ONLINE ACCESS FOR ALL: MUSEUMS AND THE QUEST TO SHARE COLLECTIONS WITH THE PUBLIC

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I thank my chair and members of my supervisory committee for their guidance, as well as my parents and family for their encouragement. I would also like to thank the staff of the Samuel P. Harn Museum of Art for allowing me to work with their collection.
My research project explores how museums can use the internet to provide greater access to collections information and images, while also keeping within budgetary constraints. Because they can afford to, many large museums use their own websites to share their collections online. Museums with smaller budgets and fewer employees can make their collections available to the public online in a similar fashion for a relatively low cost with the use of online repositories and networks, and standardized metadata. Online repositories and networks aggregate data from many museums and make their collections available in one place. For my project, I surveyed museum collections’ staff and did case-study evaluations of museum websites. The primary purpose of this project is to enhance object protection while still fulfilling an educational goal. By allowing more access to digitized objects, the important cultural property in museum collections can be handled less and we can reduce their risk of damage.

The Samuel P. Harn Museum of Art, at the University of Florida, in Gainesville, received a grant in 2008 from Institute of Museum and Library Services (IMLS) to digitize and share their collection on the web. For my project I prepared a set of about 8,400 images from the Harn
Museum for uploading to a shared online image network called the eMuseum Network®. This included standardizing the images and determining which ones would be made available in the network. I also helped prepare a plan for the Harn Museum to attach informational metadata to their image files. I use my work at the Harn Museum as an example of how smaller museums can better share their collection without the risks normally associated with allowing physical access to the collection.

I generated procedural documents that detail how the Harn Museum should prepare their digitized collection to be uploaded to the Gallery Systems eMuseum®. They include the procedure used for standardizing the images, guidelines for attaching identifying metadata using Adobe Bridge, and the procedure for protecting those images that might be copyrighted or otherwise outside of the Museum’s legal control. The project includes an overview of the problems facing museums that attempt to share their digitized collections online, and how the use of repositories and networks can positively affect museums in this process.
CHAPTER 1
INTRODUCTION

Museums are obligated to maintain a balance between two seemingly opposing goals: protecting collections from damage while also allowing the public their rightful access to the objects. By digitizing and sharing collection information on the web, museums continue to protect the collection while providing the public with the opportunity to interact with museum objects. In 1999, James Clifford fantasized about a tool that lets the public go online into a shared museum search engine, find an object, and instantaneously connect to information from a wide variety of museums and other collecting institutions. Only a small percentage of a museum’s collection is exhibited for the public at one time, while the majority is kept in storage and unavailable to visitors. And even though the digital realm can be a safe and educational environment for museum collections, too few museums are able to share their digitized collections this way due to a lack of staff time and the high costs associated with digitization. Barring access to collections will mean these objects are often not used to their full potential. Museums clearly need to provide increased access to the rest of the collection and collection data. Researchers could use searchable online repositories or networks to view objects from many different museums, and see the research of many curators at once. This kind of online access would facilitate research with museum collections, as well as reduce the risk to the physical collection.

In an e-mailed survey I conducted with the members of the American Association of Museums Registrar’s Committee list-serv (RCAAM@SI-LISTSERV.SI.EDU), it was discovered that staff at most museums are feeling pressure from the public to digitize and share their

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collections on the Web. The Digital Asset Management Survey [Appendix A] included questions first about the museum’s size and scope, then about digitization of the collections, and finally about the kinds of concerns the registrars had regarding sharing digitized museum collections on the Web. I chose to contact this particular group because registrars are often in charge of issues relating to digital asset management in museums. The survey sample is therefore composed of those registrars who chose to respond to my questions. Although only ten museum employees answered my survey, I was content with the range of collection sizes represented since the purpose of the survey was to help determine how museums of various sizes are dealing with issues relating to access to digitized collections. The responses allowed me to compare different procedures and philosophies on digital asset management in museums. All of the respondents felt there is a need for consistent and thorough digitization of museum collections. This tells me that museum registrars are already considering digitization an important aspect of collection stewardship, although many museums are still striving to achieve this goal.

In the Digital Asset Management survey I asked about the procedure for responding to image access requests from within an institution, as well as from the public (researchers, etc.). In the questions regarding image access within an institution, I found that most museums receive frequent requests from curatorial, education, and most often public relations and marketing departments. I found that nine of the respondents reported occasional to frequent requests for image access. There was a general trend towards more informal procedures regarding image access in the museums with less staff in the registration department, regardless of whether the request came from within the institution or from the public. This is probably because staff time is necessary to provide access to digitized objects, and staff time is not always available. So with less time to respond to these requests, less formal procedures are sometimes necessary. Even if
the object has already been digitized, the resolution of the digital image and copyright status need to be checked before the image can be given out. With so many other responsibilities, collection staff doesn’t always have time to quickly respond to requests for image access and use. It’s easy to see how procedures can become informal in these situations, even while recognizing the need for a more formal process.

Eight of the respondents stated that museums should provide access for the public to collection images, yet they all acknowledged the difficulties related to digitization in museums. Some of these difficulties, especially those involving staff time, could be alleviated by sharing collection images and information on the Web, yet only two of the respondents reported allowing the public substantial access to images on their own museum’s website. Only one respondent reported a plan to eventually provide access to the entire collection through their website. Some of the respondents seem to view repositories and networks as another viable option for sharing collections on the Web. Three of the institutions have already uploaded some collection information to repositories or networks, despite having few images on their own website. This suggests that they may not be able to afford an online catalogue on their website, but they have still been successful with sharing their collection online.

Although none of my respondents had their collections fully digitized, and it would be safe to say that few museums do, this does not mean that providing access to a collection through digitization is not a worthwhile goal. This survey told me that even with few resources it is possible to share a digitized collection on the Web if digitization is considered a priority by museum staff. Few museums are working with an excess of money and staff, yet some of the respondents working in museums with just one collection staff member have been able to digitize at least parts of their collection and provide some form of online access to that
information. These registrars can be happy knowing that their institution’s collections are getting the visibility they deserve, helping scholars, and staying safe from harm.

I concluded from the survey that museums of all sizes are feeling pressure from other the public to share their digitized collections. Smaller museums tend to allow more access to image files within their own museum, and they often deal with external requests on a case-by-case basis rather than with a formal process. These same museums also reported concerns about image access and misuse of images, suggesting that a more formal process would help protect digital assets and assuage the apprehensions of collection staff. While the survey responses showed concerns about the loss of control over digitized objects, respondents also showed the desire to serve the needs of researchers and the public by making collection images and information available on the Web.

The increasing popularity of the Internet has already allowed some museums to use their individual websites to share collection information with a worldwide audience, while other museums are still struggling to reach this goal. Because this kind of online access requires either staff time or funding (and often both), how can museums with few staff members and small budgets share information on the Web? And how can they do it both affordably and safely? These smaller museums are finding that online catalogues require too much regular maintenance and are often too costly to create and upkeep. As information about the collection changes, the website needs to be updated. New objects need to be added regularly and programming issues have to be dealt with in a timely manner. Without the expertise or time to create and keep up an online catalogue, and without the budget to hire outside help, the prospect of sharing a collection online can be difficult for museums with fewer resources.

Some museums are finding online repositories and networks to be more practical ways to share their collections on the Web. These are controlled by a third party who collects images and information from many museums and organizes it to make it available and searchable online. Some organizations encourage the sharing of information between museums, libraries and archives, so that researchers can quickly find information from many sources at once. Repositories and networks have a similar use, but they each work with data differently. Repositories store data, while networks access data already stored at the source museums. This means that a repository doesn’t require extra server space for the museum contributing data, but information may become out of date. With a network, the museum needs server space to store the data, but the information will be automatically updated as the museum makes updates in their electronic database. Networks and repositories function similarly for users, and the end results are the same. Because of this, they will be treated in this paper as the same kind of technology despite their technical differences.

Repositories and networks are almost always created with research and education in mind. They have the explicit goal of making more detailed collection information available on the Web, and because of their collective nature they are much more useful to scholars. A repository or network makes the collection information of many museums available. This kind of collaboration makes the information from each individual institution that much more relevant to researchers and the general public. Because the images and information are usually downloadable, repositories and networks facilitate the use of this information in research. These projects strive to provide a richer variety of information than individual museum websites can provide.

