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DIGITAL PRESERVATION
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TRUSTWORTHY
DIGITAL REPOSITORIES

UNIFIED DIGITAL
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AUDIO-VISUAL
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DIGITAL PRESERVATION
EDUCATION

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DIGITAL

PRESERVATION

PLAN

Ensuring Long Term Access and Authenticity of Digital Collections



For nearly two decades libraries and cultural heritage organizations have been fulfilling our role as stewards of digital resources by acquiring and reformatting analog collections into digital format and by making the digital resources available to our respective communities to meet their information and education needs.

During that time, millions of digital resources have been created, however little or no thought has been given to the long-term access to these resources. Yet when professionals across the cultural heritage community are surveyed, 78.4% respond that they expect to provide access to these collections for more than 10 years, 2.7% planned to provide access for less than 10 years, while 18.9% didn't know how long they would provide access. (Participants in 2006-2007 NEDCC sponsored, NEH funded Stewardship of Digital Asset (SODA) workshops completed a pre-workshop survey. This survey asked the participants a variety of questions regarding their digital programs. This author was one of the faculty members who have been cumulating data from the 110 institutions who participated in the SODA surveys.) At the same time only 20.7% reported that they had a digital preservation plan. Among the same group, 48% indicated that they planned to become a Trusted Digital Repository.

While the current economy may delay implementation of digital preservation programs, development of digital preservation plans can begin at anytime, allowing the organization to develop the foundation and knowledge required to develop a funding proposal for the digital preservation program. A digital preservation plan is the organization's public statement regarding its commitment to preserve its digital collections through the development and evolution of a comprehensive digital preservation

program. The plan will provide the mission, specific goals and objectives, and policies and procedures. It will define the preservation strategies, standards, digital content depositors, staffing, funding, roles and responsibilities, and the users. The digital preservation plan is based on two key documents: *Trusted Digital Repositories: Attributes and Responsibilities* (2003) and the *Open Archival Information System (OAIS) Reference Model* (ISO 14721:2003).

Components and objectives

Digital preservation plans should include the following components:

- 1 Rationale for digital preservation
- 2 Statement of organizational commitment
- 3 Statement of financial commitment
- 4 Preservation of authentic resources and quality control
- 5 Metadata creation
- 6 Roles and responsibilities
- 7 Training and education
- 8 Monitoring and review

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The plan should be a collaborative effort of the Digital Preservation team. The team may involve members of your digital library team including your digital librarian/digital archivist, collection curator/s, preservation librarian, metadata librarian, and IT manager. Additional participants can include legal counsel, financial manager, a representative from senior management, and other appropriate stakeholders.

The plan should support the following objectives:

- » Ensure the preservation of and continued access to born digital and digitally reformatted materials.
- » Ensure the preserved materials are authentic.
- » Preserve physical media from damage and deterioration through appropriate environmental controls.
- » Reverse damage, where possible.
- » Change format of digital materials to preserve their intellectual content if necessary.



Rationale

Why are you creating a digital preservation program? The digital preservation plan should include the rationale for the program. The statement can be simple and straight forward, similar to the one developed by Yale University Library: “Yale University Library Digital Preservation Policy supports the preservation for digital resources that are within the Library’s collections.” Alternatively, the plan can incorporate statements reflecting the goals of digital preservation; i.e., “...establish centralized responsibility for ensuring continuing access to digital image collections over time...centralized responsibility will facilitate the long term use of digital resources in the most cost effective manner.”



Organizational Commitment

Organizational commitment is demonstrated through incorporation of statements of support of digital preservation within the organization’s mission or mandate. The SODA survey found that 31% of the institutions had specific statements within their mission, while 53.1% did not. Columbia University Library’s plan states that “digital resources are part of the CUL collections and subject to the same criteria for selection and retention and decisions as other media...” Other plans provide more specific explanation of their organizational commitment, for example the University of Michigan’s Inter-University Consortium for Political and Social Research (ICPSR) includes in their plan both a mandate statement and objectives. Their mandate includes three

POLICY	YES	NO
MISSION	31%	53.1%
COLLECTION DEVELOPMENT	28%	38.8%
EMERGENCY PREPAREDNESS	27%	44.1%
PRESERVATION	21.6%	40.5%
RIGHTS	32.4%	40.5%

Figure 1: Policies in place in cultural organizations

components: scholarly commitment, membership services, and contractual obligations and grants.

Based on the SODA survey, cultural heritage organizations have placed emphasis on developing policies with equal emphasis on rights management and mission, and emergency preparedness and collection development, while digital preservation is lagging significantly as shown in Figure 1.

The organization should include a succession plan in the preservation plan. The plan must identify for their users the program’s strategy in the event that the digital preservation program is no longer able to support its preservation commitments.



Financial Commitment

Financial commitment may be one of the more challenging areas for organizations to address, particularly for those associated with government entities that operate on an annual appropriation. The promise a trusted steward makes cannot be undertaken with one year increments. Technology planning, staff training, software development or acquisition, and legal agreements all are multi-year commitments. However, the financial planning structure rarely supports multi-year planning. Nonetheless, the digital preservation plan must make every effort to consider how to address the financial sustainability of the digital preservation program. Components of the financial commitment may include institutional commitment, legislative mandate (if there is financial support), and membership structure (if the digital preservation program is a collaborative or based on a subscription program),



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fund raising and grant programs, and fees and other revenue sources.

