

LG-72-18-0131 Statewide & Regional Stepping Stones to the National Digital Platform Abstract

Abstract

The *Statewide & Regional Stepping Stones to the National Digital Platform Project* will bring the technical and professional skills development work that is currently coalescing within the IMLS National Digital Platform (NDP) initiative to its next level by providing much needed organizational planning resources. These will be resources designed to establish and proliferate new collaborative and sustainable distributed digital preservation (DDP) networks across the country at the state/regional level where scaling to broader national networks has already been most effectively demonstrated.¹

Through the facilitation of Grand Valley State University (GVSU) Libraries as the lead institution, and with participation from the Library of Michigan; the Digital Public Library of America Service Hub at the University of Michigan; the Council of Library Directors (COLD); the Mid Michigan Digital Practitioners (MMDP); each of the major state associations for the professions of libraries (Michigan Academic Library Association, Mi-ALA), archives (Michigan Archival Association), and museums (Michigan Museums Association); and the regional Midwest Collaborative for Library Services (MCLS), the state of Michigan will lead the way to collaboratively develop these much-needed resources. Specifically, these partners will:

- Gather and analyze statewide data on digital preservation readiness and organizational needs;
- Conduct national-level field research on successful state/regional networks;
- Host a project symposium to discuss findings and plan for project deliverables;
- Engage expert consultants from leading national DDP networks; and
- Carry out workshop intensives to develop the final project deliverables.

Using Michigan as a testbed and starting point, this one-year planning grant (December 2018-November 2019) will produce a set of unique community-building resources to plan the state's own future network and guide the launch of new networks at other state/regional levels. These will include:

- Model Agreements (legal, financial, administrative, etc.);
- Policy Templates (content selection, data security, data privacy, etc.); and a
- Collaboration Toolkit (best practices on network building).

For national impact these project products will be developed as generalized, adaptable, yet comprehensive resources for addressing all of the unique opportunities and challenges that other states/regions might face in establishing and streamlining their own networks. As will be demonstrated, the project will achieve impact at both state/regional and national levels through rigorous in-state partner evaluation and through strategically leveraging review and feedback from national-level communities like the National Digital Stewardship Alliance (NDSA) and the Digital Library Federation (DLF).

¹ The project puts forward the Historically Black Colleges & Universities (HBCU) Library Alliance, the Alabama Digital Preservation Network (ADPNet), and the Indiana Digital Preservation (InDiPres) Network as historical exemplars. Consultants from each of these networks have agreed to assist with the project.

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Statement of National Need

As recent studies conducted by the Institute of Museum and Library Services (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. At the same time, efforts toward ensuring the long-term sustainability of these newly digitized and acquired 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. Rightly, the IMLS and its partners have sought to advance the role of collaboration, both amongst peer institutions and across sectors, as a means of “mining the gaps” mentioned above.¹

Indeed, as the National Digital Stewardship Alliance (NDSA) issued its most recent National Agenda it emphasized the necessity for institutions of all types to leverage collaboration to avoid silos and duplication of effort; reach new economies of scale; and achieve more effective shared services. The importance of building on existing accomplishments and shared infrastructures/services across all levels—local, state, regional, and national—was further emphasized.² The *Statewide & Regional Stepping Stones to the National Digital Platform Project* responds to this urgent need at its most critical nexus—namely by addressing the various agreements, policies, and other planning instruments that serve to structure collaborations and make them healthy and sustainable over time.

Building On & Aligning with Current NDP Funding & Progress

Noteworthy progress is already underway in other funded areas of the National Digital Platform (NDP) initiative—particularly with respect to professional skills development and the improvement of technical infrastructures. Through IMLS-supported projects like the *POWRR Professional Development Institutes for Digital Preservation* and the *National Digital Stewardship Residency (NDSR) Program*, under-resourced institutions are acquiring training and new expert staff to deepen their capacity and streamline their operations. Through projects like *Beyond the Repository: Integrating Local Preservation Systems with National Distribution Services* some of our national-level distributed digital preservation (DDP) providers (e.g., Digital Preservation Network, Academic Preservation Trust, Chronopolis) are gaining traction on understanding how to make their networked infrastructures more interoperable with the standalone repository systems in use by smaller institutions. Though further work appears needed, recent software development undertaken via the *Fostering a New National Library Network through a Community-Based, Connected Repository System* project has inched the field closer to acquiring a more interoperable repository platform that aims to be easier for smaller, under-resourced institutions to deploy and that would work well with some of the DDP providers mentioned above. This latter project in particular seeks to expand the role and capacity of the DPLA’s service “hubs” as a means for scaling the response to the rapid creation of new digital content taking place within states and regions. The *Statewide & Regional Stepping*

¹ 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)

² *2015 National Agenda for Digital Stewardship* (National Digital Stewardship Alliance, 2015)

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Stones to the National Digital Platform Project would directly investigate and help solidify the best role for other state/regional hubs to play in the expansion of future DDP networks.

