The University of North Carolina at Greensboro Libraries (lead applicant, and consortium host), in partnership with other institutions in North and South Carolina and the Educopia Institute, seeks to pilot a consortial network for digital library services in the Carolinas. The Carolina Digital Library Network will increase the shared infrastructural capacity of libraries throughout the regions of North Carolina, South Carolina, and (optionally) portions of adjoining states in order to improve access to digital content, collections, and services for a wide range of users. This project will build on previous success of UNC Greensboro in negotiating group discounts, repository services, and other innovations for large numbers of libraries. This proposal is submitted as a Project Grant application, with the project category of National Digital Infrastructures and Initiatives. The project duration is two years; we seek $238,169 in funding from IMLS to undertake this project.

Problems Addressed

Technological changes over the past three decades have radically changed the services which libraries can provide to their clientele. The pace and rate of change has meant that it is difficult for individual libraries, especially small libraries, to fully embrace or even experiment with the range of new opportunities which arise. Coalitions of libraries are better able to grapple with this changing landscape. The aims of this proposal in addressing this broad national issue have been informed by a combination of successful previous collaborative results, current needs analysis activities, and a literature review of similar cooperative library efforts. This pilot project will model and test the process of creating a digital library alliance to address these points.

Project Goals

This project is focused on the IMLS priorities in building capacity through National Digital Infrastructures and Initiatives. The project has three goals, summarized as follows:

Project Goal #1. Pilot the Carolina Digital Library Network: Our primary aim is to test the viability of a digital library network comprised of small to mid-sized academic libraries in the Carolinas. The aim of this network is to collectively provide constituent libraries with improved and more affordable means of offering new and innovative digital library services to their clienteles. The general strategy will be to trial cost-effective services that can be provided through negotiated group licenses with service provider partners. The pilot project libraries in the steering committee section will be the primary institutions responsible for testing and evaluating these services during this pilot project.

Project Goal #2. Document DL Community Formation Opportunities, Challenges, and Strategies: A secondary goal is to use this pilot project to document opportunities, challenges, and strategies for digital library community formation more broadly. This goal is intended to ensure that the results of this project have the potential to be easily adoptable, generalizable, sustainable, and widely implementable by others.

Project Goal #3. Foster National Discussion of DL Community Formation Models: The project will undertake various dissemination steps to foster discussion on successful digital library community formation models, and to share project findings. This will be accomplished through a symposium, a website, webinars, and symposium proceedings.

Project Audience

The primary audiences for this project is small to mid-sized academic libraries whose clienteles would benefit from collaborative shared digital library infrastructures. Our particular CDLN pilot project focus is that of institutions in North and South Carolina, although other project goals (the Symposium, reports, etc.) will benefit institutions throughout the country. Particular attention will be devoted to HBCU institutions in the project, as detailed in the Diversity Plan section below. While these are the primary audiences for this project, our intent is to be porous and inclusive across all audience categories.

OVERVIEW

The University of North Carolina at Greensboro Libraries (lead applicant, and consortium host), in partnership with other institutions in North and South Carolina and the Educopia Institute, seeks to pilot a consortial network for digital library services in the Carolinas. The Carolina Digital Library Network will increase the shared infrastructural capacity of libraries throughout the regions of North Carolina, South Carolina, and (optionally) portions of adjoining states in order to improve access to digital content, collections, and services for a wide range of users. This project will build on previous successes of UNC Greensboro in negotiating group discounts, repository services, and other innovations for large numbers of libraries. This proposal is submitted as a Project Grant application, with the project category of National Digital Infrastructures and Initiatives. The project duration is two years; we seek $238,169 in funding from IMLS to undertake this project.

STATEMENT OF NATIONAL NEED

Technological changes over the past three decades have radically changed the services which libraries can provide to their clientele in transformational ways. The pace and rate of change has meant that it is difficult for individual libraries, especially small libraries, to fully embrace or even experiment with the range of new opportunities that arise. Coalitions of libraries are better able to grapple with this changing landscape. The aims of this proposal in addressing this broad national issue have been informed by a combination of successful previous collaborative results, current needs analysis activities, and a literature review of similar cooperative library efforts.

Building on Current Theory and Practice

The general effectiveness of library consortia is a well-documented strategy for strengthening the infrastructure, capacity, and spending power of libraries. A recent comprehensive retrospective study (Horton and Pronevitz, 2015) examined the characteristics and accomplishments of more than two hundred U.S. library consortia and their organizational models, in the process identifying advantages in larger-scale academic consortia. The study found that some of the most popular new services being offered or considered by library consortia include shared repositories, digital scholarship, and various digitization services. Conversely, sixty-five examples of more traditional consortia closures in the past decade are discussed, which highlights the need to employ new strategies and models for successfully cultivating new collaborations of the kind proposed here.

The recent IMLS report (Rudersdorf et al., 2018) on progress in advancing the national digital infrastructure explores these issues and opportunities at length, stating "…radically diverse collaborations are offering opportunities for greater access to new tools and innovation, breaking down information silos, and building ethical partnership models." (p. 14) This highlights the need for practical research concerning effective strategies for forming and sustaining new digital library (DL) communities of mixed organizational types.

