Metadata Working Group User Requirements Committee
Use Case Interview– 7/30/02
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Interview Conducted by Tim Olson

Advice to Metadata Committee/Key Issues

- Consider MPEG-7 as a basis for a public broadcasting metadata model
- Interactive television raises unique and critical metadata issues that will play prominently in the future
  - Need to pass data via existing transport and application standards (ATSC, OCAP, DVB, ..)
  - Need for iTV unique data
- 90% of metadata is never used, create a mandatory core and voluntary extensions
- Use XML, it provides great flexibility in transcoding imperfectly matched metadata sets
- Don't forget rights management

What PBS Online Does

PBS.org supports over 450 program Web sites, as well as super sites for Teachers, Parents and Kids. PBS.org is the number one .org site on the planet.

Consider MPEG-7 as a Basis for a Public Broadcasting Metadata Model

Direct quote from Dave:

"MPEG-7 addresses many different applications in many different environments, which means that it needs to provide a flexible and extensible framework for describing audiovisual data. Therefore, MPEG-7 does not define a monolithic system for content description but rather a set of methods and tools for the different viewpoints of the description of audiovisual content. Having this in mind, MPEG-7 is designed to take into account all the viewpoints under consideration by other leading standards such as, among others, TV Anytime, Dublin Core, SMPTE Metadata Dictionary, and EBU P/Meta. These standardization activities are focused to more specific applications or application domains, whilst MPEG-7 has been developed as generic as

possible. MPEG-7 uses also XML as the language of choice for the textual representation of content description, as XML Schema has been the base for the DDL (Description Definition Language) that is used for the syntactic definition of MPEG-7 Description Tools and for allowing extensibility of Description Tools (either new MPEG-7 ones or application specific). Considering the popularity of XML, usage of it will facilitate interoperability with other metadata standards in the future."

http://mpeg.telecomitalialab.com/standards/mpeg-7/mpeg-7.htm

Interactive TV

A major metadata challenge of the coming years is the need to pass program related data along with a broadcast via multiple transportation methods (air, satellite, cable) to multiple applications (various set-top boxes/software). Data needs to be addressed at both the application and the transport level. iTV also requires specific, unique fields such as time to live, user access control, kill authorization, source, encryption key, and certificate checking.

Industry Broadcast and ITV Standards

Below standards public broadcasters will need to conform to when passing iTV metadata.

OCAP Open Cable Application Platform Version 1.1

"Standard" for cable industry.

DAYS – Digital Television Application Software Environment

DVB – Digital Video Broadcast Standard

Utilized by Direct TV and Echostar, based on OCAP.

PSIP - Program and System Information Protocol

Similar but not identical to DVB service information. A part of the ATSC digital television specification that enables a DTV receiver to identify program information from the station and use it to create easy-to recognize electronic program guides for the viewer at home. The PSIP generator insert data related to channel selection and electronic program guides into the ATSC MPEG transport stream.

ATSC – Advanced Television Systems Committee

www.atsc.org

PBS XDS - Extended Data Service

Currently sends data out via the Vertical Blanking Interval (VBI). Data sent includes: TV ratings, short descriptions, SAP indicator, Closed Captioning indicator and the time .

PBS CMS - Engenda

PBS recently installed a content management system that has lots of room for metadata, but few fields are being utilized. There are many descriptors for PBS.org Web sites, but not for individual page objects (such as image). PBS CMS can support any metadata model. In the future, PBS would like to ascribe metatdata at the object level via an automated process during upload.

PBS.org Site Categorization

Each site on PBS.org has two genera categories, a primary and a secondary. Primary list is: Arts, Business and Finance, Games & Diversions, Health & Religion, History, Home & How To, Nature & Wildlife, News & Views, Science & Technology, Travel & Expeditions. Secondary level is longer, available upon request.

PBS Program Schedule – TV Data

PBS program listings are provided by Tribune's TV Data service. List available upon request.

PBS.org Virage Streaming Video

PBS utilizes video indexing company Virage for much of its streaming video encoding. Virage uses the closed captioning as the primary metadata set. Properties that utilize Virage include Julia Child, NewsHour, American Field Guide, Wall Street Week and Mathline.

PBS.org Streaming Video – Non Virage

Some properties are not encoded by Virage. There is no in-video searching and no metadata for these clips. Most are 8-12 minute segments.

TeacherSource

PBS' educator resource utilizes a third party, MediaSeek, to match PBS programming teacher lesson plans and activities to state education standards (i.e. WASL for Washington State). Site allows users to search curriculum by grade level (pre-kindergarten through post-secondary) and by subject area (arts & literature, health & fitness, math, science & technology, social studies, early childhood, and library media).

ShopPBS

Shop PBS Advanced Search has the following parameters:
Apparel, Book, Music, Plush Toy, Video, Keyword, Item number, producer, closed caption (YorN).

PBS Digital Asset Management

Note, PBS has met with DAM vendors about possible future installation of DAM at PBS. All claim they can work with any metadata model.