Syllabus: LIS 644, Digital tools, trends and debates
School of Library and Information Studies
University of Wisconsin-Madison
Fall 2011: Tuesdays 5:30-8:00 pm

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Course Objectives

- Broad awareness of digital technologies in use in libraries and other information agencies.
- Ability to evaluate, plan for, select, and safely and securely work with digital technologies in a library context.
- 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 work with two building blocks of data representation and transformation: regular expressions and SQL.
- Sufficient courage, self-awareness, and skill for self-sufficiency in acquiring technical knowledge.
- Development of ethical and principled approaches to technology adoption and education.

Phenomena to be examined include:
- standards, Internet infrastructure, and standards-governance structures,
- the Integrated Library System (ILS) and its potential successors,
- networked services, including cloud computing, geolocation, and the net neutrality debate,
- legal issues surrounding technology in and outside libraries and archives,
- security issues, including protection infrastructures and social engineering,
- search engines, search and indexing techniques, and data mining,
- digitization and basic digital preservation techniques, hardware, software, and issues,
- ebooks and the Google Books project,
- social media, including questions of privacy.

Course Policies

I wish to fully include persons with disabilities in this course. Please let me know within two weeks if you require special 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. Training is available through SLIS Web Coding Skills labs, UW Student Software Training (SST) Classes and Online Training Modules (http://www.doit.wisc.edu/training/student/index.aspx), and the excellent w3schools site (e.g. XML tutorial at http://www.w3schools.com/xml/default.asp). I encourage students who want training in specific technologies to discuss possibilities with me.

Grading Schema and Due Dates

Assignments:	Percentage	Due Date
Weekly technology work	20%	(various)
Weekly reflections	10%	(various)
Job talk	20%	(various)
Position description project	20%	4 October
Final project and project plan	30%	16 December

No extra credit opportunities are available in this class. Failure to complete the position description project or the job talk will result in an automatic F for the course.

All readings are to be finished by the class meeting time under which they are listed.

Unit 1: Fundamentals

Week 1 (September 6): What is technology?

Learning objectives: Technology, parts of a computer, library attitudes toward technology change. Project management.

Regular Expressions I: What is a regular expression?

Suggested readings:

ObXKCD: http://xkcd.com/208/

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

Click a few links in my Trithemius linkstore: http://pinboard.in/u:dsalo/t:trithemius

Week 2 (September 13): How technology gets made: standards de facto and de jure

Learning objectives: Standards bodies (W3C, OASIS, ISO, NISO, IETF), library standards and standards work (RDA), "open standard," identifiers (DNS, handles, DOIs, ARKs, PURLs) vs. addresses, digital authority control. Separately: jobs in library technology.

Regular Expressions II: Dots, stars, plusses, and backslashes. DUE TODAY: Regular Expressions Quiz 1.

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

"Standards organization." *Wikipedia*. http://en.wikipedia.org/wiki/Standards_organization (Overview and Trends only.)

"About the World Wide Web Consortium (W3C)." http://www.w3.org/Consortium/

"Overview of the IETF." http://ietf.org/overview.html

Brain, "How Domain Name Servers Work." http://computer.howstuffworks.com/dns.htm (Sections 1-4.)

"Handle.net FAQs." http://handle.net/faq.html (1.1 through 1.8.)

Weibel, Jul, and Shafer. "PURLs: Persistent Uniform Resource Locators." http://purl.oclc.org/docs/new_purl_summary.html

"Archival Resource Key." http://www.cdlib.org/inside/diglib/ark/

"Introductory Overview." http://www.doi.org/overview/sys_overview_021601.html

Starr, Joan. "isCitedBy: A Metadata Scheme for DataCite." http://dlib.org/dlib/january11/starr/01starr.html (Introduction only)

ORCID, "Principles." http://www.orcid.org/principles

Wilder, "The New Library Professional." Chronicle of Higher Education. http://chronicle.com/article/The-New-Library-Professional/46681/

Houghton-Jan. "The Future is in Web Services." http://librarianinblack.net/librarianinblack/2007/07/the-future-is-i.html

Salo, Dorothea. "Regular expressions: a brief tutorial." Lessons 1 and 2. http://misc.yarinareth.net/regex.html

Week 3 (September 20): Technology, the law, and libraries

Learning objectives: Patriot Act. DOPA, S.49, COPA, CIPA, Do Not Track Kids Act. Patron records and recordkeeping policies; reidentification risk. Terms of service agreements. Filtering, E-Rate. Copyright and attempts to enforce copyright strictures on the Internet (ACTA, "three strikes" laws); DRM; DMCA and its exceptions. Net neutrality.

Regular Expressions III: Character classes. DUE TODAY: Regular Expressions Quiz 2.

