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**Trends in Digital Libraries 2016**

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Libraries have been in the collection business for centuries and are defined largely by the functions of collection development and management, that is, by a continuum of processes to select content appropriate for a particular community, make it accessible, manage it, and preserve it. Rapid advances in information technologies have revolutionized the role of libraries. As a result, libraries face new challenges, competitors, demands, and expectations. Libraries are redesigning services and information products to add value to their services and to satisfy the changing information needs of the user community. Traditional libraries are still handling largely printed materials that are expensive and bulky. Information seekers are no longer satisfied with only printed materials. They want to supplement the printed information with more dynamic electronic resources. Demands for digital information are increasing. A digital library is a library in which collections are stored in digital formats (as opposed to print, microform, or other media) and accessible by computers. The content may be stored locally, or accessed remotely. The aim of digital library may be to expedite the systematic development of digital resources collection, the means to collect store and organize and knowledge in digital form. The world is constantly changing and adapting to new technologies. Understanding the digital trends and identifying tomorrow's expectations is essential for libraries to plan and incorporate new solutions that evolve both the way they work and how they engage with communities. For the purpose the paper focuses on emerging trends in Digital Libraries for 2016.

**Keywords:** Digital libraries, User-friendly, Interoperability, Metadata, Ex Machina**Introduction:**

The Twentieth century has witnessed tremendous growth and development in information and communication technology, which results in significant changes in all disciplines of life throughout the world and libraries are not exception to this. The continuing new development and implementations of IT in libraries are bringing us to new digital library environment. Digital libraries will start gaining ground in India in the present century. We are heading toward an environment in which digital information may substitute for much print-based information. A library's existence does not depend on the physical form of documents. Its mission is to link the past and the present, and help shape the future by preserving the records of human culture, as well as integrating emerging information technologies. This mission is unlikely to change in the near future.

A digital library is not a single entity. It requires technology link the resources of many collections. The links between digital libraries and their resources are transparent to users. Digital



library collections are not limited to document surrogates (bibliographic records). They are the actual digital objects such as images, texts, etc.

Digital libraries (DLs) are emerging as an important area of research and education for information science, computer science and a number of other related disciplines

Digital libraries are complex systems that stretch institutional resources and capabilities, but also offer unparalleled opportunities for new and improved user services. Digital libraries are new and innovative information systems, under constant development and change, and therefore evaluation is of critical importance to ensure not only their correct evolution but also their acceptance by the user and application communities.

The aim of digital library may be to expedite the systematic development of digital resources collection, the means to collect store and organize and knowledge in digital form. Digital libraries come in many forms. They attempt to provide instant access to digitized information and consist of a variety of information, including multimedia

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#### **Definitions:**

➤ The Digital Library Federation defines digital libraries as:

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 available for use by a defined community or set of communities. (Shiri, 2003)

➤ The DFLIOS Digital Library Reference Model defines a digital library as:

An organization, which might be virtual, that comprehensively collects, manages and preserves for the long term rich digital content, and offers to its user communities specialized functionality on that content, of measurable quality and according to codified policies.

➤ Larson simply defines a digital library as:

"Global virtual library-the library of thousands of networked electronic libraries"

➤ According to Lesk :

A digital library is "a collection of information that is both digitized and organized and which offers capabilities beyond those of the traditional libraries".

#### **Characteristics of Digital Libraries:**

- Digital library collections contain permanent documents
- The digital environment will enable quick handling and ephemeral information.
- Digital libraries are based on digital technologies.
- The physical boundaries of data have been eliminated. Support for communications and collaboration is as important as information-seeking
- Access to large amounts of information to users wherever they are and whenever they need it
- Support multimedia content along with text
- User-friendly interface
- Advanced search and retrieval
- Integration with other digital libraries

### Functions of Digital Libraries (7 A's):

A DL is not only a system archiving relevant information, but that users want to enjoy a total of seven useful functions, as explain below:

- 1. To archive resources:** "To give efficient access to relevant data" -To sort rational, reliable and organized resources and to make them easily accessible and usable for users by specifying their usage rights. The user of a digital library need not to go to the library physically; people from all over the world can gain access to the same information, as long as an Internet connection is available.
- 2. To accredit the information:** "To improve the credibility of the DL." -To officially recognize the DL as a credible institution with credible expertise. The DL must be an authoritative source of knowledge. The same resources can be used simultaneously by a number of institutions and patrons. This may not be the case for copyrighted material: a library may have a license for "lending out" only one copy at a time; this is achieved with a system of digital rights management where a resource can become inaccessible after expiration of the lending period or after the lender chooses to make it inaccessible (equivalent to returning the resource).
- 3. To actualize knowledge:** "To update the knowledge"- To update the information and provide up-to-date knowledge is an ongoing user need.
- 4. To analyse the data:** "To help the user to interpret the archives" -To help the user to analyse data. Users express the need to have usable systems to analyse the archives.
- 5. To affirm an identity:** "To express a good, positive and relevant image" -To assert, point out or affirm the corporate identity behind the DL; this is an important background for interpreting the archives based on the nature of the DL. The objective is to affirm the DL's identity and therefore to seek to differentiate it and put forward a specific identity.
- 6. To Associate:** "To help users to connect with specialized social networks" -Involving various forums (individual or collective, private or public) in developing common knowledge. . Certain characteristics of objects, primarily the quality of images, may be improved. Digitization can enhance legibility and remove visible flaws such as stains and discoloration.
- 7. To Animate:** "To increase user interest by developing digital events" -To stimulate the users of the DL by encouraging them to produce and exchange knowledge. . The user is able to use any search term (word, phrase, title, name, and subject) to search the entire collection. Digital libraries can provide very user-friendly interfaces, giving click able access to its resources.

### Advantages of a Digital Library

The advantages of digital libraries as a means of easily and rapidly accessing books, archives and images of various types are now widely recognized by commercial interests and public bodies alike. The advantages of digital libraries include:

- Round the clock availability
- Preservation and conservation.
- Space
- Added value.
- Easily and Universal accessibility
- Nearly unlimited storage space at a much lower cost
- Re-allocate funds from some staff, collection maintenance, and additional books



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- No physical boundary
  - Multiple access
  - Enhanced information retrieval
  - Expedite the systematic development of procedures to collect, store, and organize, information in digital form
  - Promote efficient delivery of information economically to all users
  - Encourage co-operative efforts in research resource, computing, and communication networks
  - Strengthen communication and collaboration between and among educational institutions
  - Take leadership role in the generation and dissemination of knowledge

#### **Limitations in Digital Libraries**

Digital libraries, unfortunately also have brought their own problems and challenges.

- Lack of screening or validation
- Lack of preservation of a fixed copy
- Lack of preservation of "best in class"
- Difficulty in knowing and locating everything that is available, and differentiating valuable from useless information
- Job loss for traditional publishers and librarians
- Costs are spread and many become hidden

#### **TRENDS FOR DIGITAL LIBRARIES IN 2016:**

The world is constantly changing and adapting to new technologies. Understanding these digital trends and identifying tomorrow's expectations is essential for libraries to plan and incorporate new solutions that evolve both the way they work and how they engage with communities. The important trends to take note in 2016 are as follows:

- **Big Data** is an important trend in the library sector due to the increasingly large data sets that libraries hold. By analyzing this data, libraries can gain a rich understanding of its patrons and identify patterns and trends to inform future strategies
- **Obsession with the present** drives people to capture every moment with selfies, videos and blogs - activities that were not possible in the past, only because we did not have the supporting technology. If libraries took a 'Pinterest' approach to sharing materials, like those around community events, they would be able to promote content within the community, better engage with the public and build on existing content.
- **The third place** is where you spend time outside of home and work. Libraries can evolve to become a hub for community life, providing physical spaces where people can meet, socialize and learn. However, virtual third places are becoming popular, providing an opportunity for libraries to allow communities to experience and learn on a neutral and accessible platform.
- **Internet of Relations** is a similar concept to the Internet of Things, only this sees people connected to each other through sharing content or common interests. The Internet of Relations will cut through the noise on the internet and social channels, ensuring people find the content and opinions they desire from someone within their community, giving it far more influence. Libraries are ideally placed to tap into this trend, connecting people and content in either a physical space (the library itself) or digital space (online book clubs).

