



**National Digital Stewardship Residency in Art Information
Final Report**

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**To Capture and Keep!: Establishing Preservation Practices for
Born Digital Art Collections and Projects at Penn**

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NDSR Art Final Report

I. Project Description

A. Project Title

To Capture and Keep!: Establishing Preservation Practices for Born Digital Art Collections and Projects at Penn

B. Overview

The scope of my NDSR Art project was fairly broad and ambitious. It encompassed helping the Fisher Fine Arts Libraries identify and prepare born-digital, digitized, and web-based art and art resources for collecting, discovery, and preservation. It involved research, high-level planning, and practical applications, such as creating workflows and establishing program recommendations.

My NDSR Art project had three different components:

- 1) **Web Archiving:** Create a web archiving program for the arts and historic preservation disciplines, including developing a collection development policy, metadata guidelines, workflows, and other activities for the preservation and stewardship of arts websites.
- 2) **Preservation of Born-Digital Art Assets:** Engage in a series of immersive studies to develop recommendations/priorities for the inclusion of arts-related born-digital assets into Penn's institutional repository and/or digital asset management systems. Deliverables include an extensive environmental scan consisting of the result of interviews with Fisher Fine Arts stakeholders who produce arts-related digital content.
- 3) **Digital Publication Platforms:** Extensively research and write a white paper on the issues and challenges surrounding arts-related publications served through new and emerging platforms such as apps, interactive e-books, YouTube, Issu, etc., so as to consider how today's arts research library can acquire, enable access, and preserve these ephemeral publications.

C. Project partners

Hannah Bennett, Director of Fine Arts & Museum Libraries
Primary NDSR Art project mentor. Provided regular guidance towards the successful completion of my residency and imparted helpful feedback on the documentation I created.

Laurie Allen, Director of Digital Scholarship at Penn Libraries

Secondary NDSR Art project mentor. Provided feedback and thought-provoking ideas on the web archiving portion of the project.

Ian Bogus, former MacDonald Curator of Preservation at Penn Libraries

Secondary NDSR Art project mentor. Provided guidance on the stewardship of arts related born-digital assets, including doing a one-on-one disk imaging workshop. Ian left Penn to become the Executive Director of the Research Collections and Preservation Consortium at Princeton University in October. I wish him success in his new role.

Emily Morton-Owens assumed Ian's role when he left Penn; however, he continued to act as an advisor.

I am also thankful for the support, enthusiasm, and collaborative spirit of the Penn Libraries team. This includes: Kim Eke, Associate University Librarian for Teaching, Research, & Learning Services; Emily Morton-Owens, Assistant University Librarian of Digital Library Development & Systems; Patricia Guardiola, Assistant Director of the Fisher Fine Arts Library; the Fisher Fine Arts Library staff, and all others who took time from their busy schedules to help with my project.

II. Project Execution

A. Activities completed and modifications.

Proposed activities and outcomes	Was this accomplished?	Deliverable/modified deliverable
<i>Months 1-4</i>		
Orientation: The resident will be introduced to her project team and to key personnel within the Special Collections, Institute for Contemporary Art, Department of the History of Art, and Penn Design's Departments of Historic Preservation and Fine Arts.	Yes	
Web Archiving: Introduction to existing Penn Libraries web archiving projects and documentation.	Yes	
Web Archiving: Begin training in Archive-It procedures through direct work with staff and webinars	Yes	
Web Archiving: Research and experiment with freely available resources.	Yes	
Web Archiving: Meet with and interview other archival repositories engaged in providing research access to web archive collections.	Yes	
Preservation of Born-Digital Art Assets: Conduct interviews with internal stakeholders in the arts-related departments to evaluate existing practices of developing digital content, its usage, etc.	Yes	

Preservation of Born-Digital Art Assets: Following this investigation, create a detailed inventory of existing born digital assets to be considered for archival processing.	Yes (to an extent)	See Part III § D. Next Steps.
Preservation of Born-Digital Art Assets: Meet with the Penn Library IT and Preservation departments to determine the overall technological landscape supporting digital preservation. Engage in a thorough exploration of Penn's repository and archiving platforms.	Yes	
Preservation of Born-Digital Art Assets: Explore functionalities of Shared Shelf through training webinars and consultation with Mentors and Fine Arts Image Collection staff. Review existing metadata standards.	Yes	
Attained fluency with Archive-It and related quality assurance.	Yes	
<i>Months 5-8</i>		
Complete interim report.	Yes	Final draft delivered on 1/11/2018.
Digital Publication Platforms: Establish a research plan for the duration of the residency to a) identify and examine new and emerging publication platforms for digital art content and b) document how materials are typically acquired, cataloged, served, and preserved.	Yes	Final draft delivered on 12/18/2017.
Preservation of Born-Digital Art Assets: Environmental scan of stakeholders developing digital content.	Yes	First draft delivered on 1/8/2018. Final draft delivered on 5/3/2018.

<p>Preservation of Born-Digital Art Assets: Using the detailed inventories and information from the interviews and survey gathered in the first four months, draft preservation and planning procedures.</p>	<p>Yes (to an extent)</p>	<p>Some of these recommendations are included in the Environmental Scan.</p>
<p>* Preservation of Born-Digital Assets: Initiate a case study on the feasibility of acquiring, enabling discovery, and preserving an app-based artwork.</p>	<p>Yes (to an extent)</p>	<p>See Part I § B. Modifications and Appendix I.A-B.</p>
<p>Preservation of Born-Digital Art Assets: Work with stakeholders to determine preservation criteria of the assets and assess the available platform options for fit and shortcomings.</p>	<p>No</p>	
<p>Preservation of Born-Digital Art Assets: Help stakeholders apply said criteria to objects at the time of their creation. Document recommendations and practices for mentors and stakeholders.</p>	<p>No</p>	
<p>Digital Publication Platforms: Deploy the publication research plan established in the first four months beginning with an environmental scan involving interviews with specific publishers, sponsoring institutions, and other libraries currently collecting born digital assets from publishers.</p>	<p>Yes (to an extent)</p>	<p>See Part IV.</p>
<p>Digital Publication Platforms: Consolidate findings and, with the help of mentors, develop strategies for collecting, making accessible, and preserving this unique content. Establish enough of a framework to submit a paper proposal to ARLIS/NA.</p>	<p>Yes</p>	<p>Presented at the 46th Annual ARLIS/NA Meeting on 02/28/2018.</p>

<i>Months 9-12</i>		
Web Archiving: Test and finalize workflows and archiving standards for web archiving practices.	Yes	
Web Archiving: Present recommendations and demo workflow to a) Penn Libraries Collection Development Council, b) Digital Scholarship Unit, and c) Special Collections Staff.	Yes	Presented at the Penn Libraries Teaching, Research, and Learning Services meeting on 05/22/2018.
Web Archiving: Establish collection development policies for locally generated arts related websites and freely available historic preservation websites aimed to enhance traditional print and electronic collections with this focus.	Yes	Final draft delivered on 7/11/2018.
Web Archiving: Establish a “charter archive” of websites. Determine the necessary steps for verifying digital backups and make recommendations for ongoing repository management.	Yes	Charter archive initiated on 6/13/2018.
* Web Archiving: Create workflow document and supplementary documentation for the web archiving program.	Yes	First draft delivered on 7/11/2018. Final draft delivered on 7/19/2018.
* Web Archiving: Begin functioning as Fisher Fine Arts web archiving manager.	Yes	
Preservation of Born-Digital Art Assets: Work with Shared Shelf to develop and identify data curation and metadata standards and guidelines for future born digital art assets.	No	

Preservation of Born-Digital Art Assets: Consult with the Digital Humanities Library staff and Price Lab specialists to determine what assets from recent projects could also be included in Shared Shelf, Scholarly Commons, or, if available, the digital repository.	No	
Preservation of Born-Digital Art Assets: Develop recommendations for how Shared Shelf might be improved upon for future digital preservation projects.	No	
Preservation of Born-Digital Art Assets: Select an ingest test batch of born digital assets for Shared Shelf specifically (and if available, the digital archive) and archive according to workflows and recommendations established in the previous months. Document and assess the test ingest, the cataloging, and overall management of digital assets.	No	
Preservation of Born-Digital Art Assets: Develop a set of recommendations and considerations for ingest into the digital repository and/or Scholarly Commons.	Yes (to an extent)	Reached out to the ScholarlyCommons team with recommendations based on Environmental Scan.
Digital Publication Platforms: Compile research and findings into a draft white paper.	No	
Complete final report	Yes	Final draft delivered on 7/24/2018.