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

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

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

"Carol Brey-Casiano tells a Patriot Act story." http://americanlibrariesmagazine.org/print/4390

Vielmetti, "Patron Privacy" http://vielmetti.typepad.com/superpatron/patron_privacy/index.html (read first page)

Carr, "Library Filtering Remains Controversial." http://www.baselinemag.com/c/a/IT-Management/Library-Filtering-Remains-Controversial-581401/

King, "Filtering at the library." http://www.davidleeking.com/2005/02/16/filtering-at-the-library-how-its-going/

Anderson, "Libraries dying for bandwidth." http://arstechnica.com/tech-policy/news/2009/11/libraries-dying-for-bandwidthwheres-the-fiber-and-cash.ars

Marwick, "To catch a predator?" 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)

Balkam, Stephen. "Not Backing Kids Tracking Bill." http://www.huffingtonpost.com/stephen-balkam/kids-tracking-online_b_901974.html

Smith, Kevin. "ACTA and the Embrace of Big Government." http://blogs.library.duke.edu/scholcomm/2010/10/25/acta-and-the-embrace-of-big-government/

Lifehacker. "An introduction to net neutrality." http://lifehacker.com/5720407/an-introduction-to-net-neutrality-what-it-is-what-it-means-for-you-and-what-you-can-do-about-it

Karr, Tim. "Comcast Busted." http://www.savetheinternet.com/blog/10/11/30/comcast-busted-new-tolls-netflix-arent-all-you-should-worry-about

Isenberg, "When Net Neutrality Goes Away." http://isen.com/blog/2007/09/pic1kword-when-net-neutrality-goes-away.html

Lemos, Robert. "How China and Others are Altering Web Traffic." http://www.technologyreview.com/web/37074/

Salo, Dorothea. "Regular expressions: a brief tutorial." Lesson 3. http://misc.yarinareth.net/regex.html

Unit 2: Living on the network

Week 4 (September 27): Network architectures: what computer am I using, and what does everybody know about it?

Learning objectives: Wired networking types and standards (cable types, router, hub, switch, NIC). Wireless networking types (wifi, 3G, 4G, EDGE, whitespace), and how providers treat them differently. Logfiles. Addressing (port address, MAC address, IP address). TCP/IP, packets, IPv4, IPv6.

Regular Expressions IV. DUE TODAY: Regular Expressions Quiz 3.

ObXKCD: http://xkcd.com/742/

Erdman, "MAC addresses." http://www.networkclue.com/hardware/network/mac-address.aspx

Erdman, "TCP/IP." http://www.networkclue.com/routing/tcpip/

Anderson, Nate. "Turning numbers into names: how IP address lookups are done." http://arstechnica.com/tech-policy/news/2011/02/how-internet-providers-look-up-an-ip-address.ars

"Server log." Wikipedia. http://en.wikipedia.org/wiki/Server_log

Tyson, "How Network Address Translation Works." http://computer.howstuffworks.com/nat.htm (Sections 1-2, 6.)

"What is IPv6?" http://www.opus1.com/ipv6/whatisipv6.html

"Four Ways IPv6 Will Save The Internet." http://www.macworld.com/article/152925/2010/07/ipv6.html

Wilson, "How Home Networking Works." http://computer.howstuffworks.com/home-network1.htm (Sections 1-5.)

Fleishman, "Speed Up Your Wireless Network." http://www.macworld.com/article/151509/2010/05/speedupwirelessnetwork.html

Pidgeon, "How Ethernet Works." http://computer.howstuffworks.com/ethernet.htm (Sections 1-3, 5-7, 10, 12, 14-15.)

Lasar, Matthew. "DNS filtering: absolutely the wrong way to defend copyrights." *ars technica*. http://arstechnica.com/tech-policy/news/2011/05/dns-filtering-absolutely-the-wrong-way-to-defend-copyrights.ars

Johnston, Casey. "New whitespace standard." *ars technica*. http://arstechnica.com/gadgets/news/2011/07/new-wireless-specs-for-white-space-up-to-22mbps-over-12000-square-miles.ars

Salo, Dorothea. "Regular expressions: a brief tutorial." Lesson 4. http://misc.yarinareth.net/regex.html

Week 5 (October 4): Security on the network

Learning objectives: software threats (virus, trojan, worm), malware (adware, spyware, hijackers, toolbars), phishing, pharming, social engineering, denial of service attack. Spam (email, web-comment, referrer; botnets). Server and network attacks (denial-of-service attack, "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. Identity management (authentication, attribution, authorization).

Regular Expressions V. DUE TODAY: Regular Expressions Quiz 4, Position Description assignment.

