AIGA
Electronic Media Survey 2015

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Introduction

The AIGA, or American Institute for Graphic Arts, is a professional organization committed to promoting design, and designers. In 1980, the organization began recognizing examples of exceptional design in different areas, be they communication design, environmental design, experience design, etc. The recipients of the AIGA’s accolades were entered into the AIGA Archives. In 2006, curator R. Craig Miller negotiated for the Denver Art Museum to be the steward of these archives. Associate Curator Darrin Alfred is now responsible for the exhibition and study of the collection.

The AIGA Archives, as they exists in the Denver Art Museum’s collection, consists of over 700 objects. These objects are in a variety of formats from 35mm slides to VHS tapes, to floppy disks and USB flash drives. I began correspondence with my internship supervisor in the conservation department, Kate Moomaw, while still in New York. We discussed the collection in depth, and ultimately agreed to focus the internship on the removable media in the collection.

The objective of the internship was to catalog these works stored on removable media, namely floppy disks, USB flash drives, and optical disks, while simultaneously migrating those works off of their unstable carriers and into a digital repository. To accomplish this, we needed to establish a controlled lexicon to appropriately describe electronic media in the museum’s collection management system, Argus. This lexicon would then need to be approved and managed by the Registrar’s department, who are responsible for Argus. Lastly, I felt it was essential to establish “buy-in” from the Conservation, Registrar, Curatorial and IT departments on the maintenance and use of the museum’s digital repository, referred to as the Collections Server. It is my feeling that all of these goal were achieved.

Over the course of an 8-week period, 70 unique born-digital works were cataloged and ingested into the museum’s digital repository.
Types of works

Single-Channel Video

A significant amount of the materials processed as part of this survey, 37 of the 70 titles, are single-channel videos. Some of these works are advertisements, such as the Nike “Presto” campaign videos (2007.478), and the Showtime “No Limits” station identity videos (2007.485). Others are music videos, as is the case with “Digital Breath” by Afra (2007.170), and “The Art of Losing” by American Hi-Fi (2007.504). Still other single-channel videos reviewed as part of this project are documentation of installations, applications, or exhibitions. Examples of videos documenting more complex works are: BodyPaint (2007.497), Chipotle iPhone App (2011.106), and TriCycle Exhibition, NeoCon 2004 (2007.172).

In the case of all of these categories, particularly music videos and advertisements, multiple works were submitted to the AIGA on a single disc. These “compilation discs” represent several works from the same firm, often part of the same campaign or project. However, some discs, such as the one described in 2007.504 (which contains the aforementioned Art of Losing music video) contain multiple works for different clients that simply demonstrate a specific style of a firm at a specific time. In the case of 2007.504, this is Brand New School, in the early 2000s. These videos are described in the same part records, separated by medium and location. Therefore the digital video files that are stored on the Collections Server in their original format are all part of the same record, as opposed to unique records for each of the videos. The relationship between these videos is clearly significant to their value in the collection, and should be maintained in the museum’s collection management system. This current arrangement of files grouped together, however, does reflect more of an archival perspective, linked to their provenance and original carrier. It could be deemed important to separate these individual videos as separate works, and as such, separate records. This decision could be motivated by how the works are exhibited (as a group, providing context on the historical moment of a particular firm, or as unique works in and of themselves).
Digital Image Files

Digital image files make up a smaller, but still substantial portion of the material reviewed in this survey. Eighteen titles contain one or more images files as stand alone objects (this does not include software or website that have underlying digital images as components).

There are digital image files that are linked to single-channel videos - that is to say, contained within the same Argus “whole record.” These are typically stills from the videos themselves, or supporting documentation of the campaign/event the video promotes. Examples of this are the New York Film Festival 40th Anniversary Trailer Director’s Cut (2007.492) and TV Commercial, Boys and Girls Club (2007.168).

Instances when a title is exclusively made up of digital images include graphic design of packaging, and graphic design of brand identity. Nickelodeon Reface (2007.1285) “was produced to provide a clearer and proprietary voice for Nick,” according to a statement provided to the AIGA.¹ This work includes 16 image files and 9 variations on the News Gothic font, that were used as the basis for Nickelodeon’s brand identity beginning in 2000. Thomas E. Wilson Foods Cooked Meat (2007.1286), an example of graphic design of packaging, is represented in the collection by two image files of the packaging. The images are studio photographs of the packaging that were saved in a file format with dwindling use, that is in danger of becoming obsolete. More about obsolete file formats in the “types of media” section.

As with single-channel video, some digital images in the collection serve as documentation of works. The 1995 iteration of the MTV website (2007.2593) was acknowledged by the AIGA for its “experience design.” To collect this work, the AIGA added 9 screenshots of the website to the Communication Graphics 17 (1996) collection. Particularly given that the “experience” of the website was highlighted by the AIGA, these static images should not be seen as the equivalent of the site, but rather artifacts documenting the concept of the design. The complexities of preserving websites are many, but thankfully much work has been done in this field to protect this valuable emerging aspect of culture. Websites and their role in the collection will be discussed

throughout the report, later in this section, in the “problematic works” section, as well as the “next steps” section.

