Digitization of Library: Beginning of New Era for Indian Libraries.

Himanshu rathee

Abstract

This paper discusses the new activities, purpose, function, and different stages used in digitizing documents and the formation of digital libraries. Due to the globalization of information and territorial boundaries are becoming meaningless. The Majority of libraries are getting converted into digital libraries with the availability of different digital library management software which helps to fulfill their users' basic objectives of providing relevant information. This paper ends by discussing the major role of librarians towards library digitization and maximizing effectiveness and how this beginning of a new era changes the whole concept of traditional libraries.

Keywords

Digitization, digital library, hybrid library, digital library management software

1. Introduction

Today's world is a digital world where everyone wants to gain/update his owns knowledge and wants to access it within a short period. That could be possible only with ICT technology which provides us authentic, filtered, and updated information within possible time. Due to the introduction of ICT the paradigm shifts in the library and information services, we were concerned with documents in print format and their organization, retrieval, and preservation. With the paradigm shift now we are more or less concerned with hybrid libraries, digital libraries, and vertical libraries. Formerly, there were no competitors for libraries. At present with the emergence of the web and internet, users can access their required information globally at any point of time and space in their workplace. Therefore, the very existence of libraries is in question. To establish the importance of libraries, we have to change our traditional method of services into modern services that's what we called digitalization in services. In this changing environment, to compete with the advanced needs of users, the establishment of digital libraries is an essential component.

Library automation has helped to provides easy access to collections through the users of computerized library catalogs such as on-line-public access catalog (OPAC). Digital libraries differ significantly from traditional libraries because they allow users to gain on-line access to other multimedia content like audio and video.

2. Digital library

A Digital library is a library in which documents and other collections are stored in digital formats (as averse to print, microform, or other media) accessible by computers. The content may be stored locally, or accessed remotely.

The Digital Library Federation defines digital libraries as:

"Digital Libraries are Organization that provides the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distributed, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities".

Digital Libraries provide user's filtered, authentic, flawless information with the proper time, user always felt this necessity in a traditional library. Unlike libraries that occupy buildings accessible only to those who walk through their doors, digital libraries inhabit inter-networked data storage and computing systems that can be accessed by people located anywhere in the world

The difference between traditional and digital libraries is presented below:

Traditional Libraries	Digital Libraries
Print collection.	All resources in digital form.
	Dynamic and ephemeral.
Stable, with slow evaluation.	
	Multi-media and fractal objects other.
Individual objects are not directly linked with each other.	
	More than with scholarly content with various validation processes.
Scholarly content with the validation process.	

	Free as well as fee-based.
Free and universal access	
	Dynamic real-time dialogue
One way interactions	

2.1. Purpose of digital library

The purpose of a digital library is:

❖ Uplift co-operative efforts in research resources, computing, and communication networks.

❖ Promote efficient delivery of information reasonably to all users.

❖ Speed up the systematic drive of action to collect, store, and organize, the information in digital form.

❖ Built-up communication and union between and among educational institutions.

❖ Take supervision role in the generation and circulation of knowledge.

❖ Preserve document for next generation

2.2. Function of Digital Library.

Functions of digital libraries are:

❖ Access to copious of information to users wherever they are and whenever they need it.

❖ Access to primary information sources.

❖ Support multimedia content along with the text.

❖ Network accessibility on intranet and internet.

❖ User-friendly interface, hypertext links for navigation.

❖ Clint-server architecture.

❖ Advanced search and retrieval.

❖ Consolidation with other digital libraries.

2.3. Components of Digital Library.

The components of a digital library are:

❖ Infrastructure, Digital Collection, Systems function

❖ Telecommunication facility, Human resources

❖ Hardware Requirements are:

❖ Computer Servers, Networks, LAN/WAN, Converters, Scanners

❖ Internet Connectivity, Storage Media, Multimedia Interface, UPS

❖ Software Requirements are:

❖ Liner Operating Systems, Digital Library Software, Greenstone, Fedora, E-Print.

❖ D-space, Editing Software.

3. Digital Libraries in India

Given below are some digital libraries of India:

❖ Digital Library of India, IIS, Bangalore.

❖ Nagri Pancharini Sabha, Varanasi.

❖ Kumaun University, Nainital

❖ G. B. Pant University of Agriculture & Technology, Pant Nagar

❖ Digital Library of India Institute of Management, Kozhikode.

