Getting into the Digital Game:

The Employment of Digital Curation and Digital Preservation in University Art Museums

Jocelyn P. Boigenzahn, MA
Johns Hopkins University
Digital Curation Certificate Program
April 12, 2018
Fall 2016

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Abstract:

Responding to a challenge set forth by *Campus Art Museums in the 21ˢᵗ Century: A Conversation*, this study provides a contemporary snapshot of digital curation and digital preservation practices in university art museums. Information was gathered through a survey of university art museums and open-ended follow-up interviews with selected individuals, whose identities are protected to ensure confidentiality and encourage candid responses. The study argues for the value of these practices for university art museums, highlighting the benefits for their university and museum level missions and the positive intercollegiate partnerships with university libraries and art departments that can result. By continuing to develop digital curation and digital preservation activities, university art museums can better promote the value they offer to their immediate communities and their universities.

Introduction and Problem Statement:

Campus Art Museums in the 21st Century: A Conversation outlined the unique challenges of Campus/University Art Museums by highlighting how they "need to continually demonstrate their academic value to their host college or university, and serve both students and faculty as core constituents while also serving a wider public" (T. Shapiro, P. Linett, et.al. 2012). This report also touched on the technological changes of the 21st century, noting how campus art museums are uniquely positioned to lead the way in implementation of digital opportunities because "they serve today's most digitally-attuned generation: young adults" (T. Shapiro, P. Linett, et.al. 2012). In this vein, *Campus Art Museums in the 21st Century* report broadly discussed the use of the Internet to increase access to, engagement with, and dialogue about museum programs and collections beyond the physical setting (T. Shapiro, P. Linett, et.al. 2012).

More recently, Johns Hopkins University hosted a summit on digital curation in art museums, which illuminated the state of digital curation and digital preservation in all types of art museums. This summit and subsequent report outlined shared and variant challenges of museums, training/resource gaps, the goals of digital curation and preservation, and the need to "build a case for digital curation" as valuable to a museum`s mission (D. Zorich, et.al 2015).

Similar to a state of the practice update, this paper asks the question, "What steps have University Art Museums taken to incorporate digital curation and digital preservation into their policies and practices?" and "What steps are UAMs contemplating to improve their digital curation and digital preservation?" This paper seeks to illuminate how UAMs have taken up the broad digital action call set out in the 2012 *Campus Art Museum* report and what more they can do. It examines the results of a survey sent to UAMs on the current perception of digital curation and digital preservation, using responses to a survey and follow up interviews with selected

respondents to outline the common challenges facing UAMs, establishing a general perception of practice.

Building on the analysis of the research results, this paper discusses why UAMs should consider embracing digital curation and digital preservation, outlining the benefits and value that these activities can provide for these museums and their host universities. Here the paper argues that UAMs should consider digital curation and digital preservation activities as a way to enhance their connection to their university and its core stakeholders' needs. Two research sub-questions that will inform this report`s argument regarding the value of digital curation and digital preservation for UAMs will be, "Can UAMs improve their digital curation and digital preservation practices by working collaboratively with their University libraries, and if so, how?" and "Can UAMs better support the goals of their University's art departments by collaborating on digital curation and digital preservation activities, and if so, how?".

The ultimate goal of this paper is to help "build the case for digital curation and digital preservation" practice in UAMs that "serve today's most digitally-attuned generation," and demonstrate that this practice can help them significantly contribute to the educational and research goals and innovative tradition they share with their host universities

Research Design:

With the intent to determine the state of digital curation and digital preservation practice in UAMs today and to promote the implementation of these activities in the future, this paper gathers data via two qualitative survey instrument methods. The first research method used to ascertain this data was a structured anonymous survey. In order to amass responses from a wide sample group, two major museum professional list serves, the American Academic Museums

and Galleries (AAMG) listserv and the University Museums and Collections (UMAC) a sub

group of the International Council on Museums (ICOM) listserv distributed the survey. The

survey had an open period of two weeks from distribution closing on October 17, 2016 at

midnight.

