Indiana University School of Informatics and Computing

Z515 : Information Architecture

Fall 2014

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COURSE SYLLABUS

Introduction

Although the representation and organization of information resources has long been a focus of the information profession, the recent explosive growth in both the number and the variety of information resources has dramatically underscored the inability of free-text searching (e.g., string-matching) to retrieve materials based upon shared intellectual content. In the digital environment of the World Wide Web, the lack of any explicit physical presence has similarly highlighted the need for information structures that facilitate user understanding and navigation in conceptual space. Faced with the need to construct information architectures that not only provide for effective and efficient retrieval but also promote understanding, information professionals have returned to the basic principles that have provided a foundation for traditional systematic structures such as classification schemes, ontologies, controlled vocabularies and thesauri.

Effective information systems depend upon a comprehensive awareness of formal structures and a deep understanding of human social, technological and cognitive environments. Accordingly, this course also reviews research in information science, cognitive science, semiotics, and computer science that has contributed to an understanding of how communities represent, organize, retrieve and ultimately use information and examines how this research can inform current practices of representation and organization in the design of more effective information systems.

Course Objectives

By the end of the course, participants will

1. Understand the objectives, functions and applications of information architectures in a variety of environments.
2. Become familiar with a range of structured models of information representation and organization and discern the implications for effective retrieval and/or navigation inherent in each type of system.
3. Be able to identify and analyze the problems of a given information architecture and to suggest a more effective and efficient architecture based on the framework of representation and organization.

Course Organization

Each class session will cover the topic(s) indicated on the syllabus for that day. Class sessions will include lectures by the instructor, class discussions of assigned readings and/or in-class activities designed to illustrate the principles and theories presented in readings and lectures. Students may also be asked to work in small groups and to report to the class on the results of small-group activities.

Readings

Required readings have been selected to encourage participation in class discussions and in-class group activities. The **Schedule of Lectures and Required Readings** lists session topics and required readings. Assigned readings are subject to amendment by the instructor.

There is one required textbook for this class: The Elements of User Experience by Jesse James Garrett. 2nd ed. (ISBN: 0-321-68368-4).

Required readings other than those from the required textbook will be available on the Oncourse worksite for S515.

Grading and assignments

All grades will be assigned according to the SLIS Grading Policy for Master's and Specialist Level Students. This policy was defined by student and faculty members of SLIS's Curriculum Steering Committee and was adopted by the Faculty of the School of Library and Information Science, Indiana University, on November 11, 1996, as an aid in evaluation of student performance:

Grade	Numerical Equivalent	Definition
A	4.0	Outstanding achievement. Student performance demonstrates full command of the course materials and evinces a high level of originality and/or creativity that far surpasses course expectations.
A-	3.7	Excellent achievement. Student performance demonstrates thorough knowledge of the course materials and exceeds course expectations by completing all requirements in a superior manner.
B+	3.3	Very good work. Student performance demonstrates above-average comprehension of the course materials and exceeds course expectations on all tasks as defined in the course syllabus.
B	3.0	Good work. Student performance meets designated course expectations, demonstrates understanding of the course materials and is at an acceptable level.
B-	2.7	Marginal work. Student performance demonstrates incomplete understanding of course materials.
C+ C	2.3 2.0	Unsatisfactory work. Student performance demonstrates incomplete and inadequate understanding of course materials. Coursework performed at this level or below will not count toward the MLS or MIS degree. For the course to count towards the degree, the student must repeat the course with a passing grade.

C- D+ D D-	1.7 1.3 1.0 0.7	Unacceptable work. Coursework performed at this level will not count toward the MLS or MIS degree. For the course to count toward the degree, the student must repeat the course with a passing grade.
F	0.0	Failing. Student may continue in program only with permission of the Dean.

Assignments and percentage of the final grade:

1) Warm-up questions	14%
2) Group project: website for a class session	16%
3) Project assignment:	
a) Choose a client website	0%
b) Create and submit strategy and scope documents	15%
c) Evaluate the website's information architecture	20%
d) Project fair (in class 5-min. presentations)	5%
e) Final report	30%

1) Warm-up Questions

Warm-up questions are intended to assess student comprehension of the content of readings, to provide an opportunity for application of the material covered in class and to encourage the integration of conceptual material and practical experience.

