

Community Development Model for Digital Community Archives

Virginia Tech

Abstract

A team led by Nathan Hall of Virginia Tech (VT), in partnership with Protect Our Water, Heritage, Rights Coalition (POWHR), and Ralph Lutts of Blue Ridge Heritage, respectfully request \$87,151 to develop a model for community engagement that fosters robust partnerships among academic libraries and regional organizations which will result in greater digital access to geographically, socially, and politically-siloed collections and networks. The **intended audience** for this work includes community leaders, archivists, digital scholarship librarians, and administrators at academic libraries who wish to engage in ethical and equitable community archiving projects. The **timeframe** for this project is August 1, 2019 – July 31, 2020.

Small regional institutions and organizations possess rich cultural heritage collections but lack robust digital infrastructure. This barrier inhibits broader access and use by researchers and the wider public. Larger institutions are able to digitize and provide access to such collections, though too often it occurs through physical acquisition, resulting in smaller institutions losing their unique materials. While physical collection acquisition will always play a part in collection development, it should not be the only means to provide digital access and preservation services. There is a gap between well-resourced libraries with robust digital infrastructure and community organizations of more limited means, many of which produce analog and digital media across multiple platforms but often without a preservation strategy. Our project addresses these **library and community needs** through collaborative digital repatriation and collection development. Our goal is to develop a participatory library development model that we will pilot through engagement with rural Appalachian and Allegheny communities in southwestern Virginia, with a topical focus on the production and transportation of energy, and the related themes of land use, human migration, and labor. Our project will expand digital access to previously siloed and rural collections while ensuring that the collections continue to reside with their owners. While this project utilizes VT infrastructure, it is driven through a reliance on community voices and leadership. Our **performance goal** is to contribute to **community well-being** through collaborative planning, social engagement, public humanities, and collection development, ultimately strengthening the role of libraries as trusted spaces and partners for community engagement and dialogue.

Our project will develop a generalizable model for community partnerships between libraries and regional stakeholders, and for the development of participatory digital archives for community and issue engagement. We will pursue this goal through collaboration and documentation with cultural heritage organizations and with regional groups focused on coal and gas industries and their effects on the natural environment, human health, and labor. **Specific project activities** include targeted regional outreach and a set of on-site focus groups with regional stakeholders, including community leaders, librarians, archivists, historians, and digital library professionals in southwestern Virginia. The focus groups will identify content, stakeholder needs, and functional requirements for a proposed online community archive with a focus on the nexus between the energy industry and regional cultural heritage.

The **tangible products** for this project include a *Community Report*, an implementation plan for a southwestern VA community archive, and a published replicable model for developing regional non-custodial digital archives. This model will identify the sociotechnical resources libraries need to leverage in order to support smaller institutions in community archiving efforts, and to aggregate content with them. The **project outcomes** will advance knowledge and best practices for community archiving and digital library collection development. Our model will guide libraries as they seek to be catalysts for the well being of communities, and will enhance cultural engagement through participatory collection development between academic libraries and communities. The model will strengthen and diversify collections, as well as promote inclusion through digital repatriation and active preservation of historical and contemporary documents and voices. The project benefits communities by providing greater access to digital library infrastructure to address regional environmental and economic challenges.

Community Development Model for Digital Community Archives
Virginia Tech

A team led by Nathan Hall of Virginia Tech (VT), in partnership with *Protect Our Water, Heritage, Rights Coalition* (POWHR), Ralph Lutts of *Blue Ridge Heritage*, and with advisory support from The Town of Blacksburg, VA, University of North Texas (UNT), University of Georgia (UGA), University of Virginia (UVA), University of Pennsylvania (Penn), and *Whose Knowledge?*, respectfully requests a Community Catalyst Planning Grant for **\$87,151** to develop a model for community engagement that fosters robust partnerships among academic libraries and regional organizations which will result in greater digital access to geographically, socially, and politically-siloed collections and networks.

1.Statement of National Need

Small regional institutions and organizations possess rich cultural heritage collections but lack robust digital infrastructure. This barrier inhibits broader access and use by researchers and the wider public. Larger institutions are able to digitize and provide access to such collections, though too often it occurs through physical acquisition, resulting in smaller institutions losing their unique materials. While physical collection acquisition will always play a part in collection development, it should not be the only means for providing digital access and preservation services. There is a gap between well-resourced libraries with robust digital infrastructure and community organizations of more limited means, many of which produce analog and digital media across multiple platforms (archival materials, tweets, images, videos, blogs) but often without a preservation strategy. Our project addresses this gap through collaborative digital repatriation and non-custodial collection development. Our goal for the Planning Grant is to develop a participatory library development model that we will pilot through engagement with rural Appalachian communities in southwestern Virginia, with a topical focus on the production and transportation of energy, and the related themes of land use, human migration, and labor. We choose this topic because of how the movement of energy connects the past and present and shapes the region physically, socially, and economically. Whether the fuel is coal or gas, and whether the method of its movement is rail or pipeline, much of southwestern Virginia's industry is devoted to getting energy out of the ground and to market.