From this larger sample, follow-up interviews were the second qualitative research

method used with a select group of respondents to the initial survey. These follow-up interviews

were scheduled soon after close of the survey response period. These interviews took place via

phone over the couple of weeks following the close of the survey period with a collection of

select respondents who reflected a range of UAMs. These interviewees were selected based on a

couple of factors. First, their survey responses warranted follow up questioning for clarification

and elaboration on their experiences, and second, they represented variant sizes and types of

universities (public, private, large student body, small student body, and location in the US (east

coast vs. Midwest/ plains state). These variant factors were used in order to insure that the

secondary level provides the same balanced data from which a common perception can be

garnered regarding the state of the digital curation and digital preservation practice. This

secondary research method was employed in order to clarify individual responses to the survey

and gather individual examples of UAM interest and engagement with digital curation and

digital preservation activities at this time. These interviews provided a method of highlighting

specific accounts that expounded upon the general perception of digital curation and digital

preservation activities and these practices and examples and tactics employed by UAMs thus far.

These methods applied in combination provide a cumulative understanding of the general

perception of the practice in UAMs. A broad gathering of responses from the larger sample

survey captured the breadth and depth of the current perception illuminating common

understandings and practices and select follow-up interviews strengthened the qualitative responses of the sample with specific accounts which reinforced these shared perceptions with illustrative evidence.

As stated in the introduction the main research questions of this paper are "What steps have UAMs taken to incorporate digital curation and digital preservation into their policies and practices?" and "What steps are UAMs contemplating to improve their digital curation and digital preservation?" In order to gather data that illuminates answers to these questions, a survey with open-ended responses with a wide distribution sample of respondents was chosen because of its ability to provide the widest range of responses, and therefore results in a generalized consensus of the current actions and future activities UAMS are considering today. The follow up interviews were chosen as the most efficient and balanced secondary research method to strengthen the broad scope results of the survey, as they will provide specific accounts that will reflect and support the ranging results of the survey.

To address the two sub-research questions posed for this paper, "Can UAMs improve their digital curation and digital preservation practices by working collaboratively with their University libraries, and if so, how?" and "Can UAMs better support the goals of their University's art departments by collaborating on digital curation and digital preservation activities, and if so, how?", this study gathers responses geared to these topics from the aforementioned survey and reviews current and recent literature on UAMs and their relationships with their university`s art departments and libraries. The combination of this literature review and the survey responses to questions geared to these topics provides a current state of these relationships and lead this paper`s discussion of the benefits of these partnerships for UAMs.

Through these research methods, this paper aims to ascertain a contemporary perception of digital curation and digital preservation among UAMs, to identify the degrees of current and proposed implementation of these activities at these institutions, and to examine how two collaborative relationships between UAMs and university art departments or between UAMs and libraries are or are not being utilized or considered.

Literature Review:

A review of literature for this paper of articles and reports related to the implementation of digital curation and digital preservation practices in UAMs can be subdivided into three groups, a foundational group and two sub-groups connected to the sub-research questions posed above.

The first, foundational group is a review of literature related to Universities and their role in society, the state of digital curation and digital preservation in art museums in general and the relationship between UAMs and their parent organizations. The Altbach, Boulton, and Cole are scholastic articles and books resources on the history and role of Universities in society (Altbach, 2008; Boulton, 2009; Cole, 2009). These are then paired with Parry`s *Museums in a Digital Age* and the Johns Hopkins University S*ummit on Digital Curation in Art Museums* report to provide an overview of the digital curation and digital preservation as a current practice in art museums (Zorich. et.al. 2015; Parry 2003). Together this combination of scholastic articles, books, and current survey offer a foundation for the general discussion of how UAMs fit into the societal role of Universities and the practice of digital curation and digital preservation.

The next set of literary resources in this first group are a case study and a summit report, Glesne`s Kress Foundation case study, *The Campus Art Museum: A Qualitative Study* and the

*Campus Art Museums in the 21st Century: A Conversation r*eport (Glesne, 2010; Shapiro, T.et.al. 2012). These works outline findings and perspectives on how UAMs relate to their parent organization and how they can strengthen this relationship in general. This base literary group provides the framework for the principal argument of this paper on the value of digital curation and digital preservation practice for UAMs and how these activities can support their relationship to their parent organization and support the University`s historical and current role in society. This first review group also sets up the context for exploring the more specific areas in which UAMs can improve this practice outlined by the two sub-research questions posed in this paper.

