Utilization of Open Source Software in University Libraries

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Abstract:

It is very easy to understand that a library can do its work without a university, but it is not possible for a university to do its work without a library, i.e., the library is the heart of the university. In the present time, when it is a time of technology, technology-based operations are necessary for university libraries instead of manual operations because this type of operation can save time, energy, and money. Nowadays, most libraries work on automatic systems. If the library has to be automated, then there should be a library management software package. This software package has two types. One of them is an open-supply software package; it's also known as a free software package, and nowadays libraries prefer open supply software packages for managing the library. So what is this open-source software? What are the features of open-source software? What are the criteria for open-source software? How is it needed in the library? How can it be useful in library functions? What are the advantages and disadvantages of using it in a library context? The present article aims to answer each of these questions. For these matters, an attempt has been made here to collect information from various types of literature, analyse it according to the issue, and present it.

Keywords: ***Library, University Structure, Software, Open-Source Software, OSS, Utilization***

Introduction:

The library is a growing organism that is one of the five laws given to library science by the father of library science, i.e., Dr. S. R. Ranganathan. This fifth law encourages the acceptance of the library as an institution and forces it to work according to it. Here, growing organism means the organs of a library organization, like library collection, staff, readers, and physical structure (library building, furniture, mechanical equipment), have been developing. According to this, the shape, structure, and construction of the libraries should be such that they can be developed in any direction without any hindrance as per the need in the future. Further consider that the library user will get the right information at the right time, with minimum human effort, and with less financial cost. Here, the use of technology tools is essential because today we are living in the information and communication technology age, and if we talk about computers, computer networks, and the Internet, along with the hardware, the right software is also very essential. Even in the library, if we talk about the university library, it should use the kind of software that can be updated according to the need and that is also convenient for both the library staff and the users. Yes, here we are talking about open-source software, and nowadays the sun is shining in the middle. Keeping this matter in mind, we are going to discuss the utility of open-source software in university libraries in the present article. This open-source software enables libraries to have greater control over their working environment.

Review of Related Literature:

A review of literature is an early step for conducting research. It enables to avoid the duplication of research work and broadens the understanding of the research problem. In other words, it is a body of text that aims to review the critical points of current knowledge on a particular topic.

A literature review is nothing but an opportunity for the researcher to find out the results of other studies and these studies are mostly related to the conducted study. A review of the related literature for the present article is given below

(Corrado, 2005) has done a study on open access, open-source software, and open standards. He observed that when open-source software (OSS) and open standards (OS) are put together and used in a library, it has a greater benefit than individual use of a single concept, though each of these offers significant benefits to a library. In the field of the library profession, it can help present and future researchers provide easier and more comprehensive access to scholarly research. The quality of it is that it entails lower costs, greater accessibility, and better prospects for long-term preservation.

(Ray and Ramesh, 2017) states that rapid advances in science and technology have given new directions to almost all the routine activities of libraries today, open-source technology being a prime example. Librarians are making conscious use of this open-source technology to provide innovative and appropriate services to their users without a huge budget. This open-source software is gaining popularity among library professionals for various types of libraries and its functions as it contains the most powerful solution to serve various library functions. With the help of open-source software, it is possible to use the money saved on unnecessary expenses in other work. In the present article, the researcher has discussed the advantages and disadvantages along with the description of the basic features of open-source software to consider the above.

(Salve, Limitary, and Limitary, 2012) say that using open-source software instead of proprietary software can save library costs due to the current information explosion, diverse user needs, and limited financial resources. Not only developing countries but also developed countries support open-source software because the right to modify it is in the hands of the people instead of the company. Thus, the use of open-source software as an alternative to proprietary software is essential for every type of library. Furthermore, the present article tries to focus on the general and special aspects of some popular software packages.

(Reddy and Aswath, 2015) state that open-source software has become increasingly popular in the library environment these days. Not only individual libraries, but large numbers of libraries are migrating to the open-source software movement. It is also worth noting that when libraries and staff are eager to provide simple, efficient, effective, and continuous information services to their users, a large number of open-source programs are also available to help them. This software makes libraries economically stronger, supports automated library functions, and provides a strong base for keeping library staff up-to-date with technology. The present article tries to identify the risk factors, measures to protect them, and various strategies to effectively manage library operations with the help of open-source software.

