Digital Preservation of Library Resources: Challenges and Problems

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Abstract

Libraries, archives, and museums play a critical role in organizing, preserving, and providing access to the cultural and historical resources of society. Digital technologies are used increasingly for information production, distribution, and storage. The institutions that have traditionally assumed responsibility for preserving information face technical, organizational, resource, and legal challenges in taking on the preservation of digital holdings. The present paper focus on theoretical concept of Digital Preservation, its need, various strategies adopted and finally challenges and problems facing while preservation process.

KEYWORDS: Digital Preservation, Digital Library, E-Content, Metadata, Digital Age, INFLIBNET and Cultural Heritage.

1. INTRODUCTION

The amount of e-content has been increased and constantly changing due to advent of information and communication technology in information society. Nature of continues changing of information explosion, online information rapidly ever replacing by new information. It results in disappearance of large number of web pages, online scholarly content, and loss of scientific and cultural data on regular basis. To cope with this new challenge of access the old information libraries are need to preserve the e content of information. Library's collection and preservation is essential to ensure seamless and constant access to them in future. In the traditional environment of library maintain the physical infrastructure for the preserve and access the high value heritage and cultural collection. Presently libraries have started the digitization and preservation of rare collection. When Library subscribe the e journal they do not have copies of content of their site, they get access the content of journal for limited period, once subscription is dropped libraries are deprived of back issue of journal. So libraries are needed to archive the issue of journal. The aim of archiving and digital preservation is to make available the library resources for present and future generation.

2. DIGITAL PRESERVATION

Preservation is the process of ensuring sustainable access over time to critical scholarly and heritage content. Digital Preservation refers to the series of managed activities necessary to ensure continued access to digital materials for as long as necessary. Digital preservation is defined very broadly for the purposes of this study and refers to all of the actions required to maintain access to digital materials beyond the limits of media failure or technological change (Digital Preservation Collision). The Digital Library Federation has defined preservation of e-journals as: 'Preservation of electronic journals is a kind of insurance, and is not in and of itself form of access. It is a way of managing risk: first, against the permanent loss of e-journals, and second, against having journal access disrupted for a protracted period following a publisher failure'

Another definition given by Jantz and Giailo (2005) is digital preservation encompasses activities which are necessary for long term maintenance of a byte stream including metadata) sufficient to reproduce a suitable facsimile of the original document; and for the continued accessibility of the document contents through time and changing technology.

3. NEED OF DIGITAL PRESERVATION

Due to technological invasion digital preservation has become the important process in information society to have a long term access of information and to keep it for future generation for their use. Digital preservation is needed for the following reason.

- To provide information about our cultural heritage and history for generation to come.
- To erase the problem of space and cut down the price.
- Provide accessibility and feasibility to user.
- To preserve traditional knowledge.
- To keep library material alive for the future generation.
- Avoid duplication and effort and expenses.
- To provide worldwide accessibility
- To prevent the important document from wear and tear.

4. STRATEGIES OF DIGITAL PRESERVATION

In 2006, OCLC developed four point strategies for long term preservation of digital object consist of

- Assessing the risk for loss of content posted by technology variable such as commonly usually proprietary file format and software application.
- Evaluation digital content object to determine what type of degree format conversation and other preservation action should be applied.
- Determine the appropriate metadata needed for each object type and how it is associated with abject.
- Providing access to the content.

5. CHALLENGES AND PROBLEMS OF DIGITAL PRESERVATION
5.1 Technological change

While preserving the source is indeed possible, preserving the process is unrealistic because of the dynamic nature of the IT. The ICT has been rapidly expanding and developing over several decades, with huge changes in hardware and software capabilities and the infiltration of computers into work and home life. Technology cycles are short; therefore product lifetimes also tend to be short. Yesterday archived document may to be updated if it is to be readable. The implications of this largely market-driven instability are two-fold: rapid decay and technological obsolescence. There is need to continuously update with changing technology.

5.1 Metadata and Standards

Metadata is needed to maximise access to the user of the preserve material in marketplace. Metadata enable user to retrieve and discover required information. Clifford Lynch has described the functions of metadata in a digital archive, "metadata accompanies and makes reference to each digital object and provides associated descriptive, structural, and administrative, rights management and other kinds of information. This metadata will too be maintained and will be migrated from format

to format and standard to standard, independent of the base object it describes." There is no single point of publishing workflow at which it makes sense to create all metadata. Cooperative libraries need to fallow a same metadata to maximise access to the user of the preserve materials.

5.2 Continuous Management and Maintenance

Digital preservation work is constant; it should not be taken up in fits and starts. It requires continuous and active management; the digital archive requires continuous regular maintenance to keep it secured, including regular processes to check the fixity of files–find out if the content is corrupted and needs to be repaired, to ensure replications.

5.3 Cost

The libraries may find it difficult to convince authorities for release of funds for digital archiving. They may lack far sight to invest in digital archiving; rather they may prefer to invest in widening their resources. The administrators, policy makers need to be more sensitive and understand the importance of archiving activities. A percentage of total library budgets should be allocated for archiving programmes. Cooperative preservation is one of the solutions for reducing the cost.

6. CONCLUSION

The trend to procure and maintain e-resources has grown exponentially among the libraries. Preservation of digital resources requires long term strategy and planning. In the 21st century still conforming with the problem of universally accepted technology. Cost is another constraint of the digital preservation. Some project like Portico, CEDARS (In UK), INFLIBNET PubMed, etc. initiated for the preservation of digital materials. National Library can play vital role in this regard.

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