E-LIBRARY

DEVELOPMENT OVER THE YEARS

AARTI KANDALGAONKAR[1]

ABSTRACT

This paper highlights the development of E-libraries(electronic libraries) also known as digital libraries over the years. With the advent of Information Technology, digital libraries have become very popular over the decades.An E-library or digital library is an online database of digital objects that can include text, still images, audio, video or other digital media formats. The paper covers the initial attempts to establish e-libraries in 1895 as well as the anticipated projects in years to come. Its main objective is to put forward the challenges and issues in their development and the ways these were overcome. It also focuses on the contents which are born-digital and are digitized.The research will conduct a descriptive methodology approach while doing so using journal articles and references from newspapers and blogs.E-libraries have advantage over physical libraries as they are convenient, easily accessible and affordable, have potential to store large amount of information and easy retrieval of the same and has added value. This is why large digitization projects are underway to eliminate the difficulties faced and experts believe that soon it will be technologically possible for an average person to access virtually all recorded information.

Keywords: - Digital Libraries, Online Database, Born-digital, Digitization

INTRODUCTION OF E-LIBRARIES

Today's world is a digital world. The tasks we do manually can now be done digitally on various digital platforms. One such platform is e-library or digital library. It is an online database of digital objects including text, still images, audio, video or other digital media formats. In addition to storing content, digital libraries provide means for organising, searching and retrieving the content contained in the collection. Digital libraries can vary in size and scope and can be maintained by individuals and organisations. 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 establishment of the digital library was total dependent on the progress in the age of internet.

I. OBJECTIVES
❖   To highlight the development of e-libraries
❖   To focus on the challenges and issues in their development and how these were overcome
❖   To focus on features, advantages and disadvantages of e-libraries.

II. FEATURES OF E-LIBRARIES
❖   Metadata
▪ Metadata is a set of data that describes and gives information about other data.
▪ Metadata act as catalogues providing information about other data.
▪ While full-text search can be used for some items, there are many common catalogue searches which cannot be performed using full text, including:
  i. Finding texts which are translations of other texts.

---

[1]Student -Bachelor of Commerce (Banking & Insurance), Patkar Varde College , Mumbai, India

ii. Differentiating between editions/ volumes of a text/ periodical.

iii. Inconsistent descriptors (especially subject headings).

iv. Missing, deficient or poor quality taxonomy practices.

v. linking texts published under pseudonyms to the real authors (Example: Samuel Clemens and Mark Twain)

vi. Differentiating non-fiction from parody.

❖   Searching

▪ Most digital libraries provide a search interface which allows resources to be found.

▪ There are two general strategies for searching a federation of digital libraries: distributed searching and searching previously harvested metadata.

▪ Distributed searching typically involves a client sending multiple search requests in parallel to a number of servers in the federation.

▪ Searching over previously harvested metadata involves searching a locally stored index of information that has previously been collected from the libraries OAI-PMH- Open Archives Initiative Protocol for Metadata Harvesting)

❖   Digital Preservation

▪ Digital preservation aims to ensure that digital media and information systems are still interpretable into the indefinite future.Each necessary component of this must be migrated, preserved or emulated.

❖   Copyright and Licensing

▪ Digital libraries are hampered by copyright law because, unlike with traditional printed works, the laws of digital copyright are still being formed. The republication of material on the web by libraries may require permission from rights holders, and there is a conflict of interest between libraries and the publishers who may wish to create online versions of their acquired content for commercial purposes.

❖   Recommendation Systems

▪ Many digital libraries offer recommender systems to reduce information overload and help their users discovering relevant literature.

▪

III. DEVELOPMENT OF E-LIBRARIES

➢   The Mundaneum

The Mundaneum was created in 1910, following an initiative begun in 1895 by Belgian lawyers Paul Otlet and Henri La Fontaine, as part of their work on documentation science. It aimed to gather together the entire world's knowledge and classify it according to a system they developed called the Universal Decimal Classification.The Mundaneum has been identified as a milestone in the history of data collection and management, and as a precursor to the Internet.

➢   The Memex

The Memex, a portmanteau of 'memory' and 'index', is the name of the hypothetical proto-hypertextsystem.Bush envisioned the memex as a device in which individuals would compress and store all of their books, records, and communications, "mechanized so that it may be consulted with exceeding speed and flexibility". The memex would provide an "enlarged intimate supplement to one's memory".

