

A Study of Evaluation of Open Source Digital Library Software (OSS-DL)

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Abstract – Open source software (OSS) have gained lot of acceptance in libraries all over the world to save exorbitant costs incurred in procuring commercial software as well as paying annual maintenance costs and upgrading costs incurred by commercial suppliers. Ranges of open source software are available today for use in libraries for various applications. Use of open source software in libraries has made a good impact in libraries because library profession is highly collaborative and has a history of sharing successful approaches. A library management system, also known as an automated library system is the software that has been developed to handle basic housekeeping functions of a library. Library automation which started in late 1970s in few special libraries has now reached most of the university libraries and college libraries in India. Library automation refers to use of computers, associated peripheral media such as magnetic tapes, disks, optical media etc. and utilization of computer based products and services in the performance of all type of library functions and operations. Computers are capable of introducing a great degree of automation in operations and functions, since they are electronic and are capable to control over the processes being performed.

Keywords: Digital Library Software, Digital Library Architecture, Open Source, D-Space.

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INTRODUCTION

The last years a great number of digital library and digital repository systems have been developed by individual organizations -mostly Universities- and given to the public as open-source software. The advantage of having many choices becomes a great headache when selecting a Digital Library (DL) system for a specific organization. To make the decision easier, we compared five such systems that are publicly available using an open source license, are compliant with Open Archives Initiative Protocol for Metadata Harvesting (OAIPMH) (Balas, 2004) and already have a number of installations worldwide. Using these basic restrictions we selected for comparison the following five (5) broadly used DL systems:

- D-Space, developed by the MIT Libraries and Hewlett-Packard Labs (BSD open source license)
- Fedora, jointly developed by Cornell University and the University of Virginia Library (Educational Community License)
- Greenstone, produced by the University of Waikato (GNU General Public License)

- Keystone, developed by Index Data (GNU General Public License)
- E-Prints developed by the University of Southampton

Open source defines method of software development, that harnesses the power of distributed peer review and transparency of progress. This technique helps to provide better quality software's having higher reliability, flexibility with lower cost, and an end to the traditional vendor lock-in. The source code and rights that where normally reserved for copyright holders are now being provided under a free software license that permits developers / users to study, change, improve and at times also to distribute the software. 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.

REVIEW OF LITERATURE

Especially we have to note the closing factor as shown in Figure 1, the principle activities of users can be categorized into five categories: locating and choosing among applicable resources, retrieving data from them, decoding what was retrieved, handling the filtered-out facts domestically, and sharing outcomes with others. These activities aren't necessarily sequential, however are repeated and interleaved. Users can pass freely within the circle to get their paintings done. In standard, users will be involved in multiple tasks at the same time. They will want to move back and forth amongst those tasks and some of the five regions of hobby. They need to locate, examine, and recognize statistics of various genres. They need to re-arrange the information to use it in a couple of contexts, and to govern it in collaboration with colleagues of different backgrounds and recognition of hobby.

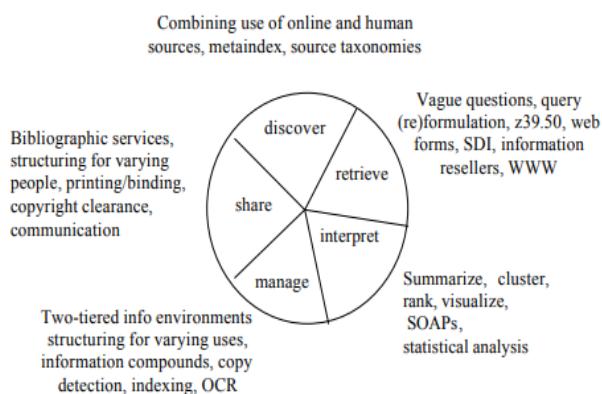


Figure 1.: The main activities of digital library users

With the tendencies in laptop generation it is straightforward to cut paste and use any digital report throughout community. Hence it is more vital to at ease the virtual content material being used by unauthorized users. Authentication is the technique via which the identification of a person (or system) is ascertained and confident. It is the technique of determining whether a given operation is authorized, together with analyzing a file or updating metadata to a given man or woman.

