In LIS setup specifically in higher education institutions Online Public Access Catalogue (OPAC) plays a magnificent role of displaying the resources of its knowledge base to satisfy the needs of the valued patrons. However, in the recent past it showed the LIS fraternity a transformation of its static nature to the dynamic one encompassing several Web 2.0 tools such as integration to Social Media, RSS feed, search by image picture, etc. of the library resources concerned.

1.1 Static OPAC and Dynamic Web OPAC

Static OPAC is generally a URL from which users can access the library's online catalogue. It is a one-way communication mechanism where bibliographic data of library materials are organized, and users can get title-wise, author-wise or subject-wise information regarding the library collection.

Dynamic Web OPAC, on the other hand, is an advanced way of disseminating library materials' bibliographic data where users can add their reviews, ratings and much more personalized information. It is a two-way communication. Users can contribute to the library's productivity with the help of Web 2.0-enabled tools. The following features of Dynamic Web OPAC, as described by Fawwaz (2024), include:

- Real-time information about the availability of library materials
- Creation of a personalized information environment
- Search and retrieval using various search criteria
- Integration with other library systems
- User-friendliness for navigation and finding the required information

The Benefits accrued from the Dynamic Web OPAC are as follows:

- Enhanced user experience
- Improved access
- Increased efficiency
- Better collaboration
- Social connections

This present paper thrusts on the practical applications of dynamic web OPAC service in alliance with Web 2.0 technology using open source LMS Koha in a higher education set-up, viz., St. Xavier's College Central Library, 30 M.T. Sarai, Kolkata-700 016. A survey was conducted to evaluate the extent of use of the various aspects of the dynamic Web OPAC service and to measure the satisfaction level among the users of the previously mentioned college library

2. Literature Review

McMullen and Gray (2012) showed the implementation of CAS (Current Awareness Service) on new library document arrivals for the departmental teachers using the OPAC as a platform. It, thus, showed the process of making a static OPAC as a dynamic one. Kennedy (2004) mentioned the way the catalogue and the web pages are maintained in one process. Casey (2007) opined that by using Web and Library 2.0 technologies, a portal could be made where the OPAC can be abandoned. Creating dynamic web pages based on OPAC has been gaining popularity due to its various advantages, not only from the users' end but also from the library staff's end. The study conducted by Desky and Rahmadani (2024) revealed that the use of OPAC at an optimal level depends on promoting OPAC awareness, ongoing system maintenance and increasing computer access points. They observed some challenges in this context. These are system integration, insufficient training, and limited user familiarity, which need 'targeted intervention' for improvement of library services. Sukiasyan (2020) raised the communication issue between the OPAC and the user in resolving the problem of thematic search in the OPAC. He stressed sound communication systems between system developers, cataloguers, and users to get potential solutions. Another study conducted by Dey and Kumar (2020) concluded that library orientation programs and training programs are necessary for optimal usage of the library OPAC. Patel (2020) observed that only 23

Indian state university libraries were using OPAC 2.0 technologies. There, it was found that the users were able to make ratings and add comments to book records. Basis and Panwar (2022) opined that the Online Public Access Catalogue (OPAC), being a digital library tool, helps the students of the higher education institutions concerned to access library's digital resources faster and easier, thus contributing to their e-learning success. Gibbons (2007), in his book "The academic library and the Net Gen Student: Making the connections, describes the importance of digital technologies and Web 2.0 tools to meet the needs of library users. Wells (2007) highlighted the balancing work between designing the institution's OPAC and usability and adoption of digital expectations for effective information retrieval and user empowerment. Gray and McAdoo (2009) pointed out that as libraries are facing the challenge of usage related matter in the digital era, ease of access to e-resources plays a vital role. They suggested integration of library content with web platforms for better resource discovery.