Many collaborative repository and network projects have been intended to advertise the research possibilities of the collections involved, such as the Visual Image Access (VIA) catalogue at Harvard. This was a project that localized the many sources of visual images and information at Harvard into one centralized database, and involved the cooperation of the Harvard University Art Museums, the Peabody Museum of Archaeology and Anthropology, and the Harvard libraries and archives. The VIA catalogue was specifically meant to allow access to digital images and information so that researchers would be more aware of the available resources at Harvard. The VIA catalogue project serves as an example of how repositories and networks can stimulate and facilitate research.

Since most museums don’t let scholars freely wander in storage, viewing museum objects can be time consuming for researchers and stressful for museum staff. Normally when a researcher wants to work with museum collections they deal directly with the registration staff to gain access to the objects they want to study. A scholar would need to first inquire at many museums to discover if they have objects in their collections that could prove useful in their research. They would then need to make appointments with the chosen institutions to see these objects, which takes up staff time and puts the objects at risk. In general, the fewer people allowed access to an object, the safer the object will be; but museums have an ethical responsibility to make their collections available, so hiding them in storage indefinitely is not an option. Although scholars and museum staff inherently share the common goal of preserving museum collections, objects are put at risk every time they are accessed and moved.

By digitizing and sharing museum objects in a network or repository on the Web, the number of requests for physical access to objects can be reduced because researchers can peruse

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museum collections before having any contact with staff or objects. The use of repositories and networks makes the process of finding objects to study much simpler because it allows researchers to work on their own to sift through museum collections. When they do need a closer look, they’ll have a better idea of what institutions have objects they want to see, and they may already know quite a bit about that particular object and similar ones in other collections. Through digitization and sharing in repositories and networks, collections can be protected while also being included in valuable research opportunities.

Repositories and networks are cheaper and better options for museums with fewer staff and less funds for a website catalogue. While individual museum websites might great public relations tool for those museums that can afford it, they only present the information of one institution and thus fall short of the educational possibilities of a repository or network. Repositories and networks often require nothing but your own digital images and matching information (such as artist, title, descriptions, provenance, etc.). Some even provide free tools and support to help provide access to digitized collections for smaller museums without the staff or budget to work on their own. These tools include digital asset management systems and image editing software, as well as technical support for museums attempting to join the repository or network. Repositories and networks are controlled by third parties, so upkeep is minimal for museum staff. And because they are collaborative in nature (many museums contributing to one large set of data), they also help museums fulfill their educational missions by making their collections information more readily available to the public.

In order to present object information in an easily retrievable way, most repositories and networks must use metadata to sort the information associated with each digital image. Most people are familiar with the metadata that is recorded on home movies and digital photographs.
When the image or recording is viewed, the date and time are automatically displayed, and this information is embedded in the file as metadata. Even though metadata is used every day in museums (in ledgers and electronic databases), digitized metadata isn’t something many museums currently consider necessary for their image files. Because of the versatility and durability of metadata, attaching metadata ensures that image files are associated with the appropriate information regardless of where the file goes or what happens to it. Having this information attached to image files is a key step in uploading images to most repositories, and also the most costly and time-consuming step for museums to undertake (which is possibly why metadata not a priority for many museums).\(^5\)


CHAPTER 2
HISTORICAL OVERVIEW

With the rise of the Internet in the 1990’s, websites became a popular way to promote museums and their collections. Museum staff realized the communication potential of sharing information on the web, and visitors quickly began to expect collections information to appear along with the museums’ hours and rates. Possibly because these same visitors had become comfortable using online library catalogues where information is available at the touch of a button, they began to expect similar accessibility from museums and other collecting institutions.

Library websites are often more useful for research because of this accessibility, while museum websites serve more as advertising for the institution. Libraries and archives with online catalogues tend to network with other organizations, making their entries more plentiful and more relevant to researchers. However, museum websites with online catalogues often present no more than basic “tombstone” information about their objects, and they are generally expensive to implement. These sites usually provide no links even within one collection and certainly do nothing to reference sources outside of the collection. Rather than providing a high quality educational resource for researchers and the public, these websites are more of a public-relations tool.

Online repositories and networks are another new and useful alternative for museums trying to share their collections on the Web because they provide collections data from many institutions at one localized access point. Although these tools may seem new to many museum employees, they had already begun to surface in discussions at museum technology conferences

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7 Spinazze, 37-50, see p. 42.
by the mid 1990’s. Repositories and similar networks of shared museum data tend to provide a greater depth of information. When searching many museum collections at once it’s easier to make connections between different kinds of objects; users are able to see notes from many different curators (making the information less homogenous). The information relating to the objects becomes more relevant as more data is added to the set.

Some early repository projects were successful and helped pave the way for future collaborative online projects. The Consortium for the Computer Interchange of Museum Information (CIMI) began a project in 1995 to create the Cultural Heritage Information Online (CHIO). This was meant to be a multi-institutional database incorporating different kinds of digital objects (from museums, libraries, archives, etc.); the primary goal was to have these objects and documents available on the web in an easily accessible database.

The CHIO project uncovered some basic problems with online repositories and networks for museum collections: the subjective nature of museum catalogues, and issues of confidentiality. When gathering the data for CHIO, it became clear that the information was highly subjective, and therefore it was difficult to predict what vocabulary users would be looking for. That was especially a problem when attaching metadata to files, because it was necessary to standardize the terminology in order for computer programs to sort the information. While one curator may have one description for a museum object, another (even in the same institution) may disagree. For example, one may refer to a pot as a “vessel” while another may call it a “vase.” This underscores the importance of standardized terminology, and projects like the Getty Data Standards and Guidelines. Programmers at CHIO also dealt with the problem of confidentiality and restricted information. While curators were happy to have their internal

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9 Spinazze, see p. 41.
databases record donor information, it was clear that this should not be part of CHIO. Overall CHIO was a successful project, and it helped to underscore the importance of standards in museum practice.

There have been other successful projects relating to online collections access through networks or repositories in the U.S. One example is the Museums and the Online Archive of California (MOAC). This project started in 1997, when several museums approached the California Digital Library (CDL) about sharing their collections in a collaborative online resource. With a grant from IMLS the CDL was able to create an online repository where California museums could upload collections information.

The MOAC online repository is free to the public and still available online, along with some free tools that can help museums care for their digitized collections. The highlight of these resources for museums is a free Digital Asset Management Database (DAMD) that works with FileMaker (a common program used in museum collection management). This free Digital Asset Management Database helps organize a variety of digital assets (everything from pictures to music to html documents), and also provides the tools to automatically attach metadata to the images in the database. These systems are often very expensive, so providing one for free helps any cultural institution that wants to properly care for their digitized objects.

Outside of the U.S., some countries have found that government-funded national collaborative projects like CHIO and MOAC are useful both for researchers and for helping to protect the cultural heritage of individual nations. The Canadian Heritage Information Network (CHIN) was created in 1998 to help unify and protect the information supplied by Canadian museums. The creators of CHIN described the program as a “meta-center.” Because CHIN

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10 MOAC Community Toolbox
11 Keene, see p. 98.
12 Spinazze, see p. 44.
functioned as a network, data was regularly updated from the individual sources. If information about an object is changed in the source institution’s database, the CHIN information will update as well, making maintenance easier. The CHIN project eventually became the Virtual Museum of Canada, which not only houses collections information from a variety of Canadian museums, but also serves as an access point and tool for museum staff to interact and share ideas between institutions.\textsuperscript{13}

Australia had a similar network project, called Australian Museums and Galleries On-Line (AMOL), begun in 1999.\textsuperscript{14} Originally this network was meant to be a service for museum employees. It created the space for an online community and made it easier for museums to interact and share ideas. They offered free web-space and tools to help museums contribute collection information to the web.\textsuperscript{15} The Australian government also created the Collections Australia Network (CAN) in 2004, which took any museum collection information from AMOL and merged it with the online catalogue of CAN. Although the search function of the Collections Australia Network doesn’t provide users with any advanced search options, a simple query will provide many visual examples of the search term. For example, if you search for “doll,” you get a variety of children’s’ toys, indigenous artifacts, and fine art examples of the search term.

The Collections Australia Network provides some level of public access to 80 different Australian collecting institutions with minimal government funding. The Australian government gave roughly $145,000 to CAN in the 2007-2008 fiscal year, and state/territory governments

\textsuperscript{14} Spinazze, see p. 45.
gave an additional $96,000. This is not a tremendous amount of funding for a program that should prove very useful to researchers and the museum community. To compare, the Institute of Museum and Library Services (IMLS) gave $31,505,420 in grants to museums in 2006. Not all of these grants would have been specifically for digital asset management, but many of the grants awarded by the IMLS involve digitization.