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

Plum, "User Authentication." http://www.arl.org/bm~doc/spec267web.pdf (pp 9-13)

Granier. "SPAM and Anti-Spam." http://www.sans.org/reading_room/whitepapers/email/1776.php (Pages 1-21, 30-41)

"The difference between a virus, a worm, and a trojan horse?" http://www.webopedia.com/DidYouKnow/Internet/2004/virus.asp

Baratz and McLaughlin, "Malware: what it is and how to prevent it." Ars Technica http://arstechnica.com/articles/paedia/malware.ars (p 1, 4-6)

"Botnet." http://searchsecurity.techtarget.com/sDefinition/0,290660,sid14_gci1030284,00.html

Hruska, "IRS easily baited, vulnerable to social engineering-based attacks." Ars Technica. http://arstechnica.com/news.ars/post/20070805-study-finds-irs-vulnerable-to-social-engineering-based-attacks.html

"All About Phishing." http://www.webopedia.com/DidYouKnow/Internet/2005/phishing.asp

Delio, "Pharming Out-Scams Phishing." Wired. http://www.wired.com/techbiz/it/news/2005/03/66853

"Rootkit." http://searchsecurity.techtarget.com/sDefinition/0,,sid14_gci547279,00.html

"Denial of Service attacks." http://www.cert.org/tech_tips/denial_of_service.html

Piscitello, "Anatomy of a cross-site scripting attack." http://www.watchguard.com/infocenter/editorial/135142.asp

Bradley, "Zero day exploits." http://netsecurity.about.com/od/newsandeditorial1/a/aazeroday.htm

Baekdal, Thomas. "The usability of passwords." http://www.baekdal.com/tips/password-security-usability

Canavan, "Information Security Policy." http://www.sans.org/reading_room/whitepapers/email/1331.php (Sections 1-6.)

Herley, "So Long and Thanks for the Externalities" http://research.microsoft.com/en-us/um/people/cormac/papers/2009/SoLongAndNoThanks.pdf

For consultation: Data Security and Compliance Terms. http://www.imperva.com/resources/glossary/glossary.html

Salo, Dorothea. "Regular expressions: a brief tutorial." Lesson 5. http://misc.yarinareth.net/regex.html

Week 6 (October 11): The social web

Learning objectives: weblog, wiki, content management system, newsfeeds (RSS, Atom, feedreaders, canned searches), podcasts, Twitter, Facebook, Google+, LinkedIn, chat, Wikipedia and libraries, crowdsourcing, professional networking online, social bookmarking/citation management, tagging, folksonomy, mashups (AJAX) and widgets, APIS and protocols, social networking. Social geolocation.

DUE TODAY: Regular Expressions, Real-World Application. Reflection: Personal digital security.

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

"Application programming interface." http://en.wikipedia.org/wiki/Application_programming_interface

Miller, "So what's a mashup anyway?" http://blogs.talis.com/panlibus/archives/2006/06/so_whats_a_mash.php

Surf the Ann Arbor District Library website (http://www.aadl.org/) and the Library Success wiki (http://www.libsuccess.org/).

"About Drupal." http://drupal.org/about

"All About RSS." http://www.faganfinder.com/search/rss.php

Torrone, "What is podcasting?" http://digitalmedia.oreilly.com/2005/07/20/WhatIsPodcasting.html (Pages 1-4.)

"Instant messaging." Wikipedia. http://en.wikipedia.org/wiki/Instant_messaging

"Chat reference." http://www.teachinglibrarian.org/oldsite/chat.htm

Etches-Johnson. "The brave new world of social bookmarking." http://www.blogwithoutalibrary.net/talk/brave_new_world.pdf

Kroski, "The hive mind." http://infotangle.blogsome.com/2005/12/07/the-hive-mind-folksonomies-and-user-based-tagging/

Bisson, "What does Facebook matter to libraries?" http://maisonbisson.com/blog/post/11115/ (avoid the comments)

Hotz, "Facebook and privacy: six years of controversy." http://mashable.com/2010/08/25/facebook-privacy-infographic/

Harris, "FTC says yes to Facebook inclusion in background checks." http://www.zdnet.com/blog/feeds/ftc-says-yes-to-facebook-activity-inclusion-in-background-checks/3973

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/

Try out a crowdsourcing project: transcribe Civil War diaries at http://digital.lib.uiowa.edu/cwd/transcripts.html or georectify an old map at http://maps.nypl.org/warper/.

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

Halpern, "Walking a fine line: You 2.0 vs. well, You." http://hacklibschool.wordpress.com/2011/07/25/walking-a-fine-line-you/

Week 7 (October 18): Teaching on the network

Learning objectives: "digital natives" and other technology demographics, distance education, accessibility, usability, writing for the web, digital research guides, teaching technology to non-users, the digital divide.

SQL introduction: Databases, tables. DUE TODAY: Reflection: Your presence online.