With all of these great projects in motion one can begin to see the contours of a viable National Digital Platform that is unique to the United States beginning to take shape. Training programs are proving effective at growing skills and deepening institutional capacity, and open DDP technologies and their development communities are maturing and hold promise for greater adoption. Collaboration and the building of cross-sector partnerships are becoming enculturated in all of this admirable work.

Building on Successful State & Regional Networks

What we cannot yet effectively predict is how institutions within various states and regions—where resources are most effectively marshalled and managed over time—will form long-lasting yet flexible partnerships with one another in order to ensure the sustainability that the hard investment of distributed digital preservation deserves. There are indeed significant legal, financial, and policy challenges that institutions must address and surmount before the full lifecycle of goals within the NDP and the recommendations of the NDSA's National Agenda can be realized. It will not be enough to simplify and streamline the dissemination and deposit of digital content into aggregated and geographically-distributed repositories. Institutions need frameworks for sustaining those ongoing collaborations, they need policy instruments to mandate and manage their work, they need model agreements and other instruments to secure trust and control over their assets as they fall under new arrangements for shared stewardship.

The *Statewide & Regional Stepping Stones to the National Digital Platform Project* will directly address these organizational gaps by producing new community-building resources derived from research into some of the exemplary state/regional networks that have already successfully built on one another and have helped replicate collaborative models beyond their own borders. Three such noteworthy networks exist in the form of the Historically Black Colleges & Universities Library Alliance (HBCU LA)³, the Alabama Digital Preservation Network (ADPNet)⁴, and the Indiana Digital Preservation Network (InDiPres)⁵. These initiatives are noteworthy not only for their technical accomplishment in achieving the distributed digital preservation of their assets, but for their innovations in cementing long-term partnerships through the use of model agreements and policies, as well as cross-pollinating those innovations to one another's networks. Representatives from each of these networks have agreed to participate in the project as consultants, along with the Educopia

³ Celebrating 18 years of success, the HBCU Library Alliance (<http://www.hbculibraries.org/>), through the technical coordination of the Atlanta University Center, is one of the first and largest regional consortia to achieve national and even international collaborative and distributed digital preservation.

⁴ Now in its 12th year, ADPNet (<http://www.adpn.org/>) was one of the very first low-cost state-based digital preservation networks to come online in the country to serve academic institutions, state agencies, and cultural heritage organizations in the state of Alabama.

⁵ Launched in 2016, InDiPres (<http://indipres.org/>) is in some ways the most recent culmination of the achievements of both HBCU and ADPNet through its pioneering of a state-based network that leverages previous consortial collaborations in the form of projects like Indiana Memory and Wabash Valley Visions and Voices.

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Institute, which has itself been instrumental in furthering their development and success at key junctures.⁶

The time has thus come to strategically investigate the achievements of these and other similar networks; demonstrate their extensibility to new states/regions within a structured project; codify the abstracted and generalizable frameworks, models, and requisite policies/agreements; and disseminate them broadly for other states and regions to make use of for their own implementations. This will be the work of the *Statewide & Regional Stepping Stones to the National Digital Platform Project*.

Establishing New Stepping Stones

Though it is a project that could be carried out in several state/regional environments, Michigan is uniquely poised to take up this work, both due to the incredible success of its Michigan Service Hub (part of the DPLA's hub network), as well as to the vibrant cross-sector collaborations that exist between the various state professional associations. As just a few examples of these cross-sector collaborations it is worth calling attention to the generous and consistent sponsorship given by the Michigan Archival Association (MAA) to the Mid Michigan Digital Practitioners (MMDP). In addition to their financial support, the MAA regularly invites publication of the MMDP community's accomplishments through their Open Entry newsletter. In turn the MMDP has gone on to initiate partnership with the Michigan Academic Library Association (Mi-ALA), whom agreed to host the 2018 Spring MMDP Meeting in conjunction with the 2018 Mi-ALA Annual Conference. It so happens the Michigan DPLA Service Hub played a significant role in the success of that aligned event through announcing and celebrating its most recent advancements, which included sharing the metadata of nearly 250,000 records with the DPLA and the launch of Combine, a new application for metadata aggregation.⁷ Enthusiastic support for the project has also been given by the board of the Michigan Museums Association (MMA), whose Vice President, Nathan Kemler is the Assistant Director of Galleries and Collections at the project's lead institution Grand Valley State University. The Midwest Collaborative for Library Services (MCLS) is also enlisted to help explore the role of consortia for broadening the reach and impact of state effort. Support letters from all of the groups and associations mentioned above are included with this proposal.

The project is thus poised to build upon and extend the strong foundation that exists between all of these very diverse and dedicated communities, bringing together representatives from each of their boards and membership to help co-create the deliverables and achieve the project's goals. As will be described in more detail below in the sections on Project Design and National Impact, the *Statewide*

⁶ The Educopia Institute (<https://educopia.org/>) collaborated with ADPNet in its early founding to develop model agreements to support that state network's membership model. Educopia co-developed with the HBCU Library Alliance an innovative membership agreement and cost-model to enable the buy-in and sustainability of their consortium's digital preservation work. Educopia also helped to provide project management and technical consultation for the building of the InDiPres network.

