

LIS 644: Digital Trends, Tools, and Debates

School of Library and Information Studies
University of Wisconsin-Madison
Fall 2015

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Course Objectives

- ◆ Broad awareness of digital technologies in use in libraries, archives, and other information agencies.
- ◆ Vocabulary and knowledge of conventions needed to communicate with technical staff.
- ◆ Ability to evaluate, plan and hire for, select, and safely and securely work with digital technologies.
- ◆ Awareness of the social and legal forces that impact digital technologies; controversies surrounding them; and the complex relationship between digital technologies and the future of information agencies.
- ◆ Ability to contribute appreciably to a team working on a defined project; awareness of project-management tools and techniques.
- ◆ Basic HTML, CSS, and SQL knowledge.
- ◆ Sufficient courage, self-awareness, and skill for self-sufficiency in acquiring technical knowledge.
- ◆ Development of ethical and principled approaches to technology adoption and education.

This course is designed to assess student progress in the following SLIS program-level learning outcomes: 3d, 4a, 4b, and 4d.

Course Policies

I wish to fully include persons with disabilities in this course. Please let me know within one week if you require accommodation. I will try to maintain the confidentiality of this information.

Academic Honesty: I follow the academic standards for cheating and plagiarism set forth by the University of Wisconsin.

This course involves technology education, not technology training; an explicit goal is self-sufficiency in acquiring knowledge about novel technology. I encourage students who want training in specific technologies to discuss possibilities with me.

Readings

There are no required textbooks or software purchases for this course. **THE SYLLABUS IS REQUIRED READING.**

Contacting me

READ THE SYLLABUS before asking a question, please; the syllabus may answer it! If it does not, please ask in the class's Learn@UW help forums. Email me **ONLY** with confidential individual concerns or to set up a synchronous appointment; any email question that could be answered on the forums will not receive a reply. I check class forums daily during the workweek, and do my best to answer email within two business days. I am not available weekends. If you can answer a classmate's question in any Learn@UW forum, please do so.

If you see dead links (it does happen, usually with no notice), weird due dates, or other syllabus problems, please post them to the “Syllabus problems” forum on Learn@UW. I will do my best to resolve them promptly.

Known absences

Expect me to be slower to respond than usual during the following dates:

- October 15-16: Midwest Data Librarians Symposium

- October 22-23: Potomac Technical Processing Librarians Board meeting (I am speaking)
- November 3-6: Wisconsin Library Association conference (I am on a panel)

Course week, due dates, and assignment policies

Our course week runs from Wednesday to Tuesday (so the first week of class begins September 2). I generally open course content one week early for students who need to work ahead; if you need more at some point during the semester, I can often accommodate you. All assignments are due Wednesdays at 5 pm CT. Late assignments will be penalized one final-grade percentage point per day or fraction thereof late. I will allow revision/resubmission at my discretion and on my schedule only; student resistance will remove the opportunity.

Weekly Readings

Most weeks have linklists associated with them. These are for enrichment, as well as assistance for those delving into related topics for short webinars, solutions, or technology implementations. I encourage skimming linklists for items of interest, but you are *not* expected to read everything on them! You are expected to read everything else on the reading lists **EXCEPT** for Week 15, where you are to read one likely-looking reading from each available list, and otherwise follow your interests.

Unit 1: Fundamentals

Week 1: What is technology? What information agencies do with technology. Info-agency jobs in technology.

Learning objectives: Technology, technology “stacks,” technology “affordances” and “constraints.” Attitudes toward technology and change. Project management tools and techniques. Technology-centered information-agency jobs. Technology in other information-agency jobs.

Linklists: <http://pinboard.in/u:dsalo/t:trithemius>, <http://pinboard.in/u:dsalo/t:projectmanagement>

ObXKCD: <http://www.xkcd.com/1227/>

Trithemius, *In praise of scribes* (excerpts). Translated by Dorothea Salo. <http://misc.yarinareth.net/trithemius.html>

Hoffelder, “Infographic: new technology will slay us all and bring down Western civilization.” <http://www.the-digital-reader.com/2013/12/30/infographic-new-technology-will-slay-us-bring-western-civilization/>

Wamsley, “Controlling project chaos: project management for library staff.” *PNLA Quarterly* 73:2 (2009). http://www.pnla.org/assets/documents/Quarterly/pnla_winter09.pdf (pp. 5-6, 27)

Leon, “Project management for humanists.” #*alt-academy*. <http://mediacommons.futureofthebook.org/alt-ac/pieces/project-management-humanists>

Burke, “Survey results: technology skills for librarians and library staff.” <http://techcompanion.blogspot.com/2013/07/survey-results-technology-skills-for.html>

Lefurgy, “What skills does a digital archivist or librarian need?” <http://blogs.loc.gov/digitalpreservation/2011/07/what-skills-does-a-digital-archivist-or-librarian-need/> (please read the comments also)

Wilder, “The New Library Professional.” *Chronicle of Higher Education*. <http://chronicle.com/article/The-New-Library-Professional/46681/>

Week 2: The innards of computers and networks.

Learning objectives: Bits, bytes, pixels. Parts of a computer. Choosing computer equipment for longevity. Parts of a network (cable, router, switch, DNS, TCP/IP, IPv4 and IPv6 addressing). Wireless, mobile, and whitespace networks. Mesh networks. Network security/privacy measures: VPNs, Tor.

Linklists: <http://pinboard.in/u:dsalo/t:networking>, <http://pinboard.in/u:dsalo/t:standards>

ObXKCD: <http://xkcd.com/927/>

Tyson and Crawford, “How PCs work.” (pages 2-3, 5) <http://computer.howstuffworks.com/pc1.htm>

Strickland, “How does the Internet work?” (pages 1-3) <http://computer.howstuffworks.com/internet/basics/internet.htm>

Roos, “How mobile broadband services work.” (pages 1, 3, 4) <http://computer.howstuffworks.com/mobile-broadband-service.htm>

Brodkin, “White space Internet may finally spread through US.” <http://arstechnica.com/information-technology/2013/07/white-space-internet-may-finally-spread-through-us/>

Mathew, “Explaining SOPA.” <http://meta.ath0.com/2011/12/21/explaining-sopa/> (read this for how DNS works, DNS spoofing, DNSSEC)

Synecdochic, “IP logging, internet privacy, geolocation, and you: facts to consider.” <http://synecdochic.dreamwidth.org/477886.html> (Read this for how IP addresses work, but don’t miss the privacy implications either!)

Gall and Glanz, "US promotes network to foil digital spying." <http://www.nytimes.com/2014/04/21/us/us-promotes-network-to-foil-digital-spying.html>

Henry, "Why you should start using a VPN (and how to choose the best one for your needs)." <http://lifesaver.com/5940565/why-you-should-start-using-a-vpn-and-how-to-choose-the-best-one-for-your-needs> (You can use UW-Madison's WiscVPN for free! Consider getting it set up, especially if you plan to take LIS 751 "Database Design:" <https://kb.wisc.edu/search.php?q=wiscvpn>)

Dredge, "What is Tor? A beginner's guide to the privacy tool." <http://www.theguardian.com/technology/2013/nov/05/tor-beginners-guide-nsa-browser>

Week 3: Technology, the law, and information agencies

Learning objectives: Patriot Act. Legislation relating to children and the Internet. Terms of service agreements, CFAA, Swartz case. CIPA, filtering, E-Rate. Copyright and attempts to enforce copyright strictures on the Internet (ACTA/TPP, "three strikes" laws, SOPA, PIPA). Net neutrality.