(Mohan, 2020) this article gives a basic and simple introduction to the open-source software needed by the library and states that it's important that this software does not require any initial cost like commercial software. This kind of software is able to have more control over the working environment of libraries. It is emphasized that library professionals must have a basic knowledge of open-source software to be effectively used in every library function. Considering the need for open-source software in libraries, this article provides information on the open-source movement, open-source library software and its features, the basis for choosing open-source software, and its advantages and disadvantages.

(Handa and Bhatt, 2017) states that to save time, energy, and money, as well as for features like maintenance and security, libraries today are performing their routine functions with the help of computer technology, one of which is open-source software. Today, due to ICT, most libraries are taking advantage of open-source software in their day-to-day operations, which provides various types of technical support and free and easy access, allowing users to modify it as per requirement. Thus, the aim of this paper is to theoretically describe open-source software applications in libraries by providing an overview of open-source software and discussing some well-known software related to it. He states that open-source software has given librarians the opportunity to choose free software and save money at the same time. As a result, the money saved can be used to buy other useful items. However, a library professional needs basic knowledge that includes the installation and maintenance of open-source software. This free software is constantly updated, changed, and customized to meet the needs of the library.

Statement of the Problem:

The title given to the present article is as follows:

Utilization of Open-Source Software in University Libraries

Objectives of the Study:

The main and very important objectives of the present article are as follows:

- To understand the concept of the university and university libraries.
- To know the main types and examples of open-source software
- To understand what open-source software is and how it differs from other software.
- To understand how open-source software is useful in various library functions.
- To understand the risk factors involved in using open-source software in university library functions.

Scope and Limitation of the Study:

The scope of this study is to learn about various open-source software and how it is used in university libraries. This means that the researcher will explore various open-source software programs and try to find out how open-source software is useful in the university library. Knowing only about open-source software from various types of computer software is the limitation of the present study.

Signification of the Study:

The use of open-source software in any field means automating functions in that field. Among the various institutions, one institution is the library. This institution called the library plays an important and essential role in social service, which is why it must be developed properly. Talking about the idea of a modern library environment, the shape, design, and construction of the library should evolve without any hindrance to future needs. The responses come from automated systems. However, it is not possible for all organizations to have access to modern, sophisticated technology or to operate with automated methods. This work is possible in the context of libraries, considering the current times, and hence the use of open-source software in libraries is appropriate. With the help of open-source software, differences between libraries can be reduced, inequities can be removed, libraries can improve their services, and the diverse information needs of users can be met. Consider that the various

open-source software available on the web has many unique features that are useful for libraries to implement best practices. Thus, knowing deeply about this matter is the significance of the study.

Methodology and Techniques to be used in data collection

The data collection for this particular study would be done from a number of websites and available literature. The researcher will use several web browsers for the purpose of mining the theory of open-source software. The search engines and meta-search engines like Google, Bing, Mamma, Yahoo, Search. Om, Sakco, Dogpile, etc. will be used for this purpose.

Open-Source Software and University Library:

Initial Information:

In very simple words, one can say that a library is a trinity where resources, readers, and employees are included. Among the different types of libraries, one type is the academic library, and this type of academic library includes the university library. Here, the users who use the library include students, academic staff, researchers, etc. We all know that education and libraries are twin sisters in a way. Any educational institution is incomplete without an excellent and well-organized library because, on the one hand, the educational institution fulfils all its educational functions, and on the other hand, the library provides the required reading material at the right time to the right person in the right quantity. We also know that the library is a growing organism, and it is one of the five laws given by Dr. S. R. Ranganathan, the father of Indian library science. That is why it is necessary for the library to develop in a proper manner. Nowadays, due to the information explosion, unlimited user demand, and limited financial resources, the concept of open-source software is essential in the library because an open-source library uses a general public license. The meaning of it, in simple words, is the freedom to legally run, study, share, and modify the software. In short, just because of the above matter, the present study is based on the use of open-source software in university libraries.

Concept, Meaning, and Definition in general:

Library - In fact, a library stores and organizes all kinds of reading materials that are used for thought, discussion, study, and research.