In the library setting, the requirements for AAA regularly focus on copyright, fee methods, and utilization rights; similarly, there is a significant difficulty for the privateness of the reader and statistics approximately what's being read by whom. If virtual library helps proper authentication and authorization approaches then it is simple to identify authentic library consumer and related privileges to the stop person after which simplest permit stop consumer to get entry to the content made available within the digital library.

One of the venture in digital libraries is the capacity to guard digital content material from unauthorized get right of entry to or from unauthorized or out of control use of that content together with replicating and transmitting it to others.

Intellectual Property Rights: Managing highbrow assets rights is one of the most complicated and hard issues digital libraries face. Both prison and price issues are concerned on this region. Libraries want bendy licenses that enable them to legally create archival collections and to transfecontent to newer storage technologies for preservation. Licensing preparations in digital libraries are more complex. For instance, a person may additionally want to recognize who owns a right and be capable of negotiate unique permissions. Licensing preparations end up complex as libraries purchase and share get entry to each print and digital version of substances.

The felony liability of presenting get right of entry to certified materials can be some distance extra with digital statistics merchandise than with their print counterparts, given the convenience with which unscrupulous customers can benefit unauthorized get right of entry to. In addition, libraries may additionally need to fee customers for get entry to virtual materials. For a majority of these functions, libraries need price-effective, bendy, and easy-to-use software to manipulate get right of entry to rights and copyright prices, in addition to deal with billing and payment for each person digital item this is introduced into the digital library. It is thought that technical solutions may be inadequate to cope with all of the highbrow assets issues that exist within the context of digital libraries. Continued studies is required to give digital libraries the potential to manipulate highbrow property rights and to shield the ones rights while now not inhibiting customers' valid access to substances constant with the ones rights.

Privacy and security: One of challenges in virtual libraries is defensive digital contents from unauthorized access. A related set of challenges for virtual libraries is the ability, or in some cases the requirement, to defend digital content from unauthorized get entry to or from unauthorized or out of control use of that content material along with replicating and transmitting it to others. In a few cases (for instance, digital song) privateness and safety technology are required to protect the rights both of the content owner and the consumer and to allow colorful electronic trade. In different instances (as an example, fitness care), privacy and security are even extra critical. These demanding situations, which might be at the middle of lots of these days' digital intellectual assets problems, haven't begun to be solved in widely applicable methods.

Copyright/rights management: Copyright is one of the most important projects in developing digital libraries. Digital objects are less constant, without

problems copied, and remotely on hand by way of more than one customer concurrently. The hassle for libraries is that, they do no longer own the copyright of the maximum of the cloth available in libraries. It is not likely that libraries will ever be capable of freely digitize and offer access to copyrighted fabric of their collections. Rather they will have to increase mechanisms that allow them to offer statistics without violating copyright.

DIGITAL LIBRARIES: There is not any single definition for Digital Libraries. The definition evolves as studies progresses and we research extra approximately virtual libraries. Some of the modern-day definitions are:

- Digital libraries are structures that combine the machinery of virtual computing, garage and verbal exchange, the content material, and software program had to reproduce, emulate, and amplify the offerings of gathering, cataloging, locating and disseminating records offered by means of traditional libraries based on paper and other substances. A full carrier virtual library must no longer simplest satisfy all critical offerings supplied by traditional libraries but also make desirable use of the advantages of virtual era.
- Digital libraries are viewed as structures providing a community of users with coherent get right of entry to a huge, organized repository of records and information. This company of information is characterised by using the absence of previous certain expertise of the uses of the data. The potential of the user to get admission to, reorganize, and utilize this repository is enriched with the aid of the competencies of digital technologies (Chawner, 2005).
- The concept of a "digital library" isn't always merely equal to a digitized series with statistics management tools. It is rather surroundings to convey together collections, services, and people in aid of the total life cycle of introduction, dissemination, use, and upkeep of facts, facts, and information (Fox, 2006).

