Smithsonian Institution Time-Based and Digital Art Working Group: Interview Project

**Interview with Mona Jimenez**

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*Please describe your experience with time-based media artwork.*

I learned how to use video equipment when I was in art school—the Minneapolis College of Art and Design—in 1974. I continued to use video to make my own work, as well as for other purposes, such as making money to survive. When I was working at a place called the Visual Studies Workshop in Rochester New York in the late 1980s, we were trying to play back some videotapes and having some issues. That was right at about the time that the media art field was starting to think about preservation issues. Media art practitioners had always been aware that video was an ephemeral medium, but the community started to get organized and some resources started to appear in the late 1980s and early 1990s. In 1991 the first symposium on this topic was organized  by Media Alliance, a New York State organization, and the New York State Council on the Arts and was held at MoMA [the Museum of Modern Art]. That symposium led to a monograph by Deirdre Boyle called *Video Preservation: Securing the Future of the Past*.

I came to the Media Alliance as its Director in 1993, and started to become more deeply involved in media preservation. We worked with the Bay Area Video Coalition, which was developing a lab for transfers and engaging with art conservators to try to interest them in the concept of media art preservation.

So that's where I started.  I learned on the ground, doing advocacy and information-gathering work, giving feedback from the media arts to various initiatives in the media preservation field, and organizing conferences and symposia.

*Are there aspects of media art preservation that lend themselves to standards, or does it all come down to work-by-work specifics?*

I definitely think there are categories of works and even components of more complex works for which we know what the processes should be, although there are other works that do have to be dealt with individually.  It's not that you don't need to [individually]

evaluate every time-based media work, but the actions you take will be the same in some cases.

For example, for single-channel works of video, film, audio, or digital media, there are well-established standards for how you would preserve those works, although you still might need to make some decisions. For example, at this point there are two primary recommended target formats for video files – uncompressed 10 bit YUV and JPEG 2000 – so people might have different opinions about what they want to do there. But in general, single-channel works are not that complex, and we know what to do with them and have lots of resources in that area.

Works with more components have other issues that need to be considered. That's a more complex situation, and it's harder to set general guidelines. For instance, the planning group for Tech Focus III is now trying to organize a program on computer-based artworks, and those works can be so diverse. In time, there probably will be certain practices that will be recommended for certain types of computer-based works, but we're not there yet.

The process of developing standards, guidelines, and best practices is not something that gets done and then forever remains the law of the land. It's continually revised as technologies change, as costs of storage come down, and as all sort of factors evolve. We never get to a place where everything is set.

There are a lot of resources out there that guide people in the care of time-based works. For instance, the project Matters in Media Art, the Canadian initiative for digital art preservation DOCAM [Documentation and Conservation of Media Arts Heritage], the Association of Moving Image Archivists, the conservation organization AIC [the American Institute for the Conservation of Artistic and Historic Works]. Some really good materials have come out of the Tech Focus symposia, one on video and another on film and slide-based works. There are wikis, such as the Artifact Atlas. There are preservation service groups like the Bay Area Video Coalition. There are more guidelines out there than standards per se; but we do have technical standards for things like target video formats.

Standards, guidelines, and best practices are not necessarily the same. … Standards are set by standard-setting bodies like the ISO [the International Organization for Standardization] and SMPTE [the Society of Motion Picture and Television Engineers]—for example, for storage of video; there's not much dispute about how video or film should be stored. That standard was set through a process in the ISO. I'd say best practices include guidelines, and those are more [informal points of agreement within a community of practice]. There is no body that formally approves best practices; certain actions just come to be seen as effective through practice.

… I don't know if a standard like the storage of film or media is ever going to change; that really wouldn't make much sense. But target file formats might change; something better might come along. Those formats would be described by standard-setting bodies. So for example, JPEG 2000 and 10-bit YUV are both standards, and anybody who manufactures a software tool to create these files hopefully is conforming to that standard. But what you choose to transfer your video to, whether JPEG 2000 or uncompressed 10-bit YUV file or to DV, is more of a best-practice decision.