⁷ For its time-proven and demonstrated capacity to build, sustain, and diversify its community engagements over time the Mid Michigan Digital Practitioners was given the 2016 National Digital Stewardship Alliance (NDSA) Innovation Award (<http://gvsu.edu/s/0Kk>).

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& *Regional Stepping Stones to the National Digital Platform Project* aims to gather data, conduct field research, host symposia, engage expert consultants, and carry out workshop intensives to develop the necessary resources, functional requirements, and a roadmap for building a viable and sustainable DDP network. It will do this not by reinventing the wheel, but for the first time, by intentionally studying, replicating, refining, and codifying the achievements of the country's leading state/regional DDP networks. The project will then reach its broader national impact through the production and sharing of its Model Agreements, Policy Templates, and a Collaboration Toolkit designed to guide new institutions in establishing their own stepping stones that respect and amplify the unique characteristics of their organizations within their respective state/region. Challenges and roadblocks will be actively surfaced, discussed, and documented within the Collaboration Toolkit. The Model Agreements and Policy Templates will be designed to address and mitigate those challenges and roadblocks.

Research Already Underway

Recognizing the ambitiousness of this project for a one-year planning grant, Grand Valley State University Libraries as the lead institution on the project has already begun designing and, with the help of the state partner professional associations (Mi-ALA, MAA, MMA), disseminating surveys to assess digital preservation readiness and organizational needs within the state of Michigan, as well as researching additional state/regional networks as documented through the impressive national survey data gathered via the IMLS-funded ICONC Project (Educopia Institute, 2014).⁸ Two such additional networks have already been contacted and are open to potential engagement with the project—these being the WEST Regional Storage Trust⁹ and the Texas Digital Library.¹⁰

Project Design

Through the three well-structured phases described below the *Statewide & Regional Stepping Stones to the National Digital Platform Project* will produce a major project-focused strategy document (white paper) to help guide the statewide/regional planning process for Michigan, and three sets of community building resources that will have both document and web components made available for a national audience and aimed at achieving further state/regional impacts. These will include 1) a set of Model Agreements (legal, financial, administrative, etc.); 2) Policy Templates (content selection, data security, data privacy, etc.); and 3) a Collaboration Toolkit to provide institutions with best practices for network building.

⁸ The Identifying Continuing Opportunities for National Collaboration (ICONC) project analyzed the design and management of collaborative networks to better understand the criteria that lead to their successes and failures. The project resulted in a pilot set of visualization tools that can be used to analyze data representing U.S.-based collaborative digital stewardship, curation and preservation work. See here: <https://educopia.org/research/iconc>.

⁹ The WEST Regional Storage Trust is a distributed retrospective print journal repository program serving research libraries, college and university libraries, and library consortia in the Western Region of the United States. Their network is of interest for its organizational design and resource sharing. See here: <https://www.cdlib.org/services/west/>.

¹⁰ The Texas Digital Library is a consortium of Texas higher education institutions that builds capacity for preserving, managing, and providing access to unique digital collections of enduring value. See here: <https://www.tdl.org/>.

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Research & Preparation Phase (Months 1-4)

As mentioned, this proposal is being submitted with preliminary research already underway and statewide assessment data for digital preservation readiness and organizational needs scheduled to be analyzed at the start of the project by the project's principal staff—namely the Principal Investigator and the (to-be hired) student assistant. This statewide survey data will be coupled with further information from a national environmental scan referencing the impressive IMLS-funded ICONC Project datasets, as well as findings from on-site focus groups and interviews to be conducted with two or more additional and carefully selected state-based or regional networks. Efforts will also be made to engage networks that have experienced challenges with sustainability to document lessons-learned.

All of this data will then be shared, discussed, and contextualized via an organized two-day symposium bringing together representatives from the boards and members of each of the major state professional associations for libraries (Michigan Academic Libraries Association), archives (Michigan Archival Association), museums (Michigan Museums Association), the Council of Library Directors (COLD), the Midwest Collaborative for Library Services (MCLS), and a cadre of expert consultants from ADPNet, HBCU Library Alliance, InDiPres, and Educopia Institute. A staff administrative assistant at GVSU will assist with the event logistics. The goal of the event is to arrive at a roadmap and set of functional requirements for building a viable distributed digital preservation network for Michigan and the surrounding region.

The symposium will culminate in a white paper report of the findings from each of the above-mentioned investigations and engagements. A project website will be built to host the white paper and subsequent project deliverables. In addition to the summary findings, the white paper aims to put forward concrete recommendations for developing the project's primary deliverables--1) Model Agreements; 2) Policy Templates; and 3) a Collaboration Toolkit. The white paper will be shared with all of the project partners via our state-based association listservs, as well as with the interest groups and listservs of the National Digital Stewardship Alliance (NDSA) and the Digital Library Federation (DLF). Critical feedback will be solicited via Qualtrics well into the Planning & Development Phase (see below). Both NDSA and DLF have wholeheartedly endorsed the work of this project and welcome the opportunity to engage with the deliverables.