From the definitions above, it can be concluded that researchers have stretched the definition of digital libraries. More humans are recognizing that digital library isn't a topic handiest in computer and records technology; however advances in digital library additionally rely upon efforts from felony community.

Digital libraries are libraries extended and more advantageous via digital generation. Important factors of a library that may be extended and greater encompass:

- The collection of the library

- The enterprise and management of the collections
- Get admission to library gadgets and the processing of the information contained inside the objects
- The communiqué of statistics approximately the objects.

The functions of virtual libraries are:

- To hurry up the systematic improvement of the manner to accumulate, shop, and organize records and expertise in virtual shape, and of virtual library collections.
- To sell the cost effective and green transport of statistics to all components of society,
- To encourage co-operative efforts which leverage the enormous investment in research assets, computing and communications network.
- To strengthen verbal exchange and collaboration between and the various studies, commercial enterprise, authorities and academic communities.
- To make contributions to the lifelong gaining knowledge of opportunities of everybody.

Figure 2 indicates a digital library service version. Digital libraries distribute a wealthy and coherent set of facts offerings (together with choice, corporation, get admission to, distribution, and staying power) to users reliably and economically. These offerings are enabled via a collection of equipment that operates on gadgets which includes content packages, related metadata, provider techniques, and approach of control.

As for the connection between digital libraries and NII, digital libraries offer the important statistics management technology for the NII, and on the equal time constitute its primary records and understanding repositories. In other phrases, digital library is the middle of the NII. The facts services, seek centers, and multimedia technology constitute the virtual libraries technology. Like different NII technologies, they ought to provide for dependability, manageability, ease of use, interoperability, and protection and privacy (Chawner, 2005).

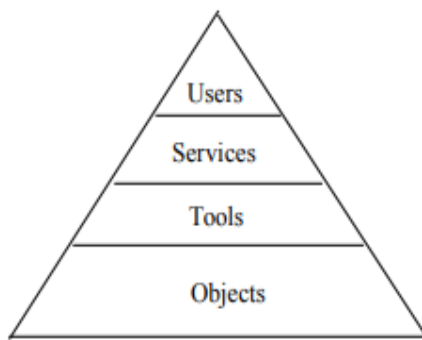


Figure 2. Digital libraries service model.

Notice in most instances, we use the plural term “virtual libraries” which means that we do now not count on to look a single virtual library. Each records repository is controlled one at a time, possibly with one-of-a-kind technology, and as a result each constitutes a digital library (Chawner, 2005). However we have to combine “definitely” separate libraries into a single one.

FUTURE DEVELOPMENT

Big scale digitization tasks are underway at Google, the million e book undertaking, and internet archive. With endured upgrades in eBook dealing with and presentation technology which includes optical man or woman reputation and development of opportunity depositories and enterprise fashions, digital libraries are swiftly growing in reputation. Simply as libraries have ventured into audio and video collections, so have digital libraries together with the net archive. Google books undertaking lately received a courtroom victory on proceeding with their e book-scanning challenge that was halted via the authors' guild this helped open the street for libraries to paintings with Google to higher attain consumers who're accustomed to automated records.

According to larry lannom, director of statistics management technology on the nonprofit organization for countrywide research projects (cnri), "all of the issues related to virtual libraries are wrapped up in archiving." he goes on to country, "if in one hundred years people can nevertheless study your article, we're going to have solved the trouble." daniel akst, author of the webster chronicle, proposes that "the future of libraries and of information is digital." peter lyman and hal variant, information scientists at the college of california, berkeley, estimate that "the arena's total every year manufacturing of print, movie, optical, and magnetic content material could require roughly 1.5 billion gigabytes of storage." consequently, they accept as true with that "soon it is going to be technologically viable for a median character to access surely all recorded statistics.