Under this base literary review group are two sub-groups of literature that support exploration of the sub-research question areas, the partnerships between UAMs and University libraries and collaborations between UAMs and University art departments. To explore the current practice of UAM Library partnerships, this sub-group includes a current report that focuses specifically on the partnerships between Libraries and UAMs, *Prospects and Strategies for Deep Collaboration in the Galleries, Libraries, Archives, and Museum Sector* (Duepi, J and Eckman, C. 2016). This report outlines the findings of a summit hosted by the University of Miami in January 2016 at which the 14 academic museums and library representatives convened to explore the barriers to and opportunities for intra-institutional museum-library collaborations.

The second sub-group begins with a 2014 article by Breznitz and Noonan, which is the most current overview of the rise of digital arts in University art departments (Breznitz & Noonan, 2014). This article is supported by two older articles and a case study, one article written by Richard Rinehart on New Media collecting, a case study/ demonstration of his Media Art Notation System (MANS) scheme at the Berkley Art Museum in 2003, and a 2006 article by

Steve Dietz that discusses the collection needs and preservation methods for New Media (Rinehart, R. 2003; Rinehart, R. 2007; Dietz, S. 2006). These scholastic resources provide the angle through which the work of non-university museums and other groups are working on New Media preservation, i.e. the Media Conservation Lab at the Guggenheim, the Museum Computer Network (MCN) 2012 conference`s Preserving Digital Art panel and the Electronic Media Group of the American Institute of Conservation can be examined and applied to a study of this practice in UAMs (Guggenheim, 2014; MCN, 2012; American Institute of Conservation, 2007). Beyond these resources, there seems to be very little current examinations or documented examples of UAMs collaborating with University art departments on their Digital Arts/ New Media degree programs and/or how the implementation of digital preservation and curation activities at UAMs could form a new bridge between these units.

Analysis of Research Findings and State of Practice:

Based on the data collected from the survey, the following findings provide an evidential foundation that illuminates the current state of digital curation and digital preservation practice in UAMs. The series of questions posed in the survey were developed to address answers that could be used to investigate the research questions this report poses (see Survey Questions in Appendix). A total number of 10 responses were received from the survey from a diverse range of UAMs that differ in school type, size, and location in the United States.

In response to the main research question, "What steps have UAMs taken to incorporate digital curation and digital preservation into their policies and practices?", the survey results indicate that 7 out of 10 responding UAMs have taken steps to incorporate digital curation and digital preservation into their policies and practices. The other respondents (30%) have only just

started to consider adding digital curation and digital preservation practices to their undertakings. Among all of the respondents, the degree of incorporation ranges greatly from complete digitization of collection and active data sharing (4 out of 10) to incomplete digitization projects (3 of 10), and no data sharing at this time (3 of 10).

The integration level of these activities into the practices and policies of UAMs can be best demonstrated by the findings that also answer the second main question posed by this report, "What steps are UAMs contemplating to improve their digital curation and digital preservation?" Based on the survey responses, all of the responding UAMs are planning to, have started, or have completed digital preservation their collection images and the preservation of all digital media art they have collected are currently or plan to share their collection data via an aggregator or local website for internal and external research by their communities. All of the respondents, 7 out of 10, that have started or completed digitization of their collections are also already working with an aggregator to provide access to their collections for both local and global communities. The other three respondents that are planning to or have already started digitization of their collections are currently looking at or waiting for one or more aggregators to respond to inquiries about sharing their collections. These findings demonstrate that when initiated UAMs are quick to embrace digital curation and digital preservation activities at all levels of their policy and operations.

The two major aggregators specifically discussed by respondents were Artstor and Google Arts and Culture. Of the 7 who have started or completed digitization of their collection images four are currently sharing with Artstor, two are sharing with Google Arts and Culture and one uses The Museum System`s eMuseum website and digital asset management system for their aggregation. Based on the responses, UAMs seem to use Artstor more than any other aggregator

if they are already sharing their collections and for those still in the planning stage of collection

sharing Artstor seems to be the aggregator most are considering using. Conversely, Google Arts

and Culture seems to have developed a less than positive status among UAMs who are using or

considered using it for aggregation. Google Arts and Culture based on testimonials added to the

survey and confirmed with follow-up interviews have been unresponsive to inquiries. Based on

use and action plan examination, most respondents have determined that Google Arts and

Culture is inadequate as a university/ higher education level aggregator. The factors that were

noted by one professional staff member from a UAM in the Midwest were a lack of clear

connectivity to the museum`s website and minimal space provided for research related

descriptive data, "i.e. data beyond artist, title, date" alongside the high-res image of our

collection objects" (Staff member from UAM at a large private university in Indiana, personal

communication, Oct. 20th 2016).