The need for this kind of practical research has been a topic of study by the principals of this project for the past decade. (Skinner and Halbert, 2008) Having created several successful DL organizations, they have now developed and documented a robust community cultivation model (Skinner et al., 2018) which will be deployed and evaluated in this project, as described below in the section regarding the analytical framework for the project.

National Challenges and Opportunities Addressed

The question of how to scale up digital library infrastructures to take advantage of innovative new technical capabilities has been a priority for collaborative inquiry for almost a quarter of a century. (Lynch and Garcia-Molina, 1995) Examinations of this question by practitioners and theorists have from the beginning noted that "scale requires partnership." (McGinty, 1997) There have been instances of large digital library networks that have been notable in leading national innovations among collaborating libraries in provision of access to

digital content, collections, and services to a wide range of users. These networks take somewhat different forms, and arose through idiosyncratic developments.

Three notable examples to mention here include Minitex, the California Digital Library, and the Texas Digital Library. Minitex is one of the oldest examples of a digital library network, now celebrating it's 48th year of operation. (See: https://www.minitex.umn.edu/40th/) Minitex has seen great success and results over the decades of its existence serving first Minnesota and then surrounding states, originally beginning with information resource sharing although branching out in recent years to offer a range of shared repository services. (See: https://www.minitex.umn.edu/Digitization/Tools.aspx) While many states have implemented some basic form of electronic resource sharing among libraries in the state, there are still relatively few digital library networks which include repository functions, and still fewer that explicitly aim to advance the understanding and adoption of new generations of DL tools for transformational evolution of library services in their member institutions. A seminal example of this latter approach is the California Digital Library (CDL), which was institutionalized in 1997 as a "co-library" strategic partnership model between the libraries of all of the UC campuses, to establish a "framework in which further technological innovation can take place that is deeply tied to the core mission and programs of the university." (Ober, 1999) The Texas Digital Library (TDL) extended this model further in 2005 by creating a shared-access infrastructure network through shared investments by a group of previously unaffiliated Texas research libraries. (Orr, Kurtz, and Graves, 2015) The CDL and TDL have acted as development labs to successfully create many significant DL tools, such as software microservices (Abrams, Kunze, and Loy, 2010) and Vireo (TDL, 2010).

More than basic information resource sharing consortia, these kinds of innovative alliances have been successful in fostering experimentation and development of new shared tools, content offerings, and services, especially in collaborating academic libraries. Smaller institutions within the networks especially benefit by gaining access to otherwise unaffordable infrastructures and expertise. Leveraging access to more robust infrastructures and support services have become progressively more important for academic libraries as faculty and students increasingly seek assistance in utilizing digital scholarship in their research efforts. (Mulligan, 2016)

Each of the three example networks arose from idiosyncratic origins, combinations of services, and other distinctive characteristics, all of which contributes to a widespread lack of generalizable models or documented understanding of how to replicate the success of these organizations. There are many areas of the country that could benefit enormously from similarly innovative digital library networks, but documented implementation models which are widely recognized and generalizable do not yet exist.

Project Needs Assessment Activities

The specific regional needs driving this consortial formation project were extensively explored in a series of preparatory meetings and discussions, and we feel that the organizations represented in this project are well-prepared for this effort. These meetings and discussions highlighted a consistent set of needs and opportunities which this project has been designed to address.

UNC Greensboro has led regional collaborative efforts in the Carolinas for 15 years as the organizational host of the Carolina Consortium (CC). Now comprised of 190 academic and public libraries across both North and South Carolina, the consortium regularly negotiates and manages over one thousand ongoing group subscription agreements, with documented savings of millions of dollars each year. UNC Greensboro also serves as the host of the NC Digital Online Collection of Knowledge and Scholarship (DOCKS) shared repository for eleven universities.

Building on the success of these collaborative alliances, a series of planning meetings were held in the 2017-18 period to discuss new collaborative directions. Meetings attended by ten NC libraries held on 10/20/17 and 10/27/17 discussed many needs and opportunities for shared DL services that could be addressed through a

collaborative pilot project, especially with grant funding. Broader exploratory discussions concerning shared services were held with 175 attending CC members on 5/8/18, and again with a smaller group of NC DOCKS institutions on 6/7/18. The ideas concerning shared services which emerged from these meetings led to this proposal to form a new DL collaborative network.

Analytical Framework for Pilot Project

Many current analyses of successful digital libraries have highlighted the degree to which success is determined by successful community formation efforts in building any given alliance. (Calhoun 2014) In order to inform and structure our planning for this project, we found it incumbent and useful to adopt an analytical framework for such community formation. This analytical framework is documented in the publication *Community Cultivation: A Field Guide* (Skinner et al., 2018), which was synthesized from a broad group of contributors' analyses of dozens of large-scale collaborative efforts over the past decade. This field guide (hereafter abbreviated CCFG for convenience) was recently published by the Educopia Institute as a way to understand not only what services any given community produces together, but also how a community's members associate, interact, and identify with each other as individuals and as a group. The CCFG found that establishing a clear culture and articulating the ethos of a community explicitly in the course of formation activities is critical to success, and also dramatically impacts the speed and ease with which an initiative may expand and scale its activities over time. The analytical framework of the CCFG centers on five crucial "Growth Areas": Vision, Infrastructure, Finances and HR, Engagement, and Governance. These five areas will be explicitly examined in the first two goals of this project: 1) piloting the CDLN, and 2) documenting digital library community formation opportunities, challenges, and strategies.

