Purpose: To describe how academic libraries can support DH research by leveraging established library values and strengths to provide support for preservation and access and physical and digital spaces for researchers and communities, specifically focused on cultural heritage collections.

Design/methodology/approach: The experiences of the authors in collaborating with DH scholars and community organizations is discussed with references to the literature. The paper suggests how research libraries can use existing expertise and infrastructure to support the development of digital cultural heritage collections and DH research.

Findings: Developing working collaborations with DH researchers and community organizations is a productive way to engage in impactful cultural heritage digital projects. It can aid resource allocation decisions to support active research, strategic goals, community needs, and the development and preservation of unique, locally relevant collections. Libraries do not need to radically transform themselves to do this work, they have established strengths that can be effective in meeting the challenges of DH research.

Practical Implications: Academic libraries should strategically direct the work they already excel at to support DH research and work with scholars and communities to build collections and infrastructure to support these initiatives.

Originality/value: The paper recommends practical approaches, supported by literature and local examples, that could be taken when building digital humanities and community-engaged cultural heritage projects.

Keywords: Collaboration, Cultural Heritage, Community, Digital Humanities.

Introduction

Increasingly, research libraries are expected to be a support centre for digital scholarship and this expectation is often accompanied by a push to develop new skills, programs, spaces, and methods in order to contribute to digital humanities (DH) research. At a roundtable on technology and change, leaders of the Association of College and Research Libraries (American Library Association, 2007) argued that libraries must "recast their identities in relation to the changing modes of knowledge creation and dissemination, and in relation to the academic communities they serve". Although this statement suggests dramatic change is required, established library values and strengths have important contributions to make to academic communities that do not demand a revolutionary change in direction, but rather a shift in how this work is done. While familiarity with DH methods and technologies is important to support researchers and library users, libraries and librarians should focus their efforts in their area of expertise and the things they do well, namely preservation, access, and providing spaces for doing research. This does not mean that libraries should not respond to new pedagogical and research methodologies. Rather, changes to support digital scholarship should be grounded in bringing the established strengths of the library into conversation with the needs of DH researchers, community, and cultural heritage partners to work in new ways that result in more diverse and inclusive outcomes.

The University of Saskatchewan Library (U of S Library) is establishing digital initiatives and support for DH research by focusing on its core values and strengths, in partnership with researchers and community organizations. Primary goals are to develop digital collections, projects, and resources that serve the strategic direction of the University and the needs of local communities and cultural heritage organizations. The core values of academic libraries, such as access, diversity, and preservation (American Library Association, 2006), are combined with traditional humanities values to establish DH values that support new knowledge creation and sharing (Gold, 2012). When libraries are engaged in digitization and collection development of cultural heritage content that support DH research, it is imperative that they also consider the values of the creators and custodians of the materials they wish to preserve and provide access to.
The authors have found that developing collaborations with cultural heritage groups is a productive way to include them in decisions about access and preservation and to give library users access to richer, more diverse primary source materials. It is important for academic libraries to design their services and processes to fit with the values and mission of both digital scholars and community partners to become a valued and trusted collaborator. The best way to do this is by identifying what DH researchers (and local

cultural heritage communities) are already doing and then solve problems they are unable to solve on their own (Schaffner and Erway, 2014). Initiating and sustaining fruitful conversations about community values has been heavily informed by community-engaged scholarship theory and practice (Van de Ven, 2007; Fitzgerald, 2010) and is a constantly evolving process at the U of S Library. Local examples include Keith Calson's work developing the Collaboratorium[1] and publications such as *Towards a New Ethnohistory: Community-Engaged Scholarship among the People of the River* (2018)*, along with the U of S produced *Engaged Scholar Journal.* Once libraries have taken the time to fully comprehend the context and needs of their partners, they can be most effective by focusing on the things researchers and communities already trust them to do well: provide reliable and accessible spaces to preserve, access, and create knowledge.

