



ORIGINAL RESEARCH PAPER

Library Science

DIGITAL LIBRARY : CHANGING ROLE OF LIBRARIES

KEY WORDS:

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Introduction:

The field of digital libraries has been a product as well as an active participation and catalyst of the changing times. Coinciding with the decade of internet, the decade old field of digital libraries has emerged as one of the fast developing and continually evolving and most transformative and consequential domains of study, research and education.

Digital libraries _ early visions:

Digital library is a relatively new concept. The term digital library explain the nature of its collection. Many definitions are available in the literature. Digital libraries are electronic libraries in which large number of geographically distributed users can access the contents of large and diverse repositories of electronic objects. Electronic object include networked text, image, maps, sound , videos, catalogues of merchandise and government database.

Though the field of digital libraries that we are all familiar with may be only a decade old, early conceptualizations are traced to the early vision of universal access to knowledge such as the often cited HG Wells essay on the future of world education. Another most important early figure but less quoted is Paul Otlet who struggled tirelessly for decades with the central technical , theoretical, and organizational aspects of the problem central to society- making recorded knowledge available to those who need it.

The Technology behind digital libraries:

Many technologies have been responsible for translating the dream of universal access to knowledge to reality. These different technologies may be categorized as computing , networking and presentation technologies. Advances in database management have resulted in multiple/alternative approaches to the design and development of digital libraries. Advances in computational technologies, the evolution of high speed networking , the birth and development of the internet . open protocols all have helped enormously in advancing global access to the information stored in disparate computers. With the ever expanding bandwidth and low cost of access digital libraries have been democratized. Development in mark up languages, as well as their presentation methods like hypertext, VR, graphics, multimedia, document interchange are all part of digital library evolution. The following factors had a catalytic effect in the emergence of digital libraries

- a) A well informed and computer literate user base has started to demand more information at the desktop.
- b) Library budgets were not able to cope with the users rising demand for hard copy journal titles
- c) Users demanding documents for their research were not concerned whether these were held locally in the library or obtained from outside
- d) The different between library collection management and document delivery the ownership and access approach was becoming increasingly blurred.
- e) Librarian started giving increased emphasis to provide access to resources available elsewhere rather than physically possessing resources.

The important characteristics of digital library are the storage of information in digital form direct usage of communication network for accessing and obtaining information and copying by either downloading or online / offline printing from a master file. The main function of librarian of a digital library is similar to that of the librarian of a conventional library : identify, select., procure, process, organize, provide access , preserve and manage.

Meaning of Digital Library:

The concept of digital library is outcomes of the particular use of information technology. The actual definition of digital library may be remote access from any point in the work at library content and services, combining bibliographic news, electronic texts, image banks and all kind of information by means of a computer network. The digital library can be called a well free electronic workstation to access universal knowledge irrespective of distant location of information. Digital library is a user friendly interface and provides an institute means of presenting information, scanning the volumes insides the library itself and data getting from sources using at office and home. So searching into digital library is really searching into networking information system. This network opens up information to library professional and others users all over the world from all sectors of the community. With the expansion of information automation network and digits to every field of the human society , the modernization of knowledge and information are becoming the world trends. Hence the term digital library incarnates.

Function of digital library:

It is due to information explosion almost in every fields of knowledge library are facing manpower and monetary constraints. It is difficult to acquire every publisher document under the same roof and thus evolved the concept of resources sharing and networking which is reflected in the creation of collection development of a digital library. Since record can be digitized, the members libraries are coming together to covered entire collections into electronic form and lurching in to network.

Framework of digital libraries:

Several institutions and organizations have steered the course of digital libraries. In UK the electronic libraries programme of Joint Information System Committee initiated in 1994 fostered the development of areas such as digitization, digital library preservation and electronic document delivery. The JISC has played a critical role in providing the framework for digital library movement in the US.

Role of Digital Library in Modern Era:

1. Technical Architecture: The technical architecture will include components such as:
 - High speed local network and fast connections to the internet
 - Relational databases that support a variety of digital formats
 - Full text search engines to index and provide access to resources
 - Electronic document management functions that will help in the overall management of digital resources.
2. Building digital Resources: one of the major issues in creating digital libraries will be the building of digital resources which is largely depends on the nature of content and quality of digital resources. Both librarian and library users have recognized the advantages of preservation , access and managing good qualities of information. There are three important qualities methods of building digital library resources :
 - a. Digitization i.e. converting paper and other medial in existing collection into digital form
 - b. Acquisition of original digital works created by publishers and scholars
 - c. Access of external material not held in house by providing pointers to websites

3. Digitization : The primary method of building digital collection is digitization. It refers to the conversion of printed material into digital format. These textual data need to be digitized with the use of various electrical operation like scanners.
4. Digital preservation: It raises challenges of different nature which are added to the problems of preserving traditional format materials. Digital preservation means the planning, resource allocation and application of preservation methods and technologies necessary to ensure accessibility, durability and intellectual integrity of information contained in digital material can be accessible only through combinations of hardware and software.