- **December 2018:** Complete and analyze feedback from statewide (Michigan) surveys on digital preservation readiness and organizational needs
- **December 2018-January 2019:** Finalize environmental scan of state-based and regional network models using the ICONC datasets—identify and contact additional networks (as needed)
- **December 2018-February 2019:** Prepare and hold two-day symposium to share research findings, consult with experts, and discuss formation of project deliverables
- **January 2019-March 2019:** Make preparations and carry out site visits/focus groups with additionally selected state/regional networks

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- **March 2019:** Document and share white paper on preliminary findings and recommendations for planning & development phase

Planning & Development Phase (Months 5-9)

The second phase will see the primary work of the project being undertaken to develop the core deliverables. Building directly from the white paper recommendations, the Principal Investigator will issue a draft statement of principles to the project partners and, with their input and the help of a part-time staff administrative assistant, will design a multi-day series of workshop intensives involving presentations, brainstorming sessions, writing exercises, and other program components geared towards facilitating the production of the requisite draft Model Agreements, Policy Templates, and other instruments that the Michigan-based network will need to pilot for its eventual implementations. The workshop intensives will have the option of being held in coordination with summer events like the 2019 Michigan Academic Library Association Meeting, or the 2019 Michigan Archival Association Meeting. It could also be a multi-day standalone event hosted by GVSU or our regional consortial partner—the Midwest Collaborative for Library Services (MCLS).

The process of building these resources through the intensives will itself be captured by the Principal Investigator and the project's student assistant in order to inform the Collaboration Toolkit that will accompany the other products. The Collaboration Toolkit aims to put forward a set of flexible best practices for future networks to make use of as they seek to build their own stepping stones to the National Digital Platform (NDP).

The success of the deliverables will be immediately gauged for their capacity to conform to critical feedback from the project's partners and their facility for bringing a majority of the critical stakeholders to the table to schedule post-project meetings for the purpose of launching preliminary implementations and engaging in additional funding outreach to support the new future network. The project will leverage the communication channels provided by each of the state and national professional associations (including NDSA & DLF) and gather feedback on the resources via Qualtrics. The project's student assistant will work with the Principal Investigator to compile the feedback for improvement and dissemination purposes.

- **April 2019:** Make logistical preparations for intensives and begin outreach/communication to principal representatives and volunteers from state partners
- **April 2019:** Analyze feedback from symposium white paper
- **April 2019-May 2019:** Design and develop goals/objectives for the intensive program components and writing workshops
- **June 2019:** Develop draft statement of principles for the future state-based network and share with partners prior to the intensives
- **June 2019-July 2019:** Hold multi-day intensives and develop draft Model Agreements, Policy Templates and Collaboration Toolkit
- **July 2019-August 2019:** Circulate draft deliverables, analyze feedback, and incorporate improvements

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- **August 2019:** Schedule post-planning project meetings for launching preliminary implementations and engaging in additional funding outreach

Dissemination & Reporting Phase (Months 10-12)

The third and final phase of the project (months 10-12) will be dedicated to packaging the final deliverables, making them freely available and openly-licensed on the project website, and promoting their broader national adoption and usage through events like the 2019 Digital Library Federation Forum, and the 2019 Digital Preservation Conference. State-based events like the 2019 Fall Mid Michigan Digital Practitioners Meeting and the 2019 Michigan Museums Association Annual Meeting can be leveraged to evaluate the final success of the project and begin holding the planning meetings to move this work toward implementation. Final reports will be compiled by the Principal Investigator, with the help of the project's student assistant, and submitted to IMLS at the end of November.

- **September 2019:** Package all project documents and collaboration toolkit and make available on project website
- **September 2019-October 2019:** Promote the project documents and collaboration toolkit
- **October 2019-November 2019:** Perform final project evaluations and draft final report
- **November 2019:** Submit final project report to IMLS

Diversity Plan

Thanks to the overwhelming support and participation from all of the Michigan-based professional associations within the fields of libraries, archives, and museums (LAMs), the project will have access to the fullest array of institutions within the state—institutions of all types, sizes, budgets, and representative diverse communities. The consultants for the project also each bring unique perspectives from addressing diversity within their respective networks and community-building efforts. Of special note is the participation of the Historically Black Colleges & Universities Library Alliance (HBCU LA), a community that can help this project and future beneficiaries of the work to stay attentive to the broader goal of preserving underrepresented voices for the future. At the national level, the project benefits from the support and participation of the Digital Library Federation (DLF), an organization with an express mission to promote social justice in digital libraries.

