Negotiating Sustainability: The Grant Services "Menu" at UVic Libraries

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Brief summary

This paper provides a brief overview of library best practices for digital curation, with particular attention to the areas that highlight disciplinary tensions between library science and the humanities. The authors introduce the University of Victoria's grant service "menu" for digital preservation and hosting services, and outline some of the most promising models for balancing creativity with sustainability in DH project design. We will suggest roles for libraries, researchers, administrators, and funders in helping to create technical and social conditions that nurture sustainable research projects in the digital humanities and beyond.

Abstract

Knowledge building is an iterative process that refines and extends previous research. Through citation, we acknowledge our debt to scholars and theorists whose work enables our own. The ephemeral nature of the digital world threatens to destabilize a centuries long system of scholarly communication and knowledge sharing. In a print ecosystem many immutable copies of an object are distributed globally and are curated by network of organizations. In the digital world a single copy of an object is served from a central location. Digital content is thus susceptible to manipulation, corruption, and erasure. The key to analog preservation is to ensure that artefacts remain the same. Digital preservation, in contrast, requires "active management" comprising constant changes, patches, and updates. Objects become quickly obsolete as the environments around them change.

Funding agencies are putting increased pressure on researchers to include sustainability plans in funding applications (NEH 2016, SSHRC 2016). Researchers often turn to the University Library to provide preservation solutions for digital projects without fully understanding the technical, policy, and funding implications of these requests. Libraries have made significant strides in planning for the long-term preservation of the many thousands of digital objects in our collections. Digitization projects adhere to strict standards for resolution, colour management, and file formats (FADGI 2016). Digital asset management systems like Hydra/Fedora provide a single place to store objects along with descriptive and administrative metadata that helps to determine the preservation actions that should be taken against each object (Goddard, 2016). Those actions include auditing and bit-checking of file systems to ensure against data loss, format migrations as media and file types become obsolete, replication of objects across different technology stacks and jurisdictions, and discovery interfaces that ensure continued discoverability and access. Libraries are building national networks that will allow us to replicate data across multiple jurisdictions to mitigate against disasters both natural and human (DPN 2016, Canadiana 2016, CARL 2016). Despite concerted efforts, only a handful of library repositories have so far met the stringent conditions that are necessary for certification as a Trusted Digital Repository, which requires technical and policy elements including plans for long term staffing and funding, and contingency plans in the event of organizational failure (CRL, 2015). Ultimately, libraries still can't make guarantees about preservation for digital objects in our own collections, even those that are subject to internationally recognized best practices. This problem is compounded when DH research projects fail to adhere to adequate quality standards for objects (e.g. images, texts, video, maps, mark-up) and overlook established metadata models and vocabularies.

To this point we have outlined the challenges of curating fairly static digital files, but most DH projects are far more than the sum of their digital objects. Many DH research projects are complex software stacks with many layers of tools, objects, code and dependencies. If a project is built on Drupal, for example, librarians will have to not only maintain all of the unique objects and code produced by the project, but they are also committed to maintaining a specific version of a rapidly evolving software platform -- a version that will likely be obsolete before

the project concludes. Drupal is, at the very least, well documented and widely deployed. Many DH projects also include custom-built tools, the inner workings of which are known only to a handful of people on the research team. The complex technology profiles of contemporary DH projects require ongoing active management including patching, tending, and rebuilding over time (Burpee, 2015). While the library may have sufficient resources to steward one or two unique project environments, this approach cannot scale to hundreds or even thousands of projects over time. In the current technical and funding environment is simply not possible for libraries to provide high-level curation for the enormous variety of funded digital projects that are produced by researchers within their organizations.

Libraries alone will not solve the problem of sustainability in DH projects. A fundamental characteristic of sustainability is that it must be established as a key design principle from the outset. It is almost impossible to retroactively render a project sustainable without rebuilding from the ground up. Initial choices about technologies, data models, formats, and documentation will influence the likelihood that a project will still be accessible in a decade. One complicating factor is that sustainability is largely at odds with a researcher's freedom of choice when it comes to decisions about platforms, tools, and data models. Truly sustainable DH projects will require a level of standardization that is far from the current norm in DH project development, and which is unlikely to be unequivocally embraced by humanists. Research is an experimental process, and technological constraints can stifle creativity and independence of action. Models, by their very nature, seek to simplify, while the humanist tradition revels in nuance and complexity (McCarty, 2005; Quamen, 2013).

Leslie Johnston from the Library of Congress suggests that libraries can pursue two models for preserving complex DH projects. The first approach is to "preserve the content but forgo the look and feel. This is often extremely unpopular." The second is to "preserve the content and the look and feel exactly as they were implemented. This is often close to impossible." (Johnson, 2013) The tension between these two models is where libraries, researchers, and funders need to more clearly outline our assumptions and expectations.

The University of Victoria Libraries have developed a suite of preservation services for grant funded projects in order to plainly articulate our competencies, assets, and constraints (Goddard and Walde, 2017). This document acts as kind of a "menu" of services from which researchers can select as they develop their grant applications. These include the use of our Hydra/Fedora4 digital asset management system, metadata expertise that extends to consultations around interoperability and linked data, web hosting and discovery, exhibit building software, copyright consultation, open access publishing, research data management, and digitization services. We provide template paragraphs related to sustainability, preservation, open access, and knowledge mobilization that researchers can easily repurpose for any given funding proposal. We include a break down of the in-kind value of each of these services, along with any costs that will be charged back, so that researchers can easily estimate the value of the institutional commitment. We hope that this approach will enable critical conversations about sustainability to happen during the grant writing process, rather than towards the end of funding cycles as has been too often the case in the past. In order to offer our "gold standard" preservation services libraries will have to be involved in early conversations about technology preferences and data models. We certainly don't assume that all decisions will be dictated by curation needs, but rather that our consultation will enable researchers to make clear-eyed decisions about the impact of their choices on sustainability.

The preservation "menu" is an appealing model for researchers, as it enables them to quickly understand the variety of services and in-kind contributions that the library can offer in order to strengthen a funding application. There are also advantages to the library. By tying preservation services to grant funded projects we can avail of a rigorous review process that helps us to direct library resources towards research that has been deemed valuable by a network of disciplinary experts. It provides an easy formula for calculating in-kind contributions for letters of support, and to some extent standardizes the process of writing those letters. It helps to promote librarians as desirable co-applicants and collaborators on funding applications. It underscores to administrators the library's value as a university research support. This model also provides mechanisms whereby grant funds can flow back into the development of new features for the library's digital asset management and publishing platforms.

Susan Brown notes that "successful technologies rely on social resources." (Brown, 2016) Part of our

challenge is to muster support from researchers, librarians, administrators, and funders to create optimal conditions for long-term digital curation. The conversation about long-term preservation will be an ongoing negotiation that bridges different disciplinary perspectives, and balances ideals with resource constraints. Just as the traditional model of scholarly print publishing has shaped the means of scholarly production through the last two centuries, these conversations will ultimately will help to shape the future of humanities research platforms, resources, and methodologies.

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