Even in situations where funding might be available through grants or donations, museums may still struggle to provide safe online access to their digitized collection. The concerns expressed in my survey about access to digitized collections related to staff time and cost, although many respondents seemed aware that this kind of access is helpful for researchers and can bolster a museum’s public image. There are issues beyond the actual digitization of objects, and even with some of the technical help associated with using an online repository or network, museum staff members still have to decide what to share and how to share it.

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CHAPTER 3
THE PROJECT

The Harn Museum received a grant in 2008 from IMLS to help digitize and share their collections online using Gallery Systems’ program eMuseum and the eMuseum Network. This project was justified in the grant with information from the Harn Museum’s Futures Conference, held in September of 2002. At the conference, seventy community leaders discussed the future of the Museum, and access to digitized collection on the Web repeatedly came up as an issue. The conference showed that the community wants the Museum to utilize new technologies because they see the possibilities for the Museum’s educational mission. The eMuseum and eMuseum Network will allow scholars more access to the Harn Museum’s collection, and will also aid the Museum staff and docents in planning educational tours. Docents can use the eMuseum to get more information about certain objects, which can help them decide what to focus on when speaking with visitors to the Museum. The program also allows University professors to create packages of objects for classes, so that certain objects are available during lectures and for students. With funding from the IMLS, the Harn can now step into the 21st century and begin to provide online access to their collection with the use of eMuseum and the eMuseum Network.

The eMuseum works with the Harn Museum’s current database, The Museum System (TMS), to create an interface where the Harn Museum’s digitized collection can be shared via the web. It provides templates and is capable of pulling information directly from the TMS database. The eMuseum in itself is a great tool for museums using TMS because it makes creating an online catalogue a much easier task. The eMuseum can also function as a network, allowing users to upload information which can be viewed from a localized access point.

The eMuseum Network is a network which allows many museums to contribute and share their collections information online, although the public cannot access it. Hosted by the
prominent museum software company Gallery Systems, the Network allows users to view digitized collections of other partner institutions. The eMuseum Network is free for museums to join, and allows users to share images and the corresponding information with other registered users. The Network does not require the user to own or use the eMuseum, although having the program does make it easier to upload information.

The purpose of the eMuseum Network differs from other examples of repositories and networks, which were often meant for researchers and the general public, because it seeks to foster partnership amongst museum professionals. Only institutions who are content-providing partners may use the system. Although this could prove helpful to museum professionals looking for certain kinds of objects in other collections, if the Network were more accessible it would have more potential as a tool for researchers. Not only does one have to be part of a museum institution to join the Network, but access to the Network is restricted to those museums currently providing material. Although there are presently no plans at Gallery Systems to make the Network accessible to the public, users are reportedly requesting this kind of open access. As demands for public access grow, it is possible that Gallery Systems will change the purpose of the Network from merely inter-institutional sharing to a public-access collections network. It’s my hope that the network will eventually have enough participants that Gallery Systems will choose to make the network publicly accessible. There are currently only a handful of institutions sharing collections through the Network, although the potential for it to become a large localized collections database is clear.

To help prepare the Harn Museum’s digitized collection for the eMuseum, all of their image files had to be processed, standardized, and approved for online use. This involved sorting through about 8,000 image files in a variety of formats and sizes. Once the files had been processed and standardized, they would need metadata taken from the Museum’s database (TMS) attached to ensure the longevity of the data. After that, copyright information would need to be checked for those images chosen to start the Harn Museum’s eMuseum. Once the files were processed, given metadata, and approved for use on the web by the registrar, they were ready to become the beginning of what will grow to be a full online catalogue of the museum’s collections.

The first step to processing the image files was cleaning up the Museum’s media drive by identifying and separating master files from derivatives (originals from copies). The Harn Museum uses TMS’ Media Module to attach digital image files to their object records in TMS. The Media Module draws its images from a separate media drive at the Museum, which is divided into various subfolders. The TMS Media Module works directly with what is called the “Screen” folder. The folder’s name refers to the fact that images held there should visually be “screen-sized” derivatives (72 ppi) when viewed on a computer screen. They should not be master images, to avoid the database accessing and potentially altering master files.

For my project I created a folder of all master images (the Master folder) for the Harn Museum. A master image is an original digital image, containing all of the visual information possible according to the resolution of the camera used to make the image. Once the image is altered (by cropping, changing the format, etc.), information is permanently lost. Retaining the master image ensures that a high-resolution publication quality version will always be available. Master images should be in Tiff or RAW format in order to retain the most information. This
was important because once the eMuseum is implemented at the Harn Museum, it will be directly accessing TMS and could therefore potentially access the digital images within TMS. To avoid a user accidently (or maliciously) downloading a master image from the Harn Museum’s collection and risk violating copyright, it was necessary to ensure that all digital images attached in TMS are of a low-resolution (i.e. “screen” sized). This will also make the eMuseum work much more easily in the future, since all of the pictures within the Screen folder will be pre-processed and ready to be used in the eMuseum or for similar online purposes. When staff members select images to share, they can easily take files from the Screen folder without the need to edit first (which they would need to do if they files were not the appropriate resolution).

The Master folder is separated from the Screen folder to better protect the files. Previously there were a variety of file types and resolutions in use in TMS, including many master images. Because TMS directly accessed these image files, in some cases they were altered by the database and the original file was lost. These files can now be saved as “Read-Only,” ensuring that the master image files will never be accidentally altered or deleted. Once the eMuseum is set up and is available on the web, the Master folder will be accessible only to the registrar at the Harn Museum. Incidentally, TMS works much more efficiently when file sizes are more manageable, so this part of the project also resulted in a database with less loading time when viewing images.

To identify master files, I went through the Screen folder and checked the resolution, format and size of each image. Many of the images saved there were in TIF format, which is more suited for master files (rather than screen-sized) because it allows for compression without loss of quality. These TIF files were master files in most cases, because they were publication-quality and they were usually the original file received from the photographer. Overall I
discovered 1,047 master files within the Screen folders. These files were separated so that JPEG
derivatives could be made for TMS and the eMuseum, because this common digital image format
minimizes the file size but still keeps relatively good image quality. In the guidelines I created
for the Museum, I included an edited version of the Museum’s resolution requirements for
various image file types, with the addition of path-names to help identify where each kind of file
should be saved. This will help ensure that master images never mistakenly make their way to
the wrong folder, and potentially the web [Appendix B].

To process the images, I then had to make appropriate derivatives of the image files. I
first made a derivative of the master files using Photoshop, specifying a 300 ppi resolution and
saving the file as a JPEG to save space on the server. These 300 ppi files were then saved as “Hi-
Res” (high resolution), which can be used for curatorial presentations or even some small
publications (like flyers). These same master images were also copied a second time into the
screen folder, where they were processed at 72 ppi and saved as JPEGs. 72 ppi is a fine
resolution for viewing on the web, but is useless for publications. This will help ensure that none
of the Harn Museum’s images will be taken from the website and used commercially. The same
process was used to make derivatives of images with no master file, so that the Museum will
have low resolution images for the web.

I was able to batch-update some groups of these images using Photoshop. Photoshop has
the capability of saving “actions,” which means it records and saves the way you edit a certain
image and you can then apply that action to a large set of files. This relieved me of some of the
more tedious work, as I was able to set Photoshop to do much of the processing for me, folder by
folder. I recorded my procedure so that others can process derivative master images in the same
way, including using the “action” function.
Once the image files were prepared to be used in the eMuseum, the curators had to choose a set of starter images to get eMuseum up and running. Each curator at the Harn Museum chose a group of objects they want to represent in the eMuseum. Generally curators are the ones who should choose which objects to share on the web, since they focus on the intellectual framework of the collection. However, there are two important considerations when choosing images to share: copyright and the Visual Artist’s Rights Act. These should always be checked by someone from the registration department to ensure the museum is following all legal requirements when sharing images on the web.
Copyright Considerations on the Web

It’s important to remember that a website is a publication like any other, and the same copyright rules apply. At the Harn Museum, it was important for me to double-check the copyright status of all of the images chosen by the curators to include in the eMuseum. With some of the collections this was very simple: most of the African and Asian objects chosen were in the public domain, eliminating copyright concerns. In the Contemporary, Modern and Photography collections, some of the objects chosen had copyright limitations or unclear copyright status. Because of this, I wanted to see how other museums deal with copyrighted works on the web.