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

Coombes, "Generation Y: Are they really digital natives or more like digital refugees?" http://www.slav.schools.net.au/synergy/vol7num1/coombes.pdf

"Information behaviour of the researcher of the future." http://www.bl.uk/news/pdf/googlegen.pdf

Dworschak, "Logging Off: The Internet Generation Prefers the Real World." http://www.spiegel.de/international/zeitgeist/0,1518,710139,00.html

"Keeping an electronic eye on Johnny." http://host.madison.com/ct/news/local/education/local_schools/article_17ea45ba-ad97-11df-8583-001cc4c03286.html

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

"Guidelines for distance learning library services." http://www.ala.org/ala/mgrps/divs/acrl/standards/ guidelinesdistancelearning.cfm (Part I only)

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

Kelly and Hibner, "Thingamabobs and Doodads: why tech support IS reference." http://www.slideshare.net/hhibner/ thingamabobs-and-doodads-tech-support-is-reference-4440135

"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)

Poke through UW-Madison's LibGuides at http://researchguides.library.wisc.edu/ and read through the information about Library Course Pages http://www.library.wisc.edu/lcp/index.html

McGovern, "Writing for the Web" http://www.gerrymcgovern.com/guide_write_01.htm (parts 1-7)

"Library Accessibility: What You Need To Know." http://www.ala.org/ala/mgrps/divs/ascla/asclaprotools/ accessibilitytipsheets/ (read all; pay special attention to "Management" and "Assistive Technology")

Grussell, "Introduction: The Database Approach." http://db.grussell.org/section002.html (NOT the rest of the page.)

Unit 3: Library-specific technology

Week 8 (October 25): Metadata and search engines

Learning objectives: Metadata types (descriptive, administrative, structural, preservation). Metadata formats (METS, MODS, Dublin Core). Index, spider/crawler, TF/IDF, search engine optimization. Relevance ranking, deduplicating, and faceted browsing. Linked data and RDF.

SQL introduction: Basic SELECT statements. WHERE clauses. =, <, >, *, /. LIKE keyword. IN keyword. BETWEEN keyword.

DUE TODAY: SQL quiz 1.

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

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

Wikipedia, "Search engine optimization." http://en.wikipedia.org/wiki/Search_engine_optimization

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

Antelman, Lynema, and Pace. "Toward a 21st Century Library Catalog." http://eprints.rclis.org/archive/00007332/

Try some subject and author searches on Forward, http://forward-test.library.wisconsin.edu/. Pay close attention to result quality and what you see in the left and right sidebars after a search.

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

Riley, "Seeing Standards." http://www.dlib.indiana.edu/~jenlrile/metadatamap/ (Download the poster and read the legend and definitions carefully.)

Kennedy, "Nine questions to guide you in choosing a metadata schema." https://journals.tdl.org/jodi/article/viewArticle/ 226/205

Guenther, McCallum, "New metadata standards for digital resources: MODS and METS." http://findarticles.com/p/ articles/mi_qa3991/is_200212/ai_n9150534

Cundiff and Trail, "Using METS and MODS…" http://www.loc.gov/standards/mods/presentations/mets-mods-morgan-ala07/

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

Week 9 (November 1): An introduction to markup. FREE QUESTION PERIOD.

Learning objectives: What is a markup language? XML. XML well-formedness. XML validity (DTDs, schemas, validators, tag libraries and other documentation). XML namespaces. Common XML languages in libraries (MARCXML, MODS, EAD, TEI).

SQL introduction: Using SELECT COUNT(*). AND and OR. Primary key, foreign key.

DUE TODAY: Midterm final-project report, SQL quiz 2.

ObXKCD: http://xkcd.com/224/

"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.)

SAA. "What is EAD?" http://www.archivists.org/saagroups/ead/aboutead.html

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

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

Week 10 (November 8): Ebooks and mobile information

Learning objectives: IDPF, EPub vs. PDF, DRM, "first-sale," leased vs. owned information, libraries as publishers, print-on-demand. Acquiring and cataloging ebooks. Smartphones, "apps" and web development for mobile devices, texting/SMS, mobile demographics, geolocation, privacy.

SQL introduction: Subqueries. DUE TODAY: SQL quiz 3.

