INLS 740 Syllabus

Spring 2019
Online Class

INLS 740-01W

INLS 740 Digital Libraries: Principles and Applications (Online)

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Course Description

For more than a century, people have dreamed of a future in which all the information of the world could be summoned to an inquiring scholar at a whim. From Paul Otlet's World Brain, to Vannevar Bush's Memex, to Google's company mission to "organize the world's information and make it universally accessible and useful," it is a dream of universal organization without the physical and bureaucratic barriers of traditional libraries. This vision held a special weight in the 1990s, when the increasing availability of personal computers and the invention of the Web seemed to be harbingers of a new, universally available, interconnected global information infrastructure. Hundreds of millions of dollars of public and private grants were granted to thousands of projects under the new banner of "digital library" (DL) initiatives.

Like any Utopian scheme, the reality of DLs seem disappointing in contrast to these lofty claims. Looking back from 2019, we find a hodgepodge of heterogeneous systems, standards, communities, and practices in the digital world that seem as far from universal compatibility as ever. Gone, too, are the days when the pot of money for "digital libraries" projects flowed freely.

However, that does not mean that there is nothing we can learn from the DLs and the literature about them– quite the opposite. The same motivations and issues evident in that work are still at play, even if it is clear that "digital libraries" will not be a silver bullet that renders the information organization problems of the 20th century moot. In and out of libraries, people must reckon with the intractable problems that millions of people have experienced in creating and using DL systems, including standardization, project management, metadata interoperability, and distributed communication. Anyone who must routinely interact with large-scale networked information systems–that is, everybody– would do well to reckon with

Course Acknowledgements

The design, materials, and implementation of this version of INLS 740 is the product of a collaborative effort of SILS instructors: Deborah Maron, Patrick Golden, Ayoung Yoon, and myself.

A note on online classes:

While online classes are convenient, they also demand extra effort from both instructors and students to maintain consistent participation. Since we will not be in the same room together, we all must make an effort to post to Sakai and keep our conversations going. Most of this class will take place on the Sakai forums and Wiki.

them.

This course presents you with an opportunity to pull apart the tangled web of standards, systems, technologies, and arguments that underlie the distributed information infrastructures that have, for the past twenty-five or so years, been termed "digital libraries." It will not present a set of state of the art technologies to learn, since they will be inevitably outdated by the time you find your next job. Instead, its goal is to encourage you to practice thinking critically and contextually about the sorts of projects and initiatives that you will encounter and take part in throughout your life– professional, academic, or otherwise.

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Course Requirements

- Short response essays to start forum discussions (25%)
- Participation in discussion in forums (15%)
- Individual assignment 1: Describing a DL system (20%)
- Individual assignment 2: Describing a standard (20%)
- Final exam (20%)

Grading

Based on current UNC grading scales, the following grades and corresponding numeric ranges are applicable:

Grad Grade	Range	Definitions*
H	95-100	High Pass
P	80-94	Pass
L	79-79	Low Pass
F	69 or Below	Fail

*Definitions are from: http://registrar.unc.edu/academic-services/grades/explanation-of-grading-system/

General Format

This class will revolve around weekly readings and discussions.

Each date given for a week in the schedule is a Monday. That date is when we will begin discussing the listed readings, **NOT** when you should start reading them. For example, when you see the following week in the schedule:

> **Week 4 (Feb. 4): Library automation and the rise of library consortia**
>
> **Group C**
> ...list of readings...

It means that you should have completed the listed readings by February 4, and we will be discussing library automation and library consortia that week (Feb. 4–8).

Every Thursday afternoon, I will post an introduction for the following week in the "Lessons" section of Sakai. In the example above, I would post this on Thursday, January 31. My introduction will contextualize the readings, give examples of relevant systems or practices, and raise some questions for the upcoming week's discussion. **Do not think that you should wait for me to post an introduction before you start reading!**

Each week, a third of the class will post a response essay around which the upcoming week's discussion will begin. It is your turn to post a response if you are in the group listed in red for the given week. Look at Wiki page on Sakai to determine your group assignment. If it is your turn to submit a response, you should post them in the relevant forum by **the Sunday night before the week begins.** Again, in the above example, if you are in Group C, you would post your response in the forums by 11:59PM on Sunday, Feburary 3.