Ideally the copyright status is made clear when accepting a new gift or making a new purchase for the collection, but if it’s not then copyright will need to be requested. If the donor does not hold copyright, which is often the case, the copyright holder (most likely the artist) will need to be contacted. The use of a digital image on the web should be explicitly included in the request. Some artists may have specific guidelines for showing their work on the web, and it’s important to have this information in the object’s file to comply with their wishes in the future. For example, when a request for non-exclusive copyright was sent to one of the artists whose work was chosen for the Harn Museum’s start-up eMuseum, they stipulated that the work be presented as a 72 ppi JPEG, with the museum making a “substantial effort to protect the image of the Work from being downloaded from its web site.”

Assuming the museum knows the copyright status of its works, the next step is to determine how best to make a “substantial effort” to protect copyrighted images once they are on the web. There are some high-tech options for protecting images from malicious downloading, such as blocking images from being saved, or allowing users to view only a small part of the
work at any one time. With the eMuseum our options for image protection are more limited. We are restricted to withholding an image altogether, providing it as a thumbnail only, or watermarking the image. Part of my project was to help determine the best way to protect images online.

To help find the best way to protect images from being downloaded and used illegally, I conducted a formal survey of eight major museum websites to see how they deal with copyright issues in their online catalogues [Appendix C]. I chose only museums that have large online catalogues available through their websites, as well as collections of contemporary art (which would likely be copyrighted). It’s important to note that these museums are exceptional in their level of online access to their collections, since the majority of museums cannot afford to cover the costs of these kinds of projects. I evaluated these museums on their level of protection for copyrighted images and compared this to their protection of non-copyrighted images. I took the role of “user” and accessed the contemporary artworks in their catalogues, testing to see how they protected their images from copyright infringement.

The majority of the museums I looked at in my survey provided some sort of consistent copyright message for the images of copyrighted works. In most cases this statement was the copyright symbol, with the name of the artist or organization that controls the copyright for the work, but sometimes it was more general and simply stated that the work was copyrighted. In order to be certain that the image will receive international copyright protection, it’s necessary to include the international copyright symbol as well as the name of the copyright owner and year of publication. This will meet the requirements of the Universal Copyright Convention, and will signify to most users that the image is copyrighted.²⁰

I was impressed with several of these museums that had even more advanced copyright protection on their digitized collection than most museums. The Brooklyn Museum and the Los Angeles County Museum of Art both present copyrighted and non-copyrighted works in their online catalogues, with the ability to enlarge the thumbnails of only non-copyrighted works. If you select a thumbnail of a copyrighted work and attempt to enlarge it, a pop-up box informs you that the work is copyrighted and therefore can’t be viewed in a larger format. The Brooklyn Museum and the Museum of Modern Art both make it impossible to save image files if they’ve been enlarged (regardless of copyright), effectively stopping users from downloading the images for an illegal use. Screenshots could still be taken (using the “Print Screen” function on most PCs), but the quality would be so low that the image could only really find a use for “fair use” purposes, such as educational presentations or casual research.

Some museums in my survey chose to completely exclude copyrighted images from their site, even if the objects themselves were included in the catalogue. This is one possibility for protecting copyrighted images, because the museum still provides information about the object (making it available intellectually to users). This is also something that occurs more frequently in shared repositories and networks, and it seems to be an effective way to ensure that a digitized collection is only used with permission but still allows researchers and other museums to access the specifics of your collection. However, it could be argued that the lack of an image could make the object’s information less useful.21

Five of the eight museums provide visible access to Rights & Reproductions information through their online catalogue, making it easy for users to understand the process by which they

can attain rights to an image. A few of the museums even provide forms through their website, so a separate email or phone call isn’t necessary. One museum (The Cincinnati Art Museum) forces users to accept the terms and conditions of use before entering the online catalogue. This is an easy way to protect your institution, because every user must view a short paragraph about copyright restrictions prior to viewing any part of the digitized collection. This information was consistent with the results of my Digital Asset Management Survey (discussed earlier), where several respondents reported having Rights & Reproduction and copyright information for users requesting access to images.

Every one of these eight museums allowed some form of downloadable image access (meaning it’s possible for users to download and save images), although these were sometimes only thumbnails and always low resolution. The resolution of images saved was almost always 72 ppi, which fits with the Harn Museum’s own standards for low-resolution images on the web. One museum provided 96 ppi images (on only non-copyrighted works), while another provided 180 ppi images (also only for non-copyrighted works). 72 ppi seemed to be a fine resolution for the casual viewer, but when the file was opened in image-editing software it was difficult to see details. Researchers and users interested in detailed views of an object would still need to request access from the museum to see a higher-resolution image.

This survey brought up the issue of whether or not museums own the rights to photographs of artworks in the public domain. The dominant trend in my survey was to put no copyright notice on images in the public domain, but one museum listed itself as copyright holder for works in the public domain. Assuming you’re sure the work is in the public domain, there is still the question of what kind of copyright notice (if any) to put with the digitized object. Because of the 1999 court case Bridgeman Art Library v. Corel Corporation, some museums
may fear they’ve lost the rights to their images of public domain works. In the case, the Bridgeman Art Library brought an action against the Corel Corporation for the use of one of their images in the corporation’s logo. The court decided that because the original work was in the public domain, and the photograph of it was not sufficiently “original” to warrant copyright, the image was available for free commercial use.  

Although Bridgeman Art Library v. Corel Corporation could potentially mean a financial loss for many institutions, museums still tend to charge for use of their images (especially in commercial publications). Seven of the eight museums in my survey chose not to include copyright notices for public domain works, but these same museums still made their Rights & Reproductions policies clear to users. Some even included price lists, making it clear that they will charge for the use of any of their images, regardless of whether or not they are in the public domain. One museum specifically stated that their public domain works could be used for “fair use” purposes, but that any commercial use must be paid for by the user and approved by the museum. The Museum Copyright Group (MCG) (a UK based group dedicated to providing copyright information to museums) believes Bridgeman v. Corel will have little effect on the way museums use their digital images of public domain works, even in the U.S. According to the MCG, there have been “no serious attempts by commercial users to undermine the position of museums,” meaning that there has not been rampant abuse of museum images in commercial forums since the 1999 court decision. It’s possible the deluge is still to come, but perhaps the public recognizes the cost of the care of an object and its digitization, and will continue to pay for the rights to use images of these works. For now, it’s safe to assume that museums do retain some rights to their digital images of public domain artworks, although these rights are not

copyright. Because of the cost of caring for an object and having it digitized, as well as the cost of staff time to provide access to the digitized object, it’s fair to say that museums should continue to ask that users request permission for use and pay Rights & Reproduction fees when necessary. However, this emphasizes the importance of protecting high-resolution images which could potentially be taken and used without permission or repercussion.

This survey also highlighted the importance of knowing the source of digital images. Without a record of who took a photograph, it can be impossible to determine if the museum has the legal ability to publish the work. Normally at the Harn Museum, staff members record the source of an image in the TMS Media Module. But because this hasn’t always been done, it’s sometimes impossible to know the source of an image. Although it’s fairly easy to tell if a photograph was taken by staff or interns (i.e. “in-house”), an image of professional quality was not necessarily taken by a contracted photographer for the museum. Some of these images may have been sent by the gallery the object was purchased from, or could even have been taken from the web. Without a clear record of the source of an image, it’s best to assume someone else has copyright and avoid using the image in any kind of publication (including a website).
Visual Artist’s Rights and the Web

One possibility for helping to protect copyright on the web for the Harn Museum is the use of watermarks. The eMuseum has a feature which allows the museum to upload any image or logo and use it as a watermark on images of the digitized collection. For the Harn Museum, this would mean watermarking the images with the logo for the museum. Although this initially seemed like a good idea, it brought up the issue of the artist’s integrity. Although watermarking is a very common way for contemporary photographers to protect their work, it may not always have the desired effect for a museum because it could violate the Visual Artists Rights Act (VARA) of 1990. Watermarking alters the appearance and effect of an artwork. The act states that artists have the right to “prevent distortion, mutilation, or modification that would prejudice the author's honor or reputation,” and it’s easy to imagine that a watermark could fall into the category of modification.23

One of the artists whose work was chosen to be part of the Harn Museum’s startup eMuseum did request that no “overprinting” be done to the work before it’s displayed on the web. “Overprinting” refers explicitly to a watermark or other more blatant indicator of ownership (such as putting the copyright notice on the image itself). Although it’s not likely that a VARA claim would go to court, having an artist be unhappy with the way their work is displayed on a museum’s website could still be potentially damaging to the reputation of the museum.