Another indicator of the degree to which UAMs are incorporating digital curation and

digital preservation activities into their policies and practices and what steps they are considering

to improve their digital curation and digital preservation activities can be seen in the number of

respondents who have actively established relationships with their university libraries in order to

use their repository. All of the UAM survey respondents, even if they had not started digitization

yet, have started communications with, or are working with their university libraries for long-

term preservation of their digital assets. All of the UAM follow up interviewees stated that this

was the major reason for them to develop a partnership with their university`s library (Staff

member from a large private university in IN, personal communication, Oct. 20th 2016; Staff

member from a private liberal arts college in MA, personal communication, Oct. 28th 2016; Staff

member from mid-size public university in CO, personal communication, Oct.19th 2016).

Digging deeper into this UAM/ University Library partnership trend, each of the follow-up interviewees extolled the positives of this relationship and revealed common challenges. Their observations lead to possible answers to the first of the two sub-research questions posed in this paper, "Can UAMs improve their digital curation and digital preservation practices by working collaboratively with their University libraries, and if so, how?". The data from the survey responses seems to suggest that most have tried, considered, or currently have partnerships with their university's library and that they have a number of common challenges they have found to building these partnerships. Chief among these challenges are the two partners appearing to be focused on different needs, such as functional requirement or funding models, which makes this partnership appear separate and "extra" (Staff member from a UAM at a large public university located in Kansas, personal communication, October 25th 2016). These findings seem to echo the challenges outlined in the January 2016 Summit, "*Prospects and Strategies for Deep Collaboration in the Galleries, Libraries, Archives, and Museum Sector* (Duepi, J and Eckman, C. 2016). However, as noted in the Duepi and Eckman report more and more academic museums and university libraries are starting to find their common goals. This report also presents strategies for developing and advancing these partnerships that address the common challenges revealed in this report's survey.

Looking at other potential partnerships for UAMs, this paper asked via the survey and follow up interviews this other sub-research question: "Can UAMs better support the goals of their University's art departments by collaborating on digital curation and digital preservation activities, and if so, how?". Looking at the results of the survey, this question assumes that a partnership between the art department of a university and its art museum would be something that would naturally manifest itself. However, the survey revealed that this was not, in fact, the

case.   Most (60%) of the respondents confirmed that they had some form of collecting

relationship with their university`s art department, accessioning works created by students and

faculty in their collections. Half (50%) of the respondents confirmed that their university had a

proposed or active digital arts program (BFA, Minor and/or MFA). However, only one UAM

noted having or to be in the process of developing a partnership between themselves and the

digital arts program and art department which would utilize digital curation and digital

preservation practice for works created by their students and faculty (Staff member from UAM at

small private liberal arts college MA, personal communication, Oct. 28th 2016).

Inquiring further about this nascent partnership in our follow-up interview, JE stated that

it was only an idea that had been passed around and there was no firm structure as of yet. These

results were a surprise, when considered in light of the amount of literature on digital curation

and digital preservation and digital arts produced over the last ten years by individuals like

Richard Rinehart and the exponential the rise in digital art, graphic design, and variable media

programs in university art departments nationwide (Rinehart, 2007; College Board, 2016).

The findings of this paper demonstrate that the state of the practice has advanced both in

implementation of digital engagement through digital curation and preservation and an increased

interest in this form of digital access method in UAMs since the initial "challenge" was set forth

by the *Campus Art Museums in the 21st Century* report (T. Shapiro, P. Linett, et.al. 2012). As

mentioned above, this challenge was broadly defined as the need to encourage the general use of

the Internet by UAMs as a means to increase access to, engagement with, and dialogue about

museum programs and collections beyond the physical setting. The results of this survey seems

to reflect that digital curation and digital preservation practices as a part of this internet use for

engagement, access, and dialogue with museum audiences and demonstrate, has increased in

both consideration and implementation over the last four years. Therefore, the data uncovered

from this survey and subsequent interviews suggests that all of the responding UAMs once

engaged or considering digital curation and digital preservation activities actively incorporate

these activities into their policies and practices to some degree. Then when executing these

activities UAMs are employing the most current practice steps for asset appraisal and

digitization, utilizing repository storage for long-term preservation through partnership with

university libraries, and utilizing aggregators to share their collections with their local faculty

and student community as well as the larger research community.

