

Simmons College Graduate School of Library and Information Science

LIS 444 ARCHIVING AND PRESERVING DIGITAL MEDIA

Fall 2008 Instructor: Ross Harvey

READINGS

References to appropriate readings will be advised at the first class and will also be available on the Simmons eLearning website. These readings will as far as possible be online. Digital preservation is a field where there is a wealth of high-quality information available on the web. It is also a field where there are, as yet, few common understandings, and it changes quickly. These factors make it very important to keep up to date with what is changing.

BOOKS ABOUT DIGITAL PRESERVATION

Although the web is the principal publication mechanism for digital curation resources, traditional print publication is also used. However, the nature of the publication process means that books cannot contain the most up-to-date information; they are, nonetheless, worth dipping into during the course. Some relevant books are:

- Borghoff, U.M., Rodig, P., Scheffczyk, J. and Schmitz, L. (2006). *Long Term Preservation of Digital Documents: Principles and Practices*. Springer.
- Deegan, M. and Tanner, S. (eds) (2006). *Digital Preservation*. London: Facet.
- Gladney, H. M. (2007). *Preserving Digital Information*. Springer.
- Harvey, R. (2005). *Preserving Digital Materials*. Munich: K.G. Saur.

Two are available online:

- Paradigm Project (2008) *Workbook on Digital Private Papers*: <http://www.paradigm.ac.uk/>
- UNESCO (2003) *Guidelines for the Preservation of Digital Heritage*. Paris: UNESCO:
<http://unesdoc.unesco.org/images/0013/001300/130071e.pdf>

READINGS WEEK BY WEEK

INTRODUCTION AND BASICS

September 9 Welcome and introduction to the course

Required Reading

- Association for Library Collections and Technical Services (2007) *Definitions of Digital Preservation*: <http://www.ala.org/ala/alcts/newslinks/digipres/index.cfm>
- Entlich, Richard & Buckley, Ellie (2006) 'Digging Up Bits of the Past: Hands-on With Obsolescence' *RLG-Diginews* v. 10 no.5 (The best way to locate this on the web is using a search engine)
- Higgins, Sarah (2008) 'The DCC Curation Lifecycle Model', *International Journal of Digital Curation* v. 3 no. 1: <http://www.ijdc.net/>
- Lavoie, Brian & Lorcan Dempsey (2004). 'Thirteen Ways of Looking at ... Digital Preservation', *D-Lib Magazine* v.10 no.7/8: <http://www.dlib.org/dlib/july04/lavoie/07lavoie.html>

September 16 The problems

Required Readings: as for September 9

Additional Recommended Readings:

- Caplan, Priscilla (2008) *The Preservation of Digital Materials*. Library Technology Reports vol 44 no 2. Chapter 1: 'What is Digital Preservation?':
<https://publications.techsource.ala.org/products/archive.pl?article=2614>
- Reagan, Brad (2006) 'The Digital Dark Age', *Popular Mechanics* December:
<http://www.popularmechanics.com/technology/industry/4201645.html>
- *Timeline: Digital Preservation and Technology and Chamber of Horrors: Obsolete and Endangered Media* – accessed through the introduction to the Cornell University's online tutorial *Digital Preservation Management* <http://www.icpsr.umich.edu/dpm/dpm-eng/timeline/index.html>

DEVELOPING A DIGITAL ARCHIVE

September 23 The OAIS Reference Model; The Curation Lifecycle

Required Reading

- Higgins, Sarah (2006) *Using OAIS for Curation*. DCC Briefing Paper:
<http://www.dcc.ac.uk/resource/briefing-papers/using-oais-for-curation>
- Lavoie, Brian F. (2004) *The Open Archival Information System Reference Model: Introductory Guide*, DPC Technology Watch Report. OCLC & DPC, 2004:
http://www.dpconline.org/docs/lavoie_OAIS.pdf
- Rusbridge, Chris (2007) *Create, Curate, Re-use: The Expanding Life Course of Digital Research*:
<http://hdl.handle.net/1842/1731>