Linklists: <http://pinboard.in/u:dsalo/t:neutralnet>, <http://pinboard.in/u:dsalo/t:sopa>, <http://pinboard.in/u:dsalo/t:filters>, <http://pinboard.in/u:dsalo/t:treaties>, <http://pinboard.in/u:dsalo/t:cipa> (note: this is my generic tag for legislative "save the children!" moral panics surrounding the Internet), <http://pinboard.in/u:dsalo/t:swartz>, <http://pinboard.in/u:dsalo/t:tos>

ObXKCD: <http://xkcd.com/488/>

ALA, "The USA Patriot Act and Libraries." <http://www.ala.org/advocacy/advleg/federallegislation/theusapatriotact> (stop at "Reauthorization History" section)

"Gagged for 6 Years..." http://www.democracynow.org/se0/2010/8/11/gagged_for_6_years_nick_merrill

Batch, "Fencing out knowledge: impacts of the Children's Internet Protection Act 10 years later." http://www.ala.org/offices/sites/ala.org.offices/files/content/oitp/publications/issuebriefs/cipa_report.pdf

Anderson, "FCC passes controversial \$5 billion wi-fi plan for schools and libraries." *Ars Technica*. <http://arstechnica.com/business/2014/07/fcc-passes-controversial-5-billion-wi-fi-plan-for-schools-and-libraries/>

Marwick, "To catch a predator?" *First Monday*. <http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2152/1966> (Abstract and introduction required; the rest is optional, but fascinating)

Gross, "In the battles of SOPA and PIPA, who should control the internet?" *Vanity Fair*. <http://www.vanityfair.com/culture/2012/05/internet-regulation-war-sopa-pipa-defcon-hacking>

Russwurm, "WIPO and EU and libraries -- oh my!" <https://laurelrusswurm.wordpress.com/2014/05/13/wipo-and-eu-and-libraries-oh-my/>

"ToS;DR in action." <https://tosdr.org/blog/tosdr-in-action-i-have-read-and-agree.html>

Malamud, "On crime and access to knowledge." <https://public.resource.org/crime/>

Goodwin, "Net neutrality: what it is, and why you should care." *BoingBoing*. <http://boingboing.net/2014/07/07/net-neutrality-what-it-is-an.html>

Peterson, "Why the death of net neutrality would be a disaster for libraries." *Washington Post*. <http://www.washingtonpost.com/blogs/the-switch/wp/2014/05/16/why-the-death-of-net-neutrality-would-be-a-disaster-for-libraries/>

Unit 2: Living, working, and teaching on the network

Week 4: Security on the network

Learning objectives: Authentication, attribution, authorization (two-factor authentication). Software threats (virus, trojan, worm), malware (adware, spyware, hijackers), phishing, pharming, social engineering, denial of service attack. Server and network attacks ("man-in-the-middle" attack, cross-site-scripting attack, dictionary attack, brute-force attack), vulnerabilities and patches (zero-day exploit), firewalls, privileges and privilege-based attacks (rootkit). Password guidelines. Encryption. Security policies.

Linklist: <http://pinboard.in/u:dsalo/t:security>

ObXKCD: <http://xkcd.com/350/> and <http://xkcd.com/936/>

Brodin, "Viruses, trojans, and worms, oh my." *ars technica*. <http://arstechnica.com/security/2013/02/viruses-trojans-and-worms-oh-my-the-basics-on-malware/>

Cunningham, "Keep it secret, keep it safe." *ars technica*. <http://arstechnica.com/security/2013/01/keep-it-secret-keep-it-safe-a-beginners-guide-to-web-safety/>

Ion, "Weekend PSA: keep your computer safe from harm." *ars technica*. <http://arstechnica.com/security/2012/12/simple-tips-for-keeping-your-computer-safe-and-secure/>

Plum, "User Authentication." <http://www.arl.org/storage/documents/publications/spec267web.pdf> (pp 9-13)

“All About Phishing.” <http://www.webopedia.com/DidYouKnow/Internet/2005/phishing.asp>
Delio, “Pharming Out-Scams Phishing.” *Wired*. <http://archive.wired.com/techbiz/it/news/2005/03/66853>
“About Gatekeeper.” <http://www.panic.com/blog/about-gatekeeper/> (“An explanation of code-signing for humans” section.)
Canavan, “Information Security Policy.” http://www.sans.org/reading_room/whitepapers/policyissues/information-security-policy-development-guide-large-small-companies_1331 (Sections 1-3. Skim sections 6-10.)
For consultation: Data Security and Compliance Terms. <http://www.imperva.com/resources/glossary/glossary.html>

Week 5: Networked privacy: concepts and tools

Learning objectives: Library attitudes toward privacy, and their privacy-protecting practices. Privacy and threats to privacy in networked environments. Tools for protecting patron privacy on library computers. “Metadata,” wi-fi, the NSA, and privacy. Teaching patrons about privacy. Records, “big data,” data mining, and reidentification. Encryption.

Linklists: <http://pinboard.in/u:dsalo/t:privacy>, <http://pinboard.in/u:dsalo/t:facebook/t:privacy>, <http://pinboard.in/u:dsalo/t:nsa>, <http://pinboard.in/u:dsalo/t:reidentification>

ObXKCD: <http://xkcd.com/155/> and <http://xkcd.com/522/>

Brantley, “On the NSA’s reading list.” *Publishers Weekly*. <http://blogs.publishersweekly.com/blogs/PWxyz/2013/07/17/on-the-nsas-reading-list/>

Broderick, “The shockingly easy process behind the celebrity credit report ‘hacks.’” <http://www.buzzfeed.com/ryanhatethis/the-shockingly-easy-process-behind-the-celebrity-credit-repo>

Klinefelter, “Library Standards for Privacy: A Model for the Digital World?” http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1621837

Phetteplace, “Libraries & privacy in the internet age.” <http://acrl.ala.org/techconnect/?p=3519>

“Big data is our generation’s civil rights issue, and we don’t know it.” <http://solveforinteresting.com/big-data-is-our-generations-civil-rights-issue-and-we-dont-know-it/>

Levy, “How the NSA almost killed the internet.” *Wired*. <http://www.wired.com/threatlevel/2014/01/how-the-us-almost-killed-the-internet/>

Hartzog and Selinger, “Obscurity: a better way to think about your data than ‘privacy.’” *The Atlantic*. <http://www.theatlantic.com/technology/archive/2013/01/obscurity-a-better-way-to-think-about-your-data-than-privacy/267283/>

Week 6: Websites and their care and feeding. Mobile websites and apps.

Learning objectives: Web technology stack (web server, FTP, HTML, CSS, AJAX, database-driven applications, web-programming languages). Weblog, wiki, content management system, content mashups (via RSS, Twitter, etc). Usability and user testing. Writing for the web. Common errors in library website design. Responsive design. Smartphones, apps, web development for mobile devices, texting/SMS, mobile demographics, geolocation, privacy. Tablet computers for specific demographics.

Linklists: <https://pinboard.in/u:dsalo/t:webdesign>, <https://pinboard.in/u:dsalo/t:usability>, <https://pinboard.in/u:dsalo/t:accessibility>, <https://pinboard.in/u:dsalo/t:responsivedesign>, <https://pinboard.in/u:dsalo/t:mobile>, <https://pinboard.in/u:dsalo/t:webwriting>

Brain, “How web servers work.” <http://computer.howstuffworks.com/web-server.htm> (pages 1-11; some will be review)

Reidsma, “Responsive web design for libraries: beyond the mobile web.” http://scholarworks.gvsu.edu/library_books/5/ (pp. 1-7)

Fulton, “Library perspectives on Web content management systems.” *First Monday*. <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2631/2579> (Pay attention to the politics of CMS migration.)

Mano and Schacher, “The seven deadly sins of library websites.” <https://docs.google.com/file/d/0B2rHQThAyepyOE5qQXgzaTgyZjg/edit?pli=1>

Schmidt, “Writing for the Web: Save the Time of the Reader” <http://www.walkingpaper.org/5225>

“Library Accessibility: What You Need To Know.” <http://www.ala.org/ascla/asclaprotocols/accessibilitytipsheets/> (read all; pay special attention to “Management” and “Assistive Technology”)

Enis, “Patrons expect more mobile services.” *The Digital Shift*. <http://www.thedigitalshift.com/2012/08/mobile/patrons-expect-more-mobile-services-handheld-librarian-conference/>

Reidsma, “Libraries and the myth of mobile phone use.” <http://matthew.reidsrow.com/articles/21>

Lloyd, “Apps and babies: keeping our heads (and our iPads).” <http://www.slideshare.net/elloyd74/apps-and-babies>

MIT Libraries, “Apps for Academics.” <http://libguides.mit.edu/apps> (click through the tabs, skim the pages)

Week 7: How search engines work. Information-agency metadata and the web.

Learning objectives: Index, spider/crawler, TF/IDF. "Social search" and its pitfalls. Search results: relevance ranking, deduplicating, and faceted browsing. Tools for metadata creation, editing, and cleanup. Search-engine and social-media optimization; the role of metadata in SEO and social media for discovery of library/archive collections.