Discussion: An Argument for the Development of digital curation and digital preservation in
UAMs

The findings outlined above illuminate the current state of digital curation and digital

preservation practice in UAMs. These findings also indicate that these activities are becoming a

viable and applicable practice for UAMs. Respondents to the survey and follow up interviews

are both considering and implementing digitization, repository storage, and aggregation to

present and protect their digital assets for the use of their communities today and in the future.

However, the small number of respondent museums could be an indicator that the academic

museum community as a whole is only just starting to embrace digital curation and digital

preservation practices. Based on the survey results and the specific experiences revealed in the

follow-up interviews, there is clearly more work to be done to convince the greater UAM

community and their universities of the benefits that digital curation and digital preservation can

have for their communities and how they are uniquely geared to be leaders in this practice.

The benefits that can arise from the development of digital curation and digital

preservation practices at a UAM are numerous and not just limited to the creation of a digital

record of their physical collection. However, this is where this discussion can begin, because it is where museum`s will notice the most operational payoff for their efforts. Digital curation and preservation of a museum`s digital assets can optimize the efficiency of commonly used and referenced assets.

For example, a museum has a collection of images that are generated by staff and volunteers. This collection can be the resource for public relations images, images displaying educational programming, and even images recording notable events that represent the history of the museum`s operations, such as receptions, openings, and exhibitions. This presumably large collection can become chaotic without proper curation. The implementation of file naming standards to assist in organization and quick retrieval, the use of proper preservation file formats to ensure the usability of the asset in the future, and the use of multiple storage locales as back up so that in the event of technological failure or other emergent event assets will not be completely lost. Each of these steps are basic elements of digital curation and preservation that can assist with the staff`s ability to utilize these images for the advancement of the museum today and in the future. These steps can also save the staff time so that they can spend their time and energy creating better and more valuable products for the museum, which in turn benefit the museum extrinsically. Instead of spending hours looking for that one image that they took of those volunteers working with a school tour last spring which would be perfect for the educational program brochure revamp, file names and metadata documentation of the asset`s contents at ingestion will make searching for that perfect image faster and easier.

The same ability to easily find and access a museum digital assets through digital curation and digital preservation can also be of value for a museum`s audience both global and local. Digital curation of assets in the manner described are also some of the steps needed to

prepare them for "publication" online, making them available for use by external communities, such as researchers, students, faculty, and the general public. As discussed in the *Campus Art Museums in the 21st Century* report, UAMs have two communities: the faculty and students of their institution, and the local and global public (T. Shapiro, P. Linett, et.al. 2012). This special community (students and faculty) for their digital assets is another incentive UAMs have for implementing digital curation and preservation activities for a number of reasons. First, this community is very digitally engaged. College students are the most active members of social media platforms and they employ the internet search engines as the first step of any research project or paper. As a result, university faculty is also digital inclined and many college courses now include an online component of some kind.

Access to a UAM`s digital assets can be more than images of the permanent collection or superficial data on the artist, title, and date of a work. Other assets that UAMs generate can also be valuable for researchers, students, and even the general public. Digital assets do not need to be exclusively digital records of the permanent collection, they can also include archival records, information on past exhibitions, new online exhibitions, and any other data generated by the UAM that they believe would be valuable for students to study. For example, a UAM could make past financial statements or current five year plans available for exploration by non-profit management students to study or for potential donors to examine to vet the institutions before donation. Therefore, making their digital assets available for exploration by this community is imperative for UAMs to remaining engaged with their most direct audience and to contribute to the research and educational mission of their universities.

Through aggregation, UAMs can make their digital assets available for study by researchers from all over the world. The ability to "publish" their digital assets that are free of

copyright restrictions for access by the larger research community is the UAMs` equivalent of a Physics conference presentation or the publication of clinic trial findings in a medical journal. Digital curation allows UAMs to present the data they have on their physical collection for further exploration by the global art historical community in order to perpetuate the study of arts, artists, and material culture, a concept explored during the *Summit on Digital Curation in Art Museums* at Johns Hopkins University in 2015 (Zorich, D. Hecht P., Ray, J. et.al. 2015). It is in this way that UAMs can contribute to the role of universities as hubs of research and knowledge development and become more than repositories of fine collections.

