

Digital Preservation Outreach and Education Network

**PROGRAM
EVALUATION**

**2020-
2022**

Program Evaluation of the Digital Preservation Outreach and Education Network, 2020-2022

Prepared by:

Natalie Baur, Consultant

nataliembaur@gmail.com

Created for:

Anthony Cocciolo, Principal Investigator

Dean, School of Information, Pratt Institute

This program evaluation was made possible with support from The Mellon Foundation.

August, 2022

Table of Contents

Introduction	4
Scope of Evaluation	4
Cultural Heritage Professionals	5
Professional development microfund	5
Impact on careers	7
Impact on institutions	8
DPOE-N workshop series	9
Workshop survey results	10
Impact on careers	11
Impact on institutions	11
Takeaways and conclusions	12
Cultural Heritage Institutions	13
Emergency hardware grants	13
Impact on diverse persons and communities	14
Impact on ability to collect, manage, preserve and provide access to born-digital materials	16
Takeaways and conclusions	18
Appendices	18
Workshop Survey Instrument	18
Professional Development Microgrant Survey Instrument	19

Introduction

The Mellon Foundation funded the Digital Preservation Outreach and Education Network (DPOE-N) project from 2020-2022 with the following objectives, as set forth in the original grant proposal narrative:

1. Connect 130 cultural heritage professionals with digital preservation professional development through a customized educational plan that can be used across a network of workshops and courses through microfunding support, expected to impact the capacities of 115 cultural heritage institutions across the nation. Note that the project would only support online professional development until the end of the COVID-19 outbreak, and then support both online and face-to-face thereafter.
2. Create and host ten DPOE workshops in the area of audiovisual preservation and web archiving, which are expected to impact 200 professionals. As mentioned earlier, the project would only support online professional development until the end of the COVID-19 outbreak, and then support both online and face-to-face thereafter.
3. Recruit participants for digital preservation professional development from significant institutions that have not made the transition to stewarding digital materials, especially those that have a history of being strong scholarly resources, but have lagged in their ability to transition to stewarding digital materials.
4. Provide Emergency Hardware Support to institutions who are stewarding digital materials that are critically endangered stemming from the COVID-19 outbreak. This could include institutions that need to make secondary copies of their digital archives, or need to refresh aging storage hardware (hardware older than five years), and are unable to because of budgetary shortfalls stemming from the COVID-19 pandemic.

Scope of Evaluation

The program evaluation procedure is outlined in the Proposed Activities and Rationale grant document submitted to the Mellon Foundation in 2020. The scope of this evaluation will include a description and analysis of the impact on the following areas:

Cultural Heritage Professionals

- Number of professionals who were served, including workshops attended
- How it impacted their careers
- How it impacted their institutions

Cultural Heritage Institutions

- Number of institutions that were served,
- How it impacted their ability to collect, manage, preserve, and provide access to born-digital materials. For example:

- Were new digital collections acquired, accessioned, processed, preservation actions taken on materials, or made accessible, as an outcome of DPOE-N?
- How many users have accessed these collections?
- Which collections documenting diverse persons and communities have been impacted by DPOE-N?

The data collected for the purpose of program evaluation was administered through surveys sent to workshop attendees, and individuals and institutions who were recipients of professional development microgrant funding and emergency hardware funding. Furthermore, additional qualitative feedback was obtained through testimonials which microgrant recipients provided in order to share details of the impact the funding has had on their own professional development as well as the projects and institutions for which they have worked.

In order for the program as a whole to be successful during the past two years, significant time and resources have been invested in outreach and advertising. 460 individuals, 92 organizations and 15 list-servs were contacted during the 2020-2022 period and added to the DPOE-N contact database. Outreach activities for the microfund, DPOE-N sponsored workshops, and the Emergency Hardware fund focused on contact directly to potential grant applicants as well as to organizations and institutions supporting or employing potential workshop attendees or microgrant recipients. These outreach venues included engagement with professional organization listservs, such as: Society of American Archivists, Digital Library Forum, Code4Lib, Association of Moving Image Archivists, American Library Association, American Association for State and Local History, Open Repositories, Preservation and Archives Special Interest Group, among others.

Social media presence has been a strong tool for engagement with the DPOE-N audience, through Twitter, Facebook, and Instagram (@dpoe-network). These platforms have been successfully leveraged to amplify training opportunities, highlight grant recipient testimonials, advertise DPOE-N workshops, and recruit applications for microfund grants. Of particular note, the social media outreach has been led by graduate assistant fellows and ample time and investment has been made in the platforms to encourage engagement with the DPOE-N community and potential collaborators.

Please note that in cases where we have used individuals' names in this evaluation, we have received permission to use them.

Cultural Heritage Professionals

Professional development microfund

The DPOE-N targeted cultural heritage professionals for up to \$2,500 of funding per individual. The categories for microgrant funding were the following:

General Professional Development: For individuals currently employed in the United States or U.S. territories who are partly or wholly responsible for the stewardship of a collection.

Emerging Professionals: Current students or recent graduates not yet employed by an institution. Individuals may be students and recent graduates of programs in library and information science, archival studies, museum studies, media art conservation, or related fields, on a certificate or Masters level track who are interested in pursuing digital preservation practice in a professional context.

