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University of Michigan
School of Information

SI 640 DIGITAL LIBRARIES AND ARCHIVES

COURSE STRUCTURE, REQUIRED READINGS, and RESOURCES

Week 1 (January 12): Definitions and Key Constructs

The first course session will review the structure of the courses and outline its principal underlying themes. We will explore perspectives on the idea of libraries and archives, digital or otherwise, collaborate to establish a shared definition of a digital library, and frame this definition within the broader notion of “convergence culture” and the functional convergence of libraries, archives, and museums.

Required Readings:

Borgman. [2000] *Gutenberg to Global Information Infrastructure*, Chapter 2, pp. 33-52.

Gilliland-Swetland. [2000] *Enduring Paradigm, New Opportunities: The Value of the Archival Perspective in the Digital Environment*. <http://www.clir.org/pubs/abstract/pub89abst.html>

Jenkins. [2006] *Convergence Culture: Where Old and New Media Collide*. Introduction, pp. 1-24.

Levy. [2003] "Documents and Libraries," in Bishop, et al. *Digital Library Use*, Chapter 2, pp. 25-42.

Resources:

Bearman. [2007] "Digital Libraries." *Annual Review of Information Science and Technology* 41. Information Today, Inc.

Fox, & Urs. [2002] "Digital Libraries." *Annual Review of Information Science and Technology* 36. Information Today, Inc.

Pomerantz, et al. [2006] "The Core Digital Library Education in Library and Information Science Programs." *D-Lib Magazine* 12 (11). <http://www.dlib.org/dlib/november06/pomerantz/11pomerantz.html>

NB: Due to the MLK Holiday, we will cover Week 2 content in Weeks 1 and 3.

Week 2 (January 19): Origins and International Perspectives

Digital libraries have a distinctive history, a consideration of which sheds light on the predispositions of those who design and build them. This session will contrast design/build perspectives on an international basis with what we do and do not know about the people who use them. This session will cover the major sources of information on digital libraries and archives.

Required Readings:

Dempsey. [2006] "The (Digital) Library Environment: Ten Years After." <http://www.ariadne.ac.uk/issue46/dempsey/>

Ross. [2007] "Digital Preservation, Archival Science and Methodological Foundations for Digital Libraries" http://www.ecdl2007.org/Keynote_ECDL_SROSS.pdf

Saracevic. [2005] "How Were Digital Libraries Evaluated?" <http://www.scils.rutgers.edu/~tefko>

Schnapp. [2008] "Animating the Archive." *First Monday*, Volume 13 Number 8 - 4 <http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/2218/2020>

Woldering. [2004] "The European Library: Integrated Access to the National Libraries of Europe." <http://www.ariadne.ac.uk/issue38/woldering/>

Resources:

Fox. [1993] Digital Library Sourcebook. <http://fox.cs.vt.edu/DLSB.html>

Digital Library Federation. <http://www.diglib.org/>

ERANET: European Resource Preservation and Access Network. <http://www.erpanet.org/index.php>

JISC: Joint Information Systems Committee. <http://www.jisc.ac.uk/>

PADI: Preserving Access to Digital Information. <http://www.nla.gov.au/padi/>

Week 3 (January 26): Content Landscapes: How Much Information

In spite of the fact that the manufacture of paper continues unabated, we are living in a digital world. This session will explore alternative scenarios for describing the landscape of digital content, using as a point of departure a seminal study that attempts to measure the volume of information created annually.

Required Readings:

Lyman and Varian. [2003] *How much information? 2003*.

<http://www2.sims.berkeley.edu/research/projects/how-much-info-2003/>

OCLC. [2004] "2004 Information Format Trends: Content, Not Containers,"

<http://www.oclc.org/reports/2004format.htm>

O'Toole. [1994] "On the Idea of Uniqueness." *American Archivist*

Powell. [2003] "Mapping the JISC IE [Information Environment] Service Landscape."