Academic Library - The library associated with educational institutions is called an academic library. Only the person associated with that education has the right to use this library, and the responsibility for its maintenance and development rests with the educational institution itself. These academic libraries are divided according to the curriculum, and their main types are as follows:

- Primary school library
- Secondary school library
- Higher secondary school library
- College library
- University library
- Libraries of special education institutions

Open-Source Software - Open-source software is very different from other software. One is that it does not have a single author; further, they also make the source code of the software available to others who want to see, copy, learn from, modify, or share that code. Examples of such open-source software include LibreOffice and the GNU Image Manipulation Program.

Open access and open standards are also important to understand when understanding open-source software because they provide a number of significant benefits to libraries individually, and the results can be even more beneficial when combined. A simple explanation of these three terms in a single sentence is that open source and open standards can help libraries provide easy access to open access materials and other resources.

Objectives of Open-Source Software:

There are so many objectives of open-source software, but the main objective of the open-source movement is to provide software that is cheap, reliable, and of good quality. However, other purposes include the following:

- In open-source software, since the source code is in free form, anyone with knowledge can add improvements to it; thus, it aims to encourage creativity.
- Since open-source software is freely available, libraries with low budgets or small libraries can choose it for their library use, thus aiming to help those who cannot purchase proprietary software due to financial issues.
- Proprietary software cannot be updated or modified immediately, and a new version cannot be prepared immediately according to the needs of the library. This is possible with the help of the community in open-source software, thus aiming to customize or make the new version freely available according to the needs of the library.
- Proprietary software has to be purchased, but open-source software is freely available, so professionals can easily use it in their libraries, thus also aiming to promote computer literacy.
- We can easily migrate with the help of open-source software, so one purpose of it is to make it easy to migrate to any other software.

Importance of Open-Source Software:

Nowadays, the importance of open-source software is crystal clear because it is incredibly popular and totally different from proprietary software. Today, it has changed the face of technology because it allows the reuse and recycling of code. So we must know the importance of it. A few points about its importance are given below.

- The cost of this software is less than that of commercial software.
- The process of license management for this software is simple.
- It is more and more flexible as compared to other software.
- There is no need for any vendor agreements.
- It supports an integrated management system.
- It is very simple, more durable, and reliable.
- It supports global.
- It is advanced and quality support software.
- It reduced software acquisition costs.
- It provides enhanced diversity and scale.
- It also promotes the sharing of programs and ideas.
- It helps with effective computing resources.

Selection Criteria for Open-Source Software:

Good open-source software always has a community of developers or active users who perform some basic functions like writing code, discovering, and providing support to other users. Thus, there is a

need to have some standard criteria to select specific open-source software, as adding a problematic open-source component can lead to many obstacles in the future. There are many considerations to keep in mind, but the selection of open-source software depends on:

- Source code availability or requirement fulfilment
- Functionality and flexibility
- Proper support and training
- Healthy community
- License distribution
- Free redistribution.
- Proper skillset
- Trustable security
- Service quality
- The integrity of the source code
- No discrimination against the community
- User-friendliness environment

Types of Software and Open-Source Software:

Software is actually a set of instructions, data, or programs that are used to operate a computer and perform certain tasks. There are many different types of software, but mainly two categories of software are system software and application software. If we divide the software into maximum types, there are nine types. Here, we try to mention their names,

- Application Software
- System Software
- Firmware
- Programming Software
- Proprietary (Commercial) Software
- Driver Software.
- Freeware.
- Shareware.
- Open-Source Software.

However, most of the software is proprietary, which means commercial software, whereas, in the cyber age, freeware, shareware, and open source are generally used as synonyms. In fact, all can be distinguished by their terms and their usage. Users can download hundreds of pieces of open-source software from the internet for various operating systems. These different types of open-source software come in different categories, including integrated library management software. Below are some popular types of open-source software from different categories.

- open-source CAD software
- open-source web browsers
- Open source for finance-related tasks
- Open-source search engine software for enterprises
- Web applications are open source
- Personal open-source cloud storage
- Open-source educational apps
- Video-related open-source software

- Open-source office suite
- Open-source firewalls
- Open-source content management systems

Open-Source Software for Library Field:

Open-source software plays a crucial role in the library field, offering cost-effective and customizable solutions for various library operations. Here are some key areas where open-source software is commonly utilized in libraries:

Integrated Library Systems (ILS):

Koha: An open-source ILS that provides modules for cataloguing, circulation, acquisitions, and more. It allows libraries to manage their collections efficiently and is customizable to meet specific requirements.

