PRESERVATION EDUCATION CURRICULUM

NORTHEAST DOCUMENT CONSERVATION CENTER

CLASS 11 LESSON PLAN

Creating Sustainable Digital Collections, Part 2: Digital Preservation

Resources for the Teacher

Foundational Work

Duranti, Luciana, ed. *The Long-term Preservation of Authentic Electronic Records: Findings of the InterPARES Project.* http://www.interpares.org/book/index.cfm

This report contains the results of InterPARES 1, a multidisciplinary collaborative archival research project that took a record-centric approach to the development of a typology of requirements for maintaining the authenticity of records over time, and analyzing appraisal and preservation processes to establish the extent to which they meet those requirements. This report is unique in that it specifically addresses the needs of electronic records versus other reports that take a more generic or library-centric approach at digital preservation.

Lavoie, Brian. *The Open Archival Information System Reference Model: Introductory Guide*. DPC Technology Watch Report 04-01. London: Digital Preservation Coalition, 2004. http://www.dpconline.org/docs/lavoie_OAIS.pdf

This publication from the Digital Preservation Coalition (UK), the first of a series from the DPC, is a report on An Introduction to OAIS (Open Archival Information System), authored by Brian Lavoie, from OCLC. The Open Archival Information System (OAIS) Reference Model is a foundational document for digital preservation, incorporating information from the seminal report *Preserving Digital Information*, and expanding it into a conceptual framework for the functional entities of a (digital) archive. Organized and written by the space data community, the influence of OAIS extended, at a very early stage, well beyond there to the broader digital preservation community. This report provides a clear introduction to OAIS—accessible to all interested in preserving digital information. It provides practical examples as well as contextual information about the development of OAIS.

Task Force on Archiving of Digital Information. *Preserving Digital Information*. Commission on Preservation and Access and the Research Libraries Group, 1996. http://www.oclc.org/programs/ourwork/past/digpresstudy/default.htm

This seminal digital preservation report from the Commission on Preservation and Access and the Research Libraries Group (RLG) recommends specific actions that organizations could undertake to develop reliable systems for preserving access to digital information. A considerable portion of the report explores the nature of "information objects in the digital landscape." The report defines the high-level categories of challenges to the digital preservation of cultural heritage materials—one that most projects and reports sought to address over the next seven to ten years. Finally, it

proposes concepts still relevant today, such as the creation of a distributed structure for collecting digital information resources, certified digital archives, and protection of the integrity of digital resources over the long term and retaining them for future use.

Understanding Digital Objects

Dale, Robin L. "Capturing Technical Metadata for Digital Still Images." *RLG DigiNews* 8, no. 5 (October 2004). http://digitalarchive.oclc.org/request?pid%3Dobjid%3A0000068892#article1

An article describing the value of technical metadata for images as it relates to image preservation. The article describes the initiative to create technical metadata for digital still images, as well as the tools being created to facilitate automated capture and harvesting of the metadata, as well as lowering the cost and barrier to capturing this important information.

Lavoie, Brian, and Richard Gartner. *Preservation Metadata*. DPC Technology Watch Report 05-01. London: Digital Preservation Coalition, 2005. http://www.dpconline.org/docs/reports/dpctw05-01.pdf

A report written for the Digital Preservation Coalition in the UK that describes the various components of digital preservation metadata as it relates to the Open Archival Information System (OAIS) Reference Model and the PREMIS (Preservation Metadata: Implementation Strategies) metadata emerging standard. It discusses use of preservation metadata, relevant and applicable standards for the cultural heritage community, and reasoning behind and examples of metadata for digital objects and their preservation.

Rothenberg, Jeff. "Ensuring the Longevity of Digital Documents." *Scientific American* 272 (January 1995): 42–47.

An interesting article written for the broader community that covers digital preservation issues.

Technical Strategies

Lyman, Peter. *Archiving the World Wide Web*. Washington, D.C.: National Digital Information Infrastructure and Preservation Program, 2002.
http://www.digitalpreservation.gov/library/pdf/es_web.pdf

An introductory piece written as a background paper for the National Digital Information Infrastructure and Preservation Program (NDIIPP). It introduces the challenges of trying to preserve the vast amount of information available only on the Internet.