DH research requires data - texts, images, maps, audio recordings, etc. - and academic libraries are a primary place to access them. The infrastructure needed to support this type of research can include "digitization services, advice on metadata creation, consultation on intellectual property issues, and advice and provision of services for access to the products of DH work" (Anne, K. M., et al., 2017). Preservation of DH research and datasets that are created or compiled to do this work is another place where libraries can apply their expertise, particularly when they are brought in as a partner in the planning stages. For many scholars, long-term preservation is not their primary concern for new research – at least not initially. However, projects built using custom or specialized digital tools, particularly those with interactive elements and no fixed or final state (Anne, K. M., et al., 2017) are a significant challenge for continuing access and fidelity to the original. This is where libraries can provide support that few other institutions or individuals are able to do.

While there is a great deal of diversity among academic libraries and the institutions and communities they serve, there are established strengths that define this type of library and their support of DH researchers. The American Library Association (2010) lists core values and competencies for librarianship that includes access, preservation, services, social responsibility, and the public good. Libraries as institutions naturally embody these values and enact them in systematic and service-oriented activities including:

- Locating and accessing materials in multiple formats
- Collecting and combining sources for analysis
- Identifying materials to be digitized to support research or greater access
- Creating metadata and designing metadata schemas
- Designing digital projects to be discoverable and usable

- Planning for long-term preservation and appropriate access including migration/emulation and description/documentation
- Providing the digital and physical infrastructure to do this work.

These strengths do not rely on mastery of particular software or providing access to specific tools. The systems and technologies used to create digital projects change frequently and, while it is valuable to learn new tools and techniques, it is the mastery of established and innovative information systems for research, scholarly communications, and knowledge sharing that define libraries' contributions to DH. It is these skills that the library brings to collaborative partnerships, equipping them to do impactful and sustainable work.

In the same way that academic libraries must adapt to support DH research while ultimately retaining their core focus, they must do the same when developing partnerships with cultural heritage groups. As Vandegrift and Varner (2013) note, moving into collaborative partnerships does not necessarily mean a turn away from the traditional strengths of academic libraries. There are similarities and complementary aspects to DH research, library values and, we argue, cultural heritage communities and organizations. Strategic development of collaborations that recognize these similarities lead to projects that have benefits for all partners.

Community Collaborations

As the official university of the province, the U of S has a mission to "advance(s) the aspirations of the people of the province and beyond through interdisciplinary and collaborative approaches to discovering, teaching, sharing, integrating, preserving, and applying knowledge (...) to build(ing) a rich cultural community" (President's leadership team - U of S, 2016). Community engagement, defined as "collaboration between institutions of higher education and their larger communities (local, regional, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity" (Community Engaged Scholarship Institute, 2014), is central to this mission, influencing research and the way the institution and its members connect with communities.

The U of S Library is a partner in multiple collaborations with faculty, community groups, and organizations. These collaborations function on multiple scales of involvement and complexity and there is no single framework that defines an ideal model. Working with communities requires understanding the motivations and goals of all partners and working together to manage expectations and resources. At the U of S Library,

collaborative projects have often coincided with an increased demand for digitization and description of cultural heritage objects from the collection, but the library has also pursued opportunities that mobilize resources from community and faculty partners. This allows projects to move more quickly and the library to capture valuable contextual and tacit knowledge about cultural heritage materials that are often inaccessible or invisible in traditional library description practices.

The most successful collaborative projects are driven by the needs of campus researchers or community partners and are designed with outcomes that serve all stakeholders, including the library. Community groups and scholars benefit from access to technologies for development, preservation, and access that libraries are uniquely positioned and resourced to provide. They also benefit from the experience and knowledge of information management and DH project design. For libraries, digitization projects based on specific objectives can be a better way to make decisions and prioritize digitization and development work than to pursue the fiction that we can or will digitize everything in our collections and create metadata and discovery tools that will work for all purposes.

One of the biggest challenges of engaging in collaborative projects is navigating stakeholder expectations and scope creep. The goals and investment in digital projects can be fluid and it is necessary to determine what the library can effectively produce and maintain and how it fits with the mandate of the organization while also working for the needs of its partners. The range of interesting DH work the library could engage in seems endless and vastly outstrips available resources. Navigating the point where the creation of digital collections shifts into the development of an interactive DH project is a complicated endeavor. Taking time to establish clear expectations for all partners is key to getting the most value out of these kinds of projects. This type of foresight can help avoid abandoned, incomplete, or unsustainable projects.