This is a difficult issue because a watermark intentionally changes the appearance of an image so as to avoid it illegal use. Putting the watermark at the edge of the image so that it doesn’t interfere with the quality of the artwork would negate the purpose of the watermark (it could easily be cropped). Not a single one of the museums I surveyed used watermarks on their images, and it would be hard to imagine that a large “MOMA” logo across every digitized object

23 Duboff, see p. 330-331.
wouldn’t interfere with the integrity of the artwork. When a photographer watermarks their own works, it’s generally to avoid clients making their own prints. It helps the photographer control their images and helps them to maximize profits. But those photographs belong to them, so they have the right to alter them before putting them on the web. Three of the respondents of my Digital Asset Management Survey reported using visible watermarks to protect digital images, but two of these are institutions that do not collect contemporary art (making VARA a moot point).

It’s possible that VARA may not apply to digitized objects, since the modifications caused by a watermark are not being made to the original object but instead a digital derivative of that object. VARA explicitly applies only to certain kinds of work (paintings, drawings, prints, sculpture, and photographs meant for exhibition only).\(^\text{24}\) However, in the absence of any legal precedent, museums should be prudent and avoid the use of watermarks on image files whenever possible. These images are being displayed on the web and are meant to represent the artists’ original work, so the museum has an ethical responsibility to accurately depict the artwork to the best of their ability.

In conclusion, I believe the best way for the Harn Museum to protect their own rights and the rights of the artists that will be represented in the eMuseum is through the presence of a copyright statement and resolution control. Images set to 72 ppi will be useless to anyone trying to circumvent copyright law because the quality is too low to be publishable, but these images can still be useful to researchers. If the Harn Museum has easily accessible copyright and Rights & Reproductions information on their website, users can easily request to see high resolution image files. Clear copyright information should be placed for all works where the copyright is held by the artist or another organization, and a general statement about fair use and objects in

\(^\text{24}\) Duboff, see p. 328.
the public domain will also serve to help users understand why the Harn Museum wishes to retain control over these images. As part of my project, I created a chart to help future employees determine if certain images are safe for the web, using Harn Museum terminology to help make the connections between copyright law and how the Harn Museum keeps track of copyright status for the collection [Appendix D].
Metadata & Museums

Metadata is data about data; most people have seen it in action when listening to music or watching a video on their computer. The computer records information about the file that isn’t immediately visible to the user (such as the length of the song or video). Even if you aren’t able to play the file, you can easily tell what it is and where it came from. Programs like iTunes and Windows Media Player can use the metadata to sort your song and video files. This digital metadata is a versatile kind of information embedded in the digital file; it shows information about the file itself.

Museum employees have regularly made use of metadata when cataloguing and recording information about their objects. Digital metadata helps users find organized information about a collection when searching in an electronic database. In the case of museum image files, metadata includes information about the object (such as the dimensions, accession number, artist’s name, etc). For example, if you have a digital photograph of a Rodin sculpture in your collection, you could attach metadata to that file telling you about the artist, date, origin, and even key-terms relating to the sculpture. Information about copyright could also be attached, ensuring that those that access that file will know the legal status of each image.

Metadata has long been in use by libraries, making their query functions much more user-friendly. For example, books are identified by title, author, subject-related terms, etc., and when users search for those terms they are matched with certain entries in the library’s database. Metadata in libraries also allows institutions to collaborate and form online networks where information is shared. Libraries can “tag” digital objects with relevant information, allowing users to see even details like chapter titles and key terms from a book. Museums can use metadata to similarly “tag” their digitized objects and save the relevant information for each
image in their collection. When working with a digitized object, metadata can tell you basic descriptive information like the artist, date, and title of a work, and even more technical information like copyright status.

Using metadata to further identify your digitized objects also provides a layer of extra protection for the image itself by assuring that the correct information will always be associated with the image. For example, if an image file becomes corrupt and can no longer be viewed, the metadata will be accessible so the file can still be identified. Because metadata is accessible in many ways and can survive software migration, using it ensures that the information about your image files won’t be lost if you must migrate to a new format in the future. When systems change and the file is no longer viewable, the metadata will still be there to help identify the file and its source. Because we can use metadata to control the information attached to each digitized object, we can also be certain that our objects are accurately represented and the information is correct when we share our collections via the web.

Metadata is also useful when joining an online information and/or image repository. Many of these (including MOAC and CAN) use metadata “tags” to help users find information in the repository. Rather than having to re-enter pertinent data about each image as you upload to the repository, the existence of correct metadata will automatically tell the repository about the image. This makes uploading a much easier task, when it could be somewhat tedious or completely impossible without the use of metadata.

Although metadata is not necessary to take part in the eMuseum network, it is still an important aspect of caring for digitized objects. The eMuseum does not use metadata to identify

images, but instead uses TMS itself to supply the pertinent information for each image uploaded. But even when giving images file names that match the appropriate accession number (a common practice in museum information technology), information can be lost and files can become almost useless without metadata. For example, if the source of an image file isn’t properly recorded, it can be impossible to know where the file came from. Was it taken by a contracted photographer, specifically for your museum? Or did it come with the object from the gallery you purchased from? Maybe a former curator took the image from the web? With metadata this kind of information can be embedded in the file and therefore never lost.

Attaching metadata to the images at the Harn Museum was another part of my project. The Harn Museum is an ideal institution to work with metadata, because they use standardized terms in their database based on the Getty Data Standards and Guidelines. This translates to standardized terms in metadata, which makes the metadata more useful and relevant because it’s easier to share and collaborate with other institutions that use the same standards. Because the Harn Museum uses standard terminology in their database, the information contained in the metadata would contribute easily to an online repository. But some questions remained: what kind of information should we attach, and how specific do we need to be?

The information chosen to be attached should generally reflect the needs of the user (this being our online “visitor” who will be searching through the collection via the web).\textsuperscript{27} Some choices are obvious, such as artist/maker, title, and description. These are the most basic ways we describe fine art, but can easily relate to a wide variety of museum objects. It’s also important to include information that might make the object more relevant to researchers, such as curatorial notes or bibliographic information. There is clearly some information held by museums that does

\textsuperscript{27} Hillman, see p. 42.
not need to be public. While donor information might be useful to a curator working on a future exhibit, this kind of information is too private to share on the web.

The other question relates to how specific the information in the metadata should be. For the medium, can we simply say “photograph,” or is it more useful to describe the photographic technique? If we hope that our images could be part of a larger repository with a wide variety of objects represented, it’s important to consider these kinds of categories. If we call it simply a “photograph,” it might fit in well in a repository with a wider variety of objects. But if the repository is primarily fine art or photography, a more descriptive medium may be necessary to satisfy the user.

At the Harn Museum I chose to start with a basic set of information, seen in the metadata standards crosswalk chart (Appendix E). These fields are standardized in TMS, guaranteeing that the metadata will be standard for all of the Harn Museum’s digitized objects. I chose not to include the more in-depth information (such as curatorial notes) because not all TMS entries contain this kind of information and I wanted the metadata to be standard for all image files.

Initially I hoped to find a ready-made program that could pull specific information from TMS and attach this to the appropriate image file. While I did find programs like this that worked for other database systems (e.g. the free Digital Asset Management system MOAC created, which works with FileMaker Pro), I was unable to find any that work with TMS.28 This meant that each individual image would need its information attached manually, using PhotoShop.

Most new versions of PhotoShop have a built-in program called Adobe Bridge which allows users to attach and control metadata and metadata templates for individual images or a large set of images. Adobe Bridge also allows users to create custom metadata templates which

28 MOAC Community Toolbox
can then be applied to groups of pictures. Metadata templates are useful only if the information for a large group of images is identical. Because of the nature of most museum collections, it’s unlikely that templates could be applied to a collection of digitized objects. However, we were able to use Bridge to batch update all of our files with the basic metadata information relating to the Harn Museum itself as a metadata template. This ensured that images from the Harn Museum will always be associated with the museum.

Working with metadata this way can be tedious; information has to be easily available to the person doing the data entry, and all entered data must be checked for accuracy. Because the information isn’t coming directly from TMS, user error becomes a possibility. To help guard against errors, I ran a basic report in TMS for the objects chosen to start the eMuseum. The report listed all of the fields from TMS that we wanted to attach to each image file. Having a hard copy of the information meant less “back-and-forth” between the TMS and Adobe Bridge, and it was much easier to spot the information quickly and to check its accuracy once entered in the Bridge.