While we will all be reading the same things at the same time, **if it is your group's turn to respond in the upcoming week, you should probably start reading a bit earlier than you normally would.**

See the first assignment below for a description of the format of a response essay.

Assignments

Materials. **All materials can be found in Sakai**. The course syllabus, schedule, assignments, and other resources will be there.

1. Short response essays to start forum discussions (25%)
Every three weeks, you will post a short (750-1000 word) essay to the discussion forum inspired by the readings for that week. Responses should not be summaries of the readings, but rather a riff on some point or theme you found interesting in one or more of the readings. You are more than welcome to reference outside literature as long as it is relevant.

2. Participation in discussion in forums (15%)
I expect all students to regularly participate in the forums even when it is not their week to write a response essay. You should respond to your classmates' response essays on Monday or Tuesday to build on or ask questions of their arguments. You are also encouraged to your own topics, whether that is in the current week's discussion, a previous

week's discussion, or the special forums for general questions and posting articles.

3. Individual assignment 1: Describing a DL system (20%)
You will write an essay (~2000 words) on a digital libraries project of your choosing. I recommend skimming the lists of projects presented in Week 3, but you are welcome to choose another. You must discuss your choice with me. The questions your essay should address include (but are not limited to):

- In what sense is this project a digital library?
- What are its institutional affiliations?
- How was it funded?
- What community is it meant to serve?
- When was it started? Does it still exist in any sense?

Additionally, you will write an annotated bibliography of sources relating to this project.

After a round of feedback and editing, you will post this paper in Sakai.

We will discuss these requirements more in Week 3.

4. Individual assignment 2: Describing a standard (20%)
You will choose the systems that you wrote about in Assignment 1 (or you can choose one of the other systems), and write an essay (~2000 words) about one standard in use in that system. The questions your essay should address include (but are not limited to):

- When was this standard started and how has it progressed?
- Who are the creators of the standard, and what are their institutional affiliations?
- What problem was it meant to address?
- Are there other existing standards that cover similar ground?
- (IMPORTANT) Why do you think this system uses this standard? What does it gain by doing so? Are there any issues with its use that you can find?

Additionally, you will write an annotated bibliography of sources describing or referring to this standard.

5. Final exam (20%)
You will have a final exam consisting of a number of multiple choice and short answer questions.

Late work & Extension

Late work: If you submit an assignment late there is a 10% point penalty.

Extensions: Depending on circumstances and the date requested, extensions will be granted at the discretion of the instructor. If you anticipate needing an extension, please set up a meeting to discuss it as soon as possible. Asking for extensions at the last minute will not be regarded with welcome except for extreme circumstances**.**

Course Communication

Course announcements. Announcements will be posted on Sakai. Announcements may include information about the week's work, or other timely information.

Messages. I may use the message tool to send individual messages to you; I may also copy the message to your email address. You can also use the tool to send a message to me.

Email. **Email is the best way to contact me**. I try to reply to student emails within 48 hours, there are times that it may take me 2-3 days to reply.

Schedule

Week 1 (Jan. 14): Introduction

- Read the syllabus
- Introduce yourself in the forums
- Jeffrey Pomeranz: History of Digital Libraries Part 1, Part 2
- Mark Kornbluh: Digital Libraries and Infrastructure