Linklists: <https://pinboard.in/u:dsalo/t:metadata>, <https://pinboard.in/u:dsalo/t:linkeddata>, <https://pinboard.in/u:dsalo/t:searching>, <https://pinboard.in/u:dsalo/t:tfidf>

ObXKCD: <http://xkcd.com/369/>

Franklin, "How Internet Search Engines Work." <http://computer.howstuffworks.com/search-engine.htm> (Parts 1-4)

DuckDuckGo. "Escape your search engine's filter bubble." <http://dontbubble.us/>

Rochkind, Jonathan. "Information retrieval and relevance ranking for librarians." <http://bibwild.wordpress.com/2011/03/28/information-retrieval-and-relevance-ranking-for-librarians/>

Burton-West, "Practical relevance ranking for 11 million books, part 1." <http://www.hathitrust.org/blogs/large-scale-search/practical-relevance-ranking-11-million-books-part-1>

Chapman, "Evaluating the effectiveness of manual metadata enhancements for digital images." <https://staff.lib.ncsu.edu/confluence/display/MNC/Evaluating+the+effectiveness+of+manual+metadata+enhancements+for+digital+images>

Lasky, "It's the metadata, stupid." <https://medium.com/digital-trends-index/its-the-metadata-stupid-12a4fc121e45>

Lazorchak, "Extending the life of a story through taxonomy at National Public Radio." <http://blogs.loc.gov/digitalpreservation/2014/07/extending-the-life-of-a-story-through-taxonomy-at-national-public-radio/> (Contrast this with the New York Times example above.)

Dempsey, Lorcan. "Metadata sources." <http://orweblog.oclc.org/archives/002009.html>

Hirst, "A simple OpenRefine example: tidying cut-n-paste data from a web page." <http://blog.ouseful.info/2013/05/01/a-simple-openrefine-example-tidying-cutnpaste-data-from-a-web-page/>

"The periodic table of SEO success factors." <http://searchengineland.com/seotable/>

Phetteplace, "Gearing up your sites for sharing with Twitter and Facebook meta tags." <http://acrl.ala.org/techconnect/?p=4062>

"Getting started with schema.org." <http://schema.org/docs/gs.html>

Week 8: Information agencies and the social web

Learning objectives: Online audio/video, Twitter, Facebook, Google+, LinkedIn, chat, Wikipedia. Professional networking online. Mashups (AJAX), widgets, APIs. Social media and digital collections. Social media, "big data," and privacy. Social-media policies; social-media program assessment.

Linklists: <https://pinboard.in/u:dsalo/t:socialmedia>, <https://pinboard.in/u:dsalo/t:apis>, <https://pinboard.in/u:dsalo/t:bigdata/t:privacy>

ObXKCD: <http://xkcd.com/802/>

Digital Public Library of America, "API basics." <http://dp.la/info/developers/codex/api-basics/>

Udell, "We bought the wrong kind of software?" <http://www.wired.com/2012/12/we-bought-the-wrong-kind-of-software/>

Burclaff and Johnson, "Developing a social media strategy: tweets, pins, and posts with a purpose." *College and Research Libraries News*. <http://crln.acrl.org/content/75/7/366.short>

Madrigal, "What Big Media could learn from the NYPL." <http://www.theatlantic.com/technology/archive/2011/06/what-big-media-can-learn-from-the-new-york-public-library/240565/>

"How to work successfully with Wikipedia: a guide for galleries, libraries, archives, and museums." http://outreach.wikimedia.org/wiki/File:WMUK_GLAM_booklet_2014.pdf

Raval, "The encyclopedia must fail: notes on queering Wikipedia." *Ada*. <http://adanewmedia.org/2014/07/issue5-raval/>

"The Fundamental Limits of Privacy for Social Networks." *Technology Review*. <http://www.technologyreview.com/blog/arxiv/25146/>

Madrigal, "Why Facebook and Google's concept of 'real names' is revolutionary." *The Atlantic*. <http://www.theatlantic.com/technology/archive/2011/08/why-facebook-and-googles-concept-of-real-names-is-revolutionary/243171/>

Scherker, "Didn't read Facebook's fine print? Here's exactly what it says." http://www.huffingtonpost.com/2014/07/21/facebook-terms-condition_n_5551965.html

Goel, "As data overflows online, researchers grapple with ethics." *New York Times*. <http://www.nytimes.com/2014/08/13/technology/the-boon-of-online-data-puts-social-science-in-a-quandary.html>

Dempsey, "Managing our online professional lives." <http://www.slideshare.net/lisld/managing-our-online-professional-lives>

Week 9: Teaching and learning (on) the network

Learning objectives: "Digital natives" and other (faux or real) technology demographics. Supporting distance education. Digital research guides. MOOCs. Teaching and supporting technology. Redressing digital divides. Gamification, badges.

Linklists: <https://pinboard.in/u:dsalo/t:digitalnatives>, <https://pinboard.in/u:dsalo/t:edtech>, <https://pinboard.in/u:dsalo/t:teched>, <https://pinboard.in/u:dsalo/t:gamification>, <https://pinboard.in/u:dsalo/t:techsupport>

ObXKCD: <http://xkcd.com/627/>

Pew Internet, "How teens do research in the digital world." <http://www.pewinternet.org/2012/11/01/how-teens-do-research-in-the-digital-world/>

Kolowich, "What students don't know." *Inside Higher Ed*. http://www.insidehighered.com/news/2011/08/22/serial_study_of_student_research_habits_at_illinois_university_libraries_reveals_alarmingly_poor_information_literacy_and_skills

Kim, "Why gamify and what to avoid in library gamification." <http://www.bohyunkim.net/blog/archives/2137>

West and Engstrom, "Touring the Digital Divide." <http://www.librarian.net/talks/sxsw10/> (read the slides at least)

"User Testing in the Wild: Joe's First Computer Encounter." <http://jboriss.wordpress.com/2011/07/06/user-testing-in-the-wild-joes-first-computer-encounter/> (beware the comments; some are good, some are stunningly creepy and gross)

Hedreen, "Time zones, screencasts, and becoming real: one distance librarian's experiences and lessons learned." *Urban Library Journal*. <http://ojs.gc.cuny.edu/index.php/urbanlibrary/article/view/1350>

Kolowich, "5 things researchers have discovered about MOOCs." <http://chronicle.com/blogs/wiredcampus/5-things-researchers-have-discovered-about-moocs/53585>

Fowler and Smith, "Drawing the blueprint as we build: setting up a library-based copyright and permissions service for MOOCs." *D-Lib Magazine*. <http://www.dlib.org/dlib/july13/fowler/07fowler.html>

West, "On the Fly Tech Support" <http://www.librarian.net/talks/iowa2009/index.html> (read the slides, click links)

Kelly and Hibner, "Thingamabobs and doodads: why tech support IS reference." <http://www.slideshare.net/awfullibrarybooks/thingamabobs-and-doodads-tech-support-is-reference-15085173>

Allardice, "Foundations of programming: databases." (Watch/read "Welcome," "What are databases?" "The features of a relational database" Go through the login at <http://www.doit.wisc.edu/training/lynda/> for access to all videos.)

Unit 3: Information-agency-specific technology

Week 10: The Integrated Library System and related software.

Learning objectives: Software development models (off-the-shelf, customized, homegrown, open-source) and their pros and cons. Software selection processes, RFPs. Protocols and APIs (recap). ILS modules. ILS vendors. "Resource discovery" landscape. Metasearch versus discovery layers. Electronic-resource managers. Proxy servers. Link resolvers (the "appropriate copy" problem). OpenURL. The future of MARC.

ObXKCD: <http://xkcd.com/225/> and <http://xkcd.com/743/>

"Comparison of open source and closed source." Wikipedia. http://en.wikipedia.org/wiki/Comparison_of_open_source_and_closed_source

Askey, "Yes, we love open-source software. No, you can't have our code." <http://journal.code4lib.org/articles/527>

Lown, Sierra, and Boyer, "How users search the library from a single search box." <http://crl.acrl.org/content/74/3/227.full.pdf+html>

Coco, "Convenience and its discontents." <http://acrlog.org/2012/01/27/convenience-and-its-discontents-teaching-web-scale-discovery-in-the-context-of-google/>

Dempsey, "Outside-in and inside-out." <http://orweblog.oclc.org/archives/002047.html>

Watters, "The search for a minimum viable record." <http://radar.oreilly.com/2011/05/minimum-viable-record.html>

Rochkind, Jonathan. "article search, and catalog search." <http://bibwild.wordpress.com/2011/08/08/article-search-and-catalog-search/>

Coyle, Karen. "From MARC to principled metadata." <http://kcoyle.blogspot.com/2011/05/from-marc-to-principled-metadata.html>

Apps and MacIntyre, "Why OpenURL?" <http://www.dlib.org/dlib/may06/apps/05apps.html>

w3schools.com, SQL tutorials. http://www.w3schools.com/SQL/sql_syntax.asp, http://www.w3schools.com/SQL/sql_select.asp, and http://www.w3schools.com/SQL/sql_where.asp

w3schools.com, SQL tutorials. http://www.w3schools.com/SQL/sql_and_or.asp and http://www.w3schools.com/SQL/sql_func_count.asp.

