OPEN SOURCE SOFTWARE FOR LIBRARY AUTOMATION

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Abstract : Automation of library services and the use of open source software are essential for efficiency and effectiveness and at a minimal cost, too. Library automation benefits both the library staff and the users as it reduces the level of job stress on the staff and enhances remote and timely provision of up-to-date information to the users. This literature based opinion paper majorly aimed to establish the relevance of using open source software in library automation. To achieve this goal, the paper was divided into sub-headings that respectively highlighted the relevance of library automation, spelt out the salient issues to consider in library software selection, and discussed the characteristics of OSS that qualify them to be effective library automation software, and enumerated and briefly discussed the various OSS available for integrated library management. Recommendations on the key factors that should be prioritized for the achievement of a successful automation of the library services with the open source software is equally made in the paper.

Keywords: Library automation, Open Source Software, Library effectiveness, Software selection criteria.

1.0 Introduction:
The impact of ICT has spread over every field to provide best and fastest services to its customers. It's the demand of the clients in IT era as the clients need immediate information to end their tasks in their respective areas of knowledge. Hence the Libraries have used IT in the different areas of knowledge from its generation tom dissemination and for satisfying the needs of its' users in a speedy way and to exist their importance in the digital era. Libraries use IT in different areas like as Acquisition, Budgeting, Serial Control, Circulation, digitization, etc., and managing databases to provide different services to its' users. Libraries use different Software's to manage their databases and provide services to the end user. The use of different Software's is based upon the size of the users, size (Collection) of the Libraries, Parent organization's attitude towards Libraries, Kinds of services, customers' information seeking behaviors, and of course based upon the economic condition of the Libraries. Inspite of these all conditions many Libraries have used freely available software which also known as Open Source Software's (OSS).

2.0 What is Open Source Software?
Open source software is software that provides access to the source code, meaning that users are free to see how the product is made. Additionally, users have the right to modify the product (change the code) to their liking, experiment with different versions, and give away or resell the new product with the guarantee that they must also provide their source code, and so on. Modifying the product and redistribution are the two main components of open source software.

2.1 Reasons to Use Open Source Software

- It promotes creative development
- Those who can't afford proprietary software can download open source programs for free
- Money saved can be used to purchase other needed materials
- Can easily modify your software to suit patron's needs and your needs
- Little to no upgrade costs
- No more grueling over software that doesn't meet your standards -- create it yourself based off of a close preexisting piece of software
- The price (free) makes it easier to change your mind when the software doesn't live up to its expectations
- Little to no viruses!

2.2 Advantages of Open Source Software's in Library Automation
Library Automation mainly concerned with the benefits of the following:

2.2.1 Benefits for Patrons: Library automation offers many opportunities to improve services to the library users. Benefits include faster access to resources through OPACs, remote access, access to online reference tools, etc.

2.2.2 Benefits for Staff: Automation reduces the need to do repetitive jobs manually. It reduces the manual work involved in circulation, cataloguing, acquisitions, etc. Automation allows the staff to take benefit of online resources, and offline databases in giving reference services.

2.2.3 Benefits for Institution: Automation not only builds positive reputation of the library services it also increases access points for the users. Open Source Software for Library Automation There is certain benefits to use Open Source Software for automation. The following are the major benefits of OSS.

- Reduced Software
- Cost
- Ease of licensing restrictions
- Quality Control
- Localization
- Ample support
- Quality software
- Easy Evaluation
- Platform Independent
- Flexibility to choose support

2.3 Selection Criteria's of Open Source Software's for Automation : The specific selection criteria that should guide the choice of open source software are as follow:

- User friendliness
- Portability
- Well-designed screens, logically arranged functions with extensive help messages
- Minimal training
- Multi-user and unlimited user access
- Multilingual & Multimedia supported
- Supporting Internationally known standards (MARC, AACR-2, Dublin core etc.)
- Training and Support (E-mail, Discussion Forums)
- After installation service availability and,
- Cost of installation (Suthar)

2.4 Characteristics of Open Source Software : that qualify them to be Effective Library Automation Software. Open Source Software which according to Engard (2011) are applications whose source code is made available for use or modification in line with users' needs and requirements are known with some Characteristics which make it distinct from proprietary software. According to gbdirect (2011) the characteristics include:

2.4.1 Source Code: These software come with the source code, and allows distribution of same. Where some form of, the product is not distributed with the source code, there is a well-publicized means of obtaining the source code which is usually downloading it via the Internet without charge. The source code is provided in the form in which a programmer would be able to modify the program. Obscure source codes or Intermediate forms such as the output of a preprocessor or translator are not allowed for OSS.

2.4.2 Free Redistribution: The license does not restrict any party from redistributing or giving away the software as a component of an aggregate software distribution containing programs from several different sources. The license does not require a royalty or other fee for such distribution.

2.4.3 Derived Works: The license allows modifications and derived works, and also allows them to be distributed under the same terms as the license of the original software. No Discrimination against Persons.

2.4.4 Groups and Fields of Endeavor: The license does not discriminate against any person or group of persons. It does not also restrict anyone from making use of the program in specific field of endeavor. For example, it does not restrict the program from being used in a business, or from, being used for genetic research. It is meant for everyone and, in every field of endeavor.

