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STACKTRACE // News from Software Preservation Network

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September/October 2018  
Volume 1, Issue 4

## SDN-WIDE INITIATIVES

*Learn about current SPN-wide efforts - activities that crosscut working groups and affiliated projects.*

## DMCA EXEMPTION: LET'S GET CRACKING

Readers may recall that the Software Preservation Network, represented by Christopher Bavitz and Kendra Albert of Harvard Law School's Cyberlaw Clinic and Brandon Butler of the University of Virginia Library, filed a petition requesting that the Library of Congress Copyright Office grant cultural heritage/memory institutions an exemption to circumvent technological protection measures in order to preserve computer programs and computer program-dependent materials. Since the initial filing, there has been an open reply period, hearings, and most recently the U.S. Copyright Office final ruling: **WE WON!**

With sincerest thanks to our advocates from Harvard's Cyberlaw Clinic, (Kendra Albert, Chris Bavitz, Evelyn Chang, Anderson Grossman, Jillian Goodman, Erika Herrera, Austin Bohn, and Erin Thomas), and Brandon Butler at University of Virginia, we are thrilled to announce that the U.S. Copyright Office granted an exemption to the DMCA's anti-circumvention provision for libraries, archives, and museums to circumvent technological protection measures on certain lawfully acquired software for the purposes of preserving software and materials that depend on it.



Mx. Albert, our legal representative and advocate throughout the 1201 process, [recently published a blog post](#) that provides background on the exemption process, explains why software preservation matters, details how the law has traditionally been an obstacle to software preservation and discusses the impact of the recent exemption of digital preservation practice!

Mx. Albert and Fall 2018 Cyberlaw Clinic students are actively developing resources that will help practitioners to understand and apply the recent exemption to their work. Brandon Butler, alongside fellow members of the Best Practices in Fair Use research team, are also developing practitioner-friendly resources that [articulate the relationship of the DMCA exemption to the ARL The Code of Best Practices in Fair Use for Software Preservation](#) (discussed in detail under “Affiliated Project Updates”).

#### Additional Software Preservation DMCA Exemption Resources

- Cyberlaw Clinic blog post describing the [2018 Triennial 1201 Rulemaking Process](#)
- Cyberlaw Clinic blog post describing the [oral hearings for the 1201 Rulemaking Process](#)
- [SPN's proposed exemption](#)
- Supporting comments from [Software Preservation and Library Copyright Alliance](#) and the [Free Software Foundation](#)
- Replies to opposition comments:
  - [SPN](#)
  - [Andrew Berger](#) (Computer History Museum)
  - [Nick Montfort](#) (MIT)
- [Copyright Office final ruling on SPN's exemption request](#)

## CONFERENCES AND EVENTS

Fall conference season is always a busy time - just keeping up with conference hashtags and collaborative notes documents is a feat! While we describe recent Affiliated Project conference updates in the “Affiliated Projects” section of the newsletter, we want to highlight conference presentations and SPN ambassadorship by volunteer members of SPN Working Groups.



On October 11-12, Elizabeth Parke (McGill University) represented the SPN Training & Education Working Group at [FORCE2018](#) in Montreal, Canada. Fellow SPNers Neil Chue-Hong (Software Sustainability Institute), Daina Bouquin (Harvard/Smithsonian Center for Astrophysics) and Chip German (University of Virginia) were also in attendance. Huge thanks to Elizabeth for introducing FORCE2018 attendees to SPN!

## QUARTERLY COMMUNITY FORUM

On September 11, 2018, SPN hosted our fall quarterly Software Curation and Preservation Community Forum. The Forums are free, online and open to everyone. We invite our colleagues across professional and disciplinary communities to participate in discussion on topics related to software curation, preservation and reuse. The Fall 2018 Forum included reports by practitioners engaged in complementary software curation and preservation initiatives including:

- [Jonathan Farbowitz](#) (Guggenheim Museum) - [FCoP](#) In-Person Kick-Off Meeting
- [Monique Lassere](#) (University of Arizona) - [Community Standards for 3D Data Preservation \(CS3DP\)](#)
- [Seth Anderson](#) (Yale University) - [EaaSI](#)
- [Neil Chue Hong](#) (Software Sustainability Institute) - [Software Deposit Guidelines for Researchers](#)
- [Brandon Butler](#) (University of Virginia) - [Code of Best Practices for Fair Use in Software Preservation](#)
- [Hannah Ballard](#) (Educopia Institute) - [SPN Prospectus Release](#)

Review the [Fall 2018 Community Forum Meeting Notes](#).

