

Open Video Project, Living Room Candidate, and Folkstreams

A look at three very different online film and video collections

Allison King

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Film and video are recent additions to the realm of digitization projects. Mainly, due to the complex nature of video and the variety of formats available, it has taken longer to develop a set of standards or best practices for those who wish to convert analog film and video to digital. Furthermore, storage and the ability for users to play back the material over the Internet was a problem until recently, due to the large size of the digital files. As the cost of storage space has decreased and the speed of connections that many users of the Internet have adopted has increased, access over the Internet is much more plausible. This paper will examine three very different online collections of film and video – the Open Video Project, the Living Room Candidate, and Folkstreams. The first part will look at their digitization practices. The second part will assess how well each collection meets the nine "Collections Principles" as outlined in the National Information Standards Organization's *A Framework of Guidance for Building Good Digital Collections*.

The Open Video Project (<http://www.open-video.org>), also known as the Open Video Digital Library, was started in the late 1990s with a focus on creating an open source repository which could be used as a test bed for digital library interfaces and usability studies (Marchionini & Geisler, 2002). Because the focus of the Open Video Project was not the digitization process but rather general accessibility, collection development, and content variety of an online collection of video, the creators did not devote much time to thinking about the process that would be used to create the digital copies of the videos (G. Geisler, personal communication, February 14, 2008). The digitization for the project was done at the Interaction Design Lab at the University of North Carolina at Chapel Hill from BetaMax, VHS, or MiniDV tapes (G. Geisler, personal communication, February 14, 2008; Marchionini & Geisler, 2002). In order to digitize the Betacam tapes, a special BetaSP Machine had to be purchased (G. Geisler, personal communication, February 14, 2008). Gary Geisler, who digitized most of the initial collection that was received on tape, said that he went with whatever format "looked best," which at the time was Moving Picture Experts Group-1 (MEPG-1). He also noted that there were no standards for video digitization when he was digitizing these videos. Moreover, there was no formal attention paid to the ways that the analog material should be handled. In fact, he remembers being worried about making sure that the original tapes that they were handling wouldn't be returned broken. In thinking about the process, he now believes that it would have

been helpful to have a preservationist or archivist working on the project. (personal communication, February 14, 2008).

The Open Video Project also received a great deal of content that had been digitized at other institutions, including Carnegie Mellon's Infromedia Project, the Howard Hughes Medical Institute, and the Prelinger Archives (Marchionini & Geisler, 2002). These included many different video formats, including MPEG-2, MPEG-4, and QuickTime (.mov) video (Marchionini & Geisler, 2002). The only format they refuse to accept is Windows Media Video (.wmv), because when the project was started Windows Media Player (WMP) was not compatible across all platforms and was known to be generally unstable (G. Geisler, personal communication, February 14, 2008).

The Living Room Candidate (<http://www.livingroomcandidate.org>) was started at the Museum of the Moving Image in 1992 as a physical exhibit of television commercials from presidential elections on loan from the Political Communication Center at the University of Oklahoma. At that time, the Museum made 1-inch tape masters of the ads, from which videodisc derivatives were created for the exhibit. In 2000, the Museum of the Moving Image wanted to create an online version of the exhibition and received permission to digitize the commercials from the University's archive. They created BetaSP versions from the 1-inch masters and then digitized these versions into lossless QuickTime master files. These digital masters were then used to make a .wmv and a RealPlayer (.rm) file for each commercial. These two formats were chosen because of their ability to be distributed as streaming video instead of downloadable video, and since the material for this collection is under copyright, the streaming video was the only option open to the Museum. The lossless QuickTime files had to be deleted as they were too expensive to store at the time.

In 2004, the Museum of the Moving Image's agreement with the University of Oklahoma ran out. As the Museum no longer had access to the contents of the University's archive, it was decided that it would be better to acquire material from a diversity of sources. Also obtained were a wider range of commercials from presidential libraries, the ad producers themselves, and even some material directly from the Internet. (C. Goodman, personal communication, April 17, 2008). The commercials were converted to BetaSP and then digitized to a high-quality QuickTime format (.dv). They decided to continue to use the streaming formats for online viewing, thus they recreated the .wmv, and .rm. files. (C. Goodman, personal communication,

February 15, 2008). Thinking back on it, Carl Goodman said that they should have just gone with QuickTime for online access even though they were nervous about how well streaming would work and the possibility of people being able to download the files. This is what they plan to do for the new iteration of the Living Room Candidate which will debut in late 2008.