September 30 Essentials: Metadata, planning, standards

Required Reading

- Davidson, Joy (2006) *Persistent Identifiers* DCC Briefing Paper:
<http://www.dcc.ac.uk/resource/briefing-papers/persistent-identifiers/>
- Higgins, Sarah (2006) *What are Metadata Standards?* DCC Standards Watch Paper:
<http://www.dcc.ac.uk/resource/standards-watch/what-are-metadata-standards/>
- Higgins, Sarah (2007) *Using Metadata Standards* DCC Standards Watch Paper:
<http://www.dcc.ac.uk/resource/standards-watch/using-metadata-standards/>
- Lavoie, Brian and Gartner, Richard (2005) *Preservation Metadata* DPC Technology Watch Report:
<http://www.dpconline.org/docs/reports/dpctw05-01.pdf>
- National Library of Australia *Critical Elements of Preserving Digital Collections*:
<http://www.nla.gov.au/preserve/digipres/elements.html>
- National Library of Australia *Recommended Practices for Digital Preservation*:
<http://www.nla.gov.au/preserve/digipres/digiprespractices.html>

Recommended Reading

- Higgins, Sarah (2007) *PREMIS Data Dictionary* DCC Standards Watch Paper:
<http://www.dcc.ac.uk/resource/standards-watch/premis-data-dictionary/>
- *METS: An Overview & Tutorial*: <http://www.loc.gov/standards/mets/METSOverview.html>
- National Library of Australia. *Managing Web Resources for Persistent Access*:
<http://www.nla.gov.au/guidelines/persistence.html>

October 7 Making digital materials preservation-friendly

Required Reading

- InterPARES Project *Creator Guidelines: Making and Maintaining Digital Materials: Guidelines for Individuals*: http://www.interpares.org/ip2/ip2_products.cfm
- National Archives (2003) *Selecting File Formats for Long-Term Preservation* Digital Preservation Guidance Note 1: <http://www.nationalarchives.gov.uk/preservation/advice/digital.htm>
- Wilson, Andrew (2007) *InSPECT: Significant Properties Report*:
http://www.significantproperties.org.uk/documents/wp22_significant_properties.pdf

Recommended Reading

- Arms, Caroline R. and Fleischhauer, Carl (2005) 'Digital Formats: Factors for Sustainability, Functionality, and Quality' *Paper given at the IS&T Archiving 2005 Conference, Washington DC (29 April 2005)*: http://memory.loc.gov/ammem/techdocs/digform/Formats_IST05_paper.pdf
- National Archives (2003) *Graphic File Formats* Digital Preservation Guidance Note 4: <http://www.nationalarchives.gov.uk/preservation/advice/digital.htm>
- National Archives (2003) *Image Compression* Digital Preservation Guidance Note 5: <http://www.nationalarchives.gov.uk/preservation/advice/digital.htm>
- Paradigm Project *Paradigm Workbook chapter 8*: <http://www.paradigm.ac.uk/workbook/preservation-strategies/file-formats.html>

October 14 Getting data into the archive

Required Reading

- Digital Preservation Coalition (2006) *Decision Tree for Selection of Materials for Long-Term Retention*: <http://www.dpconline.org/graphics/handbook/dec-tree.html>
- Harvey, Ross (2007) *Appraisal and Selection* DCC Briefing Paper: <http://www.dcc.ac.uk/resource/briefing-papers/appraisal-and-selection/>
- Rosenzweig, Roy (2003) 'Scarcity or Abundance? Preserving the Past in a Digital Era', *American Historical Review* v. 108 no. 3: <http://www.historycooperative.org/journals/ahr/108.3/rosenzweig.html>
- Witt, Michael & Carlson, Jake R. (2007) *Conducting a Data Interview*. Purdue Libraries. Libraries Research Publication: http://docs.lib.purdue.edu/lib_research/81/

Recommended Reading

- Data Preservation Alliance for the Social Sciences (DataPASS) *Appraisal Guidelines*: <http://www.icpsr.umich.edu/DATAPASS/pdf/appraisal.pdf>
- Yale University and Tufts University (2005) *Ingest Guide for University Electronic Records*: http://dca.tufts.edu/features/nhprc/reports/3_1_draftpublic2.pdf

October 21 Preserving the data

Required Reading

- Center for Research Libraries *Core Requirements for Digital Archives*: <http://www.crl.edu/content.asp?l1=13&l2=58&l3=162&l4=92>
- RLG (2002) *Trusted Digital Repositories: Attributes and Responsibilities* An RLG-OCLC Report: <http://www.oclc.org/programs/ourwork/past/trustedrep/repositories.pdf>
- Semple, Najla (2006) *Digital Repositories* DCC Briefing Paper: <http://www.dcc.ac.uk/resource/briefing-papers/digital-repositories/>