Responses to warm-up questions will constitute 14% of the student's final course grade. Each response will be assigned a numerical grade on a scale of 0 to 2:

0 = no response

1 = Response indicates some understanding of readings but demonstrates no original thought

2 = Response indicates good understanding of readings and demonstrates original thought

Warm-up questions will be posted on Oncourse. **Responses are to be submitted *only* via Oncourse no later than 3:00 pm on Sunday before class**. Late submissions will not be accepted. No email submissions.

There will be a total of eight (8) warm-up questions (for Sessions 2, 3, 5, 6, 8, 10 and 11), each associated with the topic of the class session for which the warm-up question is posted.

2) **Group project: blog**

In this group project students will work in groups of three to populate a course blog for one class session. Each group will select a topic related to a different class session. Each group will edit their chosen section and fill it with the fascinating details of IA that are relevant to that week's session. Each group member should post at least three individual blogs. Suggested blog topics:

- Take a favorite example from the readings and provide personal thoughts or applications from your group
- Find an article in current events which relates to your session's discussion and write about it, drawing from the week's readings to give added insight
- Discuss how one or more of the readings/authors dealt with a particular topic

- Take an example from the reading and apply the principles to an Information Science job that you currently hold, or hope to hold in the future
- Take a quote from the readings which is a point of debate within your group, and discuss both sides

Photographs, comics, YouTube clips, or even sound clips might contribute to your group's discussion. Creative Commons Search is a great resource for this.

This project will constitute 16% of the student's final course grade. The project will be graded not only based on the quality of individual contributions, but the cohesion and breadth of coverage. Group members are encouraged to comment on each other's blogs as well.

Blog is available at: https://z515.wordpress.com/

3) Project assignment: analysis of information architecture and proposals to restructure an existing website

The project assignment consists of five tasks that will be result in a coherent report at the end of the semester. The goal of the project is to perform detailed analysis and evaluation of information architecture of an existing website and to propose its new structure and design. Although the students will choose an existing website as a "client", the students will NOT actually contact the owners of the site or have them as an actual client.

a) Choose a website

Students are to choose a website (preferably a small-business or small non-profit) and notify the instructor of their choice (providing the name of the "client", the URL, and a brief description). Also provide a rationale why this web site would benefit from "re-design" (in the sense of information architecture, not visual appearance, of course). The suggested website is subject to approval.

The assignment is to be submitted via Oncourse no later than September 8th at 9 am.

b) Strategy and scope documents

Strategy and scope documents will constitute 15% of the student's final course grade. Detailed instructions will be posted on Oncourse.

The strategy and scope documents are to be submitted via Oncourse no later than October 6th at 9 am. Late submissions will not be accepted. No email submissions.

c) Evaluation of website's information architecture

The website evaluation will constitute 20% of the student's final course grade. Detailed instructions will be posted on Oncourse.

The website evaluation is to be submitted via Oncourse no later than October 27th at 9 am. Late submissions will not be accepted. No email submissions.

d) Project fair

Each student will give an **informal 10-minute talk** showing a prototype of the proposed redesigned website. The purpose of the fair is to share work and get instant feedback. The students should choose to share deliverables they are still struggling with, so that they can get suggestions on how to improve those. The project fair will constitute 5% of the student's final course grade.

The project fair will be held on December 1 & December 8.

e) Final project

The final project will constitute 30% of the student's final course grade. The final project will consist of strategy and scope documents, evaluation of a website's information architecture and the site map and wireframes for both the existing and the proposed redesign. In addition, the students will submit an essay that describes those deliverables and why they were created the way they were. Detailed instructions will be posted on Oncourse.

The final project is to be submitted only via Oncourse no later than December 15th at 3 pm. Late submissions will not be accepted. No email submissions.