Week 2 (Jan. 21): Definitions of digital libraries

Group A

- Borgman, C. L. (1999). What are digital libraries? Competing visions. *Information Processing & Management*, *35*(3), 227–243. Retrieved from https://pdfs.semanticscholar.org/9f94/1e73f717613fa558acd2c5858691aa6ff76a.pdf
- Lynch, C. (2002). Digital Collections, Digital Libraries and the Digitization of Cultural Heritage Information. *First Monday*, *7*(5). Retrieved from http://firstmonday.org/ojs/index.php/fm/article/view/949
- Pomerantz, J., & Marchionini, G. (2007). The digital library as place. *Journal of Documentation*, *63*(4), 505–533. doi:10.1108/00220410710758995
- Rothman, D. H. (2011, February 24). It's Time for a National Digital-Library System. Retrieved from http://www.chronicle.com/article/Its-Time-for-a-National/126489/
- Levy, D. M., & Marshall, C. C. (1995). Going Digital: A Look at Assumptions Underlying Digital Libraries. *Commun. ACM*, *38*(4), 77–84. doi:10.1145/205323.205346

Week 3 (Jan. 28): Digital Library funding and project management

Group B

- Griffin, S. M. (2005). Funding for Digital Libraries Research: Past and Present. *D-Lib Magazine*, *11*(07/08). doi:10.1045/july2005-griffin
- Fox, E. A. (1999). The Digital Libraries Initiative: Update and Discussion. *Bulletin of the American Society for Information Science and Technology*, *26*(1). Retrieved from https://www.asis.org/Bulletin/Oct-99/fox.html
- Van House, N. A. (2003). Digital Libraries and Collaborative Knowledge Construction. In A. P. Bishop, N. A. Van House, & B. P. Buttenfield (Eds.), *Digital Library Use : Social Practice in Design and Evaluation* (pp. 271–295). Cambridge, US: MIT Press. Retrieved from http://site.ebrary.com.libproxy.lib.unc.edu/lib/uncch/reader.action?docID=10225273&ppg=284
- Cervone, F. (2004). How not to run a digital library project. *OCLC Systems & Services: International Digital Library Perspectives*, *20*(4), 162–166. doi:10.1108/10650750410564655

Some lists of funded projects:

- Digital Libraries Initiative - Phase 2
    - Project announcement
    - Homepage
- NSF grants containing "digital libraries"
- Mellon Foundation grants containing "digital libraries"
- Carolina Digital Library (archived)

Week 4 (Feb. 4): Library automation and the rise of library consortia

Group C

- Borgman, C. L. (1997). From Acting Locally to Thinking Globally: A Brief History of Library Automation. *The Library Quarterly: Information, Community, Policy*, *67*(3), 215–249. doi:10.1086/629950
- De Gennaro, R. (1983). Library Automation & Networking Perspectives on Three Decades. *Library Journal*, *108*(7), 629. Retrieved from https://auth.lib.unc.edu/ezproxy_auth.php?url=http://search.ebscohost.com/login.aspx?direct=true&db=lih&AN=7574660&site=ehost-live&scope=site
- Jordan, J. (2009). OCLC 1998–2008: Weaving Libraries into the Web. *Journal of Library Administration*, *49*(7), 727–762. doi:10.1080/01930820903260648
- Straw, J. E. (2004). When the Walls Came Tumbling Down: The Development of Cooperative Service and Resource Sharing in Libraries: 1876–2002. *The Reference Librarian*, *40*(83–84), 263–276. doi:10.1300/J120v40n83_21

Week 5 (Feb. 11): Standards

Group A

- McCallum, S. (1996). What Makes a Standard? *Cataloging & Classification Quarterly*, *21*(3–4), 5–15. doi:10.1300/J104v21n03_02
- Star, S. L., & Lampland, M. (2009). Reckoning with Standards. In M. Lampland & S. L. Star (Eds.), *Standards and their stories: how quantifying, classifying, and formalizing practices shape everyday life* (pp. 3–24). Ithaca: Cornell University Press.
- Pargman, D., & Palme, J. (2009). ASCII Imperialism. In M. Lampland & S. L. Star (Eds.), *Standards and their stories: how quantifying, classifying, and formalizing practices shape everyday life* (pp. 177–200). Ithaca: Cornell University Press.
- Elings, M. W., & Waibel, G. (2007). Metadata for all: Descriptive standards and metadata sharing across libraries, archives and museums. *First Monday*, *12*(3). Retrieved from http://firstmonday.org/ojs/index.php/fm/article/view/1628
- Lim, S., & Li Liew, C. (2011). Metadata quality and interoperability of GLAM digital images. *Aslib Proceedings*, *63*(5), 484–498. doi:10.1108/00012531111164978