I manually attached metadata to the 50 starter files the Harn Museum’s curators chose to begin building the eMuseum, and created a procedural manual for future employees working on the IMLS grant (Appendix B, Appendix D, and Appendix E). The manual describes how to use Adobe Bridge to attach metadata to an individual image, as well as how to create and apply templates to groups of images (in case there is ever an opportunity to make use of this function of Adobe Bridge).

In the future, I hope the Harn Museum is able to attach more detailed information to their image files. This should include the “Notes” section of TMS, where curators often describe the use of an object or biographical information about the artist that relates to the image. Label copy
is another possible place to find more detailed information for the image files. If possible, I would also want to include bibliographical listings for each object. This kind of information would be valuable to researchers, and could also help stimulate the intellectual curiosity of the more casual user.
CONCLUSION

In completing this project, I gained in-depth knowledge of how museums can use their digitized objects, and the many ways they can provide better access to their collections through the Web. The benefits of providing access to a digitized collection are clear: the physical collection is safer because the digital version can stand in for many purposes, including research. Although museum websites with online catalogues can serve as a public relations tool, they often lack the scholarly details many researchers require and provide little access to collection information. And with the cost of creating and updating this kind of website-based online catalogue, many museums might prefer not to share their digitized collection at all. With the use of repositories and networks, museums can contribute images and information to a collaborative database and avoid the heavy costs associated with a website-based online catalogue.

Researchers can view a wide variety of objects and information through repositories and networks and gain a better understanding of what museums have available for study. With the use of metadata, more information can be saved along with an image file and researchers can be sure the information is accurate and from the source museum. The information embedded in the image files will also last beyond technological upgrades, making the metadata useful far into the future when software and file formats will have changed. By properly caring for digital assets, museums can help fulfill their educational missions by allowing online access to their digitized collections and at the same time fulfilling their stewardship obligations by keeping the actual objects out of harm’s way.
APPENDIX A
DIGITAL ASSET MANAGEMENT SURVEY

Is your museum non-profit?
   Yes
   Yes
   Yes
   Yes
   Yes
   Yes
   Yes
   Yes
   Yes
   Yes

Approximately how many objects are in your collection?
   68,000
   35,000
   26,000
   11,000
   10,000
   6,200
   5,000
   2,500
   2,500
   2,119

Approximately what percentage of your collection has been photographed (including documentary photographs)?
   12%
   22,000
   15-20% (not all has been matched with database records). Our goal is to have it all photographed by 2011.
   65%
   30%
   95%
   20% digital, 90% b&w photography
   0.05
   85%
   85%
Does your institution collect contemporary art (made after 1950)?
- Yes
- No
- No
- Yes
- Yes, mainly photographs
- Yes
- Yes
- No
- Yes
- Yes

Approximately how many full or part-time staff members work in your registration department?
- 5
- 5
- 1 full time, 2 part-time
- 1
- Collections department= 1 full time staff Curator of Collections
- 1
- 1
- 1 part-time curator
- 1
- 1

Do you have a staff member in charge of rights and reproductions?
- No
- Yes
- No
- Yes
- Yes, Curator of Collections
- Yes (Registrar)
- Yes, Registrar’s duties
- No
- Yes
- Yes
Who on staff has unrestricted access to your image files (curatorial, marketing, registration, etc.)?

- Only registrar and head curator
- Curatorial staff
- Director, Registrar, Photographer
- Collections, exhibits, advertising
- Curatorial and Registration
- Only the Registrar
- Manager and curator
- Director, curator, collections manager
- Curatorial (which is also registration here) and Marketing

Who on staff most often requests access to your image files (if not given unrestricted access)?

- Publications/Public Relations/Curators
- Curatorial and marketing
- Public relations/marketing
- Marketing
- Curator
- Admin. Asst: Publicity and Web, Director: Publications, Education, Membership:
  - Publication, College: Publicity, Publication, Scholars/Authors: Text books, articles.
- Publicity
- Collections manager (handles all reproduction requests)
- Education
- n/a

Approximately how many times per year do you get requests for image access from non-staff?

- Hundreds
- 5-10
- Just a few
- 3-4
- Zero so far
- 15-25
- 12
- 12-15
- 12
- 2
Do you provide open access to images of the collection through your website?

- Thumbnails only – 600 px jpg for works in the public domain
- Beginning to
- Not at this time
- Yes
- No
- No

Generally no. We have 72 dpi jpegs for viewing only on our web site of 15-18 works that survey our permanent collection. Images from current and past exhibitions are also posted in this format. The person who maintains the web page removes copyrighted images that with expired R&R contracts.

- No
- We plan to in the future
- No

If so, what percentage of your collection is available through your website?

- 10%
- 20% at present
- n/a
- 10% (working on project to make entire collection available)
- n/a
- n/a
- 0.03%
- n/a
- 5%
- 0%

How do you protect copyrighted images when sharing with the public (either on your website, or not)?

- Statement of 3rd party responsibility – No online access beyond thumbnail for works under copyright
- Watermarks
- n/a
- Copyright statement with link to rights and reproduction page
- They have to request for an image from the Curator of Collections
- Invisible watermark
- Staff are advised of copyright restrictions, and are asked to submit a Rights & Reproductions Contract developed by Registrar pertinent to image for each time they submit an image either electronically, or as a CD. There is frequent non-compliance.
- Watermark the images
- Size of image and watermark
- Yes
Do you consider the Visual Artists Right Act (1990) when deciding what images to share (either on your website, or not)?

Yes
No we don’t collect art but we do make sure we have the rights to any image we use
n/a
Yes
No, the images are usually not art pieces but historical photographs
Yes
Yes
Yes
Will have to learn about it
I am not responsible for what images go on the site, eventually when everything is available online, the online digital database will be available primarily for educators
Yes

Have you submitted images of your collection to any museum image repositories? If so, which one(s)?

No – for research projects only
n/a
The Portal to Texas History - University of Texas
North Texas
No
No
No
ArtStor - 63 images thus far.
Not yet
Unknown
No

Do you have a policy in place describing when to deny access to those requesting images? If so, briefly describe.

No
n/a
No
The Museum reserves to the right to deny reproduction for entities it deems inappropriate for granting such rights.
If we don’t have copyright or it has a restriction
Yes. Our policy requires that requestors prove they have copyright clearance before we provide an image.
No written policy, follow instructions provided by former Director.
No
Image requests are at the discretion of the curator and collections manager
No
What is your procedure when those outside your staff request access to digital images?

Standard Processing of Requests – Client is informed of their responsibility to clear copyright
We have a formal request form and process.
No specific, written procedure. We usually put the image
On CD for the person requesting.
We deal with each case individually
Previously staff has openly shared any item
They must sign and return R&R contract before receiving image which will be sent via CD or electronically via You-Send-It Account with instructions to destroy or remove from desktop after use. I do not send copyrighted images out unless I have contract that provides permission from copyright license holder, and I have received signed R&R contract.
Case by case judgment
Must fill out a contract
The individual or institution must fill out a form that list the image(s) they wish to produce, where it will be produce, number of copies, etc. There is a nominal fee of $100.00 for reproduction. This fee is waived for Ball State University faculty and students.
They have a request form to fill out with fee schedule depending on the nature of the project

Do you feel museums should provide images from their collections to the public? Should there be a fee? How much?

Yes – Fee only for publication quality images in profit-making projects
Yes, we do a lot of work to get the images to the public.
Yes. I think allowing the public access is a great resource. I believe looking should be free, but if a staff member's time is involved (to make a CD or scan or something) then there should be a fee.
Yes – see above fee information
Yes and Yes
It is up to them. I do not think it is an ethical or legal issue. And a fee is also an institutional choice. Certainly neither should be required.
Yes, and Yes if Museum incurs new costs for photography and image archiving or if work will be used for monetary gain.
Share in some way, perhaps a fee to help offset the cost of maintaining the items for the future (in essence a donation to the site)Yes, and no fee for the public
Good question…not sure
Do you have any concerns about online collection databases that include images?