Covid Impacted Professionals: Anyone employed as an information worker who was impacted by the Covid-19 pandemic through being furloughed or laid off between March 2020 and the present.

During 2020-2022, the DPOE-N awarded a total of \$134,349.37 to 91 individuals seeking funding for professional development support. Due to the outbreak of the COVID-19 pandemic, travel was severely restricted and many in-person trainings and conferences were canceled or moved to a virtual format. This resulted in a reduction in funding requests for travel-related expenses (transportation, per-diems, and lodging). Subsequently, the costs of virtual conferences and training were also reduced due to the on-line format, reducing the amount of funds applicants requested for registration fees. On the other hand, more training opportunities and conferences were available virtually, and the burden of travel was no longer a factor in individuals pursuing a particular set of training. Beginning in 2022, several awards were made for conference attendance as travel began to recover and conferences were offered in-person again.

Training that applicants requested funding for ranged from individual workshops that covered a specific topic related to work applicants were doing, to pursuit of fundamental digital preservation and curation credentialing offered by professional development organizations and professional organizations.

The average amount of funding individuals requested and were awarded was between \$900 and \$1500. Applicants received funding to pursue a variety of trainings, including:

- Courses towards the Society of American Archivists Digital Archives Specialist (DAS) certification
- Library Juice Academy Digital Curation certificate and courses in digital curation and digital preservation-related topics
- University of Wisconsin's continuing education courses on Digital Preservation and Web Archiving
- Courses offered through the University of Maine's Digital Curation certificate program
- Northeast Document Conservation Center(NEDCC) professional training programs and Digital Directions Conference (February 2022)
- PreserveThis courses
- American Library Association continuing education

- Computer Programming (SQL, Python, Web Development) courses through New York University's continuing education offerings
- American Association of State and Local History (AASLH) continuing education
- IUPUI graduate School of Information and Library Science courses
- Texas Historical Commission annual conference, 2022
- Texas Library Association annual conference, 2022
- Association of Canadian Archivists annual conference, 2022
- Open Repositories 2022

The proposed outcomes as stated in the grant application had targeted serving 130 cultural heritage professionals. However, 91 individuals were awarded microgrant funds for professional development, which represents 39 individuals under the target number. The grant was launched at the beginning of the COVID-19 pandemic, which severely impacted travel and on-site training and conference attendance. Usually, conference and in-person training are scheduled during the academic summer months, but due to COVID, these kinds of training did not start becoming available in-person again until early 2022, which was at the tail-end of the grant period. This trend is reflected in the lower number of applications for funding in the summer months (fig. 1) during grant period. However, applications did go up in the fall and spring months when training was offered, perhaps due to personal reasons and taking time off in summer months.

Furthermore, the target number could have also been impacted by the time it took to ramp up a new initiative and advertising it to digital preservation communities for the 2020-2022 period. Initially, the number of applications was smaller in the beginning months of the grant period; however, by October 2021, more applications were received and awarded (fig.1). As the grant progresses into the next round of funding for 2022-2024, it is expected that more applications will be received and funds awarded as advertising of the program increases and the disruptions to travel due to COVID-19 recedes.

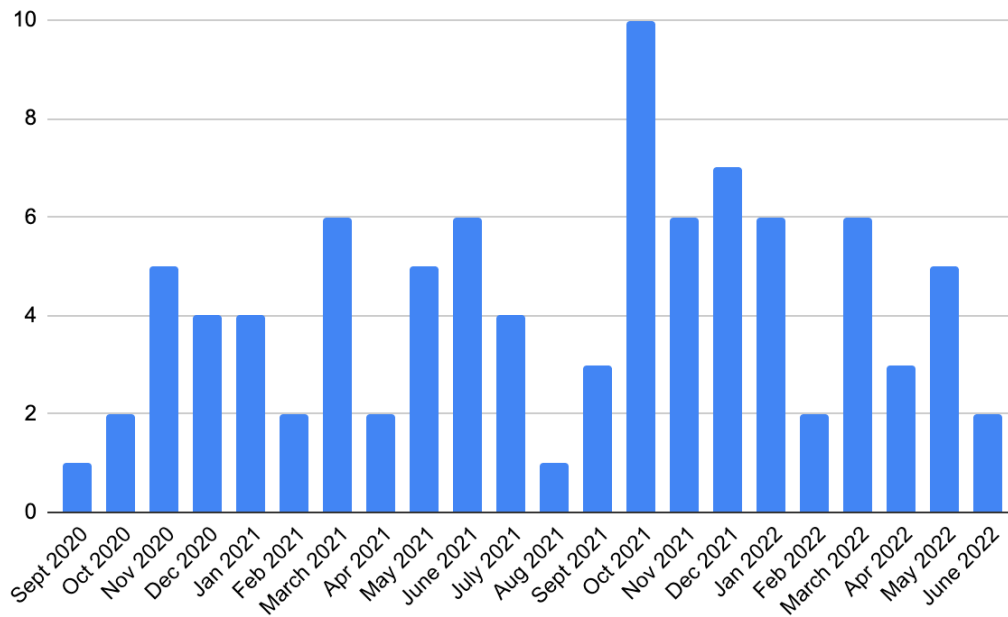


Figure 1: Professional Development Micro Grant awards by month, 2020-2022

Recipients of professional development microgrants represented 23 states. New York state was disproportionately represented, with 26 recipients. States that did not have any awardees include: Alaska, Delaware, Connecticut, Georgia, Idaho, Iowa, Kansas, Kentucky, Michigan, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, and Wyoming (fig. 2).

