

Preservation of Digital Information in Library and Information Centres



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Abstract

Preservation of digital resources in 21st Century has been a great challenge for library and information professionals. Digital libraries have been built all over the world. Libraries are engaged in creating and maintaining digital libraries. One of the main challenges in maintaining digital libraries is the digital preservation aspect. The aim of digital preservation is to ensure that digital records are filed and are made available through time. Digital information preservation is always the thinking of library and information society. Preservation of digital document has now become more obvious and necessary because of fragility of digital data and software and hardware platforms becoming soon obsolete. The present article focuses the digital preservation, strategies, policies, functions, current activities and guideline of digital preservation of information.

Key Words: Digital Preservation, Digital Document, Digital Library, Digital Information

Introduction

Digital preservation is a broad term used to describe both the maintenance and the safe guarding of a digital resource in to the foreseeable and the distant future. Digital preservation is a vital part of the creation and management of any digital collection.

It has been clear for some time that the preservation of information in digital form will require more than just the preservation of the digital bits and bytes themselves. It has been widely assume that if digital information to remain understandable over time, there will be a need to preserve information about the technological and other contexts of a digital object's creation and use. In the past, this was some time assumed to mean the concurrent preservation of all of the relevant documents that might be associated with a digital object. The digital world challenges our notion of presentation.

The general outline of digital preservation challenges is well established. Digital materials are especially vulnerable to loss and destruction because they are stored on fragile magnetic and optical media that deteriorate rapidly and that can fail suddenly from exposure to heat, humidity, airborne contaminants, or faculty reading and writing devices. The introduction of digital technologies into the processes of production, distribution, and storage of information, challenges the capacity of libraries, archives, museums and other culture institutions to carry out their responsibilities for preservation.

Preservation

➤ Preservation itself is primarily concerned with the survival of information in a usable form for as long as it is required. Preservation is not just concerned with the conservation or restoration of physical artifacts, but includes all of the strategic and organization considerations that relate to the survival of information over time

➤ Preservation anything beyond data means that we also have to preserve other things the communication of the information, the context of the document, the integrity of the record, and the value of the archives

Preservation encompasses a wide variety of interrelated activities, such as policies, standard, procedures, process, etc. designed to prolong the usable life of human artifacts, Preservation won't happen naturally. In essence, preservation is costly and takes a lot of time and effort. Preservation is a continuous obligation.

Digital Preservation

While information traditionally available in print has been stored for thousands of years there is a fear that digital information is in danger of being lost within decades. Digital preservation can be seen as the set of processes and activities that ensure information which now exists in digital formats is backed up and distributed to ensure continued access for the long term.

Increasingly the information that support learning, scholarship and research—its raw materials and products—is created in and provisioned by digital systems in digital form. The digital preservation field is concerned with maintaining the accessibility of that information over time and

digital preservation services attempt to lower the risk of that information becoming practically inaccessible.

“Digital preservation is a process of ensuring that a digital object is accessible over the long term”

According to Glossary of LIFE

“Digital preservation encompasses a broad range of activities designed to extend the usable life of machine—readable computer files and protect them from media failure, physical loss and obsolescence”. **According to Trusted Digital repositories (TDR)**

Digital Preservation Strategies

Preservation strategies in academic and research libraries are not new concepts. However, with an increasing amount of digital content, organizations have to cope with a new set of preservation issues. Digital preservation is in its infancy worldwide and presents some difficult technological issues. Since the creation of digital media, over different storage mediums have been invented ranging from magnetic tape to CD-Rom. Each of these mediums presents a variety of their own preservation issues and also requires a diverse range of technology which in many cases is no longer manufactured. In addition to this, there are thousands of different formats in which data can be stored on each medium; and each type of storage format may also require a specific piece of software to interpret the data’s meaning.

There are several strategies for preservation as mentioned below:

- Technological preservation (with the original hardware and software on which it depends)
- Refreshing
- Intellectual Preservation: Printing of digital materials into a hard copy. But this approach does not seem to be a viable solution.
- Data Migration: data is transferred wholesale from one hardware/software configuration to

another, without attempting to imitate the original.

- Simulation: (the original/ software environment).