Role of librarian in digital library:

Information and communication technologies have changed the complete scenario in libraries. Library has become the center point of resource based learning and the role of librarian is changing radically. The impact of moving from text based learning to resource based learning will involve heavier use of library materials and demand for more material. The librarian is responsible for locating acquiring dissemination and tracking information resources of many types. It may include database searching, interlibrary loans, monitoring internet newsgroups. Librarians and libraries play a very important role in the education of people. Librarian have to identified and select good age appropriate and age specific literature. They have to look more too online sources. Librarians are key personnel in literacy curriculum. They are leaders in new information technologies as well as extended resources across may disciplines.

Librarians are considered as an information therapist. The stronger the demand of information material, the bigger the expectation as to professional knowledge is concerned. Librarian is also act as educator. Librarian skills in the area of technology, education design and teaching techniques are crucial in their new education role. Librarian also consider as content manager. He or she can play a dynamic role in easy accessing of computer held digital information including abstracts. In the context of content manager librarian requires

- Organize digital information
- Disseminate digital information from the computer held digital content
- Provide digital reference services and electronics information services
- Provide universal access and retrieval of digital content

Librarian also act as a leader. This requires the library manager to play active role as leader for effective change management in achieving results.

Digitization:

The primary methods of digital collection building are digitization. Digitization refers to the process of translation a piece of information such as books, journal articles, photos, paintings, microforms into electronic form through scanning sampling other means. Turning information into these binary digits is called digitization. The following process of digitization is:

- Retrospective conversion of all of the collection
- Digitization of a particular special collection
- Showcase collection digitizing particularly good example of some collection strength
- Needed collection digitizing those material that are in most demand more accessible.
- On demand approach where one digitizes and stores material as they are requested.

Digitization involves the process of converting the print and other materials into digital form. Digitization is a component process in the establishment of a digital library. In creating digital collection and libraries we need to translate the existing print material to digital collection.

Important aspect to keep in mind while Digitizing:

- The requirement of the user of the library can be kept in mind while digitization of the library.
- What kind of collection the library have , also make in mind.
- Quality, accuracy, completeness and authority of the content must be given due consideration.
- Within limited budget software that facilitates the organization must be opted for.
- Hardware is required to meet the activities of the digital library.
- It is must to educate the user through well planned user education series.

Digital conversion process includes the following:

1. Documents: They include text, bibliographic or full text, photographs, diagrams, charts, maps color images etc. They exist either in print or non print form and also as single unit or collection.
2. Data capture: It includes manual data entry , optical character recognition
3. Data processing : The text in the convertible document may require conversion of diacritics or special characters, images may need enhancement , amplification or compression. In many cases a simple conversion from print to digital is not enough.
4. Storage: The digitized information needs to be recorded in proper digital storage medium, which may be hard disk, magnetic tape, optical CD-ROM
5. Indexing and processing: Digitized documents needs to be processed using standards , protocols and indexing systems.
6. Retrieval : It is the process through which an array of technologies for browsing , displaying and applying packages that ultimately helps in access.

Need of digital libraries:

- Conventional libraries are expensive. They occupy expensive building on prime sites. Big libraries employ hundred of people well educated.
- Librarian have never enough money to acquire and process all the materials they desire. Publishing is also very expensive.
- Academic libraries have traditionally acquired books and serials as the building blocks for self sufficient local collection. The changing nature and quality of scholarly resources now at hand force them to confront new kinds of material.
- It is more difficult for libraries to anticipate and address their users needs because of the proliferation of the information sources.
- Finally research is becoming more esoteric and as scholars demand ever more and more varied information.

Advantages of digital library:

- No physical boundary: The user of digital library need not to go the library physically. They can access the document all over the world by sitting on the internet having specialized library software.
- Round the clock availability: The user can gain access to the information at any time.
- Multiple accesses: The same resources can be used at the same time by a number of users.
- Information retrieval: The user is able to use any search term belonging to the word or phrase of the entire collection. Digital library can provide very user friendly interfaces, giving clickable access to its resources.
- Preservation and conservation: The original copy of the document can be preserved for a long time.
- Space: The traditional libraries are limited by storage space but the digital libraries have potential to store much more information with very little space .
- Networking : A particular digital library can provide a link to any other resources of other digital libraries very easily
- Access: It provides faster access to the document of the library .

Future of digital library:

Growth in web accessible resources and development in related technologies such as digital libraries have opened up exciting new possibilities for document access. Parallel advances in computing

power and steep reduction in computing cost have spurred renewed interest in application of artificial intelligence techniques in document access. These factors are changing documents searching in significant ways.

Increased research activity on artificial intelligence techniques for document access is leading more fundamental in document searching. It is now possible to delegate 100 % of the search effort to online search agents. Integrated virtual libraries of the 21st century will provide integrated access to an increasing number of resources including existing library collection, scientific databases and multimedia presentations. Access to the world knowledge will soon be available to anyone with a phone line, eliminating the need for expensive and incomplete local collections. The research in digital library is continued to attract the digital information researchers that could lead us to a highly structured collections.

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