Looking ahead to the project deliverables, the surveys and focus group investigations undertaken will include inquiries into challenges, both real and perceived, as they relate to addressing issues of inclusion and equity for the preservation of digital collections within states/regions. The Model Agreements and Policy Templates developed within the project will explicitly address and articulate responsible positions that institutions and networks should take to uphold inclusion and equity in their digital preservation work. The Collaboration Toolkit will then put forward strategies for bridging gaps within states and regions that prevent the fullest range of participation from institutions that struggle with limitations such as resource constraints or equal recognition across institutions and their types/missions. In this way, the *Statewide & Regional Stepping Stones to the National Digital*

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Platform Project will aspire to successes similar to those achieved by other diversity and community-empowering projects funded under IMLS such as the Mukurtu Project.¹¹

National Impact

In terms of scaling effectively to accomplish digital preservation, individual institutions have had their best success when working through their state governments, their state libraries and archives, and through their regional consortia. This is evidenced through the three exemplary and maturing networks that have agreed to serve as consultants and focal points for our initial research—the Historically Black Colleges & Universities Library Alliance (HBCU LA), the Alabama Digital Preservation Network (ADPNet), and the Indiana Digital Preservation (InDiPres) Network. Each of them have different stories to tell, but the coordinating roles of the state libraries/archives and the regional consortial bodies that they engage with have been catalytic in each case.

Among many other accomplishments, working closely with known and trusted peers has made it possible for the institutions comprising these networks to:

1. Enter into mutually respecting agreements, to manage the necessary administrative dimensions of the shared work;
2. To have assurances that they can maintain control over their digital collections and assets; and
3. That they have a say in their affordable sustainability over time.

These networks can and should serve as model lessons for other states and regions whose cultural memory and research institutions are desiring to get their digital preservation activities off the ground and/or begin moving toward greater geographic distribution for their content.

This project does not seek to duplicate or compete with the great technical work that is already underway through projects like *Beyond the Repository: Integrating Local Preservation Systems with National Distribution Services* and *Fostering a New National Library Network through a Community-Based, Connected Repository System*, where institutions from several corners of the country are seeking to make the exchange and distribution of digital collections more simplified, interoperable, and manageable—particularly when it comes to platform stability, and activities like version control and fixity auditing. The accomplishments of the two above-mentioned projects hold incredible promise for bridging the maturing digital preservation work that takes place at local, state, and regional levels into the national infrastructures that are achieving more optimal replication and distribution. Rather, this project will step in to make sure that institutions of all sizes and missions can begin coming together with the help of leaders and consortia in their areas to form the partnerships that will make

¹¹ The Mukurtu Project is a software platform development initiative aimed at empowering communities to manage, share, narrate, and exchange their digital heritage in culturally relevant and ethically-minded ways. See here: <http://mukurtu.org/about/>.

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the ongoing flow and scaling of digital preservation possible under the vision of the National Digital Platform (NDP).

Through the Model Agreements, and Policy Templates that the project partners will create from their study and consultation with HBCU LA, ADPNet, InDiPres, the Educopia Institute (and additional networks from around the country), new institutions will have the resources that they need to begin forming their own similar statewide/regional networks. Through the Collaboration Toolkit these partnering institutions will acquire a flexible but comprehensive framework for navigating the necessary legal, financial, and other resource sharing deliberations that will need to take place to bring the networks into existence. The Collaboration Toolkit will not be designed to impose a one-size-fits-all structure that works in other networks, but rather to help states and regions develop structures that make sense for all of their own institutions involved. The work undertaken within the state of Michigan for this project will merely serve as the first fully documented proof-of-success when it comes to codifying and operationalizing the best practices that helped bring networks like HBCU LA, ADPNet, InDiPres and others into existence and into collaboration with one another. In that way the project will ensure that the project's products are adaptable to other institutions and communities.

As detailed above in the Project Design, evaluation and critical feedback on the formation of all of the project products is built in at each stage of their development. This evaluation and feedback reaches within and across the project partners and beyond to the national landscape through open communities like the National Digital Stewardship Alliance (NDSA) and the Digital Library Federation (DLF). Those communities in particular, with their focus on articulating a National Agenda for digital preservation, can help this project ensure that its focus on state/regional development truly achieves its national impact. Success will be measured by ensuring that the project transparently addresses and incorporates critical feedback at each stage of evaluation. Success will also be measured at the stage of final reporting as the project partners aim to detail their next steps toward implementing the specific functional requirements and roadmap for the future state/regional network based in Michigan.

Summary

Using Michigan as a testbed and starting point, the *Statewide & Regional Stepping Stones to the National Digital Platform Project* will produce a unique set of community-building resources to both plan the state's own future state/regional network and guide the launch of new networks at other state/regional levels. The Model Agreements, Policy Templates, and Collaboration Toolkit will be developed as generalized, adaptable, yet comprehensive resources for addressing all of the unique opportunities and challenges that other states/regions might face in establishing and streamlining their own networks. In so doing, the project will provide much needed organizational planning resources to come alongside the other impressive technical and skills-building initiatives also bearing fruit under the National Digital Platform.