<http://www.ariadne.ac.uk/issue36/powell/intro-alternative.html>

Resources:

Digital Library Federation. Registry of Digital Masters. <http://www.diglib.org/collections/reg/reg.htm>

Digital Library Federation. DLF Aquifer. <http://www.diglib.org/aquifer/>

HangingTogether [blog] <http://hangingtogether.org/>

JISC Collections: delivering resources online. <http://www.jisc-collections.ac.uk/>

Week 4 (February 2): Research Agendas

Sometimes it's useful to make lists. Research agendas for digital libraries, digital preservation capabilities, and the management of electronic records provide insight into the shifting perspectives on needs and requirements. This session will explore at least a decade's worth of research agendas against our emerging understanding of what digital libraries are.

Required Readings:

EU-NSF Working Group on Metadata. Metadata for Digital Libraries: a Research Agenda. [1999]

<http://www.ercim.org/publication/ws-proceedings/EU-NSF/metadata.html>

Hedstrom. [2003] *It's About Time: Research Challenges in Digital Archiving and Long-Term Preservation*.

Hedstrom. [2002] "The Digital Preservation Research Agenda."

<http://www.clir.org/pubs/abstract/pub107abst.html>

Snow, et al. [2008] "Considering the User Perspective: Research into Usage and Communication of Digital Information. *D-Lib Magazine*. <http://www.dlib.org/dlib/may08/ross/05ross.html>

Waters and Garrett. [1996] *Preserving Digital Information*. <http://www.clir.org/pubs/abstract/pub63.html>

Resources:

Anderson and Choudhury. [2003] "A Usability Research Agenda for Digital Libraries." http://dkc.jhu.edu/usability_1.html

National Science Foundation. Digital Libraries Initiative, Phases One and II. <http://www.dli2.nsf.gov/>
<http://www.dli2.nsf.gov/dlione/>

UM Collaboratory Working Groups. http://www.si.umich.edu/UMDL/EU_Grant/home.htm

Week 5 (February 9): Interface and Metadata Infrastructure

What you see isn't necessarily what you get. This session will explore the distinction between the user interface and the underlying structure of information used to describe, structure, and administer a digital archive or repository. We will work with several XML models of digital library metadata infrastructure and explore the elements of interface design that enable or constrain use.

Required Readings:

Borgman. [2000] "Making Digital Libraries Easier to Use," *Gutenberg to Global Information Infrastructure*, pp. 143-163.

Caplan and Guenther. [2005] "Practical Preservation: the PREMIS Experience." *Library Trends* http://www.loc.gov/standards/premis/caplan_guenther-librarytrends.pdf

Dahlquist, et al. [2005] "Integrating Digital Libraries and Electronic Publishing in the DART Project." <http://doi.acm.org/10.1145/1065385.1065411>

Gartner. [2008]. "Metadata for Digital Libraries: State of the Art and Future Directions." *JISC TechWatch Report*, TSW0801. <http://www.jisc.ac.uk/whatwedo/services/techwatch/reports/horizonscanning.aspx>

Lavoie. [2004] *Open Archival Information System: Introductory Guide*. <http://www.dpconline.org/graphics/reports/index.html>

Lynch. [2000] "Authenticity and Integrity in the Digital Environment." <http://www.clir.org/pubs/reports/pub92/lynch.html>

McDonough [2006] "METS: standardized encoding for digital library objects," *International Journal on Digital Libraries* 6(2):148-158.

Resources:

National Digital Information Infrastructure Preservation Program. <http://www.digitalpreservation.gov/index.html>

Flecker. [2000] "Harvard's Library Digital Initiative: Building a First Generation Digital Library Infrastructure." *D-Lib Magazine* 6 (November 2000). <http://www.dlib.org/dlib/november00/flecker/11flecker.html>

Higgins and Semple. [2006] *OAIS Five-year Review*. <http://www.dcc.ac.uk/events/oais-fyr-2006/>.