3. Objective of the Study

The important area covered under this study is summarized to the following objectives, which are given below:

- To discuss the practical aspects of dynamic web OPAC service using web 2.0 technology with Koha LMS with various dimensions like integration to social media YouTube, users comment, Google custom search engine, Google map etc. at St. Xavier's College Central Library, 30 M.T. Sarai, Kolkata-700 016
- To evaluate the extent of use of the various aspects of dynamic Web OPAC service and to measure the satisfaction level among the users of the previously mentioned college library.
- To assess the static OPAC to Dynamic Web OPAC Study at St. Xavier's College Central Library, 30 M.T. Sarai, Kolkata-700 016

4. Materials and Methods

In this paper practical experience from a higher academic institution's library viz. St. Xavier's College Central Library, 30 M.T. Sarai, Kolkata-700 016 has been dealt with. As KOHA is Web 2.0 enabled library management software offering features such as commenting, tagging, social sharing, etc. within its web-based interface, Koha LMS is used for making dynamic Web OPAC service and some screenshots of its various dynamic services have been shown in this paper. The methodology adopted also includes a survey among the users of the previously mentioned college library to evaluate the extent of use of the various aspects of the dynamic Web OPAC service and to measure the satisfaction level. Two hundred library users from 3,057active users of the college library were interviewed. Findings were tabulated and results were interpreted.

5. Data Analysis and Interpretation

The college library conducts several awareness programmes throughout every academic year on the latest developments of the library services; same also was done on the use of dynamic Web OPAC service. Afterwards, a survey was conducted to assess:

a) Whether the users had practically tried and used the various aspects of the dynamic Web OPAC service (survey result is shown in Table 1) and

b) The satisfaction level of the library users on the use of the various aspects of the dynamic Web OPAC service (survey result is shown in Table 2) which is discussed in the following section.200 library users from a total of 3,057 active users of the college library were interviewed.

Out of which 100 users are male and rest 100 are female. All the users belong to the first year newly admitted UG students. First year students were chosen because they were the new users in the library; so, their perception can better portray the real situation about the various aspects of the dynamic Web OPAC service.

5.1. Practical use of the various aspects of the dynamic Web OPAC service

As awareness programmes were conducted, the users were acquainted with the newly introduced services. They tried and used the various services of the dynamic Web OPAC. Table 1 shows the practical use of the various aspects of the dynamic Web OPAC service

Table 1: Showing the practical use of the various aspects of the dynamic Web OPAC service

Aspects of Dynamic Web OPAC	Used	Not used (but aware of the service)
User Contribution	192 (96%)	8 (4%)
User Profile	200 (100%)	0
Purchase Suggestion	189 (94.5%)	11 (5.5%)
E-Book Online Access	195 (97.5%)	5 (2.5%)
Browse by Location	194 (97%)	6 (3%)
Koha Password Recovery	200 (100%)	0
Full-text Journal Access	183 (91.5%)	17 (8.5%)
Facility to send Check-Out Notes	3 (1.5%)	197 (98.5%)
Ask a Librarian Chat Box	173 (86.5%)	27 (13.5%)
Virtual Shelf Browsing	158 (79%)	42 (21%)
New Arrival Display	191 (95.5%)	9 (4.5%)

As awareness programmes were conducted, the users were acquainted with the newly introduced services. They tried and used the various services of the dynamic Web OPAC. The most used services were User Profile (100%), Koha Password Recovery (100%), and E-Book Online Access (97.5%). Regarding the 'Facility to send check-out Notes', only three library users (1.5%) used it, and 197 users (98.5%) did not use. It happened due to the fact that the library documents in circulation are usually good so far as their physical forms are concerned, and, hence, they do not need to send notes about the defective forms of the borrowed documents.

5.2. Library Users' Satisfaction Level on the various aspects of the dynamic Web OPAC Service

        Table 2 shows the satisfaction level for the dynamic Web OPAC service among the users. Results show that various services satisfied the user community largely.

Table 2: Showing the library users' satisfaction level on the various aspects of the dynamic Web OPAC service

Aspects of Dynamic Web OPAC	Poor	Average	Good	Excellent
User Contribution	1 (0.5%)	3 (1.5%)	186 (93%)	10 (5%)
User Profile	0	2 (1%)	120 (60%)	78 (39%)
Purchase Suggestion	2 (1%)	4 (2%)	184 (92%)	10 (5%)
E-Book Online Access	0	1 (0.5%)	160 (80%)	39 (19.5%)
Browse by Location	3 (1.5%)	9 (4.5%)	176 (88%)	12 (6%)
Koha Password Recovery	0	1 (0.5%)	152 (76%)	47 (23.5%)
Full-text Journal Access	0	2 (1%)	163 (81.5%)	35 (17.5%)
Facility to send Check-Out Notes	1 (0.5%)	4 (2%)	169 (84.5%)	26 (13%)
Ask a Librarian Chat Box	1 (0.5%)	3 (1.5%)	191 (95.5%)	5 (2.5%)
Virtual Shelf Browsing	1 (0.5%)	1 (0.5%)	171 (85.5%)	27 (13.5%)
New Arrival Display	0	2 (1%)	172 (86%)	26 (13%)