The next Quarterly Software Curation and Preservation Community Forum is scheduled for December 11, 2018. Are you interested in discussing a specific topic during future Community Forums? [Submit your topics and questions](#)

## AFFILIATED PROJECTS

*Learn about SPN affiliated project activities and milestones. SPN affiliated projects focus on some aspect of software preservation/curation that supports the strategic goals of SPN.*

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**Timeline:** January 2017 – June 2020

**Funder(s):** Alfred P. Sloan Foundation

**Awardee:** Association of Research Libraries

The [Code of Fair Use Best Practices in Software Preservation](#) **HAS BEEN RELEASED!**

The research team (Peter Jaszi (American University), Patricia Aufderheide (American University), Krista Kox (Association of Research Libraries) and Brandon Butler (University of Virginia)), released the Code in PDF format during the last week in September in conjunction with a series of conference presentations that helped spread the word including 2018 International Conference on Digital Preservation (iPRES) in Boston, 2018 Digital Library Federation Forum/Digital Preservation 2018 in Las Vegas and the 2018 Global Congress on Intellectual Property and the Public Interest in Washington, D.C.

The Code was derived from a two-stage research process.

1. 40 seasoned practitioners were interviewed at length about copyright problems and concerns encountered in their digital practice. Those interviews revealed an overarching theme of frustration with the growth of a “permissions culture,” or the assumption among cultural stewardship practitioners that the only safe path through the copyright thicket is to obtain express permission from a copyright holder for virtually all preservation activities. At the same time, practitioners recognized that this permission would often be impossible to get. This and related conclusions were documented in an earlier report entitled Copyright and Permissions Culture in Software Preservation and Its Implications for the Cultural Record.
2. 8 discussion groups of professionals convened in 6 cities and on two national video conference calls to deliberate about scenarios drawn from the first-stage interviews. A consensus built up over the course of these meetings was then distilled into a set of 5 principles and limitations for the responsible exercise of fair use in software preservation.

The 5 situations and the associated principles and limitations described in the Code mostly map to a digital curation workflow from triage to access:



### **SITUATION #1:**

Accessioning, stabilizing, evaluating, and describing digital objects



### **SITUATION #2:**

Documenting software in operation, and making that documentation available



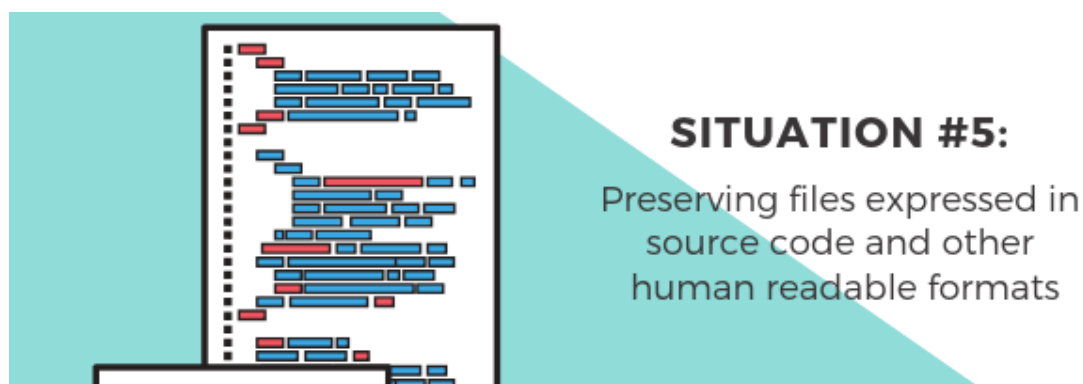
### **SITUATION #3:**

Providing access to software for use in research, teaching, and learning



### **SITUATION #4:**

Providing broader networked access to software maintained and shared across multiple collections or institutions



In December, representatives from SPN and the Code of Best Practices for Fair Use in Software Preservation research team will present at the [Fall 2018 Coalition for Networked Information Membership Meeting in Washington, D.C.](#)

Looking ahead to 2019 ARL and SPN are teaming up to co-host a free, open-to-everyone webinar series that will feature an in-depth discussion of each scenario/principal described in the Code as well as other related legal topics that are not covered by the Code, such as the Digital Millenium Copyright Act (DMCA).



