MPEG Multimedia Preservation Activities

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Motivation

Proposals for standard multimedia preservation metadata

Status and Gaps

Outlook
Motivation

Recommendations to professional organizations:
  d. work with industry for the development of requirements of systems that embed preservation concerns;

Recommendations to industry
  a. ensure long-term accessibility to digital information;
  b. adhere to descriptive standards and recognized metadata standards to enable the creation of trusted digital repositories.

Motivation

- Digital Preservation Interoperability Framework (DPIF) Symposium
  - April 2010, co-located with MPEG meeting in Dresden, DE
  - organised by NIST
  - establish a long-term digital preservation standardization roadmap

- Lack of a standard for preservation metadata for multimedia content
Preservation Description Information

- Content Information
- Preservation Description Information
- Packaging Information
- Descriptive Information
- Representation Information

(Indicates that the list is not exhaustive)
Multimedia Preservation AhG

- **Co-chairs**
  - Wo Chang, NIST (US)
  - Walter Allasia, Eurix (IT)

- involves members from Europe, US, Japan and New Zealand

- aims to define a standard representation and guidelines for multimedia preservation metadata
Multimedia Preservation AhG

- National Institute of Standards and Technology, USA
- Eurix, Italy
- RAI, Italy
- Nippon Telegraph and Telephone Corporation, Japan
- National Diet Library, Japan
- JOANNEUM RESEARCH, Austria
- European Broadcasting Union (EBU), Switzerland
- Deutsche Kinemathek - Museum für Film und Fernsehen, Germany
- Universität Passau, Germany
- National Library of New Zealand
- Universitat Politècnica de Catalunya, Spain
- Austrian Institute of Technology, Austria
- IT Innovation, UK
- University of Innsbruck, Austria
- Nederlands Instituut voor Beeld en Geluid, Netherlands
- NHK, Japan
- ETB-Basque Television, Spain
- Sveriges Television, Sweden
- National Library of Sweden
- British Broadcasting Company, UK
MPDI Requirements

- Provenance
- Context
- Reference
- Quality
- Integrity
- Authentication
- Fixity
- Rights
Relation to OAIS Reference Model

- **Provenance**: source of content
- **Context**: usage of content
- **Reference**: identifier(s) of content
- **Quality**: content assessment due to transformation
- **Integrity**: content assessment due to system or environmental changes
- **Authentication**: content authenticity
- **Fixity**: content not altered in an undocumented manner
- **Rights**: ownership, control, or use of content
Situations we want to avoid
Timeline

- **2012**: Requirements, call for proposals issued
- **2013**: Working draft, analysis of submissions
- **2014**: Filling gaps, validating, refining, Final draft of standard

**Deadline for call for proposals**
Responses to Call for Proposals Received (1)

- Details on workflow and requirements from
  - Japan National Diet Library (NDL)
  - National Library of New Zealand (NZNL)
  - mapped to their own metadata schemes and workflows

- MPEG Professional Archive Application Format (PA-AF, MPEG-A part 6)
  - addresses provenance, reference, context, quality fixity, rights
  - MPEG-21 DIDL based container structure
  - virtual file structure of package
  - associated metadata (MPEG-7, IPMP, REL)
Responses to Call for Proposals Received (2)

- **MPEG-7 Audiovisual Description Profile (AVDP)**
  - MPEG-7 part 9, amd. 1
  - addresses context, reference, provenance
  - MPEG-7 profile for a/v media production and archiving
  - defined by EBU MIM/SCAIE group
  - representation results of automated information extraction tools

- **MPEG-7 Extensions for visual quality description**
  - addresses quality
  - MPEG-7 visual description scheme for quality measures and defects
  - generic scheme + reference to controlled vocabulary and specific descriptors)
Responses to Call for Proposals Received (3)

- MPEG-21 CEL/MCO (designated MPEG-21 part 20, 21)
  - addresses rights
  - expressing business contracts related to media content
  - machine processable expressions
  - links to textual clauses
  - Contract Expression Language (XML representation, part 20)
  - Media Contract Ontology (OWL representation, part 21)
MPDI vs MP-AF

- Moved on from requirements phase at 102nd MPEG meeting in Oct. 2012
- Assigned to MPEG-A (Application Formats)
- Multimedia Preservation Application Format (MP-AF)
Gaps

- MPAF resides within preserved media content
- Information about processes that impact preservation of Digital Items
- Integrity
- Authenticity
- Fragment-based fixity
MP-AF ongoing work

- Collect further input
  - More details on requirements
  - Specific use cases from different domains
  - Best practice examples

- Analyse submissions and gaps
  - Process information and their parameters (cf. PREMIS preservation events)
  - Content integrity
  - Fine grained fixity metadata
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<thead>
<tr>
<th>YOUR contribution</th>
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<tr>
<td>- Inputs on use of preservation metadata and workflows in different types of multimedia archives</td>
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<td>- Example preservation metadata documents</td>
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<td>- Proposal of technologies for filling the gaps</td>
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<tr>
<td>- MPEG Preservation Reflector</td>
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<tr>
<td>- <a href="https://mailhost.tnt.uni-hannover.de/mailman/listinfo/preservation">https://mailhost.tnt.uni-hannover.de/mailman/listinfo/preservation</a></td>
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Conclusion

- MP-AF aims to define interoperable preservation metadata for multimedia content
- compatible with MPEG technologies
- many things are there, now working on the gaps
- Contributors welcome!
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