The users' responses to the various services of the dynamic Web OPAC reflect the satisfaction level as 'good'. The services viz.. Ask a Librarian Chat Box (95.5%), User Contribution (93%), and placing a purchase suggestion (92%) were the top three services that showed 'good' satisfaction level among the users.

5.3. Static OPAC to Dynamic Web OPAC Study at St. Xavier's College Central Library

The following section will discuss some aspects of the dynamic web OPAC service for St. Xavier's College Library.
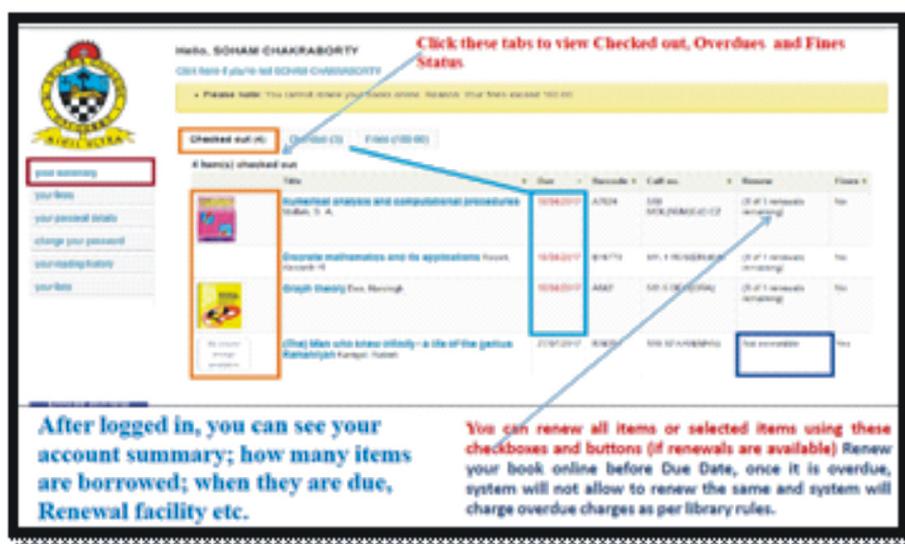
5.3.1. User contribution-Ratings, Reviews, Comments, and Tagging

Assigning ratings, tagging, and making comments about a particular title in the collection can also be reflected in the dynamic OPAC. New users for that particular title could be benefited from this feature.

5.3.2. User Profile

More than one user can login to Web OPAC at a time using their own login Id and password. After login individual user can see their own profiles, which show due date of the borrowed documents and any fine accrued from late submission of the borrowed documents. They can renew online if facility allows him / her to do the same. Users can also place a hold/reservation on any issued document. It is worthy to mention here that users can change their password and view the reading history.

Figure 1: Users profile details

5.3.3. Facility to send check-out notes

With this feature, users can send a message regarding any discrepancies like missing/torn pages, water marks, pen marks on the pages of the document concerned, or scratched DVD etc., which might be detected by the users after the checkout process. It will be helpful for the circulation staff for taking any decision on the damaged document during the return process.
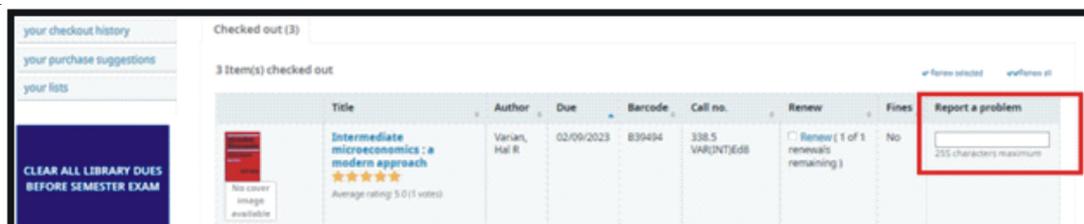
Figure 2: Facility to send check-out notes

5.3.4. Koha Password Recovery

Users can recover their password with the help of the 'forget your password' feature.