The local coal industry started circa 1745 in the vicinity of Brush and Price Mountains, and was the main non-agrarian industry in the region during the 1800s and early 1900s. The local coal had elevated methane levels, making it more susceptible to combustion. The county's worst disaster was in April 1946, and killed twelve miners, orphaning fifty-one children. Forty-six other workers were forced to escape through a mile-long shaft filled with smoke and gas. The Coal Mining Heritage Association of Montgomery County built a memorial in McCoy, Virginia, that commemorates the lives of workers who mined coal in Montgomery County, including those who lost their lives in doing so. The industry was mostly gone from Montgomery County by the mid-1960's, but still exists elsewhere in the region primarily in the form of heavily mechanized mountain top removal.

Extractive industrial activity, over the past 250 years, has created jobs and built an economy that funded houses, schools, hospitals, museums, and theaters, but has also left a mark on the health of the land and people, through respiratory disease, erosion, eminent domain, habitat loss, loss of species, and now concerns about potential gas leaks contaminating soil and regional rivers, streams, and wells. In this context, our project will assemble a community of people to examine regional history and character, and how it has been and will continue to be shaped in part by moving energy. One example of the continued relevance of history and its mark on the present is found in the Huckleberry Trail. This is a local recreation path built over the former coal train railbed, alongside which is the Coal Mining Heritage Park in Merrimac, Virginia. It now provides metaphorical as well as physical connections between towns and neighborhoods and between past and present. It is a resource for transportation and recreation, a habitat for vulnerable native plants and animals, as well as an avenue for the spread of invasive plants from residential gardens through local wilderness.

Community Development Model for Digital Community Archives

Virginia Tech

The POWHR Coalition¹ operates an online information clearinghouse about the Mountain Valley Pipeline² project including government actions such as court rulings, permits issued or revoked, environmental assessments, and actions by protesters and landowners. While groups like POWHR and the Coal Mining Heritage Association³ have an online presence through social media or websites, their members are ideologically-siloed. Our project will bridge these silos through moderated communication to arrive at common values around shared resources. Our project also expands digital access to geographically siloed and rural collections while ensuring that the collections continue to reside with their owners. Our model expands the boundaries of library and archival theory and practice, with potential far-reaching impact for a variety of types of cultural memory institutions. The model will be generalizable for community partnerships between libraries and regional stakeholders.

Other institutions across the country already experiment with digital library collaborations, but the practices and strategies (whether successful or not) need systematic study and documentation in order to produce a common collection development model. Prominent examples of larger institutions that support other organizations in a similar manner are UNT's Portal to Texas History⁴ and UGA's Digital Library of Georgia.⁵ These active collaborations work to amass collections through aggregators such as the Digital Public Library of America (DPLA).⁶ However, these collaborations address only a fraction of the overall need and only serve the regions in which they are situated. Furthermore, many organizations lack the resources to get their materials into a DPLA Service Hub. These efforts show that successful digital collection partnerships do not require combining or co-opting proprietary resources, and thereby they exemplify ALA's Core Values of Librarianship, including Democracy, Diversity, Service, and Social Responsibility.⁷

While the Digital Library of Georgia and the UNT efforts named above inspired this project, our model differs in transformative ways for the field. The Portal to Texas History receives community input through studies involving likely user communities such as genealogists. UNT Libraries however unilaterally makes all decisions regarding mission, collection policy, and program design process. Community partners can make suggestions to UNT Libraries, but they have no role in the governance. UNT has more than 400 partners,⁸ but many of them resulted from short-term projects that may have occurred ten or fifteen years earlier. Some museums or archives with content in the Portal to Texas History may have changed directors two times since then and the current administration may not even be aware of the partnership. Our project is distinct from UNT's in that we are intentionally building it out of community partnerships from inception. In order to ensure that the project does not evolve over time into a relationship dominated by Virginia Tech, the stakeholders will establish bylaws and a process for transition of leadership to an elected chair with set terms. This will make the project more sustainable as a community-led enterprise rather than a unilateral one. It also mitigates the risk of burnout over time by founding members, and respects that their interests or obligations may shift. While individuals may not be able to sustain the same level of engagement over time in the community, its work can continue with new membership and rotating leadership.

The Digital Library of Georgia meanwhile is a state-funded initiative directly under the University of Georgia Board of Regents, and works closely with the state history council, the state archives, and the state library. These relationships help keep their missions aligned with cultural memory institutions that can contribute digitized collections, such as the Civil Rights Digital Library,⁹ which aggregates digital collections

¹ <https://powhr.org/>

² <https://powhr.org/mvwatch/>

³ <https://www.facebook.com/CMHAMontCo/>

⁴ <https://texashistory.unt.edu/>

⁵ <https://dlg.usg.edu/>

⁶ <https://dp.la/>

⁷ <http://www.ala.org/advocacy/intfreedom/corevalues>

⁸ <https://texashistory.unt.edu/explore/partners/>

⁹ <http://crdl.usg.edu>

Virginia Tech

that covers civil rights as a discrete period of the 1950s and 1960s. Our project differs in that we are scoping our focus on inter-connections between land use, human migration, extractive industries, and labor in this region as an *ongoing phenomenon* that spans centuries. As a **community catalyst** endeavor, and through our partnerships, we will develop a governing body to steer a digital library focused on contemporary social issues for the region. By developing our program out of community partnerships with underrepresented and historically disenfranchised communities, we are placing contemporary social and economic challenges at the center of our effort. Over time, we believe that this model will result in collections that document a wider variety of human experience.