Digital Preservation Policy

A specific digitally oriented policy is required in addition to a traditional preservation statement, due to the fundamental differences in the nature of the material< digital material is different from analogue material in that it requires active and continued intervention to ensure its survival. Digital material also requires an intermediate computer environment to provide access, which introduces unique complications due to frequent changes in technology. Therefore preservation decisions need to be made right at the beginning of the life cycle management of the digital object, before technology has moved on.

Digital Preservation Function

To accompany the chosen digital preservation strategies the Library aims to provide support for preservation functions such as maintaining preservation metadata and negotiating with publishers to obtain a suitable digital version of material for preservation. The Library seeks to build on the work of other comparable organizations engaged in the care of national electronic written and documentary heritage, e.g. the National Library of Australia. It will work collaboratively, both nationally and internationally and with different library and archive sectors, in the further development and implementation of its preservation strategy for digital material.

Digital Preservation Methods

Figure1.shows this grid with a number of different methods positioned in it. Two general remarks about the methods displayed in this grid are in order. On the other hand, the methods included in it do not include all those that have been proposed or tried for digital preservation

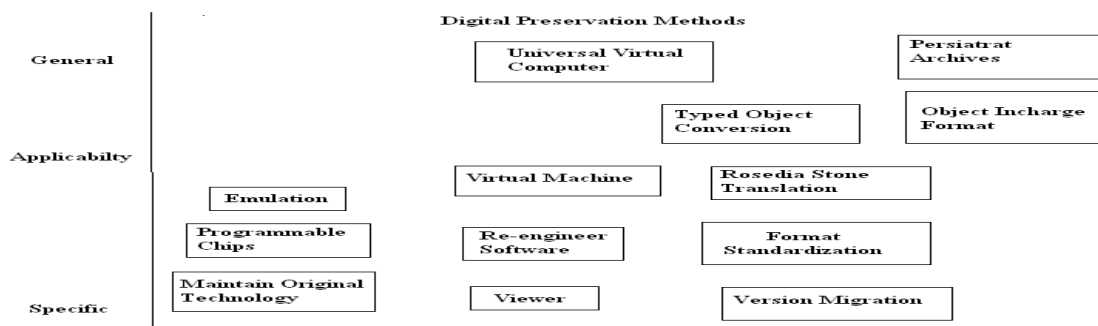


Figure1. Digital Preservation Methods

In particular method, that focus on metadata are not included. Rather the emphasis is on showing a variety of ways of overcoming technological obsolescence. Even here, the cases included are not exhaustive; they are only illustrative of the range of possibilities. On the other hand, some methods are included that have not been explicitly or prominently mentioned as preservation methods.

Preservation of Digital Materials

The digital preservation is one of the most important tasks of digital libraries but perhaps it is most neglected area in the digital library arena, with large volume of the data already lost because of lack of knowledge about long term digital preservation issues.

Digital preservation is a process by which digital data is preserved in digital form in order to ensure the usability, durability and intellectual integrity of the information contained therein. A more precise definition is: the storage maintenance and accessibility of a digital object over the long term, usually as a consequence of applying one or more digital preservation strategies. These strategies may include technology preservation, technology emulation or data migration.

Current Activities of Digital Preservation:

The research opportunities for preserving digital information are abundant, including the study of specific future requirements and the development of augment digital technologies. We need near – term research in the following areas:

- Interoperability of archiving and digital library systems;
- Standards for archiving and preservation;
- Workflow process and information preservation;
- Metadata for archiving and preservation;
- Multimedia container software;
- Archival metrics; and
- Social and economical models of archives and digital libraries.

Conclusion:

In the modernization era, information has become the fourth basic need of our life and our country can not be too lagging behind from the changing in information world. The library’s responsibility is to collect dissemination and preserve the printed heritage of our country. The digital preservation is one such initiative; the library has to take up responding to the growing use and adaptability of information technology to library related activities.

Preservation increasingly involves producing a work in any form. Preservation strategies are actively employed the information which the technologies are enabling to be created, manipulated, disseminated, located, and stored with increasing case information will rapidly become inaccessible

Preservation of digital material has become a major challenge for the library and information profession these days. Although libraries have been concerned with preserving cultural and intellectual heritage for centuries, it is only in recent years that preservation conservation has become activities in their own right.

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