Calendar of due dates

Due date	Assignment
September 7th at 3 p.m.	Warmup Session 2
September 8th at 9 a.m.	Choose a website
September 14th at 3 p.m.	Warmup Session 3
September 28th at 3 p.m.	Warmup Session 5
October 5th at 3 p.m.	Warmup Session 6
October 6th at 9 a.m.	Strategy and scope documents
October 19th at 3 p.m.	Warmup Session 8
October 27th at 9 a.m.	Evaluation of website's information architecture
November 2nd at 3 p.m.	Warmup Session 10
November 9th at 3 p.m.	Warmup Session 11
December 1st at 9 a.m.	Group project: Blog
December 1st and 8th	Project fair
December 15th at 3 p.m.	Final report

Late Submissions

In fairness to students who turn in assignments on time, late papers will not be accepted unless arrangements have been made with the instructor prior to the submission date.

Incompletes

Each student is expected to complete all coursework by the end of the term. A grade of incomplete [I] will be assigned **only when exceptional circumstances warrant.** In such cases timely notification is critical.

Academic Dishonesty

As Dr. Alice Robbin observes in her Fall 2008 syllabus for S506, there is more to avoiding plagiarism than simply citing a reference. Dr. Robbin points out that, in order to aid students both in recognizing plagiarism and in avoiding the appearance of plagiarism, Indiana University's Writing Tutorial Services has prepared a short guide entitled "Plagiarism: what it is and how to recognize and avoid it". This guide is available at: <http://www.indiana.edu/~wts/wts/plagiarism.html>. The guide provides explicit examples of plagiarism and offers strategies for avoiding it. Each student should be familiar with this document and use it as a guide when completing assignments.

Dr. Robbin offers three "rules" for avoiding inadvertent plagiarism -- rules that she gleaned from Ralph Brower, a colleague at Florida State University:

1. Whenever you "borrow" material, from any resource whatsoever, for inclusion in a document you are writing, you must provide a footnote, endnote or parenthetical reference (with accompanying bibliographic citation) identifying the original resource. If you have any questions about how to do this, review the guidelines set out in the 5th edition of the APA Style Manual.

2. Any time that you quote any resource verbatim, you must enclose the text in quotation marks and identify the original resource, as indicated in (1).

3. Text that you paraphrase and ideas that you "borrow" must also be attributed, as indicated in (1), even if you do not quote the original source verbatim.

Policies on academic dishonesty have been established by Indiana University and the School of Library and Information Science. These policies, which have been set out in the Code of Student Ethics, will be adhered to in this class. Any assignment that contains plagiarized material or indicates any other form of academic dishonesty will receive, at a minimum, a grade of F. A second instance will result in an automatic grade of F for the course. Penalties may be harsher depending on the severity of the offense.

Notice

If you are a student with a special need, please feel free to discuss it with the instructor.

SCHEDULE OF LECTURES AND REQUIRED READINGS

NOTE: For each class session, the following schedule includes a topic statement and a list of required readings. **Required readings are listed in the order in which they should be read.**

Session 1 -- August 25
Topic: Introduction to z515.

September 1 - NO CLASS (Labor Day)

Session 2 -- September 8
Guest speaker: KARTIK ADUR
Topic: IA and user experience

Required readings for Session 2:

Morville, P. and L. Rosenfeld. (2007). Defining information architecture (pp. 3-15) and Practicing information architecture (pp. 16-29). In *Information architecture for the World Wide Web*. 3rd ed. Beijing: O'Reilly.

Resmini, A. & Rosati, L. (2011). Toward a pervasive information architecture (pp. 13-36). In *Pervasive Information Architecture: Designing Cross-Channel User Experiences.* Amsterdam: Elsevier.

Rogers, Y., Sharp, H. & Preece, J. (2011). *Interaction design: Beyond human-computer interaction.* 3rd ed. Chichester: Wiley, (pp. 9-15).

Buley, L. (2013). UX 101 (pp. 4-17). In *The User Experience Team of One: A Research and Design Survival Guide*. Brooklyn: Rosenfeld Media.

Garrett, J.J. (2011). Chapter 1: User experience and why it matters (pp. 2-17). In *Elements of user experience: user-centered design for the web*. 2nd ed. Boston: New Riders.

Reiss, E. (2012). Introduction (pp. xvii-xxvi). In *Usable Usability: Simple Steps for Making Stuff Better*. Indianapolis: John Wiley & Sons.