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. With full rights of software available under GPL and source code being provided with the software, Organizations can extend the functionality of the software as being required for the particular operation.

D-Space: The D-Space is a joint project of the MIT Libraries and HP labs [5]. 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.

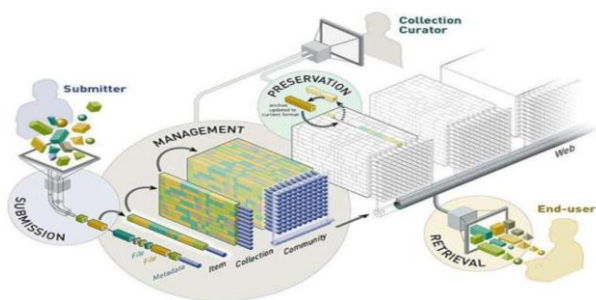


Fig 3: D-Space Digital repository Modal

DL SYSTEMS CHARACTERISTICS: The basic characteristics and features that expect from modern integrated DL software are:

1. **Object model.** The internal structure of the digital objects (entity that integrates metadata and digital content) in the DL system. Existence of unique identifiers for the digital object and every part of it is also important to ensure preservation and easy access.
2. **Collections and relations support.** Collection description metadata, definition of sub-collections and templates that describe the format of the digital objects or the presentation of the collection. Definition of relations between objects of the same or different types.
3. **Metadata and digital content storage.** The storage capabilities are stated, along with the preservation issues. It is important for the DL system to ensure standard as long as user defined metadata sets and multiple formats of digital content.
4. **Search and browse.** The mechanisms used for indexing and searching of the metadata. It is important for the DL system to support indexing not only for a restricted metadata set, but also for selected metadata fields.
5. **Object management.** Methods and user interfaces provided from the DL system to manipulate (insert, update and delete) metadata and digital content.
6. **User interfaces.** Provided user interfaces for end-user access on the DL, its collections and the digital objects.
7. **Access control.** Support for users and groups, authentication and authorization methods. Level of restriction for access and update (DL, collection, digital object and content).

8. **Multiple languages support.** Multiple languages should be supported in the user interface, in the metadata fields and in the digital content. The character encoding is of great importance in order for the DL systems to be fully multilingual.
9. **Interoperability features.** Standards that the DL systems support in order to ensure interoperability with other systems. Export of the digital objects in open standard formats is also important.
10. **Level of customization.** Customization of the DL system in collection level, the format of the digital objects and the services provided. The quality and methods provided by the application programming interfaces (APIs) of the DL systems.

IMPORTANCE OF DIGITAL LIBRARY:

- ▶ DL brings the library to the consumer
- ▶ Improved get right of entry to: searching and browsing
- ▶ Information is constantly to be had
- ▶ each time, anywhere, any layout
- ▶ Wider and simultaneous get right of entry to
- ▶ Allow collaboration and trade of ideas
- ▶ Improved upkeep
- ▶ Better content material management
- ▶ Helps in Resource sharing and library consortia
- ▶ Helps to attain customers at quicker price thru on- line.
- ▶ Minimum time to get right of entry to records.
- ▶ Provides bibliographical or complete textual content, retrospective as nicely modern
- ▶ Statistics.
- ▶ Support both formal and casual gaining knowledge of
- ▶ Greater possibility for publishing
- ▶ DLs may store money

DIGITAL LIBRARIES EVALUATION:

Evaluation is defined as "the systematic process of determining the merit, value and worth of something". The evaluation of digital libraries is yet in the primitive stage and the evaluation of Open Source Digital Library Software is a very new concept. There are very few studies carried out so far on evaluation of open source digital library software due to the fact that these software are very complex and their functionalities are different. Each software will have different backend database, different web server configuration, each software would have been written in different programming language etc. Hence evaluation study will be complex as well as difficult task to carry out. Open source software are making their place in libraries and libraries all over the world are trying to find which software satisfies which functions, features, how to install the software, how is the performance of the software etc. which software is useful for a type of collection or the organization needs. Librarians from developing countries especially will be benefited if more number of evaluation studies are available and if are carried out by the Librarians. The librarians will have detailed knowledge of the evaluation studies if the studies are conducted systematically covering all aspects of digital libraries. On the basis of functions carried out in digital libraries (Figure 1), the evaluation criteria defined here are grouped under broad functions of the digital library such as content acquisition, content management, metadata submission, information search & retrieval, authentication and authorization, Ease of Deployment, Usability, Copyright Issues, Digital Preservation etc.

Infrastructure Requirements for Digital Libraries

Each single company can create its personal digital library. To proportion facts throughout these libraries, it's far important and crucial to have a commonplace infrastructure facilitating such sharing. The identical infrastructure also can be supportive to sharing of technologies used to construct the virtual libraries.

The infrastructures for virtual libraries have to include the following components:

- Shared information representation models, service illustration models, and get right of entry to protocols. These will facilitate the sharing of information and services throughout virtual libraries.
- Information "content material" sharing agreements. This will take the form of communities of groups that comply with proportion their collections. Initially, the sharing can be unfastened, however ultimately the network will institute common charging schemes. The groups will even provide regulations for having extra members be a part of.
- Resource directories. The infrastructure ought to describe available records assets and relative models and protocol and signify the contents.
- Coordination discussion board. The intention of this discussion board is to coordinate national studies and development sports.

Among these components, to establish not unusual schemes for the naming of virtual gadgets, and the linking of those schemes to protocols for object transmission, metadata, and object type classifications is the most pressing want. Naming schemes for virtual gadgets that allow global specific reference is the basis for facilitating useful resource sharing, linkages, and interoperation amongst digital library structures and for facilitating scale-up of digital library prototypes.

Another essential requirement is a public key cryptosystem infrastructure, which include the improvement of a machine of key servers and the definition of requirements and protocols. This is necessary to help digital library desires in regions including security and authentication, privateness, rights control, and bills for using highbrow property. Only after these issues are addressed, is it feasible for commercial publishers and different facts providers to make large quantities of high-value copyrighted facts broadly to be had to virtual library customers. This in turn will limit the development of research prototypes and may be a distorting issue in research of user conduct.

RESEARCH METHODOLOGY

The present work manages the assessment of Open Source Digital Library Software (OSSDL). Throughout the most recent decade, there have been noteworthy endeavors to create digital libraries

Since the digital library network is to a great extent occupied in structure digital libraries almost no consideration is paid on assessing the substance included digital libraries just as assessment of innovation which is utilized for structure digital accumulations just as ease of use assessment.

Considering this hole the present study proposes to characterize broad assessment criteria for assessing OSS-DL and proposes to assess OSS-DL against set of characterized assessment criteria by introducing every product on a proving ground environment and really assessing every measure.

So as to accomplish the predetermined goals and to test the theories, broad Evaluation Criteria were characterized for assessing each chose OSS-DL hopeful.

Assessment criteria were finished in the wake of having survey of prior examinations, couple of introductions and having talks with digital library specialists who are working in the digital libraries field. The choice of OSS-DL programming were made under the fundamental criteria of having the product accessible through Open Source License terms and conditions just as accessible free on Internet.

A rundown of such programming is accessible on ROAR just as OSS4lib site to know the quantity of OSS-DL utilized for making open access digital archives/institutional stores. An underlying rundown was readied which secured the accompanying major OSS-DL. The accompanying rundown additionally give all out number of establishments utilizing these product.