The model proposed in this project supports the IMLS **Community Catalysts** program by guiding libraries as they seek to be catalysts that contribute to the well-being of communities. DPLA's promise and success demonstrates viability for this kind of service, yet there is no published model for supporting smaller institutions and community archives, and programs like the Portal to Texas History and Digital Library of Georgia are still atypical.

While this project would eventually utilize VT infrastructure, it is driven through a reliance on community voices and leadership. This model builds on the idea of digital repatriation through a community archive, like the IMLS-funded Mukurtu project,¹⁰ but with a focus on the economic, social, and ethical implications of energy production and transportation. We hope to contribute to community well-being through collaborative planning, social engagement, public humanities, and library collection development, ultimately strengthening libraries to serve as trusted spaces for community engagement and dialogue.

2. Project Design

The **community goal** for the Planning Grant is to develop and articulate shared values about the region, as well as a common mission to document narratives related to the production and transportation of energy, and the related themes of land use, human migration, and labor. The **technical goals** for the Planning Grant are a) to expand digital access to previously siloed and rural collections while also ensuring that the collections continue to reside with their owners, and b) to generate a replicable participatory library development model that we will pilot through engagement with rural Appalachian communities in southwestern Virginia. The **strategic goal** for the Planning Grant is to develop a plan for an *IMLS Implementation Project* to create a community-led digital archive. We will pursue these goals through collaboration and documentation with cultural heritage organizations and with regional groups focused on coal and gas industries and their effects on the natural environment, human health, and labor. The project team will identify a broader network of regional stakeholders, including community leaders, librarians, archivists, historians, and digital library and information technology professionals. We will assemble approximately 30 people at a Community Stakeholders' Meeting to identify challenges and opportunities in developing a shared community archive infrastructure. The details of this meeting are described below.

The project team and their respective organizations each bring vital expertise to the project. Digital library collaborations ideally assemble different but complementary skill sets with alignment in goals, ethics, and mission.¹¹ The organizations and personnel partnering in this project are collaborating to achieve strength from this diversity, and to support processes and outcomes that are mutually transformative and symbiotic. The community-based project team members will lead the project by selecting participants from the region to ensure that the stakeholders and participants are representative of community needs rather than dictated by the university-based partners. The participants will be primarily selected from the extended networks of the community organizations involved, which align with the scope defined in the *Statement of National Need* above, and the *Diversity Plan* below, that is, community members engaged in policy and communication about land use, human migration, extractive industries, and labor in the Appalachian communities of southwestern Virginia.

¹⁰ <http://mukurtu.org/>

¹¹ Anderson, C. (2006). *Ethical Decision Making for Digital Libraries*. Oxford, UK: Chandos Publishing.

Virginia Tech

Katherine Wilkin is Coordinator of the Protect Our Water Heritage Rights (POWHR) Coalition. POWHR is an interstate coalition representing individuals and groups from counties in Virginia and West Virginia dedicated to protecting the water, local ecology, heritage, land rights, and human rights of individuals, communities, and regions from harms caused by the expansion of fossil fuel infrastructure. Katherine has a degree in Global Environments & Sustainability from University of Virginia and a demonstrated history of grassroots community organization. She will represent community needs on behalf of regional stakeholders and help ensure the project represents the interests of regional groups impacted by pipeline development.

Ralph Lutts serves on the Board of Directors of Blue Ridge Heritage, Inc.,¹² a 501(c)(3) nonprofit dedicated to promoting education and economic development through place-based programs related to the natural and cultural heritage of the Blue Ridge in Southwestern Virginia's Bi-County area of Floyd and Patrick Counties. Their educational programs focus on interpretive programming spanning the log cabin stereotype of the 19th century to 20th century globalization. The Blue Ridge Heritage Board is interested in the project, but did not have an opportunity to vote on formal involvement prior to the grant proposal deadline. Therefore Ralph will be serving the project in a private capacity as an independent consultant. His role will be to help scope the eventual digital library as an educational resource for cultural heritage programs, and to identify further community outreach opportunities through his network developed over his career.

VT Special Collections, as well as History and Appalachian Studies faculty collectively bring connections to Appalachian communities as well as expertise in oral history, ethnographic and participatory research methods, and industrial impacts on local communities. Community Collections Archivist **Anthony Wright de Hernandez**, will work with the community leadership above and researchers (listed below) to identify regional stakeholders and begin the formation of lasting relationships between the project team and these stakeholders. Wright has over three years experience establishing relationships with community groups on behalf of VT Special Collections, leading to increased partnership with traditionally marginalized communities around the preservation of their community histories. His relationship-first approach to community engagement is an effective method of engaging community groups that feel alienated by their past treatment by state institutions. **Anita Puckett**, Associate Professor of Religion and Culture at VT brings expertise in Appalachia and Anthropology and is a Past-President of the Appalachian Studies Association. **Jessica Taylor**, Assistant Professor of History at Virginia Tech was a graduate coordinator at the Samuel Proctor Oral History program and a Summer Fellow at the Columbia Center for Oral History Research. She specializes in public history, Native history, and historic preservation. **LaDale Winling**, Associate Professor of History at Virginia Tech, specializes in public history, digital history, and the social and political impacts of development and inequality on communities. These researchers will provide analytical and documentary methods to help inform the research for the stakeholder meeting, and will also validate the synthesis of the findings.

