
DIGITAL LIBRARY NETWORK AND INFORMATION SHARING

ABOUT AZHAR MAHDI

Abstract

This paper explains the concept of digital library and discusses the advantages of digital library. It also includes requirements for digital library, some useful URLs to standards resources, digital library network infrastructure & information sharing.

Keywords: Digital library/ Network/ Information sharing

1. Introduction

The digital revolution has altered our walks of life and libraries are not exception to this. The last five decades have witnessed tremendous advances in information technology and its application. The latest technologies offer cheap computer processing power cheap mass storage inexpensive access to high speed networks and retrieval devices which give us the ability to create, manipulate store and transfer large quantities of information in digital form at low costs. Electronic publishing and resource sharing activities have become very easy and convenient today. These changes have resulted in the evolution of libraries into digital libraries.

Digitization refers to the process of translating a piece of intimation such a book, sound recording, picture or video into bits. Bits are the fundamental unit & information in computer systems. Turning information into these binary digit is called digitization. This digitization process can be carried through a rarity it exciting technology.

The current age (the 21st century) is a development summit in the history of libraries and publishing. First became possible to build a wide range of services where the storage collections of digital formats and information retrieval via computer networks possible. Articles of sources of information stored in computers, and networks working on connecting computers to personal computers to the offices of the beneficiaries. Thus formed digital library in full, and we no longer need the paper. We have more numerous digital libraries that have been built using the various information and communication technologies, and the belief of those working on this transformation It is the information revolution on the their importance amalgamated technique is long-distance communications, with the technical library and information, which is the height of the information age and information society which appealed to by many in the early twentieth century, and absolutely softened Vaniver Bush in his famous essay under

the title "As We May Think" in (1945), noting the language of writer a proficient exponent of its tools, and the mentality of informational progress what can be done his appearances under the what is known in "Library Without Walls", and library of the future (Library of future), the belief and visionary to the future, because of its dualities multi-may change the from of our issues old traditional, which is truly a libraries which can access to it through communication networks far-reaching and which advantage of the holdings and services without having to abide well in specific or a particular location.

2. Digital library

A digital library is a library in which a significant proportion of the resources are available in machine-readable format (as opposed to print or microform), accessible by means of computers. The digital content may be locally held or accessed remotely via computer networks. In libraries, the process of digitization began with the catalog, moved to periodical indexes and abstracting services, then to periodicals and large reference works, and finally to book publishing. Some of the largest digital libraries are purely digital having few if any physical holdings.

The digital library basically stores information in electronic form and manipulate large collection of these materials effectively, The digital library is the most complex and advanced information system the digital library involves digital document production, database management, information linking through hypertext, information retrieval, information filtering, instructional model, intellectual property rights management, multimedia information service, reference service, information distribution etc. Thus digital library has heterogeneous and dynamic information environments. This demands interoperability issue is considered as a basic theme for discussion.

3. Advantages of Digital Library

Traditional libraries are limited by storage space; digital libraries have the potential to store much more information, simply because digital information requires very little physical space to contain it. As such, the cost of maintaining a digital library is much lower than that of a traditional library. A traditional library must spend large sums of money paying for staff, book maintenance, rent, and additional books. Digital libraries do away with these fees. Digital libraries can immediately adopt innovations in technology providing users with improvements in electronic and audio book technology as well as presenting new forms of communication such as wikis and blogs:

- The user of a digital library need not to go to the library physically; people from all over the world can gain access to the same information, as long as an Internet connection is available.
 - A major advantage of digital libraries is that people can gain access to the information round the clock.
 - Easy to cross-reference or cross link data.
 - Easy to use reference sources that includes on-line training tutorials.
-

-
- Easy to update resources.
 - The same resources can be used at the same time by a number of users.
 - Digital libraries provide access to much richer content in a more structured manner, i.e. we can easily move from the catalog to the particular book then to a particular chapter and so on
 - The user is able to use any search term belonging to the word or phrase of the entire collection. Digital libraries can provide very user-friendly interfaces, giving clickable access to its resources.
 - An exact copy of the original can be made any number of times without any degradation in quality.
 - The digital libraries have the potential to store much more information, simply because digital information requires very little physical space to contain them. When a library has no space for extension digitization is the only solution.
 - A particular digital library can provide a link to any other resources of other digital libraries very easily; thus a seamlessly integrated resource sharing can be achieved.
 - The cost of maintaining a digital library is lower than that of a traditional library. Digital libraries can and do incur large costs for the conversion of print materials into digital format, for the technical skills of staff to maintain them, and for the costs of maintaining online access (i.e servers, bandwidth costs, etc.). Also, the information in a digital library must often be “migrated” every few years to the latest digital media. This process can incur very large costs in hardware and skilled personnel).