** Actions beyond original project proposal.*

B. Modifications

My NDSR Art project was ultimately successful considering its broad scope. Modifications from the original project plan fell into three camps: 1) the project component's scope changed; 2) outcomes that were not achieved during the residency; 3) outcomes achieved beyond expectations of the residency.

Nevertheless, Penn Libraries has extended my contract for an additional year and I will continue the work initiated during this residency as Fisher Fine Arts Libraries digital strategies librarian.

1) Project scope changed

App-based artwork case study

The preservation of born-digital art assets component is the only portion of the NDSR Art project that was modified extensively, shifting into a case study on acquiring and preserving AR app-based artworks.

I fulfilled the initial requirements of the born-digital art assets component, which culminated in a 32-page environmental scan synthesizing interviews and recommendations compiled after engaging academic and library departments, museums, and galleries affiliated with Fisher Fine Arts.

Ian Bogus suggested a case study focusing on acquiring and preserving a digital artwork. This study, found in Appendix I.A, revealed the extensive and time-intensive process required to acquire just one digital art object.

The case study prompted an unexpected deliverable, a preliminary artist and software developer questionnaire for app-based works (Appendix I.B). The questionnaire is based on the lessons learned during the case study, my research for the digital publication platforms component, attending professional development events, and literature reviews.

2) Outcomes not achieved during the residency

Preservation of born-digital art assets

The preservation of born-digital art assets part of the project was affected by Ian Bogus' departure and the breadth of work entailed in this component beyond the environmental scan. As illustrated in Appendix I.A, acquiring and preserving unique art objects is a time-intensive process.

Nevertheless, as the digital strategies librarian at Fisher Fine Arts, I will begin to enact the recommendations that I outlined in the environmental scan. More information can be found under Part III § D. Next Steps.

Digital publication platforms

The final deliverable of this component, the white paper, could not be completed due to time constraints. I presented the initial findings of my research on ephemeral/fugitive digital publications at the 46th Annual Conference of the Art Libraries Society of North America (ARLIS/NA) in New York City. The research was drawn from interviews with publishers, artists, content creators, catalogers, acquisitions library staff members, individuals working at other GLAM institutions, and a literature review. I will continue this research and ultimately publish the results during the upcoming year.

3) Outcomes achieved beyond expectations of the residency

Web archiving

This project component called for a charter archive, metadata guidelines, and a collection development policy. However, by the end of the residency I was managing the nascent Fisher Fine Arts Web Archive. Additional deliverables include a full-fledged workflow document, permissions document, and training the 2018-2019 Fisher Fine Arts intern on web archiving basics. Furthermore, I have begun working on identifying an in-house discovery layer for the web archive.

I am also an active member of the Ivy Plus Libraries Web Resources Collection Program and am the co-nominator of the Refugees and Immigrants in the Digital Age collection.

C. Outreach and professional development activities

1) Engagements where I spoke at and/or organized.

Presentation/Activity	Role	Date	Location
Puerto Rico Disaster Relief Mapathon	Co-organizer	10/11/17	Penn Libraries, Philadelphia, PA
Art+Architecture Ivies Plus Meeting	Presenter	10/13/17	Brown University, Providence, RI
NDSR Art Cohort Presentations	Co-presenter	10/30/17	ARLIS/NA Twin Cities Fall Chapter Meeting, Minneapolis Institute of Art, Minneapolis, MN
Digital Preservation for All: Networking Communities to Save Our Digital Heritage	Panelist	11/9/17	Museum Computer Network (MCN) Conference, Pittsburgh, PA
National Digital Stewardship Residency At Penn	Co-presenter	11/16/17	Bibliographers Meeting on Web Archiving, Penn Libraries, Philadelphia, PA

NDSR Art: Developing Cross-Institutional Strategies for Sustained Access to GLAM Assets	Co-presenter	2/27/18	Art Libraries Society of North America (ARLIS/NA) Annual Conference, New York, NY
Boundless: Digital Publishing and Online Scholarship	Co-presenter	2/28/18	Art Libraries Society of North America (ARLIS/NA) Annual Conference, New York, NY
Archiving Trauma	Panelist	3/22/18	The National Forum on Ethics & Archiving the Web, New Museum, New York, NY
Web Archiving the Historical Record + Preserving App-Based Artworks	Lecturer	4/17/18	New York University, New York, NY
Your Archival Format Will Not Save You	Moderator	5/11/18	Is this Permanence: Preservation of Born-digital Artists' Archives Symposium, Yale University, New Haven, CT
Web Archiving the Art Historical Record at Penn Libraries	Presenter	5/22/18	Teaching, Research, and Learning Services meeting, Penn Libraries, Philadelphia, PA
Establishing Preservation Practices for Net Art and App-Based Works	Presenter; AIC Cross-Pollinator Fellow	6/1/18	American Institute for Conservation of Historic and Artistic Works, Houston, TX
Establishing Preservation Practices for Born-Digital and Web Art Collections at Penn	Co-presenter	6/8/18	Art Libraries Society of North America (ARLIS/NA) Mid-Atlantic Meeting, National Gallery of Art, Washington DC.
Lesson Learned and Moving Forward: Creating Stewardship Strategies for Digital GLAM Assets from Scratch	Co-organizer; Co-presenter	6/29/18	NDSR Art Capstone: Preserving Media Art & Digital Art Information, Penn Libraries, Philadelphia, PA

2) Workshops, trainings, site visits, and other professional development activities sponsored/funded by NDSR Art, Penn Libraries or other awards.

This list excludes conference attendance listed above.

Activity	Organized or Instructed by	Date	Location
2017-2018 NDSR Art Immersion Week	NDSR Art Program Administrators	07/24/17-07/28/17	Philadelphia Museum of Art, Philadelphia, PA
The Rise of Modernity: The Arts of the 19th Century (ARTH 277/677, Fall 2017)	Art history course taught by David Brownlee and André Dombrowski	07/29/17-12/05/17	University of Pennsylvania, Philadelphia, PA

Joint Meeting of New York City & Mid-Atlantic Archive-It Partner Groups	Web Archiving Interest Group	9/11/17	Metropolitan New York Library Council, New York, NY
Disk Imaging Training	Ian Bogus	10/02/17	Penn Libraries, Philadelphia, PA
NDSR Art Minneapolis Cohort Visit	Erin Barsan and Frances Lloyd-Baynes	10/29/17-10/31/17	Minneapolis, MN
NDSR Art Learning Enrichment Session: Designing, building, and maintaining the smart home for art/information	Ben Fino-Radin	12/14/17	Remote
MoMA Media Conservation Initiative Site Visit	Media Conservation Initiative staff	1/31/18	Museum of Modern Art, New York, NY
NDSR Art Learning Enrichment Session: New Media Archiving	Cornell University Library	2/12/18	Remote
NDSR Art Learning Enrichment Session: Enrichment Session with David Newbury	David Newbury	2/20/18	Remote
Consulting with Artists: Creating, Describing, and Disseminating the Visual Arts workshop	Visual Resources Division of ARLIS/NA	2/25/18	Art Libraries Society of North America (ARLIS/NA) Annual Conference, New York, NY
NDSR Art Learning Enrichment Session: Academic Job Search	Hannah Bennett and Nicole Gabrielle Finzer	4/12/18	Remote
Artist Archives Initiative Symposium	New York University	4/20/18	Fales Library, New York, NY
NDSR Art Cohort Visit to the Yale Center for British Art	Cate Peebles and Rachel Chatalbash	5/9/17-5/11/17	Yale University, New Haven, CT
Collections Care Training: Disaster Response and Recovery: A Hands-on Intensive	Conservation Center for Art & Historic Artifacts	5/16/18	Mercer Museum, Doylestown, PA
From Response to Recovery; from Recovery to Response – Hurricane Lessons Learned in Galveston	FAIC's National Heritage Responders	5/30/18	Rosenberg Library, Galveston, TX

D. Significant accomplishments

1) Completing the environmental scan of digital art objects.

