

Applicant Name: Midwest Collaborative for Library Services

Project Title: *Demonstrating and Documenting a Statewide LOCKSS 2.0 Preservation Network for Cultural Memory Institutions*

The Midwest Collaborative for Library Services (MCLS) requests \$249,762.07 for a two-year implementation grant to scale up a production-level statewide digital preservation service focused on reducing barriers to participation for small and under-resourced cultural memory institutions¹ (including archives, historical societies, museums, and libraries) by leveraging emerging technology, namely the newly rearchitected LOCKSS 2.0 or LAAWS (LOCKSS Architected as Web Service) software². MCLS requests this funding on behalf of the Michigan Digital Preservation Network (MDPN), for which we serve as host and fiscal agent. Although this project's training and preservation aspects will primarily impact MDPN member organizations in Michigan, the research, documentation, and findings that will emerge are broadly relevant to a national audience and will be developed with the goal of being replicable nationally across different contexts. Focusing on both technical process and community-building strategies, the project will be documented and presented in topic-focused whitepapers and an Implementation Toolkit to be shared via conferences and presentations with a national audience.

Ultimately, this project grounds digital preservation best practices within the public history model of "shared authority,"³ which centers the needs and experiences of every stakeholder equally in the history-creating process. Translated to digital preservation, shared authority suggests a collaborative approach in which technology is managed by those institutions and individuals with expertise, with the goal of facilitating approachable preservation services for users regardless of their technical skill level, and valuing their contributions as stewards of local history content.

Our project aligns strongly with Goal 3 and Objective 3.2 of the NLG-L. By implementing digital preservation services that are broadly accessible and affordable for a wide range of organizations with different skill and resource levels, the MDPN seeks to create a path for more organizations to join, especially those that have been previously excluded from digital preservation for financial, technical, or other reasons. The collaborative nature of providing a statewide preservation service also allows institutions to avoid duplicative efforts, share available resources and knowledge, and provide relevant and accessible services to a wide range of institution types. The MDPN represents an innovation on existing digital preservation services in that it seeks to bring best practices from national organizations such as the National Digital Stewardship Alliance (NDSA) and Academic Preservation Trust (APTrust) and apply them in an accessible and understandable way to make preservation easier for small and under-resourced institutions to implement.

Project Justification

The MDPN emerged from several national and statewide conversations centered on preserving the growing volume of digitized and born-digital at-risk local history content, eliminating silos and redundant efforts, and providing scalable support and preservation services with few barriers to implementation. Digital preservation is a large-scale problem that has proven especially challenging to cultural memory workers outside of academia, where financial and staffing models are often based on a "bare minimum" of productivity, and capacity building is difficult.⁴ In this sense, staff capacity for new remits and a lack

¹ For the purposes of this project, we define small and under-resourced institutions as those with 5 or fewer FTE staff and/or annual operating budgets under \$10,000, based on the information gathered as part of the 2019 Stepping Stones survey.

² <https://www.lockss.org/about/frequently-asked-questions#laaws>

³ Michael Frisch, *A Shared Authority: Essays on the Craft and Meaning of Oral and Public History*, (Albany, NY: SUNY Press), 1990.

⁴ See IMLS, "Market Analysis and Opportunity Assessment of Museum Capacity Building Programs" at <https://aaslh.org/programs/public-history-research-lab/> and Blumenthal, Karl-Rainer; et. al.(2020) "What's Wrong with Digital

Applicant Name: Midwest Collaborative for Library Services

of financial support for training are common hurdles to implementing digital preservation, even if the value is recognized. If cultural memory organizations – especially small and under-resourced institutions – are not going to be left behind, we need new solutions for implementing digital preservation at scale that “meet institutions where they are” and prioritize equity, accessibility, and affordability.

Background:

In 2019, the IMLS-funded “Statewide & Regional Stepping Stones to the National Digital Platform Grant”⁵ galvanized a community willing to support digital preservation in Michigan, and developed materials to sustain those efforts including model agreements, policy templates, and a collaboration toolkit. A key finding of this work was that smaller institutions reported challenges to participating, due to limited technical expertise and economic need. To help continue and further energize building wide access to digital preservation, MCLS, Western Michigan University, Michigan State University, Grand Valley State University, and the Library of Michigan signed a Memorandum of Understanding creating the MDPN with the goal of developing a financially-sustainable model for cultural memory institutions to participate in the Network, based on their financial and technical capacity. Over the past two years, the MDPN has investigated and evaluated different technical tools and strategies (including co-leading a statewide LOCKSS 2.0-alpha pilot with WMU), developed a governing structure and bylaws with guidance from our member-run Governance Committee, implemented a tiered-cost membership plan based on institutional annual operating budget, hosted an online digital preservation summit featuring national experts, and built a group of engaged partners across all areas of the state.⁶

