DIGITAL LIBRARIES: CONTENTS & SERVICES

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Abstract

This paper explains what a digital library is and how it is designed to support access to digital contents and services. In a broad sense a digital library is simply an on-line system providing access to a wide variety of contents and services. Contents include virtually any kind of electronic material such as various kinds of electronic media (text, images, video, etc.), licensed databases of journals, articles and abstracts and description of physical collections. Digital Libraries offer different types of reference and referral services, instructional services, added value services and promotional services. The procedure of these services is varied but typically serves the same purpose as traditional library services.

Keywords: Digital libraries, digital library content, Digital library services

1. INTRODUCTION

For centuries, libraries have been managed warehouse of documents by acquiring, cataloguing and classifying books journals and other materials and circulating them to their users. But recent developments in Information Technology (IT), the Internet and World Wide Web (WWW), coupled with increase funding for research on creation, access and management of electronic information resources, which have led to the development of new era of electronic and digital libraries. These technological innovations have improved the new breed of information professionals to select, organize, retrieve and transfer digital contents effectively and efficiently to their target audience (1).

2. DIGITAL LIBRARIES: MEANING AND NATURE

The term electronic library, digital library and virtual library have been used interchangeably and now widely accepted as description of the use of digital technology by libraries to acquire, store, conserve and make available their contents to remote users.

In abroad sense, digital library may be defined as an organized and managed collection of highly quality information contents in a variety of media (text, still image, moving image, sound or combination thereof), but all in digital forms accessible over different electronic networks. Such a digital library includes a number of search or navigation aids that both operates within that particular library and allow access to other collection of information connected by network worldwide.

According to Arms (2), a digital library is a 'managed collection of information, with associated services, where the information is stored in digital formats and accessible over a network'.

Oppenheim and Smithson (3) define digital libraries as 'an information service in which all the information resources are available in computer processable form and the functions of acquisition, storage, preservation, retrieval, access and display are carried out through the use of digital technologies'.

The concept of digital libraries is routed in age-old dream of creating a virtual library. But digital library is different from virtual library because of its physical identification. O'Donnell (4) differentiated digital library from virtual library as it can still maintains a physical presence whereas virtual library is a vast, ideally universal collection of information, and instantaneous access to that information wherever it physically resides.

3. CHARACTERISTICS OF DIGITAL LIBRARY

Digital libraries, like Traditional one select, acquire, store and make available their collections. A digital library contains digital representation of the objects found in it and will be accessible via Internet, though not necessarily to everyone. But the idea of digitization is perhaps the only characteristic of a digital library on which there is a universal agreement. Chowdhury and Chowdhury (5) have identified the following characteristics of a digital library:

- Information resources can vary form simple text to multimedia available at one or several locations; they may be available on different platforms and may have been created and/or organized differently.
- Information may come from various sources- from electronic journals, producers or vendors to databases; from local digital libraries to remote digital libraries; and so on.
- Digital materials often form part of a larger collection that comprises print materials.
- Information may be coupled with complex metadata structures.
- User can located anywhere and their nature, information needs, etc, may vary significantly.
- There is no human intermediary and no physical collection, at least at the point of interaction.
- A range of services, such as searching, filtering and downloading, as well as current awareness and selective dissemination of information services may be provided.
- There are many complex issues of information retrieval, access management, control of intellectual property rights, security, authentication, etc.
- In many cases, information is not owned; only right to access is provided.
- There are many several versions of the same information.

4. DIGITAL LIBRARY CONTENTS

The most important component of a digital library is its digital collection. Viability and extent of usefulness of a digital library would depend upon the critical mass of its digital contents. The content of a digital library includes virtually any kind of electronic media (Text, image, graphics, video, etc.), licensed databases of journals, articles and abstracts and description of physical collections.

Theoretically any object from a text fragment to an animal in zoo may be rendered digitally and thus, there is no limit to the types of contents that may be hold by a library. But in practice, digital contents may of three types:

- Contents created and existing primarily in machine-readable format;
- Contents converted from the traditional format into digital (e.g., print text, pamphlets, manuscripts, motion pictures and recorded sound);
- Access to external contents, not held in-house, by providing pointers to web sites, publishers' services, password to consortium or other collaboration from commercial organizations.

A library has a choice whether to acquire information contents created and existing primarily in machine-readable format or convert into digital by scanning traditional format in-house or provide access to external resources. Rusbridge (6) has identified four types of contents to build a digital library.

4.1 Legacy Contents

Legacy contents are largely new digital contents including manuscript, prints, slides, and maps, audio and video recordings. These are largely non-digital contents. Attempts are being made to digitize these contents.

4.2 Transition contents

Transition contents are primarily design for another medium.(mostly print) These are being or have been digitize, making the transition into the digital world. The conversion into digital form is just to ensure better access and to reduce dependency on physical libraries. They are either digital images or ways that are converted to list by the process of OCR.

4.3 New Digital Contents

These are either deliberately created as digital or are created in parallel to print. Publishers are increasingly moving to XML or SGML format.