PROJECT DESIGN

This project is focused on the IMLS priorities in building capacity through National Digital Infrastructures and Initiatives. The project has three goals, summarized as follows, with summary details provided concerning the details of each goal's outcomes. These goals were developed based on the needs assessment activities, the literature review, and the other preparation activities described in the previous section. The various activities will be directed by the members of the Project Steering (PSC, described below) and accomplished by the staff members of Educopia Institute acting in concert with the service provider partners, PSC institutions, and the members of the PSC itself.

Project Goal #1. Pilot the Carolina Digital Library Network (CDLN)

Our primary aim is to test the viability of a digital library network comprised of small to mid-sized academic libraries in the Carolinas. The goal of this network is to collectively provide constituent libraries with improved and more affordable means of offering new and innovative digital library services to their clienteles. The general strategy will be to trial cost-effective services that can be provided through negotiated group licenses with service provider partners (see below). The pilot project libraries whose leaders are listed below in the steering committee section will be the primary institutions responsible for testing and evaluating these services during this pilot project. The planned project outcomes for Goal #1 include the following objectives.

Objective 1.1. Community Consensus Building:

The first nine months of the project will feature a variety of activities aimed at consensus building for prospective institutions that are interested in participating in the project. These activities will be undertaken by the project consultant and the principal investigator, in coordination with the project steering committee. Particular attention will be devoted to surfacing and aligning the five elements of the CCFG framework in these activities. A survey and selective follow-up interviews will be conducted to gather feedback from all prospective

CDLN members: academic libraries in both North and South Carolina. This *Prospective Member Survey* will not only prioritize the range of infrastructure and services for the CDLN, but will seek feedback on other community formation factors such as level of engagement, governance preferences, and overall vision of what roles these libraries see as essential to their future responses to changing needs of their clienteles.

Objective 1.2. Implement and Evaluate a Shared Repository System:

The pilot project will undertake a one-year pilot project group evaluation of a shared repository system for prospective collaborative purposes such as access to and preservation of group digital assets. This objective will be achieved through implementation of an Islandora repository, to be provided by the project service provider partner Discovery Garden. Evaluation activities will be undertaken by the pilot project libraries as described in the schedule of work detailed appendix, with additional potential evaluation by prospective CDLN members that are interested in participating. While we could have included an extended system selection process, we felt that jumpstarting the pilot project with at least this system implementation decision was a prudent time-saving measure, while still providing an enormous variety of configuration options.

Functionality: A shared repository system must have robust functionality, but there are many systems that the pilot project could utilize which have powerful features. There is a large literature which compares the features of such systems. A recent representative article documented the work of comparative work by a task force at Texas A&M University, and came to a typical conclusion: there is no one perfect system, they all have strengths and weaknesses. (Sewell et al., 2019) Islandora is an open-source digital repository system based on a combination of several very capable component systems including Fedora Commons, Drupal, and Solr. Islandora is usually considered comparable or superior to most other repository systems, and is often noted for its extremely robust attributes of customization, format agnostic capabilities, scalability, and standards-based extensibility.

Third-Party Implementation: It was desirable that the repository system to be evaluated could be set up for collaborative group use quickly by a third-party contractor, in such a manner that no pilot project site was either unduly burdened or privileged by taking on the implementation responsibilities. There have been a large number of successful consortia implementations by Discovery Garden, the main Islandora service provider.

Large Base of Open-Source Adopters: A large number of institutions have now adopted Islandora, providing an extensive user community to draw upon (and contribute to) for shared expertise. The fact that Islandora is open-source also means that the CDLN could independently re-implement the system independently if the group become dissatisfied with the service provided by Discovery Garden.

Objective 1.3 Implement and Evaluate a Shared Digital Scholarship Services Infrastructure and Content:

The pilot project will conduct a one-year group evaluation of a shared set of digital scholarship services and content. Joint investment in a shared infrastructure to enable digital scholarship (DS) research capabilities by faculty was a key opportunity that surfaced repeatedly in preparatory discussions for this project. DS infrastructures are a compelling new offering that many academic libraries would like to provide scholars.

This infrastructure will be provided for the pilot project by the service provider Gale Cengage, in the form of access to the Digital Scholar Lab (DSL) together with almost 40 million pages of electronic content for use in digital scholarship projects. The DSL is a comprehensive toolkit of natural language processing software tools packaged in an integrated interface for scholars to use on large electronic collections of textual information. As part of this contract, Gale will provide the pilot project partners with two such collections: the *American Historical Periodicals Series 1-5* (6K periodical titles, in the form of approximately 6 million pages of electronic text), and the Eighteenth-Century Collections Online (180K titles, in the form of 33 million pages of e-text).

The combination of digital scholarship tools and large-scale collections for analysis will provide a wide range of research possibilities for scholars at the pilot project institutions. Typical examples of such projects,

together with explanations of why these projects are significant to scholarly research, may be found on the DSL website (https://www.gale.com/primary-sources/digital-scholar-lab).

Objective 1.4 Group Digitization Workflows:

Many digital library consortia have successfully realized group savings through shared digitization services. While we do not propose digitization activities per se in this pilot project, we propose undertaking a one-year group evaluation of prospective collaborative group digitization workflows, to be discussed by the project steering committee in coordination with local technical staff. Our goal here is to understand pros and cons of consortial mechanisms for collaborative digitization.