Software

Six examples of interactive software were cataloged and migrated on to the Collections Server as part of the 2015 AIGA electronic media survey. These works include Shaun White (2007.173) an interactive CD-ROM produced for Target; an interactive exhibition catalog of the Harley Davidson 100th Anniversary Open Road Tour exhibition (2007.493); Art as Experience/Art as Experiment (2007.1281), a CD-ROM produced by SFMOMA highlighting the collection of Harry W. and Mary Margaret Anderson; the previously mentioned documentation of the installation BodyPaint (2007.497), which incorporates digital images and single-channel video into an interactive flash-based file; an interactive catalog of fonts (2007.2591); and the Soul Coughing Interactive Press Kit (2007.2592).

Software, unlike single-channel video files, or digital images, requires a collection of files to function. Linking these files is often dependent on communication with the host computer’s operating system (Windows and Mac OS X are currently the most popular consumer operating systems). Therefore, much software is operating system dependant, and in some cases, it can be dependant on a particular iteration or iterations of that operating system (i.e. Windows 95, but not Windows 7). Given the increased complexity of these works, and their high-level of dependencies, these works present a greater challenge in terms of both preservation and exhibition. These complexities are inherent to the this survey, and so will be discussed throughout the report in the “types of media” section, the “problematic works” section, and the “next steps” section. Briefly here, as an example, I will mention that the last two software based works, FontBoy Interactive Catalog (2007.2591) and Soul Coughing Interactive Press Kit (2007.2592) which had been stored on floppy disks, are not compatible with the media lab computer’s Mac OS X contemporary operating system. These works require further research and preservation action before they can be considered no longer at-risk, or be exhibited. See the “types of media” section for a further discussion of these issues, and the “next steps” section for possible approaches to this challenge.

Websites

As mentioned earlier, several of the works in the collection were accessioned by the AIGA as exemplary instances of web design. There are 15 unique website that are part of the collection,
but the current state of the websites, and the extent to which the Denver Art Museum has the ability to preserve or even exhibit these websites varies wildly. Preservation concerns regarding websites will be discussed more in depth in the “problematic works” section of this report, and potential strategies to rectify the Denver Art Museum’s lack of control over the websites in its collection is discussed in the “next steps” section of the report.

The web content in this collection begins in the mid 1990s, with works like the previously mentioned MTV Online website, or the BRNR website from 1996 (which also only exists in the AIGA Archives as still image documentation). The MADSCROLL website was recognized by the AIGA in 2003, but includes work by the firm back to the late 1990s. The majority of the websites reviewed in this survey are from late 2009, including the Compostmodern 09 campaign website (2011.15.3), the T Magazine website(2011.94), and the St. John's Bible Website (2011.17.2).

Documentation vs. Original Artwork

As an archival collection, some of the materials in the AIGA Design Archives are not “works” in and of themselves but rather documentation of a work, or a campaign. Some are documentation of installations, such as the BodyPaint (2007.497) or CHIME (2007.249) titles, others are documentation of a website, like the MTV Online images (2007.2593.1-7), and still others are documentation of interactive or experience design, as is the case with the Not For Tourist iPhone App (2011.104) which is a video that describes the iPhone app and its functionality, as opposed to the app itself.

While documentation is not a substitute for a work itself, documentation does have a long history of being exhibited in museums. Performance Art, for instance, often lives in a museum collection through documentation, be it objects that were used in the original performance, or photographs of the original performance. In the same way, this documentation can have great value for design exhibitions that would benefit from contextualization. For instance, were the museum to exhibit a re-installation of the site-specific CHIME installation, the video documenting the previous installation at the Nash Hotel in Miami Beach, Florida (2007.249.1-4), could serve as a reference for visitors, demonstrating the modularity or variability of the work. Documentation of web design, through screenshots, could be similarly beneficial. These images could serve as touchstones to previous trends in web design, markers to help illustrate the evolution of web design.

An exhibition of web design could demonstrate the importance of the medium, and the value this work has. By having examples of web design over a significant period of time (relative to the timeline of networked communication) the AIGA Archives provides an opportunity to demonstrate the evolving approach to web interfaces. This would also present the Denver Art
Museum with the opportunity to educate the public on the complexities of preserving such an ephemeral, yet essential part of our contemporary culture.

**Types of Media**

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**Optical Media**

The majority of the digital media in the collection that is stored on optical disks is on writeable CDs and DVDs, such as CD-Rs and DVD-RWs. Writeable CDs and DVDs are less stable than their commercially manufactured counterparts by design. Writeable and Rewriteable optical disks need to be just that, editable, and therefore their chemical structure is less robust. The National Institute of Standards and Technology(NIST)/Library of Congress (LoC) Optical Disc Longevity Study describes the physical properties of such discs:

“Recordable optical disc media contain an organic dye layer in which the transparency can be altered either to absorb the energy from a laser beam or to allow the beam to pass through to a reflective layer behind the dye. The nature of this organic dye is such that when the internal energies of its molecules reach a particular threshold, an irreversible chemical reaction occurs, and the dye layer loses its transparency. This allows a high-energy beam to ‘write’ data by burning ‘pits’, in the form of dark marks, to the disc during recording. A low powered laser reads the data by either passing through the transparent dye layer (without causing any molecular change) to the reflective layer or by being absorbed by the nontransparent marks in the dye. Due to the organic nature of the dye, degradation and breakdown of the transparent portion of dye layer will occur over a long period of time as a natural process. This process, which has its roots in chemical kinetics, can take several years in normal environmental conditions. Higher temperatures and humidity will accelerate this process by increasing the thermal and kinetic energies of the dye molecules.”

