InterPARES 2 Project
International Research on Permanent Authentic Records in Electronic Systems

Domain 3 Research Questions

Case Study 09(2):
Digital Moving Images – National Film Board of Canada

Natalie Catto, UBC

June 2006

1. **What types of entities does the diplomatic analysis identify in this case study? (i.e., records, publications, data, etc.)**

   The diplomatic analysis identifies all digital entities created in the course of producing moving image productions to be records.

   Moving image products (the produced animated films) are publications.

   1a. **If there are no records, should there be records? If not, why not?**

   Not applicable.

   1b. **If there should be records, what kinds of records should be created to satisfy the creator's needs (as defined by an archivist)?**

   Not applicable.

   1c. **What characteristics of records (as defined by an archivist) are missing yet necessary to preserve these entities?**

   Not applicable.

2. **Are the entities reliable? If not, why not?**

   The entities are considered to be reliable by the National Film Board (NFB) due to the *auteur* status accorded to animators. However, while the creation process is generally controlled by the NFB-mandated direction/workflow the animator chooses to follow, the exact procedures, workflows, or steps of creation are not specified or regularly documented. This ultimately can affect the entities' reliability because the documentation can be faulty, insufficient, or poorly done.

3.   **Are the entities accurate? If not, why not?**

The animator considers the entities to be accurate if they possess the ability to fulfill the original vision of what the final product will look like. Often they look different because the signal used in post-production monitors is different than that of the animator's personal computer.

4.   **To what degree can the entities be presumed to be authentic, and why**?

Benchmark Requirements Supporting the Production of Authentic Copies of Electronic Records (these apply to the creator**)**:

Authenticity is seen by NFB to exist only in the final work which has been written to film, because it is the final work that is formally approved as the animator's authentic work, and it is the film that will be used for all future products.

The authentic work is considered to be compromised if it is no longer able to appear in the form in which it was created.

1.   **Capture of identity and integrity metadata:**
Beyond the assignation of a production number to the entities and a separate identification of some kind form different versions (this ID is not specified), it is not known what metadata is captured. Specific naming conventions vary among animators.

2.   **Enforcement of access privileges:**
Although access rights vary according to each animation's requirements, it is generally limited to only those people involved in the creation of the entities. Access to the entities is also restricted once they are set aside in the intranet, Synchrone. All employees have access to Synchrone to varying degrees according to what is required to fulfill their duties. Access is only given to external users during post-production in order to complete the film.

3.   **Protection against loss and corruption:**
Backups are made of the system, and the final production is generally written to analogue film because its higher resolution enables it to be digitized into any format at any level of detail.

4.   **Protection against media and technology obsolescence:**
The final production is generally written to analogue film because it is considered to be more stable. In addition, the animator is also asked to provide the source code so that the files can be recompiled if necessary.

5.   **Established documentary forms:**
No specific documentary form is mentioned in the final report.

6. **Ability to authenticate records:**
entities can be authenticated through their production number and version identification.

7. **Procedures in place to identify the authoritative record:**
While the creator considers the final product to be the complete, authentic work of the animator, no authoritative record has been identified.

8. **Procedures in place to properly document removal and transfer of records from the creator's originating system:**
The final production is not captured by the recordkeeping system until it is written to film or Betamax and physically transferred to the archival vault. The exact procedures of this transfer are not outlined in the final report. The digital entities are either set aside in the legal system, the financial system, or the Synchrone system, and remain linked through the production number.

Baseline Requirements Supporting the Production of Authentic Copies of Electronic Records (these apply to the preserver):

These requirements are not specified in the final report.

5. For what purpose(s) are the entities to be preserved?

The creator's purpose for preserving the entities was not identified in the final report.

6. Has the feasibility of preservation been explored?

Yes, NFB has explored the feasibility of preservation.

6a. If yes, what elements and components need to be preserved?

NFB wants to preserve the final product (animated film) and its associated digital entities.

7. Which preservation strategies might most usefully be applied, and what are their strengths and weaknesses, including costs and degree of technical difficulty?

Currently, the final product is written from its digital form to analogue film (i.e., Preservation Strategy B3. Non-digital approaches) or is assigned a "digital master" on digital Betacam for greater stability and resolution; the digital entities are stored on DLT and are encoded in the Cineon and avi formats; and the source code is provided by the animator to enable the recompiling of files in electronic systems. The creator has also considered re-purposing as a method of preserving the final production, but has determined that it results in losses to the original during the course of conversion.

7a. **Which alternative preservation strategies might be applied? What are their strengths and weaknesses, including costs and degree of technical difficulty?**

The following alternative preservation strategies could be applied to NFB's digital entities. It is difficult to estimate the cost and degree of technical difficulty this project would entail:

B1. Use of standards
B1.2. Encapsulation
B1.4. Conversion
B2. Technology preservation
B2.3. Software re-engineering
B2.5. Emulation

8. **What additional information does the preserver need to know to facilitate appraisal and preservation?**

The preserver needs to obtain an understanding of how the entities were created and the artistic and technological processes involved in their creation.

8a. **If required information is missing, where should it come from and how should it be made manifest?**

The process of creation needs to be fully documented by either the animator or NFB.

9. **Are there any policies in place that affect preservation**?

No such policies are mentioned in the final report.

9a. **Are there any policies in place that present obstacles to preservation?**

Not applicable.

9b. **Are there any policies that would need to be put in place to facilitate appraisal and preservation?**

Formal recordkeeping practices and procedures need to be established to ensure the authenticity and reliability of the entities.