❖ Indira Gandhi National Center For The Arts Digital Library

❖ Nalanda Digital Library

❖ Vidyanidhi: Digital Library

4. Digitization

Digitizing is the process of taking traditional library materials which are in a form of books, papers, manuscripts, and converting them into an electronic form where they can be stored and manipulated by a computer and retrieved by a user.

Digitization is a process in which materials are converted from hard copies to electronic copies. The major purposes of digitalization are: to amplify access and improve the preservation of library materials.
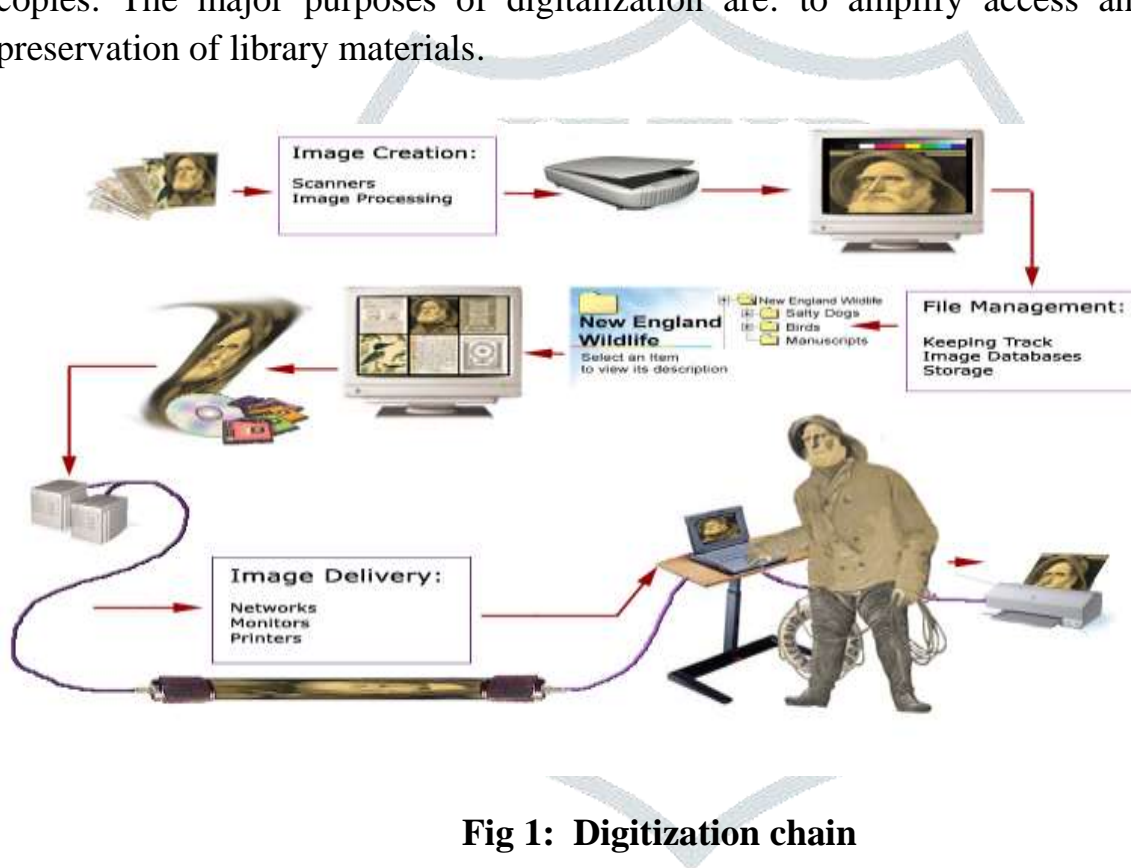

Fig 1: Digitization chain

4.1 Different Stages in Digitizing Documents:-

Initiation and the start of the project.

Selection of documents/records for digitization.

Preparation of document.

Conversion of information in digital form.

Editing of the digitized documents and their storage methods.

Organization of digital collection using metadata.

Access and maintenance.

4.2 Approaches for deciding what parts of the collection to digitize.

Thinking of digitizing is straightforward but deciding what a part of the gathering to digitize is that the main task, because in library bundle of collection available and it's tough to make a decision which one must digitalize, so there are several approaches available below:

➢ High-use materials, making those materials that are in most demand more accessible.
➢ Retrospective conversion of collections-essentially, starting at A and ending up Z. However ideal such complete conversion would be, it is not practical or technically, legally, and economically impossibly. This approach can arguably be dispensed with as a dream.

➢ Digitization of a very special collection or a portion of one. A small collection of convenient size, and which is highly valued, maybe a prime candidate.

