A

Seminar report

On

Digital Preservation

Submitted in partial fulfillment of the requirement for the award of degree
Of ECE

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Preface

I have made this report file on the topic **Digital Preservation** ; I have tried my best to elucidate all the relevant detail to the topic to be included in the report. While in the beginning I have tried to give a general view about this topic.

My efforts and wholehearted co-corporation of each and everyone has ended on a successful note. I express my sincere gratitude to ……..who assisting me throughout the preparation of this topic. I thank him for providing me the reinforcement, confidence and most importantly the track for the topic whenever I needed it.

Introduction

Digital preservation consists of the processes aimed at ensuring the continued accessibility of digital materials. To do this involves finding ways to re-present what was originally presented to users by a combination of software and hardware tools acting on data.

To achieve this requires digital objects to be understood and managed at four levels: as physical phenomena; as logical encodings; as conceptual objects that have meaning to humans; and as sets of essential elements that must be preserved in order to offer future users the essence of the object.

Digital preservation can be seen as all those processes aimed at ensuring the continuity of digital heritage materials for as long as they are needed.

The most significant threats to digital continuity concern loss of the means of access. Digital materials cannot be said to be preserved if the means of access have been lost and access becomes impossible. The purpose of preserving digital materials is to maintain accessibility: the ability to access their essential, authentic message or purpose.
Digital preservation involves choosing and implementing an evolving range of strategies to achieve the kind of accessibility discussed above, addressing the preservation needs of the different layers of digital objects. The strategies include:

- Working with producers (creators and distributors) to apply standards that will prolong the effective life of the available means of access and reduce the range of unknown problems that must be managed
- Recognising that it is not practical to try to preserve everything, selecting what material should be preserved
- Placing the material in a safe place
- Controlling material, using structured metadata and other documentation to facilitate access and to support all preservation process
- Protecting the integrity and identity of data
- Choosing appropriate means of providing access in the face of technological change
- Managing preservation programmes to achieve their goals in cost-effective, timely, holistic, proactive and accountable ways.

What is Digital Preservation?

The Digital Preservation can be defined as the process to store the information digitally in a safe manner. It consists of plenty of practices that are needed for making sure that details stay protected against the medium failures, software or hardware issues.

There is a need to care and maintain the storage media where the data is stored along with backing up the stored information in the digital era. It has become a necessity in the modern history as it is almost difficult to store these details in a hard copy.

Why is digital preservation necessary?

There is no doubt it is one of the commonly asked questions in the community. The digital preservation is very important due to the issues faced by the digital world. It consists of software obsolescence, storage medium failures, and storage medium obsolescence among others. The methods used in this technique make sure the data loss because of the obsolescent hardware can be prevented at every cost.

There are emulators utilized for rendering the content during the obsolete software issues. Followed that, they become a part of the things required to be preserved. A challenge is also presented by a great quantity of digital media.

Strategies used in the digital preservation

There is a great variety of strategies used nowadays in the digital preservation that is impossible to include in a single post. However, our team has tried to explain about some of them below in detail:

- ***Bitstream Copying***
  It can be defined as the process to create an exact copy of a digital content in the system. The Bitstream Copying is popularly called “backing up data” in the community. It is not a long-term technique but used strongly by everyone for preserving data.

- ***Refreshing***
  This strategy can simply be called copy the digital details from one medium to another without making any changes in the bitstream. It is an important part of all the digital preservation where someone wants success.

- ***Persistent Media***
  It minimizes the requirement for refreshing and assists in tackling losses that result from the deterioration of media. There is no impact of this strategy on the source of losses at all.

- ***Technology Preservation***
  The technology preservation is one of the important components in the digital preservation that work on the technical things running the system. It consists of the original application software, operating systems, and media drives.

- ***Digital Archaeology***
  This strategy consists of the methods and processes for protecting content from the media that already get damaged. We can call it an emergency recovery process that includes particular procedures for recovering bitstreams from the media.

- ***Analog Backups***
  The conversion of the digital objects is mixed into the analog form during this strategy. It is performed by using the analog media like digital images, HD Rosetta, etc.

Challenges

- Physical deterioration. The first challenge **digital preservation** faces is that the media on which **digital** contents stand are more vulnerable to deterioration and catastrophic loss. ...
- **Digital** obsolescence. ...
- Refreshing. ...
- Migration. ...
- Replication. ...
- Emulation. ...
- Metadata attachment. ...
- Trustworthy **digital** objects.

Digital sound preservation standards

In January 2004, the Council on Library and Information Resources (CLIR) hosted a roundtable meeting of audio experts discussing best practices, which culminated in a report delivered March 2006. This report investigated procedures for reformatting sound from analog to digital, summarizing discussions and recommendations for best practices for digital preservation. Participants made a series of 15 recommendations for improving the practice of analog audio transfer for archiving:

- Develop core competencies in audio preservation engineering. Participants noted with concern that the number of experts qualified to transfer older recordings is shrinking and emphasized the need to find a way to ensure that the technical knowledge of these experts can be passed on.

- Develop arrangements among smaller institutions that allow for cooperative buying of esoteric materials and supplies.

- Pursue a research agenda for magnetic-tape problems that focuses on a less destructive solution for hydrolysis than baking, relubrication of acetate tapes, and curing of cupping.

- Develop guidelines for the use of automated transfer of analog audio to digital preservation copies.

- Develop a web-based clearinghouse for sharing information on how archives can develop digital preservation transfer programs.

- Carry out further research into nondestructive playback of broken audio discs.

- Develop a flowchart for identifying the composition of various types of audio discs and tapes.

- Develop a reference chart of problematic media issues.

- Collate relevant audio engineering standards from organizations.
- Research safe and effective methods for cleaning analog tapes and discs.
- Develop a list of music experts who could be consulted for advice on transfer of specific types of musical content (e.g., determining the proper key so that correct playback speed can be established).
- Research the life expectancy of various audio formats.
- Establish regional digital audio repositories.
- Cooperate to develop a common vocabulary within the field of audio preservation.

Large-Scale digital preservation initiatives (LSDIs)

Many research libraries and archives have begun or are about to begin Large-Scale digital preservation initiatives (LSDI's). The main institutions that have begun LSDIs are cultural institutions, commercial companies such as Google and Microsoft, and non-profit groups including the Open Content Alliance (OCA) and the Million Book Project (MBP). The primary motivation of these groups is to expand access to scholarly resources.

LSDIs: Library Perspective

Approximately 30 cultural entities, including the 12-member Committee on Institutional Cooperation (CIC), have signed digitization agreements with either Google or Microsoft. Several of these cultural entities are participating in the Open Content Alliance (OCA) and the Million Book Project (MBP). Some libraries are involved in only one initiative and others have diversified their digitization strategies through participation in multiple initiatives.

The three main reasons for library participation in LSDIs are: Access, Preservation, and Research and Development. It is hoped that digital preservation will ensure that library materials remain accessible for future generations. Libraries have a perpetual responsibility for their materials and a commitment to archive their digital materials. Libraries plan to use digitized copies as backups for works in case they go out of print, deteriorate, or are lost and damaged.

Conclusion

We believe that now you have all the important information about the digital preservation. If you have a query about this technique, please tell us in the comment section. We will try to answer as soon as possible.

REFERENCES

- www.google.com
- www.wikipedia.com
- www.studymafia.org