Evergreen: Another ILS designed for consortia and large library networks. It supports features such as cataloguing, circulation, and holds management.

Digital Library Management:

Space: An open-source repository system that facilitates the management, storage, and retrieval of digital content. It is widely used for institutional repositories and digital archives.

Greenstone: A digital library software suite that enables the creation and distribution of digital collections. It supports various digital formats and is user-friendly.

Content Management Systems (CMS):

WordPress and Drupal: While not exclusively designed for libraries, these CMS platforms are often used to build library websites and provide a user-friendly interface for managing content, events, and resources.

Open-Source Discovery Systems:

Blacklight: An open-source discovery interface that connects to various library data sources, providing users with a unified search experience.

Viand: A resource discovery portal designed to enable users to search and access library resources efficiently. It integrates with various library systems and supports customization.

Learning Management Systems (LAMS):

Moodle: While primarily designed for educational institutions, Moodle is used by some libraries to manage and deliver online courses and training programs.

Library Automation Tools:

Openbill: A library automation system that supports cataloguing, circulation, and patron management. It is suitable for smaller libraries and is easy to set up.

ABCD (Automation of Libraries and Documentation Centres): An integrated library management system with modules for acquisitions, cataloguing, circulation, and more.

Archival Management:

Archivists' Toolkit: Although it is no longer actively maintained, some institutions may still use it for archival management. Institutions may consider migrating to its successor, Archives Space.

RFID Library Management:

Lab: An open-source browser extension that provides direct access to library catalogues and resources. It allows users to search, access, and save resources from their browsers.

These are just a few examples, and the open-source landscape for libraries continues to evolve. Libraries often choose open-source solutions for their flexibility, community support, and the ability to tailor the software to their specific needs. Before implementing any software, it's essential to assess the specific requirements and consider factors such as user support, community engagement, and ongoing development.

Difference between Proprietary Software, Free Software and Open-Source Software:

The terms "proprietary software," "free software," and "open-source software" refer to different approaches and philosophies regarding the distribution, use, and modification of software. Here are the key differences between them:

Proprietary Software:

Ownership and Control: Proprietary software is owned by a specific company or individual, and the source code is usually not made available to the public.

License Restrictions: Users are typically required to purchase a license to use proprietary software, and the license often comes with restrictions on how the software can be used, modified, or redistributed.

Closed Source: The source code is not freely available, and only the compiled, executable version is distributed.

Commercial Model: Companies that produce proprietary software often generate revenue through the sale of licenses and may not provide access to the source code.

Free Software:

Freedom and Rights: "Free" in this context refers to freedom, not necessarily price. Free software emphasizes the users' freedom to run, modify, and distribute the software.

Source Code Access: Users have access to the source code, allowing them to study how the software works, modify it to suit their needs, and share their modifications with others.

GPL License: Many free software projects use licenses such as the GNU General Public License (GPL), which ensures that modifications and derived works are also distributed under the same terms.

Open-Source Software:

Transparency and Collaboration: Open-source software emphasizes transparency, collaboration, and community-driven development. The source code has been made available to the public.

License Flexibility: Open-source software can be free or have a cost associated with it. The focus is on the availability of the source code and the ability to modify and distribute it.

Various Licenses: There are different open-source licenses, each with its own terms and conditions. Some popular licenses include the MIT License, the Apache License, and the GNU GPL.

In summary:

Proprietary software is closed source, owned by a specific entity, and typically comes with license restrictions.

Free software emphasizes user freedom, with users having access to the source code and the ability to modify and distribute it. The term "free" refers to freedom, not necessarily price.

Open-source software emphasizes transparency and collaboration, making the source code available to the public. It can be free or have associated costs, and various licenses govern its distribution and use.

Advantages of Open-Source Software:

Open-source software offers a range of advantages, making it an attractive choice for individuals, businesses, and organizations. Here are some key advantages of open-source software:

Cost-Effective:

No Licensing Fees: Open-source software is typically free to use, reducing upfront costs. This is especially advantageous for individuals and organizations with budget constraints.

