



# MoMA

**National Digital Stewardship Residency | New York**

**Final Report**

**Peggy Griesinger**

**Host: Museum of Modern Art**

***Adapting Preservation Standards to Meet the Information Needs of Time-based  
Media Conservation***

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**NDSR-NY Final Report**

## **Description of the Project**

**Project Title:** Adapting Preservation Standards to Meet the Information Needs of Time-based Media Conservation

**Overview:** This project addressed the need for a standardized, preservable format with which media conservators could record metadata related to the digitization and migration, or process, history of a time-based media artwork. This primarily includes technical specifics of tools used in the process history of an artwork. The audience for this metadata is media conservators and people involved in the digitization of time-based media.

The project was designed to be completed in three phases. The first phase required that I familiarize myself with media conservation and the Museum of Modern Art's time-based media digital repository, the Digital Repository for Museum Collections (DRMC). In this phase, I also researched existing metadata standards to see if one could fulfill our need. In the second phase, I used the information gleaned from the orientation phase to construct an XML metadata implementation for recording process history metadata, drawing on the standards PBCore, PREMIS, reVTMD, and METS. In the third phase, I created a documentation package detailing the potential use cases for process history metadata in the DRMC and wireframes to demonstrate how this might be realized. This was discussed with our repository vendor, Artefactual Systems, until a tentative quote could be generated to give us an idea of financial needs to realize the project.

The intended results were to create a system which would make process history metadata standardized, accessible, and well-preserved. None of these goals has been reached at this time because we have not yet begun development on the process history metadata functionality aspects of the DRMC due to budget constraints. However, the ground has been set for all of these results to be realized. The metadata will be standardized by being recorded in adherence to internationally recognized metadata standards PREMIS, PBCore, and METS. Although it will also use a lesser known and poorly supported standard, reVTMD, I believe the robustness of the first three standards will make up for any fragility in reVTMD. The metadata will be accessible because it will be viewable, searchable, and browsable in the DRMC. The metadata will be well-preserved by being recorded in databases attached to the DRMC, although not with the ideal level of security of being stored alongside the artworks' Archival Information Packages (AIPs), due to constraints on the storage media used at MoMA.

### **Description of Project Partners:**

*Kate Lewis:* Kate was one my mentors for this project, in her role as Media Conservator at MoMA. Her role was to guide and assist me in the project, specifically with regards to conservation specific issues. Some of her contributions include working with me to create

practice process history records in XML from which I was able to model my final XML implementation. She also assisted in constructing appropriate vocabularies and terminology for describing media conservation processes. Kate's primary role was as a subject expert in the domain of media conservation.

*Ben Fino-Radin:* Ben was one of my mentors for this project, in his role as Digital Repository Manager at MoMA. His role was to assist me with working with MoMA's digital repository in order to implement process history metadata in the existing repository structure. A great deal of our work together was in the creation of use case documentation and wireframe mockups to give to our vendor, Artefactual Systems, in anticipation of developing process history metadata functionality in our repository. Ben's primary role in my project was to insure that the metadata implementation I created would work within the existing digital repository infrastructure at MoMA.

*Peter Oleksik:* Peter, in his role as Assistant Media Conservator at MoMA, was extremely helpful as a source for understanding the heavily technical aspects of media conservation that I needed to understand in order to properly design metadata to document it.

*MoMA Conservation Staff:* MoMA conservation staff from other departments, especially Paintings Conservation and Objects Conservation, had the primary role of helping to acquaint me with the role of conservation in museums and many of the broad concepts of conservation. As my workspace was primarily in the paintings and objects conservation lab, they were a great resource for broader concepts relating to conservation and the museum world.

*Artefactual Systems:* Artefactual is the vendor that developed MoMA's digital repository system. Their role in my project was to consult on possibilities for introducing process history metadata functionality into the existing repository system. Their contributions included website mockups and wireframes as well as detailed estimates of the number of hours necessary to develop various functionalities (i.e., searching, browsing, reporting, etc.) relating to process history metadata. Budget allowing, they will create this functionality so that process history metadata can be incorporated into MoMA's digital repository. However, if this occurs it will be after the end of my residency, but it will be based on the deliverables received from Artefactual and work I have done that I have documented for future use.