- Of course – Image accuracy/Retaining object info with image
- Yes. Care should be taken to protect the images for the sake of the artists and the works.
- No. I'd be curious what other's concerns are however.
- No, especially if the images are too small to be useful in any commercial application.
- Yes, too many free images out reduce the value of a site visit and or the item value, as in number of first run prints made by an artist.
- Not so far regarding ArtStor.
- I am concerned that images can be downloaded but those in charge of the project are not.
- No
- No
- No, as long as the images have watermarks or a form of copyright protection

Are there any other major concerns that have come up relating to digital image access in your museum that you’d like to share?

- Major work load issues
- Storage of large numbers of images, and access to them can be a problem. Access implies the ability to accidentally damage the archive, while restricting access increases the work load for some people. It is a balancing act, depending upon the number of images and how often they are used/requested.
- none yet.
- No
- Not yet
- Complaints from visitors and scholars regarding lack of image browser for collection.
- No funds, upgraded equipment, or support staff to develop archived digitized image files and collection records as per AAM guidelines. No line item in budget to allow for copyright fees for web licensing.
- cost of storage, how to decide on which objects to use beyond rights issues
- No
- No
- It was requests of images that were in our exhibit that we acquired from other repositories. We gave the contact information to those museums for rights for reproduction. We also had problems when we wanted images from small county museums that had such bad record keeping that they didn’t know if they owned the photograph or not.

Would you mind being contacted in the future with further questions?

Name/E-mail:
How to process a new Master image:

<table>
<thead>
<tr>
<th>TYPE OF IMAGE</th>
<th>END USE</th>
<th>RESOLUTION &amp; SIZE</th>
<th>FORMAT</th>
<th>BIT-DEPTH</th>
<th>FILE PATH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master images from professional photographers and scans</td>
<td>Any marketing purpose</td>
<td>400-600ppi min., 4000 - 8000 pixel longside</td>
<td>TIFF</td>
<td>16-bit per channel</td>
<td>T:\images\master\professional</td>
</tr>
<tr>
<td>Master images that are done in-house, or images supplied by photographers or scanners with publication-limiting flaws</td>
<td>Ads, postcards, posters, billboards, public relations, Web site, etc. Not to be used in publications or distributed to other museums.</td>
<td>300 ppi min., 3000-8000 pixel longside max.</td>
<td>TIFF</td>
<td>8-16-bit per channel</td>
<td>T:\images\master\non-professional</td>
</tr>
<tr>
<td>Derivative – high resolution</td>
<td>Ads, postcards, postcards, public relations, docent training packets, etc. Not to be used in publications or distributed to other museums.</td>
<td>300 ppi min. 1200-pixel longside min.</td>
<td>TIFF</td>
<td>8-16-bit per channel</td>
<td>T:\images\hi-res</td>
</tr>
<tr>
<td>Derivative – low resolution</td>
<td>Web site, Powerpoints, and other uses where a computer screen is utilized for viewing.</td>
<td>72ppi, 500-pixel longside min.</td>
<td>jpeg</td>
<td>8-bit per channel</td>
<td>T:\Screen</td>
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<tr>
<td>Derivative – ID</td>
<td>Object identification only. Not for public viewing.</td>
<td>72ppi, 500-pixel longside min.</td>
<td>jpeg</td>
<td>8-bit per channel</td>
<td>T:\Screen</td>
</tr>
</tbody>
</table>

Save the Master image file in the appropriate Master images folder. Professional-quality photographs and high-quality scans of professionally done slides will be kept in the “Professional” Master folder. In-house photographs, high-quality scans of non-professional slides, and any high-quality images with publication-limiting flaws (such as heavy shadows). All
Master image files are saved in Tiff format, and should never be directly altered or worked with from the Master folder. Always make a copy of the file and save it outside of the Master folder to avoid accidentally altering a Master image file.

Save a copy of the original Master file in the Hi-Res folder, and use Adobe Photoshop to change the resolution:

1. Open the file in Adobe Photoshop
2. Go to “Image” at the top of the screen, and select “Image Size”
3. Change the Pixel Dimensions to be 1200 pixels on the longest side (the shorter side will adjust accordingly)
   a. For a horizontally oriented image, you will adjust the width
   b. For a vertically oriented image, you will adjust the height
4. Change the ppi to be 300 (if higher than 300)
5. Close the Image Size editing box
6. Save the image as a Tiff file, with the same file name
7. Because this is a copy of the master file, it’s okay to save over the file in the Hi-Res folder

Save a copy of the original Master file in the appropriate Screen folder (divided by accession year), and use Adobe Photoshop to change the resolution:

1. Open the file in Adobe Photoshop
2. Go to “Image” at the top of the screen and select “Image Size”
3. Change the Pixel Dimensions to be 500 pixels on the longest side (the shorter side will adjust accordingly)
   a. For a horizontally oriented image, you will adjust the width
   b. For a vertically oriented image, you will adjust the height
4. Change the ppi to be 72 (if higher than 72)
5. Close the Image Size editing box
6. Save the image as a JPEG file, with the same file name
   a. In the “JPEG Options” box, choose “12” as the quality indicator (the largest file option available)
   b. Double check that Photoshop has kept the entire file name (sometimes the end of the accession number will be left out when changing the file format)
7. Because this is a copy of the master file, it’s okay to save over the file in the Screen folder

When attaching the Screen image (low-resolution) to the object’s record in TMS, TMS will generate a thumbnail file which will be saved in T:\thumbnails. These files should never need to be accessed or altered except through the TMS Media module.

When working with a large batch of images that need processing, it is possible to have Photoshop do an automated batch update to a certain set of files.
## APPENDIX C
### WEBSITE SURVEY

<table>
<thead>
<tr>
<th>Museum</th>
<th>Copyright notice</th>
<th>Watermark</th>
<th>Res. of images</th>
<th>Other image protection</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Institute of Chicago</td>
<td>Only 1 cont. work with artist listed as copyright holder</td>
<td>No</td>
<td>72 ppi</td>
<td>Protected by small size only</td>
<td>Not able to enlarge images, regardless of copyright. R&amp;R info not clear.</td>
</tr>
<tr>
<td>Brooklyn Museum</td>
<td>No notice of individual copyright status, but all copyrighted works are presented as thumbnail only, with statement “This image is presented as a &quot;thumbnail&quot; because it is protected by copyright. The Brooklyn Museum respects the rights of artists who retain the copyright to their work.”</td>
<td>No</td>
<td>72 ppi for both copyrighted and non-copyrighted works. Non-copyrighted works have about half the major pixel length of non-copyrighted</td>
<td>Unable to save zoomed images of non-copyrighted works; copyrighted works link to statement which allows use of Brooklyn Art’s own materials under terms and conditions of a Creative Commons License. Prohibits use of any copyrighted third party works.</td>
<td>Social tagging; Slightly larger thumbnails can be saved from non-copyrighted works. Overall a very social website (has comment options, message boards, etc.). Easy to locate R&amp;R info.</td>
</tr>
<tr>
<td>Carnegie Museum of Art</td>
<td>Yes, rights information listed under place where image should be. For non-copyrighted works, copyright notice for Carnegie</td>
<td>No</td>
<td>96 ppi on non-copyrighted works</td>
<td>Copyrighted images not available at all</td>
<td>Clear link for R&amp;R under image (or place where image should be)</td>
</tr>
<tr>
<td>Museum</td>
<td>Rights management</td>
<td>Quality</td>
<td>Hypothetical Issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>---------</td>
<td>-------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cincinnati Art Museum</td>
<td>Yes, although in some cases copyright is given to the art photographer</td>
<td>No</td>
<td>72 ppi</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prior to entering online catalogue, user must agree to terms (images for fair use purposes only and credit must be given if used, otherwise use is prohibited,). Some copyrighted images not available at all.</td>
<td></td>
<td>R&amp;R info not clear; copyrighted image doesn’t load properly in Photoshop (says it can’t load embedded color information… possible measure of protection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Guggenheim</td>
<td>Yes, cites the individual or organization that owns copyright</td>
<td>No</td>
<td>72 ppi (copyrighted), 180 ppi (non-copyrighted)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can zoom, even on copyrighted images; no clear info on R&amp;R</td>
<td></td>
<td>R&amp;R info not clear; copyrighted image doesn’t load properly in Photoshop (says it can’t load embedded color information… possible measure of protection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Los Angeles County Museum of Art</td>
<td>Yes, cites individual or organization that owns copyright</td>
<td>No</td>
<td>72 ppi (copyrighted works have almost ¼ the major pixel length)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Copyrighted works are not zoomable (if you attempt to zoom them, a pop-up box tells: “Due to copyright restrictions, this image cannot be enlarged. The image can be viewed on site for educational purposes only. For an appointment, contact <a href="mailto:reneem@lacma.org">reneem@lacma.org</a>”)</td>
<td></td>
<td>R&amp;R info not clear; copyrighted image doesn’t load properly in Photoshop (says it can’t load embedded color information… possible measure of protection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Museum of Fine Arts, Boston</td>
<td>Yes, cites individual or organization that owns copyright</td>
<td>No</td>
<td>72 ppi (with 800 pixels on the long side)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interactive zoom viewer; easy link that reads “License this Image” (R&amp;R)</td>
<td></td>
<td>R&amp;R info not clear; copyrighted image doesn’t load properly in Photoshop (says it can’t load embedded color information… possible measure of protection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Museum of Modern Art</td>
<td>Yes, cites individual or organization that owns copyright</td>
<td>No</td>
<td>72 ppi</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can’t save zoomed images</td>
<td></td>
<td>R&amp;R info not clear; copyrighted image doesn’t load properly in Photoshop (says it can’t load embedded color information… possible measure of protection)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX D