- ARNO – 5
- CDSWare – 9
- DoKS – 5
- DSpace – 266
- Fedora – 9
- Fez/Fedora– 3
- GNU EPrints – 242
- MyCoRe– 4
- SciX– 2 (Browsed as on sixteenth January 2007)

Since the study is particularly kept to characterizing assessment criteria for assessing Open Source Digital Library Software and executing these criteria on the chose OSS-DL applicant, assessment of just Open Source Software was completed as the motivation behind the study.

Every product was completely checked whether it has been made accessible under Open Source License or is accessible free on Internet and afterward it was chosen for further assessment. To make rundown of assessment criteria it was important to comprehend the digital library idea thus State-of-the-craftsmanship and pattern in Digital Libraries was completed. Since the present study falls under Evaluation part of the Research Methodology, broad assessment criteria were produced for surveying each OSS-DL programming. Based on the accessible programming every product was assessed against the characterized wide and slender assessment criteria. Expansive criteria were broken into sub-criteria with each sub-criteria having a significance rating.

A point by point assessment criteria list was readied covering the accompanying expansive assessment

criteria and further subdividing every one of these wide criteria into a few sub criteria, for example, content obtaining, content administration, metadata accommodation and backing, grouping, data seek/recovery, get to control protection and the board, confirmation and approval, interoperability, simplicity of arrangement of every product, General highlights identified with specialized angle, Architecture of the product, Backup/Restore office, User Friendly Interface, Usability, Transaction Log Analysis, Copyright/Policy Issues, Advanced Features, Digital Preservation. The products were shortlisted based on fruitful establishment of every product.

A component of the product world over the previous years has been the ascent of Open Source Software (OSS) including utilizing and creating OSS-names like Google, eBay and Face book. Presently, such programming is expanding being utilized in the library environment. The present libraries are looked with the difficulties of coordinating customary and emerging arrangements, adjusting asset portion among conventional and up and coming innovations and building new data the executive's procedures and techniques. The blast of the web, the web and data innovation by and large has given immense opportunities for those working in library and data callings in advanced education. In this paper we give helpful data about programming to instructive organizations presenting digital library ideas.

Evaluation of Open Source Digital Library Software (OSS-DL):

The assessment of digital libraries is yet in the crude stage and the assessment of Open Source Digital Library Software is an exceptionally new idea. There are not many examinations done so far on assessment of open source digital library programming because of the way that these products are extremely mind boggling and their functionalities are unique. Every product will have diverse backend database, distinctive web server setup, every product would have been written in various programming language and so on. Henceforth assessment study will be unpredictable just as troublesome undertaking to convey out. Open source programming are making their place in libraries and libraries everywhere throughout the world are endeavoring to discover which programming fulfills which capacities, highlights, how to introduce the product, how is the execution of the product and so forth which programming is valuable for a sort of gathering or the association needs. Administrators from creating nations particularly will be profited if increasingly number of assessment considers are accessible and if are completed by the Librarians. The bookkeepers will have itemized information of the assessment ponders if the examinations are led methodically covering all parts of digital libraries.

In the present study, the assessment criteria for assessing digital libraries introduced here are characterized based on a broad writing look

completed on Internet and on online full content databases for seeking important articles on the assessment part and in the wake of experiencing the writing and accessible sources a broad rundown of assessment criteria which can be utilized to assess the accessible Open Source Digital Library Software was readied. The criteria characterized here structure the premise of prior investigations.

Most of research on digital library assessment centers around how clients utilize a digital library, basically convenience contemplates, to either prescribe plan standards or improve the current UI and pursuit includes however not very many examinations have been done on assessing Open Source Digital Library Software covering recognizing their functionalities, execution and so forth. T. One of the destinations of the study is to recognize programming accessible under open source permit for making digital libraries at that point to characterize a broad rundown of assessment criteria while assessing digital libraries and assess all these product against the criteria distinguished as there are no standard assessment criteria which are yet characterized for assessing OSS-DL.