Recommended Reading

- Center for Research Libraries *TRAC: the Trustworthy Repositories Audit and Certification (TRAC) Criteria and Checklist*: <http://www.crl.edu/content.asp?l1=13&l2=58&l3=162&l4=91>
- DRAMBORA: *the Digital Repository Audit Method Based on Risk Assessment*: <http://www.repositoryaudit.eu/>
- Pennock, Maureen (2006) *DSpace Digital Repository Software* DCC Technology Watch Paper: <http://www.dcc.ac.uk/resource/technology-watch/dspace>
- Pennock, Maureen (2006) *EPrints Digital Repository Software* DCC Technology Watch Paper: <http://www.dcc.ac.uk/resource/technology-watch/eprints/>
- Pennock, Maureen (2006) *Fedora Digital Repository Software* DCC Technology Watch Paper: <http://www.dcc.ac.uk/resource/technology-watch/fedora/>

October 28 Aside: preservation methods

Required Reading

- Digital Preservation Coalition *Handbook* Section 4.3.2 Preservation Strategies: <http://www.dpconline.org/graphics/orgact/storage.html>

- Paradigm project, *Workbook on Digital Private Papers*: Chapter 8: Digital Preservation Strategies: <http://www.paradigm.ac.uk/workbook/preservation-strategies/index.html>

Recommended Reading

Migration

- PADI (Preserving Access to Digital Information) *Migration*: <http://www.nla.gov.au/padi/topics/21.html>
- UNESCO (2003) *Guidelines for the Preservation of Digital Heritage* Section 17.16.

Emulation

- PADI (Preserving Access to Digital Information) *Emulation*: <http://www.nla.gov.au/padi/topics/19.html>
- UNESCO (2003) *Guidelines for the Preservation of Digital Heritage* Section 17.17.

Universal Virtual Computer

- PADI (Preserving Access to Digital Information) *Universal Virtual Computer*: <http://www.nla.gov.au/padi/topics/492.html>
- UNESCO (2003) *Guidelines for the Preservation of Digital Heritage* Section 17.15.

Digital Archaeology

- Ross, S. & Gow, A. (1999) *Digital Archaeology: Rescuing Neglected and Damaged Data Resources*: <http://eprints.erpanet.org/47/>
- UNESCO (2003) *Guidelines for the Preservation of Digital Heritage* Section 17.17.

Technology Preservation

- UNESCO (2003) *Guidelines for the Preservation of Digital Heritage* Section 17.16.

Standardising Data Formats

- UNESCO (2003) *Guidelines for the Preservation of Digital Heritage* Section 17.15.

Encapsulation

- PADI (Preserving Access to Digital Information) *Encapsulation*: <http://www.nla.gov.au/padi/topics/20.html>
- UNESCO (2003) *Guidelines for the Preservation of Digital Heritage* Section 17.15.

November 4 A focus on users

Readings to be Advised

November 11 No Class – Veteran’s Day

DIGITAL PRESERVATION IN PRACTICE

November 18 To be advised

Required Reading

- Caplan, Priscilla (2007) ‘The Florida Digital Archive and DAITSS: A Working Preservation Repository Based on Format Migration’ *International Journal on Digital Libraries* v. 6 no. 4: 305-311. (Available electronically at the Simmons Library)
- McGovern, Nancy (2007) ‘A Digital Decade? Where Have We Been and Where Are We Going in Digital Preservation?’, *RLG Diginews* v. 11 no. 1: <http://worldcat.org/arcviewer/1/OCC/2007/08/08/0000070519/viewer/file137.html#article3>

Recommended Reading

- Columbia University Libraries (2006) *Policy for Preservation of Digital Resources*: <http://www.columbia.edu/cu/lweb/services/preservation/dlpolicy.html>
- InterPARES Project. *Preserver Guidelines: Preserving Digital Records: Guidelines for Organizations*: http://www.interpares.org/ip2/ip2_products.cfm
- McLeod, R. Wheatley, P. & Ayris, P. (2006) *Lifecycle Information for e-literature: A Summary from the LIFE Project*. LIFE Project, London, UK: <http://eprints.ucl.ac.uk/1855/1/LifeProjSummary.pdf>

November 25 Institutional Repositories

Required Reading

- Lynch, Clifford A. (2003) *Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age*. ARL Bimonthly Report no 226: <http://www.arl.org/resources/pubs/br/br226/br226ir.shtml>