Objective 1.3 Sustainability Planning:

An extended discussion of sustainability issues will be undertaken, analyzing the viability of the CDLN in terms of the CCFG analytic framework and the *DL Community Formation White Paper* described below. The outcome of the planning will be a set of decisions charting either a path forward for the network or describing the reasons for sunsetting the pilot project. These decisions will be documented in a report to be prepared by the primary project consultant in consultation with the PSC.

Project Goal 2. Document DL Community Formation Opportunities, Challenges, and Strategies

A secondary goal is to use this pilot project to document opportunities, challenges, and strategies for digital library community formation more broadly. This goal is intended to ensure that the results of this project have the potential to be easily adoptable, generalizable, sustainable, and widely implementable by others. The planned project outcomes for Goal #2 include the following items.

Objective 2.1 DL Community Formation White Paper:

A white paper concerning digital library community formation will be prepared jointly by the project PI and primary consultant which documents the range of opportunities, challenges, and strategies identifiable in this pilot case study as well as other similar DL consortia efforts in recent years. This white paper will aim to provide useful context and framing for both this pilot project and other prospective DL consortia formation efforts that may wish to consider the range of possible options for such efforts. The white paper will in turn invoke much of the framework of the previously cited *Community Cultivation: A Field Guide* (CCFG). Categories of options in prior examples of DL consortia will be described, together with commentary on the pros and cons of each example. The white paper will also provide an annotated bibliography and relevant notes from other publications on topics related to DL consortia formation. The white paper will be published by the Educopia Institute, and will be released under a Creative Commons Attribution 2.0 (CC BY 2.0) distribution license.

Objective 2.2 Planning Process Templates:

An associated set of planning templates will be produced by the primary project consultant for use by other groups considering similar networks. These templates will help to guide emergent networks with foundational tools for developing the social infrastructure that often differentiates successful initiatives from their peers. These tools will include at least one training brief and template for each of the "key growth areas" of the CCFG. The five key growth areas are: Vision, Infrastructure, Finances and HR, Engagement, and Governance) for the "Formation" lifecycle stage of a new community. The tools will be targeted to each of the specific growth area needs for project teams working on forming a new community, and may include the following: "Articulating Your Community's Purpose," "Organizational Management and Hosting Scenarios," "Fiscal Modeling and Product/Service Cost Analysis," "Community Engagement and Outreach," and "Establishing Your Governance Procedures." A range of additional possibilities are documented on page 18 of the CCFG. These training briefs and templates will also be released under a CC BY 2.0 license, on the project website and Educopia website.

Objective 2.3 Planning Process Videos:

An associated set of recorded video presentations will be produced by the primary project consultant which can be utilized to introduce a planning process for other prospective digital library groups. These videos will be complimentary to the Planning Process Templates, and will provide "how to" advice to facilitators who wish to use these tools to guide their communities towards crucial decisions and social infrastructure components. Similar videos have been produced by Educopia for a variety of other projects. The videos will offer the framing, context, and pacing for successful implementation of the Templates. At least five videos will be released, with topics selected based on the project team's needs. As per the templates, a range of possibilities are described on page 18 of the CCFG. Videos will be released under a CC BY 2.0 license on the project and Educopia websites.

Project Goal 3. Foster National Discussion of DL Community Formation Models

The project will undertake various dissemination steps to foster discussion on successful digital library community formation models, and to share project findings. Project outcomes for Goal #3 include the following.

Objective 3.1 Project Website: A dedicated website will be implemented for dissemination of project information, including presentations, community notices, findings, reports, and schedules.

Objective 3.2 Project Webinars: A series of public and private webinars will be held. The private webinars will enable the PSC to meet virtually to receive updates and continue work. The public webinars will provide opportunities for interested institutions to find out about the project and offer feedback. Input will be solicited through these webinars from all other academic libraries in the Carolinas, as well as surrounding states.

Objective 3.3 Digital Library Communities Symposium: This symposium will be held approximately three months before the end of the project, and will include presentations by other regional consortia and collaborative groups on developing digital library services, successful practices in collaborative community formation, and strategic consensus building, as well as a report of the results of the CDLN Pilot Project. A secondary goal of the symposium will be to share the findings of the pilot project with regards to the viability of the CDLN. We will invite several nationally recognized speakers to give core presentations on these topics, and will also provide opportunities for attendees to participate in panels to share information from their projects.

Objective 3.4 Symposium Proceedings: The presentations and paper proceedings of the symposium will be collated, archived, and disseminated publicly via the project website to share findings nationally.

Project Audience

The primary audiences for this project is small to mid-sized academic libraries whose clienteles would benefit from collaborative shared digital library infrastructures. Our particular CDLN pilot project focus is that of institutions in North and South Carolina, although other project goals (the Symposium, reports, etc.) will benefit institutions throughout the country. Particular attention will be devoted to HBCU institutions in the project, as detailed in the Diversity Plan section below. While these are the primary audiences for this project, our intent is to be porous and inclusive across all audience categories.