(personal communication, February 15, 2008). The .dv files were transferred to external hard drives and also recorded onto archival tape. All of the conversion and digitization services, file storage, and streaming video services were donated to the Museum of the Moving Image by a variety of third-party vendors, including Blacklogic, Globix, and Mirror Image. (C. Goodman, personal communication, February 15, 2008).

Folkstreams (<http://www.folkstreams.net>) was started in 2002 with two major goals in mind: to "build a national preserve of hard-to-find documentary films about American folk or roots cultures" and "to give the films renewed life by digitizing them and making them available on [the] website" (Barnes, 2007). By the time this collection was being created, best practices for film digitization were starting to emerge and Folkstreams tried to follow as many of them as they could. The films in their collection, for which they are still actively seeking new material, come from many different documentary film makers and are in a variety of formats, including 16mm film, 1-inch video, and BetaSP. Some 16mm films are transferred to a new copy after being checked for damage and cleaned as needed. If a video copy already existed, but it had disintegrated, a new "best light" transfer to video is created from a good print or an acceptable intermediary. For films that were originally made on video, the creators were asked to send the best master tape copy in whatever format it exists. To create preservation copies of the films, a master Digital Betacam (Digibeta) copy made is by a third-party vendor, Colorlab, using a Rank-Cintel Flying Spot machine. From the master copy, one of Folkstreams' partners, ibiblio.org, creates a .mov which is then encoded into a MPEG-4 (.mp4) file and a .rm file. Both formats allow for online streaming of video. This is important for the collection because the copyright of the films still belongs to the filmmakers. Furthermore, the .mov file is saved to DVD (or multiple DVDs) and can be spliced back together if needed, which helps decrease the wear on the Digibeta copy. (Barnes, 2007). This workflow was developed by Folkstreams with consultation from ibiblio.org. So far it has proved to work well (H. Barnes, personal communication, February 17, 2008).

Although the digitization practices of the Open Video Project, the Living Room Candidate, and Folkstreams seem to be vastly different, there are some similarities between them. All three projects convert their content to some form of Sony's Beta formatting. This is interesting as it is not only a proprietary format, but also that there are known issues with long-term preservation of Betacam, specifically Digibeta (Barnes, 2007). By looking at the similarities and differences between the three projects, it is easy to see that the digital library community still has a long way to go before finalizing the digitization standards for online collections of videos.

The National Information Standards Organization (NISO) is a non-profit organization that identifies, develops, and publishes standards for information and digital environments (National Information Standards Organization, n.d.). Their publications are meant to be used as a guideline for methods and practices. The third edition of *A Framework of Guidance for Building Good Digital Collections* was published in December 2007. It is intended to be used for organizations that are creating and maintaining digital collections. In it, NISO lays out nine principles to make a good collection. They define a collection as "Objects, metadata, and the user interface together." The following section provides a chart for, and then examines in detail, each of the three collections – the Open Video Project, the Living Room Candidate, and Folkstreams – in relation to the NISO Principles, one principle at a time, to see to what degree they meet each principle.

The chart lays out basic ratings for how well each site adheres to the different NISO Collection Principles. It rates the collections on a scale of 1 to 5. A 1 means the site does not adhere to the principle at all; whereas a 5 means the site is in perfect compliance with the principle.

Collection Principle	Open Video Project	Living Room Candidate	Folkstreams
1. Explicit collection development policy	3	3	4.5
2. A user can discover characteristics of the collection	4	4	4
3. A good collection is curated	2	4	5
4. Broadly available and avoids unnecessary impediments to use	3	3*	3
5. Respects intellectual property rights	4	2	5
6. Mechanisms to supply usage data and other data	4	3	4
7. Interoperable	5	1	5
8. Integrates into workflows	3	2*	4.5
9. Sustainable over time	2	4	5
<i>Average</i>	<i>3.33</i>	<i>2.89</i>	<i>4.44</i>

*There are indications that the rating will increase when the new version of the site is introduced.