Review these pages for more information on specific standards commonly used in DLs:

- Standards at the Library of Congress
- Digital Library Standards and Practices (DLF)

Week 6 (Feb. 18): Identifiers

Group B

- Vitiello, G. (2004). Identifiers and Identification Systems: An Informational Look at Policies and Roles from a Library Perspective. *D-Lib Magazine*, *10*(1). doi:10.1045/january2004-vitiello
- Paskin, N. (2003). DOI: A 2003 Progress Report. *D-Lib Magazine*, *9*(6). doi:10.1045/june2003-paskin
- Apps, A., & MacIntyre, R. (2006). Why OpenURL? *D-Lib Magazine*, *12*(5). doi:10.1045/may2006-apps
- Glasser, S. (2012). Broken Links and Failed Access. *Library Resources & Technical Services*, *56*(1), 14–23. doi:10.5860/lrts.56n1.14
- Kunze, J. (2003). Towards electronic persistence using ARK identifiers. In *Proceedings of the 3rd ECDL Workshop on Web Archives*. Retrieved from https://wiki.umiacs.umd.edu/adapt/images/0/0a/Arkcdl.pdf

Skim this article for an introduction to Web URIs from a more technical, non-library perspective:

- Thompson, H. S. (2010, August 26). What's a URI and why does it matter? Retrieved January 10, 2017, from http://www.ltg.ed.ac.uk/~ht/WhatAreURIs/

Week 7 (Feb. 25): Semantic Web/Linked Open Data (Metadata and representation)

Group C

Assignment 1 due by 11:59pm on Feb. 27

- Singer, R. (2009). Linked Library Data Now! *Journal of Electronic Resources Librarianship*, *21*(2), 114–126. doi:10.1080/19411260903035809
- Coyle, K. (2010). Changing the Nature of Library Data. *Library Technology Reports; Chicago*, *46*(1), 14–29,2. Retrieved from http://search.proquest.com.libproxy.lib.unc.edu/docview/202744739/abstract/F6E1D86A0C28411BPQ/1
- Frederick, D. E. (2016). Metadata specialists in transition: from MARC cataloging to linked data and BIBFRAME (data deluge column). *Library Hi Tech News*, *33*(4), 1–5. doi:10.1108/LHTN-03-2016-0015
- Fox, R. (2016). From strings to things. *Digital Library Perspectives*, *32*(1), 2–6. doi:10.1108/DLP-10-2015-0020

Skim this report to get a sense of some current ongoing projects:

- Mitchell, E. T. (2016). Library Linked Data: Early Activity and Development. *Library Technology Reports*, *52*(1), 5–33. Retrieved from https://auth.lib.unc.edu/ezproxy_auth.php?url=http://search.ebscohost.com/login.aspx?direct=true&db=lih&AN=111864256&site=ehost-live&scope=site

Optional reading detailing efforts to replace MARC:

- Kroeger, A. (2013). The Road to BIBFRAME: The Evolution of the Idea of Bibliographic Transition into a Post-MARC Future. *Cataloging & Classification Quarterly*, *51*(8), 873–890. doi:10.1080/01639374.2013.823584

Week 8 (Mar. 4): Search and discovery

Group A

Z39.50 & federated search

- Smith, J. R. (2008). The search for interoperability. *IEEE MultiMedia*, *15*(3), 84–87. doi:10.1109/MMUL.2008.63
- McCoy, R. W. (1986). The Linked Systems Project: Progress, Promise, Realities. *Library Journal*, *111*(16), 33. Retrieved from https://auth.lib.unc.edu/ezproxy_auth.php?url=http://search.ebscohost.com/login.aspx?direct=true&db=hch&AN=7422757&site=ehost-live&scope=site
- Coyle, K. (2000). The Virtual Union Catalog: A Comparative Study. *D-Lib Magazine*, *6*(3). doi:10.1045/march2000-coyle