The work of establishing trusting and equitable relationships is never finished and the U of S has a long way to go in decolonizing ways of working. However, there is a growing recognition of the value of meaningful community collaboration and sustained partnerships in place of studying communities as research subjects. The library, no stranger to traditional academic power structures, has a key role to play as the hub of public, academic, curatorial, and scholarly activity on campus, particularly as it relates to DH and diversifying and decolonizing digital research activities.

Preservation

A significant challenge for DH projects is ensuring continuing preservation and access once a project is established or completed. By engaging the library as a partner from the start, projects are more likely to be adequately supported with both technical infrastructure and an understanding of its purpose and function. The products of grant funded digital projects have a tendency to be left to bit rot on the open web, or disappear entirely, not long after the money runs out. Long term preservation of digital content has been an ongoing challenge for DH and cultural heritage communities. Content means not only the scholarly output of the research, but the data, digitized items, interviews, code, etc., that comprises the entirety of the research lifecycle. In the experience of many university archives, it is all too common to discover research being stored on hard drives and unsecure databases in random locations, often despite an awareness of the volatile nature of the format. This same problem is present in cultural heritage organizations that are aware the information they create is important and unique, but do not know what to do with it. Inevitably, these documents stay on computer hard drive or in file boxes until someone has the time and resources to organize it or a catastrophic failure causes that information to be lost - whichever comes first. It is not a lack of will to keep information safe, but a lack of digital or physical infrastructure, expertise, time, or mandate for these groups.

One example is PAVED Arts, a non-profit artist run centre in Saskatoon that has a mandate to support local, regional and national artists working in photography, audio, video, electronic, and digital arts. PAVED operates a production centre, provides access to technology and training, and exhibits contemporary media art in a gallery space. Their mandate does not include the preservation or provision of access to the work that is created or exhibited in their centre, or information about PAVED as a community organization, but they do have objectives that touch on the importance of preserving this locally important work including stimulating critical dialogue, connecting with diverse audiences, contributing to the cultural community of Saskatoon, and exposing the community to professional art and artists [II]. Their desire to keep archival information accessible is, in some ways, at odds with their official mandate to support new work and artists. Additionally, the high demands that a preservation program places on a centre dealing with multiple media formats (like PAVED) often outstrips their operating resources. They are not a memory institution, they are an artistic production and exhibition space. They do not have the physical space or digital infrastructure necessary to preserve their archives, much less the staff time or expertise to invest in even a moderate scale archival project in a sustained way. However, they have a desire to do something with the records they have kept over the history of the organization, but they have struggled to sustain this initiative. This challenge is being met by collaborating with a faculty member at the U of S Library to develop a digital archiving practice that uses the technical infrastructure of the library and shares the labour of designing and

implementing the creation of digital records and user interface. More about this project is discussed in the Access section of this paper.

Broadly speaking, the dynamic nature of DH and community-engaged research makes digital preservation a particularly difficult challenge. Static outputs are most commonly preserved, but questions arise when collaborative projects, such as crowd sourced metadata or community collaborative spaces, are involved. At what point does the research product become something that needs to be preserved? What technique or level of preservation is required? Additionally, there is an increased imperative to maintain long term access to content that is derived from community led projects. Responsible stewardship of these materials is integral to the process and has the potential to establish or diminish trust in the institutional partner.

In addition to the community considerations around what, how, and when to do digital preservation, the technical process is not a straightforward activity. Digital preservation requires expertise and infrastructure not commonly part of a researcher's skill set. The library has traditionally offered preservation services for non-digital materials and it seems only fitting that this service and expertise continue to evolve in the 21st century to include digital projects of various kinds. It is unsurprising that academic libraries invest millions to address these challenges and that digital scholarship programs, such as those at U of T, Virginia, Brown, and Iowa, identify digital preservation services as an area of focus (Association of Research Libraries, n.d.).