5.3.5. Purchase Suggestions

Patrons may place their purchase suggestions online regarding existing documents that need to be updated to the latest edition, or to be required for multiple copies. Figure 3 shows the sample of purchase suggestions.
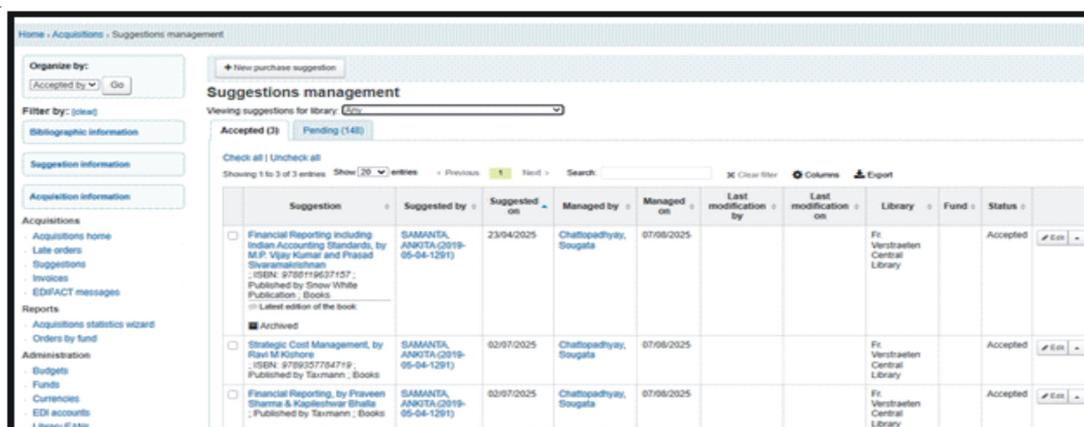
Figure 3: Sample of purchase suggestions

5.3.6. Browse by Location

Since St. Xavier's College has separate branch libraries, viz. Raghabpur Campus Library, B.Ed. The Fr. Verstraeten Central Library has decided to pull all the collections of the different branch libraries onto a single platform and make them accessible using the option browse by location.

5.3.7. E-Book Online Access

All purchased e-books from different publishers are made accessible through Web OPAC. Users need not spend much time accessing e-books purchased/subscribed to from a particular publisher by memorizing the different titles from that particular publisher. It works as a publisher-wise single platform, where full-text availability of all purchased e-books can be accessed directly from the publisher's website using the user id and password as follows:

Figure 4: Sample of online access

5.3.8. *Koha OPAC links journal titles from its catalogue to full-text journals*

Here the subscribed journal titles with an active link has been directed to access the full-text journal.

5.3.9. Integration of Koha with Amazon.com

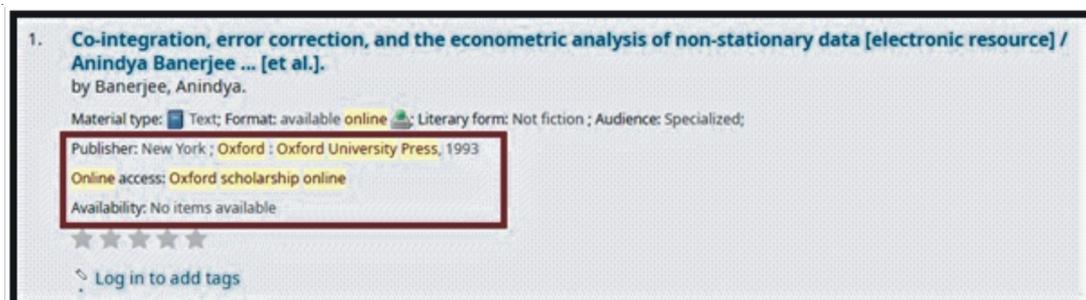If any book in the library collection is available in the Amazon database, the bibliographic record [MARC field 020 ISBN] in Koha LMS will fetch and display the cover page image of that particular book on Web OPAC (subject to the matching of ISBN).

