InterPARES 2 Project

International Research on Permanent Authentic Records in Electronic Systems

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A. Overview

The purpose of this case study is to examine workflow involved in making a WGBH television documentary program. There are an enormous amount of production elements and documents generated during the course of program creation. The documents generated are in both digital and analogue form and include image, audio, graphic and textual formats.

It is important to know that the production entity that is the focus of this case study is currently operating in a mixed analogue/digital production system. It has developed and is in the process of converting to a digital asset management (DAM) system while at the same time maintaining its collection of analogue film, tapes and audio content that dates back to the 1950s. Catalogue records for these materials are kept in a FileMaker Pro 7.0 database designed and developed in-house. The DAM system is an Artesia TEAMS product that has been customized by WGBH.

B. Description of Context

Provenancial context

The creator, WGBH Boston, is a public broadcasting company that delivers multimedia programming via television, radio and the Internet. WGBH was established in 1951 as a radio station. In 1955, it began to offer television channels. Today, WGBH offers a variety of television and radio channels, a Web site and a wide range of multimedia productions.

The creator's mandate is to deliver radio, television and multimedia programming to the public to help people make connections to the world they live in. Its mission is to provide programs and services that educate, inspire, and entertain the public as well as foster citizenship, culture and acceptance of diverse perspectives.[1]

The functions of the creator are to produce and broadcast television, radio and Web productions, produce teaching tools for schools and for home schooling, produce IMAX films and produce services for those with hearing and vision impairments.

Juridical-Administrative context

WGBH has a large, bureaucratic administration similar to the governmental level to which it is related. Its headquarters are in Boston, with branch offices in New York and Los Angeles. It is locally owned and operated, with a president, board of directors (with chairman) and over 1,000 staff. The Archives is a separate part of the creator's corporate structure than the production environment.

[1] WGBH, "All About Us." Available at http://main.wgbh.org/wgbh/about/mission/index.html.

WGBH is funded by contracts and grants (community service grants, grants from the Corporation for Public Broadcasting), contributions from individuals (listeners), royalties and the sale of services.

There are various in-house contracts, such as a trusted digital repository agreement, policies and contracts with external parties that dictate certain aspects of records creation and preservation.

Procedural context

The activity being studied in the context of this case study is the production of documentary television programs. The creator is not doing traditional e-government activities. Its activities are more related to the artistic focus, since it is operating in the artistic field. Although the actor is governmental, the activity is artistic.

There is a sort of partnership between the production environment and the WGBH Archives. Available documentation indicates that, on occasion, the digital entities are transferred to the Archives after production has wrapped and the program has aired.

Documentary context

WGBH Boston operates in a mixed digital and analogue environment, but has developed and is converting to a digital asset management system (DAM). Regarding the description and organization of records, there are in-house standards for organizing physical tapes and digital assets. There are also limited guidelines for document creation, in the sense that the Archives provides training and workbooks on how to complete the original footage logs.

Regarding recordkeeping and preservation activities, WGBH currently has no recordkeeping system, although there is an Archives, a WGBH-wide retention schedule and a checklist of items that each production must send to the Archives. The Archives is responsible for preservation.

The DAM system that is being introduced will have separate implementations for current production work and for the Archives. WGBH must still maintain all of its analogue film, tape and audio content. There is a trusted repository contract agreement in-house.

Technological context

The fully-digital nature of the DAM recordkeeping system will allow for the implementation of automatic standard language applications and thesaurus capability.

Videotape or film footage may be in a variety of formats, including: MiniDV, BetaSP, Digital Beta, DVCPro, DVCam, HDCam, VHS, 16mm and Super16mm film. Sound is not included in the case study, because it is usually recorded separately, although some original footage does include sound.

Original footage logs provide extensive listings of every shot of the original footage, describing the subject of discussion, who is in the footage, the location, environment, context and record time making up the tape. These logs are entered as data in a FileMaker Pro 7 database.

Some digital cassette tapes (e.g., Digibeta) require special equipment for playback. To minimize or eliminate the risk of technological obsolescence, WGBH migrates obsolete or deteriorating digital and analogue tapes to new digital formats. With the DAM system, there will likely be a conversion of digital files, as well.

C. Narrative Answers to the 23 Core Research Questions

1. What activities of the creator have you investigated?

The activity investigated is the production of a documentary television program.