Delivering the “Environmental Scan of Digital Art Content at the University of Pennsylvania” was one of the major accomplishments of the residency. The 32-page report contains the information collected from 12 members of the Penn community, including professors, curators, and directors; 7 staff members that manage services for access, discovery, and preservation of digital content; information compiled by talking

to members at other GLAM institutions or by attending NDSR Art enrichment sessions. I had never conducted an environmental scan, and while organizing the information was a challenge, the final result is a cohesive document that will guide my work this upcoming year.

2) Initiating Fisher Fine Arts web archiving program.

The culmination on my research for Fisher Fine Arts nascent web archive, includes a collection development policy, a workflow document that contains metadata specifications, and the permissions document that will be sent to site owner. I initiated the Fisher Fine Arts Archive-it collection (<https://archive-it.org/collections/9445>) and trained our Fisher Fine Arts Library intern on web archiving basics.

3) Creating a preliminary artist/software developer questionnaire for app-based works.

This deliverable was not required as part of the NDSR Art project; however, it became a byproduct of my research. This is a preliminary questionnaire based on my experiences researching digital publication platforms, engaging in the app-based artwork case study, attending professional development events, and conducting literature reviews. I hope it is useful to the community and I am open to feedback on this document.

4) Developing interviewing skills.

My NDSR Art residency required extensively interviewing Fisher Fine Arts stakeholders, library staff members, content creators, artists, professionals at GLAM institutions, and others. Previous to this residency, I had never professionally compiled data through extensive interviews. As the residency culminates, I have interviewed countless individuals whose time and knowledge contributed to the born-digital art assets environmental scan, Fisher Fine Arts web archiving program, and my ongoing research on digital publication platforms.

5) Improving public speaking skills.

Outreach and disseminating research were important components of my residency. Highlights include conducting a lecture at NYU MIAP's "Handling Complex Media" course, presenting at The National Forum on Ethics & Archiving the Web, and speaking at the American Institute for the Conservation of Historic and Artistic Works.

III. Preservation of Born-Digital Art Assets Analysis and Evaluation

A. Deliverables

- 1) “Environmental Scan of Digital Art Content at the University of Pennsylvania”
To request a copy of this document, please email me at corals@upenn.edu.
- 2) Artist/software developer questionnaire for app-based works: Appendix I.B

B. Methodology

Conducted unstructured interviews of Fisher Fine Arts stakeholders, Penn Libraries staff members, and librarians/archivists at other academic institutions and art libraries.

Stakeholders

- Fine Arts faculty of the University of Pennsylvania School of Design
- University of Pennsylvania Museum of Archaeology and Anthropology Library
- The Architectural Archives of the University of Pennsylvania
- Slought Foundation
- Institute of Contemporary Art (ICA) at the University of Pennsylvania

Penn Libraries repository, DAM, and LMS teams

- SharedShelf
- Colenda
- Scholarly Commons
- Canvas

Other Institutions

- Frances Loeb Library, Harvard University
- Fleet Library, Rhode Island School of Design
- The Preservation and Access Frameworks for Digital Art Objects Project, Cornell University (*NDSR Art Enrichment Session*)
- Software Preservation & Emulation as a Service, Yale University Library, Yale University (*NDSR Art Cohort Visit to the Yale Center for British Art*).

C. Findings

1) Primary Challenges

Lack of formal digital preservation workflow

The biggest issue affecting Fisher’s stakeholders is the lack of formalized workflows for collecting, providing access, and preserving born-digital art and art resources that follow professional best practices and are compliant with OAIS digital preservation standards.

All the departments interviewed are affected by this issue, but it is especially glaring at the Penn School of Design. There needs to be a concerted and genuine effort from Penn Libraries to collect, provide access, and preserve art and design Master's theses. When students graduate, their final works are not archived by Penn, a loss to the institution and the art historical record.

Staffing

Collecting, providing access, and preserving the vast amount of digital output produced by Fisher's stakeholders is a challenge because none of the stakeholders have a dedicated digital archivist, with the exception of the Architectural Archives.

Furthermore, the discovery and repository services offered by Penn Libraries are staffed by teams of two or three individuals that must handle the competing needs of different departments, libraries, and other digital initiatives at Penn.

2) Secondary Challenges

Access control and perceptions

Stakeholders are preoccupied about what access would entail if the institution took control of digital creative output. Concerns ranged from exposing students to harm by making their personal artwork accessible online to damaging long standing relationships curators cultivate with artists. How can Penn Libraries become a better partner and convey its responsibility to protect students and affiliated artists from liability and harm?

Obsolete Media

While this environmental scan focused on the born-digital art and art resources produced by Fisher's stakeholders, the interviewees voiced concerns about analog audio and audiovisual material in their jurisdiction that is at risk of obsolescence, such as Betacam tapes, audio cassettes, and other material.

Web archiving

While this challenge is being addressed by Fisher Fine Arts Library web archiving program, it is important to note that various stakeholders recognize the value of formally archiving their websites/child sites and preventing this online content from becoming obsolescent.

More information on these findings can be found in the "Environmental Scan of Digital Art Content at the University of Pennsylvania."

D. Next Steps

One of the most pressing issues identified in the environmental scan is the need for a concerted and genuine effort from Penn Libraries to collect, provide access, and preserve fine arts students Master's theses. Next steps for this project component include sending a digital art asset questionnaire to the fine arts faculty and collaborating with the ScholarlyCommons team to create a sustainable archival workflow.

E. Advice

- 1) Briefly research your interviewee and their department/gallery/museum before conducting interviews.
- 2) Prioritize listening. For this project component, I did not create a structured questionnaire, but I managed to compile a lot of information because all the interviewees had specific digital stewardship concerns. Most of the interviews lasted over an hour.
- 3) Be respectful. All of the stakeholders had identified ways to store the digital art and art resources being created or safeguarded by their department. Even though these procedures and storage systems might not abide by professional archival best practices it was clear that the interviewees had spent a lot of time and care in developing these procedures.
- 4) Be empathetic and remember that strengthening relationships is an important goal of the interview process. The term "archives" means different things to different people. Over the course of the residency, I learned that the term "archiving" gives an air of romance and legitimacy to how individuals are storing objects and information. It is useful to ask interviewees to define the term in their own words. My role as an interviewer was not to proselytize for a strict interpretation of the word "archives," but to listen to stakeholders concerns and build relationships in the hope of creating collaborative and sustainable archival strategies.
- 5) Record your interviews. The biggest mistake I made during this portion of the residency was that I did not record the interviews. Even though I took meticulous notes, I wish I could have played back some of the conversations while writing the environmental scan. Below are two recording and annotation apps that were recommended by Alexandra Nichols during her presentation at AIC's 46th annual meeting titled, "What Happened When? Creating Retroactive Iteration Reports for Time-based Media Artworks". Please let your interviewee know you will be recording them:
 - a) Tape a Call Lite
 - b) Audionote