The first NISO Collections Principle is: "A good digital collection is created according to an explicit collection development policy." While not having an expressly written collection development policy, the Open Video Project did lay out parameters for an "ideal text collection (Slaughter et al., 2000)." One of the parameters was to make sure that the videos should be easy to obtain and distribute. To this end, they decided to use only those videos that were in the public domain, with the possibility of adding copyrighted works later (Slaughter et al., 2000). However, to date, the Open Video Project still only contains public domain or Creative Commons licensed works and there are no longer plans to acquire works under copyright (G. Geisler, personal communication, April 3, 2008). Another of the parameters for the creation of the collection was that they should try to obtain videos that represent a variety of different factors, such as genre, time period, duration, amount of motion, color, sound, language, and compression type (Slaughter et al., 2000). Slaughter et al. (2000) gave estimates for amount of videos that should fit each requirement based on an environmental scan of video currently in the public domain. While they do currently have videos that fit into these different factors, on the home page of the Open Video Project, only four of the factors (genre, duration, color, and sound) are listed and the "types" of genre and duration have changed somewhat from the initial proposal.

As stated above, The Living Room Candidate was started as a physical exhibit at the Museum of Moving Images with materials acquired from the University of Oklahoma and once their agreement with the University archives had ended, they looked to other sources in order to find a wider range of commercials. However, they never had a specific collection development policy. When contacting sources, the curator was looking for specific ads that helped to tell the story of the elections, but the Museum was willing take whatever they were given in addition to what they wanted to collect. They actually received a larger amount of materials than what ended up being placed on the Web site and even took down some of the videos that were part of the 2000 version. (C. Goodman, personal communication, April 17, 2008). Furthermore, Goodman (personal communication, April 17, 2008) said that they did not think of the commercials as items to be added to their holdings, but as audio-visual materials acquired for a specific exhibit.

According to Heather Barnes (2007) "Folkstreams does not currently maintain a formal, documented methodology for adding to its catalog." She goes on to state that because Folkstreams is a historical collection they want to be able to accommodate a wide range of materials that fit into its scope and are worried that a formal written document would limit them too much. However, Folkstreams does have two very clearly defined goals, as listed earlier. Furthermore, there are a clearly defined scopes of the project, "1) to provide broad access to a unique selection of folklore documentary films through digitization and online access, and 2) to ensure long-term preservation of archival-quality copies of the films (Barnes, 2007)." To be accepted into Folkstreams, a film must be approved by a selection committee, which evaluates each film using a rigorous set of criteria (Barnes, 2007). Therefore, even though there is no formal written policy, it still has an explicit collection development policy which follows the section of the first principle that gives exception to collections that need to be flexible, stating that "Even these efforts require planning and should follow principles for building good collections as appropriate."

The second Collections Principle is: "Collections should be described so that a user can discover characteristics of the collection, including scope, format, restrictions on access, ownership, and any information significant for determining the collection's authenticity, integrity, and interpretation." This principle has two parts. The first involves giving users a way of finding the collection. In terms of this part, all three collections do a very good job of being

easily findable. All of them are listed in the Online Computer Library Center (OCLC) online catalog (WorldCat.org). In addition collection level information can be found for both the Open Video Project and Folkstreams on the University of North Carolina's online library site (<http://www.ibiblio.org>), as well as on the IMLS, Digital Collections and Content Web site (<http://imlsdcc.granger.uiuc.edu/collections/GemTopPlusSubs.asp>). The Living Room Candidate is listed in the Smithsonian Library and Archival Institutions on the Web (<http://www.sil.si.edu/SILPublications/Online-Exhibitions>).

The second part of this principle is allowing users to discover what is in the collection once they are on the site. The Open Video Project has a number of ways to browse for videos which are listed on their home page. These links also include the number of videos that fit into each category. This helps to give the user a sense of the scope of the collection. The user can also browse by contributing institution, which helps to validate the collection's authenticity. In addition, the name of the institution that manages the project, the University of North Carolina at Chapel Hill, is on the footer of every page. Furthermore, there is a prominently displayed "About" link at the top and bottom of every page. This "About" page gives a brief overview of the project's goals and has a general copyright statement for viewing and using videos in the collection. The main page for every video lists the formats, contributing organization, and copyright statement for that video.

On its home page, the Living Room Candidate has some basic information about the importance of political ad campaigns. The top navigation on the page is actually the main navigation for the Museum of the Moving Image, which includes the Museum's logo. While this might be confusing for some users, it helps to establish the authenticity of the collection. The left side navigation gives the user the three main ways to browse the collection – by election year, by type of commercial, or by issue. This helps to give the user an idea of how use the collection. The "Site Guide/Help" page, also included in the left navigation, gives a brief overview of the site, breaks down what the different browsing options are, what is needed to view the videos, and even how to use the video player. The "Credits" page lists the people that worked on the project and mentions that the original version of the exhibit was created with materials from the University of Oklahoma. However, there is no mention of how the current videos were acquired.