➢ Emphasize various collections by digitizing particularly good examples of some collection strength.

➢ An impromptu approach where one digitizes and stores materials as they are requested. This is, however, a chaotic method of digital collection building.

These approaches are often used alone or together depending upon a particular institution's goals for digitization.

Cuddled within these approaches are several criteria for choosing individual items, these include:

➢ Their potential for long-term   use

➢ Their intellectual or cultural value

➢ whether they provide greater access opportunity than possible with original materials (e.g., fragile, rare materials)

➢ And whether copyright restrictions and licensing will permit conversion.

5. Digital Library Management System (DLMS)

A Digital library management system is a computer-based system that manages the catalog of a library. It provides the appropriate frame word both for the production and administration of digital library systems by incorporating functionality essentially fundamental to digital libraries.

The DLMS (Digital Library Management System) is the one that will be studied. Open-source digital library management software provides extensible features to administrators and allows an organization to showcase their digital achieves to would audience. Witch full rights of software available under GPL and source code are provided with the software as being required for the particular operation. The DLMS (digital library management system/studied are:-

5.1 D-SPACE

The D-Space is a joint project of the MIT Libraries and HP labs systems. D-Space is the software of choice for academic, non-profit, and commercial organizations building open digital repositories. It is free and easy to install "out of the box" and completely customizable to suit the requirements of any organization. D-Space preserves and enables easy and open access to all types of digital content including text, images, moving images, and data sets. And with the mounting community of developers, committed to continuously expanding and improving the software, each D-Space installation benefits from the next.
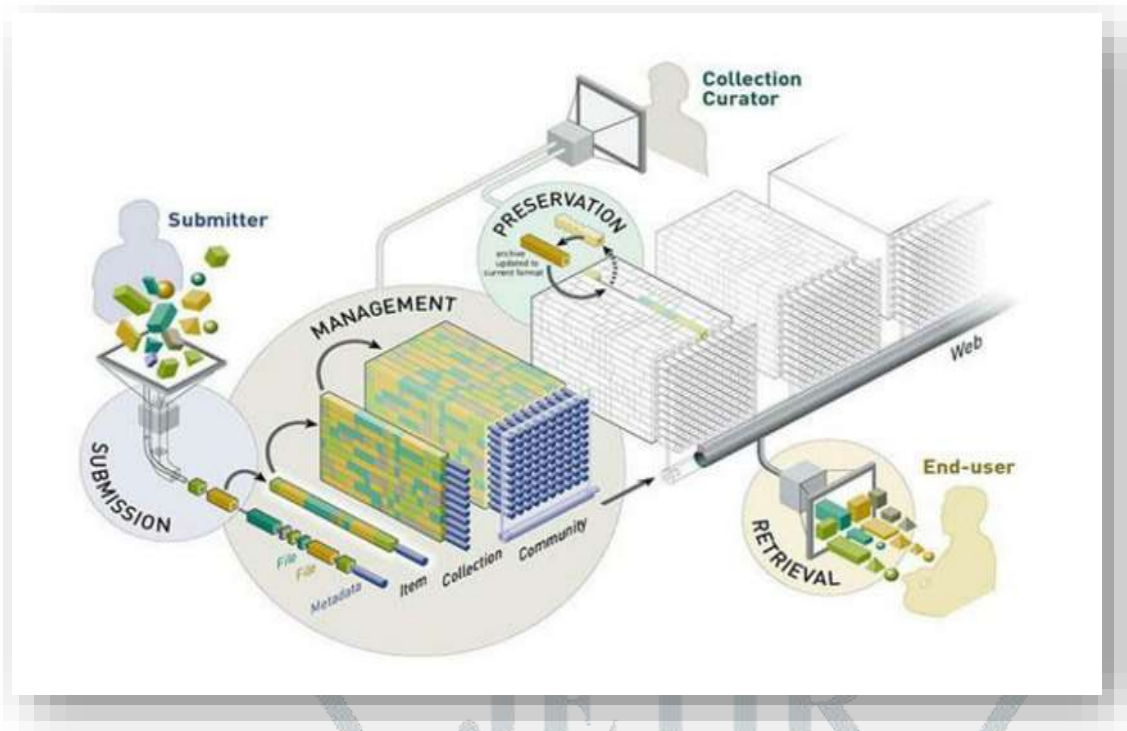
Fig 2: D-space Digital Repository Modal

D-SPACE FEATURES

❖ Open-source software for digital object management.

❖ Assist conservation of advances articles expertly.