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Because of this inherent instability, the lifespan of a Recordable Optical Disk is just 1-25 years. The concerning element of this range, of course, being the “1 year.” Given that optical disks cannot be considered a reliable storage medium, the material stored on optical disk in the collection, some 134 disks total, should be considered at risk.

This being said, 30 optical disks were cataloged, and the media stored on them moved to the Collections Server as part of this project. Also, some of these disks were acquired for their packaging, and not the media stored on them, in which case the lifespan of the data on the disks is not relevant.

**USB Flash Drives**

There are 42 USB Flash drives in the collection. “Flash” is a shorthand term referring to Solid State Drives, which store information as an “individual electronic charge (actual electrons) in memory cells; if there is no charge a binary reading of 1 is recorded, if there is a charge, it reads as a 0.” While facilitating the faster access to data, and taking up considerably less room than previous forms of data storage, SSD are not considered suitable for long-term storage of data. The writing and rewriting of information on a SSD puts the information stored on the drive at risk. Energy moves past and through the the drive over and over, “slowly wearing them out, and ultimately is what puts limitations on the numbers of input/output (I/O) operations allowed by Flash memory.”

Conversely, not using or writing to a SSD can potentially be determinantal as well. “Charge dissipates, or leaks, over time. SSDs and other Flash memory devices are not immune to this, and the leakage from individual cells (turning 0s into 1s) is unpredictable and largely inevitable.” It is in this way that “the data on SSDs literally evaporates with time, and that evaporation time is well understood. They all store data for only about 10-12 years, since they all use the same basic floating-gate architecture for storing each bit.”

**Floppy Disks**

Floppy disks store information on a magnetic disk, stored within the plastic “shell” one associates with the format. This magnetic disk is then read by a magnetic head inside the drive. As a physical storage medium it is susceptible to wear and tear by being read and re-read.

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4 Neary, David.

5 Ibid.

Furthermore, it is susceptible to physical degradation. While exacerbated by humid or hot conditions, the physical structure of the disk will inevitably breakdown over time. The lifespan of a floppy disk is predicted to be approximately 5 to 15 years by the Canadian Conservation Institute. Much of the media that is stored on the floppy disks in this collection is from the mid-1990s, approaching the end of its predicted lifespan. Thankfully, over the course of the survey, much of the data on the floppy disks was captured using the Kryoflux hardware, relieving the pressing, immediate need for conservation. However, there is still more work to be done with data from the floppies, as the raw information “dumped” off the drive still needs to be interpreted to access the media. Once this task is complete, the media will then need to be ingested into the repository and cataloged.

Digital Files

While the physical instability of the carriers of data is certainly a threat to the collection, the greatest challenge of digital preservation is format obsolescence. Digital media is immediate, and often considered ephemeral. The technology industry in general is motivated by rapid development - better, faster, smaller, cheaper. Permanence has not traditionally been a mandate.

Therefore, file formats of digital media, be they digital images, video files, or software, are unceremoniously abandoned in favor of new ones. The same is true of operating systems, versions of which can become outdated in less than a year.

Because of this constantly shifting landscape, digital media in museum collections has the potential to be “locked” in outdated environments. An obsolete file format has the potential to be unreadable by a contemporary media playback applications. Outdated software can be indecipherable to contemporary operating systems. At worst, an abandoned file system can be unrecognizable to a modern computer.

An example of the type of media that can potentially be lost due to this rapid development and evolution of computer systems is the SFMOMA CD-ROM, Art as Experience/Art as Experiment (2007.1281), an interactive application that’s dependent on the “Flash” software platform. Formerly Macromedia Flash, now Adobe Flash, the software has been the property of multiple companies during its widespread adoption. Flash is used to develop animation, websites, and, in this case, CD-ROMs. Therefore, in order for the material on this disk to be accessible, the computer the disk is mounted on must have a compatible version of the Flash software, and a compatible operating system (such as Windows 7) which can run the appropriate version of Flash.

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The proprietary nature of the Flash software, and its history with multiple companies and various implementations represents a broader concern in the preservation of digital media. If a proprietor of software goes out of business or ceases to produce a particular line of software, support for that software dwindles or disappears. In this way, software then ceases to be compatible with new operating systems, rendering it obsolete. The Commission on Preservation and Access and The Research Libraries Group cited this issue as a potential threat to digital information as early as 1996, stating that the preservation of digital information was “overly dependent on marketplace forces, which may value information for too short a period and without applying broader, public interest criteria.”

Given the wide adoption of Flash and its variety of uses, the software will most likely remain functioning, in some form, for the foreseeable future (which in terms of digital media is less than 15 years). However the form future iterations of Flash takes could limit the operability of the media created previously.

To combat this form of obsolescence, we must monitor the files in the repository, and when necessary, create more sustainable derivative copies of at-risk material. Over the course of the survey, as media was cataloged and ingested into the repository, it was assessed for sustainability. Many of the formats brought into the repository (listed below) are proprietary. That is to say, the way this particular format configures data to display an image or video is considered a trade secret, owned by the company that determined this configuration. An example of this is the Quicktime “.mov” file extension. Quicktime, developed by Apple, is considered to be an efficient way of storing high-quality video without a significant loss of quality. Because of this advantage, Apple does not release the underlying mechanisms by which the Quicktime format stores information, in order to incentivise the use of this format over others. However, were Apple to abandon this format, adoption of the format would dwindle, and eventually the format would not be supported by video playback applications. Without the supporting information to reverse engineer the structure of the file, anything stored in this format could become inaccessible.