*If you have something simple like a single-channel video work, should the technical aspects of that be considered any differently because it's an artwork?*

I would never recommend any kind of automated process for digitization of an analogue art work. Supervised transfer for art works makes a lot of sense, because their signals can exceed what would be considered the "legal limits" for video. You risk loss of information that represents a video or audio aspect of the work if you are not aware of what is happening in the transfer process, and there are decisions that can be made at that moment of transfer. Supervised transfer might be a considered a best practice, although I don't know that it's written down anywhere. *[Laughs]*

For art works, conservation practice calls for them to be handled and managed one-by-one. So I'm not suggesting, for example, that there's no need to look at a particular single-channel work and to make sure you are getting the best transfer. I'm just saying that for the target formats, there is not a great deal of discussion. Nor is there a lot of discussion about the need for works to be transferred from analogue to digital; we certainly would not have a best practice that says, "let's take all the video and transfer it to film." *[Laughs]* We need to digitize; that's a fact of life at this point.

If you have a work that has, say, a videotape as well as other components, you are still dealing with that piece of media – the videotape – in the same way though it is in the context of that larger work. But it's hard to generalize about all time-based media.

… I think with computer-based artworks (which is a kind of funny term anyway, since you can make video on computers), there are going to be categories of works for which best practices develop. For example, MoMA has been doing work to come up with recommendations for works that use custom code. If a component within a larger work (or the work itself) uses custom code, then depending on the nature of that code, there are a number of options for moving it forward. I do think some best practices will come about for that particular medium, if you want to call it that.

I do think there are best practices, and not just in the United States, [that have arisen] through TechArcheology, Tech Focus, DOCAM, and through Inside Installations and other projects in Europe for approaching time-based media works, particularly installation works.  So I think [best practices] are there; it's just that there's not a big old handbook for all types of best practices for all types of time-based media artworks.

*The Working Group is also starting to look at standards for Trusted Digital Repositories, and what might be specifically needed there for art works.*

At this point, many museums are storing individual files for single-channel works, and anything that is more complex (like a computer-generated work) is disc-imaged and put onto some kind of storage, so at least you have a backup of it.  But what's in that disc image, and what the dependencies are within that work, are typically still to be determined.

On one level, it makes sense to look at TDR [Trusted Digital Repository] standards and also at government agencies that are doing good work, like the National Archives, which has a lot of guidelines, or the Library of Congress and the Federal Agencies Digitization Guidelines Initiative [FADGI] that are working on some aspects of audio-visual preservation.  It makes sense to strive for the principles of a TDR. But they are [general principles], and people have to implement them in specific ways [in specific situations]. Again, there is no handbook that says, "you must do it this way; you must ingest this kind of work, and once you get it in there, you must do this with it." These things are still being worked out.

I don't think the art community needs to feel like it's behind the eight ball [in terms of repository development], but the community needs to understand that it doesn't need to reinvent the wheel and that it is part of an evolving process for digital storage. Whatever happens at MoMA will be instructive not only to people managing time-based media art, but also to people who are managing other kinds of digital assets. The knowledge goes both ways. The principles of digital repositories—which have to do with authenticity and practical matters like security and monitoring—should be applied in museums. But there needs to be flexibility in how they are applied; the form of it does not have to be exactly the same for museum art collections as for libraries and archives.

*Bearing in mind that the technical treatment of digital assets in a TDR will be similar whether they are art files or something else, could you talk about the documentation standards for putting those files back together to create an authentic experience?*

Whether you are talking about the analogue world or the digital world, there are so many different types of works and so many ways to put works together to get a certain look and

feel based on the interaction between component parts. So it is very hard to generalize about that.

... There are a lot of different ways that a particular artwork could be at risk for loss. Obviously, loss of information about the work is one piece of that. So if you have a work and you don't understand the relationship between the various components—whether that is in an analogue environment or a digital environment—then you don't have an understanding of the complete work. And that's a problem.

In my experience—and I'm not a conservator working in a museum, so you have to take this with a grain of salt—the documentation that is kept for time-based media art works in museums is not necessarily in database form, although maybe database-based documentation is more common for a single-channel work. In other cultural memory organizations, I think you have more use of databases or other [systematic] content management systems.