- **Ex Machina**, or the replacement of man by AI and robots, is only one of the big issues that many of us worry about or don't have faith in. This trend, be it on a personal relations or societal level, requires a forum to be effective. Libraries can step in to enrich this trend, offering more besides the immediacy culture and common shallowness of social media. It is possible to reach out to the community over time by using online solutions to share content like presentations and activities held at the library, with external web resources for anyone to access and by moderating adjacent online discussions groups
- **The AI Advisor** is already here – it's what cookies in your computer help to achieve. But the library will be able to offer alternatives to these "filter bubbles" by setting up autonomous browsing abilities and other search and find paths, broadening the scope at will, offering the joy of serendipity. The result is options for the consumer that are highly individually-biased, but not mechanical, to enrich their experience.
- **Metadata** Digital collections require well-structured metadata schemes to describe digital objects and content at various levels of granularity. Structural and descriptive metadata are two general classes of metadata of particular relevance. One major challenge with regard to metadata is the diversity of digital information formats and the ways in which they should be described in different collections with different target audiences and uses.
- **Interoperability** is one of the most heavily discussed trends in digital library research. The requirement for interoperability derives from the fact that various digital libraries with different architectures, metadata formats and underlying technologies wish to effectively interact, something they can do through applying a range of common protocols and standards.
- **Partnership** Mega companies such as Google and Yahoo have even set up partnerships with digital libraries to make billions of digitized pages available. National digital library projects such as European, the Digital Library of Norway and Korea are flourishing. The Digital Public Library of America is about to make its debut and set to launch in April 2013.
- **The penetration of e-books and mobile devices has made digital libraries more important** Library patrons and college students alike are embracing mobile devices. Electronic books have been around for decades. The Amazon kindle is leading the way in e-reader technology. Many libraries are lending out e-reader devices and some universities are providing their new students materials on these platforms.
- **Today, smart phones, e-readers, and tablets have become commonplace.** Currently there is a growing trend in seeking information using mobile devices. When users seek their information as a group, mobile devices make collaboration possible when users are on the move. The users are then subsequently able to initiate information seeking with the help of others at any given time.
- **Blast from the past** is becoming a common trend, with people taking a new appreciation to what was popular in days gone by, like vinyls and second hand artefacts. Now more than ever, people have developed an interest in local heritage and history – both trends may be a search for quality and meaning in life through the local and tangible. Libraries have the opportunity to help people share their own and their ancestors' stories, supported with relevant material, and also digitize previously paper-based content for access online.
- **Sustaining the Resource** The creation and maintenance of digital libraries is very expensive. Costs are incurred for production, for ongoing provision of access, and for

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preservation of the digital information. The cost to develop and operate a distributed architecture for long-term archiving, migration, and backup of digital materials will be high. Since the resource is distributed among providers, the net cost tends to be disguised. Libraries would benefit from better estimates of costs and trends in cost for production and maintenance of a corpus of digital information.

**Conclusion:**

Digital libraries provide an effective means to distribute learning resources to students and other users. Digital Libraries present opportunities and challenges for the library and information communities and all stakeholders. The situation in India regarding digital libraries is very peculiar. The role of the librarian is crucial in the new digital environment. Librarians know that "a good library is defined by the principles of librarianship, the mission of the specific library and the persons and services that make that mission a reality". There will be continuing expansion of digital library activities.

Digital librarians with newly acquired skills can play a leading role in the networked information society of the millennium. Digital librarians add value and can make digital libraries truly useful and user friendly.

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