STEPS FOR PROTECTING COPYRIGHT IN EMUSEUM

Before making an image available to the eMuseum, be sure to check the copyright information. Copyright information for objects in TMS should be visible in red font as a status flag, above the name of the object’s collection department (at the top left corner when in Data Entry mode in TMS).

<table>
<thead>
<tr>
<th>Harn Information</th>
<th>What this means</th>
<th>Image specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Domain</td>
<td>Can be used on the web</td>
<td>72 ppi</td>
</tr>
<tr>
<td>Non-Exclusive Copyright</td>
<td>Possibly can be used on the web, check the accession file to be sure</td>
<td>72 ppi, or according to the copyright holder’s wishes</td>
</tr>
<tr>
<td>Exclusive Copyright</td>
<td>Can be used on the web</td>
<td>72 ppi</td>
</tr>
<tr>
<td>Rights Pending</td>
<td>The copyright holder has been contacted and the museum is in the process of obtaining rights</td>
<td>Do not make the image available until rights have been obtained</td>
</tr>
<tr>
<td>Rights controlled by…</td>
<td>Organization controls rights to the image and most likely will charge for use (contact them to be sure)</td>
<td>Do not make the image available until rights have been obtained and fees have been paid (or waived)</td>
</tr>
<tr>
<td>RIGHTS NOT HELD</td>
<td>The museum does NOT hold copyright for this image</td>
<td>Do not make the image available on the web, unless rights are able to be obtained</td>
</tr>
</tbody>
</table>

For works which can be legally used on the web, images should always be at 72 ppi to prevent unauthorized use by others. Be sure to pull images from the TMS Screen folders when making them available for the eMuseum. If you are unsure of the resolution, check it before making the image available.

To check an image’s resolution in Photoshop:
1. Open the image file in Photoshop
2. Choose the “Image” menu and then “Image Size”
3. Check the resolution under “Document Size”
   a. The “Resolution” should read “72 pixels/inch”

If the resolution is 300 or higher, you will need to make a low-resolution derivative
1. Copy the file from the Screen folder into the Hi-Res folder if there is not already a Hi-Res version saved
2. Open the Screen folder file in Photoshop, and change the resolution under “Image Size” to 72 pixels/inch

For works which can be legally used on the web, images should always be at 72 ppi to prevent unauthorized use by others. Be sure to pull images from the TMS Screen folders when making them available for the eMuseum. If you are unsure of the resolution, check it before making the image available.

To check an image’s resolution in Photoshop:
1. Open the image file in Photoshop
2. Choose the “Image” menu and then “Image Size”
3. Check the resolution under “Document Size”
   a. The “Resolution” should read “72 pixels/inch”
3. Save the file (be sure you have moved a high-resolution copy into the Hi-Res folder before saving)

If the resolution is LOWER than 72 ppi, change it to 72 ppi and save the file.

The only time an image with a resolution other than 72 ppi should be used in the eMuseum is when the copyright holder has specifically requested another resolution. For example, if an artist requests that her work be viewed at 150 ppi on the web, the digital image of her work, saved in the Screen folder, should reflect this.

Once the resolution is determined to be accurate, the image will need to be marked as “Public Access” in TMS:

1. Open the object’s Data Entry page in TMS
2. Go to the “Media” tab, and choose the appropriate attached media view
3. Once selected, choose to “Edit” the media view
4. Check the “Public Access” box, seen directly below the thumbnail in the Media Module

Images without the “Public Access” box checked will not be visible in the eMuseum, although the accompanying information will still be available.

For works with no copyright information given, copyright will need to be researched prior to use of the image on the web. Check the accession file to be sure that no copyright was given at the time of acquisition. Some works in the collection may be in the Public Domain, despite having no copyright information in TMS. See the Harn Museum’s copyright form to help determine if the work is in the Public Domain.

Images which can NOT be used on the web will fall into several categories:

1. Copyright status has not yet been determined (“Rights Pending,” no information given, or otherwise unclear)
2. The work is copyrighted and controlled, and the Harn will be charged for the use of the image on the web
3. The artist or copyright owner requests the image not appear on the web

For images which can NOT be used on the web, the object can still appear in the eMuseum without an accompanying image. Leave the “Public Access” box in the Media Module unchecked for those objects.
HOW TO ATTACH METADATA USING ADOBE BRIDGE

Metadata should ideally be attached to a master file, prior to any processing. This will ensure that derivatives contain the same metadata as the master image.

1. Open the desired image in Photoshop (you must have a file open in Photoshop to be able to access the Adobe Bridge)
2. Choose the “File” menu, and select “Close and Go To Bridge”
   a. The file will then close and you will be taken to Adobe Bridge
3. Once in the Bridge, you may need to navigate to the desired image file (it should begin in the TMS Media Drive, so simply navigate to the correct folder and you will see thumbnails of all of the images contained there).
4. Right-click the desired image and select “File Info”
5. Use the chart below to enter TMS data into the correct fields in the File Info box. Note that there are several different data entry field sets in Bridge.
6. Information about the source of an image file can be entered in the IPTC Contact data entry field. Include the professional photographers name, address, phone number and website if applicable.
7. Once the metadata has been entered, choose “OK”
8. The information just entered should now appear in the “Metadata” file info listing at the bottom right of Adobe Bridge.

<table>
<thead>
<tr>
<th>Bridge Terms</th>
<th>TMS Terms</th>
<th>TMS Technical Table</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Title (Description)</td>
<td>Title</td>
<td>ObjectID.Title</td>
<td>Champ d'avoine</td>
</tr>
<tr>
<td>Author (Description)</td>
<td>Artist or Maker</td>
<td>ConstituentID</td>
<td>Claude Monet</td>
</tr>
<tr>
<td>Description (Description)</td>
<td>Medium</td>
<td>ObjectID.Medium</td>
<td>Oil on canvas</td>
</tr>
<tr>
<td>Credit (Origin)</td>
<td>Credit Line</td>
<td>1.ObjectID.CreditLine 2. ConXrefTypeID (DisplayName of Primary Constituent;Acquisition-related)</td>
<td>Gift of Michael Singer</td>
</tr>
<tr>
<td>Date Created (IPTC Image)</td>
<td>Search Dates</td>
<td>ObjectID.DateBegin ObjectID.DateEnd</td>
<td>1890-1890</td>
</tr>
<tr>
<td>Intellectual Genre (IPTC Image)</td>
<td>Classification</td>
<td>ClassificationID</td>
<td>Paintings</td>
</tr>
<tr>
<td>Description</td>
<td>Description</td>
<td>ObjectID.Description</td>
<td>Field of Flowers</td>
</tr>
<tr>
<td>(IPTC Content)</td>
<td>(IPTC Status)</td>
<td>Notice</td>
<td>Information as a Status Flag</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------</td>
<td>--------</td>
<td>-----------------------------</td>
</tr>
</tbody>
</table>
REFERENCES


Hamma, Ken. ““Becoming Digital.”” *Bulletin of the American Society for Information Science and Technology* 30.5 (June/July 2004).


BIOGRAPHICAL SKETCH

Chloe Elizabeth Smith was born on January 17, 1984 in Gainesville, FL. She earned her International Baccalaureate degree from Eastside High School in 2002. She attended the University of Central Florida, where she earned B.A. degrees in both Art History and Humanities. Upon completion of her Masters in Arts in Museology, she will be delighted to enter the workforce as a new museum professional.