2. Which of these activities generate the digital entities that are the objects of your case study?

This case study examines two specific objects generated during the production process: original footage and original footage logs. Original footage is defined as videotape or film shot by and for a specific production inside or outside of the studio. Sound is not included in the case study because it is often recorded separately, although some original footage does include sound. An original footage log is a listing of every shot (including subject of discussion, who is in the footage, location, environment, context and record time in that make up the tape). It will come to the Archives in a FileMaker Pro database, or as a hardcopy.

From this point on all responses will be in two parts, reflecting both current and digital asset management (DAM). Responses will also be clarifying the difference between workflow and procedures now and how they will be in the digital environment.

3. For what purpose(s) are the digital entities you have examined created?

Current: Original footage is shot as potential content in a documentary program; the log is an extensive list for each original footage tape's or film reel's content listing primary and secondary information such as subject of discussion, who is in the footage, location, environment, context, etc.

DAM: Same as above.

4. What form do these digital entities take? (e.g., e-mail, CAD, database)

Current: Moving images and data in a structured database form.

DAM: Same as above.

4a. What are the key formal elements, attributes, and behaviour (if any) of the digital entities?

Current: Both digital and analogue moving images are on videotapes, usually as a cassette. Original footage is shot on a variety of analogue/digital tapes or film including: MiniDV, BetaSP, Digital Beta, DVCPro, DVCam, HDCam, VHS, 16mm, Super16mm film. The physical sizes of the cassettes vary, as does the physical quality of the tape. For digital cassette tapes (e.g., Digibeta), this requires special equipment for playback. The original footage log is created as a FileMaker Pro 7 database.

DAM: All digital essence are digital files. Original footage will be wrapped in a QuickTime file wrapper and codec relevant to the source; note that this digital file will not have any additional compression; associated metadata is added. All metadata are entries in a database. The log continues to be created in a FileMaker Pro 7 database and will be ingested as a digital object, with a text representation viewable in the DAM system.

4b. What are the digital components of which they consist and their specifications?

Current: See 4a.

DAM: Same as above.

4c. What is the relationship between the intellectual aspects and the technical components?

Current: The log contains the descriptive cataloguing component to the original footage content. It also indicates the location of images on the tape by referencing time in/out codes.

DAM: Same as above.

4d. How are the digital entities identified (e.g., is there a [persistent] unique identifier)?

Current: Yes, a unique identifier links the catalogue record in the log with the original footage. Original footage and logs follow naming conventions that link them together and to the final production (see 4f. below).

DAM: Same as above

4e. In the organization of the digital entities, what kind of aggregation levels exists, if any?

Current: Footage is maintained at a tape level. Logs can be recalled for a whole tape or by individual shot.

DAM: Tape level, clip level, and shot level. Additional virtual sub clips can be created and linked to the moving image essence including single frame virtual clips.

4f. What determines the way in which the digital entities are organized?

Current: There are pre-existing in-house standards for organizing both physical tapes and digital assets. Administrative and descriptive information in the analogue FileMaker catalogue record is structured on the following hierarchy: series, season #, program, program #. See attached record for examples of one original footage and log file in both FileMaker Pro and TEAMS.

DAM: Same as above.

5. How are those digital entities created?

Current: Tapes are created and stored by the production unit during production. When completed, the production unit sends the original footage and the database log file(s) to the Archives for quality control review. Sometimes the logs are created months after the original footage has been shot and the production has finished and aired.

DAM: Productions can maintain an organization repository in TEAMS for their original footage and logs; this can be used for reference and editing purposes. When completed, the production unit will send original footage and digital log file(s) to the Archives for quality control review and final transfer to the institutional digital repository

5a. What is the nature of the system(s) with which they are created? (e.g., functionality, software, hardware, peripherals, etc.)

Current: Original footage shot on MiniDV, BetaSP, Digital Beta, DVCPro, DVCam, HDCam, VHS, 16mm, Super16, Logs are created in FileMaker Pro 7.

DAM: Same as above. The moving image essence entities are placed in a Quick Time file wrapper and stored in a hierarchical storage management system.

5b. Does the system manage the complete range of digital entities created in the identified activity or activities for the organization (or part of it) in which they operate?