PREMIS: Preservation Metadata Maintenance Activity. <http://www.loc.gov/standards/premis/>

METS: Metadata Encoding and Transmission Standard. <http://www.loc.gov/standards/mets/>

Week 6 (February 16): Representation of Image/Text and Visual Digital Libraries

This session will look closely at theories of representation – particularly through the transformation of visual and textual resources into digital formats. The rapidly emerging interdiscipline of "Digital Humanities" will serve as a framework for testing notions of who digitization influences how users interpret meaning in a digital library/archive context. A project on diagnosing and detecting image representation will be introduced.

Required Readings:

Bolter & Grusin. [1996] "Remediation." *Configurations* 4.
<http://muse.jhu.edu/journals/configurations/v004/4.3bolter.html>

Folsom. [2007] "Database as Genre: The Epic Transformation of Archives." *PMLA* 122.5

Frey and Reilly. [1999] *Digital Imaging for Photographic Collections: Foundations for Technical Standards*.

Sassoon. [1998] "Photographic Meaning in the Age of Digital Reproduction." *LASIE*
<http://www.sl.nsw.gov.au/lasie/prepdf.htm>

Smith. [2001] *Strategies for Building Digitized Collections*.
<http://www.clir.org/pubs/abstract/pub101abst.html>

Schwartz. [2000] "'Records of Simple Truth and Precision: Photography, Archives, and the Illusion of Control," *Archivaria*

Resources:

National Archives and Records Administration. [2004] *NARA Guidelines for Digitizing Archival Materials for Electronic Access*. <http://www.archives.gov/research/arc/digitizing-archival-materials.html>

Handout on digital imaging guidelines [on CTools]

Summit on Digital Tools for the Humanities. [2003] <http://www.iath.virginia.edu/dtsummit/>

Text Encoding Initiative <http://www.tei-c.org/index.xml>

SPRING BREAK (February 23)**Week 7 (March 2): Case Studies on Building Collections**

This week builds on the theories of representation explored in Week 6 by examining closely three very significant digital library projects. *American Memory* of the Library of Congress and the Online Archive of California represent large general purpose collections; the *Walt Whitman Archive*, built under the auspices of the Institute for Advanced Technology in the Humanities, is a great example of purpose-built collections oriented toward specific digital humanities scholarship.

Required Readings:

Arms [1999] "Getting the Picture: Observations from the Library of Congress on Providing Online Access to Pictorial Images." *Library Trends* [American Memory]

Barney et al. [2005] "Ordering Chaos" *Library and Linguistic Computing*. doi:10.1093/lc/fqi002 [access through Mirlyn] [Whitman]

Chandler. [2002] "Museums in the Online Archive of California (MOAC): Building Digital Collections Across Libraries and Museums," *First Monday* http://firstmonday.org/issues/issue7_5/chandler/index.html [OAC]

Cohen. [2006] "Transgenic Deformation: Literary Translation and the Digital Archive." *MLA Convention Presentation*. <http://www.whitmanarchive.org/about/articles/anc.00165.html> [Whitman]

Dalbello. [2004] "Institutional Shaping of Cultural Memory: Digital Library as Environment for Textual Transmission." *Library Quarterly*. [American Memory]

Gilliland-Swetland. [1998] "Evaluation Design for Large-Scale, Collaborative Online Archives: Interim Report of the Online Archive of California Evaluation Project." *Archives & Museum Informatics* [OAC]

Holz. [2006] "Technologically Enhanced Archival Collections: Using the Buddy System." *Journal of Archival Organization* 6.

Resources:

California Digital Library. Online Archive of California. <http://www.oac.cdlib.org/>

California Digital Library. Online Archive of California. Technical Information. <http://www.cdlib.org/inside/projects/oac/tech.html>

Institute for Advanced Technology in the Humanities. <http://www.iath.virginia.edu/>

Library of Congress. American Memory. <http://memory.loc.gov/ammem/index.html>

Library of Congress. American Memory. Technical Information. <http://memory.loc.gov/ammem/about/techIn.html>

Walt Whitman Archive. <http://www.whitmanarchive.org/>

Walt Whitman Archive. About the Archive. <http://www.whitmanarchive.org/about/index.html>

Week 8 (March 9): Cyberinfrastructure

This session will introduce the concept of “cyberinfrastructure” and explore the concept’s relevance to the technical and policy issues associated with science, social science, and humanities data and users.