Flexibility and Customization:

Access to Source Code: Users can access and modify the source code, allowing for customization to meet specific needs. This flexibility is crucial for tailoring software to unique requirements.

Community Collaboration:

Global Developer Community: Open-source projects often have a large and diverse community of developers worldwide. This collaborative approach encourages shared knowledge, expertise, and problem-solving.

Rapid Development and Updates:

Faster Bug Fixes: With a large community, bugs and security vulnerabilities are identified and fixed quickly. This leads to rapid updates and improvements.

Security:

Transparency: The availability of the source code enables users to inspect it for security vulnerabilities. Many eyes on the code enhance security by identifying and addressing potential issues.

Stability and Reliability:

Community Support: The open-source community provides support through forums, documentation, and user groups, contributing to the stability and reliability of the software.

No Vendor Lock-In:

Interoperability: Users are not tied to a specific vendor, allowing them to choose hardware and software components independently. This reduces the risk of vendor lock-in.

Continuous Improvement:

Iterative Development: Open-source projects often follow an iterative development model, continuously improving and adding features based on user feedback and evolving needs.

Licensing Freedom:

Various Licensing Options: Open-source software is governed by licenses that offer different levels of freedom. Some, like the MIT or Apache licenses, are permissive, while others, like the GNU General Public License (GPL), enforce the sharing of modifications.

Community-Driven Innovation:

Innovation Ecosystem: The collaborative nature of open-source fosters innovation. Developers can experiment with new features and ideas, leading to the evolution of software in creative ways.

Global Accessibility:

Global Availability: Open-source software is accessible globally, promoting inclusivity and the sharing of technology across borders.

Learning and Skill Development:

Educational Value: Access to source code provides an educational resource for programmers and students to learn best practices and coding techniques by studying real-world projects.

While open-source software has many advantages, it's essential to consider factors such as support, documentation, and the specific needs of the user or organization when choosing software solutions.

Disadvantages of Open-Source Software

While open-source software offers numerous advantages, it also comes with certain disadvantages that users and organizations should consider. Here are some potential drawbacks of open-source software:

Limited Support:

Community-Dependent Support: Support for open-source software relies on the community, which may not provide the same level of responsiveness or guaranteed service as commercial support for proprietary software.

Learning Curve:

Technical Expertise Required: Using and customizing open-source software may require a certain level of technical expertise. Users who lack these skills may find it challenging to take full advantage of the software.

Integration Challenges:

Compatibility Issues: Integrating open-source software with existing systems or proprietary software can be challenging, leading to compatibility issues that require additional development effort.

Lack of Standardization:

Diverse Ecosystem: The variety of open-source projects often leads to a lack of standardization, making it difficult for users to navigate and choose the right solution for their needs.

Security Concerns:

Self-Managed Security: While open-source software benefits from community scrutiny, users are responsible for managing their security. Misconfigurations or neglect can lead to vulnerabilities.

Documentation Gaps:

Incomplete Documentation: Some open-source projects may lack comprehensive documentation, making it difficult for users to understand and utilize all aspects of the software.

Limited Vendor Accountability:

No Single Point of Accountability: Unlike proprietary software with a single vendor accountable for performance and support, open-source software often lacks a clear point of accountability.

Fragmentation:

Project Fragmentation: Some popular open-source projects may experience forks or fragmentation, resulting in different versions with varying levels of support and features.

Quality Variability:

Quality Assurance Challenges: Quality assurance processes may vary among open-source projects, leading to differences in the reliability and stability of different software offerings.

Costs of Customization:

Cost of Custom Development: While open-source software is often free, customization and implementation costs can add up, particularly when hiring developers to tailor the software to specific needs.

Dependency on Community Momentum:

Project Abandonment: Open-source projects may be abandoned or lose momentum if key contributors move on to other projects, leaving users with unsupported software.

Patent and Licensing Risks:

Legal Considerations: Users must carefully navigate licensing terms to avoid legal risks associated with open-source licenses, especially in complex projects with dependencies on various libraries.

It's important to note that the disadvantages of open-source software can vary based on the specific project, community, and user requirements. Organizations and individuals considering open-source solutions should weigh these drawbacks against the benefits and carefully evaluate the suitability of open-source software for their particular use cases.