4.4 Future Digital Contents

These contents are electronic journals, electronic books, databases and data sets in many formats.

The acquisition of documents that are already available in digital format like CD-ROM databases is also possible. Now days a large number of information products are available on CD-ROM like MEDLINE, COMPEDEX, METADEX, etc.

The Libraries can subscribe to these databases (Bibliography or full Text) as an important input to digital library contents. All contents share intellectual, technical and cultural challenges. Authority, surrogate, creation, formats, intellectual property rights and cost of acquisition and maintenance are some of the issues for all digital library objects and different types of contents present different challenges.

5. DIGITAL LIBRARY SERVICES

. A quick look at the current state of digital libraries reveals that till now most digital libraries have focused mainly on providing access to diverse digital information resources. The expectation is that users will conduct a search or browse the collections in order to get access to the required information. However, providing access to information is just one among many different services provided by libraries and information systems. Traditional libraries have been engaged in providing different types of reactive and proactive information services to their users. Digital libraries have also been engaged in providing different types of reference and referrals services (e.g., ready reference, exhaustive search, selective dissemination of information), instructional services (e.g., bibliographic instruction, database searching), added value services (e.g., bibliography preparation and language translation) and promotional services (e.g., literacy and freedom of expression).

5.1 Search Services

The most basic access service is a search of a library's collection. Online catalogues have been provided author, title and limited subject access to local holdings (and more recently to union holdings across multiple libraries). The expectation for digital collections is that catalogue should seamlessly link to the digital collection itself so that remotely located users can find and display not only bibliographic information but also primary information contents. The most common search mechanism, to search digital library contents, is query line or form that allows users to enter term or terms as a query. Depending on the type of indexing the library uses, ranked list or exact-matched set of results is returned to the users. There is a rich history of query-based searching form information retrieval research community and online service industry that digital libraries may build upon.

5. 2 Reference and Question-answering Services

Although digital libraries may provide communication channels (e.g., chat rooms, Internet “news” groups) in which people may interact to answer each other’s questions, many users come to librarians for answers to questions. Librarians may provide answers, references to literature that may contain the answers or referrals to others people or services. These reference services are an essential part of mission of most libraries, and an important question is how such services will evolve as a result of technology. Internet is the solution of the entire problem. Users can ask questions from experts by sending their query through Internet and get answer. Internet is an important component of digital library services. There are three ways that reference services are provided in digital libraries.

Frequently Asked Question (FAQ) service is the most basic reference service. FAQ services anticipate common questions and provide answers so that users can go to the FAQ service before requesting human assistance. These services are particularly popular for system-related questions that new users might have.

A second type of reference service is the exchange of thoughts between users and librarians or contents experts through electronic mail. Electronic mail requests allow users to reach reference services more conveniently. These online reference services are logical extensions of traditional reference services that respond to written requests and facilitate multiple iterations over times convenient to users and librarians. The availability of digital assistance tends to increase the volume of requests and the expectations of requesters.

A third approach of reference service, in digital libraries, is the combination of automated and human services. When FAQ service fail the user, the request is forwarded to an appropriate automated service or human expert where user gets answer in response to his/her query.

5.3 Filtering and Selective Dissemination of Information

A service that is particularly important in special libraries is selective dissemination of information – sometime known as routing, alerting or filtering. Users develop interest profiles, and as new materials are added to the collection or become known to the library staff, they are compared to the profiles and the relevant items are passed on to the users. Filtering services are particularly applicable to newswires, Internet “news,” and broadcast media abstracting services. Electronic user profile, in conjunction with on-line database services, has long been available and will surely proliferate as more library contents become available digitally.

5.4 Instructional Services

More important, libraries are essential in supporting informal and professional learning beyond the formal school system. Digital libraries are providing more close integration among formal, informal and professional learning process. Digital libraries offer new opportunity to break down classroom walls and allow people to learn wherever they are and whenever they want. Many digital library projects seek to bring multimedia resources to teachers and students on demand.

In addition to providing the contents to enrich learning, libraries help users to acquire information-seeking skill (traditionally known as bibliographic instruction), which have become more essential in the information society (Many school library media specialists and pubic libraries collaborate on information literacy courses). Digital libraries have the potential to support collaborative distance learning and to provide intermediation services to add participants in shaping questions, findings relevant materials and interpreting and using information. These intermediations will surely require new type of human support services augmented by computational tools.

6. CONCLUSION

Libraries have been existed for centuries, while the rise of computer technology and digitization are twentieth century innovations. Traditional libraries are collection of history and knowledge they offer public access to information and knowledge representing diverse sources and viewpoints. But access to these resources in traditional libraries is restricted to a particular user community. Digital libraries allow users' access to knowledge worldwide. Digital libraries like traditional once, select, acquire, catalogue, preserve and make available their contents by providing a series of services. They seek to merge and age old concept with modern technology while effectively steering it in a new direction.

7. REFERENCES

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