There is still great opportunity for growth, however, especially in implementing our technical research findings and scaling digital preservation services for our growing member community. Further testing of network management systems to allow for replication, fixity, and ease of deposit with LOCKSS 2.0/LAAWS is especially key. LOCKSS (which stands for Lots of Copies Keeps Stuff Safe) is both a preservation software and the name of the program at Stanford University that manages the software. LOCKSS software is based on the concept that a preservation environment spread across multiple servers, under different local controls and in different geographic areas, provides more redundancy and security in preserving digital content. The LOCKSS Program has a long history with digital preservation, and the software is characterized as being a “high confidence, resilient, and secure digital preservation solution.”⁷ LOCKSS 2.0/LAAWS, which is currently available as an alpha5 version, provides powerful new capabilities, such as greatly simplified deployment through application virtualization using Docker and Kubernetes K3, a Web-based user interface, a Web harvesting plugin (OpenWayback Machine), and clientless content deposits. Building on our existing partnership with the LOCKSS Program, this project will be the first production-scale test of the new system. LOCKSS Program staff have assured us that a highly-stable LOCKSS 2.0-beta release will be available in summer or fall of 2022.

Continuing to build from our work developing the MDPN with the goal of finding accessible solutions for digital preservation, the aims of this project are to implement findings from our technology research by integrating the new LOCKSS 2.0 version with the Digital Archivists Resource Tool (DART) for file

Stewardship: Evaluating the Organization of Digital Preservation Programs from Practitioners' Perspectives," *Journal of Contemporary Archival Studies*: Vol. 7 , Article 13. <https://elischolar.library.yale.edu/jcas/vol7/iss1/13>

⁵ <http://mipres.org/index.php/about/statewide-regional-stepping-stones-to-the-national-digital-platform-project-2019/>

⁶ Committed partners include the Michigan Museum Association, Historical Society of Michigan, the Michigan Archival Association, the Michigan Library Association, the Michigan Academic Library Association, the Cultural Advocacy Network, the Mid-Michigan Digital Practitioners, CultureSource, and the DPLA Michigan Service Hub.

⁷ <https://www.lockss.org>

Applicant Name: Midwest Collaborative for Library Services

packaging, transfer, and ingest. DART, an open-source tool created and supported by APTrust⁸, offers an approachable, easy-to-use interface, potential for customization, robust support (APTrust Developer Andrew Diamond has been an enthusiastic partner since our initial interest in DART), integration of many preservation actions (file validation, checksum creation, packaging according to the BagIt standard, etc.), and the flexibility to ingest to multiple storage layers (i.e., the MDPN LOCKSS network and an institutional repository/backup) at once. A project team at WMU has been deploying DART internally and is preparing to lead a statewide pilot in the coming months. DART also attracted the interest of the LOCKSS Program staff, who had planned to investigate the tool's integration with LOCKSS 2.0 software in 2023. In this sense, the MDPN's current work integrating DART and LOCKSS 2.0 addresses multiple needs across the digital preservation field, as it has the potential to help make content deposit easier with LOCKSS for small and under-resourced cultural memory institutions and would further the LOCKSS Team's research goals for the benefit of the entire LOCKSS user community and beyond.

Linking with National Needs:

As recent studies conducted by IMLS and others have found, the trend toward more digitization by public institutions is growing steadily, particularly among smaller institutions and within state libraries and archives. Yet, efforts toward ensuring the long-term sustainability of these newly digitized resources are not keeping pace. Institutions continue to struggle with staffing shortages, skills development, ongoing funding, and uncertainties brought on by the rapid change of technology. IMLS and its partners have rightly sought to advance the role of collaboration, both among peer institutions and across sectors, as a means of addressing the challenges mentioned above.⁹

In its *2020 Agenda for Digital Stewardship*, the NDSA also calls for “sustained, collaborative action” to avoid silos and duplication of effort, advocate for needed resources, reach new economies of scale, and achieve more effective shared services. This is especially true, according to the *Agenda* authors, for small institutions with little to no technical skills or funding for digital preservation.

Furthermore, the NDSA articulates a need for creating and sharing more broadly relevant resources like organizational policies, technical workflows (especially those reliant on Web apps and APIs), advocacy templates, and business plans that could be applied across multiple types of collecting institutions. The *2020 Agenda* also calls for a broader view of training on digital preservation, particularly focused on “additional outreach and effort to...smaller organizations such as public libraries, museums, and historical societies” that are likely “to have different needs when it comes to digital preservation staffing and training.” The *Agenda* authors further suggest that distributed digital preservation systems that adopt and implement recognized community standards and best practices – and train users in those standards and practices – will help foster broader trustworthiness in preservation services and promote greater long-term sustainability, to the benefit of the entire field.

