Taking the last steps up to IPTC’s Video Metadata solution

IPTC Photo Metadata Conference
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Managing Director IPTC
The Starting Point

Video is an area of rich diversity:
• Many formats of a frame
• Many technologies for how video data and audio data are compressed
• Many formats defining how files containing video are designed/built
• Different schemas for metadata associated with a video
• Different ways to embed metadata into video files
• Different ways to express rights and restrictions
… resulted in user experience like that …
The Initiative aimed at …

… applying metadata - used by many parties – should become more easy.

… moving technical details of metadata in the 2nd row.
… which makes now the IPTC Video Metadata Hub
means:

- A collection of widely used metadata properties, each one with
  - a name
  - a definition of the semantics
  - a basic data type
  - a cardinality
means:

• A default technical implementation for
  – embedding metadata (using XMP)
  – saving metadata in a stand-alone document (using EBUcore)
  – metadata via API (IPTC JSON format)
... if no other format/standard should be used.
means:

- A recommended mapping of the IPTC VMD-Hub properties to semantically equivalent properties of other (video) metadata schemas.
### VMD-Hub’s Basic Design – illustrated

#### Area of IPTC’s control

(some) IPTC Video Metadata Hub properties:

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video ID</td>
<td>10.5240/EA73-79D7-1B2B-B378-3A73-M</td>
</tr>
<tr>
<td>Title</td>
<td>Blade Runner</td>
</tr>
<tr>
<td>Description</td>
<td>Deckard (Harrison Ford) is forced by the police Boss (M. Emmet Walsh) to continue his old job as Replicant Hunter.</td>
</tr>
</tbody>
</table>

#### Property mapping

- **XMP specified for embedded metadata**
  - Property: Identifier + @typeLink
  - Value: See above
  - Property: Title + @typeLink
  - Value: See above
  - Property: Textual Description/Description
  - Value: See above

- **EBUcore specified for non-embedded metadata**
  - Property: Object Identifiers/GUID
  - Value: See above
  - Property: Titles/Main title
  - Value: See above
  - Property: Textual Description/Description
  - Value: See above

#### Metadata Types

- **.mov Quicktime metadata**
- **.mp4 XMP metadata**
- **.mts (sidecar)**
- **.??? MPEG7 metadata**

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Action as Semantic Hub

(some) IPTC Video Metadata Hub

properties:

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director</td>
<td>Ridley Scott</td>
</tr>
<tr>
<td>Title</td>
<td>Blade Runner</td>
</tr>
<tr>
<td>Description</td>
<td>Deckard (Harrison Ford) is forced by the police Boss (M. Emmet Walsh) to continue his old job as Replicant Hunter.</td>
</tr>
</tbody>
</table>

Property | Value
---|---
com.apple.quicktime.director | Ridley Scott
com.apple.quicktime.title | Blade Run
com.apple.quicktime.description | Deckard

genuine md processor

Transferred

Property | Value
---|---
dc:creator + role="director" | See above

dc:title | See above

dc:description | See above

genuine md processor

Transferred

Property (ebucore:...) | Value
---|---
creator + @typeLink | See above
title + @typeLink | See above
description + @typeLink | See above

genuine md processor

Transferred

Property | Value
---|---
Prod Key People/Director | See above
Titles/Main title | See above
Textual Description/Description | See above

genuine md processor

Transferred

Property | Value
---|---
mov | Quicktime metadata
mp4 | XMP metadata
mts | (sidecar)
?? | MPEG7 metadata

EBUcore metadata
Planned mappings

*) specified default technical implementation
Hub Benefits

• Guidelines for organising metadata of videos from different sources in a common way
• Support of workflows with videos of different standards
• Support of switching from an “old” to a “new” standard
• Support of searching across videos of different standards
Some details …
VMD-Hub Members*) – describing A/V

- Title
- Headline
- Description
- Keywords
- CV Terms About the Content
- Dopesheet
- Transcript
- Data Displayed on Screen
- Language Version
- Location Shot
- Location Shown
- Depicted Event
- Person Shown
- Person Heard
- Featured Organization
- Object Shown
- Product Shown
- Genre
- Shot Type

*) VMD Hub Draft #4, June 2016
VMD-Hub Members – rights relevant

- Creator
- Contributor
- Supplier
- Licensor
- Rights Owner
- Copyright Notice
- Copyright Year
- Credit Line
- Licensing Terms

- Model Release Status
- Model Release Document
- Property Release Status
- Property Release Document
- Source
VMD-Hub Members - administrative

- Date Created + Modified + Circa Date + Style Period
- Date Released
- Ready for Release
- Rating (supports different sources)
- Video Identifier
- Video Version
- Video Rendition
- Registry Entry
- Feed Identifier
- Storyline Identifier
- External Metadata URL
VMD-Hub Members - technical

- Stream-ready
- Orientation
- Media Type
- File Format
- File Duration
- Editorial Duration Start
- Editorial Duration End
- Editorial Duration
- Frame Size
- Signal Format
- Signal Aspect Ratio
- Display Aspect Ratio
- Stream Count

- Video Coding
- Video Profile
- Video Frame Rate
- Video Bitrate Type
- Video Bitrate
- Audio Coding
- Audio channels
- Audio channel layout
- Audio Sample Rate
- Audio Bitrate Type
- Audio Bitrate
- File Bitrate
About Mapping

IPTC VMD-Hub property:

- **name**: Date Created
- **definition**: Date and optionally time when the video was created
- **Basic data type**: Date/opt. Time, single occurrence
- **Mapping**: pointing at different corresponding technical expressions as defined by a specific standard
  - EBUcore: date/created
  - XMP: photoshop:DateCreated
  - QuickTime: com.apple.quicktime.creationdate
  - MPEG-7: CreationInformation/Creation/Date
  - Schema.org: http://schema.org/dateCreated

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Current Targets of Mappings

- EBU Core: metadata specification for broadcasting, global use
- XMP: ISO metadata syntax specification primarily used for embedding into binary files (photo, video, audio)
- Quicktime: metadata specification by Apple for its Quicktime (*.mov) format
- MPEG-7: ISO specification for multimedia metadata
- Schema.org: metadata specification to be used in web pages, support of the Semantic Web
Fragments and the Whole

Metadata of the video, including

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video ID</td>
<td>UUID:4567</td>
</tr>
<tr>
<td>Title</td>
<td>IPTC endorses new standard</td>
</tr>
<tr>
<td>Description</td>
<td>IPTC has endorsed its new set of video metadata.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video ID</td>
<td>UUID:7890</td>
</tr>
<tr>
<td>Title</td>
<td>Sun shines in all videos</td>
</tr>
<tr>
<td>Description</td>
<td>Exciting phenomenon: it looks like the sun shines in all videos.</td>
</tr>
</tbody>
</table>

The Message: VMD-Hub supports metadata for the video as a whole and for fragments of it.

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video ID</td>
<td>UUID:.....</td>
</tr>
<tr>
<td>Title</td>
<td>News At Noon</td>
</tr>
<tr>
<td>Description</td>
<td>All relevant news at today's noontime.</td>
</tr>
</tbody>
</table>
Next Steps

• Draft #4: to be released in late June 2016 → invitation to submit feedback
  Watch http://dev.iptc.org/Video-Metadata
• Final draft Recommendation document in early October
• Voting at the IPTC Autumn Meeting (24-26 Oct 2016)
• Publishing and marketing

More about IPTC: www.iptc.org – Twitter @IPTC
The End

The Video Metadata Hub will help getting out of running in loops