
The Emergence and Challenges of Digital Library

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ABSTRACT

The study aims at identifying the concept of digital library, it also tries to shed the light on the most significant intellectual issues by presenting its definition, development, functions (selection and acquisition of information resources from the web, sources indexing, communication and management of intellectual property rights, production of electronic resources and its availability, and digital resources maintaining), characteristics, and the purpose of turning into digital library, passed by the proposed stages of digital library transition, Types of Intellectual Property (Copyright, Patents, Trademarks, Commercial Secrets), it also discusses copyrights and intellectual property, the problems and challenges of digital library, and finally the future of digital library. Many researchers agree that the main objective of the digital library is to accomplish all the functions of the traditional library, but in the form of electronic digital libraries which are only an extension for jobs that are performed and there sources that are accessible in digital library. The study concluded that digital libraries emerged as an obligatory result of revolution of the third millennium which is called the communications revolution, as libraries are able to prove that they are able to stand and cope with all the modern technology, where there is no conflict between the new and modern trends in libraries issue, but it also benefits from both of them concerning their evolution instruments in service for beneficiaries in every time and place.

KEYWORDS: Digital Libraries, Emergence and Challenges.

Introduction

Informative revolution era has left remarkable effects on all society sectors, including libraries that cannot fall behind spirit of the age neither it will move away from its characteristics and attributes because it is one of the scientific, cultural and educational institutions that is important in contemporary society. Libraries currently have undergone a great quality advancement which constitutes a significant shift in it services as well as nature of the information that it provided and their beneficiaries where these libraries turn from traditional to hybrid ones by Combining between the traditional and modern digital forms, or to the digital libraries as concluded in a study by Abdul Hameed (2008). It could be argued that the Digital Library is considered one form the Modern Libraries where its dependence will be on modern technologies in conversion the information and data to digital format for achieving greater effectiveness and efficiency in storage and processing of information and then transmitting them. Digital Library emerged through the initiative on a project for digital libraries funded by (NOAA) Space United States of America in the year (1994) which have been allocated an amount of 24.4 million for six American universities in order to start a research project for taking

an advantage of tremendous development to the internet, and accordingly, there has been an adoption of the term known as “Digital Library” through Computer specialist as well as librarians (Faraj, 2005). In spite of the widespread use of the internet in the informative age, the pioneers of digital libraries that a lot of important human knowledge still retain paper form and see the need to exploit technological opportunities available to be converted into digital format, any digital libraries, and among them was Troy Williams, CEO and founder of the site question, which is today the largest digital library of a commercial nature in the world (Saracevic, 2001).

Concept of Digital Library

Many concepts, definitions and modern titles were set for digital library, and these names are as follows: Electronic Library, Virtual Library, Hybrid library, Library of future, Digital Library, Library without Wall and On-Line Library. Despite the large number of terms but only three terms are used where they are considered the most common ones: Electronic Library-Virtual Library-Digital Library (Abdel Hameed, 2008). The term Digital is referred to data that were transmitted as intermittent and unconnected electrical pulses represented by dual numbers (Zero and one) where digitalization refers to process of converting data into information systems which means converting any printed text or image into digital signals using some types of skimming devices (Al-Jowheri & Al-Hazmi, 2008). Additionally, there are other terms which are used as information management centers, Desktop Libraries, Networked Libraries, and Centers Libraries, where it is important to indicate that all of these libraries with regardless to their different titles depend on using the latest information technology, communications, programming and computers operations where their main concentration are based on the idea of availability and service (Faraj, 2009; Hassanein, 2008). The intellectual production of information sciences is rich with many definitions for concept of “Digital Library”. Collier (1997) defined it as information storage and retrieving regardless to their contents whether it is text or sound as it is available on distributed network.

While, Arms (2000) defines “Digital Library” as the libraries that handle all of operations machinery or digitally including the missions that implemented by specialist individuals in traditional libraries among them (Selection), Indexing and searching about information in addition to reference services ... etc. whereas each one of these services require a specified intellectual activity by those who work at this field which the computer may find it difficult. Consequently, Abu Lofah (2005) defined “Digital Library” as the one which maintains digital information sources whether the produced original ones or those that transferred to digital form, as their operations are controlled automatically by using a machinery system as it can be available through computers network whether it is local expended or via internet. Subsequently, Rosenberg (2005) defines “Digital Library” as transferring the traditional library books to a digital image through the scanning or entering it as an electronic text. Moreover, Faraj (2005) defined “Digital Library” as a term used for describing every attempt concerning an access to indexes online towards the information at the library. Furthermore, Faraj (2009) defined “Digital Library” as a group of electronic or digital information items available on the library (Server) where it can be reached through local network or the common on Internet.