"Small" and "mid-sized" can roughly be understood in the Carnegie Classification system (http://carnegieclassifications.iu.edu/classification_descriptions/basic.php) as ranging from Baccalaureate to R2 institutions, although this is not a hard and fast distinction and no academic library within the Carolinas will be excluded from participation. The rationale for this focus on small to mid-sized academic libraries is that libraries of these scales are most likely to derive the greatest benefit from a digital library network of the kind examined in this project that leverages investments. The largest institutions (the R1 institutions in the Carnegie Classification system) are more likely to be able to have the capacity to individually develop or purchase digital library systems and services, although (to reiterate) we will not exclude any academic libraries from participation.

While our primary geographic focus will be academic libraries in North and South Carolina, we will allow academic libraries from other adjoining or nearby states to participate in project planning activities. The rationale for focusing on the Carolinas is to focus on a regional scope that is simultaneously of sufficient scale (in terms of numbers of institutions) and relatively manageable scope (drivable distances, cultural history for scholarly study, etc.). Again, this is not a hard and fast boundary, but simply a working focus derived from other national examples that we considered in the literature. We will explore this question in the course of the project, and if the project finds that there is a sizeable contingent of institutions interested in participating in the network from adjacent regions, we will reserve the possibility of expanding the network and changing the name to the "Collaborative Digital Library Network" as a more extensive organization.

In the larger national context, we do think that there are many regions that could benefit from implementation of similar digital library networks. A conceptual aspect of our model that we will assess is the best fit of two factors: *scale* versus *manageability* in terms of consortial size. We have designed this project scope and regional scale based on the experience the project principals have had in previous consortial creation projects, such as the Texas Digital Library (https://www.tdl.org) and the Cross Timbers Library Collaborative (https://ct-lc.org). A consortial region of voluntary opt-in members such as we are proposing must include enough potential member institutions to be viable. However, for practical reasons it is also beneficial for a consortium to be able to easily convene membership meetings which are in a drivable (i.e. not requiring airline flights) distance. While this is obviously not an absolute distance requirement, it helps for a new group to be able to easily meet. Therefore, the consortial scale supposition that we will evaluate in this project is that a viably scaled region for a digital library network of this kind should include a population of approximately 15 million or more, with more than one hundred small to mid-sized academic libraries, located within a roughly two-hour driving radius. The two Carolinas together represent a region that fits these parameters. We will also explore the option of extending the consortium to a larger area that might include additional adjacent states.

Project Activities Sequence and Phasing

The project will be accomplished in three phases, each of which will have specific deliverables as described. Please Note: The following is a summary of these three phases, with a more detailed breakdown of project activities provided in *Appendix B: Project Schedule of Work Activities* for clarification.

Preparation Phase (9/1/19 – 5/30/20, 9 months): The purpose of this phase is to gather information and prepare for the implementation of the pilot DL infrastructure. We will gather input from both pilot project partners and prospective CDLN members, document best practices, and identify faculty digital scholarship pilot projects to undertake during the projects. Deliverables: 1) *Prospective Member Survey* report, 2) the *DL Community Formation White Paper*, 3) the first PSC Meeting, 4) start of digital scholarship projects, and 5) initial webinars.

Implementation Phase (6/1/20 – 5/31/21, 12 months): The purpose of this phase is to implement a pilot DL infrastructure which the PSC and prospective partners can assess to make decisions about carrying forward the CDLN. During this period the full range of pilot project DL services will be implemented for evaluation and assessment activities. The PSC, with input from other prospective members, will evaluate prospective governance and business models, a long-term sustainability analysis, and a sunset option process. Deliverables: 1) shared repository testing and evaluation, 2) evaluation of digitization and digital preservation workflows, 3) sustainability planning, 4) second PSC meeting, 5) conclusion of most digital scholarship project activities, and 6) additional project webinars.

Dissemination Phase (6/1/21 – 8/31/21, 3 months) The purpose of this phase is to broadly disseminate project findings and decide on next steps. Deliverables: 1) *DL Communities Symposium,* 2) third PSC meeting, 3) concluding webinars, and 4) publication of cumulative project report.

Project Team, Institutions, and Expertise

The CDLN Pilot Project will feature an extended Project Team comprised of a Project Steering Committee, a group of Project Advisors, and two Project Service Provider Partners. These groups will include the following organizations as represented by designated individuals. The following lays out the responsibilities of the Project Team members, together with relevant expertise and capabilities which they bring to the project.

Project Steering Committee (PSC)

The project will be led by a steering committee of academic library leaders from the two Carolinas, together with the primary project consultant. These deans and directors represent a group of seven academic libraries selected as representative of the small to mid-size institutions to which this project is addressed.

The members of the PSC commit to attending one in-person project meeting per calendar year of the project 2019-2021, participating in occasional project videoconferences in-between these in-person meetings, and being engaged with the planning and evaluation process of the project. The three in-person meetings of the PSC will be key milestones in the project. The meetings have a general target date, but will have to be scheduled around the availability of the PSC members. Each of these events will mark a particular stage of the project work. The 2019 Meeting will be held circa late October of 2019, and will kick off the project work and the Preparation Phase. The 2020 Meeting will be held circa mid-August of 2020, and will begin the Implementation Phase. The 2021 Meeting will be held circa May 2021, and will bring project activities to a successful conclusion.

