Starting Point

Video about IPTC meeting – 21 seconds
The Starting Point

Video is an area of rich diversity:
• Many formats of a frame
• Many technologies for compressing video data and audio data
• Many defined structures of files containing video
• Different metadata schemas for video
• Different ways to embed metadata into video files
• Different ways to express rights and restrictions
… resulted in user experience like that …

The permanently used video desk …

… is built on quite different legs.

See table at www.guildmaster.com
The IPTC work aimed at …

… support of widely used fields and easy use

… 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)

... if no other format/standard should be used.
• A recommended mapping of the IPTC VMHub properties to semantically equivalent properties of other (video) metadata schemas.
VMHub’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>

XMP specified for embedded metadata

EBUcore specified for non-embedded metadata
#### (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>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>com.apple.quicktime.director</td>
<td>Ridley Scott</td>
</tr>
<tr>
<td>com.apple.quicktime.title</td>
<td>Blade Run</td>
</tr>
<tr>
<td>com.apple.quicktime.description</td>
<td>Deckard</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>dc:creator + role=&quot;director&quot;</td>
<td>See above</td>
</tr>
<tr>
<td>dc:title</td>
<td>See above</td>
</tr>
<tr>
<td>dc:description</td>
<td>See above</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property (ebucore...)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>creator + @typeLink</td>
<td>See above</td>
</tr>
<tr>
<td>title + @typeLink</td>
<td>See above</td>
</tr>
<tr>
<td>description + @typeLink</td>
<td>See above</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prod Key People/Director</td>
<td>See above</td>
</tr>
<tr>
<td>Titles/Main title</td>
<td>See above</td>
</tr>
<tr>
<td>Textual Description/Description</td>
<td>See above</td>
</tr>
</tbody>
</table>

#### Transferred

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

**Genuine md processor**
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 …
VMHub 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
- Visual Colour
VMHub 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
VMHub Members - administrative

- Date Created + Modified + Circa Date + Style Period
- Date Released
- Series ← Season ← Episode
- Temporal Coverage
- Rating (supports different sources)
- Video Identifier + Video Version + Video Rendition
- Registry Entry = identifier from any registry/organisation
- Feed Identifier
- Storyline Identifier
- Publication data
- External Metadata URL
VMHub 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
• Video 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
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>

The Message: VMDHub 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: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>

<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>
About Mapping

IPTC VMHub property:
• name: **Date Created**
• definition: Date and optionally time when the video was created
• Basic data type: Date/opt. Time, single occurrence
• Technical implementation
  – EBUcore: date/created
  – XMP: photoshop:DateCreated

• Mapping = pointing at different corresponding technical expressions as defined by a specific standard
  – QuickTime: com.apple.quicktime.creationdate
  – MPEG-7: CreationInformation/Creation/Date
  – NewsML-G2: contentMeta/contentCreated
  – PB Core: pbcoreAssetDate / @dateType=created
  – Schema.org: http://schema.org/dateCreated
Current implementations and 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
- NewsML-G2: IPTC’s news exchange format
- PB Core: Public Broadcasting metadata schema
- Schema.org: metadata specification to be used in web pages, support of the Semantic Web
Why something new?

Why is IPTC is doing what others already have?

- (Many) Existing video standards have only a limited set of metadata fields beyond technical metadata.
- (Many) Existing metadata schemas are strictly bound to a specific technical format.
- Not liking the technical format means: no chance to use the metadata schema.
- Some organisations set a focus on registering metadata properties, less on specifying their semantic use.
Status of Today

• The IPTC Video Metadata Hub Recommendation 1.0 has been approved yesterday, 24 October
• … and is available at www.iptc.org/std/videometadatalibrary/recommendation/1.0
• It includes
  – A sheet with the specification of each property (name, definition, data type, cardinality + EBU Core and XMP implementations)
  – A sheet with qualifiers required for EBU Core, XMP and others
  – A sheet with all the mappings
The End

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

www.iptc.org/std/videometadatalhub/recommendation/1.0