Current: No

DAM: No

6. From what precise process(es) or procedure(s), or part thereof, do the digital entities result?

Current: Tapes or film shot by production's professional cameraperson; Production Assistants complete the log database.

DAM: Same as above.

7. To what other digital or non-digital entities are they connected in either a conceptual or a technical way? Is such connection documented or captured?

Current: All or portions of original footage and logs are connected to the final production as source material and information.

DAM: Same as above with added capability to connect original footage and logs to other supporting documentation, stock footage, releases, audio tracks, etc.

8. What are the documentary and technological processes or procedures that the creator follows to identify, retrieve, and access the digital entities?

Current: Original footage and logs are entered into a networked FileMaker 7 database for access. Searches can be made on numerous fields and combinations of fields. Fields have standardized data entry criteria.

DAM: Digital library access available to all users where searches can be conducted. Login procedure required to assist Archives personnel in tracking use and to secure certain assets.

9. Are those processes and procedures documented? How? In what form?

Current: Yes, the Archives provides productions with training and workbooks on how to complete the original footage logs.

DAM: To be determined but based on current practices

10. What measures does the creator take to ensure the quality, reliability and authenticity of the digital entities and their documentation?

Current: Every asset received by the Archives is compared to the data entry in the log. This is done to assure accuracy of the log's data and to add information that will be used to track the location of the physical asset. This is done before the asset is transferred to the Archives' secure storage area and before it is available for circulation.

DAM: Same as above for checking metadata. To be identified for checking file integrity of the moving images.

11. Does the creator think that the authenticity of his digital entities is assured, and if so, why?

Current: The logs are read-only files for general users. The original footage tapes cannot be assured for authenticity over time because of circulation.

DAM: The files will be read-only. Only low and high-resolution clones will be available to users.

12. How does the creator use the digital entities under examination?

Current: Original footage is used to create a final production. Shots used are located through using the footage log. The footage log allows other productions to locate shots for their work, which may or may not be the same ones used in the original production for which the footage was shot.

DAM: Same as above with added capability to create storyboard using clips. As well as re-purposed for any number of other media types.

13. How are changes to the digital entities made and recorded?

Current: Descriptive metadata information can only be changed with approval by the Archives.

DAM: Modification of metadata information will be limited to Archives personnel and tracked by system administrators. Changes to digital files will be monitored. The system can also determine if changes have been made to a file.

14. Do external users have access to the digital entities in question? If so, how, and what kind of uses do they make of the entities?

Current: External users are provided access to digital entities by coming into the Archives with advance notice.

DAM: Same as above. Also remote secure access can be arranged.

15. Are there specific job competencies (or responsibilities) with respect to the creation, maintenance, and/or use of the digital entities? If yes, what are they?

Current: Yes, experienced camera production people shoot original footage; production assistants who have been trained on how to complete the logs prepare logs.

DAM: same as above. Additionally, normal IT job functions apply.

16. Are the access rights (to objects and/or systems) connected to the job competence of the responsible person? If yes, what are they?

Current: No except the ability to search digital files.

DAM: No except the ability to search digital files.

17. Among its digital entities, which ones does the creator consider to be records and why?

Current: creators may create many records; but for purposes of this questionnaire the record is considered to be what is permitted to come into the Archives.

DAM: Same as above.

18. Does the creator keep the digital entities that are currently being examined? That is, are these digital entities part of a record keeping system? If so, what are its features?

Current: No. The creator turns the assets, both original footage and logs, over to the Archives which is a separate part of the creator's corporate structure.

DAM: The DAM is a recordkeeping system with separate implementations for current production work, and for the Archives. To be determined if digital clones will be retained by the production units, in addition to the master copy being turned over to the Archives.

18a. Do the recordkeeping system(s) (or processes) routinely capture all digital entities within the scope of the activity it covers?

Current: Not applicable. The current system is not a recordkeeping system.

DAM: The case study is limited to only two types of digital files controlled by the DAM. It is also likely that the "archival" implementation of the DAM will hold fewer digital objects than the "operations" DAM.

18b. From what applications do the recordkeeping system(s) inherit or capture the digital entities and the related metadata (e.g., e-mail, tracking systems, workflow systems, office systems, databases, etc.)?

Current: Productions create stand-alone FileMaker databases that feed into the Archives database.

DAM: Same as above and through direct user input.