There are systems like TMS, so I'm not saying we don't have content-management systems for art works; but it's pretty well recognized that TMS, at least off-the-shelf, does not have the kind of granularity that is needed to capture all the information needed to care for time-based media works, for example to account for all the variations in the versions of a work or to adequately describe component parts. There are other forms of documentation, and those tend to be things like Word documents and spreadsheets, rather than databases. These documents are typically attached to the collections management system record for an artwork. (Of course the way documentation is done might be standardized within an organization for certain kinds of data capture—so for example, the same form of data might be captured for all of the installation works.)

So it's not like an archive, where you have a database that is structured so you can search for very granular pieces of information and manipulate the data in different ways: for example, to see patterns of need across a collection. That's different from a collections management system like TMS where you although have a single record about a work, some of the information is contained within fields you can search and manipulate, and some of it is within attachments.

*Do you think the art world should try to create those kinds of databases, or do these works resist that kind of treatment?*

Creating repositories in which metadata is very much parsed out into fields is a challenge. It's a culture clash, between the more narrative or descriptive information that might be in conventional museum documentation for an artwork, versus the more parsed, granular

fields that associated with the database-driven information you would have in a digital repository.

You can have both. It's just that museums and conservators are not used to thinking about using a different type of collections management system for file-based media art than the one that manages all museum objects, or about what kinds of information get stored in a repository metadata scheme versus what kinds get stored in the standard collections management system, and how you map one to the other. I think that's the big challenge. A repository can be flexible, but there still has to be a lot of planning to make it work—to decide how the information flows between different systems that different people are using for different purposes.

So that's one area of potential loss [i.e., loss of information about how to reconstruct an authentic work]. If you are looking at a work that you disc-imaged, there is a whole other set of relationships of files to files, and that's a different problem. Because museums are beginning to collect file-based works, they are beginning to create storage and to put disc images or individual files in them. So they do have to have some form of digital repository and some form of backup, but it doesn't necessarily have all the components of the digital library model.

*Earlier, you referred to guidelines and best practices that emerge informally within communities of practice. Could you talk a little more about the process through which these are likely to develop within the time-based media art community?*

In the United States, the original impetus came from media artists who sought out conservators to work on the issues of time-based media works, although the these work fall under contemporary art conservation, so many of the larger issues were already being addressed. Conservators have been willing to acknowledge the technical expertise and other forms of external expertise that are relevant to preserving these works. Where there has been a willingness to cross over between archival/library practice, conservation practice, and industrial/technical practice, best practices have emerged from conversations across those communities.

*How do you get those communities talking to one another? Do you see any systematic channels for this kind of interchange developing?*

That's a good question. I think it has mainly been individuals who have crossed over and brought information back to their discipline. It has not been a formal process. There's a lot of interchange and information-sharing going on, but no one is in a position to say "this is now the standard for all time-based media work." There are certainly guidelines that have

come out. For example, in *Inside Installations* there was an article about risk assessment written by Pip Laurenson that I consider very valuable and use in teaching, and so you could think of *Inside Installations* as providing guidelines.

It's been more through conferences and symposia and projects involving case studies that you get conversations started about certain kinds of strategies. ... Inside Installations, TechArchaeology and DOCAM, for example, generated case studies that seem to share some principles. These projects contribute literature that proposes certain kinds of practices. For example, the project Matters in Media Art has generated a lot of sample [templates], which are based on general principles that are widely accepted.

With conservators, of course, all of the data collection will be within the context of the guiding principles for conservation with respect to investigation of the work and its context. There are also certain outside factors that influence decision-making, like the fact that playback decks are disappearing, so there is an urgency to take action. Once you start taking action, other people learn from the results.

I have been working on media preservation for a long time. There are certain things we don't need to spend any more time talking about—there are already best practices there. The need for digitization. Storage. Basic forms of metadata capture. In thinking about guidelines for the Smithsonian, I would encourage you to only develop guidelines for things where you actually need something new! *[Laugh]* I know you need consensus within the Smithsonian, but [you can waste time while] media are rotting away even as we speak.

*Getting back to documenting computer-based works, are there particular people or people working in that area we should be aware of?*

I know that Glenn Wharton and Deena Engels from NYU are going to present what they have learned at MoMA from investigating code. That's an example of a museum working together with a computer science department to engage computer scientists in helping conservators to understand particular works that involve custom code. They are going to be presenting at the Electronic Media Interest Group at AIC, and that will be something people can learn from. Maybe their presentation will be published in the *Electronic Media Review*, which is the publication of the Electronic Media Interest Group, and then the practices will become more broadly known. There is a lot of exchange that occurs within the Electronic Media Interest Group.