To avoid a dependency on the whims of for-profit companies, stewards of digital collections have a preference for open-source formats. Open-source formats are well documented and have no guarded “secret sauce” inherent to their functionality.

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As proprietary file formats were brought in to the Collections Server, derivative copies were created in open-source formats. These sustainable formats are listed below the list of original files in the collection, with links to their developers documentation.

**List of File Types in this Survey:**

**File extensions or containers**
- .mov
- .swf
- .flv
- .jpeg
- .VOB
- .exe
- MPEG Program Stream (.mpg)
- .gif
- .html
- .css
- .psd
- .js
- .htm
- .pct
- .txt
- .url
- .dd
- .e01
- .info
- .xml
- .cst
- .dir (Adobe Director Movie File)
- .atn (Adobe Action File)
- .x32 (Adobe “xtra” File)
- PDF
- .ini (The INI file format is an informal standard for configuration files for some platforms or software. INI files are simple text files with a basic structure composed of sections, properties, and values.)
- .AVI
- .AI (Adobe Illustrator file)
- fonts
- .PICT
- .sea (self-expanding archive)
- .raw
- .img (disk image)
- .log (text file)
Video and Audio codecs

- AVC
- MPEG-4
- Sorenson Media Video
- MPEG-2
- DV
- MotionJPEG
- H.263
- AVDJ
- MPEG-1
- RLE (Run Length Encoding)
- Linear PCM (Audio)
- AAC (Audio)
- cvid
- Uncompressed 8-bit (Video)

Sustainable derivative copies were created in the following formats:

- .tiff, [ISO 12234-2](http://www.matroska.org/)
- FFV1, [http://www.ffmpeg.org/~michael/ffv1.html](http://www.ffmpeg.org/~michael/ffv1.html)

Tools

In order to complete this project we’ve been using a variety of tools. Most are designed with the cultural heritage community in mind but others are appropriated from the field of digital forensics:

- **Bitcurator** is a suite of tools packaged and distributed by the BitCurator Consortium to “support the curation of born-digital materials through the application of open-source digital forensics tools.”[^9] Functioning as an “environment,” BitCurator can be installed as an operating system, or, like at the Denver Art Museum, as a “virtual machine.” A virtual machine is an emulated computer that can run “inside” a computer's native operating system, in the case of the media lab computer, Mac OS X. In order to use BitCurator, one simply boots up the virtual machine (which runs through the open source software [Virtualbox](http://www.bitcurator.net/bitcurator-consortium/)). The BitCurator suite contains many tools for working with born digital

material, facilitating activities like disk imaging, extracting embedded metadata, and preparing born-digital material for ingest into a digital repository.

- **Archivematica** is an open-source software designed for managing digital collections in libraries and museums. Built in compliance with archival standards like the OAIS (Open Archival Information System), the Library of Congress Baglt Specification, and PREMIS (PREServation Metadata: Implementation Strategies), Archivematica tracks the ingest of digital files into a digital repository, assessing the validity of the files, generating metadata describing the files, and if necessary, creating more sustainable derivative copies of the files for preservation or access.

- **Guymager** is a open-source software, part of the BitCurator suite, that creates disk images from hard drives, optical disks or other forms of removable media. Guymager also validates fixity (assuring that the contents on the disk and the contents of the disk image match exactly), and extracts metadata from the disk as the image is created. This software was used to remove media from the optical disks in the collection as efficiently and comprehensively as possible, limiting number of times the disc needed to spin in the drive, while capturing the raw information on the disc regardless of incompatibility with current or future file systems or operating systems.

- **Tableau USB 3.0 Read/Write Blocker**. This device was initially designed for the digital forensics community - those in law enforcement that examine computers and other digital media as evidence in legal proceedings. Read/write blockers enable the user to capture all of the information on a particular device or storage format, without compromising or modifying the data in the process (for instance, changing the embedded “data modified” metadata, or worse, accidentally changing a file name or deleting the file).

- **Kryoflux** designed by the Software Preservation Society, is a floppy disk controller, a piece of hardware that circumvents typical, potentially harmful (from an archival perspective), interactions between a host computer and a mounted disc. Floppy disks are particularly fragile, because of their inherent age, and the magnetic material that the data is stored on. The Kryoflux, then, controls the speed at which the disc turns, and allows the user to “dump” all of the raw, binary data off of the disk, without harmful excessive or high speed rotations. The Kryoflux also has a read/write blocker built in to preserve the integrity of the data on the original disk.

**Problematic works**

A few of the optical discs in the collection have been damaged, and will not play. A DVD (2007.505.2) containing multiple works by the design firm Brand New School (*Dancing Jeans, VH1 Big in 2002, The Art of Losing by American Hi-Fi*) was too damaged to be moved on to the Collections Server. Thankfully, in this case, the firm submitted a DVD (2007.504) with all of these works, and a few others (*Dancing Jeans, VH1 Big in 2002, Sonic Cinema, Q101 WOW, MTV Clone High USA, Courage the Cowardly dog, The Art of Losing by American Hi-Fi*). The *Yahoo Racing Game* (2007.174) optical disk was also found to be damaged. The disk could not be read, and refused to eject from the drive. Unfortunately, there are no additional copies of this
media. Perhaps the Denver Art Museum could solicit a copy of the game from the design firm, R/GA.

