

DIGITAL REPOSITORIES: SOME TOOLS, TECHNIQUE AND TECHNOLOGIES AND SOCIAL ISSUE

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ABSTRACT

Digital Repositories is a mechanism or systems which are allow searching, collecting and preservation information or content in electronic environment. Digital Repositories is basically established with a solid support repositories are basically established with a solid support from database and content or information. Digital Repositories are synonymously also known as Digital Archives, Digital Library, and Electronic Information Systems. Digital Repositories are actually a scientifically manageable procedure which allows collection of information resources and services available electronically through internet or similar systems. This is allow user to collection of information, text or document or book or journal from the databases anytime and anywhere. This paper is talks about Digital Repositories; which includes its basic features, need and role. Paper specially describes about tools, techniques needed for Digital Repositories. Some aspects of challenges and issues in respect of Digital Repositories are also highlighted in this paper.

Keywords: Digital Repositories, Tools, Techniques, technologies, issues, computing, e-repositories, information systems, digital archives, digital database, Information Science and Technology, Virtual Library

INTRODUCTION

Digital Repositories play an important role in today's age of information and computing. Digital Repositories are actually nothing but the database which is responsible for collection, selection, organization, processing, management and dissemination of information through the electronic mode of operation [01, 02, 08]. Digital Repositories traditionally treated as institute or center from which digital data, information or similar contents are possible to obtain. But it is more than that it may be established three ways- Intranet, Extranet, and Internet. In other way it may be classified as offline and online mode of Digital Repositories. When an information centre housed a separate section with several CD-ROM, DVD-ROM, HDD, Magnetic Tape and other secondary storage may not classified as Digital Repositories. Digital Repositories should be integrated where an user may get his/her desired document or book electronically though a search procedure. Apart from search procedure, Digital Repositories allows electronic data modification and alternative features [03, 04].

OBJECTIVES

The main aim and objective of this study is includes:-

- To learn basic about Digital Repositories and its features;

- To learn find out main role and values of Digital Repositories;
- To learn basic about types of Digital Repositories including its contemporary features;
- To learn about tools, techniques for online and offline Digital Repositories;
- To find main IT infrastructures in Digital Repositories;
- To find out main challenges and opportunities of whole sector.

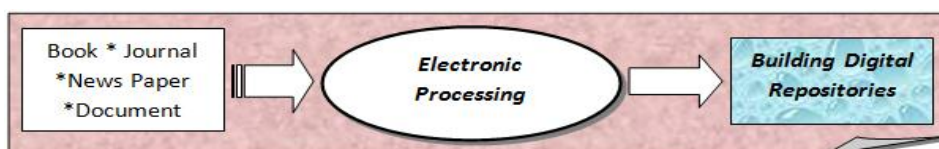


Fig. 1. Way to Digital World through Digital Repositories

Digital Repositories

In Digital Repositories no corresponding physical collection, documents will be available in electronic format. Here documents and files are stored in a centralized computer or database and in distributed systems, if needed. Digital Repositories may be classified as offline and online mode. In off-line mode data, documents or contents are possible to collect from the host institute only or from the big storage media [05, 06]. In online Digital Repositories, it is possible to obtain data and documents from the internet or dedicated internet. Internet based Digital Repositories allows user to access the facilities from the remote places due to www; while in offline based Digital Repositories collection and store or modification of data not possible from the remote places. Digital Repositories need several tools and techniques such as computing and information technology, management tools and so on.

Tools and Techniques: Online and Offline

Depending upon nature of Digital Repositories several tools and techniques are essential. For a small offline based Digital Repositories computer or computers, Databases and content or information are essential where as online Digital Repositories needs some more IT or Computing infrastructure such as *Computers* and preferably with LAN connection [for services in an information centre], *Internet* connection if the services are needed to collect from the remote place, *Database* for string data and retrieval of data, *Scanning* systems for uploading digital objects [07].

IT Infrastructure requirement

Building or establishment of Digital Repositories needs several infrastructures and computing infrastructure which includes:-

- Computers are most important tools which are very much important to store information or content and simultaneously[03, 08];
- Database and DBMS are essential. Databases are responsible for the storing of data and information, audio, and video and DBMS is helps retrieve and find out data as per demand;

- Networking Technology and sophisticated networking systems is essential to connect so many computers in one harmony or linkage. In offline and online, both the systems depend on Networking Technology [04, 09];

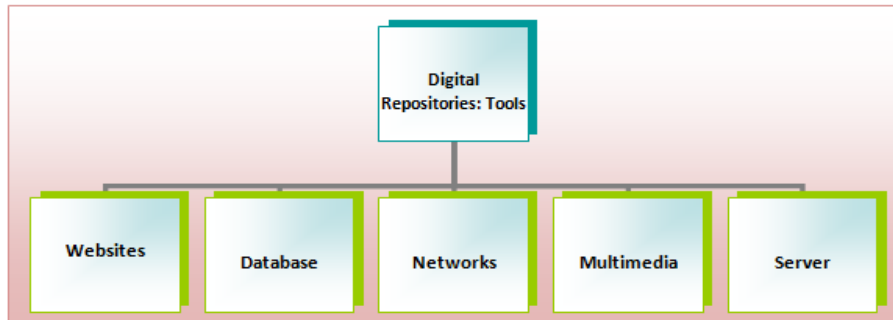


Fig. 2. Digital Repositories and tools at a glance

- Web Technology is needed for web based information solution which including information collection, selection, organization, processing, management and dissemination of information. With web systems online information is possible to retrieve from the dedicated www;
- Usability Engineering is essential for the healthy and sophisticated user interface designing. In Digital Repositories better and Interactive Designing many ways helps in better and useful Digital Repositories development [03, 13];
- Multimedia Technology is essential for healthy and sophisticated Information Systems building.