Turning the emergent community consensus into digital archives practice requires technical planning. The following team members will translate the findings from the *Community Report* into technical requirements while also informing the future *IMLS NLG Implementation Project* proposal.

Digital preservation work “requires a foundational understanding of the structure and nature of digital information and media.”¹³ To that end, a subset of the grant team is devoted to understanding potential users and content during this phase in order to plan for future implementation. The project team will also develop policies, procedures, and prototypes for selection, arrangement, description, digitization, and preservation of collections. The project will utilize digital library infrastructure at VT, including a DPLA Service Hub membership through Digital Virginias. As the Digital Preservation Coordinator, **Alex Kinnaman** will conduct preservation plan development and implementation. Her expertise is in succession planning and digital preservation policy development, based on leading CoreTrustSeal certification for APTrust, as well as helping to lead APTrust's Trusted Digital Repository (ISO-16363) internal audit. Associate Director of Digital Library Development **Jim Tuttle** will receive stakeholder input and feedback and develop practicable technical

¹² <http://brheritage.org/>

¹³ Owens, T. (2018). *The Theory and Craft of Digital Preservation*. Johns Hopkins University Press.

Virginia Tech

solutions for the future digital library. He is responsible for implementing recommendations, while also communicating technical constraints to a lay audience. Jim has more than 15 years of experience in digital libraries at Duke, NCSU, UNC Chapel Hill, and University of Illinois at Urbana-Champaign. Digital Collections Librarian **Wen Nie Ng** oversees and develops online access, collection management, and metadata related workflows for digital collections both locally and via the DPLA service hub. Digital Preservation Technologist **Luke Menzies** will provide technical consultation and planning for digital tools and technologies, such as metadata transformation. Digital Collections Curator **Steve Tatum** will support the project through prescribing best practices for imaging, descriptive metadata, and curating online educational resources to support contributing partners. Collectively, this team will translate findings into practice for the future proposal, thereby utilizing the Stakeholders Meeting as a user-needs analysis.

Nathan Hall will serve as project director, manage the budget, and coordinate partners. He brings experience in building and managing diverse teams with broad expertise, managing inter-institutional digital initiatives, and developing digital collections. As Vice-Chair of the ACRL Research and Scholarly Environments Committee, he helped lead the development of a new ACRL national research agenda (*in press*) that defines new paths for open, inclusive, and equitable relationships between people, content, and systems. This grant proposal is grounded in part by the findings and ethical frameworks of that research agenda.

This project will also be supported by an advisory board with relevant expertise and experience. **Mark Phillips** (UNT) and **Sheila McAlister** (UGA) will serve as senior advisors, drawing on their experience leading the Portal to Texas History (404 partnering organizations) and the Digital Library of Georgia (50 partnering organizations). Other senior advisors include **Carol Davis**, Head of Sustainability for the Town of Blacksburg, VA; **Karen Roberto** (VT) and **Emily Satterwhite** (VT), who conduct research in Appalachian identities and environmental health; **Siko Bouterse**, Co-Director of *Whose Knowledge?*, who organizes pluralistic online community networks and archives; **Laurie Allen** (Director of Digital Scholarship, Penn) an expert in community engagement and local and environmental data projects; **Morgan Gieringer** (Head of UNT Special Collections), brings knowledge of archival collection development; and **Bradley Daigle**, who directs Digital Curation at UVA Libraries, as well as the Digital Virginias DPLA Service Hub.

The primary deliverables for the Planning Grant are a project plan for a southwestern VA community archive, and a replicable model for developing a non-custodial regional digital archive. This model will identify the sociotechnical resources libraries need to leverage in order to support smaller institutions in community archiving efforts, and to aggregate content with them. We will communicate our findings to stakeholders and advisors to receive their feedback, and address that feedback before publishing them in an open access white paper in Virginia Tech's institutional repository. We will also disseminate our findings through relevant listservs, conferences (e.g. Digital Library Federation Forum, Society for American Archivists, Virginia Library Association, Appalachian Studies Annual Conference, American Historical Association), and journals.

Project Timeline—Schneiderman & Plaisant¹⁴ cite six stages (envision, discovery, design foundation, design detail, build, and release) from the Cognetics Corporation's *Logical User-Centered Interactive Design Methodology* as a standardized and tested methodology for project design. While they are referring to interface design, we are adapting the model for its process-oriented focus on identifying and articulating community requirements. The *Envision* stage is for aligning values and stakeholder agendas with organizational strategy, and for developing a clear, shared vision. The *Discovery* stage identifies high-level requirements, shared language, and mental models. The *Design* stage conceptualizes the design and will take privacy, rights, and ethics into consideration, along with access, usability, and system performance. These steps are the focus of this project, and will inform *Design, Build, and Release* stages beyond the scope of this funding period, when we apply for an *IMLS NLG Implementation Project*.

¹⁴ Schneiderman, B., & Plaisant, C. (2016). *Designing the User Interface: Strategies for Effective Human Computer Interaction*, College Park, MD: Pearson. p. 119.

Virginia Tech

The funding period will start August 1, 2019 and end July 31, 2020. We have identified four categories of work to complete across the *Envision, Discovery, and Design* stages, and each category has separate tasks, listed below. A visual representation and timeline of this work appears in the **Schedule of Completion**.