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DIGITAL PRODUCT FORM

Introduction

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to federally funded digital products (i.e., digital content, resources, assets, software, and datasets). The products you create with IMLS funding require careful stewardship to protect and enhance their value, and they should be freely and readily available for use and re-use by libraries, archives, museums, and the public. However, applying these principles to the development and management of digital products can be challenging. Because technology is dynamic and because we do not want to inhibit innovation, we do not want to prescribe set standards and practices that could become quickly outdated. Instead, we ask that you answer questions that address specific aspects of creating and managing digital products. Like all components of your IMLS application, your answers will be used by IMLS staff and by expert peer reviewers to evaluate your application, and they will be important in determining whether your project will be funded.

Instructions

- Please check here if you have reviewed Parts I, II, III, and IV below and you have determined that your proposal does NOT involve the creation of digital products (i.e., digital content, resources, assets, software, or datasets). You must still submit this Digital Product Form with your proposal even if you check this box, because this Digital Product Form is a Required Document.

If you ARE creating digital products, you must provide answers to the questions in Part I. In addition, you must also complete at least one of the subsequent sections. If you intend to create or collect digital content, resources, or assets, complete Part II. If you intend to develop software, complete Part III. If you intend to create a dataset, complete Part IV.

Part I: Intellectual Property Rights and Permissions

A.1 What will be the intellectual property status of the digital products (content, resources, assets, software, or datasets) you intend to create? Who will hold the copyright(s)? How will you explain property rights and permissions to potential users (for example, by assigning a non-restrictive license such as BSD, GNU, MIT, or Creative Commons to the product)? Explain and justify your licensing selections.

The digital products of this project will be made freely available under a Creative Commons BY-NC-SA Attribution-NonCommercial-ShareAlike 4.0 International or similar unrestrictive license. The lead institution, GVSU Libraries, will make the digital products and license available through the institutional repository ScholarWorks@GVSU or another persistent online location (URL) hosted by or deemed acceptable by the lead institution and the funding agency. Copyright for any written or created work will remain with the author(s) or be transferred to the institution if required by policy at the time of dissemination.

A.2 What ownership rights will your organization assert over the new digital products and what conditions will you impose on access and use? Explain and justify any terms of access and conditions of use and detail how you will notify potential users about relevant terms or conditions.

All newly created digital products will be made freely available and openly licensed by their authors or the institution (see A.1 above) for sharing and adaptation. No restrictions on access and use will be applied. Survey data will follow all requirements set for the project by the GVSU Human Research Review Committee and does not aim to gather sensitive information on individuals or institutions—no restrictions on access and use of data are anticipated.

A.3 If you will create any products that may involve privacy concerns, require obtaining permissions or rights, or raise any cultural sensitivities, describe the issues and how you plan to address them.

As indicated in A.2 above, the project will not be seeking to gather data on individuals or institutions that would be considered sensitive or detrimental to person, mission, or business operations, and will follow all requirements for informed consent.

Part II: Projects Creating or Collecting Digital Content, Resources, or Assets

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A. Creating or Collecting New Digital Content, Resources, or Assets

A.1 Describe the digital content, resources, or assets you will create or collect, the quantities of each type, and format you will use.

- **Survey data collected in Qualtrics and exported in tabular form (institutional data on digital preservation readiness and organizational needs)—at least three or more datasets derived from institutions self-classified as libraries, archives, museums, historical societies, research centers, etc.**
- **Interview questionnaires for at least three on-site focus group visits constructed in Office or Libre Office and archived as Portable Document Format (PDF)**
- **Multiple individual electronic documents created to satisfy the Model Agreements, Policy Templates, and Collaboration Toolkit deliverables—constructed in Office or Libre Office and archived as Portable Document Format (PDF)**
- **One project website built in HTML, CSS, JavaScript**

A.2 List the equipment, software, and supplies that you will use to create the content, resources, or assets, or the name of the service provider that will perform the work.

- **Laptop and desktop computers (Mac and Windows platforms)**
- **Microsoft Office or Libre Office**
- **Qualtrics**
- **GVSU Content Management System**

A.3 List all the digital file formats (e.g., XML, TIFF, MPEG) you plan to use, along with the relevant information about the appropriate quality standards (e.g., resolution, sampling rate, or pixel dimensions).

- **CSV**
- **XLS**
- **OTS**
- **PDF/A**
- **DOCX**
- **ODT**
- **HTML**
- **CSS**
- **JavaScript**

B. Workflow and Asset Maintenance/Preservation

B.1 Describe your quality control plan (i.e., how you will monitor and evaluate your workflow and products).

All final deliverables will be reviewed and addressed for conformance to PDF/A document accessibility standards and the University's Web Accessibility Policy that conforms to WCAG 2.0 Level AA Technologies Accessibility Standards. See here: <https://www.gvsu.edu/policies/policy.htm?policyId=1BEF5B2E-01A1-0A6C-E2FDBE2C401DA7B2>. All data will be collected according to consent requirements and deidentified as necessary in compliance with requirements set by the GVSU Human Research Review Committee.

