OPEN-SOURCE DIGITAL LIBRARY SOFTWARE'S: SPECIAL REFERENCE TO DSPACE

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Abstract :-
The richness in knowledge has changed access methods for all stake holders in retrieving key knowledge and relevant information. This paper presents a study of open source software, advantage of open source software, and details of D-Space open source digital library management software used to assimilate and disseminate information to world audience.

Keywords: Open source, Digital Library, Digital Library Management Software, D-Space

Introduction : .

Digital library refers to a collection that constitutes electronic resources, accessible through the World Wide Web. It often contains electronic versions of books, photographs, videos that are owned by a "physical" library. Open source digital library software presents a system for the construction and presentation of information collections. It helps in building collections with searching and metadata-bases browsing facilities. Moreover, they are easily maintained and can be augmented and rebuilt automatically. With many Open Source Software (OSS) applications now available for library and information management, Organizations now have novel options for acquiring and implementing systems. The Open Source Software applications for library and Information management that will be discussed in this paper is D-Space

DIGITAL LIBRARY MANAGEMENT SYSTEMS

Digital Libraries have greatly evolved during the last few years. They are no longer only the digital counter part of physical libraries (or physical museums, video achieves, etc.) rather they are intricate networked systems capable of supporting communication and collaboration among different, worldwide distributed user communities. Digital Library management system evolved with the inception of Digital Library**.** Digital Library management system provides the appropriate framework both for the production and administration of Digital Library System by incorporating functionality essentially fundamental to Digital Libraries, and also provides provision for integration of additional software that provides more refined and advanced functionality. Digital Library can thus be established by setting up and deploying a Digital Library Management System and then loading or harvesting content. This approach largely simplifies and reduces the effort required to set up a Digital Library that promises a guaranteed better quality of service. These generic systems have started to appear from the second half of 1990's even though implementing the devised DLMS features only to some extent. The major characteristics that distinguish them from each other are the class of functionality offered, the type of object model for information being supported, and the openness of their architecture's. The DLMS (Digital Library Management System) available are commercial as well as open source. But, Open Source DLMS's (Digital Library Management System) are the one that will be studied. Open source digital library management software's provide extensible features to administrators' and allows an organization to showcase their digital achieve to world audience.

Open Source Software

Open source software is computer software whose source code is available under a license that permits users to study, change, and improve the software, and to redistribute it in modified or unmodified firm. It is often developed in a public, collaborative manner. It is the most prominent example of open source development and often compared to user generated content.

Features of open source software :

- ➢ Be freely distributable
- ➢ Includes the source code
- ➢ Maintains the integrity of the original source code
- ➢ Not discriminate against fields of endeavor
- ➢ Provides for the distribution of the license
- ➢ Not be specific to a product
- ➢ Not restrict other software
- ➢ Be technology neutral

Advantage of open source software

- ➢ The availability of the source code and the right to modify it is very important as enables in the improvement and extend the lifetime of a software product
- ➢ Source code availability also makes it much easier to identify errors, and to fix them.
- ➢ The right to redistribute modifications and improvements to the code, and to reuse other open source code, permits all the advantages due to the modifiability of the software to be shared by large communities.
- ➢ Continuous improvement does not require users to pay for it. There is of the software depends. This is a very common concern with proprietary software.
- ➢ There are fewer confliction priorities due to marketing pressures. Usually open source software is delivered when it is ready and when the development team feels that its quality is good enough. This means that software usually does not need as many service packs updates and such, reducing the maintenance cost.

Digital Library Software:

Digital libraries are defined in many ways, encompassing both analog material made available digitally and newly created digital content. It is organized searchable collection in digital format. There are quite a few digital library software packages available in the market on e has to select the right kind of package depending on their specified need. There are a few library automation software packages. Which have a separate digital library module open source digital library software derives its strength from several metadata based inter operability protocols which have become available recently

About D-Space

D-space is a ground breaking digital repository system that captures, stores, indexes, preserves and distributes digital research materials. choice for repository software providing the means for making information openly available and easy to manage. software to enable permanent access to digital works.

The D-Space is a joint project of the MIT Libraries and HP labs. It is a digital asset management system that allows institutions, such as libraries to collect, archive, index, and disseminate the scholarly and intellectual efforts of a community. Written with a combination of technologies by MIT, it is primarily used to capture bibliographic information describing articles, papers, theses, and dissertations. D-Space is adaptable to different community needs. Interoperability between systems is built-in and it adheres to international standards for metadata format. Being an open source technology platform, D-Space can be customized to extend its capabilities. Some of its characteristics as shown in D-Space documentation are as:

a) It is a service model for open access and/or digital archiving for perennial access.

b) Provides a platform to frame an Institutional Repository and the collections are searchable and retrievable by the Web.

c) Helps to make available institution-based scholarly material in digital formats. The collections will be open and interoperable.

Details of D-Space

Year of creation	2002
Creator	MIT libraries and Hewlett Packard
License cost	Free
Product Type	Software
Resource Identifier	CNRI Handles
OAI-PMH	Yes
Supported Item Types (Storage *and* rendition)	Can store and manage all types of content
Metadata formats	Dublin Core, Qualified DC, METS
User interface functions	End user depositions, Multilingual support.
Thumbnail Preview	Images
Searching Capabilities	Field Specific, Boolean Logic, Sorting options
Browsing options	By Author, Title, Subject and collection
Syndication	RSS, ATOM
User Authentication	LDAP Authentication, *Shiboleth Authentication*
Statistical reporting	Count of Full Records
Software Platforms	Linux or Unix, Solaris, Windows
Databases	Oracle, PostgreSQL
Programming Language	Java and JSP
Machine-to-Machine Interoperability.	OAI-MHP,OAI-ORE, SWORD, SWAP
License	GNU
Services	Service via 3rd part service providers

Benefits of D-Space
- Access & distribution –web and CD-ROM Getting your research results out quickly, to a worldwide audience
- Archiving and distributing material you would currently put on your personal website
- Staring examples of students project (with the students permission)
- Showcasing students theses(Students permission)
- Keeping track of your own publications/bibliography
- Having a persistent network identifier for your work, that never changes or breaks.
- Reaching a worldwide audience through exposure to search engines such as Google.
- Storing reusable teaching materials that you can use with cause management system

Conclusion

The digital library initiator will turn information challenges into opportunity for creative solutions in the traditional library environment in India. Planning is both behavior and the process, it is the process of moving on digital library from where it is to where it wants to be in a given period of time by setting it on a predetermined course of action and committing its human and physical resources to that goal. Since the software was originally released, a community made up of organizations that either use of develop the D-Space open source software has emerged. Investment in D-Space continues to grow. Adopters employ technical and functional experts to build and expand local D-Space services and pursue various research agendas pertaining to the D-Space platform. For example, adopters gather and manage, for deposit in D-Space, collection of digital material that require long term stewardship, they provide capital outlays for server, back-up and storage hardware, and they offer technical support to the community and commit resources to develop the D-Space platform further**.**

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