IV. Web Archiving Analysis and Evaluation

A. Deliverables

- 1) Collection Development Policy: Appendix II.A
- 2) Workflow Document: Appendix II.B
- 3) Permissions Document: Appendix II.C
- 4) Archive-It Collection: <https://archive-it.org/collections/9445>
- 5) Final presentation for Penn Libraries:
https://docs.google.com/presentation/d/1T8zeMH-wnT_KY9Xb4CAizyMUX5n_95MXwqJ6Jk1RHsk/edit?usp=sharing

B. Methodology

I conducted a literature review and engaged the following individuals while conceptualizing what a web archiving program should look like at the Fisher Fine Arts Library:

- 1) Sumitra Duncan, Head of the NYARC Web Archiving Program
- 2) Samantha Abrahams, Web Resources Collection Librarian at Ivy Plus Libraries
- 3) Penny Baker, Collections Management Librarian at the Sterling and Francine Clark Art Institute Library
- 4) Anna Perricci, Associate Director of Strategic Partnerships at Webrecorder; Rhizome
- 5) Lozana Rossenova, PhD candidate at the Centre for the Study of the Networked Image at London South Bank University

I also attended various conferences dedicated to web archiving or that had web archiving-related activities (see Part II § D. Outreach and Professional Development Activities) and joined the highly recommended SAA Web Archiving Section listserv (webarchiving@forums.archivists.org).

C. Program summary

The Fisher Fine Arts Web Archive collects, preserves, and provides access to websites and publicly accessible online content that documents, reflects, and provides value to the arts and historic preservation disciplines in Philadelphia. The program aims to

archive web content and practices to provide researchers an accurate representation of what accessing this material looked like today.

- 1) Geographic scope: Philadelphia
- 2) Subject matter: Fine arts and historic preservation disciplines
- 3) Formats captured: Multimodal (websites, social media, browser-based apps, videos, etc.)
- 4) Web archiving tools: Archive-It and Webrecorder
- 5) Captured as: Web ARChive (WARC) files
- 6) Metadata: Dublin Core

Please see the collection development policy and workflow document for more information (Appendix II.A and II.B).

D. Next Steps

I will continue managing the Fisher Fine Arts Web Archive in the upcoming year. I aim to continue expanding the collection and to create the Webrecorder portion of the web archive. Subsequent goals include:

- 1) Creating an in-house discovery layer for the web archive.
- 2) Incorporating Penn Libraries Colenda as the repository for back-up WARC files.
- 3) Further developing our metadata and cataloging schemas.
- 4) Continue developing ethical web archiving practices and create methods to mitigate web archival silences while working with limited resources.
- 5) Exploring how researchers access web archived content.
- 6) Studying what it means to archive code, especially for native apps, and what providing access to this content entails.
- 7) Work in tandem with those performing similar work at Penn, such as Penn Libraries Bollinger Public and Community Data Curation Fellow and others in the Digital Scholarship group.

V. Digital Publication Platforms Analysis and Evaluation

A. Deliverable

Art Libraries Society of North America (ARLIS/ NA) Annual Conference, Co-Presenter: “Digital Fugitives: New Frontiers in 21st Century Art Publishing & Production” February 28, 2018, New York, NY.

B. Methodology

Conducted semi-structured interviews of website owners, artists, content creators, librarians, archivists, and publishers creating or acquiring born-digital publication platforms.

Name	Location	Type	URL
Art Swipe	Los Angeles, CA	App	https://itunes.apple.com/us/app/art-swipe/id493872473?mt=8
Art21	New York, NY	Hybrid (Website + Video)	https://art21.org/watch/?filter-series=extended-play
Creativz	United States	Website	http://creativz.us/
Daily Art Pro	Poland	App	https://itunes.apple.com/us/app/dailyart-your-daily-dose-of-art-history-stories/id547982045?mt=8
Gauss PDF	San Francisco, USA	Website	http://www.gauss-pdf.com/
GIPHY Arts/Electric Objects	New York, NY	Hybrid (Website + App)	https://giphy.com/artists
Europeana	The Hague, Netherlands	Website	https://www.europeana.eu/
Haute Food Blog and Zine	Puerto Rico	Hybrid (Website + Print)	https://hautefood.tumblr.com/
Paper Moon Exhibition Catalogue	Kennesaw, GA	App	http://www.apppicker.com/apps/567568537/paper-moon-exhibition-catalogue

Queer Cartoonist Database	Los Angeles, CA	Database	http://queercartoonists.com/
textsound	United States	Podcast	textsound.org
Ubu web	Philadelphia, PA	Database	www.ubu.com
Penn Libraries	Philadelphia, PA	Library	
Columbia University Libraries	New York, NY	Library	
MoMA's Media Conservation Initiative	New York, NY	Museum	
Guggenheim Archives	New York, NY	Museum	
Tate	London, UK	Museum	
Stanford University Press	Palo Alto, CA	Publisher	

See Appendix III for the list of questions asked.

C. Findings

During my residency, I explored challenges in acquiring, providing access, and preserving digital art and art resources released on apps, podcasts, YouTube, and other ephemeral platforms (“digital fugitives”). A lot of this content is created by small publishers or individuals that do not immediately think of libraries as natural partners even though the material, such as online artworks, grant-funded research on websites, and powerful social commentary via social media projects, contributes to the art historical record.

One of the findings that interested me the most was the challenge posed by content created via apps. The interviewees that created app-based content were early adopters, creating native apps¹ during the early 2010s. According to the creator of Daily Art Pro during that time, “everyone was creating apps” and it was seen as a way to “reach people in their pockets,” extending the democratic mission of the internet.

Eight years later though, disillusionment has permeated this initial outlook. According to another interviewee who created an app-based artwork, “I liked the idea of creating

¹ Native app: Smartphone applications coded in a specific programming language for a specific operating system. Benefits include access and compatibility to a phone’s devices, such as its camera. However, it is resource intensive to develop because it is tied to one type of operating system and prone to obsolescence.

an app... but have realized how limiting that is because Apple [the Apple Store] has so many rules. In many ways it is not the ideal place for such a project. My experience has been frustrating. While I feel I infiltrated the platform, the reach is limited.”

After talking with the creators of app-based works, I realized that there are many barriers to entry that I didn’t foresee at the beginning. Creators are at the mercy of an app store with changing algorithms that controls discovery. This reality is especially frustrating for creators making free educational content. If they could go back, the interviewees stated they would have created web apps².

These conversations, as well as my experience with the app-based artwork case study (see Part I § D. Modifications), aided in the creation of the preliminary artist and software developer questionnaire for app-based works (See Appendix I.B).

D. Next Steps

I did not complete this project component during my NDSR Art residency and will continue researching this topic as the digital strategies librarian at the Fisher Fine Arts Library. The white paper on the acquisition, discovery, and preservation of these “fugitive” digital publications will be submitted in late 2018.

² Web app: An application executed via a browser. It should not have compatibility issues or hardware dependencies.

VI. List of Deliverables

For more information, including the bibliography I compiled during the residency, please email me at corals@upenn.edu.

A. Preservation of Born-Digital Art Assets

“Environmental Scan of Digital Art Content at the University of Pennsylvania”
Please contact corals@upenn.edu if you wish to receive a copy.

Artist and software developer questionnaire for app-based works: Appendix I.B

B. Web Archiving

Collection Development Policy: Appendix II.A

Web Archiving Workflow Document: Appendix II.B

Web Archiving Permissions Document: Appendix II.C

Archive-It Collection: <https://archive-it.org/collections/9445>

Slides for the final presentation on Fisher Fine Arts Web Archive at Penn Libraries:
https://docs.google.com/presentation/d/1T8zeMH-wnT_KY9Xb4CAizyMUX5n_95MXwqJ6Jk1RHSk/edit?usp=sharing

C. Digital Publication Platforms

Art Libraries Society of North America (ARLIS/ NA) Annual Conference, Co-Presenter:
“Digital Fugitives: New Frontiers in 21st Century Art Publishing & Production,”
February 28, 2018, New York, NY.