Recommended:

Dillon, A. and D. Turnbull. (2010). Information architecture. In *Encyclopedia of Library and Information Science*. 3rd ed. 1:1, 2361-2368.

Ding, W. and X. Lin (2010). Information architecture and Web 2.0. In Information Architecture: The Design and Integration of Information Spaces (pp. 7-21). San Rafael: Morgan & Claypool Publishers.

Ratcliffe, L., & McNeill, M. (2012). *Agile experience design: A digital designer's guide to agile, lean, and continuous*. Berkeley: New Riders, (pp. 56-57).

Session 3 -- September 15
Topic: Representation and Mental Models.

Required readings for Session 3:

Norman, D. (1993). The power of representation (pp. 43-75). In *Things that make us smart*.: *Defending human attributes in the age of the machine*. Cambridge: Perseus Books.

McCloud, S. (1994). *Understanding comics: the invisible art* (pp. 26-41). New York: HarperCollins.

Johnson, J. (2010). We perceive what we expect (pp. 1-9). In *Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design Rules*. Amsterdam: Elsevier.

Rogers, Y., Sharp, H. & Preece, J. (2011). *Interaction design: Beyond human-computer interaction.* 3rd ed. Chichester: Wiley, (pp. 40-46) and (pp. 86-89).

Cooper, A., Reimann, R., & Cronin, D. (2007). Implementation models and mental models (pp. 27-40). In *About face 3: The essentials of interaction design*. Indianapolis: Wiley.

Session 4 -- September 22
Guest speaker: COURTNEY GREENE MCDONALD
Topic: IA Research, evaluation & design.

Required readings for Session 4:

Garrett, J.J. (2011). Chapter 2: Meet the elements (pp. 18-33). In *Elements of user experience: user-centered design for the web*. 2nd ed. Boston: New Riders.

Ratcliffe, L., & McNeill, M. (2012). *Agile experience design: A digital designer's guide to agile, lean, and continuous*. Berkeley: New Riders, (pp. 3-40).

Cooper, A., Reimann, R., & Cronin, D. (2007). Goal-directed design (pp. 3-26). In *About face 3: The essentials of interaction design*. Indianapolis: Wiley.

Rogers, Y., Sharp, H. & Preece, J. (2011). The process of interaction design (pp. 317-351). In *Interaction design: Beyond human-computer interaction.* 3rd ed. Chichester: Wiley.

Marcotte, E. (2011). Our responsive Web (pp. 1-12). In *Responsive Web Design*. New York: A Book Apart.

Krug, S. (2014). Mobile: It's not just a city in Alabama anymore (pp. 143-163). In *Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability*. Indianapolis: New Riders.

Porter, J. (2008). *Designing for the social web* (pp. 1-40). Berkeley: New Riders.

Recommended:

Morville, P. and L. Rosenfeld. (2007). Research. In *Information architecture for the World Wide Web*. 3rd ed. (pp. 231-263).Beijing: O'Reilly.

Session 5 -- September 29
Topic: IA Research, evaluation & design. Part 2.

Required readings for Session 5:

Garrett, J.J. (2011). Chapter 3: The strategy plane (pp. 34-54). Chapter 4: The scope plane (pp. 56-77). In *Elements of user experience: user-centered design for the web*. 2nd ed. Boston: New Riders.

Gothelf, J., & Seiden, J. (2013). Vision, framing, and outcomes (pp. 17-31). In *Lean UX: Applying lean principles to improve user experience*. Beijing: O'Reilly.

Rogers, Y., Sharp, H. & Preece, J. (2011). Establishing requirements (pp. 352-388). In *Interaction design: Beyond human-computer interaction.* 3rd ed. Chichester: Wiley.

Buley, L. (2013). Project brief (pp. 104-107). In *The User Experience Team of One: A Research and Design Survival Guide*. Brooklyn: Rosenfeld Media.

Cooper, A., Reimann, R., & Cronin, D. (2007). Modeling users: Personas and goals (pp.75-108) and The foundations of design: Scenarios and requirements (pp. 109-123). In *About face 3: The essentials of interaction design*. Indianapolis: Wiley.