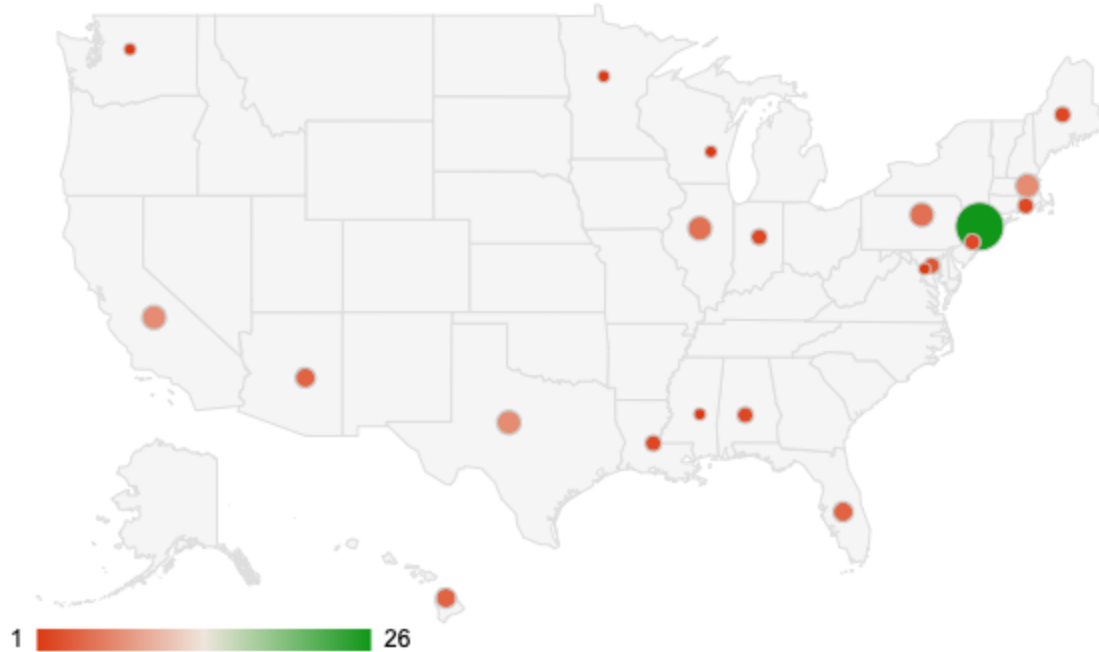


Fig. 2: Map of Micro grant award recipients by state

The lack of geographic diversity and representation will need to be improved in the next round of grant funding, especially due to the fact that institutions in many of the states that were not represented in the 2020-2022 grant cycle are home to smaller institutions not located on either the north eastern or west coasts, which tend to be areas with more institutions with access to better funding. Now that this data is available, future outreach efforts can be made directly to individuals and institutions in states or geographic areas that have not benefited from DPOE-N funding.

Impact on careers

Six months after being awarded a professional development grant, recipients received an anonymized survey to fill out. DPOE-N also reached out to recipients in a call for more in-depth, non-anonymized testimonial feedback. The testimonial participants were asked to give details about how the professional development grant impacted their careers and the ability to implement what they have learned at their institutions.

Overall, feedback was positive and indicated that the training was valuable to the recipient's career development as well as impact on being able to bring relevant skills and knowledge to their institutions. Feedback in both the survey instrument and the written testimonial feedback was qualitative in nature:

- As I mentioned in another survey I filled out, I received this microgrant because I was laid off during the pandemic. Pursuing this class with the microgrant has increased my

confidence in my knowledge of digital collections and encouraged me to advocate for better policies at the institution that eventually rehired me.

- Having this opportunity for continuing education has made me feel more engaged with what I do and more able to take on new challenges.
- Adisa Vera Beatty: I was awarded a DPOE-N microgrant in late 2021 and utilized the microgrant to complete final courses toward SAA's Digital Archives Specialist (DAS) Certificate. Specifically, I was able to register for: Preserving Digital Archives, Digital Curation: Fundamentals and Sustainability and Preservation Formats in The Context of PDF. I embarked on the DAS certificate when we were in the first year of the COVID-19 pandemic and was writing my dissertation. Digitized archival sources and oral history interviews I had conducted were invaluable to me. All archives and other research institutes were closed globally so if it was not digitized and online, I could not access it. My minor was in Public History and I was already considering how I could combine archives, history and digitization into a future career. The DAS certificate seemed to complement my professional goals and the DPOE-N microgrant allowed me to finish the final courses and sit for the comprehensive exam in May. I think the pandemic has accelerated our use and need for digitization. I don't think that is going to slow down and the DPOE-N microgrant allowed me to complete a professional certificate program that has enhanced knowledge and skills that will benefit me as I pursue career opportunities.