Compared to the *2015 Agenda* and within the context of the high-profile sunset of the Digital Preservation Network in 2018 and the near-demise of The Keepers Registry in 2019, the NDSA's *2020 Agenda* suggests that new research and innovation ought to be less about plotting a path toward a

⁸ The MDPN has been a close collaborator with the Academic Preservation Trust since the Fall of 2020 and MDPN Coordinator Dr. Chelsea Denault served on the APTrust Digital Preservation Strategy Interest Group (DiPSIG) and currently serves as the co-chair of the APTrust-led Preservation Standards Checklist Task Force.

⁹ Reports consulted for this assessment include: *Advancing the National Digital Platform: The State of Digitization in US Public and State Libraries* (OCLC, 2017); *ACRL Environmental Scan 2017* (ACRL, 2017); and *Spanning Our Field Boundaries: Mindfully Managing LAM Collaborations* (Educopia Institute, 2015).

Applicant Name: Midwest Collaborative for Library Services

national digital preservation platform and more about demonstrating replicable models at scalable and sustainable levels. To that end, the *Agenda* recommends approaches that “rigorously integrate research and practice” that foster opportunities for comparative, longitudinal studies in the field.¹⁰

Michigan as a National Model

These national challenges – scaling services to responsibly meet organizational needs while keeping services affordable; the need for ongoing training and education for staff at cultural memory institutions; and bridging the gap between best practices and inaction – are likewise present in Michigan. A first-of-its-kind statewide survey sent to over 1,000 organizations during the Stepping Stones project confirmed the national trends: over half of the survey respondents (n=155) were institutions with fewer than 5 FTE, and nearly one third (39) reported they did not backup their digital collections. Only 9% (14) reported currently having a digital preservation policy. Over half of the respondents did not respond to questions about software systems being used, and the vast majority reported systems geared toward discovery and access (e.g., Past Perfect, CONTENTdm, Digital Commons, and Omeka) rather than preservation. Of those who currently use “network upload preservation solutions,” 39% (51) reported being “Mostly Unsatisfied” or “Very Unsatisfied” with their current strategies. Of these institutions, 66% (33) reported that they would be interested in collaborating in a statewide digital preservation network.¹¹ The survey demonstrated that the need for digital preservation solutions exist in all types of Michigan organizations – even the largest academic institutions (who have few options) – and that there was a strong desire to investigate a statewide network.

The desire for more training on digital preservation theory and best practice is also evident in sustained enthusiasm for MDPN-hosted workshops and conferences. Our 2021 Member Summit attracted over 100 attendees from across Michigan, and over half of post-Summit survey respondents indicated that they had learned something new about digital preservation that they could apply at their institution. Likewise, more than half of survey participants suggested that they learned the most during the digital preservation portion of a three-day digital collections course offered by MCLS, with partners from Western Michigan and Michigan State Universities.

Project Work Plan

The project work plan can be summarized in three parts: 1) technology deployment and testing; 2) implementation and scale-up; and 3) sharing results. Although these are described as separate sections, the work of each may often overlap. For example, the MDPN’s ongoing work to formalize and document its governance and membership strategies as detailed in Part 2 will occur concurrently with testing for the statewide LOCKSS network described in Part 1. For more details, please consult the Schedule of Completion.

The major deliverable of this project is a *Statewide and Regional Digital Preservation Network Implementation Toolkit*, which will include all of the resources developed as part of the MDPN including technical documentation, policy templates, governance bylaws, business plan, member recruitment strategy, intellectual property agreements, training documents, as well as other, less policy-driven documents that would be useful to understanding the process of building a network (including meeting agendas, presentations, committee structures, and content standards), with an eye toward presenting a set of “turn-key” templates. While the different elements of the Toolkit might be relevant to different

¹⁰ National Digital Stewardship Alliance, *2020 National Agenda for Digital Stewardship*, <https://osf.io/bcetd/>

¹¹ <http://mipres.org/index.php/about/statewide-regional-stepping-stones-to-the-national-digital-platform-project-2019/stepping-stones-project-research-deliverables/>

Applicant Name: Midwest Collaborative for Library Services

groups (i.e., technical documentation regarding the integration of DART with LOCKSS 2.0/LAAWS will be useful to other LOCKSS software users), the Toolkit as a whole can be used as a model for other statewide and regional digital preservation networks focused on offering affordable and accessible services to a wide range of collecting institution types. The building of the proposed Implementation Toolkit occurs throughout the project, as documentation is produced.

