Building Digital Libraries: An Overview

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ABSTRACT: *This paper gives a detailed picture before we are going to build a digital library, the various aspects like its characteristics, functions, functional requirements, policies and challenges to face and it set out some key points involved and the detailed plans required in the process, it gives guidance for the practicing Librarians and Information scientists.*

1. Introduction

Internet brought a tremendous exploration of information which results libraries rely only up on electronic content for collecting, organizing and distributing information. Digitized information playing a vital role in fulfilling the user needs. Therefore building digital library is the need of the hour. Digital collection is must for lifelong learning. Increasing complexity in information resources, electronic and other formats, stream lining them necessitated the building the digital libraries.

According to 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. With this definition we can say that digital library is dynamic, multi dimensional growing organism.

2. Characteristics of Digital Libraries

Digital library collections contain permanent documents. The digital environment will enable quick handling and/or ephemeral information. Digital libraries are based on digital technologies. The assumption that digital libraries will contain only digital materials may be wrong. Digital libraries are often used by individuals working alone. The physical boundaries of data have been eliminated. Support for communications and collaboration is as important as information-seeking.

3. Purpose of Digital Library

• Expedite the systematic development of procedures to collect, store, and organize, information in digital form.

• Promote efficient delivery of information economically to all users.

• Encourage co-operative efforts in research resource, computing, and communication networks.

• Strengthen communication and collaboration between and among educational institutions.

• Take leadership role in the generation and dissemination of knowledge.

4. Functions of Digital Library

1. Access to large amounts of information to users wherever they are and whenever they need it.

2. Access to primary information sources.

3. Support multimedia content along with text.

4. Network accessibility on Intranet and internet.

5. User-friendly interface.

6. Hypertext links for navigation.

7. Client-server architecture.

8. Advanced search and retrieval

9. Integration with other digital libraries.

5. Functional Requirement Of Digital Library

1. Selection and Acquisition: The selection of content to be added is important. The database which we are adding, various documents which we are converting into digital form, digitization of material comes into consideration.

2. Organization: Disclosing the Bibliographic information of the content plays a key role in accessing the digital content. The details mentioned in the bibliographic data of the content could reach the user ultimately.

3. Indexing and Storing: Efficient measures to be taken to indexing and storing of the digital content to retrieve it in later period of time.

4. Search and Retrieval: This is the phase where end user browse, search, retrieve and view the contents of the digital library.

6. Collection Policy In Building The Digital Library

A digital collection consists of digital objects that are selected and organized to facilitate their discovery, access, and use. Objects, metadata, and the user interface together create the user experience of a collection.

7. Policies that Apply To Good Digital Collections

1. A good digital collection is created according to an explicit collection development policy.

2. Collections should be described so that a user can discover characteristics of the collection, including scope, format, restrictions on access, ownership, and any information significant for determining the collection's authenticity, integrity, and interpretation.

3. A good collection is curates, which is to say, its resources are actively managed during their entire lifecycle.

4. A good collection is broadly available and avoids unnecessary impediments to use. Collections should be accessible to persons with disabilities, and usable effectively in conjunction with adaptive technologies.

5. A good collection respects intellectual property rights.

6. A good collection has mechanisms to supply usage data and other data that allows standardized measures of usefulness to be recorded.

7. A good collection is interoperable

8. A good collection integrates into the users own workflow.

9. A good collection is sustainable over time.

8. Benefits of Digital Libraries

The following features with the digital libraries bring advantage to the users:

1. Easy to access: Generally digital libraries are accessed through internet of CD servers and other multimedia resources. Virtually they can be accessible from anywhere and at any time, they are not confined to physical location and operating hours like traditional library.

2. Multi user access: Digital library can be accessed by multi users at a time. Multiple request about a document is possible by creating multiple instances of the requested document. Meeting the requirement of larger population of users is easy.

3. Quality of information: Through the appropriate information exchange protocol, the quality and quantity of information is possible between any numbers of digital libraries. This extends the information services to the user at large.

4. Preservation: The preservation of digital content is very easier because they are not prone to wear and tear like printed documents. Duplication of the digital libraries facilitate preservation of special and rare documents by providing access to digital versions of these entities.

9. Limitations of the Digital Library

The computer viruses, lack of standardization for digitized information, quick degrading properties of digitized material brings following disadvantages.

1. Copy Right: Digitization violates the copy right law as the thought content of one author can be freely transfer by other without his acknowledgement. How does a digital library distribute information, while protecting the copyright of the author?.

2. Speed of access: As more and more computers are connected to the Internet its speed of access reasonably decreasing.

3. Initial cost is high: The infrastructure cost of digital library i.e. the cost of hardware, software; is generally very high.

4. Band width: Digital library will need high band for transfer of multimedia resources but the band width is decreasing day by day due to its over utilization.

5. Efficiency: With the much larger volume of digital information, finding the right material for a specific task becomes increasingly difficult.

6. Environment: Digital libraries cannot reproduce the environment of a traditional library. Many people also find reading printed material to be easier than reading material on a computer screen.

7. Preservation: Due to technological developments, a digital library can rapidly become out-of-date and its data may become inaccessible.

10. Challenges Of Building The Digital Libraries

Digital Libraries poses many challenges on existing and future technologies, keeping this into consideration let us examine what are the challenges might be.

1. Resource Discovery: Digital information on the Information on the Internet is characterized by the fact that digital documents can exist in several formats, possibly in several versions, in locations that are not yet fixed. A document or resources may exist at one network location one day, and disappear the next day.

2. Digital Collection Development: Librarians collect published information in a variety of formats3/4books, journals, CD-ROMs, audio and video tapes and discs. To this growing set of media, libraries are adding repositories of digital information, on-line databases of documents and images in various formats. It will not generally be the case that libraries will replace older media with digital media, but that they will collect them in addition to established media.

3. Preservation: To preserve digital information, digital libraries will continually have to "migrate" information from one digital hardware and software configuration to another.

4. Copy Right and Licensing: There is an increasing unease among members of the library community that copyright changes will adversely affect the ability of libraries to provide digital collections and services.

5. Cost: "Digital Libraries" introduce new and uncertain economic realities and relationships into libraries. Where the costs of accessing information were once hidden to "patrons", the digital era is likely to require "customers" who will be required to pay fees for access to digital services and collections.

11. Conclusion

When building a digital library, it is necessary to firstly define the requirements of the user needs and expectations. The usage of digital content is imperative. When choosing digital content to bring into the accessibility to the user, we should look into various parameters like interoperability, flow of work and sustainability of digital content. The requirements of the digital library should be the key player on choosing the type of digital content to be used in building the digital library. Collecting users inputs and understanding their expectations seem to be an important requirement for building a digital library.

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