

## The Role of Digital Library in Technical Education: Present Scenario

By

**Sharanabasappa**

Librarian

Govt., First Grade College, Badami, Bagalkot, Karnataka

[sharanua@gmail.com](mailto:sharanua@gmail.com)

and

**Dr. Anitha S Rai**

Head – Library and Information Center

New Horizon College of Engineering, Marathalli, Outer Ring Road, Bangalore, Karnataka

[anithasrai@gmail.com](mailto:anithasrai@gmail.com)

### **Abstract.**

Digital library is not only digitization of physical resources, but also thoughtful organization of electronic collection for better access. Essentially a digital library deals with organization and access to a variety of research outputs. A digital library is a rich collection of heterogeneous and autonomous information sources. In such an environment, there is a need to provide users efficient means to locate and access the desired information.

Key words: Digital library, electronic resources, information sources

### **Introduction**

The information explosion in the field of Science and Technology, in the present scenario, is the emerging field of Digital Library and promises well organized enclaves that will support users in diverse information storage. The Digital Library system has maximum flexibility, durability, immunity, stability, high capacity, easy accessibility and compatibility with other media while minimizing cost, space and maintenance. Digital Libraries are designed to enhance the accessibility of the information from places where users can browse information electronically in the digital environment via LAN, Internet.

Digital Libraries can have two types of information resources, viz... Primary and Secondary resources. The primary resources include internal publication of an organization such as

technical reports, preprints of articles, monographs of conference proceedings, theses, dissertations, books, journals back volumes, photographs, maps and drawings etc. The secondary or meta-information resources include the bibliographic information of the library holdings in the form of Open Access Public Catalogue (OPAC) records and heterogeneous resources like Abstracting and Indexing journals databases, data books handbooks and standards. These collections are well organized and seamlessly combine in order to make information access more effective. Digital Libraries use advanced information technologies, such as semantic information retrieval, multimedia communication and information visualization. Digital Libraries bridge the lack of integration that exists between library system and other kinds of information resources such as document databases (multimedia of text) and structured databases.

### **Setup of a Digital Library system**

The concept of a Digital Library is that of information storage and retrieval system that can store both large amounts of multimedia information, including text, pictures, sound and video in digital form, and distribute this information across the network. It was expected that many digital libraries around the world will be developed by the year 2005 to house vast amount of in-house publication, document archives, historic literature, pictures and films, all of which are intellectual heritage of their organization, in a heterogeneous database. For example: Universal Digital Library, Digital Library of India & Delnet etc.

To build advanced Digital Library system and application, one has to integrate different kinds of databases together and to provide value added search and retrieval services over them. For example, future digital libraries should allow users to perform OPAC searches followed immediately by retrieving the documents associated with the selected catalogue records. The integrated environment for user interface or the browsing technology used to retrieve and traverse in the digital libraries must enhance accessibility to information.

Conventional OPAC is having been built for character terminals. They have command line-based user interface and/or a screen-based interface.

## **Database Architecture for Digital Libraries**

Documents and bibliographic database maintained by different libraries forms an important source of information that can be shared among library users. These are not subjected to copyright restrictions. Digital Library users may choose to search the bibliographic databases first before they can decide on the actual documents required. Unlike a relational database that may include several tables, most bibliographic databases in Libraries consist of simply Machine readable catalogue (MARC) records. MARC is a set of standards that describes how cataloguing information can be stored or exchanged. It defines a comprehensive set of fields that describe library material including books, periodicals, films, maps, sound recording etc Being a bibliographic exchange standard, MARC facilitates the shared cataloguing process. The MARC records consist of fields that are variable length strings along with Leader and Directory information. Each field is given a tag with a specific meaning.

## **Need for Digital Library**

The Digital Library aims to remove the inability of traditional view that the libraries are the places of stability and conservation. Today many libraries are finding it difficult to serve the needs of their users if they are scattered over a large campus. Often to acquire time-sensitive information for immediate reference, users feel that they spend more time to reach the library than to access and acquire the information. There is also now a great need to have a Paradigm shift from anticipatory usage to on-demand usage. In traditional libraries, the books are procured by spending money that is based on anticipation of the usage. Whereas, in Digital Library, the question of access and download is based on page level access control methods at a given time to multiple users.