Key Project Personnel:

Chelsea Denault, Ph.D., MDPN Coordinator, Midwest Collaborative for Library Services (Principal Investigator [PI])	Coordinate project and communication; provide administrative support; coordinate hardware and software testing; develop and curate toolkit documentation; develop training materials and train at-risk and underrepresented collection partners on self-deposit; develop the Project Symposium; communicate project findings; and gather feedback on project deliverables.
Alex Dark, Senior Network Administrator, Western Michigan University Libraries	Host and manage the LOCKSS administration server and sftp staging server; provide management assistance and technical support to node hosts; assist node partners with installation and upgrades; and troubleshoot errors related to node software management.
Marianne Swierenga, Cataloging and Metadata Librarian, Western Michigan University Libraries	Help institutions with at-risk and/or under-represented local history content prepare and/or remediate their digital content's descriptive metadata prior to ingest into the MDPN LOCKSS network.
LOCKSS Program staff, Stanford University Libraries	Provide application-level support for the LOCKSS 2.0 software, especially defining and documenting the process for modification, update, and management of the title database (titleDB).

1) Deploy a geographically-dispersed LOCKSS 2.0 production network with nodes managed by partners from diverse types of institutions.

To move our investigation on reducing barriers to digital preservation further faster, our work here in Michigan would benefit from growing to an at-scale production level network. To accomplish this, Michigan requires a geographically and organizationally-diverse digital preservation network based on sound and proven technology. Expanding on the findings of our successful 2020 LOCKSS 2.0-alpha pilot, in this first phase we will purchase hardware, configure nodes, and deploy a new network in collaboration with node host partners at Western Michigan University, Michigan State University, Capital Area District Libraries, and other potential partners at The Henry Ford and Northern Michigan University. This effort will allow the MDPN to do more extensive investigations with both technology and management, and facilitate the second project phase focused on investigating, documenting, and disseminating strategies to help small and under-resourced institutions start on the path to digital preservation.

Key Outcomes, Deliverables, and (Timelines):

- Purchase, configure, test, and deploy five storage nodes, and document deployment processes as part of the *Implementation Toolkit*. (August 2022 – January 2023)
- Conduct content depositing and recovery tests to ensure that content can enter and be retrieved from the network. *Communicate lessons learned to LOCKSS Program staff in support of software development*. (February 2023)

Applicant Name: Midwest Collaborative for Library Services

- Provide training to node information technology staff on the configuration, management, and maintenance of production nodes, and *share training materials as part of the Implementation Toolkit*. (November 2022 – January 2023)
- Conduct DART-LOCKSS 2.0 tests to demonstrate a viable crosswalk, and work with LOCKSS Program staff to create documentation to share as part of the *Implementation Toolkit*. (January 2023 – May 2023)

Building on lessons learned and research conducted over the past two years, this effort will involve the purchase, configuration, testing, and deployment of hardware to meet the storage and processing needs of the network. We will purchase project hardware based on LOCKSS 2.0-alpha pilot experience, and will work with Alex Dark to configure and test connectivity. To ensure successful deployment, the PI and Dark will deploy hardware onsite at node locations, document installation, and provide training to local IT staff on hardware maintenance and monitoring. Students at WMU will assist Dark in creating final documentation. We will share all documentation in the Implementation Toolkit to promote reproducibility for others.

To help mitigate risk and ensure a stable and functional network, the PI and node partners will work with LOCKSS Program staff to conduct a series of load and recovery tests, and document the steps and outcomes to ensure that the MDPN's network is fully capable of ingesting content from network members. Protocols include testing the deposit of offline archival units, journal harvesting, plugins for OAI, Web harvesting, large archival units, and tests for various media types (i.e., text files, diverse AV formats, image files, data sets, etc.). Test protocols will be shared as part of the Implementation Toolkit.

After completing tests of the LOCKSS 2.0 network, the PI, Dark, and node hosts will focus on workflow tests demonstrating a viable crosswalk between LOCKSS 2.0/LAAWS and DART. Tests will focus on packaging and ingesting various media types and data sizes, depositing content onto the staging server for crawling by the LOCKSS network, and management/notification procedures for initiating network crawls. One key research question will address ways to automate the creation of a LOCKSS manifest – a required HTML file in all data packages ingested into LOCKSS preservation networks – as part of the DART packaging process. This process will also draw from the Alabama Digital Preservation Network's "Make Manifest" tool, which is well-documented and open source.¹² This research will benefit from additional services of a Web Developer, to be hired during the project period. Any software or plugins that may be developed as a result of these tests will be documented and shared as part of the Implementation Toolkit and freely available through the MDPN website.

2) Continue ongoing work and training required to build a community of practitioners to help govern, manage, and grow a community-centered digital preservation network.

The project's second part will continue work to develop the MDPN in two ways: supporting the currently ongoing work to implement sustainable governance and membership models for the Network; and investigating new strategies for supporting small, under-resourced institutions to appraise, select, package, ingest, and preserve local history content.