D. 2018 NDSR Art Capstone

NDSR Art Capstone: Preserving Media Art & Digital Art Information:
https://www.pathlms.com/arlisna/events/614/video_presentations/114894
<http://ndsr-pma.arlisna.org/2018/07/31/2018-ndsr-art-capstone-recording-available/>

Appendix

Appendix I.A

App-Based Artwork Case Study

Introduction

From November 2017 through March 2018, National Digital Stewardship Resident in Art Information (NDSR Art), Coral Salomón, conducted a case study on acquiring and preserving an augmented reality (AR) app-based artwork at the University of Pennsylvania.

Through interviews, observations, and research, Coral was able to layout the primary work for the acquisition and preservation of an app-based work. While the case study was not completed due to circumstances outside of the resident's control, she documented the process and challenges in the hopes that it will aid other professionals.

A preliminary questionnaire for acquiring app-based work is included in Appendix I.B based on this case study and other research the resident conducted during her NDSR Art residency.

Case Presentation

Coral's NDSR Art residency coincided with a public art project in Philadelphia that was partially sponsored by Penn. It was decided that engaging one of the artists producing digital artworks for this public art project would be a great subject for a case study.

Artist X was contacted (the artist did not explicitly grant permission for her name or work to be identified in this report) and expressed interest in being part of the case study. Artist X had created an AR app-based artwork titled "C." "C" is accessed through an app and a physical map. Users engage the app and the map to uncover hidden stories activated by different markers across Philadelphia, a type of scavenger hunt.

"C" has many layers; it is part born-digital artwork, part video/performance art (users activate AR recordings of dance, poetry, and other performances by triggering the app at specific locations), and part participatory art piece. It also has a website component that contains more information on the historic moments the users learned about while exploring the city using the app.

The initial questions the Penn team asked themselves were:

- What is Penn's intent in archiving this piece?

- Is the focus to capture the experience the users had during the public art project or just the software itself?
- How to approach obstacles, such as a third-party company that might hold ownership of the code.
- How to articulate the archival goals clearly to the artist, especially in regards to obtaining permission to preserve the code.
- What is the work? Is it the app? The different components within it? Users “performing” the app?

Below are the proposed actions and the outcomes:

Proposed actions & outcomes	Was this accomplished?	Date
Engage the artist via phone call.	Yes	12/1/17; 1/18/18; 1/25/18
Engage the developers via phone call.	Yes	2/6/2018
Obtain all components of the work (map, app code, website).	No	
Conduct artist interview using the questionnaire in Appendix I.B.	No	

As seen above, the case study suffered various setbacks.

When engaging Artist X one of the biggest challenges was articulating what the team at Penn meant by archiving the work. The artist wanted to preserve the experience the users engaged in while conducting the scavenger hunt, not just the digital object (the app’s code).

Below are some questions posed by the artist during the conversations:

- How can outside objects, which are essential to activating the AR app, exist in the archive?
- Maybe have pieces [of the outside world] in the archive?
- What can be in “this box” that simulates the journey?
 - What kind of content would be around it?
 - Maybe a picture of the picture?

These questions led the artist to propose archiving a different iteration of the work. In this new iteration, users would activate the AR videos by clicking on Google maps instead of using the app.

After the initial conversation, the resident realized she had to articulate her role as a digital steward better. The team at Penn wanted to archive the app, so that future researchers could study how early AR app-based works were developed and used. The

team at Penn did not have the capacity or the skills to program an entirely new iteration of the work.

During the second phone conversation with Artist X the resident clearly articulated why the team wanted to acquire and preserve the app, and that the Penn team did not have the capacity or the intent to develop a different iteration of the work. After the conversation, the artist understood the importance of archiving the app's code as part of the preservation process. Artist X and the Penn team also began brainstorming ways of recording user interactions via documentation.

This second conversation proved the importance of clear communication strategies. Once the artist realized why the team needed the code, she was willing to initiate a conversation with the developers.

Here are some of the actions the team at Penn took to better communicate with Artist X:

- Explained why and how they engaged with the artwork.
- Articulated why they wanted to preserve this work and for what purposes.
 - Future researchers might want to study what early AR app-based artworks looked like.
 - Help make work accessible in a platform outside of Apple Store and Google Play.
- Explained that documentation is a supporting resource, not a replacement of the work.
- Explained that creating a different iteration of the work is not the purpose of the team's archival efforts.

Each subsequent conversation helped clarify the team's intent more, which can be summarized in two bullet points:

- Preserve experience.
- Preserve code.

However, the case study suffered a severe roadblock when engaging the software developers. Here the concept of "putting the work in a box" emerged again, this time from the developers. The developers interpreted that archiving the work was synonymous with retiring it and effectively killing it. The resident had to use examples like Archive-It's emulator of Oregon Trail to help illustrate that the term "archiving" in the library and information science profession does not mean the same things as "archiving" in programming terms.

The developers expressed skepticism of the acquisition and preservation endeavor. They articulated many of the challenges the resident was interested in addressing, such as how to archive a technology that has hardware dependencies. They reiterated that the process would not be as simple as "shelving code."

The resident gained the following information from the conversation with the software developers:

- The code was built with a licensed piece of software on a game environment.
- There are three versions of the code: Unity project version, Android version, iPhone version.
- The source code is bundled inside the Unity project.
- The app does not have a native source code.

The developers never delivered the three versions of the code that were promised, despite multiple follow-ups, leaving the case study unresolved.

Discussion

While the case study was not concluded, the resident learned various lesson.

App-based artworks are not necessarily created exclusively by one artist; a team of developers might also be involved. Engaging the artist and the developers might take different sets of communication skills. Furthermore, the concept of “archiving” means different things to different people. It is important to approach the artist and the developers with clear examples that demonstrate what “archiving” means.

The biggest challenges encountered during the case study were communication issues, rather than technical ones. While the artist recognized the importance of archiving her work at a knowledge institution, the software developers did not. However, the reluctance to share the codes did not seem to come from wariness of sharing proprietary information. Instead, the developers displayed heavy skepticism of the Penn team’s capacity to steward an AR app-based artwork with hardware dependencies.

While researching how to tackle the challenges posed by acquiring and preserving this app-based work, I interviewed Flaminia Fortunato, the Andrew W. Mellon Fellow in Media Conservation at MoMA. As part of her fellowship, Flaminia is tackling similar challenges, but from the angle of a media conservator and with the support of a renowned art museum. The resident urges those that have inquiries about AR app-based artworks to be on the lookout for Flaminia’s research.

The resident developed a preliminary artist and software developer questionnaire (Appendix I.B) based on this case study and other research she conducted during the NDSR Art residency. The resident wishes to acknowledge the invaluable feedback and advice given to her by Flaminia and Dave Rice, archivist at CUNY TV, while creating this questionnaire.

Appendix I.B

Artist and Software Developer Questionnaire for App-based Works

Name of artist:

Name of work:

Name of interviewee (if not artist):

Role of interviewee (if not artist):

Date:

History

What led to the work's creation?

How was the work made?

How was the work shown in the past?

Were there any past iterations of the work that you consider most successful? If so, why?

Provide a short description of your work including essential aspects, both tangible and intangible.

Technology

Was this work created in collaboration with others? If so, who?

Could you describe the technology employed to create this app? (ex: open source or proprietary/licensed software)

What hardware (ex: iPhone X) and operating system (ex: iOS 12) was the app optimized for? What specific dependencies does it have? (ex: external libraries, script, etc.)

What are the minimum software and hardware requirements to access/download this app?