ObXKCD: http://xkcd.com/750/

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

"E-reader Pilot at Princeton." http://www.princeton.edu/ereaderpilot/index.xml (read through the whole site, and at least the summary version of the final report)

IDPF, "Specifications." http://idpf.org/specs.htm

"Anthologize: About." http://anthologize.org/about/

"Open Journal Systems." http://pkp.sfu.ca/?q=ojs

Houghton-Jan, "Imagine no restrictions: digital rights management." http://www.libraryjournal.com/article/CA6448189.html

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

Tenopir, "Usage and Functionality." http://www.libraryjournal.com/article/CA6718560.html

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

Anderson, "Landmark study: DRM truly does make pirates of us all." *ars technica.* http://arstechnica.com/tech-policy/news/2009/05/landmark-study-drm-truly-does-make-pirates-out-of-us-all.ars

Murphy, "Mobile devices for research." http://www.slideshare.net/joseph.murphy/online-mobile-research-article-murphy

Tynan, "Who's tracking your cell phone?" http://www.pcworld.com/businesscenter/article/236456/whos_tracking_your_cell_phone.html

Suda, "Designing for the Mobile Web." http://articles.sitepoint.com/article/designing-for-mobile-web

T-SQL user guide, "Subqueries." http://manuals.sybase.com/onlinebooks/group-as/asg1250e/sqlug/@Generic__BookTextView/13332;pt=13262 (Ignore the jargon; look at the example!)

Week 11 (November 14): Digitization and file formats

Learning objectives: Classifying and evaluating file formats. Lossy vs. lossless formats. Image formats (JPEG, TIFF, JPEG 2000, PNG, GIF). Audio and video formats (codecs, sampling rate/bitrate, WAV, AIFF, mp3, MPEG4). Planning and managing digitization projects. OCR.

DUE TODAY: SQL quiz 4, Reflection: Your reading habits.

ObXKCD: http://xkcd.com/619/

Search for some of your favorite file formats on http://wotsit.org/.

Matthews, "Digital image file types." http://www.wfu.edu/~matthews/misc/graphics/formats/formats.html

Read through Rutgers' opinions on archival file formats at http://rucore.libraries.rutgers.edu/collab/reference.php?group=ALL&auth=ALL&type=dos&submit=Search&orderby=date.

ICPSR, "Digital Preservation Tutorial," section 3 "Obsolescence": "File Formats and Software" and "Hardware and media" http://www.icpsr.umich.edu/dpm/dpm-eng/eng_index.html

Lazorchak, "Whither digital video preservation?" http://blogs.loc.gov/digitalpreservation/2011/07/whither-digital-video-preservation/

Pilgrim, "Video on the web." http://diveintohtml5.org/video.html (Stop at "Encoding video with Miro converter.")

"Creating and keeping your digital treasures: A user guide." http://www.slwa.wa.gov.au/__data/assets/pdf_file/0015/12048/Creating_and_Keeping_your_Digital_Treasures-A_User_Guide.pdf

"What is OCR?" http://www.webopedia.com/TERM/O/optical_character_recognition.html

Week 12 (November 22): Digital preservation

Learning objectives: Threats to digital data. Format migration vs. system emulation. "Preservation copy" and Google Books. Types of digital archives (institutional repository, disciplinary repository, data archive, "trusted digital repository," dark archive). LOCKSS/CLOCKSS and Portico. eScience, cyberinfrastructure, and data curation.

ObXKCD: http://xkcd.com/373/

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

ICPSR, "Digital Preservation Tutorial." Introduction, sections 1, 2, 5. http://www.icpsr.umich.edu/dpm/dpm-eng/eng_index.html

Skinner and Schultz, "Preserving Our Collections, Preserving Our Missions." http://www.metaarchive.org/sites/default/files/GDDP_Educopia.pdf (pp. 1-9)

"About LOCKSS." http://www.lockss.org/lockss/About_LOCKSS

"How CLOCKSS works." http://www.clockss.org/clockss/How_CLOCKSS_Works

"About Portico." http://www.portico.org/about/

Lynch, "Institutional repositories." http://www.arl.org/resources/pubs/br/br226/br226ir.shtml

Peek through E-LIS (http://eprints.rclis.org/) and MINDS@UW (http://minds.wisconsin.edu/).

ARL, "Agenda for Developing E-Science." http://www.arl.org/bm~doc/ARL_EScience_final.pdf (pp. 3-13)

Week 13 (November 29): 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. Protocols and APIs (recap). ILS modules. ILS vendors. "Resource discovery" landscape. Metasearch versus local indexing. Electronic-resource managers. Proxy servers. Link resolvers (the "appropriate copy" problem). OpenURL. The future of MARC.

DUE TODAY: Reflection: Your digital stuff and its longevity.

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

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

Taylor, Mike. "Bibliographic data, part 1: MARC and its vile progeny." http://reprog.wordpress.com/2010/09/02/bibliographic-data-part-1-marc-and-its-vile-progeny-2/

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

Play with NCSU's Endeca-enhanced library catalogue, comparing it with MadCAT and Forward. Try keyword searches especially ("Vietnam War" is a favorite). http://www.lib.ncsu.edu/catalog/

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

Farkas, "What's the deal, JSTOR?" http://meredith.wolfwater.com/wordpress/2010/08/24/whats-the-deal-jstor/

Unit 4: Overarching concerns

Week 14 (December 6): Privacy

Learning objectives: Library attitudes toward privacy. Privacy and threats to privacy in networked environments. Teaching patrons about privacy. Ebooks and privacy. Data mining and reidentification.