For full curricula vitae on the members of the PSC, see the relevant appendix submitted with this proposal. The Project Steering Committee will include the following individuals and their institutions (if a university, listed with enrollment and classification in the Carnegie Classification of Institutions of Higher Education):

Martin Halbert (Dean of Libraries, UNC Greensboro, Project Principal Investigator). Dr. Halbert has led $7M in collaborative projects, and has hosted many symposia. He served on the board of the Texas Digital Library, and led the formation of the MetaArchive Cooperative, and several other consortia. UNC Greensboro is a public, minority serving institution (MSI) located in Greensboro, North Carolina, with an enrollment of 20,103. It is classified as a Carnegie Doctoral University with High Research Activity (R2).

Katherine Skinner (Executive Director, Educopia Institute, Primary Project Consultant/Contract). Dr. Skinner has led 24 collaborative projects in community formation, and regularly advises on the process of successfully forming new alliances and cooperative organizations. The Educopia Institute is a 501c3 nonprofit educational organization that specializes in research and consultation services to empower collaborative communities in creating, sharing, and preserving knowledge. Educopia will organize and facilitate all of the PSC meetings, conduct much of the project research activities, and bring to bear its inter-related array of collaborative advisors in the project. For more details on scope and Educopia, see *Appendix C: Educopia Scope of Work.*

Wanda Brown (Director of Library Services, Winston Salem State University). Brown is the 2019-2020 President of the American Library Association, and has served as President of the North Carolina Library Association and President of the Black Caucus of the American Library Association. Winston Salem State University is a public HBCU located in Winston-Salem, North Carolina, with an enrollment of 5,190. It is classified as a Carnegie Master's College/University with Medium Programs (M2).

Christopher Cox (Dean of Libraries, Clemson University). Cox has served as a member of the Council of University of Wisconsin Libraries, and as a board member of the Orbis-Cascade Alliance. He founded Whatcom Libraries Collaborate, and the Iowa Academic Library Alliance. Clemson University is a public, land-grant research university located in Clemson, South Carolina, with an enrollment of 24,387. It is classified as a Carnegie Doctoral University with Very High Research Activity (R1).

Jan Lewis (Director of the Library, East Carolina University). Before coming to ECU, Lewis served in many other library leadership roles, and was also special projects counsel for the Association of Trial Lawyers of America. Lewis has written and published extensively on library assessment and academic library trends. East Carolina University is a public, sea-grant university in Greenville, North Carolina, with an enrollment of 29,131. It is classified as a Carnegie Doctoral University with High Research Activity (R2).

Farzaneh Razzaghi (Dean of Library Services, Western Carolina University). Before coming to WCU, she was dean of the University of Texas-Pan American library. She has a doctorate in library science from Texas Women's University, as well as a library science degree from Tabriz University in Iran. Western Carolina University is a public university in Cullowhee, North Carolina, with an enrollment of 11,043. It is classified as a Carnegie Master's College/University with Larger Programs (M1).

Marilyn Drayton (Director of the Library, Claflin University). Drayton has led several other library organizations, and has worked on a variety of special collections digitization projects at Claflin University. Claflin University is a private, four-year, residential, liberal-arts HBCU located in Orangeburg, South Carolina, affiliated with the United Methodist Church. Claflin has an enrollment of 2,129 and is classified as a Carnegie Baccalaureate College with Diverse Fields of Study.

Rodney Lippard (Director of the Library, USC Aiken). Lippard has served as the leader of several other academic libraries and is engaged in transforming spaces within the USC Aiken library. USC Aiken is a four-year, public university in Aiken, South Carolina, with an enrollment of 3,506. It is classified as a Carnegie Baccalaureate College with Diverse Fields of Study.

Service Provider Project Partners

In order to provide core digital library infrastructure for the purposes of the pilot project, we will contract with two service providers as project partners, Discovery Garden and Gale Cengage. Note that full details on these project partners, their service contract quotes, and descriptions of the services and infrastructure they will provide to the project are provided in Appendices D and E submitted with this proposal.

Discovery Garden will create the shared consortial repository system for the pilot project, based on the Islandora software. Stephen Perkins will act as Project Manager for Discovery Garden in this effort.

Gale Cengage will provide their Digital Scholarship Laboratory software suite and a large corpus of several million electronic texts for evaluation of shared digital scholarship services. Jacob Daoud will act as Academic Library Consultant representing Gale Cengage in this project.

Additional Project Advisors

Several individuals will serve as advisors on an occasional basis in the project. Valerie Horton is Director of the Minitex Information and Resource Sharing Program, and is an expert on library consortial topics. Dr. Allen Tullos is Co-Director of the Center for Digital Scholarship at Emory University, and is versed in digital scholarship and the synergistic orchestration of such projects. Dr. Aaron Beveridge is Assistant Professor of Digital Rhetoric at UNC Greensboro, and one of the co-creators of the MassMine (http://www.massmine.org) digital scholarship software. Kristi Park is the Executive Director of the Texas Digital Library. These individuals will serve as unpaid advisors on the project, primarily participating through videoconferences.

DIVERSITY PLAN

The project team will give explicit attention to a variety of diversity issues in the course of the CDLN Pilot Project. The pilot project will undertake several activities to engage diverse and underserved communities and their perspectives. We have intentionally engaged a diverse PSC and set of associated institutions in this

pilot project in order to gain perspective on the different perspectives and needs of different potential CDLN member types. We hope to also engage a very diverse group of faculty researcher in the DS projects.