Folkstreams allows users to discover information about the collection in a number of different ways. First, the header on the home page says, " A National Preserve of Documentary

Films about American Roots Cultures streamed with essays about the traditions and filmmaking. The site includes transcriptions, study and teaching guides, suggested readings, and links to related websites." This allows users to understand what is on the site from the moment they access it. There is an easy to use browse section of the left navigation for discovering the films based on title, author, subjects, and more. Some of the sponsors of the site are also listed here. The "About" page is linked from the left navigation and the footer. It has sections about the mission, history, and institutional partners of Folkstreams. The "Rights" page gives users information about how the full videos are streaming only and how to appropriately use other materials on the site such as video clips and images. However, while the link is on the footer of every page, it may not be as obvious as it should be unless the user clicks on the "About" page, in which case a link to the Rights page appears on the left navigation bar.

NISO Collections Principle three is: "A good collection is curated, which is to say, its resources are actively managed during their entire lifecycle." The Open Video Project is run using a MySQL database that stores all of the information about the videos including file names and metadata (Marchionini & Geisler, 2002). In addition to a variety of descriptive and structural metadata (such as genre, color, amount of motion, duration, and compression format), each file includes the digitizing date and digitizing organization (Geisler et al., 2001). However there is no conventional file naming system, as most of the files were received from other institutions and it was deemed easier to just leave the names the same. There was no worry about two files from the same video having the same name because the extensions were different. (G. Geisler, personal communication, April 2, 2008). There is a small description of each video, but no other contextual information or enhancing links.

For the 2004 version of the Living Room Candidate, all files and metadata that went along with them were stored in a content management system. This system was the precursor to OpenCollection, an open source digital library software that was developed by Whirl-i-Gig in collaboration with the Museum of the Moving Image. (C. Goodman, personal communication, February 15, 2008). There is information about each of the subsections of the different browsing sections, but not about the details of each commercial. However, much of this information is kept in their content management system, which is being improved for the 2008 version of the Web site. Furthermore, they do collect administrative and technical metadata, such as date of

digitization, compression rate, and where the ad came from, even though they decided not to display this information on their Web site (C. Goodman, personal communication, April 17, 2008).

Folkstreams is also run using a MySQL database. The metadata schema used for the database is "organic" to the project and "not based specifically on any one metadata schema (Barnes, 2007)." For each film, there is a good deal of descriptive metadata (including filmmaker, principle character, and keywords), technical metadata, (including duration, format, and language), and administrative metadata (including when the film was digitized, by whom, and where). When processing a new movie there are "administrative tools that allows staff to add contextual information, images, and related links for each film (Barnes, 2007)." This wealth of information is represented by the rich amount of details that Folkstreams displays for every video on the site.

Collection Principle four states: "A good collection is broadly available and avoids unnecessary impediments to use." There are three main parts to this principle: availability, usability, and accessibility. All three collections are generally available. In all my time working with them, they have never been down, I have not come across a broken link, nor has the response time been slower than what is generally experienced for Web sites with video content. All sites use PHP and MySQL which are often used throughout the Web to deliver dynamic content.

As for usability, all three sites are easy to navigate and do not have any bells or whistles that might impede users who are not using the most current technology. While none of them have a list of minimum browser requirements for their site, they usually have some sort of information to help the user play the videos. The Open Video Project has done many different user tests to understand how visitors to the site search for and decide what videos to watch. They even redesigned the site based on the responses to these user studies. (Geisler, 2004). They offer most videos in a variety of formats, at least in MPEG-1 or -2, so that users can pick the format that works best with their computer and Internet connection. Also, there is "Help on Playing Videos" page which gives a brief description of the different MPEG formats as well as providing a list of common video players for both Macs and PCs with links to download them. As stated earlier, the Living Room Candidate only has videos in Real Player and Windows Media Player

formats. However, they do offer users a chance to choose which format to use and select if they have a low or high bandwidth connection. Furthermore, on the "Site Guide/Help" page, they go into great deal about how to play the videos on both Macs and PCs. There is no help section on Folkstreams, but they do have a link to Real Player on each video page to assist the user if a video is not streaming properly for them. Furthermore, like the other two sites, they also offer their videos in multiple formats, usually MPEG-4 and Real Player.

