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The National Digital Stewardship Alliance Charter: Enabling Collaboration to Achieve National Digital Preservation

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Abstract

The Library of Congress proposes extending the success of the NDIIPP (National Digital Information Infrastructure and Preservation Program) network by forming a national stewardship alliance of committed digital preservation partners.

Introduction

In response to the Congressional charge to create a national strategy to meet the challenge of digital preservation, the Library of Congress developed and tested a distributed preservation network (Public Law 106-554 2001). The National Digital Information Infrastructure and Preservation Program (NDIIPP) partner network has been effective in leveraging the strengths of a diverse set of partners, and has proven resilient in the face of technological volatility, economic downturn, and explosive growth of digital creation.

A national digital stewardship alliance is proposed to sustain a national network of qualified partners to collect, preserve, and ensure long-term access to a national collection of digital content of value to Congress and the American people. The experiences of the NDIIPP program have concluded that the Library of Congress is uniquely positioned to serve as convener and trusted broker for a preservation community of diverse stakeholders (IMB 2008). Trust among alliance members—from rights holders to preservation organizations—is essential. The Library’s centuries-old history of stewardship and the widespread public recognition that it acts on behalf of the public interest will continue to open doors for an alliance to recruit members and forge partnerships across the public and private sectors.

NDIIPP Network To-Date

The NDIIPP network grew from a multi-year planning process that engaged stakeholders from every stage of the digital preservation lifecycle including content creators; owners and distributors; legal and technical advisors; subject matter experts; and librarians and archivists from state and local entities and institutions of higher education. Researchers and leading technologists worked to define the basic technical infrastructure for preservation that NDIIPP could model and test. The program motto, “learn by doing,” was established and an iterative, network-based strategy was deployed to meet the challenge of establishing a national digital preservation program (Preserving Our Digital Heritage 2002).

Through strategic phased initiatives, the Library has recruited more than 130 digital preservation partners in 41 states and 25 nations. Each partner institution brings its own expertise, resources, and best practices to share with the network. The first phases of the NDIIPP network focused on triage collection and preservation of content, the advance of a digital preservation research agenda, alliances with international digital preservation partners and standards organizations, and catalyzing strategic preservation business models.

The second phase of NDIIPP built out capacity across state institutions, brought various creative content communities together to work on standards, and continued the development of technical tools and services. The second phase also saw natural networks form; partners that steward content offered their content to tools developers to test preservation strategies with “real” data. Preservation services providers turned to their NDIIPP partners for feedback on beta tests. Struggles (and successes) related to copyright and other legal restrictions were shared among the NDIIPP network partners and informed strategies and actions. With each iteration and lessons learned, the NDIIPP network adapted and built on the achievements that came before it.

The NDIIPP network serves more than just the working practices of partners; there are good technical reasons for a networked approach to digital preservation. Early in the program, the partners adopted a strategy of heterogeneity to mitigate the risk of loss over the long term. Multiple, distributed copies of digital archives kept by different institutions in different technical environments is preferable to a single copy at a single institution where technical failure, human error, shifting priorities, personnel changes, and even natural catastrophe can put content at risk. However, as borne out in the Archive Ingest and Handling Test, each institution is unique with its own interpretation of a single metadata schema (Shirky 2005).

The Library of Congress, through the NDIIPP program has acted as a coordinating entity to foster interoperability between systems. The iterative modeling and testing between NDIIPP partners has enabled common practices and tools to emerge, like the content transfer protocol BagIt (<http://sourceforge.net/projects/loc-xferutils/>). Currently, NDIIPP partners are exploring interoperability between LOCKSS and Storage Resource Broker platforms as well as working on metadata standards for various commercial content producing communities.

In addition to coordinating the cooperative development of new tools and services, NDIIPP has convened meetings, large and small, that have brought together partners across many disciplines to learn from each other and contribute to the vision of a national digital preservation network. These meetings have been invaluable in shaping the next steps for NDIIPP. Partners have expressed the need for a supporting entity, particularly one that is closely associated with the Library of Congress, which would verify and disseminate best practices in digital preservation. An organization that could leverage economies of scale and negotiate services from a position of strength would also benefit partners, as would an effort to support the development of open source tools and services for digital preservation. The entity could also coordinate standards efforts and act as a clearing house for information about resources and practice. Legal and related services would also be welcomed to provide assistance in creating policy for the network and serve as an advisor to partners (Kwo 2009).