Lastly, financial sustainability should require collaborative initiative. These may include collaboration with other digital repositories, data producers, digital preservation programs, standard-setting bodies, and commercial organizations working in the area of digital programs.

4 Preservation Strategies

Many preservation plans will provide a brief summary statement of the principles of their preservation strategies with links to the more detailed documents, including high level requirements, standards, and other resources. The University of Illinois Urbana-Champaign provides a useful model:

- » Development and maintenance of reliable options for the ingest of new materials into the repository, based on community standards or best practices;
- » Provision of reliable data management services for timely access to deposited content;
- » Development and maintenance of archival storage for deposited content;
- » Conducting IDEALS management and administrative

activities in such a manner as to further the program’s mission of preserving deposited content;

- » Monitoring and remaining active in community preservation activities, best practices and standard; and
- » Developing local preservation planning activities that will anticipate and respond to changes in the preservation environment (e.g. format migration or emulation strategies).

Other approaches may include listing the specific formats that are supported.

5 Metadata Creation

A simple statement of policy regarding metadata creation and maintenance is sufficient. For example, Yale’s plan states: “Metadata is fundamental to preserving Yale University Library’s digital resources. Preservation metadata includes a number of different types of metadata...Particular attention is paid to the documentation of digital provenance...and the relationship among different objects within preservation repositories.” Such a policy statement can be included as a separate section or incorporated under the organizational commitment section.

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Due to the ongoing changes in the digital environment, it is important that regular monitoring of the environment is incorporated into the digital plan.



Roles and Responsibilities

Like metadata creation, roles and responsibilities can be a separate section or included under organizational commitment. Individual institutions in particular may wish to incorporate it under the organization's commitment, where the roles and responsibilities can be very detailed. The University of Kansas plan, for example, provides very detailed descriptions. Digital preservation programs operated by collaboratives may wish to have a separate responsibilities section.



Training

OAIS requires that continuing development of staff be addressed in the digital preservation program, however few organizations provide sufficient support for staff development. The University of Kansas Library Preservation Planning for Digital Information lays out an institution-wide strategy for training with the following principle: "Key to the success of digital preservation planning on the University of Kansas campus is the recruitment and involvement of staff at all levels of the University." The suggested curriculum focuses on five areas: general awareness, information lifecycle management, information storage management and systems, maintenance, best practices and standards, and legal issues and university policies.



Monitoring and Review

Due to the ongoing changes in the digital environment, it is important that regular monitoring of the environment is incorporated into the digital plan. This monitoring is an OAIS requirement and is broadly defined. Each preservation program will need to consider its particular "environment." Clearly the technical environment will require monitoring and there are national and international efforts to facilitate that monitoring. However, programs will need to additionally monitor the legal environment that includes international, national, state, local, and institution legislation and procedures. Regulations and statutes can change as rapidly as technology and may be more difficult to monitor. Additionally, the organization's political environment requires monitoring; the more closely the mandate for the digital program is tied to the political environment the more closely that environment may need to be monitored. The business environment may also require monitoring; mergers and acquisitions may impact support from vendors and other partners. And it is especially critical to monitor the status of partners; key staff and funding changes and funding changes at partner organizations may necessitate a program review.

As the environment changes, plans need to be revised and updated. The digital preservation plan should be reviewed annually. Responsibility for the review should be clearly established, along with the review procedure and the required timeframe of the review. | FE | doi: 10.3789/isqv22n2.2010.02

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Sample Plans and Policies

A written preservation policy demonstrates an organization’s commitment to digital preservation. The resources below offer insight into the reasons for having a preservation plan, factors to consider in developing a plan, and the areas the plan should address. They also provide several examples of existing digital preservation policies.

Au Yeung, Tim. *Digital Preservation: Best Practice for Museums*. Commissioned by the Canadian Heritage Information Network. Gatineau, Quebec, Canada: Minister of Public Works and Government Services, 2004. http://www.pro.rcip-chin.gc.ca/sommaire-summary/preservation_numerique-digital_preservation-eng.jsp

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National Digital Information Infrastructure and Information Preservation Program, Library of Congress. *Sustainability for Digital Formats: Planning for Library of Congress Collections*. <http://www.digitalpreservation.gov/formats/sustain/sustain.shtml>

National Library of Australia. *Digital Preservation Policy*, 3rd ed., 2008. <http://www.nla.gov.au/policy/digpres.html>

Schreibman, Susan, ed. *Best Practice Guidelines for Digital Collections at University of Maryland Libraries*, 2nd ed., May 4, 2007. http://www.lib.umd.edu/dcr/publications/best_practice.pdf

University of Illinois at Urbana-Champaign. *IDEALS Digital Preservation Policy*, November 2009. <https://services.ideals.uiuc.edu/wiki/bin/view/IDEALS/IDEALSDigitalPreservationPolicy>

Yale University Library. *Policy for Digital Preservation*, November 2005, revised February 2007. <http://www.library.yale.edu/iac/DPC/revpolicy2-19-07.pdf>

RELEVANT LINKS

Columbia University Libraries. *Policy for Preservation of Digital Resources*, July 2000, revised 2006. www.columbia.edu/cu/lweb/services/preservation/dlpolicy.html

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