"University Museums are powerful resource centers for higher education institutions wishing to maximize the impact of their research and to reach new audiences in their region or beyond. They therefore have a unique, bridging role in the dissemination of knowledge and of the understanding of sciences – besides their primary roles as keepers of collections." This role for university museums was posed by Melanie Kelly in her introduction to Managing University Museums in 2001 (Institutional Management in Higher Education, 2001). Digital curation and digital preservation activities can be seen as the new way for university museums to contribute to this "bridging role" and to the greater educational and research mission of their universities. Geoffrey Boulton describes universities as "sources of new knowledge and innovative thinking", in particular in his 2009 article, "What are universities for?" (Boulton, 2009). These interpretations of the role of universities demonstrates another reason UAMs as a part of universities should be embracing digital curation and preservation activities. Digital curation and digital preservation is an area of study that is constantly innovating and adapting to new technology, new formats, methods of computation. This area of knowledge therefore requires creating innovative methods to manage and preserve assets in an evolving environment which

will require producing new knowledge about preservation methods such as emulation and

curation strategies such as Linked Open Data and the Semantic Web (American Art

Collaborative, 2016; Delmas-Glass, 2014).

Finding ways to preserve and present digital assets both today and in the future is an area

of study that is still relatively new to global operations; academic, economic, and technological.

Each of these areas already produce massive amounts of digital assets that need to preserved and

accessible in the future and will certainly continue to grow. Therefore, the need for skills in

digital curation and preservation are great, not just in the museum world but in all fields. Philip

G. Atlbach describes universities as supporters of knowledge- and technology-based industries

that make use of the knowledge produced by universities, not just the innovations and knowledge

but the skills of their graduates, and as a result universities are contributors to societies` general

economic and technological development through production of skilled graduates and new

knowledge (Altbach, 2008). For this reason, UAMs and universities as a whole should look for

ways of teaching and developing methods of digital curation and preservation because new

innovations in this practice will be vital to the long term access of all forms of digital assets in

the future and producing graduates with these skills will be invaluable for all fields of academic,

economic and technological development.

Publishing their digital assets in this way also increases the visibility of the universities`

art collection to the world. This can be a valuable public relation tool for universities both

through greater exposure of current university research and for external research as mentioned

above, and it can increase the prestige of the university as a forward thinking digitally minded

institution. Digital curation in this way therefore can support the research mission of the

university and its role in the advancement of knowledge- and technology-based industries and

promote the university as an institution that produces the kind of skilled graduates the industries need today and in the future.

Of all the areas in which digital curation and preservation skills and methods can be developed in a university setting, UAMs in particular are well suited as testing grounds because they often possess characteristically diverse collections of digital assets ranging from word documents, pdfs, image, videos and Power Points as well as physical collections that can be digitized and require complex documentation, i.e. archival records, 3D and 2D works of art and born-digital works of art. The findings of this paper revealed that UAMs are beginning to recognize their collections and the need to digitize them for internal and external community access however only one of the UAM`s that was among those of the follow-up interviews noted developing internship opportunities or working with a student on these projects and teaching them these skills in the process (Staff member from an UAM at a private university located in OK, personal communication, November 2nd 2016). Like all museums, UAMs need interns and volunteers to complete projects and assist with daily operations. However, unlike other museums, UAMs have easy access to university students, who can be engaged in projects of this kind through courses, internships, part-time employment, and work-study programs and develop these skills, thus advancing themselves and the UAM and university by extension.

UAMs can contribute a lot to the greater goals of the university with the development of digital curation and digital preservation practices in their institutions. By using this practice UAMs can connect their university intellectually with their local (student and faculty) and global research communities supporting the educational goals and through work/study programs or courses can help students develop needed skills for knowledge and technology based industries. Having a specific community of users (students and faculty), being connected to their

universities` greater goals of research, education and skills development not only are major

incentives for UAMs to develop digital curation and digital preservation activities but they are

also reasons university administrations should be supportive of this development. From greater

internal efficiency to greater public exposure and adding to the universities` intellectual product,

the development of these practices for UAMs are a benefit to all parties, the students, the

administration, the museum, and to the greater community of researchers who will now have

access to assets that would have been heretofore locked away in the storage vaults of universities

big and small.