NDIIPP partners have identified, selected, and collected over 1000 collections of at-risk born digital content for preservation. The technical infrastructure advanced by the program helps to ensure long-term access to these resources by allowing cross adoption of open source tools and services while encouraging local solutions for local problems. Detailed analysis and stakeholder agreement on major recommendations to revise the U.S. copyright law are another key aspect of the Program's work, as is a broad outreach campaign that reaches over 19,000 people monthly to increase

awareness of digital preservation challenges and successes. These practical experiences affirm the need for a sustainable organization to support significant digital preservation efforts.

The Need for an Alliance

NDIIPP was funded and defined as a ten-year national effort to develop a strategy to tackle the pressing digital preservation problems and create a national plan. The digital preservation problems have shifted and grown with the changing and expanding universe of digital media. Over the past 10 years, NDIIPP program initiatives confirmed that a networked approach is viable in the face of technological unpredictability, economic decline, and significant growth of digital content.

In the first years, NDIIPP created a plan delineating its strategy for preservation of the nation's digital content. In 2002 through 2005, NDIIPP began to seed the preservation network by catalyzing partnerships; identifying common technical architecture needs; and identifying rights, intellectual property, and liability issues. From 2006 through the present, NDIIPP underscored its commitment to the networked approach to digital preservation by working to strengthen and expand the emerging preservation network. Commercial content creators and state government records curators were brought into the partner network in 2007. NDIIPP and the entire partner community explored and tested stewardship roles and services and how they could be applied in a broader context.

Now, as the Program approaches the 10-year mark, it is working to sustain the network and leverage the investment made in collaborative digital preservation. Talented, enthusiastic people have developed and refined services, strategies, and technologies. But preservation and long-term access cannot be the work of a dedicated few. To maintain the work that has been accomplished and to meet the challenges ahead, NDIIPP and the digital preservation community must move from projects to programs.

A national digital stewardship alliance will be a network of committed digital preservation programs. Sustainability of digital preservation efforts is essential to successful long-term access. The NSF Blue Ribbon Sustainability Task Force, the LIFE model, and others have looked into how digital preservation activities can be sustained for the long term. While research and demonstration projects are always needed to adapt to technical changes, they cannot meet the need for sustained effort because they do not represent long-term access and preservation to stakeholders or funders. Demonstrable commitment to digital preservation activities by a community of organizations will attract the resources needed to support the necessary work.

As the projects initiated by the Library of Congress draw to their scheduled end, the national digital stewardship alliance is expected to function as the entity through which a flexible agreement structure connecting the network partners to one another can be made. The national digital stewardship alliance provides new opportunities for new partner involvement. Distributing the responsibility for the preservation of digital content across interested and committed industries and communities allows the entire alliance to benefit from the preserved cultural record.

Expanding the network to new industries encourages the kind of exchange that has made NDIIPP successful over the last 10 years. Connections with a variety of industries (libraries, archives, state government, commercial content creators, GIS data creators, academic institutions, and others) allow information about digital preservation practices and developments to “reach a larger number of people, and traverse greater social distance” than connections within any one group would provide (Granovetter 1366). These connections between communities also foster the innovation and adoption of new solutions necessary in the continually changing technical and media landscape of digital preservation.

The digital preservation community has reported a need for leadership. Members of the alliance will set a visible digital preservation agenda; make education and outreach a priority; and catalyze tools and standards work. Like the Digital Preservation Coalition, Digital Curation Centre, Digital Preservation Europe, and others, the national digital stewardship alliance will be a mechanism for partner organizations to shape the digital preservation agenda of the United States.

