ROLE OF DIGITAL LIBRARY IN EDUCATION AND RESEARCH

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ABSTRACT:

It is the era of digital knowledge.A digital library online library, an internet library, a digital repository, a library without walls, or a digital collection. It is an online database of digital objects that can include text, audio, video, pictures, digital documents, or other digital media., Digital libraries can vary in size and scope, and can be maintained by individuals or organizations. The digital content may be stored locally, or accessed remotely via computer networks. These information retrieval systems are able to exchange information with each other through interoperability and sustainability. The term virtual library was initially used interchangeably with digital library,but is now primarily used for libraries that are virtual in other senses. Digitization of the library services has become a need of hour and knowledge. But it also requires a huge amount of budget to covert knowledge into digital form. The improved facility of digitization of library services has attracted the scholar world to adopt the path of digitization of information.

Keywords: Digitization, Digital Information, Digital Library

INTRODUCTION:

Digital age has brought a change in the way information is stored and accessed. It is marked by three distinct features: abundance, currency and easy access of information. The 'digital libraries', libraries without walls', 'virtual libraries' are emerging to describe the libraries of present day age. The main objective of digital library is to fulfill the demand of library users with relevant, updated and accurate information at economic cost and at universal norms. In Wilensky's view "the digital library will be a collection of distributed information services, producers will make it available, and consumers will find it through the automated agents". Digital libraries the main focus was on providing access to Online Public Access Catalogues (OPAC). it may simply mean computerisation of the traditional library system. According to Digital Library Foundation (DLF) "Digital libraries are organization that provides the resources, including 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 work so that they are readily and economically available for use by a defined community."

Historical of Digital Libraries -The genesis of digital libraries can be traced back to the early initiatives that sought to digitize and provide access to a wealth of information. One of the pioneering projects that laid the foundation for digital libraries is Project Gutenberg, initiated by Michael S. Hart in 1971. Project Gutenberg's mission was to digitize and make freely available a vast collection of public domain literary works, thereby pioneering the concept of digital access to literary and cultural treasures.

The Google Books Project (2004): Google's ambitious project to digitize millions of books from libraries worldwide had a profound impact on digital library development. While it faced legal challenges, it demonstrated the transformative potential of mass digitization and its impact on information accessibility.

The DLI Project (1998): The Digital Library of India (DLI) project, initiated by the Indian Institute of Science in Bangalore, aimed to digitize a diverse collection of materials, including books, manuscripts, and periodicals. This ambitious project contributed to the preservation and accessibility of India's cultural and scientific heritage

DIGITAL LIBRARY IN EDUCATION

1. 1 **Digital Library provides access to very large information resources-** Role of digital libraries, digital collections and other information services in supporting teaching, learning, and human development. It provide help in education and research and others field also.The analysis here needs to be done not on a relatively transactional basis but how information resources and services can be partners over development and learning that spans an entire human lifetime, from early childhood to old age.

2. 2 **Multimedia contents**- Digital library supports multimedia content. Multimedia digital library consists of multimedia digital contents which are indexed and stored in databases for appropriate retrieval operations and the retrieval mechanisms which are optimized and applied to object domains of those databases. A multimedia digital library such as video, audio, maps, images and text documents. The main improvement with regard to textual digital libraries is the possibility of retrieving documents in different media combining metadata and content analysis

3. **3 Network accessible-** The internet is a collection of network based on server models which store and provide the information required by the client. It is based on web technology .it is necessary to have a search engine for it. Due to advancement in technology we have faster access than before. The search use software programme search for robots, spiders, or crawlers. Therefore, large number of useful information available in the library. Through computer, internet , modem and simple communication software we can reach to library resources on internet. That is why; the utility of internet resources is very crucial to technological world.

4. **4User friendly** - Digital library provide userfriendly interface in which user can find any information without any problem. The main tool of developing a digital library is based on the system of recording, storing transmission and communication of information records, computer keyboards, web search engines and the internet system through which we can get authentic and well-evaluated information due to this system.

5. **5Unique referencing of digital objects**- Digital libraries can be grouped in different ways. They can be classified by origin, such as digital libraries developed in the USA as part of DLI 1 and DLI 2 (the Digital Library Initiatives), digital libraries developed in the course of the eLib (Electronic Libraries) programme in the UK, digital libraries built by individual institutions, digital libraries that are part of national libraries, digital libraries that are part of universities; or by period, by country of origin, and so on.

6. **6Enable link representation to local / external objects**. • Early digital libraries, e.g. ELINOR, Gutenberg • Digital libraries of institutional publications, e.g. ACM, IEL • Digital library developments at national libraries, e.g. the British Library, Library of Congress (THOMAS), Digital Library of Canada • Digital libraries at universities, e.g. Berkeley Digital Library SunSITE Bodleian Library Digital Library Projects, California Digital Library, DIGILIB, iGEMS and SETIS.

7. 7 **It supports advanced search and retrieval**- Search Engine Technologies: Digital libraries employ search engines like Apache Lucene, Elasticsearch, and Solar for indexing and retrieving content. These technologies use various algorithms to match user queries to relevant documents and rank results (Elastic, n.d.).

8. Faceted Search: Faceted search allows users to refine search results by applying filters or facets based on attributes like author, date, subject, and format. This enhances the precision of search results and provides an intuitive navigation experience (Hearst, 2006)

9. Ranking Algorithms: Ranking algorithms, such as TF-IDF (Term Frequency-Inverse Document Frequency) and PageRank, determine the order in which search results are presented to users (Manning, Raghavan, &Schütze, 2008).

10. **8.Information available for a very long time-** Digital library saves the information for long time. These advancements have been accompanied by the establishment of metadata standards, innovative digital preservation techniques, and the integration of Artificial Intelligence (AI) and machine learning. Today, digital libraries are adaptive and user-centric, offering personalized recommendations and a collaborative platform for knowledge sharing.

11. **9**. **Access**: Access to (discovered) content within Digital library is often very simple, such as when the desired resource is openly available on the Web. Access becomes more complex when use of the resource is controlled by policy or when the resource requires more than a browser for effective use. It slso supports traditional library missions of collection development organization, access and preservation of information

12. **10 Support editing, publishing annotation and integration of information-** It support editing, publishing annotation and integration of information which is another important property of Digital library. There are strong arguments for the national Digital library to be considered a "national treasure" and free access to content are rooted in this view. An attractive scenario for the long-term management of the digital library .

CONCLUSION-

Digital libraries the transformation of information access and dissemination has been nothing short of revolutionary. Digital libraries have transcended physical boundaries, democratized information access, and propelled knowledge-sharing to new heights. Their significance in the realms of academia, industry, and society at large is indisputable. As repositories of diverse electronic resources, , fostered a culture of open access, and redefined the way we interact with information. The historical journey of digital libraries reflects a remarkable evolution, technological innovations, and the insatiable quest to meet the ever-evolving needs of users. These underpinnings are essential for effective information organization, retrieval, and long-term preservation. Digital libraries are poised to embrace a future teeming with innovation. Semantic technologies, enhanced user engagement, and support for multimodal content are just some of the trends that promise to redefine digital library development. In conclusion, digital libraries are dynamic, ever-evolving entities that bridge the chasm between information and users.

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