

Metadata Forum : National Library of Canada, Sept. 19th 2003
Multimedia Metadata Panel Discussion
Speaker's notes for David McKnight, McGill University

Topic 2:

What value, if any, does metadata provide for multimedia?

From the perspective of an organization which is either a) creating born digital multimedia objects or curators of collections of digital surrogates, metadata is an essential component of the life cycle of the object.

Without quality metadata, it is almost impossible to access, describe, administer or provide an adequate structural framework to manage and represent the inherent complexity of the digital object. metadata provides not only a map but also instructions which document the format and behavior of the object and provides the technical requirements for the objects long term use and preservation.

In the case of description, this is the layer which, in most cases, is the users first line of contact with the digital object. Whether one is using Dublin core or MPEG0-21 0 the top level description of the object is the intellectual and content referent. Without the inclusion of the descriptive elements, the object floats anonymously in ether – out of body, out of sight. Within the context of the library profession, providing access to our collection is one of our primary responsibilities – descriptive metadata mirrors the variety and depth of our digital collections.

As for administrative metadata, this translates, for the most part into the issue of digital rights management. As our moderator indicated at the outset of this session we have agreed not to discuss this issue today, but suffice it to say that administering large multimedia collections of institutionally owned digital objects, whether they are born digital or surrogates, is time consuming and administrative metadata is essential for the long term maintenance and survival of the digital object within the institution. Furthermore, Digital Rights Management hold the key to locking or unlocking access to an individual item or a collections, and thus is a critical tool for digital content managers to determine appropriate use and levels of access.

To insure the long term access of the digital object, structural metadata, perhaps, represents the most important layer. As can be seen from the evolution of the MPEG standard presented by fellow panelist Alex Eykelhof, what was essentially a compression algorithm with MPEG 1 in 1993 emerges with the release of MPEG 7 and MPEG 21 a robust framework to fully document multimedia objects. In particular, MPEG 7 provides the creator or curator with the tools to describe a range of file types and their behaviors. This is essential information for enabling interoperability, data exchange and long term preservation.

Topic 3:**What methodology has each panel member followed in the implementation of metadata?**

Because of the wide range of materials we have converted and projects that we have undertaken to date in the Digital Collections Program, the selection of the appropriate metadata schema for each of our projects is critical to its success. In truth, we have to date focused on capturing descriptive metadata. As we expand our operations, we are taking the opportunity to pause and reflect on the assets we have created to date. This will provide us with the opportunity to adopt a metadata framework which best reflects the library's digital content.

One quick example: The Moshe Safdie Hypermedia Archive. At the time we designed the web site, our notion was to create a multimedia digital object. The result is a suite of applications built into the web site which include the following components:

- Text files
- Images
- Video
- Audio
- Flash Movies
- 3-D Models
- Java Applets

Each serve a specific function within the context of the website as a whole, while the delivery platform is web-based – my responsibility is to manage the site over the long-term and to insure that this archival resource is accessible in the future. That is why we are currently evaluating METS the XML compliant Metadata Encoding and Transmission Standard developed by the Library of Congress. The keyword for METS is flexibility and reflects the array of digital objects that we have created to date and those that we expect to produce down the road.

Among the key feature of METS are:

- The descriptive metadata, used for discovery and identification, is optional. A METS object can contain a Metadata Reference or a Metadata Wrapper. A Metadata Reference is a link to external descriptive metadata. A Metadata Wrapper packages descriptive metadata associated with the object, as either Base64 encoded binary data or XML. METS does not require a particular scheme for description, so the implementer can choose the most appropriate descriptive scheme.
- The administrative metadata, also optional, has four optional subcomponents for technical metadata, rights metadata, source metadata, and preservation metadata. Each of these subsections acts like the descriptive section in that the metadata can be encoded (“wrapped”) with the METS documents or pointed to in an external location (“referenced”).

- The file inventory allows for listing all the files associated with a digital object. Files can be grouped; some groupings might include master files, thumbnails, etc. The files may be pointed to or can be contained internally as Base64 encoded binary data.
- The structural map forms a simple or complex tree structure that describes the digital object. The map outline a hierarchical structure linking the content files and metadata to the digital object. [from Merrilee Proffitts's report in RLG Focus, October 2001.]

Topic 4**Metadata and Multimedia. Where are we? Where are we going? Where do we need to be?****Where are we:**

Considering that within the time frame of then years we have moved from MPEG 1 to MPEG 21 which are in parallel with other emerging schemas such as METS, librarians and information professionals now have at their disposal a set of reliable tools to work with which will mean that not only will we be able to capture metadata more easily, but also, we will be able to undertake metadata “recon” projects to insure that legacy digital objects conform to current levels of description, meet international standards and reflect best practices.

Where are we going:

As Neil Young observed: rust never sleeps – thus with technology. What is cool today is cold tomorrow. We must be vigilant in terms of evolving technologies with an eye upon insuring that the applications which dazzled last year will continue to dazzle into the distant future. The means of insuring access to multimedia objects in the future is well-documented structural metadata created in the present. As technologies evolve we can expect metadata schemas and standards to expand as well.

We can expect increased demands for:

Data Exchange and Interoperability.

We will see the growth of:

Institutional Repositories which will house a multitude of file formats and applications.

There will be an increased need for standards, models and best practices of the archiving and preservation of digital objects.

Where do we need to be:

Most of us are continually in search of guidance and leadership from international organizations, national institutions, and professional associations to provide the necessary standards and descriptive frameworks which we can integrate into our practice. The frustrations experienced by early adopters will be alleviated by the knowledge that there are professional within the multimedia industry and information professionals who share a common goal which is to insure that our assets are well-managed, searchable, accessible and preserved.