❖ Assist preservation of digital projects professionally.

❖ Allows building institutional storehouses.

❖ Low cost, including all equipment and programming segments.

❖ Multi-user.

❖ Multimedia computerized item empowered.

5.2 GREENSTONE

Greenstone is a suite of software for building and distributing digital library collections. It provides a new way of organizing information and publishing it on the web or CD-ROM. Greenstone is produced by the New Zealand Digital Library Project at the University of Waikato and developed and distributed in cooperation with UNESCO and the Human Info NGO. It is open-source, multilingual software, issued under the terms of the GNU General Public the Greenstone software aims to empower users, particularly in universities, libraries, and other public service institutions, to build their digital libraries. Digital libraries are radically reforming how information is circulated and acquired in UNESCO's partner communities and institutions in the fields of education, science, and

culture around the world, and particularly in developing countries. This software can coax the effective deployment of digital libraries to share information and put it in the public domain.

GREENSTONE FEATURES

❖ Greenstone assembles accumulations utilizing practically mainstream and standard advanced organizations, for example, HTML, XML, Word, PostScript, PDF, RTF, and numerous different configurations that incorporate sound just as video.

❖ It is furnished with powerful full-content looking and metadata-based perusing offices that are appealing and simple to utilize

❖ It keeps running on a wide assortment of stages, for example, Windows, Unix/Linux, and so forth and gives full-content reflecting, ordering, looking, scrutinize, and metadata extraction.
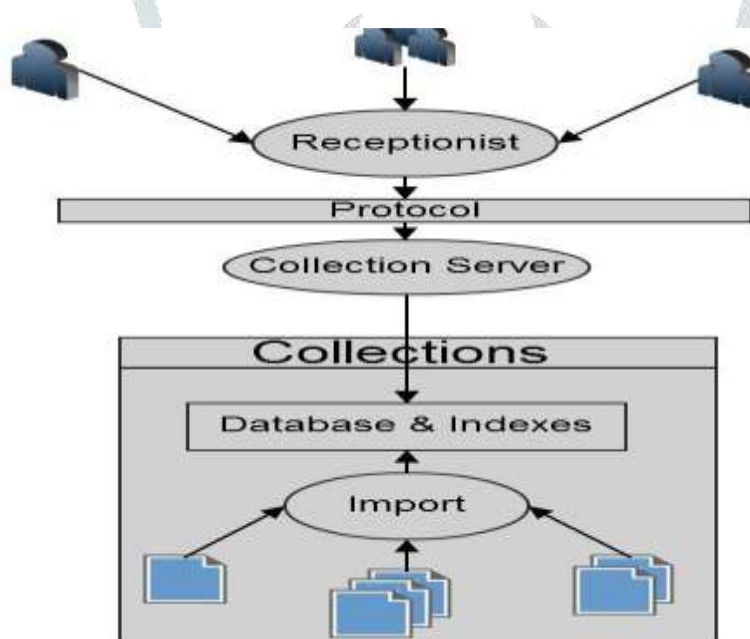

Fig. 3: Data Model of Greenstone

5.3 EPrints

EPrints is free software developed by the "University of Southampton, England". EPrints repository collect, preserves and disseminates in digital format the research output created by a research community. It enables the community to deposit their preprints, post-prints and other scholarly publications using a web interface and organizes these publications for easy retrieval. It is the world's first, most widely used, and by far the most functional of all the available OA IR software's It is created for and specifically focused on OA functionality. EPrints is an extendible content management system. It has been extensively configured to accommodate the needs of academics and researchers amid dissemination and reporting, but it could also use for other things such as images, research data, audio archives - anything that can be stored digitally, but you'll have to make more changes to the configuration. EPrints is OAI-complaint. It is highly configurable to achieve diverse needs, built on a coding platform that is amenable to rapid development. The documents in an EPrints archive can be indexed to allow retrieval by online search engines like Google, which helps to ensure greater access to, and greater dissemination of any items uploaded to the archive. Searching is fairly limited in EPrints. As mentioned earlier, Boolean searching is not supported.

E-PRINT FEATURES

❖ EPrints provides a web-based interface that makes it easy to use and administer.

❖ EPrints uses traditional technologies and runs on pure Open Source systems. It uses MySQL, Apache database, and a web server. MySQL is the world's most popular open-source database, recognized for its speed and reliability and Apache has been the most popular web server on the Internet since April of 1996. Eprints is programmed by using the script language "Perl", which is low level but powerful.

