INF385E Information Architecture and Design

Unique No.:   27710, Fall 2018
Class time: Monday: 12:00 – 3:00PM
Classroom: UTA 1.502
Office: UTA 5.416

Instructor: Yan Zhang, School of Information
Office hrs: Monday: 3:00 – 4:00PM; By appointment other times
Tele: 512-471-9448
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1. Course description

User-centered design of web-based information-rich systems based on interaction design principles and user information needs and behavior research.

2. Course objectives

By the end of the semester, students will be able to:

1. Understand the basic principles of user-centered design, usability, and usability testing in the context of information architecture (IA)
2. Understand IA development process, including research, design, and evaluation
3. Analyze and design IA, primarily including content organization, labeling, navigation, and search systems, for web-based user interfaces using a variety of methods and tools
4. Become versed in developing IA process documentations, such as content inventory, persona, use cases, wireframes, and site map.

3. Texts

3.1 Required text

Rosenfeld, L., Morville, P., & Arango, J. (2015). Information Architecture: For the Web and Beyond (4th edition)

Additional readings will be posted on the class website.

3.2 Recommended text

Brown, D. M. (2010). Communicating Design: Developing Web Site Documentation for Design and Planning. New Riders. (2nd edition)

4. Policies

4.1 Policies concerning assignments

- Assignments must be submitted by midnight (11:59PM) on the due date.
- In fairness to students who turn in assignments on time, all late papers will be penalized by lowering the earned grade one grade level (e.g., from A- to B+; from B to B-) for each day that the assignment is late.
- No assignment submitted more than one week after the due date will be accepted.

- These penalties will not apply to students who know in advance that they will be submitting an assignment late, and let me know in advance. "In advance" means up until 24 hours before the class session in which the assignment is due.

4.2 Policies on class attendance and participation

- Reading assignments must be done before class so that you can ask questions and participate in discussions in class.
- You must participate in class discussions. In-class discussions and activities play an important role in this class. Extensive participation in class discussion will be an essential element of your learning success on the subject of understanding and serving users. Active involvement in learning increases what is remembered, how well it is assimilated, and how the learning is used in new situations. Class participation will be graded as part of your final grade.
- Attending each class is highly recommended. If you know in advance that you must miss a class, let me know in advance (up until 24 hours before the class session).
- If you miss a class session, unexpectedly, get in contact with me or the TA ASAP.

4.3 University policies

4.3.1 Academic Integrity

Each student in the course is expected to abide by the University of Texas Honor Code:

> **"As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity."**

This means that work you produce on assignments is all your own work.

Always cite your sources. If you use words or ideas that are not your own (or that you have used in previous class), you must make that clear otherwise you will be guilty of plagiarism and subject to academic disciplinary action, including failure of the course.

You are responsible for understanding UT's Academic Honesty Policy which can be found at the following web address: http://deanofstudents.utexas.edu/sjs/acint_student.php

4.3.2 Student Accommodations

Students with a documented disability may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 512-471-6259 (voice) or 1-866-329-3986 (video phone). http://ddce.utexas.edu/disability/about/

- Please request a meeting as soon as possible to discuss any accommodations
- Please notify the instructor as soon as possible if the material being presented in class is not accessible
- Please notify the instructor if any of the physical space is difficult for you

4.3.3 Religious Holy Days

By UT Austin policy, you must notify the instructor of your pending absence at least fourteen days prior to the date of observance of a religious holy day to receive an accommodation.

4.3.4 Drop Policy

If you want to drop a class after the 12th class day, you need to execute a Q drop before the Q-drop deadline, typically near the middle of the semester. Under Texas law, you are only allowed six Q drops while you are in college at any public Texas institution. For more information, see: http://www.utexas.edu/ugs/csacc/academic/adddrop/qdrop

5. Grading

5.1 Grading scale

In the School of Information, the following guidelines are used in grading:

A	4.00	Excellent. High degree of mastery of the course material.
A-	3.67	Very good.
B+	3.33	More than satisfactory.
B	3.00	Satisfactory. Work consistent with academic expectations of graduate students.
B-	2.67	Less than satisfactory.
C+	2.33	Unsatisfactory. May indicate the instructor's reservations about the student's ability to meet the iSchool's academic requirements.
C	2.00	Unsatisfactory. Indicates the instructor's reservations about the student's ability to meet the iSchool's academic requirements.
C-	1.67	Unsatisfactory. Indicates the instructor's strong reservations about the student's ability to meet the iSchool's academic requirements. Any course with a grade lower than C cannot be counted toward a student's degree.
D	1.00	Unacceptable. Indicates the instructor's very strong reservations about the student's ability to meet the iSchool's academic requirements and to earn a graduate degree. Any course with a grade lower than C cannot be counted toward a student's degree.
F	0.00	Failing.