➢   J.C.R. Licklider& Ford Foundation

In 1956, Ford Foundation funded Licklider to analyze how libraries could be improved with technology. Almost a decade later, his book entitled "Libraries of the Future" included his vision. He wanted to create a system that would use computers and networks so human knowledge would be accessible for human needs and feedback would be automatic for machine purposes. This system contained three components, the corpus of knowledge, the question, and the answer. Licklider called it a precognitive system.

➢   Online Public Access Catalog(OPAC)

OPAC is an online database of materials held by a library or group of libraries. Users search a library catalog principally to locate books and other material available at a library. In simple language it is an electronic version of the card catalog. OPAC is the gateway to library's collection.

➢   Educational Research Information Centre (ERIC)

An early example of a digital library is the Education Resources Information Center (ERIC), a database of education citations and abstracts, which was created in 1964 and made available online through DIALOG in 1969.It is an online digital library of education research and information. ERIC is sponsored by the Institute of Education Sciences of the United States Department of Education.

➢   The Million Book Project, 2007-2008

The Million Book Project or the Universal Library was a book digitization project led by Carnegie Mellon University School of Computer Science and University Libraries from 2007–2008. Working with government and research partners in India (Digital Library of India) and China, the project scanned books in many languages, using OCR to enable full text searching, and providing free-to-read access to the books on the web. As of 2007, they have completed the scanning of 1 million books and have made the entire catalog accessible online.

➢   Internet Archive

The Internet Archive is a San Francisco–based nonprofit digital library with the stated mission of "universal access to all knowledge. It provides free public access to collections of digitized materials, including websites, software applications/games, music, movies/videos, moving images, and nearly three million public-domain books. As of October 2016, its collection topped 15 petabytes. In addition to its archiving function, the Archive is an activist organization, advocating for a free and open Internet.

➢   Google Books, 2004

Google Books, initially known as Google Print, is a service from Google Inc. that searches the full text of books and magazines that Google has scanned, converted to text using optical character recognition (OCR), and stored in its digital database. Books are provided either by publishers and authors, through the Google Books Partner Program, or by Google's library partners, through the Library Project.Additionally, Google has partnered with a number of magazine publishers to digitize their archives.

IV. ADVANTAGES OF E-LIBRARIES

i. No Physical Boundary: People from all over the world can gain access to the same information, as long as an Internet connection is available.

ii. It is Available 24x7

iii. Multiple Access:The same resources can be used simultaneously by a number of institutions and patrons.

iv. Information Retrieval: The user is able to use any search term (word, phrase, title, name, subject) to search the entire collection. Digital libraries can provide very user-friendly interfaces, giving click able access to its resources.

v. Space: Potential to store large amount of information

vi. Added Value: Enhanced Quality, legibility and removing flaws

vii. It is Easily Accessible.

V. DRAWBACKS OF E-LIBRARIES

i. User Authentication: This provides restricted access to the collections.

ii. Copyright: The laws of digital copyright are yet to be formed.

iii. Inefficient or non-existent taxonomy practices: The taxonomy practices are inefficient or non-existent especially with historic material.

iv. Interface Design: Complex interface designs lead to confusion in the minds of the users at times.

  v. Expensive: Exorbitant cost of building/maintaining the terabytes of storage, servers, and redundancies necessary for a functional digital collection.

  vi. Digital Preservation: Digitization is not a long-term preservation solution for physical collections, but does succeed in providing access copies for materials that would otherwise fall to degradation from repeated use.

  vii. Digital Divide: Not all individuals are able to access and use technology.

 viii. Quality of Metadata: The quality may not be up to the mark.

VI. CONCLUSION

In the past few decades, E-Libraries have gained popularity all over the world. It helps people to access any information they want. E-Libraries have been developed over the years making a rapid progress in the digital world and are proven useful to all. Although drawbacks exist, e-libraries have a long way to go and help in the development of mankind in the future as well.

VII. REFERENCES

- ✓   en.wikipedia.org
- ✓   The Atlantic Monthly article "As We May Think" by Vannevar Bush in 1945
- ✓   Research Paper on Digital/E Library Resource by Vidya BhauraoThillar and ShyamlaChandrakant Yadav – www.epitomejournals.com
- ✓   Publications in D-Lib Magazine