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

Take the EFF's Know Your Rights! quiz at https://www.eff.org/pages/know-your-digital-rights-quiz

Cline, "iPhone location-tracking incident boosts stock of 'privacy by design.'" http://www.macworld.com/article/159777/2011/05/privacy_by_design.html

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

Rieffel, "Whither Data Privacy?" http://palblog.fxpal.com/?p=3177

"The Fundamental Limits of Privacy for Social Networks." http://www.technologyreview.com/blog/arxiv/25146/

Bayley, "E-Book Buyer's Guide to Privacy." http://www.eff.org/deeplinks/2010/01/updated-and-corrected-e-book-buyers-guide-privacy

Onion. "Google Responds to Privacy Concerns with Unsettlingly Specific Apology." http://www.theonion.com/articles/google-responds-to-privacy-concerns-with-unsettlin,16891/

Schneier, Bruce. "Privacy Salience and Social Networking Sites." http://www.schneier.com/blog/archives/2009/07/privacy_salienc.html

Hellman, "What the Google Books Settlement Agreement Says about Privacy." http://go-to-hellman.blogspot.com/2009/08/what-google-books-settlement-agreement.html

Week 15 (December 13): Collecting and circulating digital materials

Learning objectives: The impact of the digital on collection development. Google Books.

ObXKCD: http://xkcd.com/14/

Samuelson, "GBS as copyright reform." http://www.slideshare.net/naypinya/samuelson-gbs-as-copyright-reform

Band, "GBS March Madness." http://www.arl.org/bm~doc/gbs-march-madness-diagram-final.pdf

Grimmelmann, "Inside Judge Chin's Opinion." http://laboratorium.net/archive/2011/03/22/inside_judge_chins_opinion

Albanese, Andrew. "The breakup: are the Google settlement parties heading for splitsville?" http://www.publishersweekly.com/pw/by-topic/digital/copyright/article/48183-the-breakup-are-the-google-settlement-parties-headed-for-splitsville-.html

Cairns, "Monographs don't support the library mission." http://personanondata.blogspot.com/2011/06/ala-speech-parallel-universe-monographs.html?spref=tw

Schonfeld and Housewright, "What to Withdraw." http://www.ithaka.org/ithaka-s-r/research/what-to-withdraw/What%20to%20Withdraw%20-%20Print%20Collections%20Management%20in%20the%20Wake%20of%20Digitization.pdf

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

Nunberg, "Google's Book Search: A Disaster for Scholars." http://chronicle.com/article/Googles-Book-Search-A/48245/

ASSIGNMENTS

Position description

Due: 4 October

You will write TWO position descriptions, as you might find them on an employer's website or via a job-search site such as lisjobs.com. For EACH POSITION DESCRIPTION, turn in:

➢ links to or screenshots of at least three roughly similar job postings
➢ three questions specifically related to this position that you would ask candidates in an interview
➢ a position description ("job ad")

ONE description should be taken from the title list below (note: the job title in your description does not need to match a title below exactly, nor do titles of job postings you find). The OTHER should be a description of a "hybrid position," one that combines elements of the jobs below with other library jobs such as instruction, reference, or technical services.

Titles:
a) ILS Librarian (public library, academic library, public or academic library consortium)
b) Emerging Technologies Librarian (public library, academic library, school library)
c) Digital Repository Librarian (academic library, corporate library)
d) Web Librarian (any library type)
e) Distance-Education Librarian (academic library)
f) Library Application Developer (any library type, but be realistic!)
g) Systems Librarian (any library type; beware of laundry-list job descriptions!)
h) Technical Support Librarian (library vendor, library consortium, academic library)
i) Metadata Librarian (academic library, archives, vendor)
j) Digitization Librarian (academic library, archives, special library)
k) Data Curator (academic library, corporate library, academic IT department)
l) Copyright Officer (academic library)

Off-limits, please: e-resources/e-serials librarians, records managers, knowledge managers, scholarly-communications librarians, high-level management positions.

Job postings: Postings should be no older than three years. Feel free to bookmark and tag job listings for your classmates.

Job ad: Create a fictional library to be the author of the job ad, and make sure you describe it briefly. You may adopt language from the postings you find as you see fit providing you do not copy an entire listing.