Allardice, "Foundations of programming: databases." (Watch/read "Creating SQL queries" and "Creating the WHERE clause.")

Week 11: Metadata and information standards. Markup languages. Linked data.

Learning objectives: What standards are for. Standards bodies (W3C, ISO, NISO, IETF), library standards and standards work (RDA, "BibFrame," controlled vocabularies), archives standards, "open standard." What is a markup language? XML and its uses. Linked data and RDF (SKOS, BIBFRAME).

ObXXCD: <http://xkcd.com/927/>

Lubas, Jackson & Schneider. *The Metadata Manual*, Chapter 1 "Introduction to Metadata." (On reserve.)

"A Gentle Introduction to XML." <http://www.tei-c.org/release/doc/tei-p5-doc/en/html/SG.html> (Through "An example schema," but keep going if you like.)

Kelley. "How the W3C has come to love library linked data." <http://lj.libraryjournal.com/2011/08/technology/how-the-w3c-has-come-to-love-library-linked-data/>

OCLC. "Linked Data for Libraries." <https://www.youtube.com/watch?v=fWfEYcnk8Z8>

W3C. "SKOS primer." <http://www.w3.org/TR/skos-primer/> (sections 1 and 2 only)

van Beijnum, "25 years of IETF." <http://arstechnica.com/tech-policy/2011/01/25-years-of-ietf-setting-standards-without-kings-or-votes/>

Cargill, "Why standardization efforts fail." *Journal of Electronic Publishing*. <http://dx.doi.org/10.3998/3336451.0014.103>

Chapple, "Database keys." <http://databases.about.com/od/specificproducts/a/keys.htm>

Allardice, "Fundamentals of programming: databases." (Watch/read "Exploring unique values and primary keys" and "Defining table relationships.")

Week 12: Digitization

Learning objectives: Collection development for digitization projects. Planning and managing digitization projects. Costing and funding digitization projects. Types of digitization projects. Equipment and software for digitization projects. Digitization-project workflows. Copyright and digitization projects. Archival master files vs. dissemination files. MPLP digitization; digitization on accession. Mass digitization projects (Google Books, Hathi Trust, Europeana, DPLA). OCR.

Linklists: <https://pinboard.in/u:dsalo/t:digitization>, <https://pinboard.in/u:dsalo/t:googlebooks>, <https://pinboard.in/u:dsalo/t:hathi>, <https://pinboard.in/u:dsalo/t:dpla>, <https://pinboard.in/u:dsalo/t:mplp>

ObXXCD: Not an XKCD this time; instead, <http://derangementanddescription.wordpress.com/2014/03/07/will-digitization-solve-my-problem-a-helpful-flow-chart/>

Carter, "It's the collections that are special." <http://www.inthelibrarywiththeleadpipe.org/2009/its-the-collections-that-are-special/>

Schonfeld, "Inside the New Museum's vast, beautiful, and totally insane digitization project." <http://www.theatlanticwire.com/entertainment/2013/07/new-museums-vast-beautiful-and-insane-digitization-project/67567/> (What makes it insane?)

Ranger, "More bytes, less bite." <http://www.archivists.org/conference/sanfrancisco2008/docs/session701-ranger.pdf>

Khan, "Digitizing Milwaukee's Polonia: the digital assembly line." <http://uwmdigitalcollections.wordpress.com/2013/02/07/digitizing-milwauees-polonia-the-digital-assembly-line/>

McCrary, "Conservation and digital imaging" <http://library.osu.edu/blogs/digitalscholarship/2013/06/18/conservation-and-digital-imaging-1/> and <http://library.osu.edu/blogs/digitalscholarship/2013/07/19/conservation-and-digital-imaging-part-2/>

Royster, "The art of scanning." http://digitalcommons.unl.edu/ir_information/67/

"The TRNLN's intellectual property rights strategy for digitization of modern manuscript collections and archival record groups." <http://www.trln.org/IPRights.pdf>

"Unlocking the riches of Hathi Trust." <http://www.americanlibrariesmagazine.org/article/unlocking-riches-hathitrust>

Vandegrift, "The Digital Public Library of American: details, the librarian response, and the future." <http://www.inthelibrarywiththeleadpipe.org/2013/dpla/>

Week 13: Digital preservation

Learning objectives: Threats to digital materials. Format migration vs. system emulation. Preservability of common file formats. "Preservation copy" and Google Books. Types of digital archives (institutional repository, disciplinary repository,

data archive, “trusted digital repository,” dark archive). Web archiving. LOCKSS/CLOCKSS and Portico. eScience, cyberinfrastructure, and data curation. Personal digital archiving.

Linklists: <https://pinboard.in/u:dsalo/t:digitalpreservation>, <https://pinboard.in/u:dsalo/t:personalarchiving>, <https://pinboard.in/u:dsalo/t:irs>, <https://pinboard.in/u:dsalo/t:webarchiving>, <https://pinboard.in/u:dsalo/t:668> (don't drown in this one!)

ObXKCD: <http://xkcd.com/512/>

Rosenthal, “Requirements for digital preservation systems: a bottom-up approach.” D-Lib Magazine. <http://www.dlib.org/dlib/november05/rosenthal/11rosenthal.html>

ICPSR, “Digital Preservation Management.” http://www.dpworkshop.org/dpm-eng/eng_index.html (All sections! Don't sweat the jargon; your goal is a broad sense of what digital preservation involves.)

“Sustainable Economics for a Digital Planet.” http://brtf.sdsc.edu/biblio/BRTF_Final_Report.pdf (pp 1-16)

“Sustainability health check tool for digital content projects.” http://sca.jiscinvolve.org/wp/files/2013/01/sustainability_healthcheck_tool.pdf

LeFurgy, “io resources for community digital archives.” <http://blogs.loc.gov/digitalpreservation/2013/06/10-resources-for-community-digital-archives/> (Please click through to and skim at least two resources on the list.)

LeFurgy, “Digital preservation: a role for public libraries.” <http://agogified.com/1075>

Library of Congress. “Personal Digital Archiving Day Kit.” <http://www.digitalpreservation.gov/personalarchiving/padkit/index.html> (download and read the PDF reference copy)

Lazorchak, “Whither digital video preservation?” <http://blogs.loc.gov/digitalpreservation/2011/07/whither-digital-video-preservation/>

Lynch, “Institutional repositories.” <http://www.arl.org/resources/pubs/br/br226/br226ir.shtml>

Look around in SSRN (<http://ssrn.com/>) and MINDS@UW (<http://minds.wisconsin.edu/>).

ARL, “Agenda for Developing E-Science.” http://old.arl.org/bm-doc/ARL_EScience_final.pdf (pp. 3-13)

Week 14: Ebooks

Learning objectives: IDPF, EPub vs. PDF vs. .mobi/.aws, DRM, first-sale, leased/licensed vs. owned information, libraries as publishers, print-on-demand. Licensing ebooks; e-reserves. Patron-driven acquisition. Acquiring and cataloging ebooks.

Linklists: <https://pinboard.in/u:dsalo/t:ebooks>, <https://pinboard.in/u:dsalo/t:drm>, <https://pinboard.in/u:dsalo/t:pod>

ObXKCD: <http://xkcd.com/750/> and <http://xkcd.com/488/>

Colbow, “Why DRM doesn't work.” http://bradcolbow.com/archive/view/the_brads_why_drm_doesnt_work/?p=205

ALA, “What is DRM and what does it mean for your library?” http://www.districtdispatch.org/wp-content/uploads/2012/07/drm_tip_sheet.pdf

Farivar, “The music industry dropped DRM years ago. So why does it persist on e-books?” *ars technica*. <http://arstechnica.com/business/2012/12/the-music-industry-dropped-drm-years-ago-so-why-does-it-persist-on-e-books/#>

“ePUB: the language of ebooks -- a primer.” <http://epubsecrets.com/epub-the-language-of-ebooks-a-primer.php>

University of Denver Libraries, “E-book collections access and licensing agreements.” <http://libguides.du.edu/content.php?pid=106644&sid=1292183> (note what varies, and how much!)