2.5 License Must Not Restrict Other Software: The license does not place restrictions on other software that is distributed along with the licensed software. For example, the license does not insist that all other programs distributed on the same medium must be open-source software.

2.5.1 License Must Be Technology-Neutral: The provision of the license is never predicated on any individual technology or style of interface.(Nwachukwu)

3.0 Benefits of Using Open Source Software

Numerous benefits such as cost effectiveness, interoperability, user friendliness and the ability to modify the software to suit any specific function desirable by the user, can be derived from the use of OSS. Muffat to (2006)noted that one of the main benefits of open source software is the commitment of the community to develop something that is interoperable and respects open standards. Tennant (2007) added that the advantages of open source technology are that it is flexible and has the ability to build a complex system at less cost. Emphasizing the cost effectiveness of OSS, Clark (2008) affirmed the advantage of open source in terms of saving money on a library system and for support costs. However, Gonzalez-Barahona (2000) stated that the benefits associated with the use of OSS range from philosophical and ethical reasons to pure practical issues. He further summarized the practical benefits as follow:

3.1 Reliability: Open Source Software could be said to be reliable because it does not manifest defects which can cause incorrect operation, data loss, sudden failures, or failure to meet specification or appropriate published standards which is generally termed as 'bug'. This is not to say that problems are never encountered with the use of OSS but, each problem is usually addressed with speedy fixes, a process which is undoubtedly assisted by the availability of the source code. Hence, Open Source advocates claim very rapid time-to-fix characteristics for software. The pattern with closed-source software is typically that a defect report needs to be filed and then there will be a delay before the vendor determines when or whether to issue an updated release. Users of the closed source software are much more at the mercy of the vendor's internal processes than with the Open Source arrangement.

3.2 Stability: Proprietary Software vendors can apply a number of tactics to persuade their customers to upgrade more or less willingly. Typical tactics include moving to allegedly new and improved file formats (which require the new and improved software to read them) or to withdraw support and bug fixes for older versions after a short period. The problem for users of such software is that they rarely have much control over that process and are left isolated if they choose to remain with the older versions. This has cost and control implications for the business whereas with OSS, the worst effects of vendor-push can be mitigated. Having access to the source code can allow a business to choose to support itself on an old version where necessary thereby giving more options and choice to the users.

3.3 Auditability: A rarely-understood benefit of Open Source software (any software where the source code is published) is its auditability. Closed-source software forces its users to trust the vendor when claims are made for qualities such as security, freedom from backdoors, adherence to standards and flexibility in the face of future changes. If the source code is not available, those claims remain simply claims. By publishing the source code, authors make it possible for users of the software to have confidence that there is a basis for those claims. Without access to the source, third party inspection is impossible.

Cost: Most Open Source software are provided free of royalties and fees. Administrative overhead cost is drastically minimal as there is no cost attached to number of copies in use, unlike when proprietary software issued. There is also lower management cost as no upgrade fees are incurred. Near-zero vulnerability to viruses laminating need for virus checking, data loss and downtime Flexibility and Freedom: This software is flexibility as it gives users opportunity to be able to choose solutions suitable for their needs. Open Source software offers its users greater freedom to purchase other products, avoiding lock-in to particular manufacturers. Freedom from a single vendor and freedom to modify your software. (Ukachi)

3.3.1 Some Open Source Software Available for Integrated Library Management.

- **KOHA Software**: The software is available at http://www.koha.org
- **Evergreen Software:** The software is available at: http://evergreenils.
- org/downloads.php
- **ABCD Software-** ABCD, which in full is, "Automation of liBraries and Centres of Documentation" : It is available at:https://sites.google.com/site/abcdlibraryautomationsoftware/downloads
- **NewGenLib:** It is available at: http://www.verussolutions.biz/euniversity.php
- **Emilda-** It can be accessed at: http://sourceforge.net/projects/emilda/
- **PMB (PhpMyBibli)-** The software is available at: http://www.sigb.net/
- **WEBLIS**-It is available at: http://portal.unesco.org/ci/en/ev.php-

- URL_ID=16841&URL_DO=DO_TOPIC&URL_SECTION=201.html
- **Soul -** It is available at: http://inflibnet.ac.in/soul/download.php
- **Librarian**- It is available at: https://library-manager.en.softonic.com/download
- **GSDL**- It is available at: http://www.greenstone.org/download
- **DSpace**- It is available at : http://www.dspace.org/node/97
- **Libra**-It is available at :https://libra.soft112.com/
- **Voyager-** It is available at: https://en.freedownloadmanager.org/Windows-PC/Voyager.html
- **WinISIS (formerly CD/ISIS)-**It is available at:
- http://www.unesco.org/isis/files/winisislicense.html(Suthar)

4.0 Conclusion

Library automation and the use of open source software are relevant for achieving optimal library effectiveness at a minimal cost. This process benefits both the library staff and the users as it reduces the level of job stress on the staff and enhances remote and timely provision of up-to-date information to the users. This paper has spelt out the salient issues that should be considered in library software selection and also discussed the characteristics of OSS that qualify them to be effective library automation software. Brief discussion on the various OSS available for integrated library management has also been done in this paper. To achieve a successful automation of the library services with the open source software, it is recommended that all key factors such as; consideration of user requirements, presence of the infrastructure (hardware, software, and network), support from software developers, availability of user group for the software, and competent staff must be prioritized for the project.

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