

REVITALIZING LIBRARIES IN THE GOOGLE GENERATION



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PRINCIPAL
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Next Generation Digital Libraries: Open, Collaborative, and User-Centric

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Abstract

During Covid-19 Digital libraries are played a vital role for disseminating the information widely in the respective subjects. This article identifies the development of digital libraries and asks what is next for a suite of activities that is fundamentally important to the future of research, teaching, learning, and cultural engagement. Digital libraries also changed as a cloud based approach towards the present scenario for the technology enabled users. This paper identifies the challenges and opportunities for the need of cloud based approach of digital libraries for the next generation.

Keywords: Next Generation, Digital Libraries and Learners

Overview of Digital Library


According to Lesk (1997) "Digital libraries are organized collections of digital information. They combine the structuring and gathering of information, which libraries and archives have always done, with the digital representation that computers have made possible."

According to Digital Libraries Federation (DLF) (1999) "Digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, 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." According to - William Arms "An informal definition of 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. A crucial part of this definition is that the information is managed. A stream of data sent to earth from a satellite is not a library. The same data, when organized systematically, becomes a digital library collection." According to Gladney H.M, et. al. (1994) "A digital library service is an assemblage of digital computing, storage, and communications machinery together with the software needed to reproduce, emulate, and extend the services provided by conventional libraries based on paper and other material means of collecting, storing, cataloguing, finding, and disseminating information."

Now the digital libraries provide all the e-Resources support service, electronic document delivery, e-publishing, inter library loan with the help of DELNET, full text searching, institutional repositories, abstract searching, RSS feeds, view meta data table of content alerts and more services. Earlier the digital libraries provides only in the campus connect services and now remote access facility with proxy servers like e-proxy, shibboleth. This paper identifies the role of digital libraries, advantages and disadvantages, future trends in the DL for benefit of the learners.

Characteristics of the Digital Library

- Capture, store, manipulate, and dissemination of information
- Initiate paperless services to the users
- Need based services and searching services to the users
- Availability of Subject wise databases



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- Facility to networking and resource sharing
- Global access of the journals in on-campus and off-campus
- Digitization of the documents and preservation also possible
- Affordable cost based services

Functionalities

- Multimedia object storage
- Data compression
- Digitization
- Digital preservation
- Hyper media navigation
- Creating electronic documents
- Multimedia object representation
- Meta data services
- Display technologies
- User interface
- Search and retrieval service
- Scanning and conversion technologies
- Privacy and security

Features of the Digital Library: Vasupongayya et al. (2011) explains the features of digital library as:

- A collection of digital computation, storage space and communications machines collectively through the information and software required to replicate, follow and expand the services offered by traditional libraries.
- It comprises a browser interface along with a virtual room and society.
- It needs a smaller amount space and the information could be made accessible by means of communication networks to everyone at every location, at the same time as making simple searches with pace.
- It is not a solo unit and is usually connected with multiple resources of various further groups.
- A digital library which supply a definite group of people or set of groups of people.

Significance of Digital Library: As mentioned by Patra & Nahak (2014), the major functions of digital libraries are:

- Digital Libraries provide accessibility to huge quantities of content to its user's independent of location and as per convenience.
- At the same time, it provides accessibility to main information resources. Digital Libraries supports the multimedia information besides the text.
- Digital libraries offer access to network over Intranet as well as Internet. Digital Libraries affords user-friendly interface.
- Digital Libraries offers hypertext links for better navigation to sources is the special function of the digital libraries.
- Digital libraries store resources for giving a competent right to use relevant data.
- In Digital libraries high-quality optimistic images are shown thereby helping the research students to perform in a better way.
- Finally, digital libraries protect the user information in a systematic manner, thus it makes the library operations better.

Advantages of Digital Library

- Ability to search: normal search provides an enormous advantage to e-resources
- Ubiquity: At a same time number of learners using the single and same content
- Support wider range material: to expand wide range of materials provided to the learners

- Preservation: All the digital information can be preserved without error.
- Access current information: digital libraries provide access to up-to-date current literature

National Digital Library of India (NDLI)

The National Digital Library of India (NDLI) is a virtual repository around 9,98,59, 537 learning resources. It is sponsored and mentored by the Ministry of Education, Government of India, through its National Mission on Education through Information and Communication Technology (NMEICT).

- The NDLI provides free of cost access to many books and designed to hold content of any languages and provides interface support for 10 most widely used Indian languages. It is developed, operated and maintained from Indian Institute of Technology Kharagpur.
- The NDLI contains a wide range of digital content including: Books, Articles, Videos, Audio books, Lectures, Simulations, Fiction, And all other kinds of learning media
- The NDLI is designed to support all academic levels, including: School students, College students, and the Researchers, Lifelong learners
- The NDLI is also designed to support all disciplines and all popular forms of access devices, including: Computers, Smartphones, Tablets
- The NDLI is a valuable resource for students, researchers, and lifelong learners. It provides free and easy access to a wide range of digital content that can be used for learning, research, and teaching.

Here are some of the key features of the NDLI

- Comprehensive content: The NDLI contains a wide range of digital content, including books, articles, videos, audiobooks, lectures, simulations, fiction, and all other kinds of learning media.
- Multilingual support: The NDLI provides interface support for the 10 most widely used Indian languages.
- Accessibility: The NDLI is free and accessible to anyone with an internet connection.
- Search and discovery: The NDLI provides a powerful search and discovery engine that allows users to find the content they need quickly and easily.
- Personalization: The NDLI allows users to create personalized accounts and save their favorite content.
- Sharing: The NDLI allows users to share content with others via email, social media, or other platforms.

The NDLI is a valuable resource for students, researchers, and lifelong learners. It provides free and easy access to a wide range of digital content that can be used for learning, research, and teaching.

Next Generation Digital Libraries in the 21st Century: Next-generation digital libraries are digital libraries that leverage emerging technologies to provide users with new and innovative ways to access, discover, and use digital information. These technologies include artificial intelligence (AI), machine learning (ML), natural language processing (NLP), semantic web, and linked data.

Here are some examples of Next-Generation Digital Libraries

- The National Digital Public Library (NDPL) is a next-generation digital library that provides access to a wide range of digital content, including books, audio books, magazines, and movies. The NDPL uses AI and ML to recommend new and relevant content to users.

- The HathiTrust Digital Library is a next-generation digital library that provides access to over 17 million volumes of digitized books. The HathiTrust Digital Library uses AI and NLP to make it easier for users to search for and discover books.

These are just a few examples of next-generation digital libraries. As these technologies continue to develop, we can expect to see even more innovative and powerful digital libraries emerge in the future.

Conclusion

Next-generation digital libraries are rapidly evolving, driven by advances in emerging technologies such as artificial intelligence (AI), big data, cloud computing, and the Internet of Things (IoT). These technologies enable next-generation digital libraries to provide users with more personalized, intelligent, and immersive experiences. It is also becoming more inclusive and accessible, thanks to features such as multilingual support, assistive technologies, and open access to content. As a result, it has the potential to democratize information access and empower users to learn, create, and innovate in new ways. One of the key challenges is ensuring that next-generation digital libraries remain sustainable and equitable in the face of rapid technological change. This will require libraries to develop new business models and partnerships, and to ensure that their collections and services are relevant to the needs of all users. Another challenge is addressing the ethical implications of emerging technologies in digital libraries. For example, the use of AI and big data raises concerns about privacy, bias, and algorithmic transparency. Despite these challenges, the future of digital libraries is bright and has the potential to revolutionize the way we access, learn, and interact with information. By embracing emerging technologies and working together to address the challenges, libraries can build a more inclusive and equitable future for all.

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