Impact on institutions

Microgrant recipients spoke directly about the impact that the training had on their effectiveness working with digital materials at their places of employment:

- This course gave me a refresher on a lot of foundational knowledge, and reiterated points I had limited knowledge on. It also gave me the language to start making plans for certain processes.
- After taking this course, I experienced a paradigm shift in my thinking about digital media. Whereas before I may have figured that digital preservation is unrestricted in its parameters, I now became much more conscious of the fact that digital preservation is very resource intensive and therefore not infinite in its scope. I started to consider more of the supply chain involved in maintaining a digital collection, so that all facets of the workflow could be optimized for long-term sustainability.
- I can better participate in making decisions and recommendations, because I understand what format, file types, and solutions are involved in preserving email.
- Nicole Diehm, St. Augustine Historical Society: My major goal is to always be learning. DPOE-N funding helped me immensely by allowing me to continue that learning through the Society of American Archivists. Now I can take what I've learned and apply it to the plans we have for our collections. We have many items that are digitized on a volunteer basis, and we also have larger collections made up of negatives and microfilm/microfiche. Long-term, I would like to have all of these items up on the web, accessible to researchers. However, we are a small staff and do not have the human

resources to do these things, yet. The continuing education helps me prioritize and plan out what needs to be done next, and look outside the box on getting these items done.

- Stephanie Garafolo, Northeast Document Conservation Center: My colleague, Alison Fulmer, and I both work in the Preservation Services department at NEDCC. Thanks to funding from DPOE-N, we are pursuing *Digital Archives Specialist (DAS)* certificates through the Society of American Archivists (SAA). As Preservation Specialists, we work directly with institutions on digital preservation assessments and consultations, and we provide instructional training on a broad range of digital preservation topics. Many of the small and mid-sized institutions we work with require extensive guidance on implementing digital preservation programs, which requires us to have a deep knowledge of policy, tools, and workflows relating to digital preservation. DPOE-N's investment in our professional development generates benefits for each organization we work with, helps NEDCC improve its free online resources related to digital preservation, and supports NEDCC's updating and creation of digital preservation training modules. We appreciate DPOE-N's recognition of the value of "training the trainer" and the ripple effect of investing in our professional development.

DPOE-N workshop series

Due to the COVID-19 pandemic and travel restrictions, the DPOE-N conducted its ten workshops via virtual delivery instead of in-person. This change most likely resulted in more individuals and institutions being served as well as the ability to recruit instructors who may have not been able to otherwise take the extended time off from their regular jobs in order to travel to an onsite location.

Pratt-hosted workshops:

- Sustainable Web Archiving at Scale
 - April, May, June 2021
 - Instructors: Sumitra Duncan and Amye McCarther
- Reframing Digital Preservation Through an Anti-Racist Lens, January 2022
 - January 2022 (General Public) and March 2022 (BIPOC-only)
 - Instructors: Elvia Arroyo-Ramirez and Sofia Leung

NYU-hosted workshops:

- Sustainable Web Archiving at Scale
 - June 2022
 - Instructors: Sumitra Duncan and Amye McCarther
- Introduction to Digital Preservation for Moving Image and Sound
 - May 2021 and June 2022
 - Instructor: Lauren Sorensen
- Moving Image and Sound Digital Preservation Software Tools & Intro to Python for AV
 - June 2021
 - Instructors: Brendan Coates, Nick Krabbenhoef, Benjamin Turkus

- Intro to Digital Preservation Tools and the Command Line Interface
 - May 2022
 - Instructor: Brendan Coates

In order to ensure the quality of participation and to encourage diversity in the individuals and institutions represented in the student body, the workshops were open to an application process. Participants were chosen according to a rubric that looked at institution type, size, and geographic location so that traditionally underrepresented institutions could benefit from the training that their employees or representatives were able to complete in the workshops.

After the workshop was completed, attendees were sent a survey to fill out. Response rates were on average 10% completion. In the appendix, the workshop survey instrument is included.

Workshop survey results

A total of 206 cultural heritage professionals attended DPOE-N workshops in the 2020-2022 grant cycle. More than 500 individuals applied to the workshops. However, in order to guarantee the quality of instruction and interactivity amongst workshop participants, participation was capped at 30-40 attendees per workshop, according to instructor preference and teaching requirements.

Demographically, most workshop attendees were located in urban or metropolitan areas, with 68% reporting from large cities and suburbs located near a large city; 21% of respondents reported from small cities and towns; and only 6% reported from rural areas.

Workshops were attended by professionals with a wide range of years of experience in the workforce. However, the survey instrument did not distinguish between the number of years in the workforce versus the number of years specifically working in the area of digital preservation. About 6.5% of the respondents had 0-2 years of experience; 21% reported 3-5 years of experience; 18.5% reported 6-8 years of experience; 18.5% reported 9-11 years of experience; 12% reported 12-15 years of experience; and 19.5% reported 15 or more years of experience. 4% of respondents did not indicate their years of experience.