A key purpose of this aspect of the project is to preserve at-risk and underrepresented collections¹³ at under-resourced institutions, and to identify whether the strategies employed are implementable in

¹² <https://archives.alabama.gov/Services/ADPnet/MakeManifest/>

¹³ For the purposes of this project, we define "at-risk" collections as those impacted by environmental threats, financial insolvency, or organizational failure, and "underrepresented" collections as those containing subjects that have been historically marginalized in the content collected and preserved by cultural memory institutions (i.e. archives, museums, etc.) and in society, more broadly.

Applicant Name: Midwest Collaborative for Library Services

terms of staff effort and cost at member institutions, and sustainable for the MDPN. The benefits are twofold, insofar as MDPN can preserve important collections, as well as investigate the opportunity to extend services to smaller institutions. To facilitate preservation at scale for these institutions within the grant period, the MDPN will also provide a subsidized storage allocation.

Key Outcomes, *Deliverables*, and (Timelines):

1. Continue current efforts to establish sustainable governance and membership models, and *add these models' materials to the Implementation Toolkit*. (Concurrent and ongoing, August 2022 – December 2022)
2. Identify key at-risk and underrepresented collections with the assistance of the LM Digitization initiative, the DPLA Michigan Service Hub, the Michigan Museum Association, and other partners, and *document the lessons learned working with partners to add this content into the LOCKSS network, as part of the Implementation Toolkit*. (March 2023 – May 2024)
3. Develop a subsidized storage allocation for at-risk and underrepresented collections, train collection owners/stewards on how to self-deposit their content, and *document the success of this measure based on the amount of allocation space filled and share training materials as part of the Implementation Toolkit*. (June 2023 – May 2024)

Since 2020, Dr. Denault has worked with key stakeholders representing different types of cultural memory institutions of varying resource levels from across the state to develop a sustainable, tiered membership model and a member-centered governing structure for the MDPN. Toward this end, three standing committees focused on membership, governance, and technology meet monthly to consult on MDPN policy, strategy, and outreach. The resources created for the MDPN in these committees integrate elements from “best-in-class” examples from the digital preservation field, including those from organizations such as MetaArchive, the Alabama Digital Preservation Network, Indiana Digital Preservation (InDiPres), and other close MDPN collaborators. As part of this project, all resources will be added as a component of the Implementation Toolkit, freely and openly available on the MDPN website. The project will work with a contracted designer on developing the Toolkit.

A secondary investigation will consider how to engage with smaller and less-resourced institutions, particularly those with at-risk and underrepresented collections, both to protect unique local history content and better understand how to expand services to smaller institutions in an accessible and equitable way. Consultation with Cinda May (formerly of InDiPres) suggests the key “pain points” for state-level networks with members who have little technical and/or collections expertise are: content selection; metadata creation/remediation; and providing support for successful self-deposit at scale. To help lower barriers, the MDPN will explore new tools including the 2018 “Guidelines and Criteria to Select for Digital Preservation” and associated Qualtrics tool created by Nathan Tallman and Lauren Work¹⁴, meant to standardize the highly subjective process of content selection and appraisal. The MDPN will also use grant funds to contract time from Cataloging and Metadata Librarian Marianne Swierenga, who has direct experience working with small institutions with little technical or collections expertise. The MDPN will connect members who identify a need for metadata creation/remediation assistance with Swierenga to better prepare collections before the ingest process.

The project PI will work to identify cultural memory institutions or other stewardship organizations with at-risk and/or underrepresented collections and provide them with subsidized preservation storage in the MDPN LOCKSS network for a defined period of time. In coordination with Library of Michigan’s

¹⁴ Tallman, Nathan and Lauren Work. (2018). *Guidelines and Criteria to Select for Digital Preservation*. <https://doi.org/10.18113/S1RM0J>

Applicant Name: Midwest Collaborative for Library Services

digitization efforts and the DPLA Michigan Service Hub, the PI will develop criteria for at-risk materials and/or underrepresented collections and identify institutions as test partners willing to deposit into the network. Previous survey data conducted as part of the Stepping Stones project will be used to start identifying potential partners, as well as working with existing organizations who have contributed to the Michigan Service Hub or have been recipients of Library of Michigan Digitization grants. Key to this work is both identifying partners, but also building on research in phase one and testing the assumption that after minimal training, partners will be able to self-deposit into LOCKSS using DART. Students at Wayne State University will assist in creating training materials for the self-deposit process. In the interest of accessibility, the project will also create an ingest kit with a laptop and a hotspot to facilitate Internet access in locations, especially rural areas, where reliable Internet access suitable for content transfer is a challenge. Kits and training materials/documentation will be sent via mail or delivered by the PI.