Ball, “E-books in practice: the librarian's perspective.” <http://epub.uni-regensburg.de/2047/1/Ball.pdf>

Kolowich, “Affection for PDA.” *Inside Higher Ed*. <http://www.insidehighered.com/news/2012/06/20/research-foresees-demand-driven-book-acquisition-replacing-librarians-discretion>

Mod, “Books in the age of the iPad.” http://craigmod.com/journal/ipad_and_books/

Bayley, “E-Book buyer's guide to privacy.” <https://www.eff.org/deeplinks/2012/11/e-reader-privacy-chart-2012-update>

Neuberger, “Who owns your ebook...? Probably not you.” <http://www.pbs.org/mediashift/2010/08/who-owns-your-e-book-of-war-and-peace-probably-not-you225.html>

Yelton, “Ebooks, choices, and the soul of librarianship.” *The Digital Shift*. <http://www.thedigitalshift.com/2012/07/ebooks/ebooks-choices-and-the-soul-of-librarianship/>

Week 15: Changing as the world around us changes

(You do not have to read everything on the reading list this week. Reread the theory-of-change piece and pick at least one reading from each category below; otherwise, follow your own interests!)

Learning objectives: Strategic planning around technology. Assessing technology projects and programs. Hiring and managing technologists. Professional development and reskilling. Change management. Barriers to change. Current loci of

technological change in information agencies (makerspaces, linked data, research-data management, ebooks, digital preservation, tablet computing, tech training, design thinking, self-publishing and library publishing, crowdsourcing, etc).

Linklists: <https://pinboard.in/u:dsalo/t:libpublishing>, <https://pinboard.in/u:dsalo/t:envirosan>, <https://pinboard.in/u:dsalo/t:crowdsourcing>, <https://pinboard.in/u:dsalo/t:makerspaces>, <https://pinboard.in/u:dsalo/t:linkeddata>

ObXXCD: <http://xkcd.com/544>

“What is theory of change?” <http://www.theoryofchange.org/what-is-theory-of-change/>

Futurology:

Lankes, “Libraries are obsolete.” http://www.olaweb.org/assets/documents/olac_18no2.pdf pp. 12-17 (reading the rest of the issue encouraged!)

Williams, “The future of libraries is…” <http://librarian.newjackalmanac.ca/2012/11/the-future-of-libraries-is.html>

Morville, “Inspiration architecture: the future of libraries.” <http://semanticstudios.com/publications/semantics/000664.php>

Zickuhr et al., “Library services in the digital age.” <http://libraries.pewinternet.org/2013/01/22/Library-services/>

Mathews, “Think like a startup.” <http://vtechworks.lib.vt.edu/handle/10919/18649>

Rundle, “Libraries as software.” <http://hughrundle.net/2012/04/04/libraries-as-software-dematerialising-platforms-and-returning-to-first-principles/>

Rogers, “Moving beyond book museums.” <http://www.attemptingelegance.com/?p=1947>

Coping with tech:

Morgenstern and Jones, “Library strategic planning: voyage of starship Enterprise or Spruce Goose?” http://www.cla.ca/feliciter/2012/58-5/Feliciter5_Vol_58_web.pdf pp. 12-15 (reading the rest of the issue encouraged!)

Linderman, “How to hire a programmer when you’re not a programmer.” <http://37signals.com/svn/posts/2628-how-to-hire-a-programmer-when-youre-not-a-programmer> (Read critically, please!)

Chevalier, “Hiring based on hobbies: effective or exclusive?” <http://geekfeminism.org/2012/11/12/hiring-based-on-hobbies-effective-or-exclusive/> (Use this as a mental corrective to the piece above, which is seriously problematic despite a few useful tips.)

Kim, “Why not grow coders from the inside of libraries?” <http://www.bohyunkim.net/blog/archives/1099>

Salo, “Continuing education in LIS.” <http://lj.libraryjournal.com/2012/12/opinion/peer-to-peer-review/continuing-education-in-lis-how-should-we-train-reskillers-peer-to-peer-review/>

Trends and tools:

Samtami, “Meet the makers.” *The Digital Shift*. <http://www.thedigitalshift.com/2013/06/k-12/meet-the-makers-can-a-diy-movement-revolutionize-how-we-learn/>

Sefton-Green, “Towards the value, purpose, and sustainability of out-of-school learning.” <http://dmlcentral.net/blog/julian-sefton-green/towards-value-purpose-and-sustainability-out-school-learning>

Coyle, “Linked data first steps & catch-21.” <http://kcoyle.blogspot.com/2013/07/linked-data-first-steps-catch-21.html>

Holley, “Crowdsourcing: how and why should libraries do it?” *D-Lib Magazine*. <http://www.dlib.org/dlib/march10/holley/03holley.html>

LaRue, “Wanna write a good one? Library as publisher.” *American Libraries*. <http://www.americanlibrariesmagazine.org/article/wanna-write-good-one-library-publisher>

Williams, “The library as copy machine: part I.” <http://librarian.newjackalmanac.ca/2013/07/the-library-as-copy-machine-part-i.htm>

ASSIGNMENTS

Grading Schema and Due Dates (see also Assignment Schedule table)

Assignments	Percentage	Due 5pm (usually) Wednesday of:
Technology boundaries: Basic assignments	32% (8% each)	Weeks 3, 6, 9, 12
Technology boundaries: Advanced assignments E-portfolio writeup	30% (15% each)	Weeks 8, 15 Last day of class
Job ad and interview questions Interview evaluation email	13%	Week 6 Week 7
Short webinar	10%	Week 11
Grant application	15%	
Groups chosen (due to adds/drops, groups may change after this date)		Week 2
Solution option chosen		Week 3
Group-project charter and schedule; acknowledgment email to PM		Week 4
Grant application submitted		Last day of class
360 evaluations (to designated closed Learn@UW forum)		Last day of class

Final grade scale: 100-93.5 A; 93.4-89.5 AB; 89.4-83.5 B; 83.4-79.5 BC; 79.4-73.5 C, 69.5-73.4 D, below 69.5 F

No extra credit opportunities are available in this class. Not completing the technology-boundary assignments, the job-ad assignment, or the short webinar will result in an automatic F for the course.

ASSIGNMENT DESCRIPTIONS

Expanding your technology boundaries

Throughout the semester, you will work on technology projects aimed at improving your mental models of contemporary computing, broadening your skills, and introducing you to concepts and skills underlying advanced SLIS technology coursework. These projects are divided into four broad topic areas. You will be required to do one basic assignment in each topic area. You will also choose one advanced assignment from each of **TWO** of the four topic areas; some topic areas offer more than one possibility. If you wish advice about which topic areas are most appropriate for your career goals, please feel free to ask in the appropriate Tech Boundaries Help Forum; there is one for each of the four topic areas.

Basic assignments are due Wednesdays of weeks 3, 6, 9, and 12 (see assignment schedule). You may choose which basic assignment you work on when, as long as you turn one in at each due date; early work is always accepted. Advanced assignments are due Wednesdays of weeks 8 and 15 (see assignment schedule), and you may again choose which to turn in when. Learn@UW will contain sufficient orientation to perform basic assignments. For advanced assignments, *you are expected to perform your own research, problem-solving, and troubleshooting*. You may ask classmates for help and even work together with a classmate, but if I sense that someone did your work for you or you have no idea why your assignment is correct or how to recreate it, I reserve the right to arrange a face-to-face appointment (via Google Hangouts or appear.in) with you where you answer my questions about your advanced assignment.

The above caveat aside, you receive full credit for all assignments when you turn them in on time and completed according to the stipulations in the assignment description. If you are not sure whether your assignment is complete and acceptable, you may turn in a version **NO LESS THAN** one week early to the Technology Boundaries: Assignment Drafts dropbox.

N.b. this set of assignments is brand-new this year, so please ask for clarifications in the Technology Boundaries topic forums early and often!