Trevor Owens, Head of Digital Content Management at the Library of Congress and one of the leading figures in digital preservation, suggests it is a central challenge at the heart of digital scholarship (2014). Owens' articulates the need for collaboration among scholars and information professionals to tackle the many issues related to long-term access. A robust digital preservation strategy is particularly important for community-engaged projects in that much of the scholarly outputs are shared information derived from the community. The authors argue that articulating and developing strong digital preservation strategies with partners can strengthen relationships with communities and build trust. Following from this, it becomes critical that librarians and archivists ensure community partners understand that libraries will be responsible stewards of their information, that they will not be taking ownership of the material, that they are able to take their content out of our systems at any point, and that digital content shared with the library and researchers will be accessible (to the best of their abilities) in perpetuity.

As one example, to fulfill the core objectives of Sask History Online (SHO) [III] the U of S Library implemented a robust digital preservation strategy to ensure the long-term

access of materials digitized throughout the province. It also developed policy to make the library a secure and trusted place for community-engaged scholarship, digital collections, and on-campus research projects. The community partners in this project were often local museums and historical societies that lacked the expertise and technical resources (servers, backup protocols, etc.) to manage long term access for themselves. These inclusive and high-level preservation support measures have the potential to benefit many communities involved in digital scholarship across the province and internationally.

Up to this point, the U of S Library has taken a blended approach to developing a digital preservation program. The one-time SHO project funding enabled the development of the technological components of digital preservation, connecting Archivematica and Islandora over the course of the project. This development, while lengthy and iterative, has helped a core group of individuals in the library learn more about the nuances of making digital preservation a practical and operational endeavour. While those involved are careful not to allow the system parameters to wholly influence decisions concerning our overall strategy, knowledge of these systems helps to inform the digital preservation policy and framework development process. At this stage, the library is still developing ways to make sure digital preservation is integrated into the ways we work with digital projects every day. Automating processes in Archivematica and building digital preservation workflows into the project development and charter stage is an important part of sustaining this work both internally and for community partners.

It is also worth reiterating that digital preservation work for predominantly static digital collections poses fewer challenges than working with dynamic DH projects with multiple contributors and outputs. Additional measures may be required such as web archiving and exporting components of the research outputs (spreadsheets, metadata, images, code, etc.). This adds complexity to the process of doing this work at an acceptable standard and requires the library to make decisions about the level of service they can provide to support DH research.

It is the library's role to maintain access to materials, digitized or born digital, so that scholarship may continue to be built upon. This is a challenge that should be led by libraries in strategic partnerships with digital humanists, community groups, and others interested in interpreting and maintaining the digital cultural heritage record. As Owens suggests, "digital preservation, ensuring long term access to digital information, is not so much a straightforward problem of keeping digital stuff around, but a complex and multifaceted problem about what matters about all this digital stuff in different current and future contexts" (2014). This work requires developing and maintaining relationships

with content creators and custodians and scholars as much as developing and maintaining software and metadata standards. Detailing the long-term requirements and commitments for collaboratively maintaining digital collections and tools helps establish stronger approaches to solving challenges associated with digital preservation.

Work done at the research library level can be applied to developing solutions with community collaborators. The level of expertise and time required to develop and sustain a meaningful understanding and open communication between partners is significant. This is an area that can be of great service to many people should libraries wish to contribute to the development of collections with and for local communities off campus. The U of S Library is committed to providing long term access to the collections that make up the SHO project; something many academic libraries with outreach and community mandates could also do. In the case of the U of S Library and SHO relationship, the additional resources required to include collections from multiple community collaborators is not significantly greater than what it takes to manage their own digital collections. With well-developed workflows, automation, and solid documentation (agreements, prioritization, guidelines, training materials, etc.) digital preservation process scale up very well and the U of S Library experience indicates this can be a sustainable approach.

Access

The question of what to do with DH research and digital collections that do not fit neatly into scholarly communications and traditional library and archival systems persists even as improved methods of preservation are developed. This is particularly challenging for libraries that have inherited multiple integrated systems and imperfect cataloguing standards that are not well suited to the complexities of DH projects. The results of DH scholarship are often not fully represented by traditional publications and discovering digital projects can be difficult for researchers and individuals outside DH communities.