Diverse/Underserved Groups Served

Exploring Differential Needs of HBCU and MSI Academic Libraries: The needs, opportunities, and challenges of Historically Black Colleges and Universities (HBCUs), Minority Serving Institutions (MSI), their students, faculty, and the libraries that serve these institutions may be different from those of other higher education institutions. We will intentionally interrogate these issues in the project, both through the participation of the multiple HBCU directors serving on the PSC as well as analysis in collaboration with our project advisors.

Engaging Underserved Communities: The project team will explicitly identify underserved communities to be empowered through digital scholarship activities and prospective digitization workflows. More specifically, our goal is for two or more of the digital scholarship projects to examine social or cultural issues in direct dialog with underserved communities, primarily at HBCU campuses but also potentially in regional communities, depending on the DS projects undertaken. Also, the evaluation of digitization workflows will examine how underserved communities may be empowered to better preserve their historical documents, and made more visible and accessible for scholarly study. Findings on these points will be included in the final report.

Diverse Attendees at Symposium: The concluding project symposium is another opportunity to engage with the diverse groups which make up HBCU and MSI institutions and the communities of which they are a part. We will invite groups such as the HBCU Library Alliance (http://hbculibraries.org) to present at the Symposium, as well as faculty members studying diversity issues as part of DS projects.

NATIONAL IMPACT

The CDLN Pilot Project has been explicitly structured to be able to scale up after the pilot project, in an analytical manner that has the potential to transform practice and inform systemic change at the national level for other prospective regional DL networks. The following are some ways that this project will have national impact.

Current Significance and Strategies for Scaling Systemic Change

Key aspects of this project that differentiate it in terms of national impact include the fact that in addition to increasing the fundamental national capacity of libraries to provide access to digital content, collections, and services, it also seeks to document transformative practices to engage external stakeholders in DL community formation that may lead to systemic change more broadly throughout the country. The project will not only provide a documented model and set of replicable planning materials for other prospective digital library alliances, but will also document an extended case study of this methodology including pitfalls and issues encountered.

Sharing Findings Nationally

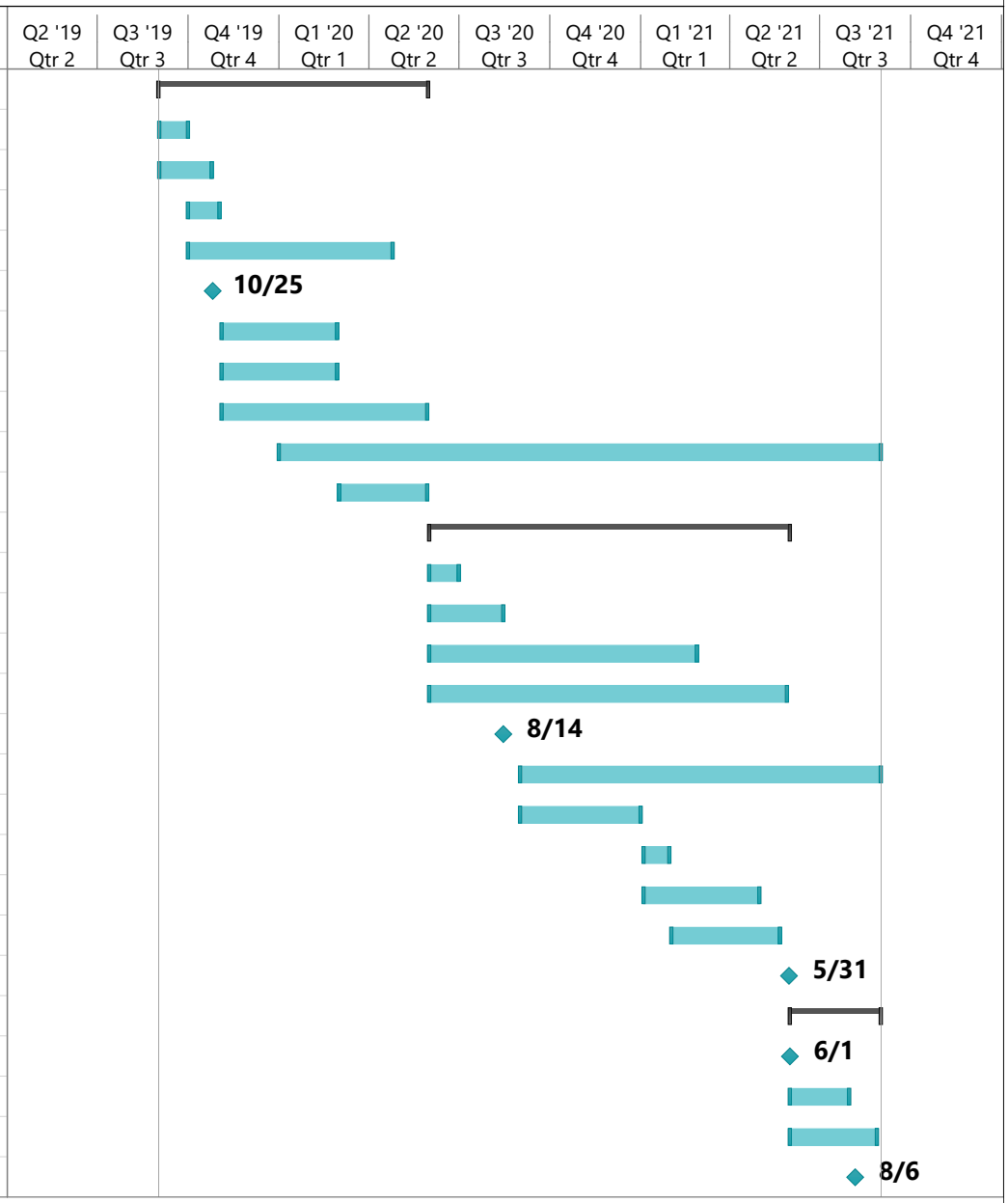
The symposium presentations and proceedings will be solicited and produced in forms designed to be readily adaptable by other institutions and communities, and will be released freely and openly under a creative commons license that will allow all of the project outputs to be re-used and re-deployed by others.