Overall the feedback on workshop efficacy and relevancy to participants' activities in the workplace were favorable. Out of 81 respondents, two attendees did not feel that the workshop met their expectations or training needs, while the remaining 79 remarked that the workshop was satisfactory or fully met their needs. When asked to discuss how well they expect to be able to apply what they learned in the workshop to day-to-day work and overall goals, 41% of respondents indicated that it was very applicable; 52% indicated satisfactorily applicable; and 4% indicated not at all applicable.

Impact on careers

Overall, the majority of attendees reported that they had no prior knowledge or only introductory knowledge of the workshop topics before attending the training. Three participants out of 81 survey responses reported already having a high level of prior knowledge of a topic.

As a result of attending the workshop, 90% (73 participants) reported that their knowledge of the topic had increased or improved, while 7 participants were undecided, and 1 participant reported that their level of knowledge had not changed.

Many participants reported in the qualitative feedback sections that as a result of attending workshops, they now felt they had more confidence in bringing these skill sets to their own personal toolkit of digital preservation skills. Examples of participant feedback on the impacts the training has had on their career goals follow:

- I understand the language used for digital preservation much better now.
- I now know a lot more terminology in this subject and useful guiding principles for approaching the work.
- Yes. I feel ready to adapt existing Python scripts to my needs, as well as create my own from scratch.
- I feel I have a better understanding of how to actually plan for a program of web-archiving (developing collection statements, gathering stakeholders, etc) as well as the copyright/ethical concerns of web-archiving that I need to be mindful of. I also feel I have a more up-to-date awareness of recent publications/reports/surveys related to web-archiving, which is incredibly useful.
- I certainly know enough now to be dangerous.

Impact on institutions

With the majority of workshop attendees having between 3-12 years of experience, most were already working at an institution, often with varying degrees of involvement or responsibility in digital preservation-related tasks. Evaluation feedback points strongly to evidence that the workshops allowed attendees to learn, share, and implement new knowledge and skills within their organizations and with their colleagues. Most of the feedback related to the impacts on institutions was provided in qualitative sections of the survey.

Examples of how attendees planned to bring workshop outcomes to their institutions follow:

- I think I now have the tools to start working on my web archiving goals but the degree to which that will become a reality depends on selling the project to the rest of our staff.
- The resources will be handy as my organization has the bare bones done for a policy and hasn't had much priority for digital preservation until recently. The things I learned in the workshop will come in handy as we take the next steps to start our journey into digital preservation.

- I am currently part of a group at my work critically examining our descriptive practices. As we write policy and make recommendations to our administration, this work will be very helpful in distilling what we need to prioritize for our work.
- I already have volunteered to do a project using Conifer and to teach my colleagues what I learned!
- I'll start preparing a proposal for a web archiving program. This will hopefully be successful and we'll be able to increase our campus outreach.
- I'll be able to use the knowledge I learned and the resources I now have to help my archive address preservation concerns for its VHS collections.

Particularly, workshop attendees mentioned that the training increased their awareness of how much the success of digital preservation work depends on institutional buy-in. Several participants spoke directly to how the training gave them the language to communicate this to institutional leadership, especially at the early stages of digital preservation program development:

- Again, I attended to get some validation. I need to start thinking about how and if I can get other staff to buy in. The Director is already wavering, but just for institutional archiving of art reviews etc, it has so much potential.
- As mentioned, I believe the workshop was reassuring and the resources provided will help with advocacy (approving web-archiving collection policies) and have a great tools list.
- My institution is still in the early planning stages right now. A major takeaway from this workshop is the information I can share with colleagues to argue my case for the need of web archiving.

Takeaways and conclusions

Overall, the workshops were well attended and received positive feedback on instructor quality, the relevancy of topics covered, and a positive impact on career development and institutional benefit.

Based on the survey feedback, it is clear that most of the workshop attendees have limited prior knowledge of fundamental digital preservation topics such as web archiving, audio visual preservation, and technical/programming skills, despite the majority of workshop attendees entering into mid-career status (10 years of more experience). There is still considerable room for providing the types of fundamental training topics that the DPOE-N has provided going into the future. However, the case can also be made for beginning to develop and roll out more technical-focused workshops, as the demand for the Python and Command Line workshops was very high, with over 100 applications received for each workshop.

Based on these trends in interest and feedback, digital preservation training has not uniformly progressed, which is to say that a large number of people are still seeking out training on the

fundamentals, while at the same time a significant number of professionals are also aware that at least a conversational knowledge in more technical topics such as command line and basic programming languages used in digital preservation work is increasingly relevant to being a well-rounded professional. Therefore, new training should be developed that still includes good programming around fundamental topics for those working in institutions that may not yet have a dedicated digital preservation mandate, while also focusing on more specific and technical topics for practitioners who have a more specialized job function in digital preservation areas.

Cultural Heritage Institutions

Cultural Heritage institutions were served through three DPOE-N initiatives. First, by providing access to training opportunities for staff members as discussed in the preceding sections; and second, through microgrants to purchase emergency hardware for digital asset storage and preservation.