18c. Are the digital entities organized in a way that reflects the creation processes? What is the schema, if any, for organizing the digital entities?

Current: Yes, original footage and logs follow naming conventions that link them together and to the final production.

DAM: Yes, the DAM system will be able to more closely link original footage at a shot level with the log descriptions.

18d. Does the recordkeeping system provide ready access to all relevant digital entities and related metadata?

Current: No. The analogue/digital hybrid nature makes access cumbersome, though possible.

DAM: The fully digital nature of the recordkeeping system allows for greatly improved access, as well as the implementation of automatic standard language applications and thesaurus capability.

18e. Does the recordkeeping system document all actions/ transactions that take place in the system re: the digital entities? If so, what are the metadata captured?

Current: Partially. Use of tapes is tracked in a FileMaker database but re-use of shots is not tracked.

DAM: Yes, each use will be noted along with versioning.

19. How does the creator maintain its digital entities through technological change?

Current: The Archives is responsible for this.

DAM: Through a trusted repository contract agreement in-house.

19a. What preservation strategies and/or methods are implemented and how?

Current: Current preservation strategy focuses on copying obsolete or deteriorating digital and analogue tapes to new digital formats.

DAM: to be determined but most likely the conversion of digital files.

19b. Are these strategies or methods determined by the type of digital entities (in a technical sense) or by other criteria? If the latter, what criteria?

Current: Preservation strategies are based on technological obsolescence, re-use potential and user demand.

DAM: To be determined based on file integrity, hardware and software technological obsolescence.

20. To what extent do policies, procedures, and standards currently control records creation, maintenance, preservation and use in the context of the creator's activity? Do these policies, procedures, and standards need to be modified or augmented?

Current: There is a checklist of items each production is required to send to the Archives. There is also a WGBH-wide retention schedule.

DAM: Same as above, though now being modified for the all-digital DAM environment..

21. What legal, moral (e.g., control over artistic expression) or ethical obligations, concerns or issues exist regarding the creation, maintenance, preservation and use of the records in the context of the creator's activity?

Current: Original footage and logs are necessary for re-purposing shots into other productions. Production process and WGBH policy both dictate these be created and saved.

DAM: Same as above.

22. What descriptive or other metadata schema or standards are currently being used in the creation, maintenance, use and preservation of the recordkeeping system or environment being studied?

Current: In-house descriptive standards combined with modified Library of Congress Subject Headings.

DAM: The above plus Dublin Core and PBCore (e.g., Public Broadcasting Core) compliant.

23. What is the source of these descriptive or other metadata schema or standards (institutional convention, professional body, international standard, individual practice, etc.)?

Current: In-house data entry personnel with professional archives and library training, Library of Congress published and on-line sources.

DAM: The above plus Dublin Core and PBCore reference resources.

D. Narrative Answers to Select Domain Research Questions

Domain 1

1.1*. What types of documents are traditionally made or received and set aside (that is, created) in the course of artistic, scientific, and governmental activities that are expected to be delivered on-line? For what purposes? What types of electronic documents are currently being created to accomplish those same activities? Have the purposes for which these documents are created changed?*

- Original footage created in the production of a documentary television program
    - Videotape or film related to a specific production inside or outside of the studio (sound is generally not included because it is usually recorded separately)
- Original footage logs
    - Lists of every shot and includes information on:
        - Subject of the film
        - Who is in the footage
        - Location
        - Environment
        - Context
        - Record time making up the tape
- These documents are created in the process of producing documentary television programs
    - Footage is shot as potential content in a documentary program
    - The log is an extensive list of information pertaining to the footage shot
- The creator currently works in a mixed analogue and digital environment. The creator is converting to a digital asset management system (DAM) (although it must still maintain all

of its analogue film, tape and audio content)
- The types of electronic documents created are moving images (footage) and data in a database (logs)
- The purpose for which these documents are created has not changed in switching from an analogue to digital management system

1.2. *What are the nature and the characteristics of the traditional process of document creation in each activity? Have they been altered by the use of digital technology and, if yes, how?*