4. Requirements for Digital library

Building digital library is expensive and requires many resources. Before taking such risks is very important taking into account some of the bases, especially the design, equipment, tools and maintenance of any digital library. In view of the foundations of the following ten (Figure 1) in addition to the practices and the benefits deriving them are responsible for the design and development of any system of digital library and sometimes more important continuity through the long term.

4.1 Expected change

Expected change might not be clear why is considered the general appearance of technological change thorny problem and arduous to the projects that Digital Library as PROJECTS metamorphosed where is turned documents to the some forms digital if the chosen form might be part of the rules of the property, and shows just via the

RESURFACES holdings, and while the corporation had ceased-marketed facade from supporting this system and Figure would be lost all documents which have become digital with the taking into account the sequentially which established by the documents

in the system of word processing sector and documents have exacted a message on the electronic mail were sent to a person who is singled Assuming that the goal is to the preservation and maintenance of all messages people to electronic mail for the coming generations. We must all aware of the extent of our electronic messages to read any attachments The continuing technological changes that will increase the speed of the designers to uphold the actual digital library. The experience that occurred and plans need to change supply over an interview and quick access to information

Expect change.
Know your content.
Involve the right people.
Design usable system.
1. Ensure open access.
2. Be aware of data rights.
3. Automate whenever possible.
4. Adopt and adhere to standards.
5. Ensure quality.
6. Be concerned about persistence.
Figure 1

4.2 know-your content

Know your content for the beneficiaries contents to be the most important and valuable what differentiates the Digital Library that the creators digital libraries need of the management and decision-making regarding the shall be selected topics and the elements that will become digital and also the selection of elements that are used languages : Standard Generalized Markup Language (SGML). The creator has to assess the long term valw of information.

4.3 Involve the right people

Inovlve the right people that the ideal scenario is unilateral multiple backgrounds and supply expertise to contribute to building a digital library. The practice may not be the case, but even if we all know must be building any system needs to be considered after the realization of a number of areas to get the best digital library, and the more applications are specifically computer science and library science. Computer scientists, we find that in addition to improving the possibilities and the limits of technology in general are building the system. The library specialists understand add catalogs and Girl Scouts and archives in addition to compiling scientific article, they do not understand the needs of the information and applicants, but that it expands to provide materials to ensure continued access and use The research and development of the

Digital Library mean that every group that understands and knows the correct dimensions of the other groups

Mechanism has been Computer scientists may take a logical assumptions and criteria Descriptors data for the Web (Metadata) for the digital library in the space provided information broad Internet a lot. Specialist's libraries and extensive prior experience in indexing and cataloging discrimination and the importance of these considerations, information retrieval. In addition to the fact that many of the valuable information found in many systems Descriptors data for the Web (Metadata) including standards (MARC21), curricula and methods to map the data between the systems used across these corridors crossing developed.

4.4 Design usable system

Design Usable system Most digital libraries available on the Internet through technology networks we find that more Web sites successful those designed as a preparation agents, including the differences technical computers and browsers that include speed of access and the differences between the beneficiaries included on the search engines of choice across the network. Browsers vary in their presentation of information but using the same basic communications protocols such as:

- . Hyper Text Transfer Protocol (HTTP)
- . File Transfer Protocol (FTP)
- . Standard Language such as Language (HTM)

To provide multiple points available do not make the Digital Library enjoyable, but also recognizes the differences within user's effort. The availability of the users of the rate of physical disability must be taken into account when developing the front of the Digital Library. This includes access to all users' contents and documents, plain and simple, the ability of the list of contents and information guidelines. Search engines, including the composition of clear standards and benchmarks.

4.5 Open Access Ensure

Open Access Ensure that the emphasis on open access to use considerations includes access to information in the digital library. In other words, the digital library itself.

N knew (1) (Cherstin Brueggemann) access to the information that "connectivity and the availability of computer technology used contents, such as, where the beneficiary has the requisite knowledge and skills as the contents themselves are a useful and viable use.

Michael Lesk (2) also wrote that the open access of information raises a number of policy issues, including to some segments of society, in addition to being given access to the information.

There is one way to confirm open access to the contents of the programs and avoid complex or special devices whenever possible. While it may be responsible for the establishment of the contents of the use of economic instruments and systems available, while avoiding the use of programs and special devices to access these contents.