## **Project Execution**

### **Project Activities:**

- A primary objective of this project was to survey existing metadata standards for process history metadata. This was accomplished during the first phase of the project. During this phase, I researched existing standards and how they were being applied, and I also looked at similar projects and examined how their metadata was being implemented. The results of this activity was a report in which I summarized the different standards I had examined and recommended how useful they might be for the project.
- Another activity was engaging in the documentation, capture, and ingest of collection materials. This was primarily achieved in the early phases of the project through shadowing of the media conservators. I shadowed them throughout this process, and

also interviewed them about the process to inform how to implement metadata to record it.

- Another activity was determining the gaps between digital preservation standards and media conservation information needs. This was achieved by combining the work of the previous two activities. By using my research into existing standards as well as my understanding of media conservation's process history documentation practices, I was able to determine gaps between the two practices. Although I never created formal documentation of this, it greatly informed how I designed the XML templates.
- Another activity was to provide metadata and controlled vocabulary implementation recommendations. This was achieved through the form of XML templates, best practice guidelines, and simple, non-hierarchical controlled vocabularies made through consultation with the media conservators and, in some cases, drawn from existing vocabularies.
- One activity that was not clearly laid out in the project proposal, but which became a large part of my project, was working with our vendor to develop software to implement this metadata in MoMA's existing digital repository. This took the form of extensive meetings with the vendor to discuss our needs, as well as formal use case documentation to explicitly state our needs.
- One activity laid out in the project proposal that I did not do was to research how project findings could be applied to other areas of the Department of Conservation at MoMA. Although I did this informally through discussion of my project with conservators in paintings and sculpture, I never created formal documentation for this objective. One reason for this was because of the marked differences between media conservation and almost all other areas of more "traditional" art conservation. The technical needs of media conservation were incredibly specific to them. Furthermore, there are efforts being developed for programs like The Museum System, the catalogue used by MoMA, to integrate conservation documentation into existing systems. Because of this ongoing work by vendors heavily involved with the museum world, there was a hope that these implementations would solve the process history metadata problem for these areas of conservation.

**Project Alterations:** The project mostly stayed the course as outlined in the original project proposal. However, the unexpectedly high cost of developing process history functionality in the digital repository meant that I would not be around to shepherd the development of this functionality, as it would need to happen in a later fiscal year. This meant that much of the last few months of the project were spent creating detailed documentation to guide whoever takes the lead on this project after I am gone, and talking with my colleagues in media conservation to make sure they understood the documentation I have produced.

**Significant Accomplishments:**

- I organized and led a metadata experts meeting in December 2014 in which I presented my proposed metadata implementation to a group of metadata experts and solicited their feedback.

- The final selection of an XML template from the many standards and implementation possibilities I had examined.
- Creating and delivering use cases documentation to vendor for the creation of process history metadata functionality in existing MoMA digital repository
- Writing best practice guidelines and controlled vocabularies to ensure that, in the future, the metadata I designed will be implemented in a standardized format that is easy for media conservators to understand

**Outreach and Dissemination:** I attended a number of conferences, workshops, and meetings to share information about my project.

- Metadata Experts Meeting at the Museum of Modern Art, December 4, 2014
  - Presentation: “Process History Metadata at the Museum of Modern Art”
- METRO Annual Conference 2015
  - Presentation: “NDSR-NY, Year One: Thoughts from the Next Generation of Digital Stewards”, with NDSR-NY cohort, January 15, 2015
- ALA Midwinter Chicago 2015
  - Presentation: “Choosing and Implementing Metadata Standards for Specialized Material Types” at the Preservation Administrators Interest Group Meeting, January 31, 2015
- Code4Lib Portland 2015
  - Preconference: PBCore RDF Ontology Hackathon, February 7-8, 2015
- METRO/ARLIS-NY: A Panel Discussion and Reception with National Digital Stewardship Residents, March 30, 2015
  - Presentation: “Process History Metadata at the Museum of Modern Art”
- NDSR-NY Resident Blog, October 2014-May 2015
  - Posts by me: <http://ndsr.nycdigital.org/tag/peggy-griesinger/>
- Inside/Out: A MoMA and MoMA PS1 Blog
  - Post by me: [http://www.moma.org/explore/inside\\_out/2015/05/20/preserving-the-technical-history-of-media-works](http://www.moma.org/explore/inside_out/2015/05/20/preserving-the-technical-history-of-media-works)