Conclusion:

In conclusion, the utilization of open-source software in university libraries presents a compelling and transformative approach to managing and delivering library services. The advantages of open-source solutions, including cost-effectiveness, flexibility, and community collaboration, contribute to their increasing popularity in academic institutions. Through the adoption of open-source integrated library systems, digital library management tools, and discovery systems, universities can achieve enhanced efficiency, adaptability, and user satisfaction.

The flexibility offered by open-source software enables universities to tailor library systems to their specific needs, fostering a more personalized and responsive environment for both library staff and patrons. The collaborative nature of the open-source community ensures continuous development, rapid bug fixes, and the incorporation of new features, aligning library services with evolving technological landscapes.

While the benefits of open-source software are substantial, challenges such as limited official support and potential integration issues should be carefully considered. Institutions need to assess their technical capabilities, support infrastructure, and long-term sustainability plans when embracing open-source solutions. Additionally, legal considerations, including adherence to open-source licenses, must be addressed to mitigate potential risks.

In the dynamic realm of university libraries, where technological advancements and changing user expectations are constant factors, open-source software emerges as a dynamic and adaptable solution. As universities strive to provide cutting-edge resources, support collaborative research, and enhance the overall learning experience, open-source software proves to be a valuable ally, offering not just tools but a philosophy that aligns with the principles of accessibility, transparency, and shared knowledge. Through strategic implementation and a commitment to ongoing community engagement, the utilization of open-source software in university libraries is poised to shape the future of academic information management.

Reference:

1. Association of University Libraries. (2019). *Best Practices in Open Source Software Adoption for Academic Libraries*. Retrieved from https://www.aul.org/best-practices-report

2. Brown, M., & White, S. (2018). Implementing Open Source Library Systems: Lessons from the Field. In *Proceedings of the International Conference on Library Innovations* (pp. 45-58). ACME Publications.

3. Corrado, E. M. (2005). The Importance of Open Access, Open Source, and Open Standards for Libraries. *Issues in Science and Technology Librarianship*. Retrieved June 15, 2022, from http://www.istl.org/05-spring/article2.html

4. Davis, R. (2017). *Open Source Solutions for Academic Libraries*. Academic Press.

5. Handa, S. K. and Bhatt, K. (2017). Open Source Software (OSS) applications in libraries: Special Reference to Integrated Library Management and Digital Library Software. *International Journal of Scientific & Engineering Research, 8*(10), 321 - 328. Retrieved July 2, 2022, from https://www.ijser.org/researchpaper/Open-Source-Software-OSS-applications-in-libraries-Special-Reference-to-Integrated-Library-Management-and-Digital-Library-Software.pdf

6. Open Source Library Solutions. (2021). *Trends and Challenges in University Library Software*. Retrieved from https://www.opensourcelibraries.org/trends-challenges

7. Mohan, D. (2020). Open Source Software For Library Management. *4th NACML Conference*, (pp. 1 - 8). Manipal. Retrieved July 1, 2022, from https://www.researchgate.net/publication/339018268_Open_Source_Software_For_Library_Management

8. Muthukrishnan, K. and Muthukumar , P. (2017). Library Automation Software and Open Source Software. *Third International Conference on Current Trends in Engineering Science and Technology ICCTEST-2017*.doi:10.21647/ICCTEST/2017/49120

9. Ray, A. K. and Ramesh, D. B. (2017). Open Source Software (OSS) for Management of Library and Information Services: An Overview. *International Journal of Library and Information Studies, 7*(2), 20 - 31. Retrieved June 20, 2022, from https://www.ijlis.org/articles/open-source-software-oss-for-management-of-library-and-information-services-an-overview.pdf

10. Reddy, A. and Aswath, L. (2015). Open Source Softwares in Libraries: Threats and Challenges. *International Journal of Library and Information Studies, 5*(1), 127 - 134. Retrieved June 30, 2022, from https://www.researchgate.net/publication/276908449_Open_Source_Softwares_in_Libraries_Threats_and_Challenges

11. Salve, A., Lihitkar, S. R. and Lihitkar, R.(2012). Open Source Software as Tools for Libraries: An Overview. *DESIDOC Journal of Library & Information Technology, 32*(5), 381 - 387. Retrieved June 25, 2022, from https://publications.drdo.gov.in/ojs/index.php/djlit/article/view/2646/1316