One final area in which the development of digital curation and digital preservation at

UAMs can be of value to the museum and the university is through the creation of a partnership

between the UAM and the arts department. Over the past ten years, there has been an exponential

increase in bachelors and masters of fine arts programs in digital, computer, graphic arts and

other forms of new media (Breznitz & Noonan, 2014). In the same time, numerous exhibitions

and festivals have developed for artists to display these works for enjoyment and purchase and

many museums, such as the Guggenheim have started to collect these digital works (Variable

Media Network, 2003). Collection of these works has presented new and interesting challenges

for museums because curation and preservation of digital works of art, which are artistic displays

on a variable media which is subject to technological obsolescence is very different from

conservation of a painting or another physical art object (American Institute of Conservation,

2007; MCN, 2012). Unlike paintings, ceramics, or textiles; digital arts are not restored. They are

migrated or emulated in order to retain the essence of the work. To achieve these new methods

for preservation, new strategies for documentation are constantly being developed as artists

develop new ways to use the digital medium (Rinehart, R. 2003; Rinehart, R. 2007; Dietz, S. 2006).

UAMs can be in a unique position regarding the development of digital arts, if they choose to be. Much of the evolution of digital arts is taking place in digital arts programs at universities, here students are learning how to manipulate this media to create new and innovative works. For all artists the goal is to share your work with others for some period of time. For works in older media this requires a physical adaptation of or addition to the work to preserve it or ready it for display such as adding hanging devices or a varnish. In the case of digital arts, to share their works requires digital curation and to keep their work for a showing in the future requires digital preservation. Therefore, it would be to the advantage of the artist to be aware of the best digital curation and digital preservation methods, formats, and strategies.

This is where UAMs and university Art departments can help each other and form an educational/research partnership. The development of digital curation and digital preservation activities in UAMs as discussed above can also be used to educate digital arts students on how best to curate and preserve their works for current and future display. This will prepare the students for future exhibitions and make their art more inviting to potential collectors because they can guarantee the retention of its value through proper documentation, format selection, and storage methods. This will increase the value of their work monetarily and intellectually. This partnership also benefits UAMs by providing them with a unique opportunity to study, examine, and test the best methods on digital art works as they are being created. This provides UAMs the chance to develop new and adapt current curation and preservation practices to manage any new ways that these upcoming artists decide to manipulate the media, which they can in turn share with the larger museum community.

Based on the findings of this study and examination of current digital arts programs at

universities with art museums, there seems to be no examples of this kind of partnership

currently in existence. According to this report`s findings, only one UAM was in the process of

developing a partnership between themselves and the digital arts program and art department,

which would utilize digital curation and digital preservation practice for works created by their

students and faculty (Staff member from an UAM small private liberal arts college MA, personal

communication, Oct. 28th 2016). Based on this finding and the June 2016 announcement of the

New Media Arts Consortium, a collaborative of six UAMs (The Bowdoin College Museum of

Art in Brunswick, ME; The Colby College Museum of Art in Waterville, ME; the Middlebury

College Museum of Art in Middlebury, VT; the Mount Holyoke College Art Museum in South

Hadley, MA; the Rose Art Museum at Brandeis University in Waltham, MA; and the Tang

Teaching Museum and Art Gallery at Skidmore College in Saratoga Springs, NY. These

museums have come together to jointly acquire digital, interactive, and new media works, the

idea of a partnership between university art departments and UAMs seems to be something that

could happen (Tang Museum, 2016). Therefore, it is possible that this discussion may be timely

and kick start a dialogue on the need for UAMs to collaborate with their University`s art

departments in New Media/ Digital Arts.

Conclusion:

The intent of this paper was to provide a current report on how UAMs have responded to

the "digital challenge" set forth by the *Campus Art Museums in the 21st Century* report and to

address the need posed by the Johns Hopkins University *Summit on Digital Curation in Art*

Museums to "build a case for digital curation" as valuable to a museum`s mission for a

subsection of the art museum community (T. Shapiro, P. Linett, et.al. 2012; D. Zorich, et.al

2015). The *Campus Art Museums in the 21ˢᵗ Century* report discussed the need for UAMs to find ways to connect with their audiences beyond their physical setting via the Internet and to find tools that will accomplish this task in a way that demonstrate their academic value and serves their communities (students, faculty, researchers and the public) (T. Shapiro, P. Linett, et.al. 2012).