HONOR SYSTEM: advanced assignments are meant to stretch you, get you out of your comfort zone! Make sure they do. For example, if you are a database administrator already, stay away from the advanced relational-database assignments! If I find out you have played to your existing strengths, you will lose all points for the advanced assignment.

I will hear student requests for different *advanced* assignments only. Please make requests in the Learn@UW "Technology Boundaries: Support" forum by Monday of Week 4; I cannot accept additional requests after that. At my discretion, there may be real-world problems you can solve that can be substituted for an advanced assignment.

E-PORTFOLIO WRITEUP: Turn in a writeup of one of your advanced assignments (you choose which) as an e-portfolio artifact appropriate to SLIS Program-Level Learning Outcome 3d: “Students understand and use appropriate information technologies.” (You may write toward other outcomes you believe appropriate as well, if you wish.) Your writeup should make clear to me (pretend I am a prospective boss!) your improved understanding of the technology you chose, your sense of situations in which it is and is not appropriate, and your ability to implement it (or similar technology) in a real-world work situation. Please turn this in to the Technology Boundaries: Advanced Assignments dropbox separately from your e-portfolio (though of course you may use it there also!). An inadequate writeup removes three points from your final class grade.

Topic area 1: Web standards and markup (LIS 861 “Information Architecture,” LIS 652 “XML and Linked Data,” LIS 853 “Metadata Standards and Applications”)

BASIC ASSIGNMENT: Hand-encode a “Favorite Things” website of at least THREE interlinked HTML pages: one page each about your favorite movie or television show, your favorite restaurant, and your favorite book. (You may add additional pages for more favorites if you like!) The content of each page is up to you, but your site must include functioning, correctly-tagged examples of:

- an HTML5 declaration (must be present and correct on all pages)
- <title> tag (must be present and correct on all pages)
- two levels of headers
- a paragraph
- a list (ordered or unordered)
- an image
- an external hyperlink
- internal hyperlinks from each page in your site to all the other pages

Add an external CSS stylesheet to your website that all its pages use. Minimally, this stylesheet must:

- Change the font to sans-serif for all headers
- Change the font for all other tags away from the browser default
- Change the link color; remove link underlining except while the link is being hovered over or clicked on
- Change the background color of the page
- Add margins around the page
- Indent paragraphs a visually-pleasing amount of space

Put the HTML files, CSS file, and image(s) into a folder. Zip the folder. Upload the .zip file to the “Technology Boundaries: Basic Assignments” dropbox.

ADVANCED ASSIGNMENTS

1. Encode metadata about your three Favorite Things on your basic assignment as correct schema.org microdata. You must correctly identify the type of item described on each page (with the `itemscope` and `itemtype` attributes) and add at least three different correctly-placed properties (with the `itemprop` attribute) per page. It is fine to add extra text or HTML to accommodate enough schema.org attributes. Re-zip your folder and upload it to the “Technology Boundaries: Advanced Assignments” dropbox. (**NOTE:** if you are in my LIS 551 this semester, this assignment is *not* available to you, because you will do it in that class!)
2. Do the basic XML assignments on Learn@UW. Your deliverables include a grocery list in well-formed XML and a metadata record with at least five fields in DSpace’s Dublin Core XML format. Zip these and upload them to the “Technology Boundaries: Advanced Assignments” dropbox.
3. Build a basic website for an organization of your choice (real or fictional) based on weblog or content-management software. Do your level best to be sure your site validates (I recommend HTML5, but XHTML 1 will also do) and works acceptably on smartphones and tablets. Do at least one usability test with a colleague, family member, or friend; make at least one change to the site based on your findings, and turn in a one-page explanation of your test and the change you made. If you develop your site on your own machine, zip it and upload it to the “Technology Boundaries: Advanced Assignments” dropbox; otherwise, upload a dummy file and put the URL to your site in the memo field.

Topic area 2: Digitization and digital preservation (LIS 879 “Digital Libraries,” LIS 668 “Digital Curation”)

BASIC ASSIGNMENT: Create archival master files AND web-friendly files by digitizing **TWO** print documents (note: neither books nor handwritten documents please; typewritten documents, brochures, newspaper pages, etc. are fine) and **TWO** photographs or other analog images. Print documents must be OCRed. Create a Dublin Core metadata record (any

serialization) for each item you have digitized. Place all files in a folder; zip the folder and upload it to the “Technology Boundaries: Basic Assignments” dropbox.

ADVANCED ASSIGNMENTS

1. Accession a digital archival collection. Locate a hard drive, CD-ROM collection, stack of floppies, and/or other set of born-digital or already-digitized materials (ask me if this is difficult; personal materials are fine). If you are on campus, you may use RADD in the SLIS Library to image disks or drives. With the combination of BitCurator (<http://www.bitcurator.net/>) and Archivematica (use the sandbox at <http://sankofa.archivematica.org/administration/accounts/login/>), image the collection, assess its fitness for preservation, and accession it, applying appropriate metadata. Put a dummy file in the “Technology Boundaries: Advanced Assignments” dropbox, with a link to OR the exact name of your Archivematica collection in the Memo field. (This option strongly recommended for archives track. RADD has BitCurator, or you may install it via VirtualBox or VMWare Player.)
2. Digitize print materials into ebooks, using a flatbed scanner or the book scanner that is part of RADD in the SLIS Library. Build your ebook in .epub **AND** PDF formats and ensure it includes at least three of the following features, correctly tagged in the .epub HTML: lists (ordered or unordered), footnotes, epigraphs, block quotations, images. HTML files in your .epubs must validate as XHTML 1.0 or 1.1 or HTML5 per the W3C’s validator; .epubs must validate as EPUB 3 per the IDPF’s validator (<http://validator.idpf.org/>) or a local installation of EpubCheck. .epubs must contain as much descriptive metadata as feasible. Your ebook must represent at least 30 print pages, but it is fine to digitize only part of a larger book (or to build a Franken-ebook from bits of different print books) as long as all needed features are included. Zip the .epub and PDF files together and upload the zip file to the “Technology Boundaries: Advanced Assignments” dropbox.

Topic area 3: Relational databases (LIS 751 “Database Design”)

BASIC ASSIGNMENT: Complete the SQLZoo problem-sets listed in Learn@UW. For each problem, when SQLZoo says you have it correct, paste the query you wrote into the designated quiz in Learn@UW. (Note: no dropbox for this one.)

ADVANCED ASSIGNMENT

Create a database of at least four interlinked tables about a hobby or interest of yours, using Microsoft Access (or, if you have access to it, MySQL). This database must include:

- correct naming conventions for entities/tables and attributes/columns
- at least one bridge entity
- autonumbered primary keys in each table
- correctly set-up foreign keys
- at least four instances/rows of data per table

Upload the MS Access file (or MySQL dump) to the “Technology Boundaries: Advanced Assignments” dropbox.

Topic area 4: Metadata editing and crosswalking tools (LIS 652 “XML and Linked Data,” LIS 853 “Metadata Standards and Applications,” LIS 871 “Digital Libraries”)

BASIC ASSIGNMENT: Pick one of your assigned readings or audio/video recordings this semester. Choose the MODS record from the available examples at <http://www.loc.gov/standards/mods/mods-guidance.html> (right-click on one of the “XML” links, then download to your computer) that is most similar to the reading you chose, and edit the record to reflect that reading. Validate your record with oXygen (available in the SLIS computer lab) or the online validator at <http://www.xmlvalidation.com/documentation.html> Upload the file to the “Technology Boundaries: Basic Assignments” dropbox.

ADVANCED ASSIGNMENTS

1. Learn to use regular expressions! (These are highly useful as part of sophisticated search-and-replace actions.) Do Lessons 1 through 10 starting at <http://regexone.com/lesson/0> For *each* lesson, take a screenshot of your entire screen (n.b. not just the web browser! I need to see some of your desktop background, to guard against cheaters) when you have successfully finished the challenge at page bottom. (If part of the page top isn’t visible in the browser, that’s fine.) Zip your screenshots and upload them to the “Technology Boundaries: Advanced Assignments” dropbox.
2. Use OpenRefine to clean up the thesis-and-dissertation metadata spreadsheet in Learn@UW in the following ways:
 - Remove all leading and trailing whitespace from all cells (the Givenname column has lots of it)

- Add First Name, Use Name, and Middle Name columns based on the Givenname column. You can recognize Use Names because they are in parentheses.
- Separate Subjects and Keywords so that there is only one per cell. (You will end up with lots of columns with lots of empty cells; this is fine.)
- (Not required, but worth trying: Add a Date column in proper ISO8601 format—that is, YYYY-MM-DD; do not bother with timestamps—based on the submission-date column.)