Required Readings:

American Council of Learned Societies. [2006] *Our Cultural Commonwealth*.
<http://www.acls.org/cyberinfrastructure/cyber.htm>

Arms et al. [2006] “A Research Library Based on the Historical Collections of the Internet Archive.”
<http://www.dlib.org/dlib/february06/arms/02arms.html>

Association of Research Libraries. [2006] “Long-term Stewardship of Digital Data Sets in Science and Engineering.” <http://www.arl.org/info/frn/other/ottoc.html>

Berman and Brady [2005] “Final Report: NSF SBE-CISE Workshop on Cyberinfrastructure and the Social Sciences,” <http://vis.sdsc.edu/sbe/>

Messerschmitt. [2003] “Opportunities for Research Libraries in the NSF Cyberinfrastructure Program,”
<http://www.arl.org/resources/pubs/br/br229/>

National Science Foundation. [2003] *Revolutionizing Science and Engineering Through Cyberinfrastructure*.
<http://www.nsf.gov/od/oci/reports/toc.jsp>

NSF Cyberinfrastructure Council. [2006] *NSF’s Cyberinfrastructure Vision for 21st Century Discovery*.
<http://www.nsf.gov/od/oci/ci-v7.pdf>

Resources:

National Science Foundation. Cyberinfrastructure Office. *Reports and Workshops Relating to Cyberinfrastructure and Its Impacts*. <http://www.nsf.gov/od/oci/reports.jsp>

Data Document Initiative. <http://www.ddalliance.org/index.html>

Economic and Social Data Services. [2005] *Guide to Good Practice: Data Management*.
<http://www.esds.ac.uk/support/guides/A4.pdf>

Lord and Macdonald. [2003] *e-Science Curation Report*. http://www.jisc.ac.uk/uploaded_documents/e-ScienceReportFinal.pdf

Week 9 (March 16): Scholarly Communication and Digital Library Use

Models of scholarly communication (which vary somewhat by discipline) provide a framework for exploring access and use issues in digital libraries. This and next week's sessions together will force us to confront the ongoing tensions between the idealization of digital libraries and the barriers presented by the technical, organizational, and policy constraints.

Required Readings:

Borgman. [2003] "Designing Digital Libraries for Usability," *Gutenberg to Global Information Infrastructure*, pp. 117-168.

Campbell. [2000] "The Case for Creating a Scholars Portal to the Web."
<http://www.arl.org/resources/pubs/br/br211.shtml>

Farb. [2006] "Libraries, licensing and the challenge of stewardship."
http://www.firstmonday.org/issues/issue11_7/farb/index.html

Levy. [1998] "Heroic Measures." <http://www.acm.org/pubs/citations/proceedings/dl/276675/p152-levy/>

Rusbridge. [2005] "Information Life Cycle and Curation." PowerPoint. [CTools]

Waters. [2006] "Managing Digital Assets in Higher Education."
<http://www.arl.org/resources/pubs/br/br244.shtml>

Resources:

First Monday. [2006] Openness: Code, Science, and Content. Website.
http://www.firstmonday.org/issues/issue11_7/index.html

Association of Research Libraries. New Models for Scholarly Communication. Website.
<http://www.arl.org/sc/models/index.shtml>

Create Change. Website. <http://www.createchange.org/>

Week 10 (March 23): Institutional Repositories and Trust

This session will look closely at emerging models of institutional repositories, their relationship to emerging preservation requirements, including data modeling and trust systems.

Required Readings:

Crow. [2002] "The Case for Institutional Repositories: A SPARC Position Paper."
<http://www.arl.org/sparc/IR/ir.html>.