Questions: Tailor the questions *specifically to the envisioned scope and duties of the positions*. ("If you were a tree..." is not what I am looking for; I will remove points if I see generic questions!) Do not ask your candidates to restate what they already told you in their résumé and cover letter; that is a waste of precious interview time. At least one question should be a "scenario" question, in which candidates are asked to react to a problematic scenario likely to occur on the job.

Grading breakdown

Appropriate exemplars	10%
Library description	15%
Position description (including appropriateness of position to library described)	15%
Position requirements	30%
Interview questions	30%

Weekly tech work

Starting at the beginning of the semester, you will learn to search and replace with moderately complex regular expressions and perform basic SQL SELECT queries. Most weeks you will have readings and an assignment related to one or another of these goals. Weekly assignments are due at the start of the next class period.

Weekly reflection

During some weeks of the semester, you will be asked to respond to writing prompts issued by the instructor. Your response, which should be roughly the length of a typical thoughtful weblog entry, is due at the beginning of the next class period. You are also expected to read your classmates' responses (Learn@UW tells me whether you have or not). Discussion is encouraged; if you would rather respond to a classmate's entry than write your own entry from scratch, that is fine (taking length into consideration; a one-line response is not sufficient). These reflections will be assessed on clarity of communication, depth of thought, and use of readings and other background knowledge as support.

Job talk

Job candidates at nearly all academic libraries and many public libraries give a short (20-minute) talk to potential colleagues, usually on a topic specified by the library. Please prepare a TEN-MINUTE talk on a technology or technology standard of your choice, as though you were answering the following questions: "What is the future of this technology in libraries? Should libraries not now embracing it adopt or support it? Why or why not?" Feel free to choose a topic and adapt your talk based on the type of library you aim to work in.

Your talk will be videotaped. You are expected to watch the video and reflect upon the quality of your talk and how you can improve your self-presentation in a post to the class website or in an email to me.

Grading breakdown

Explains technology clearly; doesn't overexplain	20%
Includes suitable examples, where relevant	20%
Clear reasoning for/against technology	20%
Professional self-presentation (including PowerPoint/Keynote/S5 quality)	20%
Reflection	20%

Topics (many others possible; check with me): Open Journal Systems, Koha ILS, Evergreen ILS, Drupal, DSpace, EPrints, Fedora (http://fedora-commons.org/, not RedHat's Linux distro), Islandora, OpenETD, SFX, ILLIAD, Omeka, LibGuides, Slidecast, GIS software (ArcView or GRASS), VuFind, Blacklight (University of Virginia), Serials Solutions Summon, LibraryThing for Libraries, Open Library, Basecamp (http://www.basecamphq.com/), WorldCat, Ubuntu Linux on the desktop, clickers, smartboards, mobile applications in libraries. Technical standards relevant to libraries also perfectly acceptable (let me know in advance, or ask me about possibilities). Off-limits, please: Citation managers such as RefWorks or Zotero, blogging tools such as WordPress or Blogger.

You are only required to attend the session on which you are scheduled, but you are welcome to come to other sessions as well. You ARE REQUIRED to stay for the entire session the day you present so that all presenters have an audience.

Talks will take place:
➢ between 3 and 5 pm: November 1, November 15
➢ between 8 and 10 pm: October 25, November 8

For an excellent explanation of why learning to present well is important, see http://weblogs.swarthmore.edu/burke/2009/10/22/the-skilled-presentation-of-self-in-everyday-life/. For tips on handling speaking anxiety, see http://www.macworld.com/article/151903/2010/06/stevejobs_presentations.html.

FINAL PROJECT

The final project consists of two parts: a PROJECT PLAN and a TECHNOLOGY IMPLEMENTATION. These may be related (that is, the implementation may be an attempt to solve one of the problems), but they do not have to be! If your group is interested in a different technology implementation or problem, please feel free to discuss it with me.

TIMELINE

Project and technology chosen	20 September
Plan and schedule	27 September
Midterm progress report	1 November
360 evaluations due to instructor	16 December
Project plan, Krikelas Award application, bibliography	16 December

GRADING STANDARDS

Bibliography (quality, exhaustiveness, annotation quality)	20%
Participation; results of 360 evaluation	20%
Final project plan	30%
Final technology implementation	30%

Project Plan

Read the problems below. Choose one to solve, and then write a project plan for solving it. Your plan should include an implementation timeline. See the Resource Discovery at UW Libraries blog (`http://uwlibdiscovery.blogspot.com/`) and report (`http://staff.library.wisc.edu/rdetf/RDETF-final-report.pdf`) for a real-world example.