Caddick, R. & Cable S. (2011). Personas (pp. 9-42). In *Communicating the User Experience: A Practical Guide for Creating Useful UX Documentation*. New York: Wiley.

Halvorson, K. (2010). Audit (pp. 46-59). Analysis (pp. 60-81). Strategy (pp. 82-108). In *Content Strategy for the Web*. Berkeley: New Riders.

Caddick, R. & Cable S. (2011). Content requirements (pp.103--122). In *Communicating the User Experience: A Practical Guide for Creating Useful UX Documentation*. New York: Wiley.

Session 6 -- October 6
Topic: Order versus Organization.

Required readings for Session 6:

Garrett, J.J. (2011). Chapter 5: The structure plane (pp. 78-105). In Elements of user experience: user-centered design for the web. 2nd ed. Boston: New Riders.

Glushko, R.J. (2013). Foundations for organizing systems (pp. 1-45). In The Discipline of Organizing. Cambridge: The MIT Press.

Glushko, R.J., Wilde, E., & Hemerly, J. (2013). Activities in organizing systems (pp. 47-66). In The Discipline of Organizing. Cambridge: The MIT Press.

Resmini, A. & Rosati, L. (2011). Consistency (pp. 89-110). In Pervasive Information Architecture: Designing Cross-Channel User Experiences. Amsterdam: Elsevier.

Spencer, D. (2009). All about organizing (pp. 15-41). In Card sorting: Describing usable categories. Brooklyn: Rosenfeld Media.

Wurman, R.S.. (2001). LATCH. In Information anxiety 2 (pp. 40-45). Indianapolis, IN: Que.

Recommended:

Lambe, P. (2007). Taxonomies can take many forms (pp. 13-48). In *Organizing knowledge: Taxonomies, knowledge and organizational effectiveness*. Oxford: Chandos Publishing.

Farkas, D.K. & Farkas, J.B. (2002). Chapter 7: Hierarchies and organizing content (pp. 148-169). Chapter 13: Non-hierarchical information structures (pp. 305-329). In *Principles of Web design*. New York: Longman.

Session 7 -- October 13

Topic: Order and organization for navigation.

Required readings for Session 7:

Garrett, J.J. (2011). Chapter 6: The skeleton plane (pp. 106-131). Chapter 8: The elements applied (pp. 152-163). In *Elements of user experience: user-centered design for the web*. 2nd ed. Boston: New Riders.

Resmini, A. & Rosati, L. (2011). Resilience (pp. 111-141). In *Pervasive Information Architecture: Designing Cross-Channel User Experiences.* Amsterdam: Elsevier.

Krug, S. (2014). How we *really* use the Web (pp. 21-27), Billboard design 101 (pp. 29-41) and Street signs and breadcrumbs: Designing navigation (pp. 55-83). In *Don't make me think: A common sense approach to web usability*. Indianapolis: New Riders.

Kalbach, J. (2007). Mechanisms of navigation (pp. 54-84) and Types of navigation (pp. 84-118). In *Designing web navigation*. Beijing: O'Reilly.

Redish, J. (2007). Writing meaningful links (pp. 307-328). In *Letting go of the words: Writing web content that works*. Amsterdam: Elsevier.

Recommended:

Bush, V. (1996/1945). As we may think. Originally published in *Atlantic Monthly*, 176(1), 101-108.

Wodtke, C. & A. Govella (2009). The Tao of navigation (pp. 188-217). In *Information architecture: Blueprints for the web*. 2nd ed. Berkeley: New Riders.

Session 8 -- October 20

Topic: Metadata and tagging.

Required readings for Session 8:

Morville, P. (2005). The sociosemantic web (pp. 119-154). In Ambient findability. Beijing: O'Reilly.

Wodtke, C. & A. Govella (2009). A bricklayer's view of information architecture (pp. 65-77). In Information architecture: Blueprints for the web. 2nd ed. Berkeley: New Riders.

Glushko, R.J., McPherson, K., Greenberg, R., & Mayernik, M. (2013). Resource description and metadata (pp. 139-187). In The Discipline of Organizing. Cambridge: The MIT Press.