Many of the USB Flash drives in the collection, 12 of the 40 surveyed as part of this project, contain “webloc” files. Webloc files are created by the Mac OS X version of the Safari web browser (they do not function in a Windows environment), and essentially function as a web address shortcut. The file contains a particular URL, and, when the file is opened, the computer automatically launches Safari and takes the user to the page. These webloc files were presumably used to submit entries for web design to AIGA. Unfortunately, as a URL is not static, the majority of these website have been updated or changed since they were submitted. Therefore, the link no longer appropriately represents the work acquired by the AIGA archive (there are two exceptions to this, where the design firm wisely isolated the content awarded by AIGA to a specific URL that has intentionally not been updated. However, were the firm to no longer possess the URL, which is not out of the question, this content would still be lost). Some documentation of this web design is available on the AIGA Archive, but these are just still images of the site, which do not allow for the interactive qualities that are quintessential to web design.

The Internet Archive is a 501(c)3 non-profit organization dedicated to the preservation of web content. They have a “web crawler,” an automated computer script, which “travels” the web collecting data. This web crawler facilitates the data that is used in the Wayback Machine. The Wayback Machine allows users to visit web addresses at a specific date in their history. Many of the websites that were recognized by the AIGA were also crawled by the Wayback Machine, and an archived version of the site is available through the Internet Archive’s website. If this was the case, the description field of the work’s Argus record contains a URL to that archived version of the site. Unfortunately multiple sites in the collection blocked the Wayback Machine’s web crawler, and no archived version of the website exists.

Regardless, a URL will never represent a fixed access point to a website. Content on the web will always be subject to change. Any work that is in the museum’s collection should also be within the museum’s control, and therefore the media that makes up any website in the collection should be stored in the museum’s repository for safekeeping. See the “next steps” section of this report on possible ways to do this for content already acquired, and web design works acquired in the future.

I encountered several 3.5 floppy disks with a damaged “shutter.” The shutter is the metallic cover on the bottom of the disk which can move left and right, exposing the magnetic disk within the plastic cartridge. On more than one disk, the shutter was bent out of place, making it impossible for the floppy disk drive to move the shutter backward and forward smoothly. These bent shutters can also trap the disk in the drive, not allowing it to properly eject.

Some of the floppy disks assessed as part of this survey contain media in obsolete formats. These works are interactive applications that cannot function in a contemporary computer
environment. The most common way to address this issue is to “emulate” an outdated environment using a virtual operating system. Which operating system would be ideal for this task and the extent to which it would be possible requires further research. However, given that the material that is currently inoperable was created in the mid-1990s, it is fair to assume that restoration of this work is feasible. While the data from the floppy disks in the collection has been captured off of its unstable carrier and the threat of degradation has been circumvented, generally speaking, the longer a work is obsolete, the more difficult it is to restore. With this in mind it would be prudent to attempt to address these obsolete materials sooner, rather than later. An example of the type of work entailed in restoring software based work is discussed in the “Next Steps” section.

Copyright

Fair Use

Fair use is the legal exemption by which intellectual property can be distributed, exhibited or otherwise accessed without entering into a legal agreement with the rights holder of this property. Fair use is a central tenant to museum exhibitions as this defense allows cultural heritage institutions to present material that would otherwise be prohibitively expensive to license. The Denver Art Museum has previously exhibited material from the AIGA in the Drawn to Action: Posters from the AIGA Design Archives exhibit, deemed to be fair use by the museum’s staff, considering the educational public service the museum is providing by furnishing access and context to this material. The Code of Best Practices in Fair Use for the Visual Arts, developed by the College Art Association under the guidance of Lead Principal Investigators Patricia Aufderheide and Peter Jaszi of American University, documents best practices for artists and museums alike when working with copyrighted material. According to this Code of Best Practices, an exhibition of material from the AIGA Archives would be well protected by fair use. Furthermore, according to the CAA’s code, the use of material from this collection could be exhibited online, or used for promotional use, provided that:

- “Visitors to the site should be informed that the materials they access are provided for their personal and/or scholarly use, and that they are responsible for obtaining any copyright permissions that may be required for their own further uses of that material.
- “Institutions should prominently offer such users a point of contact for further information and correspondence and they should respond promptly to user complaints, corrections, and questions.
- “Materials made available should be accompanied by attribution as is customary in the field, to the extent possible.”


That being said, the Denver Art Museum acquired Non-Exclusive Licensing Agreements with the designers of posters that were used online or for promotional use in the case of the *Draw to Action* exhibition. It could be wise to use museum practices from this previous exhibition as a guide when exhibiting material cataloged and preserved as a part of this survey, given the shifting landscape of copyright law in the past decade.

The authors of the CAA’s Code of Best Practice in Fair Use for Visual Arts, Aufderheide and Jaszi, state in their own publication *Reclaiming Fair Use*:

“It’s important to understand that these factors [that allow for fair use] are only guidelines that courts are free to adapt to particular situations on a case-by-case basis. In other words, a judge has a great deal of freedom when making a fair use determination, so the outcome in any given case can be hard to predict.”