One of the ways the U of S Library has used its position as a trusted knowledge repository is by developing a cohesive system to host and share digital projects. The library has used their digital asset management system (DAMS) to bring together digitized and born digital materials in an environment where they can be shared, described, juxtaposed, used, and reused for multiple purposes and audiences. For example, the SHO project uses a multi-site infrastructure that pulls from a central repository of images and information to display in multiple interfaces including maps, faceted searching and browsing, folksonomic tagging, historical timelines, and thematic online exhibition sites. This rich resource, compiled from gallery, library, archive, and

museum collections across the province, opens up new research and artistic possibilities. Projects that were developed outside of this infrastructure can still be pulled in, either through the creation of metadata records that appear in these search systems, through web archiving practices, or by migrating content into the multi-site infrastructure. Again, these are not original approaches to discovery and access, but they do provide an important space for researchers, custodians of collections, and community members to collaborate and share resources and expertise.

Cultural heritage communities face similar access challenges but are equipped with fewer resources. The dilemma is that communities often collect unique information related to their local and cultural contexts and the tacit knowledge that informed the development and organization of that collection is difficult to communicate on an individual item basis. It is the contextualized collection and not the individual records that have the richest meaning. By partnering with academic libraries and archives, cultural heritage communities can make their collections discoverable and accessible by researchers and other library users, potentially drawing visitors to smaller museums and archives or using digitization to reach global audiences while maintaining the original item's place with the community that collected it, employing a post-custodial model of archiving (Upward, 1996).

Returning to the example of the PAVED project, the centre has multiple historical and current connections to the University's fine art department and there is a desire to make the PAVED records accessible to professors, students, artists, and curators to inform new work and critical discourse around the history of media arts in Saskatoon and the Prairie Provinces. Currently, if someone wishes to access the PAVED archives they are welcome to come to the gallery space and dig through labelled boxes in a storage closet, but a way to digitally search or browse the records does not exist. In addition, most of the records from the past decade exist only as born digital documents that are not found in the file boxes. That information becomes effectively invisible once it is not actively being used or referenced on their website.

PAVED has directed resources toward digital preservation and archival projects at least twice in the past, but the organization has been unable to sustain a digital archive over time. In 2003, PAVED received a Canadian Culture Online grant from Canadian Heritage that was used to produce an online archive created by a local web hosting company that was linked to the Virtual Museum of Canada. The Upstream archive [IV] lasted fewer than five years before it was no longer accessible. In 2012, PAVED received another government grant for a summer intern who digitized part of the video tape collection and set up an Omeka project that was also not able to be supported or

added to once the funding ended. This project is also no longer active or accessible. The ability to work beyond the short-term project funding cycles that nonprofits typically function in and to provide consistent, reliable, and accessible online spaces to collect and share information is a major benefit for cultural heritage groups. A collaboration with these groups also benefits academic libraries because providing access to locally important and often entirely unique cultural collections is part of the U of S Library's mandate and is a contribution that the university can make to the academic community, the province, and researchers around the world.

Much of this impetus to use technology to collect and share information follows from a librarian bias that leans heavily toward the ideology that information wants to be free; that we have the responsibility to provide access to everything for everyone. However, as Kimberly Christen (2012) points out, there are significant problems with these assumptions, particularly as we work with communities outside of academia:

> The celebration of openness, something that began as a reaction to corporate greed and the legal straightjacketing of creative works, has resulted in a limited vocabulary with which to discuss the ethical and cultural parameters of information circulation and access in the digital realm. We are stuck thinking about open or closed, free or proprietary, public or private, and so on, even though in such common online experiences as using social media platforms Facebook and Twitter, or when reading through legal parameters for the use and reuse of digital information, these binaries rarely exist. These are not zero-sum games, and information sociality and creativity are more porous than these choices allow us to imagine.

An example of the ways the library is working to ensure a balance between access, privacy and community values is demonstrated by the oral histories repository being developed with researchers on campus. With some modifications to the roles and permissions in Islandora (via adjustments to the XACML "eXtensible Access Control Markup Language" policy), the project team can provide a granular and flexible approach to managing permissions in the system to enable easier collaboration for oral histories projects. This allows principle investigators to access and oversee all collections while giving students and/or collaborators specific access to the content they submit, but not the content submitted by others. The workflow addresses several concerns related to privacy and sharing of sensitive materials while allowing content to be accessed in an appropriate manner. It is worth mentioning that much of the oral history project is related to Indigenous Knowledge (interviews with members of First

Nations), a signature area at the University and another place where community partnerships are fundamental to the work of the library.