Acquisition

What will the institution receive upon acquisition?

Would you be providing the source code and/or specific hardware (smartphone) as part of the acquisition?

Does the work have any accompanying components (website, an instruction manual, etc.)? If so, are those essential parts of the work? Will those objects be part of the acquisition?

If the app is upgraded, will the institution receive the upgraded iteration?

Other

Please provide any other information such as passwords, intentional artifacts, known bugs we should be aware of.

This questionnaire is meant as a starting point for those preparing artist and software developer interviews.

Please email me at corals@upenn.edu if you wish for a list of resources on this topic.

Thank you to Flaminia Fortunato and Dave Rice for providing feedback on this document and for answering all my questions regarding the topic of app-based artwork acquisition and preservation.

Appendix II.A

Fisher Fine Arts Library Web Archiving Collection Development Plan

I. Program information

The Fisher Fine Arts Library is the primary research collection for the Penn School of Design and the College of Arts & Sciences' History of Art Department and Visual Studies program.

The Fisher Fine Arts Web Archive is an extension of the mission to maintain a major research collection that supports the arts and design communities. As the nature of scholarly and artistic output grows in complexity and traditional print publications migrate online, it has become necessary to shift the approach to collection building, access, and preservation. While Penn Libraries has developed methods and programs aimed at tackling digital material, it lacks a formal approach to preventing websites and publicly accessible online arts and historic preservation content disappearance from the historical record.

The Fisher Fine Arts Web Archive collects, preserves, and provides access to websites and publicly accessible online content that documents, reflects, and provides value to the arts and historic preservation disciplines in Philadelphia. The program aims to archive online content and practices to provide future researchers an accurate representation of what accessing this material looked like today.

Online arts and design content tends to be aesthetically rich, dynamic, and complex. By focusing on capturing and providing access to these challenging materials, Fisher aims to develop a specialized web archive that is meant to be innovative, iterative, and incremental. Online art and arts resources test notions of ownership, cultural spaces, the power of individual users, the role of knowledge institutions, and traditional perceptions of stewardship. The program aims to look critically at the practice of web archiving and study what it means to collect, preserve, and provides access to online content, practices, and culture. We welcome research and collaboration.

For born-digital scholarship to be valued at a level equivalent to print publication, there needs to be a method for ensuring permanence. Many content creators are not archiving their own websites and are not aware that the material they produce online is ephemeral, imperiling the historical record. Fisher Fine Arts is well positioned to archive this web content, collaboratively create stewardship best practices, and enact preservation awareness initiatives for the material being produced by artists, galleries, born-digital online publications, and others as the dedicated Penn library supporting contemporary and historical aspects of art and design.

Given the web archiving program's nascent nature and the internet's variable and ever-changing nature, the Fisher Fine Arts Web Archive collection development policy will be reviewed and amended on a regular basis.

II. Collection Development Guidelines

A. Geographical scope

The Fisher Fine Arts Web Archive is local in scope, focusing on the Philadelphia region.

B. Subject matter

The Fisher Fine Arts Web Archive collects, preserves and provides access to websites, social media, freely available web publications, and other online content that documents, reflects and provides value to the arts and historic preservation disciplines in Philadelphia. This includes content related to the following categories:

- Drawing
- Painting
- Sculpture
- Prints
- Photography
- Ceramics
- Furniture
- Architecture
- Landscape architecture
- Contemporary art
- Special events related to these disciplines

C. Format

The Fisher Fine Arts Web Archive is multimodal and aims to capture a broad range of web content including, but not limited to, websites, social media, blogs, browser-based apps, and videos.

As the web continues to evolve, so will the formats accepted into this collection.

All archived material is preserved as WARC (Web ARChive) files stored in Archive-It and Webrecorder's hosted repositories.

D. Web archiving tools

Fisher Fine Arts Web Archive captures online content using the Internet Archive's Archive-It service and Rhizome's Webrecorder.

Users can access and playback the archived WARC files using the Internet Archive's Wayback Machine and via Fisher's Webrecorder collections.

Other licensed and open-source web archiving options will be explored depending on technical, resource and access requirements.

E. Avoid duplication

Fisher Fine Arts cross references web archived content at other institutions to limit duplicating efforts.

If Fisher discovers that a nominated site overlaps with archived content at another institution, it will study the depth and quality of the captures, the frequency at which the material is archived and access conditions to consider whether the material should be included in the Fisher Fine Arts Web Archive.

Patrons will be referred to the available resource if the content is not included in the Fisher Fine Arts Web Archive due to duplication.

F. Encourage research use

The Fisher Fine Arts Web Archive aims to take a critical look at the practice of web archiving. It strives to make its collections accessible and relevant to the research needs of the scholars at Penn and the general public, as well as anticipate future research uses.

The program aims to study what it means to collect, preserve, and provides access to online content, practices, and culture. Fisher Fine Arts encourages case uses and research studies exploring topics such as discovery layers and metadata applications, open-source WARC playback tools, online artist archives, and other subjects.

G. Mitigate archival silences

Fisher Fine Arts strives to create an inclusive web archive and invites the public to nominate online material that fall within the scope of its collections. Fisher Fine Arts will exercise care to ensure its web archive does not reproduce and sustain the marginalization of historically underrepresented groups.

The program administrators recognize that web collections tend to be English-language dominant and web archiving metadata profiles favor monolingual descriptions. Fisher Fine Arts aims to take a critical look at what the program can do to ensure equitable access, especially regarding archived content created by Philadelphia communities that speak a language other than English.

III. Selection Process

A. Nomination and discovery of websites

Penn faculty, students, staff, affiliates and the public are welcome and encouraged to recommend websites and online resources that fall within the collection scope.

Recommendations may be submitted using this **online form.** The recommendations will be reviewed by designated Penn Libraries staff members for inclusion in the web archive.

B. Obtaining permissions

Fisher Fine Arts archives online content in accordance with US copyright and its exceptions. It strives to respect the rights of content creators and follows professional best practices for intellectual property rights management.

IV. Constraints and Looking Forward

A. Subjects excluded/included on a selective basis

Fisher Fine Arts will assess and review the limits and possibilities of its web archiving program on an ongoing basis due to the ever-changing nature of the web.

The scope of the Fisher Fine Arts Web Archive pertains to the arts and historic preservation fields. It will not accept websites of other subject matters. It will not archive the sites of arts institutions based outside of Philadelphia.

Art resources (such as exhibition catalogs) that are not related to Philadelphia, but are of use to Penn faculty, students and researchers, might be admitted into the collection depending on whether the content is at-risk, its value to the historical record and its relevance to the Fisher Fine Arts print collections.

B. Resource constraints

While the Fisher Fine Arts Web Archive strives to be format agnostic, there are limitations due to resource, staffing, and technology constraints. Successful inclusion in the collections depends on the complexity of the site, size of the content and cost of staffing to perform the work. Fisher Fine Arts is mindful of collection dimensions that might increase costs, such as including materials that will increase the program's limited storage (such as large videos).

There is no dedicated web archiving team at Penn Libraries. Essential web archiving tasks, such as manually recording sites using Webrecorder, performing quality assurance, managing site nominations and creating metadata demands staff time. The richness of the collections will depend on the availability of staff members.

The Fisher Fine Arts Web Archive does not have a storage or long-term preservation plan at this time. It will rely on the Wayback Machine and Webrecorder for repository purposes until a longer term plan can be established.

Currently, the web archiving program does not include native apps, augmented reality apps, and other device-specific materials due to technical limitations.

C. Looking forward

As the web archiving program matures, Fisher Fine Arts will explore:

- In-house discovery layers for the web archive, including the Penn Libraries catalog, wikis or other platforms.
- Workflows that would incorporate Penn Libraries Colenda as the main repository for its WARC files.
- How scholars access and use web archived content.
- Metadata and cataloging schemas.
- In-house WARC playback systems.
- Archiving source codes, especially for native apps, and what it means to recreate and provide access to that content.
- Work in tandem with other groups performing similar work at Penn, such as Penn Libraries Bollinger Public and Community Data Curation Fellow and others in the Digital Scholarship group.