A. Instrument development

- Finalize organizational strategy to help form workshop questions (*Envision*)
- Finalize workshop questions, with feedback from advisory committee
- Finalize data collection methods for stakeholder meeting (*Discovery*)
- Finalize strategy for analyzing data and synthesizing findings (*Envision*)
- IRB approval through Human Research Protection Program (*Discovery*)

B. Event and Community Coordination

- Identify stakeholder meeting attendees (*Envision*)
- Conduct preliminary regional site visits for project outreach (*Discovery*)
- Develop invitations for participants
- Develop preparation material for participants (*Envision, Discovery*)
- Finalize agenda and workshop structure (*Envision, Discovery*)
- Make travel arrangements for participants, including lodging, catering, and transportation
- Book facility for dates of workshop, ensuring space can accommodate focus groups and lightning talks. Tentatively late May 2020 for 2 full days

C. Stakeholders Meeting

- Generate data with attendees (*Discovery*)
- Follow up with attendees for event feedback and to thank them for attending

D. Synthesis of *Community Report*

- Analyze data (*Discovery*)
- Generate *Community Report* (*Discovery and Design*)
- Disseminate report draft to participants for comment (*Discovery*)
- Draft will also be sent to stakeholders who are interested in the project but not able to attend the stakeholder meeting.
- Publish white paper/final report and submit final report to IMLS (*Design*)

The Community Collections Archivist will lead initial site visits, and archival needs assessments to establish shared vision and goals, and to help demonstrate how the project serves the needs of partners and participants. These site visits will be selected partially on the advice of the community project team members, and through referrals by our community partners. The site visits will also help generate interest in the workshop and partner showcase so that workshop invitations come as a continuation of an established relationship rather than a cold-call.

The on-site stakeholder meeting will occur in later May, 2020, which was chosen because it is after Virginia Tech's graduation, thus lowering costs and improving access to lodging and facilities, but before potential participants are likely to be on summer vacations. It also provides sufficient time to increase buy-in from stakeholders and allow them to make an informed decision about participating in this initiative, and it provides the project team with sufficient time to plan the event's logistics.

The main activities of the Stakeholder Meeting are focus groups to identify content, stakeholder needs, and functional requirements for a proposed online community archive with a focus on the nexus between the energy industry and regional cultural heritage. The Stakeholder Meeting will host approximately 30 participants. Our intended audience includes community representatives from cultural heritage organizations

Virginia Tech

(including coal history,¹⁵ rail history, and natural history), environmental activists, the Monacan¹⁶ community, as well as the project's community leaders, research team, and selected members of the advisory board. The focus groups will seek to understand the extent of analog and digital content exist that could be included in a future digital archive, what kinds of ethical and legal concerns exist about such content, and what policies (e.g., traditional knowledge labels¹⁷ and cultural protocols¹⁸) could address those concerns. We will hire a facilitator with expertise in environmental policy and negotiation to help build consensus within this group. Some of the agenda for the stakeholder meeting include:

- Affirming mission, shared values, and collection scope
- Processes and practices for communication between organizations and individuals that provide content to the future digital library, and those that provide infrastructure
- Viability of community-driven description (e.g. cataloging authority, quality control, labor)
- Consent and privacy with unique and at-risk media (publicly accessible images and videos of events, spaces, and people posted to personal social media accounts.)
- Finding balance between Open Knowledge values (e.g. open access and persistent), with community control, and individual privacy
- Process for succession of leadership from a grant-funded project director to an elected chair with by-laws

While the project team has developed a preliminary set of questions (see **Supportingdoc2**) to ask in the focus groups, the final protocol will be guided by the advisory board and subject to final approval by both the community-based project leaders and Virginia Tech's Human Research Protection Program. This process will lead to a protocol that is methodologically valid, ethical, and community-led. Virginia Tech's role will be to provide administrative and technical infrastructure, and to understand and respond to requirements articulated by the community.

The stakeholder meeting will also include a showcase characterized by informal lightning talks that provide a chance for participants to share the focus of their organizations, e.g., regional collection efforts, historic narratives, local activism, environmental education, etc. This will allow participants to see potential alignment between their missions, as well as what makes each participant unique. Findings will be synthesized during the summer of 2020.

Risk Mitigation—As Digital Public Library of America and the Digital Preservation Network in the past year demonstrate, there is inherent risk to the sustainability of digital preservation and access initiatives, necessitating a risk mitigation plan for access and preservation. While we use the Digital Public Library of America as a national scale platform to support greater access to our collections, our model does not solely rely on DPLA. Our primary access points come through our digital collections are repositories, built on D-Space, Fedora, Omeka, and a new homegrown digital library that may replace one or more of the others. Access for collections that develop from this initiative would also be made available through finding aids via Virginia Heritage. Our preservation system uses LOC's BagIt, the OAIS reference model, checksums, virus scanning on

¹⁵ We reached out to The Coal Mining Heritage Association of Montgomery County--a public history interest group devoted to raising awareness about the history of the local coal industry. While we were not able to secure their commitment to our project, they did indicate that they were "certainly interested" and invited us to promote our project at their annual Coal Miners Day on May 18. We will continue outreach with this group, and hope for their participation.