Emergency hardware grants

The DPOE-N allocated \$20,000 towards hardware purchases, according to the following criteria:

DPOE-N looks to provide emergency hardware support to institutions who are stewarding digital materials that are critically endangered stemming from the COVID-19 outbreak. This could include institutions that need to make secondary copies of their digital archives or need to refresh aging storage hardware (older than five years) and are unable to because of budgetary shortfalls stemming from the COVID-19 pandemic...The maximum purchase cost is \$600, and the minimum is \$80.

The DPOE-N made a total of 22 emergency hardware grants, totaling \$11,312.79, with an average grant award of \$538.70, which was near the maximum funding amount per request. The following organizations received emergency hardware funding (fig. 3):

Institution	Location
Tohono O'odham Cultural Center and Museum	Arizona
Los Angeles Poverty Department	California
Obama Hawaiian Africana Museum	Hawaii
Kartemquin Educational Films	Illinois
South Side Home Movie Project at the University of Chicago	Illinois
School of the Art Institute of Chicago	Illinois
Gerber/Hart Library and Archives	Illinois
Floyd County Historical Society and Museum	Iowa

Black Bottom Archives (Fiscal Sponsor: Allied Media Projects)	Michigan
Hennepin History Museum	Minnesota
Burlesque Hall of Fame, Inc.	Nevada
Gotham Roller Derby	New York
Franklin Furnace Archive	New York
Blank Forms	New York
Wave Farm, Inc.	New York
Cinelimite Inc.	New York
Primary Information	New York
Black Mountain College Museum + Arts Center	North Carolina
Pettaquamscutt Historical Society DBA South County History Center	Rhode Island
Bessie Smith Cultural Center	Tennessee
Big Heavy World	Vermont

Fig. 3: Institutions receiving Emergency Hardware support by state

Impact on diverse persons and communities

The majority of the institutions that received funding for emergency hardware support were small organizations lacking dedicated budget lines for hardware maintenance and replacement. Furthermore, many of the organizations that received emergency hardware funding were stewards of collections that document diverse communities and subject material. These institutions include the Bessie Smith Cultural Center (<https://www.bessiesmithcc.org/>), Black Bottom Archives (<http://www.blackbottomarchives.com/>), South Side Home Movie Project (<https://sshmpportal.uchicago.edu/>), Kartemuquin Films (<https://kartemquin.com/>), Obama Hawaiian Africana Museum (<https://obamahimuseum.org/>), Los Angeles Poverty Department (<https://www.lapovertydept.org/>), and the Tohono O'odham Cultural Center and Museum (<http://www.tonation-nsn.gov/cultural-center-museum/>).

The impact on providing preservation and access to digital collections for diverse communities can be seen in the following impact statements:

- The Skid Row History Museum & Archive (SRHMA) seeks funding for a 16TB RAID external hard drive for primary storage and retrieval of digital access files at the museum. SRHMA's total digital collections, gathered since the early 2000s, were stored among a variety of ten individual external hard drives, and have since been consolidated onto an Oyen Digital Mobius Pro 5C 5-Bay Storage System (70 TB). Total file count for the digital collection amounts to 1,503,507 and is a mixture of born digital content and digitizations of analog materials - born digital content representing the vast majority of content. Existing digital items range from audio and video recordings, photos

and text containing the history of early Los Angeles Poverty Department performances, oral history interviews, activist history, supplementary documents and all current digitized paper and photographic collections held within the archive. Purchasing this 16TB storage for access files will support a broader digital preservation plan underway for SRHMA, including evaluating file format obsolescence, devising workflows for backups and fixity checks, and the organization of RAID storage for preservation files that reside at the organization's geographically separate office location. The primary storage of digitized materials and access files currently consists of several smaller traveling hard drives, each of which are at least ten years old. Consolidating digital files into a large, central RAID storage system will facilitate stable management of the collections over time and allow the organization to migrate away from aging and increasingly unreliable hardware. New digital collections are regularly added through digitization or acquisition of born-digital archival material, so the 16TB storage size will accommodate future growth. As the host for digital access files, this new RAID will connect to SRHMA's recently implemented PastPerfect content management system accessible to researchers and community members on-site. Streamlined engagement with archival materials lends itself to greater possibilities for creative production from the archive, which will serve not only to enhance future programming of the Skid Row History Museum and Archive as a multidimensional community space, but also open possibilities for cementing the history of a community under threat of disappearance in public and historical consciousness.

- Kartemquin's collection of 70+ films spans 50 years of independent filmmaking on diverse subjects including: health care, urban youth, race, labor, gentrification, immigration, aging and gender. Unfinished works, industrials, and work-for-hires are also represented in the collections. Kartemquin's digital collections include various media from KTQ projects and documentary productions: primarily raw footage, project files, digital research material, transfers from tape or film to digital, technical elements for film distribution, and final digital masters from Kartemquin's documentary productions. Kartemquin also retains digital event documentation and marketing assets from the past decade. All of these materials are currently stored on aging hard drives (approximately 300 hard drives of varying ages, as old as 2009) and with varying degrees of backup. One third of the hard drives are backed up to Linear Tape-Open (LTO-6) magnetic tapes. KTQ's LTO backup system was paused in Fall 2019 due to technical issues and budget constraints on repair. Films that are delivered via Digital Cinema Packages have their DCPs backed up to Dropbox storage. Masters and their related technical elements (including final audio, caption files, DCPs, official trailers, and screener files) are in most pressing need of hardware support, which would take the form of refreshing their aging storage hardware. KTQ holds approximately 12-15 TB of digital masters and masters-related files (the approximation stems from KTQ being currently in the process of backing up, consolidating, and rearranging all masters-related digital material stored in disparate hard drives over the past decade). Primary copies are stored across drives with dates ranging from 2009-2018. Secondary copies are stored on non-RAID drives from 2009. Some tertiary copies (quantity

