

Chapter 11

Expressing Needs of Digital Audio–Visual Applications in Different Communities of Practice for Long–Term Preservation

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ABSTRACT

Lack of awareness on preservation tools and applications is a big issue today. To solve it European Commission has initiated research project, Presto4U that aimed to enable semi-automatic matching of preservation tools with audio-visual needs. To express the audio-visual needs formally it has mapped a knowledge schema. The knowledge schema was first cut and needed evaluation in terms of its ability to represent the Needs of different communities of practice, classes, their association and ability to represent requirements of Audio-visual community through properties of its classes. This evaluative study is conducted through Qualitative research approach using Interview and Questionnaire. Open Archival Information System reference model is used as theoretical framework. Fourteen members from Europe of three communities of practice have provided their needs for analysis. Data was analysed through six stages. The study found that knowledge schema is useful to express the needs of communities of practice but collected data should easily fit into the structure of knowledge schema.

INTRODUCTION

In scientific community only research data or papers are preserved not the audio or video recordings. We have got good expertise and practice in preserving the text files but audio-visual; as nowadays most of the information is captured in the form of videos. It is important to know more about their preservation tools & technologies. As we know video is sequence of frames displayed with a given frequency. It

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deals with the recording, reproducing or broadcasting of moving visual images. Technically speaking, video is a file kept in container (wrapper) like MOV and video's content is represented in language of compression scheme like MPEG4 part2 with codec like Xvid that is hardware or software which interprets audio-visual (AV) signals and compress or uncompress them. The AV are stored and preserved for long period but it is becoming difficult in this dynamic digital world. Even if it is preserved, accessing them in its original form is problematic. Moreover the loss of provenance data during migration of files is common problem.

The digital audio-visuals (AV) are becoming popular medium to capture and record scientific data. This enormous amount of audio-visual data needs to be preserved to share it among scientific community now and for next generations. But huge growth of digital AV's has given birth to new preservation problems for researchers and technologists. Bearing this in mind various preservation projects have been initiated all around the world. One such project is Presto4U that aimed at semi - automatic matching of preservation tools with needs of digital AV applications for different Communities of Practice (CoP). A conceptual model called "CoP Knowledge Schema" has been created to express the AV preservation related need in formal representation. This document has focused on the above conceptual model and Presto4U project as a whole particularly to evaluate the knowledge schema and contribute to achieve aim of Presto4U. 'The need' has been associated with software, hardware and standards, used by Research & Scientific Collections (RSC); Video Production & Post Production; Learning and Teaching Repositories CoP for digital AV preservation.

DIGITAL PRESERVATION

The precious digital information stored in hard discs of research organisations throughout the world is becoming inaccessible rapidly. Moreover analog information is also digitized on the same pace. So it is necessary to make this information available in accessible and usable form for future generations. According to an International Data Corporation study for 2007, 264 exabytes of data were created. In future this data would grow at 57% annual growth rate, faster than expected growth rate of storage capacity. (Jelitto, 2010) So, most of this data would be preserved. Digital preservation should address changes that certainly occur in hardware or software, in organisational or legal environments. It must contain metadata or representation information for interpretation of original information and easy retrieval of information.

ALA (2007, p. 1) defines Digital preservation as combination of policies, strategies and actions that ensure access to digital content over time. The goal of digital preservation is to preserve materials resulting from digital reformatting, and particularly information that is born-digital with no analog counterpart. Because of the relatively short lifecycle of digital information, preservation is an ongoing process. (Tessella, 2013) It is necessary to know the importance of preservation of information. There are three categories for which we need to preserve data. First to maintain Regulations i.e. the time retention set by national and international regulatory bodies to keep information. Second, Legal defence that includes defend or prosecute against any legal action. Final, Knowledge re-uses that deals with preserving the information for future researchers. (Tilbury, 2010)

The main purpose of preservation lies with the rapidly changing technology that is making recording systems and formats obsolete. The loss of original content during the process of migration between two platforms is another issue. Even now transfer of videos to DVD is considered a preservation measure. Preserving a file includes data integrity checking, refreshing of data and migration of data to new

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