To evaluate this phase of the project, the MDPN will distribute a survey to learn about participants' experience and to better understand their capacity to support ongoing preservation efforts both with staff and financial resources. The survey will address two key questions: can easier tools and workflows make self-deposit possible for a small institution; and how much would the member be willing and able to pay for space in the network? Survey results and the amount of content ingested and stored by each partner (as a proxy for evaluating the level of adoption) will be shared as part of the Implementation Toolkit.

3) Communicate lessons learned to a national audience and consult with other state networks.

The MDPN seeks to identify new ways to lower the barriers to adoption, and help others build more inclusive and sustainable networks. Key to the success of this work is sharing project outcomes with a broad audience.

This third phase will focus on communicating results by sponsoring a symposium with leaders of other preservation networks, launching a travel grant program to support project participants to attend national forums and share MDPN's efforts, and by extending the development of the project results, including the Implementation Toolkit and case studies from a diverse cross section of Network users.

Key Outcomes, *Deliverables*, and (Timeline):

1. Host a project symposium, with invited leaders from other established and emerging preservation networks, *to share MDPN project updates, identify potential shared services, and coordinate future collaborations.* (June 2024)
2. Develop a *MDPN Travel Grant program* to provide support for project partners to share findings at national conferences and events. (Aug 2023 – July 2024)
3. Share the *Implementation Toolkit* on the MDPN website and via various digital preservation email lists/digital forums. (June 2024)

As part of its annual Member Summit, the MDPN will develop and host a hybrid project symposium for both in-person and online participants focused on sharing findings (prioritizing the experiences of small and under-resourced institutions identified in Phase 2), gathering feedback on project deliverables, and hosting a working group to identify how the MDPN can collaborate with other national efforts, including the Digital Preservation Services Collaborative's¹⁵ work on interoperability between preservation providers and the Private LOCKSS Network (PLN) community's migration to LOCKSS 2.0. The

¹⁵ <https://dpscollaborative.org>

Applicant Name: Midwest Collaborative for Library Services

audience for the project symposium is both current and potential partners in Michigan, as well as colleagues in the digital preservation field interested in deploying services to a wide range of institution types, sizes, and abilities.

Dr. Denault will leverage the MDPN's strong connections with other digital preservation networks (including Chronopolis, APTrust, the PLN community, etc.) and Michigan partners (Michigan Museum Association, Historical Society of Michigan, Mid-Michigan Digital Practitioners, etc.) to identify presenters, develop the symposium agenda, and communicate both the symposium purpose and the project deliverables. This symposium would build from the MDPN's successful first-annual online Member Summit in 2021, which featured many notable national speakers, such as Dr. Trevor Owens (Library of Congress), Nathan Tallman, Lauren Work, Carol Kussmann, Cinda May, and Matt Schultz.¹⁶ MCLS, which has a long history of organizing and staging impactful statewide and regional events, will assist with logistics and planning. In order to accommodate unforeseen challenges presented by the ongoing COVID-19 pandemic, the symposium can be presented completely online, if needed.

To disseminate project findings to the broadest possible audience, project staff and participants will present aspects of the project results at key conferences in the digital preservation field (NDSA DigiPres, iPres, the BitCurator Forum, etc.) and in the broader cultural memory field (including the annual meetings of the American Association for State and Local History or the National Council on Public History). To prioritize and elevate a diverse cross-section of perspectives, the project proposes a grant program with funds available to support travel needs for project partners, MDPN participants, and committee members. Travel funds will be awarded up to \$1,000, and support project partners outside of staff named in the grant, using an evaluation criterion to be developed based on identifying a representative group of presenters and their relationship to MDPN activities. MCLS will serve as the fiscal agent, with a committee of MDPN partners as the award committee.

Diversity Plan

The MDPN was created with the goal of bringing digital preservation services to a wide range of diverse institutions throughout Michigan. Central to that mission was also incorporating the needs and voices of staff serving at those diverse institutions through various committees, outreach efforts and presentations, and one-on-one meetings with stakeholders representing different communities.

To include a diversity of perspectives and practices in our project, we will continue our outreach efforts through a broad set of channels, including existing professional organizations and (re)granting organizations that represent a wide cross-section of institution types, stakeholder communities, and geographic locations across the state.

Relevant participants and communities will likewise be involved in defining the challenges or opportunities and creating and implementing the project. Space for stakeholder feedback has been built into the MDPN from its inception. All governing bodies and topic-focused committees are made up of a geographically and institutionally diverse set of practitioners from small, rural public libraries to R1 research institutions. Decisions about the MDPN's direction are made by consensus and committee members are encouraged by MDPN leadership to articulate their ideas and suggestions based on their unique experiences at their institutions. This diversity of experiences and opinions is what makes the MDPN a resilient, responsive, and stronger organization than it would be otherwise.