Fig 4: EPrints Data Model

6. Traditional Library Metamorphosis into Hybrid Library

With the development of the technology, the metamorphosis(transfer, convert) the traditional library into a hybrid library, the traditional closed access libraries are shifting towards the open-access libraries and the open-access library to automated libraries, the automated one towards the electronics and the electronics finally ends with a digital library. During old times library are founding mainly in traditional forms (print form materials). But after the revolution in technology, most of them converted into a digital library, because the need for preservation comes along. Many documents are precious, which have to preserve for future use and digitization of that documents is the best way. So due to this, today time most of the library converted into a hybrid library. A hybrid library is a library that contains both prints as well as in digital form.

7. Role of Librarian in Digital Era

Now a day's number of resources is available for students. Their use of technology increases day by day. An academic library means schools, colleges, universities libraries, and also many companies are having in-house libraries. The users are researchers, teachers, students, and working professionals. They need the latest information regarding their domain. Due to the high cost of books, time-space limitation, and availability of resources, the user gives priority to the library. Every institute is having a lot of print collections, but because of the dissemination of collection, users are unable to retrieve information. For better utilization of resources, a librarian needs to develop various techniques for easily searching of resources. In academics, Librarians are the mediator of students and teachers. They help students to find their information, they explain how to search information, they help its user for finding books from stacks, they also guide how to use library OPAC for time-saving and easily search and which help the users to fulfill their requirement. To meet the changing needs of library users in the ICT environment librarians are expected to continuously boost their competencies and skill in the age of the digital era to improve productivity and efficiency. If they don't change with time, they always lag. In the digital era librarian is just not a person they play a role of a warehouse of the institution which contains all type of knowledge about just not only related to library science but whole and can manage all this information and used according to the situation which beneficial to users as well as to the whole institution.

8. Conclusion

Digitization has opened up new services and opportunities for libraries, and it needs to be unification into plans and policies of an institution to maximize its effectiveness. Digitization not only increases the efficiency of an institution but also increases the pangs of hunger in users for new technology and how to access new information. Because due to the digitalization of libraries any information can access by users from anywhere at any time (paying subscription fees or freely access) it depends on institutional policies some provide

free access, some take an accountable fee. Librarians have long been seen as ones that arrange books and perform a function like that, but now in the current era or we can say that in the digital era librarians know as "knowledge mediators". They guide researchers to ensure they are accessing high-quality; relevant information and they also play a critical role in helping users spend less time searching and more time accessing and using valuable content. The digital library management software mentioned in these paper present different services and architectures, with this institution/organization can disseminate their research work, documents, manuscripts, or any other digital media for preservation and world over the dissemination of digital items. So we can hope shortly that all the libraries in India as well as in the world will be without walls, and the resources of all libraries will be available to the whole user community through networked digital libraries

9. REFERENCE

1. Ayyanar, K., & Algarsamy, Labanya. (2019, November 14-16). *Digital library open source software: an overview and comparative study*. [Paper presentation]. International conference on transforming academic libraries: Vision 2030, Vankatram Learning Center, Kumiyamuthur, Tamil Nadu, India. Retrieved from https://www.researchgate.net/publication/339676071_DIGITAL_LIBRARY_OPEN_SOURCE_SOFTWARE_AN_OVERVIEW_AND_COMPARATIVE_STUDY

2. Digital Library Federation (1998). (n.d.). A working definition of a digital library. Retrieved January 31, 2021, from https://old.diglib.org/about/dldefinition.htm#:~:text=%22Digital%20libraries%20are%20organizations%20that,are%20readily%20and%20economically%20available

3. Goel, Vivek. (2012). *Digital library and its issues*. Ankit publication house

4. Singh, Umrav. (2017). Digitization of library resources and the formation of digital libraries: a practical approach (M.Phil project). Retrieved from https://www.researchgate.net/publication/320583696_DIGITIZATION_OF_LIBRARY_RESOURCES_AND_THE_FORMATION_OF_DIGITAL_LIBRARIES_A_PRACTICAL_APPROACH

5. Tramboo, Shahkar., Humma., Shafi, SM., & Gul, Sumeer. (2012). A study on the open-source digital library software's: special reference to DSpace, EPrints, and greenstone. *International Journal of Computer Application, 59*(16), 1-9. https://doi.org/10.5120/9629-4272

6. Technical infrastructure: Digitization chain [online image]. (2003). Moving theory into practice digital imaging tutorial. http://preservationtutorial.library.cornell.edu/tutorial/technical/technicalA-01.html