Vision for the National Digital Stewardship Alliance

The national digital stewardship alliance will be a collaborative effort among government agencies, educational institutions, non-profit organizations, and business entities to preserve a national collection of significant digital content. It will build on the NDIIPP work and start with a flexible structure that can grow as the organization grows. Representation and participation from diverse communities—creators and collectors, scientists and practitioners, complex government entities, and small trade associations—will be required in the alliance. The agenda for the alliance will be set by its members who commit to making a sustained contribution to national digital stewardship. The alliance will allow the digital preservation community to collaboratively respond to the changing technical landscape of new media formats and new user expectations. Each organizational commitment to the alliance will continue to move digital preservation programs beyond project-based initiatives

and ensure the protection of the collective investment made in creating digital library services and content.

The vision for the national digital stewardship alliance grew out of the need for a sustaining entity to extend the NDIIPP network, consultation with partners, and inspiration from governance models from other preservation organizations. The International Internet Preservation Consortium (IIPC) also has close ties to NDIIPP and serves as a model because the relationships between members are between all participants, not with a single primary node. The group also has a practical work agenda to develop tools and processes focused on a particular content type.

The MetaArchive Cooperative, a current NDIIPP partner, was chartered in 2008 and offers its members different levels of participation. Its members share a common infrastructure, LOCKSS, to preserve digital collections. The leadership is also technically adventurous: they are now testing deploying common components of their system to the cloud. This openness to change and innovation informs the shaping of the national digital stewardship alliance.

Internationally there are also several outstanding models for collaborating, including the Digital Preservation Coalition, which has a strong professional education and training agenda, and the Strategic Content Alliance, which brings diverse stakeholders together to encourage access, use, and reuse of digital content. All of these models for collaboration are informative as NDIIPP moves into its next phase.

The Time Is Now

Congress foresaw a larger strategy would need to be articulated by 2010. The need to save digital information is even greater today than in 2000. The creation of digital material is more voluminous and the need for preservation of digital information is more pressing than ever (Gantz 2008). Not only is there more digital content, but the emergence of new digital media types continue to challenge established preservation techniques.

The digital preservation community that coalesced around the NDIIPP activities remains committed to the digital collections they curate. The Library of Congress remains committed to a collaborative solution to digital preservation. No one organization has the resources and ability to assess, collect, and preserve all the significant material being produced. A formal preservation network is the only possible approach given the magnitude of the problem.

NDIIPP represents a tested distributed-preservation network. The network has been effective in leveraging the strengths of a variety of partners. It has also proven flexible in the face of technological unpredictability, economic downturn, and exponential growth of digital

material. The foundation of a national digital stewardship alliance then is based on collective experience. The national digital stewardship alliance will not only build off the accomplishments of the NDIIPP network but will also promote professional capacity within the industry. Education of best practices and exchange of information with the digital preservation community and outreach to the broader population will be key tenets of the alliance.

The starting assumption for NDIIPP was that no single institution could meet the challenge of digital preservation alone. This is even truer now when budgets are increasingly tight and hard decisions need to be made. Resources devoted to the preservation of cultural heritage materials are limited in the best of times. Over the last year, as the economy has faltered, we have seen those limited resources become scarcer as staff and collections were reduced and support for travel and training diminished. However, we have also seen the challenges the economy presented test and validate the NDIIPP theories of heterogeneity, redundancy, and networked solutions. We have witnessed how a dedicated community buffers the stresses and strains of the economy. Several state archives working together shared staff expertise and contract labor to accomplish their goals (Pearce-Moses 2008).

The social climate to create an alliance is optimal because of the shift toward collaboration and networks. Wikipedia, Flickr, Delicious, open source software development and other efforts exemplify the public interest in collaboration, but there is a strong private-sector interest as well. Social interest in networked solutions will inevitably shift again but the need for collaboration in digital preservation will remain. The opportunity to leverage social interest in collaboration will benefit the initiation of an alliance.

The national digital stewardship alliance promises tremendous benefit and support to its member community. Through this alliance, members will serve as stewards of a national digital collection by collecting and ensuring long-term access to historically, culturally or scientifically significant digital content. They will share the benefits and burdens of preserving these national assets while employing standards, systems, and cooperative relationships that advance digital stewardship. Creating and maintaining a network that is trusted, reliable, and innovative, they will encourage research and development in digital preservation science and technologies and foster—through education, information, and institutional practices—an environment that values

both the creation and preservation of digital content and the beneficial use of America's digital heritage. The need for committed digital preservation programs is great. The time for an alliance is now.

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