Project Results

¹⁶ <https://mdpnsummit.sched.com>

Applicant Name: Midwest Collaborative for Library Services

Project results will include: deliverables such as the aforementioned topic-specific whitepapers and the Implementation Toolkit to be shared with a broad national audience; technical documentation on DART integration with LOCKSS 2.0/LAAWS and documentation and/or software for managing the LOCKSS title database prepared with project partners at the LOCKSS Program; outreach efforts to other state preservation networks or state libraries with strong digital programs; a new theoretical model to approach digital preservation practice with small cultural memory institutions; and new national conversations about building more broadly-inclusive preservation at state and regional levels. The Implementation Toolkit will include the many elements listed in the work plan above, as well as sample communications to current and potential partners, website templates, presentations, and a bank of useful resources, as well as the deliverables that were a part of the 2019 Stepping Stones project. Ultimately, the project will result in a successful at-scale model statewide digital preservation network with unique at-risk content in a technologically-innovative preservation environment.

Although the documentation and policies created in the course of this project will be focused on our work in Michigan, project deliverables will be created with the goal of being readily adaptable, generalizable, and usable by other institutions and communities across the nation. Michigan's cultural memory field is not unique in that its challenge – the significant number of small organizations with little to no funding or expertise to preserve their unique and important local history resources – is a common one. By testing technical integrations, developing workflows and policies, and creating communication and outreach templates, this project will have done much of the “heavy lifting” for future networks, allowing them to focus on what is unique to their context.

Overall, the benefit of the project will continue beyond the conclusion of the grant period by having committed staff and financial resources to maintain the Network, and maintain this project's deliverables on a publicly-accessible place on the MDPN website. In the spirit of shared authority, Dr. Denault will also continue to incorporate user feedback as the Implementation Toolkit is used by future state and regional preservation networks. We will also continue to consult with others seeking to use the Toolkit or learn from/build upon the project in other ways. Finally, reflecting the constantly-evolving lifecycle of organizations as modeled in the Educopia Community Cultivation Field Guide¹⁷, the MDPN will continue adding additional documentation to the Toolkit after the grant period ends.

Looking more broadly, this project benefits society by providing a path for small, under-resourced, and marginalized local history institutions to preserve digital local history content, and helping keep content secure and useable for the long-term future. By demonstrating that local history resources are valuable and worth investing time and financial resources into protecting, the MDPN and other current and future networks that prioritize local lived experience and memory can send a powerful signal to local communities that they, their stories, and their place matter and are valuable.¹⁸ This sense of value and acknowledgment can have a deeply meaningful impact on local communities. According to the History Relevance Initiative, “history, saved and preserved, is the foundation for future generations” and a shared sense of history provides a place from which “to build and know what it means to be a member of the civic community.”¹⁹ By stewarding local history resources for the long-term future, digital preservation can contribute toward building stronger, more engaged communities.

¹⁷ *Community Cultivation: A Field Guide*, 2018. <https://educopia.org/wpcontent/uploads/2018/11/CommunityCultivationFieldGuide.pdf>

¹⁸ American Association for State and Local History, *Communicating About History: Challenges, Opportunities, and Emerging Recommendations* (2020), pages 14-15, <http://download.aaslh.org/Framing+History/Communicating+About+History+Strategic+Brief.pdf>

¹⁹ History Relevance Initiative, “The Value of History Statement,” <https://www.historyrelevance.com/value-history-statement>

Applicant Name: Midwest Collaborative for Library Services

Project Title: *Demonstrating and Documenting a Statewide LOCKSS 2.0 Preservation Network for Cultural Memory Institutions*

Digital Products Plan

Type:

The key deliverable of the project is the Implementation Toolkit, a set of digital resources that will include technical and workflow documentation, meeting agendas, Memorandum of Understanding text, sample communications and presentations, governance documents, policy templates, training materials, user survey questions and results, and other materials related to the development of the MDPN. Resources will be offered in multiple file formats to accommodate different use needs (i.e. a PDF copy for download and a more broadly editable format, such as Microsoft XML-based Document/.docx for print documents, etc.) and integrated in the project website in HTML/CSS. All resources will have appropriate item-level metadata in line with standards of the MDPN LOCKSS network, the DPLA Michigan Service Hub, and the Library of Michigan's LM Digital. Technical and preservation metadata are created before ingest into the MDPN LOCKSS network using open-source tools, namely Brunnhilde, Siegfried, and BagIt. These metadata are held in multiple formats, including TXT, CSV, XML, HTML.

Availability:

The Toolkit will be released with a Creative Commons Attribution-NonCommercial-ShareAlike (CC BY-NC-SA) 4.0 license. All project materials created and added to the Toolkit would use the same licensing and be broadly available for download, use, and reuse on the project's public webpage via the MDPN's website.