In terms of general accessibility, all three sites look and work the same on a variety of different browsers on both Macs and PCs and are all using video formats that work well, or at least acceptably, on both systems. However, for some reason, no matter what browser is being used, the Mac version of the player on the Living Room Candidate site does not have pause or full screen buttons, even though the PC version does. Unfortunately, all of the collections fall short when it comes to accessibility for people with disabilities.

The Open Video Project does have transcripts for some of the videos that came from Infomedia, but due to lack of funding and the limitations of automatic transcription none of the rest of the videos on the site do (G. Geisler, personal communication, April 2, 2008). Furthermore, there was a lack of thought when the site was designed about making the site accessible for people with disabilities. Geisler (personal communication, April 2, 2008) did say that it was on the list of "Phase 2 features" for the site, but this phase was never implemented, as he has since mostly moved on to other projects.

The Living Room Candidate does provide transcripts for most of its videos. However, the player and content surrounding a video is encoded using iFrames, which make it impossible for a screen reader to read the text about the video or to even find buttons in the player to play the video. Other than the transcript, there was no thought to accessibility. However, part of the Web designer's job for the 2008 iteration is to make sure that the site is more accessible (C. Goodman, personal communication, April 17, 2008).

Folkstreams is laid out using hidden tables, which is something that screen readers have a great deal of trouble with and none of the navigation images have alternate text tags. Most, but not all, of the films have transcripts, because they were either provided by the creator or developed when the film was acquired. Furthermore, there was no formal consideration of accessibility issues when the Web site was first created. (H. Barnes, personal communication,

April 9, 2008). In terms of the NISO principles, this is one of the few weak points for Folkstreams.

The fifth Collection Principle is: "A good collection respects intellectual property rights." The Open Video Project only collects videos that are in the public domain or under a Creative Commons license (G. Geisler, personal communication, April 3, 2008; Slaughter et al., 2000). On the "About" page, the copyright statement mentions that the videos from public institutions are freely available but warns that no copyright clearance has been obtained. When videos were originally contributed to the Open Video Project, copyright was assigned based on contributor specifications, but when Creative Commons came out a bulk reassignment was done to place all of the videos under one of the CC licenses. This may have given some videos a slightly more restrictive license than they should have, but Geisler comments that it is "better to be conservative with the rights than overly-generous with someone else's material (personal communication, April 2, 2008)".

When the Museum of the Moving Image had to re-obtain the material for the Living Room Candidate, they did not get copyright permission for the ads because they felt that they had a good enough case for fair use. Goodman states that, "We would take clips down if copyright holders reached us to complain. They didn't. But they have thanked us (personal communication, February 15, 2008)." There is no mention anywhere on the site about the copyright for the videos, but they do have a record of who made the commercial and where the original is located (C. Goodman, personal communication, April 17, 2008). In order to watch a video on the site, a user must stream the content, which prevents users from downloading the videos and distributing or repurposing them.

On the other end of the spectrum, Folkstreams does an excellent job in respecting intellectual property rights. The filmmakers retain the copyright to their works and sign a detailed agreement with Folkstreams, the details of which are placed into a database. (Barnes, 2007). Furthermore, the "Rights" page states very clearly that Folkstreams only streams the content and that videos are not allowed to be copied without permission. It also lays out the details for the Creative Commons licenses that are attached to the short clips which have been placed on YouTube.com.

Collection Principle six states: "A good collection has mechanisms to supply usage data and other data that allows standardized measures of usefulness to be recorded." As stated earlier, the Open Video Project was developed to be a test collection for research purposes and therefore has been used to conduct a number of user tests, some of which have aided in redesigning the site (Geisler, 2004). To keep track of site usage statistics, specific PHP code logs each page that is viewed, which videos are downloaded, and what preview surrogates are used (G. Geisler, personal communication, April 2, 2008). These statistics helped to evaluate the site redesign, but are not monitored regularly (Geisler, 2004; G. Geisler, personal communication, April 2, 2008). The Museum of the Moving Image had several iterations of Living Room Candidate before making it public. However, the only user testing they did was on themselves because they felt that that would be enough. Since the Web site has been active, they do keep logs which they examine on a semi-regular basis. (C. Goodman, personal communication, April 17, 2008). Folkstreams has not done any formal user testing to date, but there is currently a survey on the Web site in order to get user feedback about why they are visiting the site and how they are using the content. There are also two statistical usage tracking systems running on the site, one to track the number of times a video is played and one to track user movement throughout the site. (Barnes, 2007).