- Original film footage is shot on both analogue and digital tapes and film; it appears that this will not necessarily change (although one might surmise that the use of digital tape and film will only increase over time)
- There are in-house standards for organizing physical tapes and digital assets
- The analogue FileMaker catalogue records contains information organized according to a particular hierarchy:
    - Series, season #, program, program #
- Footage tapes are created and stored by the production unit during production and then sends the original footage to the archives
- The original footage logs might not be created until months after the production has finished
- The change here is to a management system for the entities created by WGBH which is a digital system
    - Once the DAM system is fully operational:
        - Original footage will be wrapped in a QuickTime file wrapper and codec relevant to the source
        - The original footage logs will continue to be created in a FileMaker Pro 7 database, but the database itself will be ingested as a digital object with a text representation viewable in the DAM system
        - Production teams will maintain an organization repository for their original footage and logs—this can be used for reference or editing purposes
        - Once production is complete, the production team sends the original footage and logs to the archives
- Major change seems to be that with the DAM system, production teams will create their own footage logs during the actual production process
- Also the DAM system allows for the added capability of creating storyboards using film clips and to re-purpose the footage for other media types

1.3*. What are the formal elements and attributes of the documents generated by these processes in both a traditional and a digital environment? What is the function of each element and the significance of each attribute? Specifically, what is the manifestation of authorship in the records of each activity and its implications for the exercise of intellectual property rights and the attribution of responsibilities?*

- Original footage is shot on both analogue and digital tape and film
    - MiniDV, BetaSP, Digital Beta, DVCPro, DVCam, HDCam, VHS, 16mm film,

Super 16mm film
    - Footage is maintained at the tape level and is recalled by tape
- Original footage logs are created within a FileMaker Pro 7 database
    - Logs can be recalled by tape or by individual shot
- In the DAM system: (also see Q. 1.2 above)
    - All files will be digital files (original footage wrapped in QuickTime file)
    - FileMaker Pro 7 database ingested into the DAM system
    - In this system, footage can be recalled at the tape, clip and shot level
- Professional cameraperson working on each individual production create the film footage
- Production Assistants assigned to each individual production complete the footage log database

***1.4**. Does the definition of a record adopted by InterPARES 1 apply to all or part of the documents generated by these processes? If yes, given the different manifestations of the record's nature in such documents, how do we recognize and demonstrate the necessary components that the definition identifies? If not, is it possible to change the definition maintaining theoretical consistency in the identification of documents as records across the spectrum of human activities? In other words, should we be looking at other factors that make of a document a record than those that diplomatics and archival science have considered so far?*

- The original footage and footage logs maybe identified as records according to the InterPARES glossary:
    - Both the footage and logs are affixed to a stable medium and possess fixed content and form
    - Both entities are created during the production of documentary television programs, in accordance with the creator's mandate
    - Both entities are not only linked to each other, but also to the corresponding final production; hence, an archival bond exists
    - The record creation in this case does involve the necessary three persons
        - Author: WGBH—has the physical and juridical authority to issue the record and it is in their name that the record has been created (the archives determines which entities it accepts and thus may also be considered as an author since only the entities it selects and maintains are considered as WGBH records)
        - Addressee: WGBH—it uses the material to produce a full length documentary program
        - Writer: Professional cameraperson in the production unit; production assistants complete the footage logs
        - Creator: WGBH—records exist in its fonds
        - Originator: WGBH—presumably owns the database platform
    - Records do possess an identifiable context in which the action in which the record participates takes place:
        - Juridical-administrative: conditions particular to the WGBH work environment

- Provenancial: WGBH – its mandate, structure, functions
- Procedural: footage and footage logs result from WGBH's function to produce television programming; there is a specific production process
- Documentary: footage and footage logs are part of the WGBH fonds
- Technological: footage is shot on a variety of formats; the footage logs are contained within a FileMaker Pro 7 database

***1.5**. As government and businesses deliver services electronically and enter into transactions based on more dynamic Web-based presentations and exchanges of information, are they neglecting to capture adequate documentary evidence of the occurrence of these transactions?*

- Original footage that is wrapped in a QuickTime file wrapper has associated metadata added
    - The metadata entries are in a database (in-house descriptive standards and Dublin Core and Public Broadcasting Core)
- A unique identifier links the catalogue record in the footage log with the original footage
- Both the original footage and the original footage logs follow naming conventions that allow them to be linked together and to the final program production
- Within the DAM system, original footage may be connected to other supporting documentation, stock footage, releases, audio footage etc.