Any source code that may be developed as part of the technical research integrating LOCKSS 2.0/LAAWS and DART will be shared with the LOCKSS Program for public view and use via their GitHub instance.

Access:

All digital projects will be made freely available and openly licensed for sharing and adaptation, and there will be no restrictions on access or use beyond those implied by CC BY-NC-SA 4.0. All digital projects will be reviewed and addressed for conformance to PDF/A document accessibility standards and to WCAG 2.0 Level AA Technologies Accessibility Standards.

All materials developed will be openly shared via the project webpage via the MDPN website, mipres.org, and deposited into the Western Michigan University Libraries institutional repository for permanent access.

The project will not be seeking or capturing data on individuals or institutions that would be considered private or sensitive.

Sustainability:

The final digital Toolkit and its associated materials will be shared on the MDPN website, with an IT commitment for its maintenance from MCLS. Materials for preservation will be packaged according to the BagIt specification, deposited into the MDPN's LOCKSS network, and replicated across the network's five nodes for long-term preservation. Toolkit content will also be deposited in Western Michigan University's institutional repository to provide for permanent retention and access. We will also migrate file format(s) of the resources preserved in the

MDPN LOCKSS environment, as necessary, with reference to the Library of Congress Recommended Formats Statement. Toolkit content will also undergo regular integrity checks in line with the LOCKSS poll-and-repair protocol.

Any source code that may be developed as part of the technical research integrating LOCKSS 2.0/LAAWS and DART will be maintained by the MDPN with collaboration from the LOCKSS Program for public view and use via their GitHub instance.

The MDPN has committed staff and financial resources to maintain deliverables on a publicly available place on the MDPN website integrated into the operating costs of the MDPN for the indefinite future. Project staff will continue to incorporate user feedback as the Toolkit is used by future state and regional preservation networks and the MDPN will continue adding additional documentation to the Toolkit after the grant period ends, to reflect the organizational maturation of the network over time.

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Organizational Profile: Midwest Collaborative for Library Services

Mission/Purpose

According to the current version of the Midwest Collaborative for Library Services (MCLS) Bylaws edited by the MCLS Board of Directors and approved by a quorum of its members in November 2017, MCLS's mission is to "facilitate sharing resources and to collaborate with other organizations to benefit Indiana and Michigan libraries." The Board's vision for MCLS in its Board Policy Manual (Section 1.0, Ends Statement, last revised November 9, 2021) reads: "MCLS exists so that libraries of all sizes and types are community-responsive leaders who embrace the challenges of contemporary library practice, develop innovative solutions, foster robust collaborations, and facilitate transformative learning."

Governance Structure

MCLS was originally established in 1974 as a nonprofit corporation in Michigan (known at that time as the Michigan Library Consortium [MLC]), affiliated with Wayne State University. The Internal Revenue Service recognized MLC as a 501(c)(3) organization in July 1975, and reaffirmed that recognition for MCLS in May 2010. MCLS Executive Director Scott Garrison reports to MCLS's governing body, its 16-member Board of Directors. The Board includes eight members from Indiana and eight members from Michigan, representing academic, public, school, and special libraries. 14 Board members serve in elected seats, typically for up to two three-year terms each. The Indiana and Michigan state librarians each serve on the Board in a permanent seat.

Service Area

MCLS currently serves over 640 member libraries of all sizes and types, throughout Indiana and Michigan. The organization also provides group purchasing service and training to libraries in 35 other U.S. states as well as in nine foreign countries.

Brief Organizational History (including the Michigan Digital Preservation Network):

The Michigan Library Consortium merged with the Indiana Cooperative Library Services Authority (INCOLSA) in 2010 to form MCLS. Based on MCLS's long-standing relationships with libraries throughout its primary region and reputation as a valued partner and service provider, the Library of Michigan and three MCLS Michigan academic member libraries (Grand Valley State University Libraries, Michigan State University Libraries, and Western Michigan University Libraries), collaborated with MCLS to create the Michigan Digital Preservation Network (MDPN) via a Memorandum of Understanding signed in 2019 (with MCLS as MDPN's administrative host and fiscal agent).

The MDPN's purpose is to "establish a statewide digital preservation network in Michigan to enable member organizations including libraries, museums, historical societies, and other cultural heritage organizations to have a shared opportunity to access a digital preservation solution for digital content." MCLS hired Dr. Chelsea Denault as MDPN Coordinator in April 2020. Working with a variety of organizations, Dr. Denault has built governance and membership structures and an MDPN website, fostered a LOCKSS 2.0-alpha pilot among several institutions, offered an inaugural MDPN Member Summit, and built very valuable relationships connecting the MDPN's work widely throughout the digital preservation community nationally and internationally.