Green and Gutmann. [2006] "Building Partnerships Among Social Science Researchers, Institution-based Repositories and Domain Specific Data Archives." [preprint on CTools]

Lavoie and Dempsey. [2004] "Thirteen Ways of Looking at...Digital Preservation."
<http://www.dlib.org/dlib/july04/lavoie/07lavoie.html>

Lynch. [2003] "Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age."
<http://www.arl.org/resources/pubs/br/br226/br226ir.shtml>

Lynch and Lippincott. [2005] "Institutional Repository Deployment in the United States as of Early 2005."
<http://www.dlib.org/dlib/september05/lynch/09lynch.html>

Markey et al. [2007] Census of Institutional Repositories in the United States: MIRACLE Project Research Findings. CLIR pub 140. See, particularly, Executive Summary and Literature Review.
<http://www.clir.org/pubs/abstract/pub140abst.html>

Rusbridge. [2006] "Excuse Me... Some Digital Preservation Fallacies?"
<http://www.ariadne.ac.uk/issue46/rusbridge/>

Wheatley. [2004] *Institutional Repositories in the Context of Digital Preservation*.
<http://www.dpconline.org/graphics/reports/index.html>

Resources:

TRAC: Trustworthy Repositories Audit & Certification: Criteria and Checklist.
<http://www.crl.edu/content.asp?l1=13&l2=58&l3=162&l4=91>

DRAMBORA: Digital Repository Audit Method Based on Risk Assessment. <http://www.repositoryaudit.eu/>

NESTOR: Network of Expertise in Digital Long-term Preservation (Germany)
<http://www.langzeitarchivierung.de/index.php?newlang=eng>

NEDCC. [2007] "Digital Preservation Readiness Webliography."
<http://www.nedcc.org/resources/leaflets/6Reformatting/08DigitalPreservationReadiness.php>

Week 11 (March 30): Case Study of UM Deep Blue and Blue Stream

This session takes a close look at two technologies at the University of Michigan that support the university's digital repository efforts, including the ingest and processing of digital multi-media resources. The case study explores the extent to which multiple technologies are and are not yet integrated from the perspective of infrastructure and interface.

Required Readings:

Deep Blue <http://deepblue.lib.umich.edu/>

Blue Stream <http://sitemaker.umich.edu/bluestream/home>

Week 12 (April 6): Sustaining Digital Libraries

Sustainability could turn out to be one of the principal challenges of digital libraries (an open question). This final session will explore a variety of incentive mechanisms associated with designing, building, and using digital libraries/archives and their use.

Required Readings:

Keller, Reich, and Herkovic. [2003] "What is a library anymore, anyway?"
http://www.firstmonday.org/issues/issue8_5/keller/index.html

Lynch. [2005] "Where Do We Go from Here? The Next Decade in Digital Libraries."
<http://www.dlib.org/dlib/july05/lynch/07lynch.html>

Lagoze. [2005] "What Is a Digital Library Anymore, Anyway? Beyond Search and Access in the NSDL."
<http://www.dlib.org/dlib/november05/lagoze/11lagoze.html>

Lavoie. [2008] "The Fifth Blackbird: Some Thoughts on Economically Sustainable Digital Preservation." *D-Lib Magazine* 14. <http://www.dlib.org/dlib/march08/lavoie/03lavoie.html>

Lavoie. [2003] The Incentives to Preserve Digital Materials: Roles, Scenarios, and Economic Decision-Making. OCLC Office of Research. <http://www.oclc.org/research/projects/digipres/incentives-dp.pdf>

Rusbridge et al. [2005] "The Digital Curation Centre: A Vision for Digital Curation." [CTools]

Resources:

Digital Curation Center. <http://www.dcc.ac.uk/index>

Week 13 (April 13): Wrap-up and Research Paper Reports

This and the final session will provide opportunities for synthesis across seminar topics, taking as a point of departure the issues explored in student research papers. Project reports will be grouped conceptually into panels; each project will be allotted roughly five minutes for a succinct presentation on the core concept and key findings of the project.

Week 14 (April 20): Research Paper Reports

Completion of project reports.