Further complicating the challenges around appropriate access are issues pertaining to the types, formats, and genres of the materials in question. Video, new media art, oral histories, raw data, surveys, code, metadata, or marked-up text, present challenges in terms of access. This is a real concern for PAVED in the preservation and promotion of their substantial collection of video art that covers the 1970's to recent works, but the work itself is the intellectual property of the artists who created it. Areas where open online access may not be possible, but where archives are still useful include: where rights of creators prohibit access; where there is a moral, ethical, or cultural imperative; or where resources do not allow for full access.

If research libraries wish to be involved in digital scholarship, it is essential for them to understand the intricacies and nuances of access and be known for the expertise they can provide in this area. Ongoing research and education by librarians is essential, as is developing collaborative relationships with scholars who engage with similar research questions and cultural-heritage organizations and communities. Many of the standard solutions libraries have developed may need to be reassessed and re-imagined in order to provide effective solutions and multi-level access.

Spaces

Traditionally, the academic library has been a place where scholarly information is stored and accessed. Today, academic libraries function as important physical and digital spaces for research, knowledge creation, collaboration, and community engagement. The U of S Library has been involved, on various levels, in developing spaces to preserve and interact with cultural heritage collections and DH resources. A digital infrastructure of integrated systems are used to preserve and provide access to a wide range of digital scholarly outputs in the library's digital environment. While the library does not have a DH lab, it does have dedicated physical space for digitization projects. As the library continues to grow it's DH services, it must consider not only what kind of digital and physical spaces to develop, but how these spaces contribute to collaborative research endeavours and the accessibility of cultural heritage collections and DH resources on campus, in the community, and internationally.

Because DH, by its very nature, does not rely on physical collections - although this point could be argued given the number of projects that use remediated analog materials - one might conclude that academic libraries need not design or equip

specialized physical spaces. In fact, DH spaces at institutions around the world, many of which are well described in the ARL's Digital Scholarship Support Profiles (Association of Research Libraries, n.d.), have been exceedingly important in achieving the goals of their institutions. While an official space for DH research is still under consideration at the U of S Library, a space in the Library was opened to house a digitization centre for the SHO project in 2011. This space, still open and staffed, includes digitization equipment and software that can be used by community partners and on-campus researchers alike. Despite its small size, the resource centre has seen a range of customers and uses including the Provincial Archives of Saskatchewan scanning oversize materials, fine art students scanning their work, print theses and dissertation digitization, a local John Donne scholar digitizing rare materials, and a visiting artist at PAVED working on a new digital work. The library is currently determining the best approach for sustainable service offerings in this space. The general consensus is that if DH and community cultural heritage digitization support is an important strategic direction for the library and university, then it is critical that a space be created that best serves these groups.

While the U of S Library is not currently in a position to invest in major physical changes to support DH research, the development of flexible digital spaces has been a significant investment and contribution to campus and community groups. The use of Islandora, DSpace, Archivematica, and Drupal as a framework for multiple kinds of digital projects is still in its infancy at the U of S Library, but investment in the technology has enabled the library to partner with several DH researchers and cultural heritage groups who were seeking support and a place to house digital projects. Some examples include Dr. Angela Kalinowski's searchable repository of open access images of athletics in the Greek and Roman world [V]; Natalia Khanenko-Friesen's Oral History of 20th Street project [VI]; research into the use of images and oral histories in the Adrian Paton Collection [VII] (Harkema and Carlson, 2018); Eric Gill's Illustrations for the Golden Cockerel Press (in development) (Bath and Harkema, 2013); the Broadway Business Improvement District's heritage building project [VIII]; and the Sask History and Folklore society image collection [IX]. The library has also been involved in developing digital projects that utilize the strengths of existing digital platforms such as the City of Saskatoon public art works augmented reality tour [X] using Historypin (Harkema and Nygren, 2012). These examples are early experiments that have laid a foundation for the development of a more formal digital initiatives program at the U of S Library.