5.3.10. *Google Map with Library Homepage*

The library homepage can be embedded with a Google Map feature that can help new users to find the exact location of the library.

5.3.11. *Single Window Search*

Researchers need information relating to their research area. However, the documents are not ready as per their needs. They have to retrieve these documents from various knowledge bases. To overcome the problem of scattering of documents of specific interest Single Window Google Custom Search interface can be introduced. St. Xavier's College Library has a bibliographic database consisting of around 95,000+ records along with other subscribed resources like AIMS International Journal, Down to Earth magazine, Indian Academy of Sciences, etc., which are accessible from the resource-specific website only with the help of platform-specific retrieval techniques. A Web 2.0 technology-based single-window discovery service can integrate scattered documents for the end users. Google Custom Search Engine is an open-source online platform to create a search interface for a library's Web OPAC.

5.3.12. *Social Media*

Social network (like Facebook, WhatsApp, etc.) share buttons have been provided to share the document with the user community. It will help us to expose and circulate the specific collection to others, which satisfies Ranganathan's 3rd law of library science in a broader perspective - "Every Document its Reader".

5.3.13. *Really Simple Syndication or Rich Site Summary (RSS)*

New developments in respect of new books' arrival, library news and upcoming events, etc. can be integrated and displayed with the help of this feature of RSS feed. Here, information mash-up in library, Library 2.0, etc., web application-related tools play vital role in making static OPAC to dynamic OPAC.

5.3.14. *List Creation*

Creating Private List and Public List, which are features of KOHA LMSi s a trend of tech-savvy library users these days. Using this List

Creation feature, we can make a static OPAC to dynamic web OPAC that will 'save the time of the patrons' in a great way to help them in finding their documents instantly under different headings.

5.3.15. Ask A Librarian Chat Box

To help the user community, using a chat box may be an option these days. With the integration of the 'Ask A Librarian' feature into the OPAC, users can take advantage of real-time communication with the host system as follows:

Figure 5: Ask a librarian chat box

5.3.16. Multilingual Search Option

This option helps users in searching the catalogue in a specific language. The language facilities provided in the current Web OPAC are English, Hindi, Bengali, etc.

5.3.17. List of Most Circulated Books

Most checked-out items will be helpful to know the demand of the books by patron that will help the library authority to make purchase decisions in the collection building process.

5.3.18. Virtual Shelf Browsing

This interface allows users to view library collections, call no wise as books are shelved on the racks in the library. It will help the user to browse the shelf and get the desired one without wasting time with the help of visualization of the pictorial image of the cover page of the documents and, thus, fulfil the 4th law 'Save the Time of the Reader'

Figure 6: Virtual shelf browsing

5.3.19. Android Web OPAC App

With the help of Apps Geyser online app builder, we can develop a QR code of the OPAC of a library, which will guide the user to browse the real-time catalogue anywhere, anytime on their Android device showed in Figure 7.
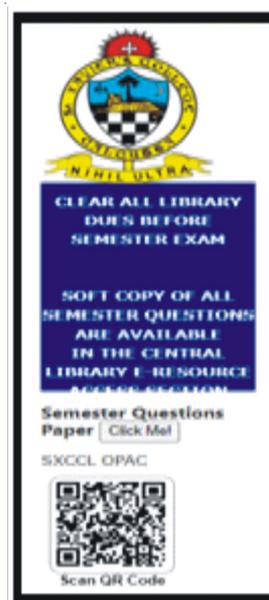

Figure 7: Android Web OPAC App

5.3.20. New Arrival Display with cover flow on KOHA Web OPAC

Cover pages of newly added books can be displayed in carousel display style in the web OPAC, which makes it more attractive, and users can also get a psychological resemblance to recall the image by flickering of eyes instantly.

5.3.21. *Usage Statistics*

It will be helpful to generate usage statistics of Web OPAC hits by users using Free Visitor Counters.com. It gives the detailed statistics of the web OPAC domain for the library, which includes web OPAC hits day-wise and also several other parameters like total visitors, best day usage, etc., with the pictorial presentation tools.