When you are finished, export the metadata as a CSV file (note: NOT EXCEL, because Excel will stupidly destroy any nice ISO8601 dates you made!) and upload the file to the “Technology Boundaries: Advanced Assignments” dropbox.

Technology communication

These assignments are meant to improve your ability to communicate with people about technology, regardless of your relative levels of technology savvy. Not coincidentally, they should also improve your job-interview skills.

Job advertisement and phone interview

Even if you do not consider yourself a technical person, you will certainly participate in hiring them during your career. Write a job advertisement such as you might find on an employer’s website or via a job-search site such as `inaj.com`. Be sure the fictional employer in your ad is a recognizable type of organization; you may adapt language from job ads you find provided you do not slavishly copy an entire listing. First, turn in to the assignment dropbox on Learn@UW (single PDF preferred):

- a job ad, including:
 - ◆ a description of the employer
 - ◆ list of job duties
 - ◆ list of required skills
 - ◆ list of preferred skills
- links to or screenshots of at least three job postings that reasonably strongly resemble the ad you have written
- three questions you would ask candidates in an interview to determine whether they are competent to do the job. Tailor the questions *specifically to the technology-related skills and duties of the position*; generic and non-technology-related questions will receive zero points.

You may describe and document a job whose focus is not explicitly on technology, but includes *significant* (at least 40% of the job) technology-specific responsibilities. You may alternately choose from the technology-centric job titles listed below (your supporting job postings need not use the titles below verbatim, as job titles for the “same job” do vary):

- Data Curator/Research Data Manager (academic library, corporate environment, academic IT department, government)
- Digital Asset Manager (corporate environment, government)
- Digital Preservation Librarian/Digital Archivist (academic library, archives, corporate environment, government)
- Digital Repository Librarian/Archivist (academic library, corporate library, archives)
- Digitization Librarian/Archivist (academic library, archives, corporate environment, public library)
- Metadata Librarian/Archivist (academic library, archives, corporate environment, public library)
- Distance-Education Librarian, Educational Technology Librarian (academic library, school library)
- Emerging Technologies Librarian/Archivist (any workplace type)
- E-Records Manager (corporate environment, government, academic library, archives)
- E-Resources or E-Serials Librarian/Archivist (academic library, corporate library, library consortium, public library, archives)
- ILS Librarian (public library, academic library, public or academic library consortium)
- Library/Archives Application Developer, Library/Archives Programmer (any workplace type, but be realistic!)
- Social Media Manager (any workplace type)
- Systems Librarian/Archivist, Tech Support Librarian/Archivist (any workplace type; do not write a laundry-list job description! make sure the job makes sense!)
- Web Librarian/Archivist (any workplace type)

Off-limits, please: strictly-analog records managers, knowledge managers, scholarly-communications librarians, management positions, vendor sales or training positions.

Phone/online interview: When you have turned in your job ad and questions, exchange them with a classmate and arrange a time to speak by telephone or online audio/video chat (Skype, appear.in, Google Hangouts), allowing at least 20 minutes for each interview. (In-person interviews *are not acceptable*; the point is to practice remote interviewing.)

You will take turns pretending to be the employer in the other person's ad. Before the interview, read your classmate's ad and secretly write two *technology-related* questions that the employer in it might ask. At least one of these questions should be a "scenario" question, in which you ask how your classmate would respond to a problematic technical or sociotechnical scenario likely to occur on the job. As with the questions you wrote for your own ad, your goal for the new questions based on your classmate's ad is to find out whether your classmate can fulfill the technology requirements of the position. (N.b. no one is being assessed/graded on whether they can! It's too early for that!)

During the interview, ask your classmate all five questions (your classmate's three and your two). Finally, ask the question "do you have any questions for us?" (and make up an answer to whatever they ask). After the interview, email your classmate (CCing me; please put "644" in the email's subject line) the questions you invented based on their ad, your overall impression of the interview, and two constructive suggestions for improvement.

Grading breakdown (out of 13 final-grade points; note that you are *not* being graded on whether you could land the job):

Appropriate exemplars	1 point
Position description (including appropriateness of position to library described and appropriateness of required/desired skillsets to stated job duties)	3 points
Quality of interview questions	5 points (one per question)
Specificity and helpfulness of peer interview evaluation	3 points
Quality of interview response	1 point

Short webinar

Job candidates at nearly all academic libraries and many public libraries give a short (20-minute, often) talk to potential colleagues, usually on a topic specified by the library. Many librarians also present at conferences or for local patron audiences. Some job talks and conference presentations happen as online "webinars." To help accustom you to professional presentations online, you will prepare a short screencast using Jing (<http://www.techsmith.com/jing.html>).

Build a presentation in the slide-design tool of your choice, install Jing, and use it to create a narrated slideshow. Here's the zinger: *the maximum length of a Jing video is five (5) minutes*. Watch your Jing and reflect upon its quality and how you can improve your self-presentation. (Would you hire you?) Post the reflection and the URL of your Jing recording to the designated (closed) Learn@UW forum.

Your talk should usefully and enjoyably introduce a *technology-related standard* to your classmates, who (please remember) are not all in the same track you are! Controlled vocabularies and metadata standards are fine. If you're not sure about a standard you want to present on, ask me; I usually say yes. Example standards include (but are emphatically *not* limited to):

- Any information organization, public libraries included: HTTP, RDF, FRBR, SKOS, BIBFRAME, XML or related standard, WCAG web-accessibility standard, any NISO, IEEE, or IETF standard related to technologies information agencies use, MARC, RDA, Z39.50, SRU/SRW, schema.org microdata, .epub
- School libraries: IEEE LOM, SCORM, technology-literacy academic standards for Wisconsin or another state, or in the Common Core
- Academic libraries: digitization-related standards, digital-preservation standards, e-content licensing standards, COUNTER, SUSHI, OpenURL, TEI
- Archives and records management: EAD, TEI, EAC-CPF, OAIS model, DACS, ISAD(G), GARP

To understand why learning to present well is important, what skills it requires, and how to evaluate it, see <http://weblogs.swarthmore.edu/burke/blog/2009/10/22/the-skilled-presentation-of-self-in-everyday-life/>

Presenting your webinar

On the designated date (see table), give your group PM a link to your Jing. PM, please circulate the Jing links to the rest of the group (the PM tool may help you). Group members, you have one week to watch all Jings and email each presenter (copying your PM) with:

- One thing you learned from the presentation that you hadn't previously known
- At least one thing you appreciate about the presenter's presentation style (more is welcome!)
- At least one thing you appreciate about the presenter's slides
- At least one constructive suggestion for improvement to the presenter's presentation style

- At least one constructive suggestion for improvement to the presenter’s slides

Watchers, I urge you please to comment upon the following common poor practices and suggest improvements:

- A “History of {your standard}” slide (boring! not helpful!)
- Misspellings, mis-capitalizations, typos, or grammar errors, no matter how small (I have seen people fail to land jobs over these); also mispronunciations of acronyms (not quite as dangerous, but still jarring)
- Reading word-for-word from a script that resembles an academic paper (this is deadly dull)
- Reading bullet points word-for-word, over and over again
- A weak, thoughtless, unpolished opening or closing

PMs, once the response due date has passed, please email me a list of who has and has not sent all necessary responses. All students who create the Jing, write the reflection, and respond to all their group members on time receive full credit for the assignment.

Technology grant application

The group project in LIS 644 is designed to expose you to *non-technical* (budgetary, staffing, planning, project-management) aspects of technology projects in information agencies. If your group is interested in a different grant opportunity from those listed below (especially a local one), please discuss it with me; I often agree. Real-world grant applications are welcome but not required; be aware that real-world situations are usually significantly more challenging.

You are responsible for **ALL PORTIONS** of the grant application, including budgets, timelines, and assessment or outreach plans! If the funder asks for a letter of interest or other pre-screening document, please write that as well as the full grant application. You may not exceed page limits set by the funder. You will have to fabricate information about the grant applicant; do so realistically. (Do not hesitate to look for case studies, prior grant applications or reports, or anything else that will ground your grant application in reality.)