¹⁶ We reached out to the Monacan Indian Nation, one of the native tribes whose traditional territories lie in this region. Their tribal election process was concurrent with our proposal development, so they were not in a position to commit to formal participation at this time. We will continue our outreach once their new leadership is established, and we hope that representatives from their community will participate in our project

¹⁷ <http://localcontexts.org/tk-labels/>

¹⁸ https://sustainableheritagenetwork.org/system/files/atoms/file/Mukurtu_ATALM_2018.pdf

Virginia Tech

ingest, format registries, file conversions, AWS storage, and deposit into a one of our distributed digital preservation consortia—AP Trust or MetaArchive.

While DPLA stopped funding part of its initiative, we can still add collections without mediation from DPLA staff—the aggregation is automatic. If we were to lose our connection to DPLA for any reason, we would continue to have shared infrastructure with the rest of the service hub across Virginia and West Virginia, and metadata would still be re-usable. DPLA’s value is in providing additional aggregation and access. We leverage it because it is an available asset with benefits that are hard to ignore, such as co-locating our collections with related content at similar institutions.

In addition to mitigating technical risks, we feel this project also requires mitigation of some social risk. Due to elevated tension in national political discourse, the politically sensitive nature of some of our topics, and the diversity of our participants, we have included money in the budget to pay for a facilitator for the workshop. There are two facilitator services in the region that specialize in public issues and environmental negotiation. Additionally, the inclusion of an anthropologist as a co-PI on the project team, who has existing relationships with most of the groups involved, will help the team navigate potential tension.

3. Diversity Plan

While Appalachia’s connection to coal and rail transportation is widely documented, our project contextualizes contemporary voices in the rural Blue Ridge and Allegheny regions of Appalachia with the region’s history of extracting and transporting energy, along with the physical and existential effects of these industries on the region’s character.

Much of this region is isolated and experiencing economic distress and public health crises. The Appalachian Regional Commission’s 2010-2014 Poverty Rate report states that the national poverty rate was 15.6%, compared to 19.7% in broader Appalachia. In Virginia the statewide poverty rate is 11.5% versus an 18.8% rate for Virginia’s Appalachian region.¹⁹ The Virginia Department of Health’s data on the overdose mortality rate due to prescription opioids is highest and most concentrated in Appalachia.²⁰ On a national scale, NIH data shows that neighboring West Virginia has the highest opioid-related overdose death rates, and that West Virginia’s rate is 21% higher than the state with the second highest rate,²¹ while this statistic covers a different state, the shared border in this particular region may suggest that Virginia’s Appalachian region reflects an analogous trend. The Bureau of Labor Statistics shows that within Virginia, higher unemployment rates are more concentrated in Appalachia, and Buchanan County has the highest rate of any in Virginia, with 7.6% for 2017.²² These counties are the concentrated center of Virginia’s coal production, which remained high until increased competition from natural gas. While coal mining jobs were already declining due in part to efficiencies from automation and mechanization, coal extraction continued at similar or greater rates from the region, but the economic benefits were no longer shared locally. Most of the rest of the state has recovered from the recession, though large parts of Appalachia have not. These data demonstrate that this is an underserved and historically disenfranchised community, and there is correlation between the regions with the greatest coal production and those with the highest poverty, unemployment, and drug addiction.

This region is underserved in a variety of ways, including the gap described in the **Statement of National Need** where the region’s cultural heritage collections are siloed and publicly inaccessible. As stated in the **Project Design**, the community is involved in the implementation of this project through leadership roles in the Project Team and Advisory Board. As noted in the letter of commitment from Katherine Wilkins of POWHR (see **Supportingdoc1**), there is already documented need for different levels of access for documents with sensitive information. We can address this challenge by adopting protocols like Traditional Knowledge Labels and other features already available in systems like Mukurtu. Further community outreach activities will

¹⁹ <https://fahe.org/appalachian-poverty/>

²⁰ <http://www.vdh.virginia.gov/data/opioid-overdose/>

²¹ <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-summaries-by-state>

²² <https://data.bls.gov/map/MapToolServlet>

explore additional stakeholder needs and opportunities through site visits, the onsite stakeholder meeting, and subsequent analysis.

Our project team includes diversity in expertise, with collaborators coming from backgrounds in digital libraries, community archiving, regional studies, community activism, and education. The project team also includes partners and participants from Texas, Virginia, Georgia, and Pennsylvania.

4. National Impact

As a direct result of the outreach and community development activities detailed in the **Project Design**, this project will generate a *Community Report* (see template in **Supportingdoc3**) that describes the information needs of the stakeholders, an *Implementation Plan* that charts the next phase of this project, and a *Community Archiving Model* that provides a path for other institutions to follow. Immediately, however, our project's strategic collaboration will generate facilitated civil discourse around sensitive topics in a diverse group on the basis of shared values. There are only a few ways to make such a discussion happen but the IMLS Community Catalyst Initiative is the only program that envisions libraries guiding and serving as a model for such an endeavor. Such collaboration is radical and transformative in that it creates partnerships between libraries and local organizations to form a "mutually reinforcing environment" that supports a core centralized function, such as digital library management, in tandem with "innovative, decentralized breakthroughs."²³

This project builds on the work of the IMLS-funded Mukurtu project through the notion that some digital cultural heritage is sensitive. In our project's case the sensitivity arises from dealing with documents that identify living people and describe ongoing phenomena. While our *Community Report* will uncover the extent of these issues, our *Implementation Plan* will incorporate policies and protocols for addressing these sensitivities through digital library applications.