**Timeline:** January 2018 – June 2020

**Funder(s):** Andrew W. Mellon Foundation and Alfred P. Sloan Foundation

**Awardee:** Yale University

EaaS Node Hosts took on several major participatory design research activities in September and October, including *Scenarios for Use & Access*. Goals of this research activity include:

- Articulate potential software (re)use and access scenarios
- Inform/Verify assumptions regarding (re)use and access scenarios by surveying your users.
- Analyze user responses to determine the distance between scenarios for use and access driving your interest in software curation, preservation and emulation - and your users' behaviors and research needs

*Scenarios for Use & Access* was a multi-phased activity:

- (August 21 - 31) Team Brainstorm of Scenarios for Use & Access
- (September 4 - September 14) Gather User Data
- (September 17 - 21) Data Analysis and Preliminary Observations
- (September 24 - 28) Peer Review of Use Scenarios and Data Analysis
- (October 2) Node Monthly Call - Peer Reports

The scenarios found to be common among our founding group of Nodes will help us to prioritize infrastructural development and UI feature development in the coming months. Feedback from survey participants at each Node emphasize the need to address the role of semantics in both 1) a distributed network of trust/nodes and 2) provisioning a common good service across disciplinary-specific user groups within a single node. We will concentrate on methods, Node Host team reflections and preliminary results from participatory design research activities in the November/December 2018 EaaS update.

Through September and October, several members of the EaaS team concentrated on metadata. One piece of work undertaken is the EaaS metadata application profile (MAP). The EaaS MAP is distinct but complementary to software metadata stored in Wikidata, which we plan to incorporate into the design of the EaaS application. In October, EaaS Semantic Architect, Kat Thornton, completed a Shape Expressions schema for Wikidata for Digital Preservation (WikiDP) metadata. This will allow users to validate whether software and file format information in Wikidata adheres to the WikiDP project's model.

In addition to reusing metadata from Wikidata, EaaS is committed to building on community standards and vocabularies for software including but not limited to:

- [Trustworthy Online Technical Environment Metadata \(TOTEM\)](#)
- [A Framework for Software Preservation](#)
- [The CodeMeta Project](#)
- [Preservation Metadata \(PREMIS\)](#)

In September, the EaaS team met in New Haven, Connecticut for our fall staff retreat. Topics of focus for the team included work completed since May 2018; evaluating the current timeline and finalizing components of EaaS Network deployment in February 2019; articulating features for Phase 2; and pinpointing any obstacles or barriers for advancing the timeline.

Several members of the EaaS team presented in September at iPRES 2018 in Boston including:

- *Active Archive Curation and Preservation Management at Scale*, a workshop by Sheila Morrissey, Amy Kirchoff, Stephen Abrams, Karen Cariani, Vinay Cheruku, **Euan Cochrane**, Michelle Lindlar, Marcel Ras, and Alex Green
- *Participatory Design for Software Preservation and Emulation Services*, an ad-hoc workshop by **Seth Anderson** and **Jessica Meyerson**
- *Fencing Apparently Infinite Objects*, a short paper by Dragan Espenschied and **Klaus Rechart**
- *Evaluation of preservation strategies for an interactive, software-based artwork with complex behavior*

using the case study *Horizons (2008)* by Geert Mul, a long paper by Claudia Roeck, **Klaus Rechert** and Julia Noordegraaf

- *Introducing the Code of Best Practices in Fair Use for Software Preservation*, a discussion panel moderated by Leslie Johnston with panelists Brandon Butler, Lyndsey Moulds, and **Jessica Meyerson**



We kicked off October with the hiring of the newest member of the EaaS team, [Ethan Gates](#). Ethan was a double English and Russian major at Amherst College and is a graduate of NYU's MA program in Moving Image Archiving and Preservation. For the past several years he worked as NYU-MIAP's staff Technician, coordinating equipment maintenance, use, and training in the department's lab spaces. He has also worked with organizations such as METRO, XFR Collective, and the Association of Moving Image Archivists' Open Source Committee to develop workshops and documentation that demystify audiovisual and digital technology for archivists. Ethan leads the prioritization and configuration of software for EaaS and Yale University Library, including management of student software configuration staff. (We are so grateful for our awesome student staff and plan to highlight their work in a future EaaS update).



**Timeline:** June 2017 – May 2020

**Funder(s):** Institute for Museum and Library Services #RE-95-17-0058-17

**Awardee:** CalPoly State University



Guest Post by: Zach Vowell

In September, FCoP Cohort members logged in to their EaaS sandbox installations, courtesy of Yale University and the OpenSLX team. To help support the cohort's work, the FCoP project team introduced the fcop-tech-talk email list, as a way to better channel questions about their EaaS installations as they dug into their EaaS installations. The cohort also started populating an Issue Tracker spreadsheet, which helps explicitly document issues that arise with their EaaS installation and workflow testing. The OpenSLX team reviews the Issue Tracker and responds by resolving the issue or asking for more information. Additionally, the FCoP project staff started bi-weekly "office hours" with OpenSLX team leader Klaus Rechert, where FCoP cohort members can get immediate feedback about their installation from EaaS developers directly. In response to one office hours session, emulated Macintosh OS 7 and Commodore64 environments were added to the cohort's installations. In early testing of their EaaS installation, University of Virginia made some fun graphics from the clip art library found in DesignPro v4.0, a software title originally published by Avery in the late 1990s.