Search System:

At the point when a digital library framework is planned, it is expected that there will be many records and index that can be sought to find data before recovering it from a storehouse. These records might be freely overseen and bolster a wide scope of conventions. It ought to be seen that digital library is a circulated framework; the four parts in Figure 3 might be physically situated in numerous spots.

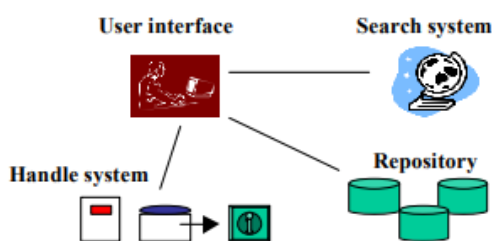


Figure 4 Major component of a digital library system

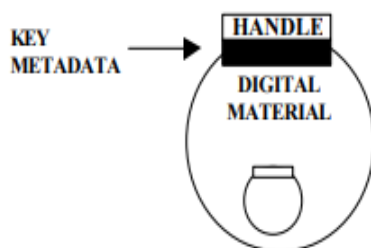


Figure 5. A digital object.

DIGITAL OBJECTS

The digital object: A digital article is a basic unit of the digital library engineering. It comprises of two parts: key-metadata and digital material, as outlined in Figure 4.

Key-metadata: The key-metadata is the data put away in the digital item that is expected to deal with the digital article in a networked environment – for instance to store, repeat, or transmit the item without giving access to the substance. It incorporates a handle, an identifier internationally one of a kind to the digital item, terms and conditions, and other discretionary metadata.

Digital material: The digital material (or information) can be a lot of successions of bits or other digital articles. It is utilized to store digital library materials. For example, a digital article may store a content with SGML increase. Note that due to the qualities of data, a digital item could be inserted into another digital article, which is called Meta Object like Metadata for digital articles.

ARCHITECTURE OF A DIGITAL VIDEO LIBRARY SYSTEM

The Digital Video Library System is an unpredictable framework made out of the product parts appeared in Figure 6. These segments are depicted beneath.

Video Storage System (VSS): The Video Storage System stores video portions for preparing and recovering purposes. So as to give savvy access to segments of a video, the Video Storage System must most likely convey various short video fragments at the same time.

Video Processing System (VPS): The Video Processing System comprises of video preparing projects to control, pack, minimized, and break down the video and sound segments of a video fragment. It additionally contains a part to perceive watchwords from the sound track of video fragments.

Data Retrieval Engine (IRE): The Information Retrieval Engine is utilized to store lists extricated from video fragments and other data about the video sections, for example, sources, copyright, and approval. The Information Retrieval Engine can bolster both free-content and Boolean inquiries.

Customer: The customer is a graphical UI dwelling on the client's PC. It incorporates interfaces for leading organized and free content seeking, hypertext perusing and a basic video proofreader.

Inquiry Sever (QS): The Query Server forms video inquiries from the remote customer and speaks with

the Information Retrieval Engine and Video Storage System to empower clients to extricate video information and make media portrayals of the data of intrigue.

As found in the Figure 6, these segments are firmly interrelated and bolster three altogether different Digital Video Library System capacities:

- The making of the Digital Video Library System chronicle.
- The handling of video in the Digital Video System to assemble programmed lists.
- The access of the Digital Video Library System by clients.

The framework design of a digital video library is appeared in Figure 7.