unknown) are stored across other drives (majority non-RAID) ranging in age from 1-10 years. Kartemquin is requesting support in the form of two Western Digital 8TB RAID drives to refresh storage of our digital masters library as we rearrange the materials for improved access. We request two drives to allow for more flexibility in arranging materials, and for minimizing loss in the case of drive damage.

- Black Bottom Archive: We are a nascent digital archive that has been collecting and storing digital assets mostly through Dropbox and Google Drive. We only have one copy of all of our files and they are currently all on those cloud storage platforms. We want to have 2 physical hard drive copies of ALL of the digital information, so that we are no longer keeping it solely in the cloud.
- Southside Home Movie Project at the University of Chicago: At the moment our digital collections/data are stored on a single server shared by all the departments within our institution. The Archives does not have a back-up system per se, nor do we have tertiary copies of our data/collections. Everything is accessed from our server unless it's a physical collection in our repositories. Although, even then we have digital accession and catalog records of our entire collection stored on this one server. We do have data stored on obsolete media, such as floppy discs and older PC models; however, we have no way of accessing the data on these devices. At the moment we have 251 GB in our digital archive. However, this number increases frequently as we have a steady influx of new data/collections that are born digital.

Impact on ability to collect, manage, preserve and provide access to born-digital materials

All of the institutions that received emergency hardware were unable to adequately provide digital storage infrastructure via their own institution's resources. Therefore, the need was critical. The emergency hardware grants were a tangible addition to the institutions' capacity to steward existing and new, incoming born-digital materials. Several of the hardware recipients were detailed in the need and impact that hardware acquisition had on their ability to collect, manage, preserve and provide access to digital materials:

- Black Mountain College Museum + Arts Center began in 1993 as a grassroots, volunteer-run organization. In the time since, we have grown to a staff of four (3.5 FTE) and in 2018 moved to our first permanent location. In 2019, we approved a new five-year strategic plan which placed an emphasis on digital outreach—a goal which has necessarily been heightened during the COVID-19 pandemic. Providing public access to collections is a key activity in support of this strategic goal. During the pandemic, growth of BMCM+AC digital files has grown dramatically, as we have begun new initiatives embracing digital and intermedia art forms. We are now in our second year of commissioning net art, video art (BMC-TV), and radio sound art (a collaboration with local radio station AshevilleFM). Factoring these new projects into the regular

growth of event and exhibition documentation, collection documentation, our open-access online journal, and streaming events, it has become clearly untenable to rely on ad-hoc backups as has been common practice for our small organization in the past. We are committed to working towards professional standards in digital preservation to meet our responsibility to the artists and audiences we serve. In 2021 we were awarded an NEH grant which is allowing us currently to work with software developers at Whirl-i-gig to create our first digital collections management system, a relational database which will for the first time link data relating to the artworks in our Permanent Collection, archives, past exhibitions, public programs, publications, reference library books, individuals both historic and contemporary whose work connects to the Black Mountain College legacy, together with digitized image files, deed of gift scans, and documentation of programs and performances. As part of this project, BMCM+AC was able to purchase an iMac using NEH funds, which has for the first time provided us with enough digital storage space to consolidate collections data which was previously distributed across multiple storage devices, including external hard drives (which are now 5-7 years old), thumb drives, CDs, Dropbox accounts, and staff laptops. Currently, primary copies of BMCM+AC's collections data, photographs, and scans (1.25 TB) are stored on this new iMac and backed up in Google Drive (rapidly approaching storage limits). By fall 2022, a large portion of collections data/media will be stored in the CollectiveAccess database (hosted by Whirl-i-Gig). The iMac and requested NAS storage will serve as an in-house backup for the database snapshot, media, and configuration files. A recent digital preservation audit also revealed that non-collections data storage practices vary widely. BMCM+AC's Director of Preservation and Executive Director recently purchased new external hard drives (to replace 6-year-old ones) that they use for manually backing up files such as exhibition research and administrative documents from their individual staff laptops (their primary storage location) on a monthly basis to the new hard drives (approximately 1 TB each). Non-directorial staff members use varying combinations of staff laptops, cloud storage (Google Drive, Dropbox, and/or Adobe Cloud), and in some cases personal external hard drives as primary storage and backups (<1 TB combined). We are in the process of copying files from multiple storage locations to ensure that all BMCM+AC's files—not just collection data and documentation but also institutional resources, policies, financial records, and project files—are stored in a consolidated primary location. The requested NAS storage would make it possible for staff to back up data and collaborate much more efficiently. Through conversations with Whirl-i-Gig lead developer Seth Kaufman, who is working with BMCM+AC to develop and implement our collections management system, we have become aware of how critically important digital preservation storage is at this phase of our collections portal project. The requested storage, a 2-bay NAS box with two 8TB hard drives, is based on Kaufman's expert analysis of our unique digital preservation needs and staff capacity, value for cost, and his experience with specific brands. Specifically, Kaufman has recommended that we purchase a Synology 2 Bay NAS DiskStation DS220+ (Diskless), and two Seagate IronWolf 8TB NAS Hard Drives. Our current estimate for total data (some of which is still on at-risk storage such as flash drives and CDs) is 4 TB. Of this, 1.25 TB has been moved to our primary