Thibodeau, Kenneth. "Overview of Technological Approaches to Digital Preservation and the Challenges in Coming Years." In *The State of Digital Preservation: An International Perspective*. Washington, D.C.: Council on Library and Information Resources, 2002.
http://www.clir.org/pubs/reports/pub107/thibodeau.html

A key paper that describes the technical and technological approaches that can be taken to preserve digital objects. It provides an easy-to-understand walk-through of preservation strategies that can be applied to a variety of digital objects and projects the challenges for understanding and applying them on a mass scale in the coming years.

Digital Repositories

Baker, Mary, et al. *Why Traditional Storage Systems Don't Help Us Save Stuff Forever*. http://www.hpl.hp.com/techreports/2005/HPL-2005-120.pdf

A straightforward look at why traditional computer storage systems are not the answer to long-term preservation of cultural heritage materials. The authors—several with a computer science background—explain the needs and services required for full digital preservation as opposed to the functionality that is provided by mass storage systems. This is a nice analysis of the additional roles and responsibilities required to preserve meaningful, usable digital objects beyond the simple computer storage solutions.

Research Libraries Group. *Trusted Digital Repositories: Attributes and Responsibilities*. Mountain View, Calif.: RLG and OCLC, May 2002. http://www.oclc.org/programs/ourwork/past/trustedrep/default.htm

A follow-on publication to *Preserving Digital Information* (1996), this is the work of a task force convened to better establish and distinguish the characteristics and responsibilities of trusted digital repositories for large-scale, heterogeneous collections held by cultural organizations. It addresses the issues from the viewpoint of the *Open Archival Information System (OAIS) Reference Model*, the responsibilities it outlines, as well as additional attributes of trustworthy organizations and digital objects. It articulates a framework of attributes and responsibilities for trusted, reliable, sustainable digital repositories capable of handling the range of materials held by large and small research institutions. The framework is broad enough to accommodate different situations, architectures, and institutional responsibilities while providing a basis for the expectations of a trusted repository.

Wheatley, Paul. *Institutional Repositories in the Context of Digital Preservation*. DPC Technology Watch Series Report 04-02. London: Digital Preservation Coalition, 2004. http://www.dpconline.org/docs/DPCTWf4word.pdf

A solid analysis of the functionality and capabilities of various institutional repository software options. The rise in institutional repositories and options is causing confusion across institutions because available preservation functionality is often not included or misunderstood. Wheatley nicely analyzes the predominant repository software being instituted by a variety of organizations and highlights the pros and cons of each, informing readers of the problems we face if institutions consider these open-source solutions to be the answer(s) to the digital preservation problem.

Digital Registries

Abrams, Stephen L., and David Seaman. *Towards a Global Format Registry*. International Federation of Library Associations and Institutions, 2003. http://www.ifla.org/IV/ifla69/papers/128e-Abrams_Seaman.pdf

In this paper, Abrams discusses the concept of digital representation formats and how it permeates all technical areas of digital repository architecture and operation. Policy and processing decisions regarding ingest, storage, access, and preservation are frequently, if not uniformly, conditioned on a format-specific basis. To facilitate the complementary goals of archival preservation and interoperability, Abrams argues that a sustainable public registry for the authority control of identifiers of digital representation formats is needed. Such a registry would provide an unambiguous and persistent association between an identifier for a format and a set of important syntactic and

semantic information about that format, which can be recovered now or in the future to facilitate the operation of digital repositories that use that format. This paper and similar ones became the basis for a grant to Harvard and MIT Libraries, which are now building the Global Digital Format Registry.

Useful Web Sites

Digital Curation Centre (UK). http://dcc.ac.uk/

Digital Preservation Management: Implementing Short-Term Strategies for Long-term Problems. Cornell University Library. http://www.icpsr.umich.edu/dpm/

Preserving Access to Digital Information (PADI). National Library of Australia. A subject gateway to international digital preservation resources. http://www.nla.gov.au/padi/

Understanding Metadata. National Information Standards Organization. http://www.niso.org/publications/press/UnderstandingMetadata.pdf