***1.6**. Is the move to more dynamic and open-ended exchanges of information blurring the responsibilities and altering the legal liabilities of the participants in electronic transactions?*

- Does not appear so in this case
- Within the DAM system a login procedure exists so that archives personnel can track use of the digital library and secure certain assets
- Files are read-only
- Only archives personnel can modify metadata information linked to the footage and any changes are tracked by system administrators
- The system can also determine if any changes have been made to digital files

***1.7**. How do record creators traditionally determine the retention of their records and implement this determination in the context of each activity? How do record retention decisions and practices differ for individual and institutional creators? How has the use of digital technology affected their decisions and practices?*

- The creator gives the original footage and footage logs to the archives which is a separate part of the creator's corporate structure
- The DAM system has separate implementations for current production work and for the archives
- The final report does not give information on specific retention times, but does indicate that the creator maintains footage dating back to the 1950s

Perhaps it can be assumed that the creator retains all of its production work related to the television programs it produces.

Domain 3[2]

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

Diplomatic analysis identifies both original footage and accompanying original footage logs as records.

3.1a. If there are no records, should there be records? If not, why not?

Not applicable.

3.1b. 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.

3.1c. What characteristics of records (as defined by an archivist) are missing yet necessary to preserve these entities?

Not applicable.

3.2. Are the entities reliable? If not, why not?

Based on the limited information available in the final report, the entities may be considered reliable. Their creation is restricted to specially-trained persons, and the Archives requires that specific entities are created by each production unit.

3.3. Are the entities accurate? If not, why not?

The entities maintained by the Archives can be considered accurate, as footage is compared against the data found in the accompanying footage log prior to their transfer from the production unit.

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

The creator believes that the authenticity of the original footage logs is guaranteed, as they are available to users only as read-only files. The original footage tapes, however, cannot be assured for authenticity over time because they are circulated, and no protections are in place to prevent their tampering or corruption. Within the digital assets management (DAM) system, logs will remain read-only, and footage will be accessible as either a high or low-resolution clone.

[2] The following section is based on an unvalidated analysis of the Domain 3 research questions conducted by InterPARES 2 Graduate Research Assistant, Carolyn Petrie, in June 2006.

Benchmark Requirements Supporting the Production of Authentic Copies of Electronic Records (these apply to the creator):[3]

A.1. Capture of identity and integrity metadata

The identity of the entities is assured by the presence of the following attributes:

- *Names of persons concurring in the formation of the record:*
  - *Author:* WGBH Boston
  - *Writer:* Professional camera persons shoot the original footage, and trained production assistants complete the original footage logs
  - *Originator:* WGBH Boston (presumed)
  - *Addressee:* WGBH Boston
- *Name of the action or matter:* the entities are created as part of WGBH's production of documentary television programs.
- *Date(s) of creation and transmission:*
  - *Date of creation:* captured in the original footage log
  - *Archival date:* presumably captured when entities are sent to the WGBH Archives
- *Expression of an archival bond:* all entities are linked to each other by a unique identifier prescribed by in-house naming standards, and all or a portion of them are linked to a production as source material. The indication of attachments is not noted.
- *Indication of attachments:* not noted.

The integrity of the entities is assured by the presence of the following attributes:

- *Name of handling office:* the name of production unit that created the entities is presumably indicated.
- *Name of Office of Primary Responsibility:* the WGBH Archives are responsible for the creator's authoritative record once production is complete.
- *Indication of types of annotations added to the record:* not noted in the final report.
- *Indication of technological modification:* when the DAM system is implemented, those entities entered into the DAM will have evidence of all modifications and versioning noted.

A.2. Enforcement of access privileges

There are no access privileges noted. Internal users are able to search for entities via standardized entry fields in the FileMaker 7 database in which entities are stored. With the implementation of the DAM system, users will require a login code to access the digital library, so that the Archives can track and restrict access to certain entities. No job

[3] See: Authenticity Task Force (2002), "Appendix 2: Requirements for Assessing and Maintaining the Authenticity of Electronic Records," in *The Long-term Preservation of Authentic Electronic Records: Findings of the InterPARES Project*, Luciana Duranti, ed. (San Miniato, Italy: Archilab, 2005), 204–219. Online reprint available at http://www.interpares.org/book/interpares_book_k_app02.pdf.

competencies are linked to access, with the exception of the ability to perform searches. External users are granted access by visiting the Archives.