Before or during Week 13, the Project Manager (PM; see below) will exchange the draft grant with another group’s PM for feedback from that entire group. (I will tell you whom to exchange with.) Pretend your group is the funder’s grant committee; would you fund this grant? Why or why not? PMs should email feedback between one another with “644” in the subject line, CCing me. (I won’t reduce grades if a draft needs work; I just want to know that feedback was sent!)

Grading breakdown (out of 15 final-grade points):

The application will be graded on its correctness (per grant guidelines), realism, mission-appropriateness, and persuasiveness. As with real-life grants, careless typos, shoddy grammar, and lousy writing make a poor impression. Use the Writing Center if you need it!

Participation; results of 360 evaluation	3 points
Charter and schedule	3 points
Final grant application	9 points

Grant options

1. The small town of Minuscule has a favorite daughter who became a well-regarded artist. Minuscule Public Library (which also houses its one-room historical-society/archives) has a collection of letters, photos, VHS and Mini-DV home videos, and (small) realia related to the artist, and is interested in digitizing these materials for an online exhibit and ultimately including them in the Digital Public Library of America. (Assume that Minuscule PL can place materials with a DPLA Content Hub but does *not* have access to a DPLA Service Hub.) Write an LSTA grant (specify a state; it need not be Wisconsin), a CLIR Digitizing Hidden Collections grant, or an NHPRC Digital Dissemination of Archival Collections grant to do the digitization.
2. The American Condiment Archive has significant unprocessed donations of born-digital materials on various digital media, from floppy disks to hard drives to email to the online tracks of important figures. It currently does not have equipment, infrastructure, or staff know-how to assess, accession, preserve, and provide appropriate access to these materials. Write an NHPRC Access to Historical Records grant that covers equipment, infrastructure, and staff training. (Assume one professional archivist, some part-time paid paraprofessional help, and some volunteers.)
3. Mayuscule Public Library Consortium wants to implement a makerspace in its flagship urban library. Assume the existence of a mostly-suitable space (however you define that, but please be realistic) on the first floor of the library. Write an IMLS Sparks! Ignition grant to help fund the makerspace construction and first year of operation.

4. The great State of Confusion is drowning in e-records. Worse, its records office just weathered a giant scandal over an elected politician sending work-related email through GMail instead of the state's own servers. Confusion's state-records office is convinced it must get a handle on this email problem, and its major partners University of Confusion and Confusion State University are willing to pitch in on a solution that helps them too. Write an NHPRC State Government Electronic Records grant to launch a better email management system.

Project management and 360 evaluation

Your group should immediately select a Project Manager (PM). The PM is responsible for all communications about the project to me and to any real-world client(s) (and has other responsibilities during the semester; see description of the Short Webinar assignment). The PM is also ultimately responsible for dividing up and scheduling the work, and keeping the group "on time and under budget." The PM may come to me at any time with concerns about group progress or group dynamics. Other group members with concerns should approach the PM first. PM and group are responsible for ensuring that neither the PM nor any other group member is overloaded.

The group is also expected to use an online project-management tool; Asana and Trello are recommended, but you may use another if you prefer. (N.b. Google Docs/Drive is not a project-management tool for purposes of this assignment. You may use it, but not for project management.) Please add me to your PM-tool group; I will not interfere, but I may check in with your group at random times by looking in on the tool. You will lose 3 final-grade points if I discover your group is not using a tool.

During the last week of the semester, everyone must post a short "360 evaluation" of the other members of their group to a locked Learn@UW forum: a suggested *and justified* participation score for each group member, including the PM and yourself, out of 3 points. I will use this information to raise or lower individual project-participation grades as I see fit; only I will ever see the post.

Semester charter and schedule

By the listed due date, the PM will submit a charter and schedule for the group's semesterlong work on the grant application. (You may use templates from <http://oit.duke.edu/enterprise/project-mgt/templates/index.php> as a guide, with the understanding that not all templates or template elements will make sense for this project.) Please make clear which group members will be working on which segments of the grant, and when results (final and intermediate) are due.

Risk management strategies should also be outlined: obvious contingencies to plan for include any group member's sudden incapacity (dropping the class, illness, unexpected absence, etc) or an unexpected and time-consuming complexity popping up in the project, but any other threats to the project that occur to the group may of course also be considered. Part of the point of this project is to avoid mid-project surprises and end-of-project death marches; your charter should reflect a fairly detailed understanding of what every part of the project will entail.

Each group member should email the PM an acknowledgement that they have participated in the charter's construction and are committed to the workload and due dates outlined in it. (No need to copy me, but the PM may forward me someone's acknowledgement should a difficulty arise.)

ON GROUP PROJECTS

The idea that group projects are uniquely designed to torture iSchool students is a snare and a delusion. All information professions include immense amounts of collaborative work, from grantwriting to local committees and task forces to involvement in national professional organizations and everything in between. None of the obstacles to working in groups—scheduling, free riders, personality conflicts—disappears when you receive your degree. If you are not good at working in a team, now is the time to learn!

Likewise, formal project management is a highly marketable skill. Even if you are not your group's PM, learning everything you can about how to plan, charter, steer, and budget a project will serve you well, as will thoughtful reflection on how best to encourage fruitful teamwork among colleagues.

Assignment schedule

All assignments are due Wednesdays at 5pm CT. I apologize for not using the Learn@UW calendar, but it is unusably broken.

TB = Technology Boundaries

	Dates	Due dates this week
Week 1	9/2-9/8	
Week 2	9/9-9/14	9/9 Grant group selection complete
Week 3	9/16-9/21	9/16 TB: Basic Assignment 1 due, Grant option chosen
Week 4	9/23-9/28	9/23 Grant project charter/schedule due
Week 5	9/30-10/5	
Week 6	10/7-10/12	10/7 TB: Basic Assignment 2 and Job Ad examples/ad/questions due
Week 7	10/14-10/19	10/14 Job Ad interview feedback due
Week 8	10/21-10/26	10/21 TB: Advanced Assignment 1 due
Week 9	10/28-11/2	10/28 TB: Basic Assignment 3 due
Week 10	11/4-11/9	
Week 11	11/11-11/16	11/11 Short webinar Jing due to group PM
Week 12	11/18-11/23	11/18 TB: Basic Assignment 4 due; responses to other group members' Jing webinars due (PMs: email me 11/19 or 11/20, please)
Week 13	11/25-11/30	11/25 Exchange draft grant applications
Week 14	12/2-12/7	12/2 Draft grant feedback due (exchange between PMs)
Week 15	12/9-12/14	12/14 TB: Advanced Assignment 2, E-portfolio writeup, Grant application, and 360 evaluation due

Program-level learning outcomes table

Course learning objective	Related to SLIS Program-Level Outcome(s)	Assignments providing evidence of Program-Level Outcome(s)	How mastery of Program-Level Outcome(s) will be assessed
Broad awareness of digital technologies in use in libraries and other information agencies.	3d. Students understand and use appropriate information technologies.	Short webinar. Position description assignment. Technology-boundaries assignments.	Webinar and position description graded on quality and variety of information sources discovered and used.
Vocabulary and knowledge of conventions needed to communicate with technical staff.	3d. Students understand and use appropriate information technologies. 4b. Students demonstrate good oral and written communication skills.	Short webinar. Position description assignment. E-portfolio writeup of advanced technology-broadening assignment. Grant application.	Graded on clarity and comprehensibility of expression, correctness of terminology use.
Ability to evaluate, plan for, select, and safely and securely work with digital technologies.	3d. Students understand and use appropriate information technologies.	Grant application.	Grant application graded on ability to discover and gauge alternatives, select those fit for purpose.
Ability to contribute appreciably to a team working on a defined project; awareness of project-management tools and techniques.	4a. Students participate effectively as team members to solve problems.	Grant application.	360 peer evaluation feeds into grade. For project managers, communication quality with instructor affects grade.
Basic HTML, CSS, SQL, and XML knowledge.	3d. Students understand and use appropriate information technologies.	Technology-broadening assignments.	See assignment rubrics.
Sufficient courage, self-awareness, and skill for self-sufficiency in acquiring technical knowledge.	3d. Students understand and use appropriate information technologies.	Technology-broadening assignments.	See assignment rubrics.
Development of ethical and principled approaches to technology adoption and education.	4d. Students demonstrate innovation and skills necessary for leadership.	Grant application.	Mission-appropriateness of grant narrative part of grade.