on integration of resources and user participation. The commercial software should integrate the Open source tools, adopt interoperable standards and make the software to speak with the social networking platform to get the content. The free offerings should join hands with Open Source Software to offer the customized services to Indian Universities.

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