Evaluating Success and Sustaining Project Results Beyond Funding Period

We will conduct planning from the beginning of the project to sustain the CDLN beyond the grant funding period. While we have various evaluative tasks built into the various phases of the project, the success of the CDLN Pilot Project will ultimately be determined by a very simple outcome: if the CDLN proceeds forward as a viable consortium, we will have direct evidence of success. Conversely, if the decision is made to sunset the pilot project, we will have documented findings about what did not work in forming such a consortium. Our extended group of collaborators are excited about the prospect of engaging in this project and systematically exploring the possibilities of a major new national digital library alliance. This project will be transformative in its outcomes.

CDLN Pilot Project - Schedule of Completion

ID	Task Name	Duration	Start
1	**1 Preparation Phase**	**197 days**	**Sun 9/1/19**
2	1.1 Project start-up activities	21 days	Mon 9/2/19
3	1.2 Preparation for first PSC meeting	39 days	Mon 9/2/19
4	1.3 Survey Design	24 days	Tue 10/1/19
5	1.4 DSL Orientation Sessions	149 days	Tue 10/1/19
6	1.5 Steering Cte 2019 Mtg	0 days	Fri 10/25/19
7	1.6 Survey Response Collection	85 days	Mon 11/4/19
8	1.7 Comparison of DL Strategies	85 days	Mon 11/4/19
9	1.8 Initial Project Webinars	150 days	Mon 11/4/19
10	1.9 DSL pilot projects	435 days	Wed 1/1/20
11	1.10 Survey Analysis and Follow-on Interviews	65 days	Mon 3/2/20
12	**2 Implementation Phase**	**261 days**	**Mon 6/1/20**
13	2.1 Announce Symposium and Issue Invitations	22 days	Mon 6/1/20
14	2.2 Finalization of shared repository features	55 days	Mon 6/1/20
15	2.3 Webinars on project developments	195 days	Mon 6/1/20
16	2.4 Sustainability Study	260 days	Mon 6/1/20
17	2.5 Steering Cte 2020 Mtg	0 days	Fri 8/14/20
18	2.6 Pilot repository testing and evaluation	261 days	Tue 9/1/20
19	2.7 Evaluation of Digitization Workflows	88 days	Tue 9/1/20
20	2.8 Check-In on DSL pilot projects	20 days	Mon 1/4/21
21	2.9 Finalization of Symposium Details	85 days	Mon 1/4/21
22	2.10 Collation of findings on implementation work	80 days	Mon 2/1/21
23	2.11 Steering Cte 2021 Mtg	0 days	Mon 5/31/21
24	**3 Dissemination Phase**	**66 days**	**Tue 6/1/21**
25	3.1 DL Communities Symposium	0 days	Tue 6/1/21
26	3.2 Cumulative project report finalization	44 days	Tue 6/1/21
27	3.3 Webinars on project findings	64 days	Tue 6/1/21
28	3.4 Publication of all project findings	0 days	Fri 8/6/21



DIGITAL PRODUCT FORM

Introduction

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to federally funded digital products (e.g., 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. 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

All applications must include a Digital Product Form.

☐ 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.

Creative Commons Attribution 2.0 (CC BY 2.0) distribution license

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.

The CC BY 2.0 license and copyright will be assigned to the Educopia Institute as publisher.

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.

N/A

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

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 the format(s) you will use.

We will be creating a set of project PDF report documents, and a series of MP4 videos. We will not be creating datasets or other digital assets.

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.

We will be using standard MS Office Tools, including MS Word for the documents. Videos will be generated with iMovie software.

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).

PDF 2.0, MP4 v2

B. Workflow and Asset Maintenance/Preservation

B.1 Describe your quality control plan. How will you monitor and evaluate your workflow and products?

Project team will create documents and videos.

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).

Documents and videos will be accessible on two websites (Educopia and Project Website), and will be preserved in the MetaArchive Distributed Digital Preservation Network.

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).

We do not currently plan to catalog these items. If we do create metadata for them, we will use Dublin Core metadata encoding.

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

Deposit in access websites and distributed digital preservation network (MetaArchive).

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).

Not currently planned.

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).

Openly available online on public websites.

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.

http://educopia.org

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.

N/A

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.

N/A

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.

N/A

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

N/A

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

N/A

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

N/A

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

N/A

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.

N/A

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

N/A

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

Name of publicly accessible source code repository:

N/A

URL:

N/A

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.

N/A

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?

N/A

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).

N/A

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.

N/A

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).

N/A

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?

N/A

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

N/A

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

Name of repository:

N/A

URL:

N/A

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

N/A