Types of Digital Library

World Digital Library (WDL): A source for manuscripts, rare books, films, maps and more in multilingual format. The idea of WDL dates back in June 2005 when James H. Billington,

Librarian, Library of Congress (U.S) in his speech to the U.S National Commission for UNESCO proposed the establishment of WDL. The basic idea was to create an Internet-based, easily-accessible collection of the world's cultural riches that would tell the stories and highlight the achievements of all countries and cultures, thereby promoting cross cultural awareness and understanding. UNESCO welcomed the idea as a contribution toward fulfilling UNESCO's strategic objectives, which include promoting knowledge societies, building capacity in developing countries, and promoting cultural diversity on the Web. The aim of WDL is to provide the access free of charge via internet. It encourages users to explore the historical treasures from around the world.

Project Gutenberg: More than 33,000 e-books to read and download in this library. A nonprofit organization (since 2000) that maintains an electronic library of public domain works that have been digitized, or converted into e-books, by volunteers and archived for download from the organization's Web site: www.gutenberg.org. The project got its start on July 4, 1971, when Michael Hart, a student at the University of Illinois, began typing the U.S. Declaration of Independence into the school's computer system for distribution free of charge. He soon followed with the works of William Shakespeare and the Bible. Thus began Project Gutenberg, the oldest digital library. The copyright on any book published before 1923 expired no more than 75 years later, at which point it entered the public domain. Any work published between 1923 and 1977 retains its copyright for 95 years. The copyright on any work published in later years expires 70 years after the author's death or 95 years after publication in the case of a corporate work.

Virtual Library: It is a companion term to digital library, brought forth by the National Science Foundation. The concept of virtual library also emerged simultaneously with electronic library and digital library. This emergence is perhaps because all the information uses are at present through networked libraries at the desktop which is quite virtual (practical) without the physical existence of books on shelves. A virtual library can be simply defined as the internet-based digital library or a library without walls. The concept of virtual library is that any person who has a computer and connection to the library networks can access not only the resources of that library but also a variety of information available through national and international networks like internet and intranet without being physically present in the library.

Automated Library: A library with machine-readable catalog, computerized acquisition, circulation and OPAC are called as automated library. The holdings of such types of libraries are same as that of traditional libraries.

Hybrid Library: It was designed to bring a range of technologies from different sources together in the context of a working library and to explore integrated systems and services in electronic and printed environments. It reflects the transitional state of the library, which today can neither be fully printed nor fully digital.

Open Library: More than one million e-books of classic literature to download. The collection in this library reflects the commitment to quality and excellence. Classics both traditional and contemporary can be found on the shelves. Staff and students are actively involved in the selection process. In fact, students are taken regularly to book stores and book exhibitions to select and buy books for the library. An innovative in-house computer program ensures that all

users can borrow, return, search for, reserve, and conduct other library operations with ease. The facility of borrowing has been extended to former students, parents and guests.

Challenges of Digital Libraries

Libraries in general encounter in digital era series of challenges mentioned by Al-Maliki (2005), including: the information revolution that emerges everyday even every hour massive amounts of information so that any library in the world cannot comprehend its self-sufficiency regardless of the potential physical, human resources and diversity of traditional information sources through audio-visual and electronic connection which the online library facing challenges related to digital quality (Guendhilji & Al-Samurai, 2004). In spite of the short comings that plague arbitration of scientific researches, but it still remains a precondition for recognition of electronic public actions and equality of printed works (Bouazza, 2006). In terms of lack of sufficient awareness of the digital transformation gains that would accrue to the beneficiaries themselves as it requires from the user training or researcher to use the available information and to deal with the Internet through various browsers (Abu Leif, 2005).

Al-Maliki (2005), divided these difficulties into the following:

- Lack of enough training and numbers of Librarians.
- Problems related to digital libraries capacities.
- Rejection of the idea of digital libraries by Librarians.

Digital libraries face many legal and technical problems, such as high material costs of the sources of digital information and technical equipment necessary for the transition (Rahouma, 2005). Some of digital libraries problems are as follows: Technological Obsolescence, Soft Solutions and Relational Queries for example, the methods of search and retrieve back to the 1970s and 1980s of the twentieth century (Abdel Hameed, 2008; Faraj, 2009; Hassanein, 2008).

Conclusion

Digital libraries emerged as an obligatory result of revolution of the third millennium which is called the communications revolution, as libraries are able to prove that they are able to stand and cope with all the modern technology, where there is no conflict between the new and modern trends in libraries issue, but it also benefits from both of them concerning their evolution instruments in service for beneficiaries in every time and place. In spite of the non-achievement of available digital libraries to level of personal services that are offered by the traditional libraries because of the cheap cost, whereas they still attract a group of researchers as well as the scientists in medical and legal fields as a new class of beneficiaries.

Recommendations

1. Provision of adequate training and numbers of Librarians.
2. Provision of adequate and well equipped digital library with the use high material costs and sources of digital information and technical equipment necessary for the transition (development of digital libraries).

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