"A good collection is interoperable" is the seventh Collection Principle, meaning that the metadata in the collection is easily shareable with search engines and external databases. Because the Open Video Project was one of the first large online video collections, they had to develop their own metadata schema for non-text collections (Geisler et al., 2001). However, they made sure that their schema was Dublin Core compliant (Marchionini & Geisler, 2002). Furthermore, they worked with the Open Archives Initiative (OAI) as a data provider and service provider. This means that the metadata would be searchable within the site and that it can be harvested and used for multiple-site searches (Geisler et al., 2001). Goodman (personal communication, April 17, 2008) states that there was no focus given to interoperability when creating the Living Room Candidate because no one approached them about it and they do not see any opportunities where it would be beneficial for them. As mentioned earlier, Folkstreams also developed a metadata schema that was specific to their collection. However, many of their fields are mapped to Dublin Core fields so that the objects can be searched for in multi-

institutional repositories and can be accessed via OAI (Barnes, 2007). Moreover, many of the video pages and sub-pages contain Dublin Core meta tags in their header that describe the page contents, which is something neither of the other sites do.

The eighth Collection Principle is: "A good collection integrates into the workflows of staff and end users." This principle also has two parts. The first is to integrate the workflow of building and maintaining the collection into the organization's staffs' regular workflow. According to Geisler (personal communication, April 2, 2008), the Open Video Project never had a real staff, as it was just a research project at the University of North Carolina at Chapel Hill. It was mostly staffed by students who were using the collection for research purposes or were hired short-term to perform a specific task, such as entering metadata, and (as such) there were no pre-established staff workflows to integrate the Open Video Project workflows into. However, specific workflows were set up for digitized collections that were donated to the project and for videos that were digitized in house (G. Geisler, personal communication, April 14, 2008).

The Museum of the Moving Image used a vendor to digitize the content for the Living Room Candidate. When the digitized version of a commercial was delivered, interns, who were hired for the project, performed tasks such as creating the catalog record, creating a transcription, and uploading the online versions. Because this work was done by interns, it was not integrated into regular staff responsibilities. (C. Goodman, personal communication, April 17, 2008).

Folkstreams has developed a very specific workflow for the digitization of a newly acquired film, which involves repairing and cleaning, conversion to Digibeta, creation of a mini-DV, creation of metadata records, and the creation of Web streams, short clips for YouTube, and DVD copies of the film. This process involves a vendor, Colorlab, for the digitization, an archivist at the Southern Folklife Collection to create the EAD and MARC records, and Folkstream/ibiblio.org staff to create the digital versions of the film. By having an established process, all of the different people who work with the film know what is expected of them. Furthermore, because these processes were assigned to people who are already doing this sort of work it was easy to integrate this work into their normal routine. (Barnes, 2007). Since the workflow was so carefully thought about before the project was begun, the only changes that need to be made are just minor tweaks (H. Barnes, personal communication, April 9, 2008).

The second part of the eighth Principle is that the workflow should integrate into a user's own workflow. Since the Open Video Project was created to be a test bed for research about how people interact with digital video collections, a great deal of their time and effort has been focused on user studies. Large portions of these studies were devoted to evaluating the highly interactive user interfaces that were created for browsing the Web site (Geisler, 2004). Some of the studies included testing different ways that users liked to preview a video, such as storyboards and fastforwards, and how users found a video that they wanted to view through "featured" metadata versus transcript metadata (Geisler, 2004). These user studies provided information when the site was redesigned in 2004. Through the use of tracking data, they observed an increase of visitors to the site and that these visitors were using the new features for search, browsing, and selection of videos to watch (Geisler, 2004). While Geisler (2004) mentions the idea of adding user profiles which would allow users to store their display preferences, keep a record of videos they downloaded, and even have a way of creating a personal collection, this has not been implemented. He points out that there has been no funding for the project since the last redesign and he has become too busy with other projects to add new features to the site (G. Geisler, personal communication, April 2, 2008). There was also an idea early on in the project of allowing users to submit their own videos. However, they quickly discovered that users were not submitting content that fell into the scope or requirements of the project and that as it would take too much time to monitor this process, it was decided to stop taking submissions (G. Geisler, personal communication, April 2, 2008).