5.3.22. *Quotation of the Day*

This interactive feature of KOHA LMS displays thought-provoking and motivational quotes from eminent personalities, which transforms the static OPAC to dynamic OPAC, and that can be an inspirational aspect for the users. It can attract the users to access the OPAC regularly for the sake of checking and knowing what new quotation added to the OPAC.

5.3.23. *Integration of YouTube with KOHA OPAC*

Now-a-days YouTube has become a strong electronic media in the mass communication system. What the library can do in this respect is to make a linkage between the library user community and YouTube to spread the events or any academic-related news like webinars, library orientation programme, book talks, training videos, etc. at an exponential speed. It is also an integration tool to make the static OPAC into a dynamic one, displayed in Figure 8.

Figure 8: Integration tools

6. Conclusion

With the passage of time, technology rolls on for humankind. Every field of study today is taking advantage of it. Library and Information Science cannot be the exceptional of it. From a traditional one-way communication system to a modern two-way communication using the help of Web 2.0 LIS field is marching ahead to revolutionize the technical aspects of information retrieval tools. Static OPAC to dynamic Web OPAC is a genuine instance of this technological advancement. This study showed that the static OPAC could be made a dynamic Web OPAC with the help of Web 2.0 enabled techniques to provide a two-way communication facility for the library management as well as for the library users. It can play a significant role in the library management process for academic libraries. Libraries will greatly benefited with this dynamic Web OPAC service, which cannot be reaped in the case of a static OPAC service.

References

Basis, B. & Panwar, J. (2022). OPAC Catalogue of Modern Library. *International Journal of Engineering, Technology, and Management Sciences,*

Casey, M. (2007). Looking toward Catalogue 2.0 in Library 2.0 and beyond: *Innovative technologies and tomorrow's user.* London, Libraries Unlimited.

Desky, A. &Rahmadani, N. (2024). Optimizing the Utilization of Online Public Access Catalogue as a Means of Information Retrieval in Libraries. *Journal La Edusci.* Sukiasyan, *E.* (2020). Dialogue with OPAC. Scientific and Technical Libraries.

Dey, M. & Kumar, S. (2020). A Comprehensive Study to Interpret and the Pertinence of OPAC

in Bhagat Phool Singh Mahila Vishwavidyalaya and Deenbandhu Chhotu Ram University of Science and Technology in Sonipat, Haryana, 16, 73-89.

Fawwaz, N. (2024). Mobile-Based Library Catalog Web Service Development. *Journal Mobile Technologies (JMS), 2*(1), 50-58. https://doi.org/10.59431/jms.v2i1.533

Gibbons, S. (2007). *The academic library and the net gen student: Making the connections.* American Library Association

Gray, B. J., & McAdoo, M. (2009). Cataloging Databases and Web Sites in OCLC and Voyager. *Cataloging & Classification Quarterly, 47*(5), 483-495. https://doi.org/10.1080/01639370902874860

Kennedy, P. (2004), "Dynamic web pages and the library catalogue", *The Electronic Library, 22* (6), 480-486. https://doi.org/10.1108/02640470410570776

McMullen, A. and Gray, B. (2012), "From static to dynamic: Using the OPAC to generate real?time lists of departmental acquisitions for library current awareness service", *Library Hi Tech, 30*(4), 673-682. https://doi.org/10.1108/07378831211285121

Patel, S. (2020). OPAC 2.0 Application in State University Libraries of India, 7, 28-33

Sukiasyan E.R. Dialog with OPAC. *Scientific and Technical Libraries.* 2020; 3, 23-36. https://doi.org/10.33186/1027-3689-2020-3-23-36

Wells, D. (2007), "What is a library OPAC?" *The Electronic Library, 25*(4), 386-94

Dr. Chinmay Mukhopadhyay has been working as Librarian at St. Xavier College (Autonomous), 30, Part Street, Kolkata - 700016 since 2014. He had completed his PhD from the University of Burdwan. His areas of interest include Library Automation, Library Management, etc. He has published more than 20 research papers in different National and International journals.

Sougata Chattopadhyay is presently working as a Library Assistant at Central Library, St. Xavier's College (Autonomous), Kolkata. He has published many research papers in the reputed journals and conference proceedings. His focused area in research is Library Automation, Digital Library, Open-Source Software, etc. He has attended several National and International conferences and workshops.