Digital Preservation: An Overview

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Abstract:
Digitization is a need for the 21st century. In modern era various library softwares are rising like an explosion. In this explosion, digitization is very easy. Present paper based on digital preservation, digitization process and their required component.

Keywords: Digital Library, Digital preservation, Software & Hardware component, Digitization Process

1. Introduction

Digital library process is started nearly 30 years old. In 1967, Air Force Development in US Govt. started digitizing their legal documents for scientific communication. Several character coded software packages were released during mid 1970 and late 1970 for storage, indexing and retrieval of documents. By the end of 1980 many mainframe, microcomputers and Local Area Network (LAN) were available for storage and retrieval of text. During this period several sophisticated information storage and retrieval systems were built. Online host like DIALOG and STN came forward and started providing not only online data based services, but also the full text online journals.

With the introduction of Internet and networking technology users may able access to information, from any location, at any time. The digital library is fulfilling the same objectives.

2. Objectives of Digital Libraries

The main objectives of digital library are
- To capture, store, manipulate and distribute information
- To introduce and produce new services
- To digitize the documents for preservation and for space saving
- To support library functions such as circulation serial control acquisition control, stock maintenance etc.
- To access the digital version of printed literature and its management
- To provide need-based retrospective search services to the users
- To have a large number of databases in CDS
- To avoid routine and redundant activities
- To provide facility for networking and resource sharing
- To access national and international journals which are being published only in machine readable form

3. Advantages of Digital Library
- No physical boundary
- Improved access, search and browsing
- Hypertext linking is possible
- Multiple access
- Support multimedia content
- Easy networking
- Information can be shared more easily
- Easy to keep current information
- Digital library may save money

- Reduce manpower
- Support both formal and informal learning
- Promote paperless office environment

4. Disadvantages of Digital Library
- Copyright problem
- Compatibility & standardization problems
- Remote accessing is uncomfortable
- Virus problem
- Shortage of library skilled professionals in IT
- Bad effect on eyes from monitor radiation

5. Characteristics of Digital Library
- Information may come from various sources from electronic journals, producers or vendors to databases; form local digital libraries to remote digital libraries and so on.
- Information resources can vary from simple text to multimedia available at one or several locations.
- They may be available on different platforms and may have been created and organized differently.
- Information may be coupled with complex metadata structures
- Digital materials often form part of a larger collection that comprises print materials.
- There is no human intermediary and no physical collection, at least at the point of interaction
- A range of services, such as searching, filtering and downloading, as well as current awareness and selective dissemination of information services may be provided.
- In many cases, the information is not owned; only right to access is provided.
- There are several versions of the same information.

6. Pre-Requisite for Digital Preservation
For Digital preservation various software & hardware are required. Following are important software & hardware's components.

6.1. Hardware Components
- Server with high capacity hard disk and clients in the LAN, Web servers and FTTP server etc.
- Latest PCs
- Capture devices such as scanners, digital cameras, OCR, data compression devices.
- Storage devices for backup etc.,
- printers
- High power Ups.
- Secondary Storage : CD-ROM (R and RW)
- High speed LAN and WAN
- Internet connectivity
- Network

6.2. Software Components
- Operating software; LINUX
- Optical character recognition (OCR)
- Scanning software
- Adobe acrobat Reader
- CD-read Write software
- Windows- NT networking software
- Web designing software, such as JAVA
- Digital Library software; D-space, Evergreen, Greenstone etc.
- Full text search engines to index and provide access to digital resources.

7. Hardware and Software Requirements
For digital library or digital collection we need to convert the existing library materials in house apart from digital collection acquired. Today we have relatively cheap hardware equipments required for digitization, which are affordable by libraries.
Hardware and software requirement for digitization are given below:

- **Computer system:** Pentium IV processor with 1 GB RAM and 4 GB Hard disk, and windows 2000/xp or Unix operating system.
- **Scanner:** flatbed, sheet feeders or planetary
- **Digital camera:** Nikon D100/Kodak/Minolta/Sony /Canon etc. with minimum 5 mega pixel
- **Software:** Greenstone, D-Space, E-print etc.
- **Image processing/editing:** Adobe Photoshop /Kodak imaging software.
- **File compression software:** Mrsid image compression software.
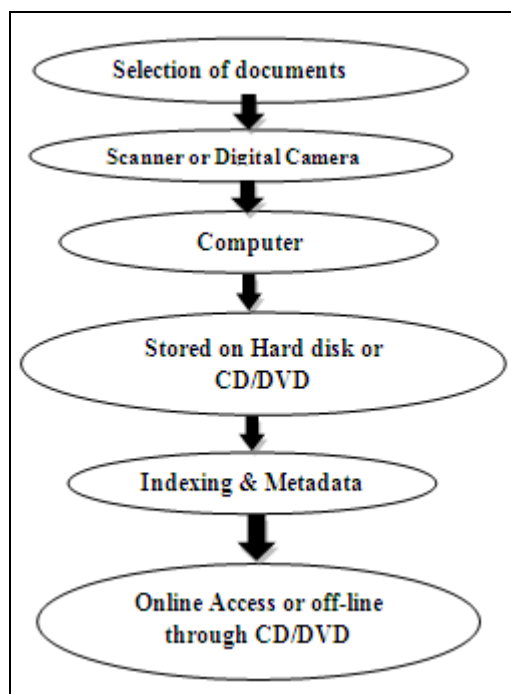- **OCR software:** Prime recognition.

8. Digitization Process

Figure 1

9. Conclusion

Digital library is the need of 21st century. Digital library is the medium of accessing newly and latest information. Every one finds different material and it is available only on internet. All these internet information is available in digital form. This information is easily reproduced on digital library.

Digital process requires various softwares and hardwares. By using these techniques various digital materials can be preserved. Flat-bed scanner, OCR are playing key role in preservation digital materials.

10. References

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