Defining tools in this context as methods or practices this paper examined the practice of digital curation and digital preservation as methods for accomplishing the challenge posed in the *Campus Art Museums in the 21ˢᵗ Century* report. Employing an examination of survey and interview research and answering a series of research questions designed to examine various aspects of the practice from implementation into museum policy and operations to partnerships with University libraries and even potential future opportunities for partnerships with University art departments the current state of digital curation and preservation became perceivable. From the information collected it was clear that digital curation and digital preservation are only just starting to take hold in UAMs, but when the practice is adopted it is fully integrated into the policies of the museum and it is most often done with some minor partnerships with the university library in order to have access to a shared repository, and partnerships with digital arts programs/ university art departments are not really on the radar at this time.

Based on this contemporary report on digital curation and digital preservation practice in the UAM section of the art museum community, this paper sought to build a case for the development of this practice specifically in UAMs. While presenting strong incentives for the adoption of this practice many of the justifications presented also addressed concerns posed by the *Campus Art Museums in the 21ˢᵗ Century* report, about a UAM's overarching "need to continually demonstrate their academic value to their host college or university, and serve both

students and faculty as core constituents while also serving a wider public" (T. Shapiro, P.

Linett, et.al. 2012). Therefore, this paper argues for the development of a practice that will

address many of the major challenges UAMs face, as presented in the *Campus Art Museums in*

the 21ˢᵗ Century report and can open up new methods and opportunities to advance the museum

and the university and serve their "digitally- attuned" communities better. Alongside and as both

a part of and separate from the argument presented, this paper tendered a unique partnership

opportunity between UAMs and their universities' art departments to work together to teach and

research digital curation and preservation methods alongside their digital arts programs.

The ultimate goal of this paper was to determine the current state of and build the case for

digital curation and digital preservation practice in UAMs and demonstrate that this practice can

help them serve their communities and significantly contribute to the educational and research

goals and innovative tradition they share with their host universities. Therefore, in all ways this

paper presents an opportunity for further discussion on the value of this practice for all parties

and any related partnerships, such as the unique one tendered here. As digital curation and digital

preservation activities become more commonplace in UAMs more research will need to be done

to determine other ways in which this practice can support the goals and missions of practicing

museums and provide data on the success or failure of a UAM/ UAD (university art department)

partnership for the department, the museum and the student artists and greater digital arts

collecting institutions it could benefit.

Appendix

Survey Questions:

1) For the purposes of this survey, I have defined digital preservation as 'the long-term stewardship of digital assets' and digital curation as "the management of digital assets with long-term value over their full life cycle, including use, presentation, preservation, and future re-use." Do these definitions fit your definitions of these concepts?
If not, please feel free to volunteer your own definitions in your response.

2) In what ways has your institution been involved in digital curation and/ or digital preservation activities? What challenges or obstacles did you face or do you face at your institution regarding digital preservation or digital curation activities?

3) What kinds of digital asset collections do you include or consider need to be included in your digital curation and/or digital preservation activities or plans?

4) Does your museum collect art work created by your university`s students and/or faculty?
Does your university have a digital/ computer/ graphic arts course or program?
If not, do you foresee one being created?

5) Do you think digital curation or digital preservation of your digital asset collections benefits or would benefit your community (specifically faculty and students)? If so, how?

6) Do you think that digital curation or digital preservation activities benefit or would benefit your museum? If so, how?

7) Has your museum considered developing a partnership with your institution`s library or archives to share staff/resources in building digital curation and digital preservation activities, such as sharing repository services?
What challenges or obstacles have you encountered, if you have tried to build this relationship?

8) What ideas or questions do you have about the value of this kind of relationship?

9) If you are not currently sharing any of your collection with an aggregator, such as Google Art Project, Artstor, or DPLA, why not? What might convince you to share your collection, or selected parts of it, with an aggregator?

10) Please provide your information here:
Respondent Name, Institution, and if you are willing to be contacted for follow up questions please include your email address.

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