For some option background reading on the Z39.50 standard, which is mentioned in Coyle and Smith and described in its nascent state by McCoy, consult:

- Moen, W. E. (2000). Resource Discovery Using Z39. 50: Promise and Reality. Retrieved from http://eric.ed.gov/?id=ED454863

Optionally, read the following article, which describes the Search/Retrieve via URL (SRU) protocol, which is meant to be the successor to Z39.50:

- Reiss, K. (2007). SRU, Open Data and the Future of Metasearch. *Internet Reference Services Quarterly*, *12*(3–4), 369–386. doi:10.1300/J136v12n03_09

DPLA & aggregating content for discovery

- Gregory, L., & Williams, S. (2014). On Being a Hub: Some Details behind Providing Metadata for the Digital Public Library of America. *D-Lib Magazine*, *20*(7/8). doi:10.1045/july2014-gregory
- Sandy, H. M., & Freeland, C. (2016). The Importance of Interoperability: Lessons from the Digital Public Library of America. *International Information & Library Review*, *48*(1), 45–50. doi:10.1080/10572317.2016.1146041

Week 9 (Mar. 11):

No class, spring break

Week 10 (Mar. 18): Digitization and preservation

Group B

- Hedstrom, M. (1997). Digital Preservation: A Time Bomb for Digital Libraries. *Computers and the Humanities*, *31*(3), 189. doi:10.1023/A:1000676723815
- Maniatis, P., Roussopoulos, M., Giuli, T. J., Rosenthal, D. S. H., & Baker, M. (2005). The LOCKSS Peer-to-peer Digital Preservation System. *ACM Trans. Comput. Syst.*, *23*(1), 2–50. doi:10.1145/1047915.1047917
- Lopatin, L. (2006). Library digitization projects, issues and guidelines: A survey of the literature. *Library Hi Tech*, *24*(2), 273–289. doi:10.1108/07378830610669637
- Schmitz, D. (2008). *The Seamless Cyberinfrastructure: The Challenges of Studying Users of Mass Digitization and Institutional Repositories*. Digital Library Federation, Council on Library and Information Resources. Retrieved from http://www.clir.org/about/pubs/archives/schmitz.pdf

Week 11 (Mar. 25): Collection development

Group C

- Buckland, M. K. (1995). What will collection developers do? *Information Technology and Libraries*, *14*(3). Retrieved from http://escholarship.org/uc/item/2v2258mk
- Schonfeld, R. C. (2012). *JSTOR: A History*. Princeton, US: Princeton University Press. Retrieved from http://site.ebrary.com/lib/alltitles/docDetail.action?docID=10535728

Week 12 (Apr. 1): Annotation

Assignment 2 Description will be released.

Group A

- Marshall, C. C. (2009). Interaction. In *Reading and Writing the Electronic Book*(pp. 37–72). San Rafael, CA: Morgan & Claypool. Retrieved from http://doi.org/10.2200/S00215ED1V01Y200907ICR009
- Thompson, T. A., Baxmeyer, J., Bell, J., & Green, P. (2016). From Notes to Annotations: Dedications as Data in the Library of Jacques Derrida at Princeton University. *Journal of Library Metadata*, *16*(3–4), 146–165. doi:10.1080/19386389.2016.1258908
- Barbera, M., Meschini, F., Morbidoni, C., & Tomasi, F. (2012). Annotating Digital Libraries and Electronic Editions in a Collaborative and Semantic Perspective. In *Digital Libraries and Archives* (pp. 45–56). Springer, Berlin, Heidelberg. doi:10.1007/978-3-642-35834-0_7

Recently, the W3C promoted several standards by the Web Annotation Working Group to "Recommended" status. Thompson and Barbera both make references to these standards (under the name Open Annotation Core). Please skim the Web Annotation Data Model to get a sense of what the standard contains. More interesting to us, however, is the set of use cases that the W3C Open Annotation Community Group came up with concerning digital publishing. Review the Digital Publishing Annotation Use Cases and think about whether it covers annotation use cases in Digital Libraries.