Whenever the program easy loading and whenever developers realized Digital Library any choice programs to display images and fantasies (Images) clearly whenever Contents become more available as long as the facade (Interfaces) available. In any case for continued access, user and open the complex systems - or private - is always preferable

4.6 Be aware of data rights:

Be aware of data rights a promise of open access to areas of information and to the mentality of considerations, especially, that the establishment of mental and legal rights provide publishers and authors protection of economic and legal means “squaring up” (allowing libraries to operate individual copies of books and periodicals) in addition to the rights of first sale (permit persons to borrowed copies of books they need).

According to the latest report of the National Council for Research (National Research Council): “The infrastructure of the information provided by both the promises and risks, promises in unusual forms easy access to the greatest possible information among multiple, either in the risk lies in the opportunities both in the production of information in an inappropriate manner, and access to the information that will control the ways in which new and innovative ideas.” There is no clear answer explicit and specific application requiring mental special rights for the release of information in digital format.

4.7 Whenever possible Automate

Digital Library building requires major efforts, especially the mentality of the designers, we find that more automation means (Automated) is that can be built and better use but will be in the use of human sources. This means it needs to be easy-to-use addition to the appropriate time, including the date of deposit, lists and reports, and some other means of keeping time. It allows the contents of the expert used Descriptors data on the Internet.

To add Descriptors data on the Internet to the main database and the introduction of information only once subsequently been consolidating and summarizing the information as required by the core database to the latest pages (HTML), flashlights and research reports. The data entry for one time only provides the time and effort of people and soon will be updated facades network databases, and will allow the renewal whenever important.

With the accession to the latest standards of the network (Figure 2) shows the specimen general framework of the relationship between the original version of the information system and its derivatives).

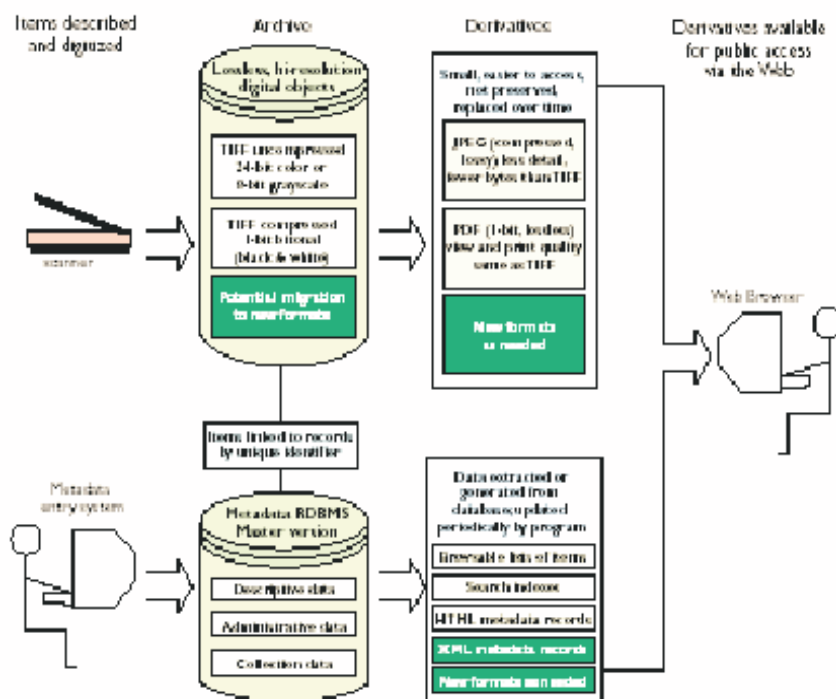


Figure 2

4.8 Adopt and adhere to standards

Adopt and adhere to standards that the use of standards in building the system has many benefits. As the presentations (Applications) more carry, transport and circular All these characteristics and features are very important for the design, processing and maintenance of digital libraries.

The benefits of the use of standards must be clear to any developers. The delivery of the contents of the digital library in the network using the standards, laws and legislation, in addition to the current HTML descriptors data for the Web (Metadata), and other Web technology standards doubled the chances ability Web search engines to find the libraries and, in particular, specific components and technology because this change very quickly.

Practically, we find that it is easier when the system design had joined the specific rules (see figure 3) which recalled some of the sources of standards). It is also possible that in some cases in the future to become fully digital library is part of another system,

whether inside the same institution or even outside. That conversion will be more efficient and successful if the system design standards exist in the mind.