Fisher Fine Arts will take into account existing literature, conduct its own case studies and look into parallel efforts before implementing “next steps.” As the program matures, it aims to be responsive to the needs of the arts and design research communities.

The Fisher Fine Arts Web Archive strives to make decisions to ensure the sustainability of the program. This will factor into how it captures, provides access, and preserves archived web content, taking into account that some of these materials might be unique art objects that will require different specifications.

Works Cited:

Duncan, Sumitra. Web Archiving at the New York Art Resources Consortium (NYARC): Collaboration to preserve specialist born-digital art resources. DH. Opportunities and Risks. Connecting Libraries and Research, Berlin, Germany, August 2017.

Espenschied, Dragan. “Growing a Repertoire: The Preservation of Net Art as Resistance to Digital Industrialism.” *transmediale/art&digitalculture*, Berlin, Germany, January 2018.

Other Resources:

[NYARC Documentation](#)

[Columbia University Libraries Web Resources Collection Program](#)

[Stanford University Libraries Collection Development](#)

[Library of Congress Collections Policy Statements Supplementary Guidelines](#)

Appendix II.B

Web Archiving Workflow

Introduction

This document contains the best practices, workflows, and procedures for the Fisher Fine Arts Web Archive. It is a document intended for Penn Libraries staff and, due to the ever-changing nature of the web, is a work in progress.

Tools

Capture

Archive-It
Webrecorder

Playback

Wayback
Webrecorder

Archival format

WARC files

In-house Discovery Layer

Pending

In-house Repository

Pending

Collection Scope and Website Nomination Process

Scope

The Fisher Fine Arts Web Archive collects, preserves and provides access to websites, social media, freely available web publications, and other online content that documents, reflects and provides value to the arts and historic preservation disciplines in Philadelphia. This includes content related to the following categories:

- Drawing
- Painting
- Sculpture
- Prints
- Photography
- Ceramics
- Furniture
- Architecture
- Landscape architecture

- Contemporary art
- Special events related to these disciplines

Selection

Penn faculty, students, staff, affiliates, and the public are welcome and encouraged to recommend websites and online resources that fall within the scope. Content creators/owners are welcome to nominate their own websites.

Recommendations may be submitted using this **online form** and will be reviewed for final approval by designated selectors.

Fisher Fine Arts cross references web archived content at other institutions to limit duplicating efforts. The following resources are reviewed before capturing content:

- Archive-It collections portal
- International Internet Preservation Consortium list of member archives
- Wikipedia list of web archiving initiatives
- Internet Archive Wayback Machine
- UK Web Archive Memento aggregator service
- cobWeb

Patrons will be referred to the available resource if the content is not included in the Fisher Fine Arts Web Archive due to duplication.

Websites collected as part of the Fisher Fine Arts Web Archive will be evaluated based on the quality of the capture. Our aim is to preserve the website's look and functionality at the moment of the capture.

Technical complications may limit the ability of our capture tools to collect rich media, dynamic material, database content, or other interactive components. As a result, certain elements of an archived website may not be present. The WARC files of sites that cannot be captured with relative success on Archive-It or Webrecorder will not be stored, since they will take up space and resources that could be used for more effective captures. However, the URL and other metadata for the site will be recorded by Fisher Fine Arts and the site owner will be informed if it is not possible to archive the site with the available technology.

Example of ineffective capture after multiple troubleshooting attempts.

Permission

Prior to archiving a website, Fisher sends a permissions letter to the content creator/owner as identified on the site. If permission is denied, Fisher will not archive the site. Fisher will follow up with the content creator/owner three times before beginning to archive the content. Content creators can choose to opt-out of the archive at any time.

Fisher abides and archives online content in accordance with US copyright and its exceptions. We strive to respect the rights of content creators and follow professional best practices for intellectual property rights management. Websites are captured in accord with U.S copyright law, its exceptions, and recommendations from experts including:

[Fair Use, Section 107](#)

[Reproduction by Libraries and Archives, Section 108](#)

[The Section 108 Study Group Report](#)

[Code of Best Practices in Fair Use for Academic and Research Libraries,](#)

[Code of Best Practices in Fair Use for the Visual Arts](#)

Web archiving does not interfere with any copyright or ownership rights. Copyright ownership will remain with the content creator/owner as identified on the website and

as stated by local, national, and international regulations. Fisher does not assume responsibility for the accuracy or lawfulness of the archived site or its contents. These materials are collected to secure long-term access for research and private inquiry.

Capturing Content

Assessing appropriate archiving tool

Fisher archives online material using the Internet Archive's Archive-It service and Rhizome's Webrecorder tool.

Deeming what service is appropriate for the capture of the content depends on the size, complexity, aesthetics, and functionality of the site. Staffing costs for quality control, manual recording of content, and other needs will also play a factor in deciding which service should be used.

Users can access and playback the archived WARC files using the Internet Archive's Wayback Machine or via our Webrecorder collection.

Available licensed and open-source web archiving options will be explored based on the technical and access requirements of our archive. Our aim is to have tools that do not require large staffing necessities and that are able to faithfully capture dynamic, visual, and complex content.

Frequency

Websites of events that have passed or sites that are no longer active will be captured once.

Live sites will be captured on a monthly basis until inactive.

Collection maintenance

Given the ever-changing nature of websites, the online content collected will be reviewed on a periodic basis to make sure it continues to be relevant with the scope of Fisher's collection and that the crawls are not capturing unrelated content, dead websites, and other material that might be deemed irrelevant.

Content will be weeded out on an extremely limited basis, since it runs counter to the aim of the collection mission. Any weeding will be given serious thought by the Fisher Fine Arts staff.

Quality Assurance

Quality assurance is an important component of the web archiving workflow. Below are links to the quality assurance guidelines of Archive-It and Webrecorder.

Archive-It Quality Assurance Guide

How to use Webrecorder's Patch Tool to QA WARC Files

Access and Metadata

The Fisher Fine Arts Web Archive uses Dublin Core in resource descriptions. We use 9 of the 15 elements. The descriptions can be accessed via our Archive-It collection. The elements were selected in accordance with the [Descriptive Metadata for Web Archiving: Recommendations of the OCLC Research Library Partnership Web Archiving Metadata Working Group](#).

Below are the definitions of each data element.

Title

Transcribed verbatim from the head of the site. Do not translate. If the title appears in multiple languages, please designate the title fields in the order the languages appear on the site (ex: 童话项目, Fairytale Project, Fairytale-Projekt).

Creator

Website creator.

Subject

LOC Subject Headings.

Description

[Type] [purpose of site]. [Publisher]. Titled: [Title]. [Creator]. This is an archived web page collected at the request of [requestor] using [capture tool]. The capture began on [date], and is part of the Fisher Fine Arts Web Archive.

Publisher

Online host (ex: Tumblr, Instagram, SquareSpace, etc...).

Date

The date the website first went live and/or was taken down.

Type

A term specifying the type of content in an archived website or collection. Please follow the controlled vocabulary below:

Museum website

Gallery website

Exhibition website

Corporate website

News website

Artist website

Blog

Social media (includes Facebook, Instagram, and Twitter)

Collector

The Fisher Fine Arts Library

Language

Languages the website appears in. Please create the fields in the order the languages appear on the site (ex: jpn, eng, ger).

Use ISO 639 series code for consistency and to enable machine action.

This metadata profile is provisional and we hope to continue developing it.

Access

The Fisher Fine Arts Web Archive can be searched and accessed publicly via Archive-It and Webrecorder.