Semester grades will be computed as follows:
A = 94-100; A- = 90-93
B+ = 87-89; B = 84-86; B- = 80-83
C+ = 77-79; C = 74-76; C- = 70-73
D = 60-69
F = anything below 59

5.2 Grading rubric for presentations in the class

For all your presentations in this class (topic presentations and final project presentations), you are encouraged to use Powerpoint or some other presentation program (such as Open Office or Lotus Symphony). The grading rubric for the presentation is listed below (Note: This rubric was developed by Information Technology Evaluation Services, NC Department of Public Instruction. However, it was slightly modified for our purposes.)

Organization	
Unacceptable	Audience cannot understand presentation because there is no sequence of information
Acceptable	Audience has difficulty following presentation because presenter jumps around
Good	Presenter presents information in logical sequence which audience can follow
Excellent	Presenter presents information in logical, interesting sequence which audience can follow
Subject Knowledge	
Unacceptable	Presenter does not have grasp of information; presenter cannot answer questions about subject
Acceptable	Presenter is uncomfortable with information and is able to answer only rudimentary questions
Good	Presenter is at ease with expected answers to all questions, but fails to elaborate
Excellent	Presenter demonstrates full knowledge (more than required) by answering all class questions with explanations and elaboration
Graphics	
Unacceptable	Presenter uses superfluous graphics or no graphics
Acceptable	Presenter occasionally uses graphics that rarely support text and presentation
Good	Presenter's graphics relate to text and presentation
Excellent	Presenter's graphics explain and reinforce screen text and presentation
Spelling & Grammar	
Unacceptable	Presenter's presentation has more than one misspelling and more than one grammatical error
Acceptable	Presentation has exactly one misspelling and/or exactly one grammatical error, which a spell- or grammar checker would catch
Good	Presentation has exactly one misspelling and exactly one grammatical error, which a spell- or grammar checker would not catch
Excellent	Presentation has no misspellings or grammatical errors
Eye Contact	
Unacceptable	Presenter reads all of report with no eye contact
Acceptable	Presenter occasionally makes eye contact, but still reads most of report
Good	Presenter maintains eye contact most of the time but frequently returns to notes
Excellent	Presenter maintains eye contact with audience, seldom returning to notes
Elocution	
Unacceptable	Presenter mumbles, incorrectly pronounces terms, and speaks too quietly for audience in the back of room to hear
Acceptable	Presenter's voice is low. Presenter incorrectly pronounces terms. Audience members have difficulty hearing presentation.
Good	Presenter's voice is clear. Presenter pronounces most words correctly. Most audience members can hear presentation.
Excellent	Presenter uses a clear voice and correct, precise pronunciation of terms so that all audience members can hear presentation.

6. Assignments

6.1 Overview

This is an overview of the assignments for this course:

	Assignment	Due date	Points
1	Attend class and participate in class discussion		15
2	Topic presentation	Due various dates	15
3	*Final project*		
	Project proposal	Oct 1	5
	Competitive analysis	Oct 15	10
	Content inventory	Nov 5	10
	Final report	Dec 10	35
	Final project presentation	Dec 10	10
			100

6.2 Requirements for each assignment

1. *Attend class and participate in class discussion*

Students are required to physically attend each class and arrive at each class promptly. Class attendance will be graded. If you know that you must miss a class, let me know in advance (up until 24 hours before the class session). If you miss a class session, unexpectedly, get in contact with me ASAP. You are also encouraged to participate in class discussion. Class participation will also be graded.

2. *Topic presentation*

The need for designing webpages and applications for the mobile platform is increasing. This assignment is designed for us to learn about basic design principles/conventions for the mobile technology environment in a collective and also a systematic manner. Each pair of students will select one chapter from the book *Mobile Design Pattern Gallery* (bibliography shown below) and present the topic.

Neil., T., Treseler, M., Head, R., Comer, R., & Demarest, R. (2014). Mobile Design Pattern Gallery, (2nd Edition). O'Reilly. Click here to access.

The digital copy of the book is accessible through UT library. When working on your presentations, you are encouraged to also seek references from additional sources.

The presentation should last about 15- 20 minutes, followed by a Q&A session. Use visual aids (e.g., PowerPoint) in your presentation. The presentations will be evaluated based on the rubric in section 5.2.