The use of library spaces can also be mobilized to support strategic goals of the library and of its community partners. This is particularly true at the University where

Indigenization, communities, engagement, and collaboration are key components of the current strategic plan. Working with local Indigenous communities to build trusting, reciprocal relationship through research, access to information, and appropriate and respectful cultural heritage preservation will continue to be a focus into the future. The Leading in the Digital World report (Council of Canadian Academies, 2015) outlines the importance of this work for all Canadian memory institutions:

> Building relationships is especially important for memory institutions that steward Aboriginal cultural heritage and archival records. Meaningful collaborations between Aboriginal communities and museums aimed at increasing digital access to, and engagement with, cultural heritage may play a role in broader efforts at reconciliation.

Work is currently underway to develop methods, practices, and technologies that contribute to the success of the University in this area. Through consultation with communities and researchers, the library will continue to build on the success of early digital projects such as the Indigenous Studies Portal [XI] and Our Legacy [XII]. These experiences, along with the First Nations principles of OCAP [XIII] define standards to help address the complexity and importance of thoughtful approaches to developing digital initiatives with Indigenous communities. Christen's work with the Plateau People's Web Portal [XIV] is a good example of the ways online collaborative spaces can contribute to the development and sustainability of cultural heritage collections. This collaborative approach clearly demonstrates how working respectfully and developing trusting and mutually beneficial relationships can support digital spaces that enrich and enable appropriate access to important cultural content. Although the Murkurtu [XV] platform provides technical infrastructure, it is the intellectual and ethical rigor, along with the relationship building Christen has engaged in, that makes it an exemplary initiative. The development of these spaces is not simply about installing a DAMS or opening up a room in the library for these activities. It involves real work to connect with communities from the outset to create useful spaces instead of making spaces that work for the library and hoping that the researchers and communities come to them.

For their part, the U of S Library is currently exploring ways to decolonize the digital archive. Initially this work will focus on new approaches to metadata creation and developing spaces (digital and physical) where reconciliation can be part of the process of decolonization. For example, the library is investigating ways to incorporate community-created metadata and Traditional Knowledge Labels [XVI] for Indigenous knowledge content. Granted, these are small first steps, but they can lead to important changes in the way content is created and accessed.

Conclusion

As Dombroski and Lippincott (2018) explain, infrastructure for DH research is more than the technology and space required to do the work. Access to advice about designing and implementing projects, planning for preservation and making the work findable and accessible are critical parts of DH work that the academic library is uniquely positioned to support. These are extensions, not transformations, of core values of most research libraries and are also serious gaps in many existing academic service offerings.

While there have been calls from some quarters for libraries to make dramatic changes to keep pace with contemporary research, libraries do not need to entirely reinvent themselves to make valuable contributions to DH. Access and preservation of knowledge have long been the cornerstones of library work and these issues are still central to the production, use, and reuse of contemporary DH research. As examples from this paper illustrate, community and DH collaborations greatly benefit from the range of services and technologies academic libraries can provide. In the case of SHO and PAVED, much of the success can be measured by the engagement and longevity of the partnerships in addition to assessing how digital projects are accessed and used. Partnerships are most successful when expectations are made explicit and the health of the collaborative relationship is as important as technical and operational aspects of the project.

Academic libraries would do well to mobilize their strengths to provide reliable preservation and access systems and physical and digital spaces. Libraries have a key role to play in using their expertise and reputation as the stewards of knowledge to partner with scholars and communities engaged in DH work. The inherent interdisciplinary nature of academic libraries make them fertile grounds to make new connections between members of academia and local communities. These connections have the potential to facilitate new co-created scholarship. Working directly with communities and researchers as partners, rather than as clients, also allows libraries to learn from the producers and consumers of information to improve systems, services, and communications.

References

American Library Association. (2007), "Changing Roles of Academic and Research Libraries", available at: http://www.ala.org/acrl/issues/value/changingroles (accessed 6 March 2018).

American Library Association. (2006), "Core Values of Librarianship", available at: http://www.ala.org/advocacy/intfreedom/corevalues (accessed 20 March 2018).

American Library Association. (2010), "B.1 Core Values, Ethics, and Core Competencies (Old Number 40)", available at: http://www.ala.org/aboutala/governance/policymanual/updatedpolicymanual/section2/40corevalues (Accessed 23 May 2018).