In this way, fair use is an evolving concept, one which has developed significantly since the proliferation of digital content, due to the ease by which producers and consumers alike can copy and distributed material. While recently the implementation of fair use has been expanded, particularly for institutions using intellectual property to provide educational opportunities for the public, there is no guarantee that this trend will continue. With this in mind, I would like to highlight a few potential risks to providing access to this material. It is my opinion, however, that none of these risks should be considered prohibitive, by any means.

*Lack of Executed Agreements*

The design firms that submitted their work to the AIGA signed agreements granting the AIGA:

“the right to exhibit and reproduce the work… in its entirety or in part, in the exhibition, for promotional purposes in connection with the exhibition, in the corresponding publication, in the National Design Archives and on AIGA’s website, as well as for promotion of AIGA competitions, exhibitions and activities.”

While the spirit of this language would allow for a Denver Art Museum exhibition, it is too specific to be considered outright permission for exhibition in perpetuity. Moreover, the AIGA Archives was unable to produce executed copies of these agreement. In the event of a dispute over this material, there would be no documentation of a designer entering in to this agreement. It is merely evidence of the spirit of the contract between the AIGA and their awardees. That being said, the executed agreement would only be one defence of using the material from the Archives, fair use, of course, being the stronger, better option.

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Underlying Rights

Underlying rights refers to the rights guaranteed an owner of an intellectual property that is incorporated into another work. *99 Problems [the typographic remix]* is a short video of animated text set to Jay Z’s *99 Problems*. While the intellectual property to the video lies with the designer Ande La Monica, the rights to the music remain with Jay Z and his record label. Moreover, the work uses the Agenda, Base, Dispatch, Filosofia, Giza, Griffith Gothic, Hamilton, Hometown, Miller Display, Nobel, The Sans, and Woodtype typefaces, as well as customized type created by La Monica. If any of these typefaces are not in the public domain then rights holders could have potential grievances.

The aforementioned contract with AIGA does stipulate that design firms must:

“possesses the right to reproduce and exhibit the accepted works and to grant that right to AIGA for the purposes set forth above.”

This would imply that designers had permission to exhibit these works despite underlying rights. A licensing agreement between the rights holders of music, logos, or other intellectual property featured in a work could stipulate the designers permission to reproduce and exhibit the work without additional permission, but the assumption that this is the case is dubious. Particularly so, when one considers that the rights holders of many of the intellectual properties featured in these works (Jay Z, Roc-a-Fella Records, and EMI, for instance) are household names with substantial legal representation.

Again, fair use would protect against any kind of legal action in an exhibition of work containing underlying rights. Moreover, a corporation like EMI taking legal action against a museum for the exhibition of their intellectual property would be a mistake from a public relations perspective.

Trade Marks

The advertising materials in the collection obviously feature logos and other trademarks. “Federal and State trademark laws exist to protect the specially designed ways that a company signals its identity (logos, design, a particular set of colors, even the shape of a bottle). It protects trademarks from competitors (Pepsi versus Coke) and from efforts to confuse customers about the product - or from widespread commercial uses that could “dilute” the value of those marks.” Laws protecting trademarks, then, can be seen as protection against negatively or misrepresented a company or product. It is hard to imagine a company would feel a museum exhibition of their advertisements misrepresented their brand.

Aufderheide and Jaszi use the example of Morgan Spurlock’s movie, *Super Size Me*, as an example of legal use of trademarks, in which Spurlock uses the McDonald's logo frequently, but the McDonald's company declined to take legal action.
Making Copies for the Purpose of Preservation

Section 108 of the U.S. Copyright Act does provide libraries with some protection for making copies for the purposes of preservation:

“(c) the right of reproduction under this section [i.e. §108] applies to three copies of phonorecords of a published work duplicated solely for the purposes of replacement of a copy of a phonorecord that is damaged, deteriorating, lost or stolen, or if the existing format in which the work is stored has become obsolete, if-

1. the library or archives has, after a reasonable effort, determined that an unused replacement cannot be obtained at a fair price; and
2. any such copy or phonorecord that is reproduced in digital format is not made available to the public in that format outside the premises of the library or archives in lawful possession of such copy.”

A joint-effort between New York University; the University of California, Berkeley; and Loyola University, New Orleans; funded by the Andrew W. Mellon Foundation investigated the legality and feasibility of libraries making copies of video, given the restrictions stated above. The Video At Risk project has since published their findings online, providing a helpful resource for libraries who feel uncertain of their rights for reproducing audiovisual materials. As of July 27th, 2015, the report can be found at this web address: http://www.nyu.edu/tisch/preservation/research/video-risk/

The Denver Art Museum should feel secure in making and storing digital copies of material in the museum’s collection. Digital copies also have the added benefit of potentially providing broader access considering the fact that making copies of digital material is significantly less labor and time consuming than making copies of physical materials.

Next Steps

More to Do

● There are still many optical disks that need to be preserved, through a process of disk imaging, then ingesting and extracting media and metadata from the content stored on the disk.
● The majority of the USB Flash drives were processed during the survey. Only a few drives have yet to be backed up on to the Collection Server and cataloged in Argus.
● Unfortunately only 8 floppy disks were fully ingested on to the server and described in Argus.
• However, all of the data stored on floppy disks in the collection (which could be read by a drive) was captured and is now stored on the Collection Server. This data still needs to be processed, ingested into the museum’s digital repository through Archivematica, and described in Argus.