The image displays two side-by-side screenshots. On the left is the Software Preservation Network website, featuring the organization's logo and a navigation menu for the University of Virginia. On the right is a screenshot of the DesignPro v4.0 software interface, showing a drawing of a computer monitor with the text "Software Preservation Network" and a graphic of a computer monitor and keyboard.

**Software Preservation Network**  
UNIVERSITY OF VIRGINIA

- Object Environments
- Software
- Objects
- Import / Create Environment
- Import Object
- Settings
- Help

Actions

**DesignPro v4.0 - [Document1]**  
File Edit View Label Insert Drawing Format Layout Database Tools  
60% Arial 28  
1 2 3 4  
Software Preservation Network  
Master Label 1  
Press F1 for Help. 3248 X: 6.22" Y: 3.02"  
Start DesignPro v4.0 - [Do...]

**AVERY DESIGNPRO 4.0**

Learn more about the #FCoP Cohort Software Preservation Projects here:  
[www.softwarepreservationnetwork.org/fcop](http://www.softwarepreservationnetwork.org/fcop)

Also in September, many of the FCoP Project Leads and the FCoP project team participated in the International

Conference on Digital Preservation (iPRES) in Boston. With FCoP support, Guggenheim Project Lead, Jonathan Farbowitz, presented a lightning talk entitled "Quality control for disc images of computer-based art", which includes rendering disc image contents in an emulated environment as part of the quality control workflow. Stay tuned for a link to the published iPRES 2018 OSF Proceedings.

Continuing the FCoP Cohort Research Agenda, cohort members completed Software & Collection Inventories. The goal of the FCoP Software & Collection Inventory is to identify software dependencies for each FCoP project and to advance understanding of local descriptive practices for software (discovery limitations, etc.). FCoP Cohort members were asked the following questions as part of the Inventory process:

- Did you encounter difficulties locating software that you knew was stored in your collections?
- Did you encounter anything unexpected in your collections and software inventory that would be useful in the context of emulation, sharing, etc.?
- Was it difficult to determine the use and access restrictions associated with the software that you identified in your inventory?
- Was it difficult to determine the dependencies associated with collections and software objects that you identified in your inventory?
- Did this process raise any questions internally regarding policies, requirements and local user constituencies?

After Inventories were completed, FCoP Cohort members were asked to review one another's results and note any similarities, differences or general observations. We discussed these observations during our monthly call and inventory results will be shared on the SPN website in the coming months.

October wrapped up with the announcement of the FCoP Research Travel Award, which will support travel for one academic researcher to complete site visits to two of the FCoP project sites in order to investigate software preservation and emulation in different organizational contexts. The CfP for the award is open until December 5 - encourage all any graduate students, postdoctoral researchers and early carer faculty to apply: <http://www.softwarepreservationnetwork.org/fcop-research-travel-award/>



*Learn about changes and improvements to functional aspects of the Network. This section will feature updates on governance, funding, engagement strategies and other activities that comprise backbone support for working groups, affiliated projects and strategic partnerships.*

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**WEBSITE UPDATE:** SPN is still undergoing website updates - please be patient over the next few months as we switch to a new website architecture.

**JOIN SPN:** Do you appreciate the work that SPN has been doing over the last two years to broaden participation and ensure lawful preservation, sharing and resource of software? Would like to SPN to continue its work of coordination, research, advocacy, and capacity building? Do you have ideas or a vision for the future of software preservation that you would like to see realized through the Spn community?

If you answered “Yes” to any of these questions, then consider supporting our work through membership or sponsorship. Download, complete and submit your [SPN Participation Agreement](#) to <[jessica@educopia.org](mailto:jessica@educopia.org)> **before December 14, 2018.**



*The Software Preservation Network (SPN) facilitates and supports software preservation efforts. SPN preserves software through community engagement, infrastructure support and knowledge generation in five core activity areas including Legal & Policy Advocacy, Metadata & Standards Development, Training & Education, Research-in-Practice and Technological Infrastructure.*



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