*What other resources do you find most valuable in your work?*

A lot of the time here in the States we talk about English-language sources, but there was a very good project in Belgium on obsolete media [the Obsolete Equipment project by

PACKED] that was done with an organization in the Netherlands [the Netherlands Institute for Media Art].

It's a small community. There are a number of organizations that have done projects that involved publications or websites or things like that as deliverables. It's just a matter of keeping track of those organizations that are taking leadership roles, and thus being aware of what is going on out there.

I also look to Europe and Australia for resources coming out of libraries and archives on issues we in time-based media art should know about, like emulation. When preparing to teach, I check every year to make sure I know what is happening with respect to testing for emulation. In Europe there are also some major projects, like Presto4U, where museums are engaging more with libraries and archives around these issues. The Tate Museum, for example, is involved in Presto4U.

So I look to the key people and key organizations that have been leaders in the past, and I look to the major digital library and library/archive research organizations.

*Which aspects of your own training have proven most useful in working with time-based media art works?*

I'm trying to think about the last time I was actually "trained." *[Laughs]* I am learning all the time, but actually being trained…? The last time I was in a situation where I felt I was actually being trained was probably Tech Focus II. I really learned a lot about issues of film preservation and decision-making for film works. I did want to go to a digital archiving conference that is coming up in D.C.; there is a session on BitCurator, which is about being able to capture and dissect digital objects.

I can tell you what I'm *looking* for more training on: analyzing complex digital objects and doing digital forensics. I think that would be a very useful thing for the conservation field. While I have emphasized that works do have to be dealt with individually, once you start to have large quantities of digital files coming into your museum—for example, instead of lots of single-channel tape, you have lots of QuickTime files—there are automation tools that can be applied. Analogue and digital are different universes, and the point of transfer from analogue to digital is very critical. Once things are digital, there are tools that can be used to analyze batches of files for error detection and issues like that. That's where the conservation field needs to learn from the IT [information technology] field and digital libraries and others who are developing automated ways to help us manage our materials. So I'm interested in that: how you look across a number of files and find out things about them, or look across the directories where you hold your works and discover common

characteristics? I do think it is possible to automate some things, and that's an area I'd like to learn more about. I'm interested in whether files are going to continue to work; I'm very worried about things just being stuck on a server.

*What did we forget to ask you?*

Something that could be achievable right away would be to have consensus on a preferred acquisition format for, say, a certain type of single-channel digital video or audio piece. I think that's achievable. That's certainly one strand of what conservators and curators are working on now. But I also think we need to understand what current practices are with respect to acquisition of digital video and audio, and those acquisition guidelines are going to vary from institution to institution. For institutions to change their acquisition practices, the people who work there are going to have to understand why that would be a good idea.

One of the things I've learned by working with conservators and others at museums is that museums are most effective in caring for their works when they have some kind of cross-disciplinary committee, like a time-based media art committee, that is working to draw from the relevant knowledge of registrars, technical experts, preparers and installers, etc. This model has been long-standing in museums such as the San Francisco Museum of Modern Art and seems to be gaining ground as a decision-making model.

A museum can start with something simple, like "what should we be collecting with respect to single-channel digital video works." You can achieve something there, and build on it. How should [acquired works] be described? How are they currently being described? How could that descriptive information be useful as metadata in a repository? Start with something simple where it will be relatively easy to build consensus. Toward the goal of building a digital repository, there is a lot of education that can be done in the process about why it would be important to have a standard file format for digital video, in terms of risk. I guess what I want to say is that person-to-person communication is as important as anything else.

… I think you are going to find that the most problematic works are going to be the works that don't quite fit with any of the resources that already exist. But what you don't want to do is spend a lot of time developing resources. …I guess what I'm saying is just get to the work! *[Laughs]* Get to the work, and don't expect that there are resources out that that will answer all your questions or tell you how to address the most complex or at-risk works. Don't spend too much time planning; spend some time actually working on the material.

I said before you could start with something simple, but you could also start by looking at something very complex—something that is going to raise a lot of issues—as a case study

that you can all learn from. Then you can figure out where there are best practices and where there are resources, and where both of those are less defined.