Anne, K. M., et al. (2017), "Building Capacity for Digital Humanities: A Framework for Institutional Planning (ECAR working group paper)", available at: https://er.educause.edu/~/media/files/library/2017/5/ewg1702.pdf?la=en (accessed 2 March 2018).

Association of Research Libraries. (n.d.), "Digital Scholarship Support Profiles", available at http://www.arl.org/focus-areas/scholarly-communication/digital-scholarship/digital-scholarship-support (accessed 23 March 2018).

Bath, J. and Harkema, C. (2013), "There's More Than One Way to Skin a Book: Experimental Interfaces for Reading Illustrated Books", *Scholarly and Research Communication*, Vol. 3 No. 4.

Christen, K. (2012), "Does Information Really Want to be Free? Indigenous knowledge systems and the question of openness", *International Journal of Communication*, Vol. 6, pp. 2870–2893.

Council of Canadian Academies. (2015), "Leading in the Digital World: Opportunities for Canada's Memory Institutions", The Expert Panel on Memory Institutions and the Digital Revolution, Council of Canadian Academies, Ottawa, ON.

Dombrowski, Q. and Lippincott, J.K. (2018), "Moving Ahead with Support for Digital Humanities", *Educause Review,* March/April, pp. 52–53.

Fitzgeral, Hiram , (2010*), Handbook of Engaged Scholarship: Contemporary Landscapes*, Future Directions, Michigan State Press.

Gold, M.K. (Ed.), (2012), *Debates in the Digital Humanities*, University of Minnesota Press, Minneapolis, MN.

Harkema, C. and Carlson, K. (2018), "The Oral History of Photographs: Collaboration, Multi-Level Engagement, and Insights from the Adrian Paton Collection", *KULA: knowledge creation, dissemination, and preservation studies,* Vol. 2 No. 1.

Harkema, C. and Nygren, C. (2012), "Historypin for Library Image Collections: New Modes of Access for Unique Materials at the University of Saskatchewan Library", *Partnership: The Canadian Journal of Library and Information Practice and Research*, Vol. 7 No. 2.

Owens, T. (2014), "Digital Preservation's Place in the Future of the Digital Humanities", available at: http://www.trevorowens.org/2014/03/digital-preservations-place-in-the-future-of-the-digital-humanities/ (accessed 1 March 2018).

President's leadership team. (2016). "U of S Mission, Vision and Values", available at: https://www.usask.ca/leadershipteam/president/mission,%20vision%20and%20values.php (accessed 19 March 2018).

Schaffner, J., Erway, R. (2014), "Does Every Research Library Need a Digital Humanities Center?" available at: https://eric.ed.gov/?id=ED564811 (accessed 10 January 2018).

Upward, F. (1996), "Structuring the Records Continuum - Part One: Postcustodial principles and properties", *Archives and Manuscripts*, Vol. 24 No. 2.

Van de Ven, Andrew, (2007), *Engaged Scholarship: A Guide for Organizational and Social Research*, Oxford Press.

Vandegrift, M., Varner, S. (2013), "Evolving in Common: Creating Mutually Supportive Relationships Between Libraries and the Digital Humanities", *Journal of Library Administration* Vol. 53 No. 1, pp. 67–78. DOI: 10.1080/01930826.2013.756699

[I]   http://artsandscience.usask.ca/history/Outreach/Collaboratorium.php
[II]   http://www.pavedarts.ca/about/mandate/
[III] http://saskhistoryonline.ca/
[IV]   www.upstream-media.ca
[V]   http://ancientsportandspectacle.usask.ca/
[VI]   http://oralhistory20st.usask.ca/
[VII] http://saskhistoryonline.ca/islandora/search/Adrian%20Paton%20?type=dismax

VIII   http://www.metronews.ca/news/saskatoon/2014/07/25/map-more-saskatoon-history-coming-to-a-smartphone-near-you.html

IX   http://www.shfs.ca

X   https://www.historypin.org/en/city-of-saskatoon-public-art-2/

XI   http://iportal.usask.ca/

XII   http://digital.scaa.sk.ca/ourlegacy/

XIII   http://fnigc.ca/ocapr.html

XIV   https://plateauportal.libraries.wsu.edu/

XV   http://mukurtu.org/

XVI   http://localcontexts.org/tk-labels/