The Living Room Candidate has a good flow to it. By having a clearly laid out navigation and the ability to browse or search for videos in a variety of ways, the user can access the site in a way that is comfortable to his or her needs. However, there is no way to store, comment on, or generally interact with the videos other than playing them. A user cannot even skip through a video, only play and, on a PC only, pause and view a full screen version of it. Hopefully this will change when the site moves to using Adobe Flash for video playing. There are downloadable lesson plans for teachers, but a user has to provide proof that he or she is an educator before being allowed access to this material. Part of the plans for the new version include a tool for users to create personalized collections of the ads and for them have the ability to annotate them (C. Goodman, personal communication, April 17, 2008). This was created based on the input of educators who wanted to be able to use the videos in class presentations. While these collections

and notes will not generally be made public, it is hoped a few experts in the field will use this tool and they will then become authoritative voices for the site. (C. Goodman, personal communication, April 17, 2008).

Folkstreams has a very simple site that is easy to navigate and search. One small issue is that sometimes the left navigation links change depending on what type of page the user is on, such as a video specific page or a page about the collection. This can be a little confusing. While there is no way to save a specific video to a collection through the site, there are links on every main video page that allow the user to share the video with others through the social networking sites digg, del.icio.us, and furl.net. Furthermore, as of the writing of this paper, there are links from 51 of the videos to their trailers which have been posted on YouTube. On YouTube, users can rate, comment, favorite (or store) videos, and even embed them on other sites. Moreover, users can subscribe to an RSS feed from Folkstreams and/or to the folkstreamer profile on YouTube to find out when new content has been added. These options give users a way of interacting with the videos, sharing them with others, and keeping up to date with the Web site at no cost to Folkstreams.

The ninth, and last, Collection Principle is, "A good collection is sustainable over time." The Open Video Project saves their data to a disk array, which helps to back it up (Marchionini & Geisler, 2002). However, other than that, there is not much that they do to make sure the collection is sustainable over time. Not all of the videos are stored on the Open Video Project servers. Sometimes they just maintain the metadata and provide links to the files of videos contributed by other institutions (Marchionini & Geisler, 2002). While Geisler argued for a long time that there should be a program created to automatically check to make sure that links to external sources still worked, he is not sure if one was ever created. If one was, he does not believe that it is set up to run regularly. This is a problem as sometimes the hosting institution changes their file structure or naming schema and there is no way for them to know this unless a user complains about a broken link (G. Geisler, personal communication, April 2, 2008). Unfortunately, it seems as if there were no plans in place to continue to maintain or improve the project after the funding had run out.

After having to re-digitize the collection in 2004, the Living Room Candidate made sure to preserve the .dv master files by archiving them onto both firewire drives and digital linear tape

(C. Goodman, personal communication, February 15, 2008). Although their preservation practices are less rigorous than for their own collection, they do follow the LOCKSS (Lots of Copies Keeps Stuff Safe) principle and make sure that they have the files on disk, portable drive, and on the network. Because they know that every four years the site will be reworked to include the most recent presidential election, everything will be migrated, updated, and refreshed so that it can be incorporated into the new version. (C. Goodman, personal communication, April 17, 2008). Goodman (personal communication, April 17, 2008) did say that if they ever cease to recreate the exhibit every four years, they will set up a way to store the material in the collection. While the Living Room Candidate currently has many of the services donated to them by third-party vendors, such as digitization and video hosting and streaming, they are willing to pay for the services if need be. When it comes to streaming the videos, Goodman (personal communication, April 17, 2008) acknowledges that the cost to provide this service has been decreasing to the point where it is possible that in a few years they will start streaming the videos from their own servers.

Folkstreams is the only one out of the three collections that has preservation as one of its main focuses. As mentioned earlier, part of the digitization process is to make a Digibeta copy of the film. Digibeta is considered an acceptable format for video preservation. This version along with any other components of the film that do not need to be returned to the filmmaker are stored in the archive of the Southern Folklife Collection at the University of North Carolina at Chapel Hill. The archive is carefully climate controlled to help extend the life of the materials housed within it. (Barnes, 2007). As discussed earlier, Folkstreams has developed a carefully documented workflow that integrates each part of the project with the regular workflows of the staff who work on it. These workflows help to keep the project running smoothly and allow for continual maintenance and administration (H. Barnes, personal communication, April 9, 2008). Lastly, there are plans to archive the digital versions of the films once a standard for archiving digital moving images has been developed. It is hoped this will happen in the next five to ten years (Barnes, 2007).