storage location (the iMac), including video documentation of events, oral history recordings, collection images, photo documentation of exhibitions and events, marketing materials from past events, and other institutional materials. Looking ahead to five years from now, at a storage growth rate of 100-125 GB per year, we anticipate needing a minimum of 2.125 TB for comfortably backing up our collections and documentation alone. Factoring in the growth of other institutional data (with responsible records management and digital curation to delete unnecessary and duplicate files) we anticipate that five years from now we will need 6 TB. Two 8 TB drives will provide ~7 TB of usable RAID (redundant) storage, finally making it possible for us to back up critical files and collections data for the next several years.

- South County History Center recently finished a large project to digitize over 27,000 photographs for the Kenneth T. Mars, Jr. Photograph Collection, which is likely the largest vernacular photograph collection created by a person of color in the United States. This project alone took up 1TB of storage space. Currently, the files are contained primarily on a hard drive, and backed up to the cloud as a secondary copy. We are currently in need of a tertiary copy that will allow us to have permanent file storage as we expand our digitization efforts. Based on the file sizes that were created during this first digitization project, we estimate that we would need at least 10TB of space to be able to digitize everything in our collection, as well as additional space for any incoming accessions in the next few years.
- At Cinelimite Inc., we currently store our digital data on a single 12 TB raid. This includes a master copy (DPX) and a secondary copy (Pro-Res) of our first completed restoration. Less of a problem is the age of the raid (2 years) but more that it is currently at 85% capacity. I've been told by industry professionals that this can lead to a great chance of HD failure, and we are therefore in need of a new RAID to migrate some data. In addition to this, it is also essential for us to be able to continue our digitization/restoration work, and acquiring a new RAID will allow us to do that.

Takeaways and conclusions

The Emergency Hardware micro grant had a significant impact on institutions that received the funding, especially those that are grassroots organizations or small non-profits. However, the fund was not exhausted during the 2020-2022 grant cycle, and it is recommended that the remaining funds be made available to continue funding emergency hardware requests. In order to ensure that the funds are utilized and continue to benefit small organizations without the resources for critical digital preservation infrastructure such as hardware, it is recommended that the DPOE-N specifically advertise these funds through its social media outlets, newsletter, and list-servs.

Appendices

Workshop Survey Instrument

- Regarding your rating of this workshop in terms of meeting your needs or expectations
- What was your level of knowledge of the subject prior to taking the workshop?
- What was your level of knowledge of the subject prior to taking the workshop?
- How well did the instructor(s) clearly present the skills, concepts and techniques to be learned?
- How well did the instructor(s) clearly present the skills, concepts and techniques to be learned?
- Did you learn about topics that you expected to be covered during the workshop?
- Did you learn about topics that you expected to be covered during the workshop? Please comment on topics covered.
- Were the exercises in the course productive and contribute to learning?
- Please elaborate on the productivity of exercises, and if there was an appropriate balance between instruction and practice.
- Have your skills/knowledge increased as a result of participating in this workshop? How?
- Please identify what you consider to be the strengths of the workshop.
- Please identify area(s) where you think the workshop could be improved.
- Please discuss how well you expect to be able to apply what you learned in the workshop to your day-to-day work and overall goals.
- Please discuss how well you expect to be able to apply what you learned in the workshop to your day-to-day work and overall goals. Please elaborate.
- How do you expect the workshop topic outcomes to affect the community where you work?
- Why did you choose to apply and attend the workshop?
- The number of participants was: Just the Right Number/Undecided
- The length of the workshop session(s) were: Just Right/Too Long/Undecided
- Would you recommend this workshop to your colleagues?
- What, if any, improvements would you suggest to the workshop, regarding content, format or style of instruction?
- Would you consider attending another workshop with DPOE-N?

Professional Development Microgrant Survey Instrument

- What was the course/workshop title and organizing institution(s)?

- **What was the date(s) of the professional development activity listed above?**
- **What was your level of knowledge of the subject prior to participating in the professional development opportunity funded by the micro-grant?**
- **Please share any details about your prior experience in the course/workshop subject matter**
- **Please discuss how well you have been able to apply what you learned in the professional development opportunity to your day-to-day work and overall goals.**
- **Please elaborate on how well you have been able to apply what you learned in the professional development opportunity to your day-to-day work and overall goals**
- **Describe how your participation in the professional development activity has affected your institution's functioning, especially with regard to digital preservation in the past 6 months.**
- **Please share any other details about how the activity funded by the micro-grant has affected your work in the past 6 months.**
- **Tell us about yourself: While these questions are optional, your answers will help us with future programming and outreach.**