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Deliverable D3.1

Design and Specification of the Audiovisual Preservation Toolkit



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Abstract

ID3.1.1, ID3.2.1, ID3.3.1, ID3.4.1

This deliverable is a specification and design document for an audiovisual content preservation environment. It contains a review of current digital preservation support for AV files, a survey of File-Corruption Detection methods and technologies, a review of threats to data integrity from use of large-scale data management environments; SLA schemas and QoS parameters for using online storage services in audiovisual preservation, the design of a system for preservation using both migration and multivalent methods.

Due to size and timing constraints, D3.1 is released as a cover deliverable for 4 different reports :

- ID3.1.1 : D3.1. Part 1 : Specification and design of a preservation environment for audiovisual content
- ID3.2.1 : D3.1. Part 2 : Threats to data integrity from use of large-scale data management environments
- ID3.3.1 : D3.1. Part 3 : Media formats, identification methods and implementations for multivalent preservation
- ID3.4.1 : D3.1. Part 4 : Specification of online storage services for audiovisual preservation

Overview

This deliverable consists of four parts.

ID3.1.1 Specification and design of a preservation environment for audiovisual content

Lead author: Nir Kashi, Ex Libris.

Link :

https://prestoprime.ina.fr/public/deliverables/PP_WP3_ID3.1.1_preservation_specification_R1_v2.01.pdf

Abstract: The specification and design of a long term preservation system for audiovisual content using migration is a very challenging and complex task which requires dealing simultaneously with many aspects of a digital repository as well as with preservation planning and execution. This report presents the specifications and designs of a framework for such a system based on the OAIS reference model, taking into account the research done for audiovisual needs and also ExLibris' experience in this area. Highlights of the research include well known standards such as OAIS, PREMIS, & METS as well as a review of tools for metadata extraction and file identification. A major emphasis was placed on designing the system with the ability to integrate the tools that will be developed within the scope of the PrestoPRIME project.

ID3.2.1 Threats to data integrity from use of large-scale data management environments

Lead author: Matthew Addis, University of Southampton IT Innovation Centre.

Link :

https://prestoprime.ina.fr/public/deliverables/PP_WP3_ID3.2.1_ThreatsMassStorage_R0_v1.00.pdf

Abstract: Maintaining data integrity when using IT infrastructure for the long-term storage of audiovisual files is a major challenge. This report investigates the threats to files from the use of mass storage technologies (e.g. hard drives in servers and data tapes in robots); how file corruption can be identified; and how the risk of loss can be assessed.

ID3.3.1 Media formats, identification methods and implementations for multivalent preservation

Lead authors: Ann Gledson and Paul Watry, University of Liverpool

Link :

https://prestoprime.ina.fr/public/deliverables/PP_WP3_ID3.3.1_multivalent_R0_v1.02.pdf

Abstract: In order to develop a long-term, sustainable architecture that may be used to implement a distributed and shared repository for long-term sustainable audiovisual

collections, we propose the use of iRODS and the Multivalent preservation model. iRODS acts as the underlying storage technology and Multivalent is used as a presentation and manipulation tool. This method will be infrastructure independent. The video stream, decoder and Multivalent Software are archived as part of the iRODS collection and are migrated to new storage technologies as and when available. We illustrate how this is the most reliable method, when compared with other alternatives such as file conversions and creating wrappers/bindings to native libraries.

ID3.4.1 Service Level Agreements for Preservation Services

Lead author: Stephen C Phillips, University of Southampton IT Innovation Centre.

Link :

https://prestoprime.ina.fr/public/deliverables/PP_WP3_ID3.4.1_SLASpec_R0_v1.00.pdf

Abstract: This document outlines a framework for monitoring and managing services with a service level agreements (SLA) and proposes a complete list of terms suitable for inclusion in the SLA for a preservation service provider. Modelling techniques for service capacity management are discussed and the results of a survey investigating trust issues is presented. Standards and reference models for computer readable SLAs such as WS-Agreement are compared and the real world experience of managing the relationship between a preservation service provider and their client is documented.