Fisher Fine Arts is working on identifying an in-house discovery layer in the near future.

Outreach

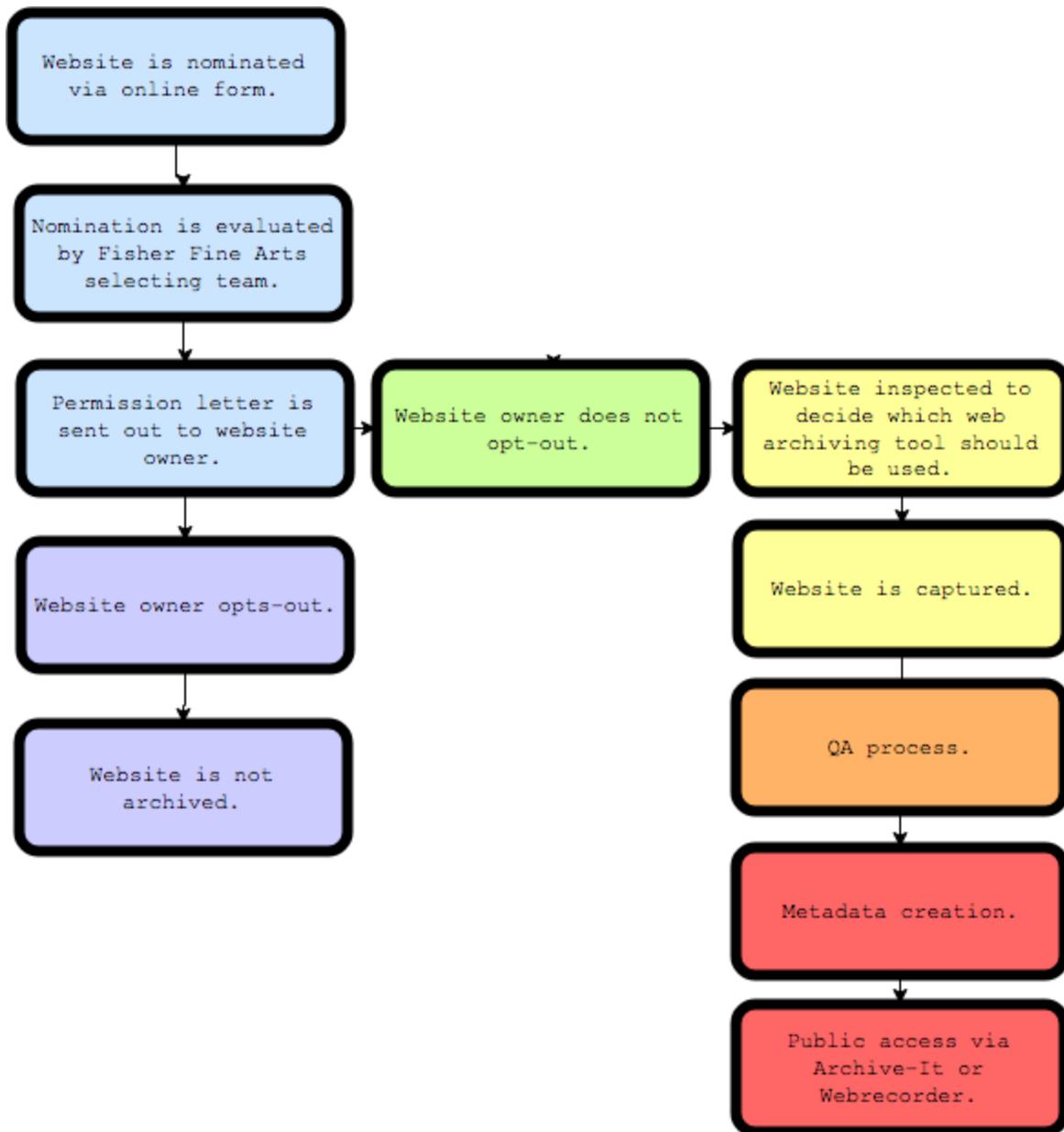
The Fisher Fine Arts Web Archive strives to make its collections accessible and relevant to the research needs of Penn and the general public, as well as anticipate future research uses.

To make the program accessible, the designated web archive manager will:

- Host workshops at Penn to help students and faculty understand, use, and create web archives.
- Present at conferences, symposiums, and panels within Penn and at outside institutions.
- Publish on this matter.
- Provide classroom lectures.
- Fulfill other duties as necessary.

Fisher Fine Arts encourages case uses and research studies exploring web archives. Please contact corals@upenn.edu if you would like to schedule a meeting to discuss these or other outreach ideas.

Workflow visualization



Appendix II.C

Permission Document

Dear **name**,

The University of Pennsylvania Fisher Fine Arts Library has selected your website — **url** — for inclusion in its web archive. The Fisher Fine Arts Library Web Archive collects, preserves, and provides access to websites and publicly accessible online content that documents, reflects, and provides value to the arts and historic preservation disciplines in Philadelphia. The program aims to archive online content and practices to provide future researchers an accurate representation of what accessing this material looked like today.

The Fisher Fine Arts Library plans to collect your website at regular intervals using web archiving tools, such as crawlers (which require no effort on your part), and provide public, online access to the archived version(s). The archived content will be stored in a long-term preservation system. Rest assured, these web collecting tools will not affect the performance or accessibility of your website.

Due to the dynamic nature of your website, it may not be possible to archive the full site. If you would like for us to share the results of our web archiving efforts and any assessments on the “archivability” of your site, please let me know.

You can learn more about The Fisher Fine Arts Library Web Archive by reading our **Collection Development** plan and access it via our **web collections**. Please let me know if you have questions, concerns or objections to the archiving of your site by replying to this email.

Kind regards,

Coral Salomón
National Digital Stewardship Resident
University of Pennsylvania
Fisher Fine Arts Library
T: 215.746.3215

Appendix III

Interview Protocol for Content Creators

How did this effort originate?

Where do you think your work has an impact, where does it resonate?

What need does your [content] fill?

Is/was there an analog equivalent or inspiration?

Why did you choose to publish through this platform?

Was this [content] created in collaboration with others? If so, who?

Could you describe the process and technology used in developing this [content]?

What are your approaches for access and discoverability? How do users find your content?

How does the design affect how users engage with the material?

What are your plans for longevity?

Who/what would be your preferred partner for preservation?

What would be your ideal workflow (if any) for preserving this [content]?

Would you allow an academic/cultural institution to provide access to and/or preserve this [content] for non-commercial use?

Would you consider licensing this content via a publisher like Proquest or Ebsco? The benefit of something like this would be that these companies would index your content and serve it alongside similar kinds of resources (music or art indexes) within their suite of databases. If you have reservations about this, what are they?

Although it is difficult to predict the future, how do you think this [content] will be accessed in 25, 50, maybe 100 years? And what sort of impact do you think it's had and will continue to have?

If you could wave a magic wand, what would you like to do with the [content]? That is, if you had all the resources in the world, what would you like to do or how might you improve upon the existing platform?

How do you think these ephemeral resources or platforms are impacting research practice?

Please provide any additional information that you consider relevant to this interview.

Apps

Why did you opt for an app to host your [content] rather than a website?

What does it mean for users to access this [content] solely via a mobile device?

Can you explain the advantages and challenges of having this [content] discovered and accessed through a platform like the Apple Store?

Social Media

Why disperse your work via social media rather than another platform?

Do you consider user comments and engagement part of the dynamic of the [content] or do you see the interactions as something separate to the [content]?

Do you consider releasing work via social media a self-publishing effort or something completely different?

Did publishing work via social media come about organically or was there a specific intent for releasing work through this medium?

Institutions:

What department is in charge of publishing this content? Is it a cross-departmental effort?

Can you tell us about any sort of licensing agreements you establish with the artists generating the [content]?