Each of the three collections reviewed in this paper adhere to some of the NISO Collection Principles very well but are not as strong when it comes to others. The Open Video Project was started before there were any published standards and therefore had to try to come up

with ways to handle developing and maintaining a collection without any guidelines to follow. The Living Room Candidate does very well when it comes to curation and finability, but falls short when it comes many of the principles, such as accessibility, respecting intellectual property rights, and interoperability. While some of these are improved every four years when the site is created anew, it seems as though the Museum of the Moving Image is not overly concerned about respecting intellectual property rights or about interoperability. Folkstreams was started more recently and, as such, has the benefit of using the second edition of the NISO Framework to use as guidelines. Because they built their collection so carefully, it most closely adheres to the principles with the exception of accessibility for users with disabilities. Overall, how well a collection meets the NISO Principles has to do with when it was started, what its focus is, what is important to the creators of the collection, and whether its is a collection that is built with materials that are already at hand or if it continues to add objects to the collection over time.

Annotated Bibliography

Barnes, H. (2007, August). *Folkstreams guide to best practices in film digitization*. Retrieved February 7, 2008, from <http://www.folkstreams.net/bpg/index.html>

Barnes has documented the mission, goals, and processes, that were used to create Folkstreams, a collection of films about American folk or roots cultures. This documentation is quite detailed, including how films are discovered and selected, the full digitization and some of the preservation process and concerns for the film, and the metadata standards that are used. Also discussed is how Folkstreams.net protects the creator's rights, advertises in the community, and looks for evaluations from its users. This documentation is invaluable to anyone who would want to create their own digital video collection, with a focus on preservation of the original and the use streaming video to protect copyright.

Geisler, G. (2004, February). *The Open Video Project: Redesigning a digital video digital library*. Paper presented at American Society for Information Science and Technology Information Architecture Summit, Austin, TX.

Geisler goes over the needs and process for redesigning the Open Video Project Web site. At the end he show how there has been increased traffic on the site since the redesign.

Geisler, G., Marchionini, G., Nelson, M., Spinks, R., & Yang, M. (2001, November). Interface concepts for the Open Video Project. *Proceedings of the Annual Conference of the American Society for Information Science*, 58-75.

Geisler et al. explain how they have put together an open source digital video library and discuss some of the browsing and searching strategies they have come up with to help users interact with the collection. They give an overview of the project and go into detail about how the backend works in terms of structure and metadata. They describe some of the ways that they are testing browsing and retrieval, such as using abstracts and key frames to discover what the video is about or to find a video based on specific criteria. Lastly they restate the idea that the collection is meant to be used as a test bed by discussing ideas for future user testing and evaluation of the site.

Marchionini, G., & Geisler, G. (2002, December). The Open Video Digital Library. *D-Lib Magazine*, 8(12). Retrieved February 13, 2008, from <http://www.dlib.org/dlib/december02/marchionini/12marchionini.html>

Marchionini and Geisler explain the goals and current status of the Open Video Digital Library. They go into detail about the theoretical and practical goals of the project, such as understanding how users search and browse a digital library and to provide an open-source resource for student to use when conduct studies. They also explain the back-end structure of their digital library and give an overview of types and sources of digital video. While this paper does not go into great detail about the digitization

process or the metadata that is being used, it does briefly mention some of the analog and digital formats and the place where some on-site digitization happens.

National Information Standards Organization. (n.d.). *About NISO - National Information Standards Organization*. Retrieved April 9, 2008, from <http://www.niso.org/about>

This Web page provides information about NISO, including the purpose and history of the organization.

NISO Framework Advisory Group. (2007, December). *Framework of guidance for building good digital collections*. 3rd edition. Retrieved from National Information Standards Organization Web site: <http://www.niso.org/publications/rp/framework3.pdf>

Slaughter, L., Marchionini, G., & Geisler, G. (2000, July). Open video: A framework for a test collection. *Journal of Network and Computer Applications*, 23(3), 219-245. doi:10.1006/jnca.2000.0112

Slaughter, Marchionini, and Geisler explain the rationale behind their idea to create a test collection of online video consisting of items primarily in the public domain for researchers to use. They go into detail about the variety of content that they hope to amass, including the different types of factors that make up a video, such as genre, time, color, and sound. They also explore some of the different formats for online video compression. Although they go into explicit detail about the different types of metadata that they will collect, there is no talk of how the metadata relates to a specific schema. They state at the end that while they have laid out their ideal plan, they understand that in building the collection, they will probably need to make changes.