Thus, building Digital Repositories needs several things and infrastructure out of which computer, hardware such as servers, switch, hub, scanning systems are essential. Most of the Digital Repositories in India such as National Information Systems for Science and Technology [NISSAT], Education and Research Networks [ERNET], INFONET [Information Networks, 2005], INFLIBNET [Information and Library Networks] and so on are the prime example of online Information and Digital Repositories thus they need the above mentioned hardware facilities along with software digital information management, information visualization and so on. Application Software is essential to do particular task carefully [14].

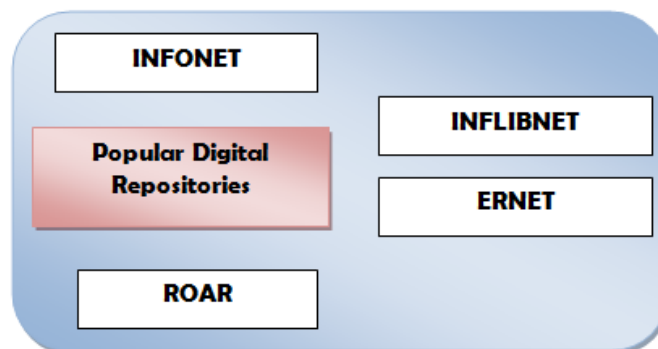


Fig. 3. Depicted Popular Digital Repositories

However, for offline Digital Repositories, only one or some computers [if plan is for institute wise] are essential along with LAN connection and a storage unit. Building Digital Repositories may also possible with ready digital content or may prepare with scanning of manual documents. Thus, for digitalization of content sophisticated scanning systems is very much essential.

- Availability of Digital Repositories 24 × 7 hours is actually depends on sophisticated scanning systems is very much essential;
- Touch screen may also possible to utilize in Information Systems for short term Information Services with Graphical User Interface [GUI] and similar services [12].

IT Infrastructure: Challenges and Issue

However, building and development of Digital Repositories needs several challenges and issues which includes:-

- For building Digital Repositories communication of internet and external level is very much essential;
- Better systems study, Systems Analysis and System Design are the main pillar for healthy information or Digital Repositories;
- Most of the information centre are running with manual knowledge organization tools; thus building Digital Repositories needs several IT and Computing infrastructure which are costly in most of the cases;
- Fund is another important issue for building healthy and big Digital Repositories system. Initially and time to time fund is needed for management and maintenance, content up gradation, HR and so on;
- Skill and knowledgeable HR is essential for building systematic Digital Repositories building [03, 07,09].

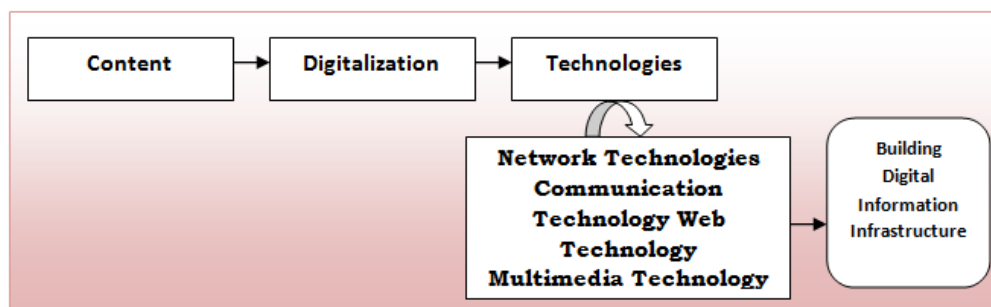


Fig. 4. Depicted Content Management and dissemination through Digital weapon

SUGGESTION

- Government plan and initiatives are very much essential to build healthy and sophisticated Information and Digital Repositories;
- Proper funding need to arrange by the DST, Ministry of Culture, Information and similar agency as Digital Repositories are also responsible for the cultural development;

- Digital Repositories and availability of skilled manpower is less comparatively than other field; thus special attention may be paid to the development of Digital Repositories manpower;
- Offline Digital Repositories may upgraded to online level with the help of internet;
- Preparation and digitalization of documents needs earlier acknowledgement to the author, copyright owner, publishers.

CONCLUSION

Information is one of the important name in today's age. Today every where we may see the use and utilization of information; whether it is health, education, commerce and trade, Government activities or what ever may be [07, 12]. There are several agencies and tools are available information activities; out of which Digital Repositories are treated as important one. Digital Repositories earlier only established in the Information Centre or Information Foundations; but today it is equally uses in the corporate houses and MNC's for the better information utilization and betterment in official work and corporate governance. It is also provide better and healthy tool for removing information divide and partially Digital Divide.

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