



## Digital Library Formation

ILASARIYA DEVENDRAKUMAR H.

Palanpur, Gujarat (India)

### **Abstract:**

*In this article author has discusses the new activities concept methods in digitization and formation of digital libraries. In present era digital library is a necessity of the society. 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 topic of changing service of Library in digital and one of the free digital Library software discussed here.*

**Keywords:** Education, Digital library, Software of library

### **1. Introduction**

Digital Libraries are being created today for diverse communities and in so many different fields e.g. education, science, culture, development, health, governance and so on. Digital libraries offer direct access to the content of a wide variety of intellectual works, including text, audio video and data and may offer a variety of services supporting search, access and collaboration. In the last decade digital library have rapidly become ubiquitous because they offer convenience expanded access and search capabilities not present in traditional libraries. This has greatly altered how library users find and access information and has put pressure on traditional libraries top take on new roles.

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.

### **2. Background**

In 1939,before the first digital computer system was designed Vannevar- Bush, a professor of electrical engineering at MIT, proposed a system that in many ways foreshadowed modern digital Libraries This system the Memex was designed to microfilm entire libraries of books and journals, combine these with individuals privet notes and indexes and make them available on the desktop. Bush envisioned that the Memex would enable users and information professionals to create new organizations of knowledge through associative trails link among parts of different documents .Although this system was never built bush's ideas inspired generations of future computer scientist including J.C.R. Licklider, who made fundamental contributions to the development of personal computer interfaces artificial intelligence the internet and digital libraries. Licklider envisioned much of the design of modern digital libraries including and storage services.

Although lacking the characteristic search and direct access capabilities of modern digital libraries, social science data archives were in a sense the first digital libraries since they maintained large collections of digital material and provided access to it outside users. Many of these collections were started in the 1950s when social scientists realized that it was crucial that their research surveys and so forth were recorded in digital form In order to be preserved for future research. In the late 1970s

through the late 80s digital technology was adopted in most Libraries primarily in the form of OPAC' which replaced card catalogs it was not until the early 1990s, when the burgeoning world wide web made dramatically more useful by indexing services such as Lycos greatly accelerated the growth of digital libraries and brought the combination of access and content that is their modern hallmark.

Government funding was crucial to early developments in digital library technology and continues to remain important. For example the Lycos search engine emerged from work done by the Information media project at Carnegie – Mellon and the immensely popular Google search service emerged from Stanford's Inter lib project . Both of these projects were initially under the Digital Library Initiative a joint project of NSF ,NASA ,and DARPA The two phases of this initiative sponsored some of the most innovative efforts in digital libraries across a decade other U.S.Government programs such as the National Digital Information Infrastructure preservations program (NDIIPP) funded by the Library of congress and the NSF's National science Digital Library continue to support in innovative research in this area .Other countries have also contributed funding .mostly focused on the digitization of content ,although some organizations such as the U.K.'s JISC (Joint Information Systems Committee) have funded a mix of content and innovative research.

Search and information retrieval have long been significant components of digital libraries and commercial search engines such as Google Yahoo and MSN are now extremely popular search engines do not. However constitute digital Libraries which integrate collections management .access and other services.

### **3. Concept 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, and 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.

### **4. Concept of Digitization**

Generally we always 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 Me kinley (1997) on the advantages of digitization. They maintained that:

1. Digitization means no new buildings are required; information sharing can be enhanced and redundancy of collections reduced.
2. Digitization leads to the development of Internet in digitalized based libraries. As Internet is now the preferred form of publication and dissemination.
3. Digital materials can be sorted, transmitted and retrieved easily and quickly.
4. 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.
5. 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.

## **5. Needs of Digitization**

There are three main needs for digitization; two or all the three of them may apply to your digital library project.

1. To preserve the Documents: That is to allow people to read older or unique documents without damage to the originals.
2. To make the documents more accessible: This is to serve the existing users better; e.g. to allow the users to search the full text of the documents or to serve more users than envisaged in remote locations, example, more than one person at a time.
3. To reuse the documents. It means to convert documents into different formats; for example to use images in a slideshow and to adopt the content for a different purpose.

Digitizing documents can take a lot of time, effort and money. Smith (2001), narrated the following reasons that should be considered before going into digitization.

## **6. Creation of Digital Libraries**

### ***6.1 Digital Collection***

1. Converting paper and other media in existing collection to digital form.
2. Acquisition of original digital works created by publishers, institutions and other scholars like electronic books, electronic journals and data set.

A digital library can have wide range of resources. It can contain either conventional documents as well as information contained in digital or computer accessible form. Rusbridge has divided resources for a digital library into different categories which are - legacy, transition and new:

### ***6.2 Legacy***

Legacy resources are largely non-digital resources including manuscripts, prints, slides, and maps, audio and video recordings. Attempts are being made to digitize these resources.

### ***6.3 Transition***

Resources are primarily designed for another medium (mostly print). These are being or have been digitized, making the transition into the digital world.

## **7. Changing Service of Library in Digital Era**

The impact of Information Communication Technology in library environment started since 19th century. In 1960s IT, (Information Technology) help to share cataloging responsibilities among many libraries using MARC format. While there were attempts in these early years of the 1960s and 1970s to provide support for other library functions like cataloging and searching union catalog. In the second generation and the third generation of integrated library management systems are another

output of the IT development and most innovative development, in this regard that is Internet e.g. Internet "browsers"(e.g. Mosaic, Netscape, and Internet Explorer) and World Wide Web. The new concept on library system emerges that is re-engineering our operations. Every and each house hold operation of the library were changing due to automation and digitalization of the resources and ultimately fulfill the needs of the users and save the time of the users the re-engineering process started from every book, every catalog record, and every invoice of the library. Ultimately library service based on integrated library automation solution, allows librarians to manage their library online. All resources based on security are well indexed in reputed search engine like Google, yahoo, live and more. These enable readers to locate resources of any library across the globe. A great marketing tool of information resources for the libraries started from this point. Now a days, librarian has access to advanced features like MARC21, Z39.50, Live web OPAC (online Public Access Catalogue), Acquisition, Cataloging, Customized Report Generation and many others on procurement of expensive hardware and software are necessitate. Librarian, provide peace of mind to Librarian as their database is completely secured, untouched, tampered ,altered and constantly backed up time to time. Now we belong in the phase of Library 2.0. Library 2.0 is the application of web 2.0 technologies and philosophy in enhancing available library services and introducing new generation information services. It contains various key web 2.0 technologies like Blog, Wiki, Really Simple Syndication (RSS), Social Networking, Folk so no my etc. There is an array of web2.0 tools and services with possibilities for changing library systems and services. Social networking in library and information services has a tremendous potential for promotion of library and information services.

## **8. 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.

## **9. 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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