Smith, G. (2008). Tagging: People-powered metadata for the social web (pp. 1-37 and 82-93). Berkeley: New Riders.

Recommended:

Lambe, P. (2007). The future of taxonomy work (pp. 237-261). In Organizing knowledge: Taxonomies, knowledge and organizational effectiveness. Oxford: Chandos Publishing.

Session 9 -- October 27
Guest speaker: WESLEY OWEN
Topic: Controlled vocabularies, facets, and labeling systems.

Required readings for Session 10:

Morville, P. & L. Rosenfeld, L. (2007).Chapter 9: Thesauri, controlled vocabularies, and metadata (pp. 176-208). In *Information Architecture for the World Wide Web*. 3rd ed. Sebastopol, CA: O'Reilly.

Schwartz, C. (2001). Controlled vocabularies (pp. 83-108). In *Sorting out the Web: Approaches to subject access.* Westport, CN: Ablex Publishing.

Kalbach, J. (2007). *Designing web navigation* (pp. 213-216 and 301-310) .Beijing: O'Reilly.

Tunkelang, D. (2009). *Faceted search* (pp. 3-9, 21-26 and 47-68). San Rafael: Morgan & Claypool Publishers.

Morville, P. & L. Rosenfeld, L. (2007). Chapter 6: Labeling systems (pp. 82-114). In *Information architecture for the World Wide Web*. 3rd ed. Beijing: O'Reilly.

Recommended:

Svenonius, Elaine. 2003. Design of Controlled Vocabularies. In Encyclopedia of Library and Information Science. New York, NY: Marcel Dekker. p. 822-838.

Smith, G. (2008). *Tagging: People-powered metadata for the social web* (pp. 67-75). Berkeley: New Riders.

Wodtke, C. & A. Govella (2009). A bricklayer's view of information architecture (pp. 77-89). In *Information architecture: Blueprints for the web*. 2nd ed. Berkeley: New Riders.

Hunter, E. J. (2009). *Classification made simple*, 3rd ed. (pp. 4-24, 61-72, 85-88, 89-93). Aldershot: Ashgate.

Yee, K-P., Swearingen, K., Li, K., and Hearst, M. (2003). Faceted metadata for image search and browsing. *CHI Proceedings 2003,* (April 5-10, 2003, Ft. Lauderdale, Florida, USA).

Session 10 -- November 3
Guest speaker: KATE MESSING
Topic: Site maps and flow charts

Required readings for Session 10:

Brown, D.M. (2011). Site maps (pp. 94-123) and Flowcharts (pp. 124-164) . In *Communicating design: Developing web site documentation for design and planning*. 2nd ed. Berkeley: New Riders.

Wodtke, C. and A. Govella. (2009). Document site structure with a site map. In *Information architecture: Blueprints for the web*. 2nd ed. (pp. 171-175). Berkeley: New Riders.

Caddick, R. & Cable S. (2011). Sitemaps. In *Communicating the User Experience: A Practical Guide for Creating Useful UX Documentation*. New York: Wiley.

Session 11 -- November 10
Topic: Wireframes
Guest speaker: MADELINE GRDINA

Required readings for Session 11:

Harston, R., & Pyla, P. S. (2012). Wireframes (pp. 340-348). In *The UX Book: Process and Guidelines for Ensuring a Quality User Experience*. Amsterdam: Elsevier.

Brown, D.M. (2011). Wireframes (pp. 166-201). In *Communicating design: Developing web site documentation for design and planning*. 2nd ed. Berkeley: New Riders.

Caddick, R. & Cable S. (2011). Wireframes. In *Communicating the User Experience: A Practical Guide for Creating Useful UX Documentation*. New York: Wiley.

Session 12 -- November 17
Workshop by: CLINTON MCKAY
Topic: Prototyping

Required readings for Session 12:

Moule, J. (2012). Prototype the solution (pp. 157-190). In *Killer UX Design*. Collingwood: SitePoint.

Warfel, T. Z. (2009). *Prototyping: A practitioner's guide* (pp. 1-64). Brooklyn: Rosenfeld Media.

November 24 - NO CLASS (Thanksgiving break)

Session 13 -- December 1
Project fair.

Session 14 -- December 8
Project fair.