The *Community Report* will have been reviewed and validated by the primary audience—the project participants—and will therefore be written at an appropriate and non-technical level. It will describe discoveries of the Stakeholders Meeting, including collection requirements with regards to content, contributors, end-users, privacy, access, description, and preservation. The *Implementation Plan* will be publicly available, though written for an audience of digital library and collection managers and developers.

The *Community Archiving Model* will be reviewed and validated by the Advisory Board to ensure it is broadly useful for academic librarians, archivists, historians, anthropologists, and library administrators, and fair to local community partners and marginalized groups. The model will provide a path for aggregating and increasing access to knowledge in a way that is responsible and equitable. The *Community Archiving Model* will be broadly disseminated through regular academic channels for librarians, archivists, historians, and anthropologists. The model developed through this project will serve community archiving projects across the field. Our project will also serve participants of diverse cultural and socioeconomic backgrounds through their direct participation in the steering committee and planning efforts. The model will also provide a means of ensuring the documentation and preservation of perspectives in other communities dealing with the impact of extractive industry on environmental health and cultural heritage, such as those affected by hydraulic fracturing in northern Appalachia or in the Great Plains.

The output will also take the form of articles to be published in professional journals. These more technical documents will further synthesize conclusions drawn from the stakeholder meeting, especially with regards to the impacts on archival practice with marginalized groups. They will offer specific guidance for implementation by library professionals, archivists, collection managers, curators, digital scholarship specialists, and administrators.

To gauge the performance and success of the project report, we will track document downloads and citations in professional communities, impact on social media channels, and the number of institutions adopting recommendations put forth in the project report and journal articles. We will further measure success through

²³ IMLS Focus: The National Digital Platform. (2015).

<https://www.imls.gov/sites/default/files/publications/documents/2015imlsfocusndpreport.pdf>

Community Development Model for Digital Community Archives

Virginia Tech

pre- and post-event surveys of stakeholder meeting participants to evaluate the extent to which they feel affinity and understanding of and by the community. Specifically, we will use the following project targets and corresponding measures of success for the performance measures above:

Goal	Project performance target	Measure of success
<p>Community Goal <i>Promotes Lifelong learning</i></p>	<ul style="list-style-type: none"> • Improvement in participant views and understanding of perspectives of stakeholder group members from diverse cultural and socio-economic backgrounds • Enhanced digital and civic literacies of participants • Advanced cross-disciplinary and inquiry-based learning 	<ul style="list-style-type: none"> • Analysis of pre-workshop survey data and post-workshop survey data.
<p>Technical goal <i>Build Capacity</i></p>	<ul style="list-style-type: none"> • Impact of final report that facilitates decision making in libraries, museums, archives, and other cultural memory organizations • Impact of final report that promotes ability of libraries, museums, archives, and other cultural memory organizations to serve as trusted spaces for community engagement 	<ul style="list-style-type: none"> • No. of institutions adopting practices and innovations recommended in report • No. of document downloads from report link in VT institutional repository • Citations in professional communication channels • Retweets and other mentions in social media, and inbound links to the report from authoritative and reputable external sites
<p>Strategic goal <i>Build Capacity Increase Public Access</i></p>	<ul style="list-style-type: none"> • Develop proposal for expanded project • Pilot open access digital community archive enabling diverse communities to use collections 	<ul style="list-style-type: none"> • Expanded number of organizations and individuals invested in project • Depth and extent of partnerships

The IMLS agency-level goal for the *Community Development Model for Digital Community Archives Project* is **Build Capacity**. By leveraging Virginia Tech’s Land Grant mission, along with the library’s value as a trusted space that brings people and organizations together to tackle challenges, we will forge new partnerships with local public and private organizations to strengthen community connections. This project has the potential to **transform communities** by expanding access through shared collection development, and increasing digital and civic literacy about interconnections between environmental health, human health, and economic sustainability.

Our ultimate vision is that this project will advance knowledge and best practices for community archiving. Our proposed model will enhance cultural engagement through participatory collection development between academic libraries and communities. The model will strengthen and diversify collections, as well as promote inclusion through digital repatriation and active preservation of historical and contemporary documents and voices. The project benefits communities through greater access to digital library infrastructure to address community environmental and economic challenges.

Community Development Model for Digital Community Archives
Virginia Tech

SCHEDULE OF COMPLETION

Objectives	08/19	09/19	10/19	11/19	12/20	01/20	02/20	03/20	04/20	05/20	06/20	07/20
Instrument Development												
Finalize organizational strategy to help form workshop questions	█											
Finalize workshop questions, with feedback from advisory committee	█	█										
Finalize data collection methods for stakeholder meeting		█	█									
Finalize strategy for analyzing data and synthesizing findings			█	█								
Develop IRB application				█	█							
All team members complete CITI's Human Subjects Research Basic Course				█								
Submit IRB application					█							
Event & Community Coordination												
Identify stakeholder meeting attendees	█	█	█	█	█	█	█	█	█	█		
Conduct preliminary regional site visits		█	█	█	█	█	█	█	█			
Develop invitations for stakeholder meeting					█							
Finalize preparation material for attendees						█	█	█	█			
Book transportation					█	█	█	█	█	█		
Book facility						█	█	█	█			
Book lodging							█	█	█			
Book catering								█	█			
Finalize agenda and workshop structure							█	█	█	█		
Stakeholders Meeting												
Generate data with participants									█			
Send thank you notes to participants									█	█		
Report Synthesis												
Analyze data										█	█	
Generate report											█	█
Disseminate report draft to participants for comment												█
Incorporate participant feedback and revise												█
Publish <i>Community Needs Report</i> and submit final report to IMLS												█



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.

