

Digitization of Library Resources and the Formation of Digital Libraries: A Practical Approach

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ABSTRACT:

This paper discusses the new activities, methods and technology used in digitization and formation of digital libraries. It set out some key points involved and the detailed plans required in the process, offers pieces of advice and guidance for the practicing Librarians and Information scientists. Digital Libraries are being created today for diverse communities and in different fields e.g. education, science, culture, development, health, governance and so on.

With the availability of several free digital Library software packages at the recent time, the creation and sharing of information through the digital library collections has become an attractive and feasible proposition for library and information professionals around the world. The paper ends with a call to integrate digitization into the plans and policies of any institution to maximize its effectiveness.

Key words: Digital libraries, Digitization, Digital library software.

INTRODUCTION:

Digital Libraries are being created today for diverse communities and in different fields e.g. education, science, culture, development, health, governance and so on. With the availability of several free digital Library software packages at the recent time, the creation and sharing of information through the digital library collections has become an attractive and feasible proposition for library and information professionals around the world.

Library automation has helped to provide easy access to collections through the use of computerized library catalogue such as On-line Public Access Catalog (OPAC). Digital libraries differ significantly from the traditional libraries because they allow users to gain an on-line access to and work with the electronic versions of full text documents and their associated images. Many digital libraries also provide an access to other multi-media content like audio and video.

What are Digital Libraries?

A digital library is a collection of digital documents or objects. This definition is the dominant perception of many people of today. Nevertheless, Smith (2001) defined a digital library as an organized and focused collection of digital objects, including text, images, video and audio, with the methods of access and retrieval and for the selection, creation, organization, maintenance and sharing of collection.

Though the focus of this definition is on the document collection, it stresses the fact that the digital libraries are much more than a random assembly of digital objects. They retain the several qualities of traditional libraries such as a defined community of users, focused collections, long-term availability, the possibility of selecting, organizing, preserving and sharing resources. The digital libraries are sometimes perceived as institutions, though this is not as dominant as the previous definition. The following definition given by the Digital Library Federation (DLF) brings out the essence of this perception.

“Digital Libraries are organization that provide the resources, including the specialized staff to select, structure, offer intellectual access to interpret, distribute, preserve the integrity of and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities.” (DLF 2001)
The point in this definition is on the digital library as a dynamic, growing organism. As digital libraries evolve and become the predominant mode of access to knowledge and learning, institutionalization of digital libraries appears to be on the increase.

Benefits of Digital Libraries:

Digital libraries bring significant benefits to the users through the following features:

i.Improved access:

Digital libraries are typically accessed through the Internet and Compact Disc-Read Only Memory (CD-ROM).

They can be accessed virtually from anywhere and at anytime. They are not tied to the physical location and operating hours of traditional library.

ii. Wider access:

A digital library can meet simultaneous access requests for a document by easily creating multiple instances or copies of the requested document. It can also meet the requirements of a larger population of users easily.

iii. Improved information sharing:

Through the appropriate metadata and information exchange protocols, the digital libraries can easily share information with other similar digital libraries and provide enhanced access to users.

iv. Improved preservation.:

Since the electronic documents are not prone to physical wear and tear, their exact copies can easily be made, the digital libraries facilitate preservation of special and rare documents and artifacts by providing access to digital versions of these entities.

Functional Components of Digital Library:

Most digital libraries share common functional components. These include:

i. Selection and acquisition:

The typical processes covered in this component include the selection of documents to be added, the subscription of database and the digitization or conversion of documents to an appropriate digital form.

ii. Organization:

The key process involved in this component is the assignment of the metadata (bibliographic information) to each document being added to the collection.

iii. Indexing and storage:

This component carries out the indexing and storage of documents and metadata for efficient search and retrieval.

iv. Search and retrieval:

This is the digital library interface used by the end users to browse, search, retrieve and view the contents of the digital library.

It is typically presented to the users as Hyper-Text Mark-up Language (HTML) page.

These mentioned components are the important characteristic of digital library, which differ it from others collections of online information.

Digitization:

Witten and David (2003) defined Digitization as the process of taking traditional library materials that are in form of books and papers and converting them to the electronic form where they can be stored and manipulated by a computer.

Ding, Choo Ming (2000) has elaborated the works of Getz (1997), Line (1996) and Mckinley (1997) on the advantages of digitization. They maintained that:

i. Digitization means no new buildings are required; information sharing can be enhanced and redundancy of collections reduced.

ii. Digitization leads to the development of Internet in digitalized based libraries. As Internet is now the preferred form of publication and dissemination.

iii. Digital materials can be sorted, transmitted and retrieved easily and quickly.

iv. Access to electronic information is cheaper than its print counterpart when all the files are stored in an electronic warehouse with compatible facilities and equipment.

v. Digital texts can be linked, thus made interactive; besides, it enhances the retrieval of more information.

In the light of the following advantages, it is natural today to find more information being digitized and uploaded into the Internet or Compact-Disc Read Only Memory (CD-ROM) in order to be made correspondingly accessible globally.

Greenstone Digital Library Software:

Greenstone is a freely available suite of software for building and distributing digital library collections. It provides a new way of organizing information and publishing it on the Internet or on the CD-ROM. The Greenstone is open source software, issued under the terms of the GNU General Public License.

The aim of the software is to empower the users, particularly in the Universities, Libraries and other public service institutions, to build digital libraries.

The software has the following features such as multi-platform availability for windows, linux, access and distributed through the Internet, Intranet and CD-ROM, powerful indexing from full-text and creation of indexes for various metadata, powerful search and browse, support different file formats (html, pdf, doc rtf, ppt etc), extensibility by allowing customization and configuration.

Greenstone also allows the building of non-textual multimedia such as audio, video and pictures accompanied by textual description to allow for searching and browsing.

Conclusion:

Digitization has opened up new audiences and services for libraries, and it needs to be integrated into the plans and policies of any institution to maximize its effectiveness.

Digitization is a complex process with many crucial dependencies between different stages over time. Utilizing a holistic life-cycle approach for digitization initiatives will help develop sustainable and successful project.

It is hoped that the approach of the issues outlined, the software mentioned in this paper and the references to more detailed source and past project will contribute to the future success of initiating digitization of library resources.

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