## Analysis and Evaluation

**Project Results:** The intended outcome for this project was for the resident to design a metadata implementation that could be used by MoMA media conservators to record process history metadata in a standardized manner. This goal was achieved through the creation of an XML metadata template, best practice guidelines, controlled vocabularies, and the use case documentation that will guide the integration of process history metadata and management into MoMA’s existing digital repository. This project also impacted documentation practices at the Museum of Modern Art, specifically in the media division of the department of conservation. In the wider department of conservation, it drew more attention to an area of conservation that conservators are already aware needs attention and development. The project had the outcome

of laying a clear groundwork within media conservation for improved and sustainable documentation practices.

Significant project accomplishments include deciding on a metadata implementation and finalizing the use case documentation for development of process history functionality in the digital repository. The metadata implementation provided a clear and concrete answer to the question of the best structure and format in which to store process history metadata. It made use of established standards and met the information needs of media conservation. It was also able to be integrated into existing systems at the museum. The use case documentation was the culmination of examining what exactly media conservation wanted to gain with the addition of standardized process history metadata to the digital repository. This required that we contemplate this question to the point of making step-by-step guides to the different types of functionality we envisioned being possible. For example, one use case had the goal of allowing users to run reports on the process history metadata. For this use case, we detailed exactly where and when a user would click to generate such a report. We did such detailed guides for each use case. This documentation was immensely valuable in communicating our needs to our vendor, and it also documents the logic behind why certain decisions were made. It will serve as a guide for future development.

The greatest obstacle to the project was the unexpectedly high cost of software development. What had been budgeted for software development for process history metadata functionality was barely a fraction of the actual cost. This meant that software development could not start during my residency and would have to be delayed until the next fiscal year. This required that I ensure that my documentation in all cases was extremely clear and comprehensive.

Another obstacle I have faced with this project is translating the standards, guidelines, and controlled vocabularies that I research into something that is compatible with MoMA's existing infrastructure. Many ideas seem wonderful on paper, but when I attempt to apply them to MoMA they do not fit easily. For example, I need to consider the fact that the media conservators who will be creating this metadata are extremely busy and their biggest concern is digitizing these materials and creating copies for museum exhibition use. They will not have the time to deal with a complex metadata entry system, so I must design the system to be as seamlessly integrated into their existing workflow as possible. My methods for dealing with this issue have been to work collaboratively with the media conservators to attempt to understand their process and find the simplest way to express this metadata while still maintaining the level of detail they need for process history.

One lesson I have learned is that, for a project this short, the project must be very clearly defined. As mentioned above, scope creep has been a recurring problem for me. The clearly defined project timeline in MoMA's project proposal has been key in allowing me to stay on task and not stray from the stated goals. Also, institutional buy-in is key when you only have nine months. Residents can get a lot more done if the institution is interested and invested in what they're creating and they do not have to spend excessive time justifying what they are doing.

Projects that require convincing an institution to make a significant investment of time and funding are better suited to projects with more breathing room.

Another major lesson gained from this project is the importance of documenting absolutely everything, even the small things. Even though I was consciously trying to ensure I was documenting things, there were still many times when I wished I had written down some passing comment in a meeting, or made a note of something I had thought worth pursuing further. This is something that takes a lot of active thought and constant reminders; it's something I will strive to continue to improve on in the future.

**Future Plans:** Due to budget constraints, we were not able to begin the production phase for introducing process history metadata functionality into MoMA's digital repository. However, it is likely the funding for such a project will be available in the next fiscal year. In this case, all of the documentation for initiating the development of process history functionality in the repository is ready to go. Whenever the development starts, all of the necessary documentation and groundwork will already be available, allowing the project to get off the ground running. Beyond this formal development of functionality, the media conservators at MoMA will continue to record process history metadata for artworks in the collection. Also, there were a number of aspects of the project that were not pursued due to lack of time and/or funding. These include things like recording process history metadata as it specifically relates to physical objects, rather than digital objects from which technical metadata can be automatically extracted. Documentation was recorded for this work, and may be pursued in future phases of development of digital repository functionality.

**Products:**

- Best practices guidelines
- Use case documentation
- Bibliography
- Report on standards
- XML records