## **Digital Libraries Initiatives**

The various issues involved, in achieving the digital Library, most of which will have specialized collections are how to select it, digitize it, manipulate it, link it, visualize it, manage it, store it and share it. With the ever-growing cost of science and Technology journals and books, the resource sharing among the libraries has become a necessity. This can be achieved only by subscribing to or by creating an electronic version of the journal article or any other document at one of the sites. The digital information thus generated will be browsed using the wide area

network (WAN). The table of contents of journals and books procured can be available at a local server. This data however, has a hyper-link to the full text site wherever it is located. Such hyper-linked local OPACs will get mirrored in all the library sites. With this setup, duplication is avoided and a huge saving in subscription and book procurement can be achieved.

Establishing the digital Library consists of digital information storage/retrieval servers and client nodes that are connected to each other through the Internet and Intranet. The client software loaded in a personal computer features a Graphical User Interface (GUI) that supports not only global information access but also supports multi view information access and full text search within the local server attached to the digital Library. The growth of the internet and the emergence of distributed text-based information storage/retrieval servers such as Wide-Area Information servers (WAIS) World Wide Web (WWW), owes much to the operational mechanisms and transparent information flow of the organizations irrespective of the geographical location.

The Digital Library is the space in which people communicate, share and produce the new knowledge. Selection of quality of material is the first important requirement, which will be decided on the information customization based on the users need. Information customization is a useful component, which has five characteristics.

1. It is always performed on the client side.
2. It is specifically designed to maximize information uptake, rather than filter or retrieve.
3. It personalizes documents by such techniques as extraction.
4. It is never done autonomously.
5. The capacity of non-prescriptive, nonlinear document traversal is always added by the software.

## Advantages of Digital Library

- In house document like annual reports, Technical reports and preprint of other publications sent to journals are gathered in this collection which can be retrieved as full text.
- The mostly used referenced or circulated documents like manuals, handbooks etc, which are having permanent value will be stored as digital documents for page level access by users using internet backbone an WAN without violating copy right law.
- The table contents of journals which are subscribed by all units can be made available for browsing over WAN and the article level document delivery will be done for the subscribed journals using the digital scanner and other software procured for this purpose.
- Information customization software for existing on-line Public Access Cataloguing of the Library holdings having access points like author, title, publication year, subject & title key words and abstract of the document.
- Full text e-journals over internet.

**Digital Libraries are generally designed to have multiple levels of access. The different types and levels of access that can be planned are,**

- Local access - Access limited to standalone workstation located at the Library. Documents of very specialized nature of interest to a very few as well as documents for restricted use are examples of information that would be available at this access level.
- Campus wide Access - Access will be available through the campus intranet backbone to all users from their desktops. The documents available at this level access would be OPAC, e-journal, e-books, online manuals and software etc.
- Universal access - Access through WWW in the Internet opens to all.

## Conclusion

Digitization has opened up new audiences and services for libraries, and it needs to be integrated in to the plans and polices of any technical institution to maximize its effectiveness. This paper described about the initiatives needed to create digital library. The digital library role is very

important in the technical libraries and in present scenario, in view of the high cost of printed books and the emerging trend among the leading publishers to go digital on their publication. Libraries should organize their services so that they bring their information resources closer to the busy teachers. They should acquire new skills and learn how to organize information for presentation on the Internet portals or by handheld devices.

Application of information communication technologies in the college libraries are erupting and moving faster than ones imagination resulting in information explosion crossing geographical boundaries. Information communication technologies will help to remove barriers of distance and time. There will be no limit of variety of ways in which modern technology is applied in speedy retrieval of information most consistently. It is the power and capacity of modern technologies that helps every reader to get the information he or she seeks.

### References

1. Digital library Federation. (2001), Registry of Digitized Books and Serial Publication, Available at <http://digilib.org/collection>
2. Griffin, SM: Taking the initiative for digital libraries, the electronic library, **17(5):** 287-288(1999).
3. Kannappanavar B. V. and others : 2010, information communication technology & special libraries, conference proceedings: Indian academic libraries 2010, Tumkur, 474 – 478.
4. Rajiv B and others : 2010, information communication technology in libraries and information centre's : a new dimension in librarianship conference proceedings: Indian academic libraries 2010, Tumkur, 474 – 478.
5. Saffady, William : Library Automation an overview, library trends, **37(3):** (1989).
6. Vipul Bansal : 2010, Emerging information communication technologies to modernize college libraries, International Journal on Emerging Technologies **1(1):** 102-104(2010).
7. wiki.digital library