	Presentation topic	Date of presentation	Name
1	Chapter 1 Navigation	Oct 1	
2	Chapter 2 Forms	Oct 8	
3	Chapter 3: Tables	Oct 15	
4	Chapter 4: Search, Sort, and Filter	Sep 24	
5	Chapter 6: Charts	Oct 22	
6	Chapter 7: Tutorials and invitations	Oct 29	
7	Chapter 8: Social patterns	Nov 26	
8	Chapter 9 Feedback and affordance	Nov 5	
9	Chapter 10 Help	Dec 3	

3. Final project

This is a group project. Each group can have 4 students at maximum. In this project, you are going to design a web-based solution (websites, web-based applications, or mobile apps) for an organization or for a particular population to serve a particular purpose. The steps and deliverables (in bold font and underscored) for this project include:

1. Decide on the website/application you would like to design and the population you would like to serve. Discuss your idea(s) with the instructor.

2. Prepare and submit **a brief proposal** (no more than 1 page) outlining：
   a. The purpose of the site/application
   b. Its scope
   c. Planned design process, including methods you plan to use for user/product research and evaluation (e.g., interviews, focus group, cart sorting, user testing, and heuristic evaluation) and documentations that you will produce in the process (e.g. personas, concept maps, wireframes, and usability test plans, et al.).
   d. A timeline for completing your project

3. Upon receiving approval from the instructor, work on the project based on your proposal. Perform the tasks that you outlined in your proposal (e.g., conducting competitive analysis, composing content inventory, constructing conceptual maps, designing templates or sample pages, and verifying your design with heuristic evaluation or other lightweight user testing methods), and produce corresponding documentations. You will turn in the following deliverables at different stages of the project:
   (1) **A competitive analysis** of similar products
   (2) **A content inventory,** documenting content that will be included in your product
   (3) **A final report** that includes all documentations that you produce in your design process (including the competitive analysis and content inventory that you turn in earlier. You can make modifications to these documents if needed when compiling them into the final report).
   (4) **Final presentation** of the project**.** The presentation should include, but not limited to, a graphical view of the website/application, functions of the site/application, rationale for various IA decisions, challenges that you have met, and potentials for improvements. The presentation should be 20-30 minutes long, with 5-10 additional minutes for Q&A. The grading criteria for this presentation are the same as the criteria for evaluating your individual topic presentations (see section 5.2).

7. Schedule & Readings

7.1   Schedule

	Date	Subjects	Due
1	Sep 3	Labor day holiday, no class	
2	Sep 10	Introduction & What is IA	
3	Sep 17	Principles of IA	
4	Sep 24	Search systems and search interface	
5	Oct 1	Metadata and controlled vocabulary	*Project proposal*
6	Oct 8	IA development process: Research, strategy, and design (1): Context	
7	Oct 15	IA development process: Research, strategy, and design (2): Content	*Competitive analysis*
8	Oct 22	IA development process: Research, strategy, and design (3): User	
9	Oct 29	Establishing credibility	
10	Nov 5	IA in practice	*Content inventory*
11	Nov 12	**Instructor attending ASIST conference, no class**	
12	Nov 19	IA development process: Evaluation	
13	Nov 26	Designing for conversation, collaboration, & sharing (social web)	
14	Dec 3	IA for mobile devices	
15	Dec 10	Final project presentation	*Final report* *Final presentation*

7.2 Readings

1. Sep 3   Labor day holiday, no class
2. Sep 10   **Introduction & Basics: What is IA** RM&A, Ch 1-4 Dillon, A., & Turnbull, D. (2010). Information architecture. In Encyclopedia of Library and Information Science. (3rd ed). 1:1, 2361-2368. Dillon, A. (2002). Information architecture in JASIST: Just where did we come from? Journal of the American Society for Information Science and Technology, 53(10), 821-823. Toms, E.G. (2002). Information interaction: Providing a framework for information architecture. Journal of the American Society for Information Science and Technology, 53(10), 855-862. **Additional recommended readings** Brown, D. (2010). Eight principles of information architecture. Bulletin of the American Society for Information Science and Technology, 36 (6). Jacob, E. K., & Loehrlein, A. (2009). Information architecture. Annual Review of Information Science and

Technology, 43(1), 1-64.

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3. Sep 17   **Principles of IA: Organizing, labeling, and navigation**

RM&A, Ch 5-8
Brown Ch 1, 2

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4. Sep 24   **Search systems and search interface**

RM&A: Ch 9

Wilson, M.L., Kules, B., Schraefel, M.C., & Shneiderman, B. (2010). From keyword search to exploration: Designing future search interfaces for the web. Foundations and Trends in Web Science, 2(1), 1-97. Accessed at: http://www.cs.swan.ac.uk/~csmax/pubs/FnTWebSci-Wilson.pdf

Hearst, M. (2006). Design recommendations for hierarchical faceted search interfaces. ACM SIGIR Workshop on Faceted Search. http://flamenco.berkeley.edu/papers/faceted-workshop06.pdf

Hearst, M. A. (2011). 'Natural' search user interfaces. Communications of ACM, 54(11), 60-67.