Consider and plan for the following (where relevant and appropriate):

budget	software/hardware choices
staffing, staff buy-in, and sustainability	outreach and marketing
training, ease of use, usability	accountability and assessment
security and privacy	digital preservation

1. The town of Minuscule has a favorite daughter who became a well-regarded artist. Minuscule Public Library is in possession of a collection of letters, photos, and (small) realia related to the artist, and is interested in digitizing these materials for an online exhibit. Make a project plan for the library. Include an equipment-cost estimate, an estimate of staff hours required, and a plan for the technology needed to mount the exhibit. Do not neglect standards and preservation considerations.
2. The library at Challenge College, a mid-sized private liberal-arts institution, is in the market for new library-management technology, as their current Integrated Library System is nearing end-of-life. Compose a whitepaper explaining the library's options and recommending a solution package. You may assume that the library has one full-time systems librarian.
3. Challenge College is also looking to build an information commons in its library. You may assume that space has been made and appropriate furniture (including partitions if necessary) will be purchased. Based on the kind of work that Challenge College students likely do, make a plan (including cost estimate) for the hardware and software configurations you believe necessary for the information commons. Remember that Challenge College is not made of money, or technical staff!
4. A noted local archive is beginning to receive requests to accept and accession digital materials of various sorts. The archive isn't sure what to do. Explain the digital archiving landscape to them and suggest routes forward. Do not neglect donor-agreement considerations. (This problem recommended for students on the archives track.)
5. Mayuscule Public Library Consortium's intranet is a complete mess, a jumble of hand-coded HTML pages, many of which are obsolete. Only three people can change content on it, and they are hopelessly overworked. Make a plan (including timeline and cost estimates) for transitioning the intranet to a more sustainable and collaborative infrastructure. Do not neglect training and policy considerations.

Technology implementation

Do not choose a technology any group member is already expert in! This defeats the entire point of the project; if I come to believe you have done this, your project will lose one letter grade. If you can't find a technology to work with that

someone in the group is not already expert in, see me to switch groups. Your group will need to demo your technology to me outside of class, either during the scheduled final exam period or at another time agreeable to group and instructor.

PROJECT MANAGEMENT AND GROUP EVALUATION
Your group should also select a Project Manager. The PM is responsible for all communications about the project to me: this will entail a project plan and schedule (due the fourth class meeting), one midterm progress report (due the ninth class meeting), and end-of-semester project deliverables (bibliography or link to it, project plan, Krikelas Award application). The PM is also responsible for keeping the group "on time and under budget." S/he 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 for resolution. PM and group are responsible for ensuring that the PM is not overloaded. (The PM doing the entire group project is a failure, not a success!)

At the end of the semester, everyone will email me a short "360 evaluation" of the other members of their group: an evaluation of the contributions of all other group members, including the PM. I will use this information to raise or lower individual project-participation grades as I see fit; only I will see the email.

BIBLIOGRAPHY
Please track what you read and find for both projects, even for blind alleys. You may do this via EITHER a formal print bibliography in APA style with brief annotations, OR via an RSS-capable citation-tracking tool such as del.icio.us, Pinboard, or Zotero, again with annotations. The PM will submit the bibliography or a link to it at the end of the semester.

IMPLEMENTATION OPTIONS
1. Build EAD files. (This option is strongly recommended for those on the archives track.) Starting from the Microsoft Word finding aids at http://www.folklife.si.edu/resources/Center/Archives/Finding_Aids/, recast the finding aids in EAD. At least one finding aid per group member must be completed (look for ways to automate the work!). The resulting EAD files should be well-formed and valid. Please explain how you validated them.
2. Build an online exhibit with Omeka. You are expected to install, configure, and populate the software, to use a theme other than Omeka's default (you do not have to build the theme from scratch, however), and to install and use at least one Omeka plugin. At least three items per group member should be uploaded and described with appropriate metadata.
3. Build a Linux library computer for patrons. Install and customize Linux (any reasonably user-friendly variant) on a desktop or (preferably) laptop computer such that it could be used by public-library patrons. Consider use cases and usability carefully! (Note: Installing into a partition on a machine used for other things is just fine.)
4. Build a basic website for an organization of your choice that is based on weblog or content-management software (which you are expected to install) and includes at least three social-media features.
5. Build a screencast (between five and ten minutes long) advertising or training on a library service. You are expected to use background music, do some video editing, have at least one screencast sequence and one live-video sequence, and have a credit roll.
6. Build TWO ebooks, in .epub format, from public-domain or appropriately Creative-Commons-licensed plain-text books (try Project Gutenberg). At least one of these books must be non-fiction, and include at least two of the following features: lists (ordered or unordered), footnotes, epigraphs, block quotations, images. I expect attractive typography, within the limits of the medium.

On group projects: The idea that group projects are uniquely designed to torture library school students is a snare and a delusion. Librarianship includes immense amounts of collaborative work, from 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, and budget a project will serve you well, as will thoughtful reflection on encouraging fruitful teamwork among colleagues.