Intellectual property of any products will remain with the authors, in accordance with Virginia Tech University Policy #13015 (<http://www.policies.vt.edu/13015.pdf>) which states that the project leader is expected to manage the university's ownership of research results and material in the ways that best advance the standard routes of dissemination for that particular field. Since this is a planning grant, we expect negligible collection activities, but materials submitted as pilot collections will by default belong to the partner, who will grant Virginia Tech a permanent non-exclusive license to host and preserve the collections with a Creative Commons 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.

According to University Policy 13000 and 13015, Virginia Tech asserts its rights to the results of research funded in any part with university resources. Our Community Needs Report and Community Archives Model, which fall under Virginia Tech's category of traditional scholarship, will benefit the university by its use in further augmenting the university's role in community leadership in the region. The presumption of ownership is therefore with the author (<http://www.policies.vt.edu/13000.pdf>; <http://www.policies.vt.edu/13015.pdf>). All dissemination of the new digital products will be open access by default, with exceptions explained below.

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.

We will file applications with IRB offices at Virginia Tech. Information collection from forum participants may include personally identifiable information (PII), such as participants' contact information, but we will not be requesting any sensitive information. PII will be protected in alignment with the NIH Common Rule, as interpreted by Virginia Tech's Human Research Protection Program. Additionally, our team includes cultural anthropologists and experts who are close to local and indigenous populations, who will work to safeguard the rights, preferences, and cultural sensitivities of these groups.

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.

The primary digital products will be a Community Needs Report and a Community Archiving Model. These will be created in DOCX and PDF/A formats in order to ensure its preservation and accessibility in the future.

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.

Equipment will include desktop and laptop computers, tablets, and personal mobile devices. Software will include word processors, spreadsheets, and presentation software. Other resources will include collaborative cloud environments such as Google Team Drive.

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).

We will be working in the DOCX format, but final publication will be in PDF/A-1a to ensure broad accessibility. Any image or video media collected for promotional purposes will be preserved in TIFF and MKV formats, respectively and made accessible in JPEG or JPEG2000 for images, and .mov or webm for videos.

B. Workflow and Asset Maintenance/Preservation

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

N/A.

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).

The final report will be stored in openly accessible institutional repositories at Virginia Tech, with a Creative Commons Attribution License. Any data will be stored in Virginia Tech's data repository (VTechData) with protection on files that require confidentiality. Files that do not require confidentiality will be made Open Access with a Creative Commons Attribution License.

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).

The Community Needs Report and Community Archiving Model will be described using Dublin Core, METS, MODS, and PREMIS metadata schemas.

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

Metadata stored in the institutional repositories (VTechWorks, VTechData) is maintained by repository administrators and preserved according to Virginia Tech University Libraries preservation protocols and procedures.

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 repositories we have selected are OAI-PMH and OAI-ORE compliant. Furthermore, we will announce our report and model with the use of social media, such as Twitter, as well as professional listservs and forums such as CNI, ACRL, LITA, and CLIR.

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).

The report and model will be openly available online in non-proprietary standard formats in repositories that do not require authentication, and in formats that are ADA compliant.

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.

<https://vtechworks.lib.vt.edu>; <https://data.lib.vt.edu>;

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. No software will be created.

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. No software will be created.

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. No software will be created.

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

N/A. No software will be created.

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

N/A. No software will be created.

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

N/A. No software will be created.

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

N/A. No software will be created.

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. No software will be created.

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

N/A. No software will be created.

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. No software will be created.

URL:

N/A. No software will be created.

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.

The only data sets produced will be information collected from stakeholder meeting participants, for the purpose of synthesizing community needs, desires and goals, as the basis for our model and report. The model and report will synthesize and summarize this information, the data will be desensitized and made available at the conclusion of the project. Primary collection methods will be focus groups in late May 2020.

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?

We will secure approval from Virginia Tech's Human Research Protection Program.

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).

Information collection from forum participants may include personally identifiable information (PII), such as participants' contact information, but we will not be requesting any sensitive information. PII will not appear in the final report and model, and any PII stored in institutional repositories will be protected according to the requirements of our institutional repositories and University Libraries' preservation policies. All publicly accessible data will be desensitized and PII will be removed.

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.

Subject to NIH requirements, and with guidance from Virginia Tech's Human Research Protection Program, Informed Consent forms will be secured in the PI's office for three years following the completion of the project. No key will be necessary since participants at the stakeholder meeting participants will not be anonymous.

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).

The data that informs the report will be publicly available. It will be collected through focus group techniques, using standard word-processing software.

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?

The final report and model will serve as the documentation for any data sets, and will explain the approaches, analyses, and methods used to obtain and make use of this information.

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

Any data sets produced will be stored in our VTechData repository, which has been recently self-audited according to Core Trust Seal guidelines.

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

Name of repository:

VTechData

URL:

<https://data.lib.vt.edu>

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

This plan will be reviewed as we finalize data collection instruments, by Virginia Tech's Human Research Protection Program, and if awarded upon commencement of the award period.