Additional recommended readings
Doan, K., Plaisant, C., & Shneiderman, B. (1996). Query previews in networked information systems. In Proceedings of the 3rd International Forum on Research and Technology Advances in Digital Libraries, 120.

Greene, S., Marchionini, G., Plaisant, C., & Shneiderman, B. (2000). Previews and overviews in digital libraries: Designing surrogates to support visual information seeking. Journal of the American Society for Information Science, 51(4), 380-393.

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5. Oct 1   **Metadata & controlled vocabulary**

RM&A: Ch 10

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

Hearst, M. (2006). Clustering versus faceted categories for information exploration. Communications of the ACM, 49(4), 56-61.

Elings, M.W. and G. Waibel. (2007). Metadata for all: Descriptive standards and metadata sharing across libraries, archives and museums. First Monday, 12(3).

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

Weibel, S. L., & Koch, T. (2000). The Dublin Core Metadata Initiative: Mission, Current Activities, and Future Directions. D-Lib Magazine, 6(12). https://doi.org/10.1045/december2000-weibel

Additional recommended readings
Morrison, P. J. (2008). Tagging and searching: Search retrieval effectiveness of folksonomies on the world wide web. Information Processing and Management, 44, 1562-1579.

6. Oct 8 Development process for IA: Research , strategy, and design (1) RM&A Ch 11 Brown Ch 3, 10, 4	

6. Oct 8   Development process for IA: Research , strategy, and design (1)

RM&A Ch 11
Brown Ch 3, 10, 4

7. Oct 15   Development process for IA: Research, strategy, and design

RM&A: Ch 12
Brown Ch 5, 6

8. Oct 22   Development process for IA: Research, strategy, and design

RM&A: Ch 13
Brown Ch 7

9. Oct 29   Establishing credibility

Choi, W., & Stvilia, B. (2015). Web credibility assessment: Conceptualization, operationalization, variability, and models. Journal of the Association for Information Science and Technology, 66(12), 2399–2414. https://doi.org/10.1002/asi.23543

Sundin, O., & Francke, H. (2009). In Search of Credibility: Pupils' Information Practices in Learning Environments. Information Research: An International Electronic Journal, 14(4). Retrieved August 15, 2018, from http://www.informationr.net/ir/14-4/paper418.html

Metzger, M. J., Flanagin, A. J., Eyal, K., Lemus, D. R., & Mccann, R. M. (2003). Credibility for the 21st Century: Integrating Perspectives on Source, Message, and Media Credibility in the Contemporary Media Environment. Annals of the International Communication Association, 27(1), 293–335. https://doi.org/10.1080/23808985.2003.11679029

10. Nov 5   IA in practice

Brown: Ch 8, 9

11. Nov 12   ** Instructor attending ASIST conference, no class **

12. Nov 19   Development process for IA: Evaluation

Brown Ch 11, 12

Usability 101: http://www.useit.com/alertbox/20030825.html

Sillence, E., Briggs, P., Harris, P., & Fishwick, L. (2007). Health websites that people can trust – the case of hypertension. Interacting with Computers, 19, 32-42.

13. Nov 26   Designing for conversation, collaboration, & sharing (Social web)

Vaananen, K., & Waljas, M. (2009). Development of evaluation heuristics for web service user experience. CHI 2009, 3679-3684.

Picard, R. W., Wexelblat, A., & Clifford I. Nass, C. I. N. I. (2002). Future Interfaces: Social and Emotional. In Proceedings of CHI (pp. 698-699).

Donath, J. (2014). How Social Media Design Shapes Society. In the Proceedings of CHI '14 Extended Abstracts on Human Factors in Computing Systems (pp. 1057-1058).

Joshua Porter's blog: Social Design: http://bokardo.com/

Additional recommended readings
Crumlish, C. (2009). Designing social interfaces: Principles, patterns, and practices for improving the user experience. (1st ed.). Cambridge: O'Reilly Media.

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14. Dec 3   **IA for mobile devices**

Medhi, I., Patnaik, S., Brunskill, E., Gautama, S. N. N., Thies, W., & Toyama, K. (2011). Designing Mobile Interfaces for Novice and Low-literacy Users. ACM Transactions on Computer-Human Interaction, 18(1), 2:1-2:28.