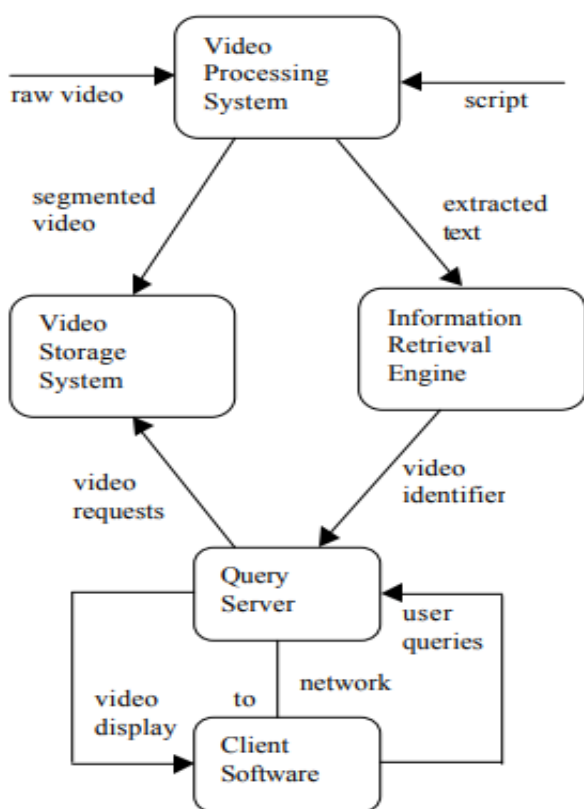


Figure 6. Software components of a digital video library.

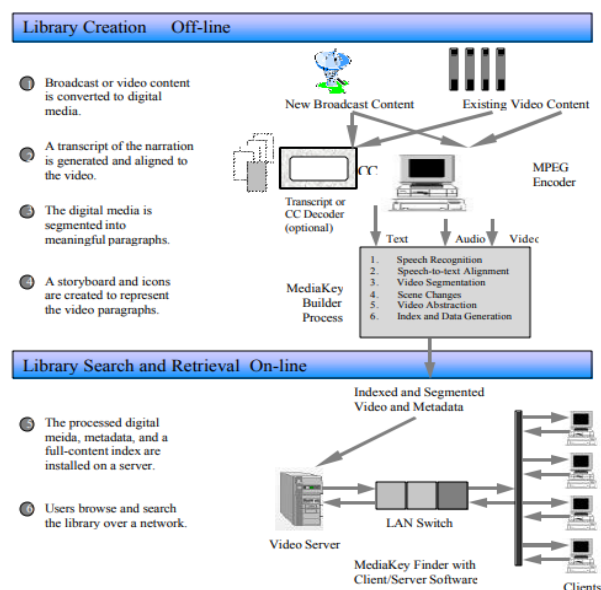


Figure 7. System architecture of a digital video library.

CONCLUSION:

Open access movement is driven by several enabling technologies, including open source digital library software, metadata standards, protocols for interoperability i. e. OAI-PMH protocol. The roots of Open Access to Information lie in the development of different e- print repositories. Eprint repositories were established in order to communicate the results of ongoing scholarly research prior to peer review and journal publication. Web interfaces allowed people to interact with these repositories and some finding aids were provided. Different interfaces were designed for different repositories, so end users were forced to learn diverse interfaces in order to access the various repositories and finding aids. In the next paragraphs, guidelines for the selection of a DL system are provided depending on different organization needs.

- Consider a case where an institution or university needs a digital repository for research papers and dissertations produced by students and stuff. In that case, the most appropriate DL system is D-Space, since it by default represents communities (e.g. university departments) and collections (e.g. papers and dissertations), while workflow management supported is important for item submission by individuals.
- Consider a case where an organization needs one digital collection to publish its digital content in a simple form, in strict time limits. In addition, the organization prefers to integrate the web interfaces of the DL with a portal like website. In that case the most appropriate DL systems are Keystone or E-Prints, since they separate the concerns of

presentation and storage, are not bind to specific metadata standards and provide simple web interfaces for the submission and presentation of documents and metadata.

- Consider a case where an organization is responsible to digitize collections from libraries, archives and museums and host them in a single DL system. The organization has human resources and the amount of time in order to customize the DL system and develop extra modules. The highest priority needs are the support of preservation issues, the use of multiple metadata standards and the different formats of digital content. In that case the most suitable DL system is Fedora, since it provides a very customizable modular architecture.

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