• The few disks that could not be read by the museum’s floppy drive, due to damaged shutters on the disks, could still be accessed, through the help of an outside vendor that specializes in data recovery.

I have been attempting to document my workflow as I performed this work, and in the final weeks of this project I have been drafting a document describing the processes I am performing in order to capture and ingest this material, while also documenting the language I am using to describe the works in Argus. It is my hope that this documentation will facilitate the continuation of this project. This material can be found on the museum’s shared drive at:

\denverartmuseum.local\dfs\Public Temp\Collections Management\Variable Media\AIGA Internship Workflows and Report

Need for Restoration of Some Works

With less complex works, such as the single-channel video, material can easily be downloaded off of the Collections Server and viewed simply and quickly. However, this may not be the case with more complex works with greater software dependencies.

There are instances when all of the data related to a work was able to be preserved, but the operability of the work requires more investment. For instance the Art as Experience/Art as Experiment CD-ROM (2007.1281.1-5) uses a combination of html and Flash to function. All of the elements of the work have been preserved, but for the piece to be fully interactive, and display correctly on a contemporary computer, these elements must be “linked.” For instance, at the moment, when one loads the html files, the links between interactive featurettes do not function. The files for these featurettes, mostly short videos, function normally, they simply need to be “re-linked” in the html and Flash code. In the event of an exhibition or other conservation project this could be done with the help of a contracted programmer or software specialist.

13 Several of the floppies in the collection were damaged, and could not be read by the computer due to problems with the disks’ shutter.
Similarly, the emulation of an obsolete work, like the interactive software stored on floppy disks mentioned in the “Problematic Works” section of this report could be completed on the occasion of an exhibition, or special conservation project or survey. The research required for this type work essentially entails identifying the file and software type of these works, and a compatible operating system. Once a compatible operating system has been identified the work would, with any luck, function normally. This type of work could certainly be accomplished by a conservator with knowledge of digital media, or a specialist with interest in digital preservation.

**Potential For Collaboration**

Given the size, breadth and multi-disciplinary nature of the AIGA Archives, preservation and exhibition of this material present challenges on many fronts. One way to combat these challenges is to collaborate with other institutions and individuals, who have expertise with one or more of the eccentricities inherent to this type of media.

**Internet Archive**

Given the previous discussions of web content in this report, a potential collaboration with the Internet Archive could provide the Denver Art Museum with the best opportunity to better preserve this work and allow the museum to gain greater control over websites not currently held on the Collections Server.

Data captured by the Internet Archive’s Wayback Machine web crawler (described in the “Types of Works - Websites” section of this report) could be sent to the museum, at once granting the museum greater control over the web design in the AIGA Archives, and creating another “backup” copy of the data in a digital repository. While some of the archived versions of websites in the Wayback Machine do not always load correctly in contemporary browsers, it is possible that the html code that was captured by the web crawler could be restored by the museum (my understanding is the Wayback Machine is largely an automated process). Furthermore the Internet Archive has extensive experience with web content and could provide insight on how to best present this material in a museum context.

For websites that are currently accessible on the internet, such as the *Compost 09 Conference Campaign* website (2011.15.3), the Internet Archive’s” Archive-It” tool could be an approach for accessioning the material on to the Collections Server. “First deployed in 2006, Archive-It is a subscription web archiving service from the Internet Archive that helps organizations to harvest, build, and preserve collections of digital content.”¹⁴ My experience with Archive-It is that is a very modular and straightforward tool. This is not to say that it does not take time to learn, and dedicated staff to manage and maintain data captured during customized “crawls.”

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could also be used to continue building a collection of web design, to bolster potential exhibitions of the websites surveyed as part of this project.

Designers

This design collection also offers the exciting opportunity to be reinterpreted or contextualized through collaboration with contemporary designers. The design firms recognized by the AIGA could help to provide insight into their previous work, while simultaneously strengthening their relationship with the museum. Furthermore, some of this material presents interesting design challenges. For example, advertising campaigns are very much a product of their historical moment. Companies wish for their products to stand out from current advertising trends, while resonating with particular demographics that use aesthetic qualities to identify themselves. A design firm could provide examples of past trends or subcultures that the firm sought to either avoid or resonate with. This cultural context would then need to be positioned within the exhibit in a way that made this relationship clear, a visual, spatial and experiential challenge that could potentially be exciting for the designers that originally produced this material, or for new designers to interpret.

The complex nature of this media is another opportunity to harness creative talent in the design community. What does a museum exhibition of a website look like? How does a museum display the essential qualities of software? How does a museum visitor interact with a collection of digital images that make up a brand’s identity? These types of questions may be daunting to some, but could alternatively be exciting to an inspired designer. In this way the Denver Art Museum could at once recognize past and present designers, while providing public access to the museum’s collection in an engaging light.