B.2 Describe your plan for preserving and maintaining digital assets during and after the award period of performance. Your plan may address storage systems, shared repositories, technical documentation, migration planning, and commitment of organizational funding for these purposes. Please note: You may charge the federal award before closeout for the costs of publication or sharing of research results if the costs are not incurred during the period of performance of the federal award (see 2 C.F.R. § 200.461).

All final digital products will be deposited in ScholarWorks@GVSU (<https://scholarworks.gvsu.edu/>), the lead institution's open access repository, which can also serve as the project's website. The deliverables and

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associated data will be described using the standard discovery/descriptive metadata supported by ScholarWorks@GVSU. GVSU makes use of the bepress Archive Service (https://www.bepress.com/reference_guide_dc/safeguarding-content-digital-commons/), which enables an offsite replication of all data held in the institutional repository. GVSU provides additional curation to achieve dark storage and long-term preservation of this data in Amazon Glacier.

C. Metadata

C.1 Describe how you will produce any and all technical, descriptive, administrative, or preservation metadata. Specify which standards you will use for the metadata structure (e.g., MARC, Dublin Core, Encoded Archival Description, PBCore, PREMIS) and metadata content (e.g., thesauri).

Descriptive metadata will be generated at the point of deposit in ScholarWorks@GVSU and follow the supported schemas from bepress (https://www.bepress.com/reference_guide_dc/metadata-options-digital-commons/). As deposited data gets curated from the bepress Archive backups into Glacier, technical and preservation metadata is created using open source tools—namely Brunnhilde, Siegfried, ClamAV, and BagIt. This metadata is held in multiple formats, including TXT, CSV, XML, HTML.

C.2 Explain your strategy for preserving and maintaining metadata created or collected during and after the award period of performance.

All metadata created is stored in the open formats mentioned in C.2 above along with their associated objects in Amazon S3 and Glacier that are under the administrative control of the lead institution—Grand Valley State University Libraries.

C.3 Explain what metadata sharing and/or other strategies you will use to facilitate widespread discovery and use of the digital content, resources, or assets created during your project (e.g., an API [Application Programming Interface], contributions to a digital platform, or other ways you might enable batch queries and retrieval of metadata).

The digital products of this project will be made freely available under a Creative Commons BY-NC-SA Attribution-NonCommercial-ShareAlike 4.0 International or similar unrestrictive license. In addition, the project's institutional repository metadata entry and any other linked web access point will be indexed by major search engines, including Google, according to bepress SEO practices (https://www.bepress.com/reference_guide_dc/search-engine-optimization-repository/) and those of the lead institution's Institutional Marketing. The project's Principal Investigator will promote the project and use of the deliverables at national forums (including DLF & NDSA), and assist all of the statewide professional associations for libraries, archives, museums, etc. with promotion on their listservs and at their annual meetings/conferences.

D. Access and Use

D.1 Describe how you will make the digital content, resources, or assets available to the public. Include details such as the delivery strategy (e.g., openly available online, available to specified audiences) and underlying hardware/software platforms and infrastructure (e.g., specific digital repository software or leased services, accessibility via standard web browsers, requirements for special software tools in order to use the content).

All final digital products will be deposited in ScholarWorks@GVSU (<https://scholarworks.gvsu.edu/>), the lead institution's open access repository, which runs on the bepress Digital Commons platform. The project deliverables will be freely available to the public and will require no special web or software tools to use the content.

D.2 Provide the name(s) and URL(s) (Uniform Resource Locator) for any examples of previous digital content, resources, or assets your organization has created.

As this project will include a combination of published documents and datasets and will be hosted in the ScholarWorks@GVSU institutional repository, examples of previous similar deposits would include the following:

- **Library Quest – a GVSU Libraries software development project funded by IMLS (<https://scholarworks.gvsu.edu/honorsprojects/549/>)**

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- **Eric Ramsson – PLOS Publication Data w/link to associated publication**
(https://scholarworks.gvsu.edu/bms_data/1/)

Part III. Projects Developing Software

A. General Information

A.1 Describe the software you intend to create, including a summary of the major functions it will perform and the intended primary audience(s) it will serve.

Not applicable for this project.

A.2 List other existing software that wholly or partially performs the same functions, and explain how the software you intend to create is different, and justify why those differences are significant and necessary.

Not applicable for this project.

B. Technical Information

B.1 List the programming languages, platforms, software, or other applications you will use to create your software and explain why you chose them.

Not applicable for this project.

B.2 Describe how the software you intend to create will extend or interoperate with relevant existing software.

Not applicable for this project.

B.3 Describe any underlying additional software or system dependencies necessary to run the software you intend to create.

Not applicable for this project.

B.4 Describe the processes you will use for development, documentation, and for maintaining and updating documentation for users of the software.

Not applicable for this project.

B.5 Provide the name(s) and URL(s) for examples of any previous software your organization has created.

Not applicable for this project.

C. Access and Use

C.1 We expect applicants seeking federal funds for software to develop and release these products under open-source licenses to maximize access and promote reuse. What ownership rights will your organization assert over the software you intend to create, and what conditions will you impose on its access and use? Identify and explain the license under which you will release source code for the software you develop (e.g., BSD, GNU, or MIT software licenses). Explain and justify any prohibitive terms or conditions of use or access and detail how you will notify potential users about relevant terms and conditions.