A.3. Protection against loss and corruption

Modification of descriptive metadata can only be undertaken by or with approval from the Archives; the DAM system's administrators will track these modifications as well. Changes to digital files will also be monitored in the DAM, and the system will be capable of identifying any changes made.

A.4. Protection against media and technology obsolescence

Obsolete and/or disintegrating entities, both analogue and digital, are currently being copied to new digital formats. While specific procedures are not noted, the Archives is responsible for maintaining the entities through technological change.

A.5. Established documentary forms

Original footage logs are comprised of structured data forms, and naming conventions linking original footage and footage logs to each other, and to the final production in which they participate, are required.

A.6. Ability to authenticate records

All records maintained by the WGBH Archives are considered authentic records of the creator.

A.7. Procedures in place to identify the authoritative record

No specific procedures are noted in the final report, except that the Archives must approve an entity's entry to the Archives.

A.8. Procedures in place to properly document removal and transfer of records from the creator's originating system

The original footage logs assure that the information required for the entities' continued identity, demonstration of integrity, and context are carried forward when they are transferred to the Archives. The Archives also compares original footage against the data in the original footage logs prior to the transfer or circulation of the entities.

Baseline Requirements Supporting the Production of Authentic Copies of Electronic Records (these apply to the preserver):[4]

The final report does not present adequate information to fully assess the entities' satisfaction of the Baseline Requirements.

B.1. Controls over Records Transfer, Maintenance, and Reproduction

No such procedures or systems are noted in the final report. Note, however, that while original footage logs are available to users in read-only form, original footage is circulated to users, and thus do not possess an unbroken chain of custody.

B.2. Documentation of Reproduction Process and its Effects

The procedures associated with entity reproduction are not described.

B.3. Archival Description

The final report does not note how changes made to entities are noted. Currently, entities are described through both in-house standards and Library of Congress Subject Headings. The DAM system will also incorporate Dublin Core and Public Broadcasting Core metadata.

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

Entities are to be preserved to provide evidence of WGBH's creation of documentary television programs. Specifically, footage is preserved to maintain the original material used in productions, and footage logs are preserved to provide detailed descriptive information about accompanying footage.

3.6. Has the feasibility of preservation been explored?

Preservation is currently the responsibility of the WGBH Archives. They now copy obsolete or deteriorating digital and analogue tapes to new digital formats, based on technological obsolescence, re-use potential and user demand. Within the DAM system, digital files will likely be converted, based on file integrity, and hardware and software obsolescence.

3.6a. If yes, what elements and components need to be preserved?

Both original footage and accompanying logs must be preserved, along with the attached metadata.

[4] Ibid.

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

As the amount of material to be preserved is not known, the estimation of costs and technical difficulty is not possible.

3.7a. Which alternative preservation strategies[5] might be applied? What are their strengths and weaknesses, including costs and degree of technical difficulty?

The following maintenance strategies are not noted in the final report:

- A5. Adherence to appropriate conditions for storage media
- A6. Redundancy and geographic location
- A7. System security
- A8. Disaster planning

Alternative preservation strategies that may be applied include:

- B1.4. Conversion
  WGBH could standardize conversion procedures to include all of its entities.

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

The preserver should be aware of the functionality of the DAM system, and the built-in features affecting record content, modification, and accessibility. The preserver also needs to be aware of the in-house naming standards, and general business procedures.

3.8a. If required information is missing, where should it come from and how should it be made manifest?

Not applicable. The above information should be readily available from WGBH employees.

3.9. Are there any policies in place that affect preservation?

No such policies are noted in the final report.

3.9a. Are there any policies in place that present obstacles to preservation?

Not applicable.

3.9b. Are there any policies that would need to be put in place to facilitate appraisal and preservation?

Appraisal and preservation would be aided by standardized preservation strategies, enforced access privileges, and procedures to authenticate entities as the creator's official records.

[5] For a list of the many existing maintenance and preservation strategies, see Appendix C in the *Preserver Guidelines*. Available at http://www.interpares.org/ip2/display_file.cfm?doc=ip2(pub)preserver_guidelines_booklet.pdf.

Appendix 1: Workflow Diagram

See http://www.interpares.org/ip2/display_file.cfm?doc=ip2_cs09-4_appendix1.pdf.