An exhibition of material from this collection is an excellent opportunity to educate the public about the fragility of this media and the steps the Denver Art Museum is taking to preserve this material. Digital media’s ubiquity makes processes related to preserving electronic art relatable, and engaging. I experience anecdotal evidence of this public interest regularly. When I explain what I am studying people often have questions about how to backup their personal files, preserve their home movies or protect their record collection. In the same way, the provenance of the images visitors would see in an AIGA exhibition could deepen their appreciation of the material, and provide further historical context. It also presents another opportunity to incorporate contemporary design (and designers) into an exhibition, as the documentation of some of these processes is rich with visualizations and graphics.
Online Exhibition

The material preserved as part of this project could be ideal for an online exhibition. Many of the videos and images in the collection were originally produced for the web. These are lower resolution files that may not be best suited for gallery exhibition. Additionally, an online exhibition would feature these works in their original context, and could allow the museum to demonstrate complex relationship between materials in the AIGA Archives through hyperlinking or interactive interfaces. For example, a series of web videos created as a single campaign could be visually associated with one another, drawing the viewer’s attention to similarities and difference within videos from the same campaign. This same process could be extended to other campaigns, graphically representing a continuum of design concepts and execution within the same category. All without occupying valuable gallery space.

The websites and web design reviewed as part of this survey could potentially be linked to the Denver Art Museum’s website. Even archived versions of the this material, preserved by the Internet Archive’s Wayback Machine have static web addresses that allow the museum to feature material in the collection. As mentioned earlier in this section, exhibiting web design is complex and presents museums with challenges in terms of user interaction and exhibition design. Providing access to web content on the web circumvents this complexity and delivers material to the public directly, in its original, intended format. An online exhibition has the added benefit of potentially reaching a wide audience that may not be able to visit the Denver Art Museum.

Complete List of Works in this Survey

TV commercial, Boys and Girls Club - 2007.168.1-6
99 Problems [the typographic remix] - 2007.169.1-4
Afra: "Digital Breath" music video - 2007.170.1-4
“Advertising and Promotion, 2 Entries” - 2007.171.1-4
Tricycle Exhibition, NeoCon 2004 - 2007.172.1-4
Interactive marketing campaign, Shaun White - 2007.173.1-4
"Anthem," Chicago Tribune - 2007.175.1-4
Chime - 2007.249.1-4
Nike Presto 03, Nike Presto 04, Direct TV, HP Anthem - 2007.478.1-4
"No Limits" Identities - 2007.485.1-4
E! Entertainment Television Network Redesign - 2007.488.1-4
MADSCROLL Website - 2007.491.1-3
New York Film Festival 40th Anniversary Trailer Director's Cut - 2007.492.1-6
"Harley-Davidson: the 100th Anniversary Open Road Tour" Exhibition - 2007.493.1-3
MADSCROLL - 2007.494.1-3
BodyPaint - 2007.497.1-7
“364/24 video loop” - 2007.498.1-4
Dancing Jeans, Big in 2002, Sonic Cinema, Q101 WOW, MTV Clone High USA, Courage the Cowardly dog, The Art of Losing - 2007.504.1-4
Art as Experience/Art as Experiment - 2007.1281.1-5
Snow Monkey - 2007.1283.1-4
MTV's "Fashionably Loud" - 2007.1284.1-4
Nickelodeon Reface - 2007.1285.1-4
Thomas E. Wilson Foods Cooked Meat - 2007.1286.1-4
Burton "Cracker" Animated Brand Identity Tag - 2007.1678.1-4
Compostmodern 09 conference campaign - 2011.15.3
Chicago 2016 - 2011.16.2
The Holiday Bus Drive - 2011.23.1-3
Parker Marketing Identity - 2011.29.2
I Like Music Logo(s) - 2011.39.2
Nick Jr. IDs: Bouncing Ball, Ants, Reindeer, Owls, Counting Creatures - 2011.92.1-3
PBS Go! - 2011.93.1-3
T Magazine - 2011.94
Boom Boom Pow - 2011.96.1-3
Gravity - 2011.97.1-3
TED.com - 2011.99
AM Theme - 2011.101.1-3
Real Good Experiment - 2011.103
Not For Tourists iPhone Application - 2011.104
Body Collective - 2011.105
Chipotle iPhone app -2011.106.1-4
Michael Jackson's Legacy: Readers React - 2011.107
Timekeeper Interactive -2011.108.1-3
Catalone Design Co. Promotional Video - 2011.111.1-3
Céna garçons - 2011.112.1-3
Puma L.I.F.T. - 2011.113
Rock Docs - 2011.114.1-3
Herman Miller - 2011.115.2
Dream Baku - 2011.116.1-3
The Saint Johns Bible Website - 2011.117.2
AIGA MAKE/THINK Conference - Title Sequences & Motion Graphics - 2011.118.1-5
Ambidextrous - 2011.119.1-3
Paris & 3 Glasses - 2011.120.1-3
Fanta Visual Identity System Launch Video - 2011.121.1-3
Roca Barcelona Gallery - 2011.126
From Memory to Action: Meeting the Challenge of Genocide - 2011.127.2-4
Le Musee Grandit (The Museum of Growing) - 2011.129.2-4
John Lennon: The New York City Years - 2011.132.2-4
Christian Dior temporary store - 2011.134.2-4
26DC: Get Used to the Seats - 2012.114.1-3
“CG 18 - Caps + Stmts” - 2007.1879.1-3
FontBoy Interactive Catalog - 2007.2591.1-3
Soul Coughing Interactive Press Kit - 2007.2592.1-3
MTV Online, Where’s the Beat and Online Buzzclips, etc. - 2007.2593.1-7