Not applicable for this project.

C.2 Describe how you will make the software and source code available to the public and/or its intended users.

Not applicable for this project.

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C.3 Identify where you will deposit the source code for the software you intend to develop:

Name of publicly accessible source code repository:

URL: **Not applicable for this project.**

Part IV: Projects Creating Datasets

A.1 Identify the type of data you plan to collect or generate, and the purpose or intended use to which you expect it to be put. Describe the method(s) you will use and the approximate dates or intervals at which you will collect or generate it.

This project will collect data from multiple Michigan-based libraries, archives, museums, historical societies, research centers, etc. via Qualtrics survey instruments delivered on listservs supported by the major state professional associations for those institutions (Including the Michigan Academic Library Association, the Michigan Archival Association, the Michigan Museums Association). The surveys will aim to gather data on digital preservation readiness and organizational needs to inform assessment and planning/strategy toward production of the project's primary deliverables. Data collection will start prior to December 1st, 2018 and continue into January 2019.

The project will also collect data from two or more out-of-state networks via questionnaires used in focus group sessions and one-on-one interviews during site visits. These will also be used to inform assessment and planning/strategy toward production of the project's primary deliverables. Data collection will start in early Spring 2019 and conclude in early Summer 2019.

A.2 Does the proposed data collection or research activity require approval by any internal review panel or institutional review board (IRB)? If so, has the proposed research activity been approved? If not, what is your plan for securing approval?

GVSU Libraries will be applying via IRBNet to our institution's Human Research Review Committee (HRRC) for Exempt Determination (https://www.gvsu.edu/cms4/asset/F51281F0-00AF-E25A-5BF632E8D4A243C7/exempt_guidance_10feb2017.pdf).

A.3 Will you collect any personally identifiable information (PII), confidential information (e.g., trade secrets), or proprietary information? If so, detail the specific steps you will take to protect such information while you prepare the data files for public release (e.g., data anonymization, data suppression PII, or synthetic data).

No this will not be necessary. Responses from individuals will be collected and recorded according to their institutional roles and not their names. Summary reporting will focus on non-confidential organizational data, primarily in aggregate for various sectors, and will not seek to gather or profile information on individuals.

A.4 If you will collect additional documentation, such as consent agreements, along with the data, describe plans for preserving the documentation and ensuring that its relationship to the collected data is maintained.

Informed consent agreements will be embedded with all online survey responses and will be presented as accompanying documents with all interview/focus group questionnaires. All consent forms/data will be retained for at least three (3) years after completion of the study, by the Principal Investigator and with the Assistant to the Dean of Libraries at the lead institution—GVSU Libraries.

A.5 What methods will you use to collect or generate the data? Provide details about any technical requirements or dependencies that would be necessary for understanding, retrieving, displaying, or processing the dataset(s).

Survey data will be collected via Qualtrics and will be exported as uniquely identified open format spreadsheets, CSV files, and PDFs for the purposes of coding, analysis and archiving. Questionnaires will be constructed in Office or Libre Office to collect answers electronically in-person from interviews/focus groups. Any printed hard

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copies of these questionnaires will be scanned and transferred to electronic format as needed. All final copies will be held as PDF/A files.

A.6 What documentation (e.g., data documentation, codebooks) will you capture or create along with the dataset(s)? Where will the documentation be stored and in what format(s)? How will you permanently associate and manage the documentation with the dataset(s) it describes?

Much of the data collected will be qualitative but where necessary any quantitative (or other) data in need of coding will be captured and described with accompanying documentation. This will be in open formats either as corresponding sheets or as open text format read me files distinguished with file identifiers matching those ascribed to the data files. This information will accompany the data at the time of deposit at project's end.

A.7 What is your plan for archiving, managing, and disseminating data after the completion of the award-funded project?

All final digital products will be deposited in ScholarWorks@GVSU (<https://scholarworks.gvsu.edu>), the lead institution's open access repository, which can also serve as the project's website. The deliverables and associated data will be described using the standard discovery/descriptive metadata supported by ScholarWorks@GVSU. GVSU makes use of the bepress Archive Service (https://www.bepress.com/reference_guide_dc/safeguarding-content-digital-commons/), which enables an offsite replication of all data held in the institutional repository. GVSU provides additional curation to achieve dark storage and long-term preservation of this data in Amazon Glacier.

A.8 Identify where you will deposit the dataset(s):

Name of repository:

URL: <https://scholarworks.gvsu.edu/>

A.9 When and how frequently will you review this data management plan? How will the implementation be monitored?

This data management plan will be reviewed:

- 1. At the start of the project;**
- 2. At the completion of each stage of data collection and the beginning of data analysis & reporting;**
- 3. During the drafting and completion of each of the primary project deliverables; and**
- 4. At the final reporting & dissemination phase of the project**
- 5. At the end of the project for final deposit & archiving**