December 2 To be advised

Reading to be Advised

FUTURE CHALLENGES AND RESEARCH

December 9 Challenges; Research

Required Reading

- Beagrie, Neil (2005) 'Plenty of Room at the Bottom? Personal Digital Libraries and Collections', *D-Lib Magazine*, v. 11 no. 6: <http://www.dlib.org/dlib/june05/beagrie/06beagrie.html>
- Doctorow, Coty (2008) 'Big Data: Welcome to the Petacenter', *Nature* v. 455 (3 September) pp.16-21: <http://www.nature.com/news/2008/080903/full/455016a.html>
- Ross, Seamus (2007) 'Digital Preservation, Archival Science and Methodological Foundations for Digital Libraries' Keynote Address at the 11th European Conference on Digital Libraries (ECDL), Budapest (17 September 2007): http://www.ecdl2007.org/Keynote_ECDL2007_SROSS.pdf

Recommended Reading

- Digital Preservation Coalition (2006) *Mind the Gap: Assessing Digital Preservation Needs in the UK*: <http://www.dpconline.org/docs/reports/uknamindthegap.pdf>
- DPE (2007) *Research Roadmap* Section 1 Executive Summary, Section 4 DPE Recommended Research, Section 5 Conclusions and Recommendations: http://www.digitalpreservationeuropa.eu/publications/reports/dpe_research_roadmap_D72.pdf
- Marshall, Catherine C. (2008) 'Rethinking Personal Digital Archiving, Part 1', *D-Lib Magazine*, v. 14 nos3/4: <http://www.dlib.org/dlib/march08/marshall/03marshall-pt1.html>
- Marshall, Catherine C. (2008) 'Rethinking Personal Digital Archiving Part 2', *D-Lib Magazine*, v. 14 nos3/4: <http://www.dlib.org/dlib/march08/marshall/03marshall-pt2.html>

OTHER USEFUL RESOURCES

Website

- *PADI: Preserving Access to Digital Information*: <http://www.nla.gov.au/padi/index.html> (The PADI website is highly recommended as an essential starting point for all areas of digital preservation).

Glossaries

- AHDS (2007) *Preservation Glossary*: <http://ahds.ac.uk/exec/creating/glossary.htm>
- Pearce-Moses, Richard. *A Glossary of Archival and Records Terminology*: <http://www.archivists.org/glossary/>

Online journals

Articles about digital curation appear in a wide range of journals, and can be located using indexing and abstracting databases available through libraries. The DCC (Digital Curation Centre) web site provides a listing of curation and preservation-related journals. PADI also provides a listing of journals and newsletters relevant to digital curation. Journals which regularly publish articles about digital curation include:

- *Ariadne*. Notes current digital library initiatives and relevant technological developments.
- *D-Lib Magazine*. 'Primary focus on digital library research and development, including but not limited to new technologies, applications, and contextual social and economic issues'.

- *International Journal of Digital Curation*. Published by the DCC.

Online tutorials

Several online tutorials about digital preservation are available:

- Cornell University Library. *Digital Preservation Management: Implementing Short-term Strategies for Long-term Problems*. This highly recommended tutorial provides an essential introduction to digital preservation.
- CHIN (Canadian Heritage Information Network) provides a number of tutorials in the field of creating and managing digital content.
- PRESTOSPACE online tutorials cover topics about the preservation of audio-visual materials.
- TASI (Technical Advisory Service for Images) *Advice Documents* include *An Introduction to Digital Preservation* and *Establishing a Digital Preservation Strategy*.

Many online tutorials on specific technical topics are also available on the web. An example is:

- *OAI for Beginners: the Open Archives Forum online tutorial*.

Blogs

Blogs specifically about digital curation are noted here. Postings about digital curation regularly appear in a wide range of other blogs.

- *Digital Curation Blog*. 'Inspired by the Digital Curation Centre to discuss issues relating to the curation and long term preservation of digital science and research data'.
- The DCC Blawg. Another DCC blog focussing on legal aspect of digital curation.
- *The Ten Thousand Year Blog*. 'Archivist-historian David Mattison's musings and Web tracks on digital culture preservation issues'.
- Neil Beagrie's blog.

Other sources

The DPE web site provides an annotated list of online resources that are of relevance and importance to archives and records management. Discipline-specific web sites also contain relevant resources. An example is the list of digital curation resources available on the NASA/Science Office of Standards and Technology (NOST) web site.

Ross Harvey September 7, 2008