Figure 3

4.9 Quality Ensure

Quality Ensure that kind things can be traced back to all operations and imports falling in the establishment of the Digital Library. It is an occasion to choices and Descriptors input data for the Web ((Metadata), all uses of the system, that the completion of the correction Descriptors data for the Web, where many benefits that the descriptor incomplete impact on the type of complete digital library. Some species of control can automate and others requires human review extremely accurate.

The digital library projects must know is interested in the curriculum and methods of control in its natural with the accession to the curricula and methods to ensure that the appreciation of the type now an integral part of the building and management of the Digital Library.

4.10 Be concerned about persistence

Be concerned about persistence in a recent article of the “Jeff Rothenberg,” which describes the efforts of long years in the understanding of things digital maintenance, “we have by the end of the influential group, consisting of 21 experts, but at the present time there can be no guarantees for the maintenance of digital information.” While the maintenance of Tama were the focus of the archives, libraries, but have recently become the focus of attention of the community as a whole, and that any person who designed digital library runs the risk of the outcome of tests maintenance.

5. Digital Library Network

The networked of digital library aims to ensure that all future researchers and scholars have understanding and skills in electronic publishing and have used and submitted a work of their own to a digital library.

For digital library network infrastructure the followings:

1. High and server with good configuration and client computers (Web server for housing library resources)
2. Router and Gateway
3. CD-Net server for accessing related Databases
4. Leased Line connection from internet service provider
5. proxy for Local area network connection
6. Firewall for secure access
7. Library Automation package
8. Scanner for scanning images and putting it into the internet

A digital library is an entity that stores information such as full text , images and multimedia in a digitized formal and has methods ti access and retrieve the same. It

consisted of infrastructure such as software, hardware and internet facilities to provide users with easier, faster and comprehensive access to information. Digital library help students by providing them with a range of reference they are aimed at encouraging better use of information resources

6. Information sharing

A fundamental step towards information sharing in digital library is to understand a basic resource that a library has to share materials. But before considering what can be shared it may be instructive to consider what cannot be shared a :

A book owned by a library that is needed frequently by users of that library is not fair game for sharing ,since it will not be available locally when it is needed . It is only those materials that are not needed frequently that can be considered for sharing.

The effectiveness of information sharing depends on the availability of an infrastructure including appropriate communications, technology, and delivery systems. The computer has been an extremely effective device for processing and locating materials quickly and conveniently regardless of distance, but again an adequate infrastructure must be assured consist tent reliable electric power, and appropriately trained personal

7. Conclusion

Access to digital libraries and their collections is dependent upon a stable information technology infrastructure (power, computers, communications links etc.). Hence, despite the egalitarian potential of the digital library, many of those who could most benefit from its global reach.

The digital library network within the users community saves a lot of access time and energy of both the users and the library or information personal .To connect to the regional, national or global databases a connectivity to these systems is essential through telephonic or satellite or both connections as the case may be. A complete plan of necessary hardware, software and connectivity may be drawn with the help of experts from computer and networked fields.

References

1. <http://www.Wikipedia.org>
 2. Vannevar Bush "As we may think"._ The Atlantic Monthly, July (1945)
 3. J.C.R. Licklider "Libraries of the future", MIT Press, Cambridge (1965)
 4. William Arms "Digital Libraries"._ Cambridge: MIT Press, (2000), Online edition updated in (January 17. 2003), p (47)
 5. Carnegie Mellon"Digital Library Plan 2000-2007 Supplement to the 1998 Strategic Plan" by Gloriana St.Clair and Others._ December (1999)
-

-
6. Sodhi, M.S. Use of Technology in Library Science, Delhi , Adhyayan Publishers,2006 , p-139.
 7. Mohammad Malawi “Digital Electronic Library in the Arab World”._ Jordan: University of Science and Technology see URL <http://www.library.cornell.edu/colldev/mideast/digtarb.htm>.
 8. <http://www.librariannet.com/> 8.
 9. Al-Juboury K. A.” Conversion of a Traditional Library to Digital Library: An experimental & Applied study” Baghdad (Al- Mustansiriya University-PhD thesis) 2005, pp115

BIOGRAPHY OF AUTHOR



Aboud Azhar Mahdi , Assistant Lecturer at Central Library of Baghdad University, Iraq. She holds M.L.I.Sc. Presently she is Ph.D student in Department of Library Information Science, Sardar Patel University, Vallabh Vidyanagar, Gujarat. She has published three articles.

Email : azharmahde72@yahoo.com