Huber, J., Steimle, J., & Mühlhäuser, M. (2010). Toward More Efficient User Interfaces for Mobile Video Browsing: An In-depth Exploration of the Design Space. In Proceedings of the international conference on Multimedia (pp. 341-350).

Dinh, H. T., Lee, C., Niyato, D., & Wang, P. (2013). A survey of mobile cloud computing: architecture, applications, and approaches. Wireless Communications and Mobile Computing, 13(18), 1587-1611.

Parush, A., & Yuviler-Gavish, N. (2004). Web navigation structures in cellular phones: the depth/breath trade-off issue. International Journal of Human-Computer Studies, 60, 753-770.

Additional recommended readings
Hoober, S. (2011). Designing mobile interfaces (1st ed ed.). Sebastopol, CA: O'Reilly Media.

Neil, T. (2014). Mobile Design Pattern Gallery: UI Patterns for Smartphone Apps. Sebastopol, CA: O'Reilly Media.

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15. Dec 10   **Final project presentation**

8. University Resources for Students

The university has numerous resources for students to provide assistance and support for your learning, use these to help you succeed in your classes.

The Sanger Learning Center

Did you know that more than one-third of UT undergraduate students use the Sanger Learning Center each year to improve their academic performance? All students are welcome to take advantage of Sanger Center's classes and workshops, private learning specialist appointments, peer academic coaching, and tutoring for more than 70 courses in 15 different subject areas. For more information, please visit http://www.utexas.edu/ugs/slc or call 512-471-3614 (JES A332).

The University Writing Center

The University Writing Center offers free, individualized, expert help with writing for any UT student, by appointment or on a drop-in basis. Consultants help students develop strategies to improve their writing. The assistance we provide is intended to foster students' resourcefulness and self-reliance. http://uwc.utexas.edu/

Counseling and Mental Health Center

The Counseling and Mental Health Center (CMHC) provides counseling, psychiatric, consultation, and prevention services that facilitate students' academic and life goals and enhance their personal growth and well-being. http://cmhc.utexas.edu/

Student Emergency Services

http://deanofstudents.utexas.edu/emergency/

ITS

Need help with technology? http://www.utexas.edu/its/

Libraries

Need help searching for information? http://www.lib.utexas.edu/

Canvas

Canvas help is available 24/7 at https://utexas.instructure.com/courses/633028/pages/student-tutorials

Important Safety Information

BCAL

If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit http://www.utexas.edu/safety/bcal.

Evacuation Information

The following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, http://www.utexas.edu/safety/

Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when an alarm or alert is activated. Alarm activation or announcement requires exiting and assembling outside, unless told otherwise by an official representative.

- If campus is closed, or if the building is locked down, class is automatically cancelled; please stay safe.

- Familiarize yourself with all exit doors. Remember that the nearest exit door may not be the one you used when entering the building.
- Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.
- In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
- Link to information regarding emergency evacuation routes and emergency procedures can be found at: www.utexas.edu/emergency

9. IA Resources

Information Architecture

1. The Information Architecture Institute: http://www.iainstitute.org/
2. Boxandarrows: http://www.boxesandarrows.com/
3. Jesse James Garrett: http://www.jjg.net/ia/
4. Digital web magazine, Topics on Information Architecture: http://www.digital-web.com/topics/information_architecture/

Usability

1. Jakob Nielsen's website: http://www.useit.com/
2. Usability first: http://www.usabilityfirst.com/
3. Usability.gov: http://usability.gov/
4. 10 Useful usability findings and guidelines: http://www.smashingmagazine.com/2009/09/24/10-useful-usability-findings-and-guidelines/

Stencils

Visio

1. Visio stencils for Information Architects: http://www.nickfinck.com/blog/entry/visio_stencils_for_information_architects/
2. Information architecture for designers: http://petervandijck.com/iabook/template.htm

Omnigraffle

1. http://graffletopia.com/
2. http://konigi.com/tools/omnigraffle-wireframe-stencils
3. http://paperplane.net/omnigraffle/
4. http://konigi.com/tools/omnigraffle-ux-template
5. Yahoo! Stencil Kit: http://developer.yahoo.com/ypatterns/about/stencils/

Design Patterns

1. Yahoo!® Design Pattern Library: http://developer.yahoo.com/ypatterns/
2. Martijn van Welie's Web Design Patterns: http://www.welie.com/patterns/
3. The Diemen Patterns Repository: http://www.visiblearea.com/cgi-bin/twiki/view/Patterns/Patterns_repository
4. Tom Erickson's The Interaction Design Patterns Page: http://www.visi.com/~snowfall/InteractionPatterns.html