Week 13 (Apr. 8): Content management systems and integrated library systems

Group B

- Wang, Y., & Dawes, T. A. (2012). The Next Generation Integrated Library System: A Promise Fulfilled. *Information Technology and Libraries (Online)*, *31*(3), 76–84. Retrieved from http://search.proquest.com.libproxy.lib.unc.edu/docview/1080966990/abstract/B8BD1E6BF57A497CPQ/1
- Yang, S. Q., & Hofmann, M. A. (2010). The Next Generation Library Catalog: A Comparative Study of the OPACs of Koha, Evergreen, and Voyager. *Information Technology and Libraries*, *29*(3), 141–150. Retrieved from http://search.proquest.com.libproxy.lib.unc.edu/docview/746170319?pq-origsite=360link
- Cervone, H. F. (2006). Some considerations when selecting digital library software. *OCLC Systems and Services*, *22*(2), 107–110. doi:http://doi.org.libproxy.lib.unc.edu/10.1108/10650750610663987
- Salve, A., Lihitkar, S. R., & Lihitkar, R. (2012). Open Source Software as Tools for Libraries: An Overview. *DESIDOC Journal of Library & Information Technology*, *32*(5), 381–387. Retrieved from http://search.proquest.com.libproxy.lib.unc.edu/lisa/docview/1266146339/A2318EA8189E4BD3PQ/19

- Quint, B. (2002). Academic libraries develop integrated portal software package. *Information Today*, *19*(6), 22–23. Retrieved from http://search.proquest.com.libproxy.lib.unc.edu/lisa/docview/57540632/A2318EA8189E4BD3PQ/28

Week 14 (Apr. 15): Evaluation of DLs

Group C

- Fuhr, N., Tsakonas, G., Aalberg, T., Agosti, M., Hansen, P., Kapidakis, S., … Sølvberg, I. (2007). Evaluation of digital libraries. *International Journal on Digital Libraries*, *8*(1), 21–38. doi:10.1007/s00799-007-0011-z
- Saracevic, T. (2000). Digital library evaluation: Toward an evolution of concepts. *Library Trends*, *49*(2), 350–369. Retrieved from http://search.proquest.com.libproxy.lib.unc.edu/docview/220450605?pq-origsite=360link
- Marchionini, G. (2000). Evaluating digital libraries: A longitudinal and multifaceted view. *Library Trends*, *49*(2), 304–333. Retrieved from http://search.proquest.com.libproxy.lib.unc.edu/docview/220444356?pq-origsite=360link
- Dion Hoe-Lian Goh, Alton Chua, Davina Anqi Khoo, Emily Boon-Hui Khoo, Eric Bok-Tong Mak, & Maple Wen-Min Ng. (2006). A checklist for evaluating open source digital library software. *Online Information Review*, *30*(4), 360–379. doi:10.1108/14684520610686283

Week 15 (Apr. 22): "Digital Libraries" going forward

Assignment 2 due by 11:55pm on Apr. 24

- Babeu, A. (2011). *“Rome wasn’t digitized in a day”: building a cyberinfrastructure for digital classicists*. Retrieved from http://www.clir.org/pubs/abstract/reports/pub150

Final Exam

It will be open-note and open-book, but you must complete it **on your own** without discussing it with your classmates. You will have exactly three days to work on the exam, and it should take 2-3 hours. I will send out the exam on Sakai at 8am on Wednesday, May 2, and you must **return it by 8am on Saturday, May 4**. The details of the final exam will be released on Week 15.