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LIS 644: Usability of Digital Information Fall 2012

Wednesday 3:30-5:50p • Pratt Manhattan Center, Room 609

Credits: 3

Pre-requisites: none

Office Hours: Monday 1:30-3:00p, Thursday 3:30-6p, and by appointment

BULLETIN DESCRIPTION

This course provides students with the leadership skills required for strategically defining, developing, introducing, and diffusing usability thinking and doing into and throughout organizations. Specific attention is given to heuristic (expert) evaluation and formal and informal (guerilla) usability testing of traditional graphical user interfaces (desktop- and laptop-based) as well as new types of interfaces (mobile and touch). While usability is a profession in its own right (i.e., everything, not just digital information, has some degree of usability) it is also the metacognitive "checks and balances" of information architecture.

DETAILED DESCRIPTION

Although design and evaluation are complementary activities, they both require a unique set of methods, tools, and approaches. In this course, students will gain 1) a deep theoretical understanding of usability and user experience and 2) practical experience evaluating interactive systems from a user-centered perspective. Through lectures, in-class activities, readings and individual and group assignments, students will be introduced to several common evaluation methods, including heuristic evaluation, diary studies, and user testing. Because evaluation can occur both separately or as part of the design process, the course will focus on synthesizing data and communicating evaluation results with respect to organizational constraints or expectations.

COURSE GOALS & OBJECTIVES

The goals of this course are to:

- Gain a theoretical and practical understanding of usability and user experience and their influence on the user-centered design process.
- Provide practical experience with contemporary methods for evaluating interactive systems.
- Improve individual and collaborative skills in problem solving, communication, and creative thinking.

Upon successful completion of this course, a student will be able to:

- **Define** and **explain** the constructs of usability and user experience and their applicability to interactive systems.
- **Choose** and **employ** appropriate evaluation methods based on technical, practical and organizational contexts.
- **Develop** strategies for implementing a successful usability evaluation in accordance with industry standards.
- **Create** high-quality work products that effectively communicate evaluation results and are consistent with professional practice.

REQUIRED TEXTS & COURSE READINGS

There are two required texts for this course:

1. [UTE] Barnum, C. M. (2011). *Usability testing essentials: Ready, set...test!* Burlington, MA: Morgan Kaufmann. ISBN: 012375092X
2. [DOET] Norman, D. (2002). *The Design of Everyday Things*. New York, NY: Basic Books. ISBN: 0465067107

Additional readings will be provided in class and, depending on copyright, made available via the LMS (lms.pratt.edu).

COURSE WEBSITE

A copy of the syllabus, assignment descriptions, and some course readings will be posted on the course website via Pratt's Learning Management System (LMS) accessible at lms.pratt.edu or my.pratt.edu. All electronic communication for the course will be sent through the LMS, which requires use of your official Pratt e-mail address. If you don't use your Pratt e-mail address, please make sure you forward your messages to an address that you check regularly (this can be done from webmail).

GROUP WORK

While a large portion of coursework will be conducted individually, some will be carried out in groups. Groups will consist of 3-4 people, depending on class size. There are three primary reasons for using group work in this class:

1. **Pedagogical:** the discussion and negotiation that occurs in groups will not only deepen and extend your learning, but it also leads to enhanced creativity and increased effectiveness and productivity.
2. **Practical:** individually performing a usability evaluation is certainly possible, but it would not be practical in a 15-week academic term. Working in a group reduces the workload and provides opportunities for each group member to contribute what they can, when they can.
3. **Vocational:** groups are a common feature of professional settings, particularly in system design and evaluation. Job descriptions routinely ask for applicants with effective communication skills and experience working in teams, so I hope this course helps you develop these skills.

COURSE REQUIREMENTS

The overall course grade will be based on a total of 100 points, weighted as follows:

- 5% Class Participation
- 30% Assignments (Individual)
 - A1: Good and Bad Design (15%)
 - A2: Real Usability Testing Report OR Method Exploration (15%)
- 40% Evaluation Reports (Individual)
 - E1: Cognitive Walkthrough (10%)
 - E2: Heuristic Evaluation (10%)
 - E3: Diary Study (10%)
 - E4: User Testing (10%)
- 25% Group Usability Evaluation Report (25%)

Grades will be awarded for points accumulated based on Pratt's grading scale:

Excellent	A	4.0 (94-100)	A-	3.7 (90-93)	
Above Average	B+	3.3 (87-89)	B	3.0 (84-86)	B- 2.7 (80-83)
Acceptable	C+	2.3 (77-79)	C	2.0 (74-76)	
Failure	F	0.0 (00-73)			

Participation [5%]

Active participation in class is essential to successful learning. Simply attending class will not suffice; you must actively participate in order to earn this portion of the final grade. Your participation in class will be taken into consideration in the case of border-line grades. Students can earn a maximum of 5 points (5%) from participation in class. Some ways to participate in the course include:

1. Asking questions in class.
2. Answering questions posed by the instructor or students.
3. Making comments in general class discussions.
4. Participating actively in exercises and discussions in your small groups.
5. Volunteering to report your small group's discussion to the class.

Assignments (Individual) [30%]

There will be two papers, each worth 15% of your final grade:

A1: Good and Bad Design (15%)

In this short paper, you will apply the concepts and principles discussed by Don Norman in *The Design of Everyday Things*. This paper should have three parts: 1) an example of bad design; 2) an example of good design; and 3) a reflection the ideas from Norman's book and their applicability to modern technology. The examples must be accompanied by an explanation of why they represent good/bad design, using the terminology from Norman's book. This paper should be approximately 3-5 pages long.

A2: Usability Testing Report OR Method Exploration (15%)

OPTION A: Usability Testing Report. Visit a design firm, library, or other organization in the New York City area that is currently conducting usability tests and observe at least one evaluation session. Then, write a short paper (3-5 pages) describing your experience, including how the test was conducted (how many evaluators, how many tasks, etc.), what you learned, etc.

OPTION B: Method Exploration. Write a 5-7 page paper exploring one specific type of usability evaluation method. The paper must cover a) who created the method, b) when/how it was created, c) how it is employed, and d) an assessment of its strengths and weaknesses.

Evaluation Reports (Individual) [40%]

You will write evaluation reports (worth 10% each) for four different usability evaluation methods: cognitive walkthrough, heuristic evaluation, diaries, and user testing. Some evaluations will be conducted in groups, but each person will submit an individual report. The reports should include a short background on the method, a brief explanation of how the evaluation was conducted, a summary of your (or your group's) findings, your suggestions for re-design, and a reflection on the strengths/weaknesses of the method. More details will be provided in class.

Group Usability Evaluation Report [25%]

For the group project, you will work with 2-3 classmates to conduct a thorough usability evaluation of one (or more) websites or interactive systems. For the evaluation, you will select and use three usability evaluation methods discussed in class (one of which **must be** user testing) and write a formal report communicating your results. More details on the group project will be provided in class, and you will be given some class time to work on the project.

COURSE SCHEDULE (SUMMARY)

NOTE: A detailed schedule with assigned readings and topic descriptions is presented at the end of this document.

Week	Date	Topic	Due
1	8/29	Welcome + Overview	
2	9/5	Evaluation: History and Process	
3	9/12	Usability and User Experience Reports	
4	9/19	The Design (and Evaluation) of Everyday Things	A1
5	9/26	Cognitive Walkthrough	
6	10/3	Heuristic Evaluation	E1
7	10/10	Study Design & Participant Recruitment	
8	10/17	Diary Studies & Living Laboratories	E2
9	10/24	User Testing I (set-up & planning)	
10	10/31	User Testing II (implementation & metrics)	E3
11	11/7	User Testing III (data analysis)	
12	11/14	User Testing IV (reporting)	
13	11/21	**NO CLASS**	
14	11/28	The Future of Usability Evaluation	E4
15	12/5	LAB – time for project	
16	12/12	FINALS WEEK – projects due	Group Report + A2

ASSIGNMENTS

Because of the project-based nature of this course, all graded assignments are due on the date indicated with no exceptions. **All assignments must be uploaded to the LMS before class on the due date unless otherwise noted.**

Late assignments will be graded at 50%. Assignments that are more than 24 hours late will not be graded at all.

ATTENDANCE

Attendance is expected and required. Students with 3 absences (for any reason, including documented medical reasons) cannot expect to receive an A in the course and, in accordance with Pratt Institute policy, may be asked to drop the class.

Please notify me ASAP if you know you will be absent. You will be expected to make up any missed material for classes that you miss.

COMMUNICATION

The best way to contact me is by email (cmacdona@pratt.edu). I check e-mail regularly during the work week and on weekends. Therefore, you can expect an email response within 24 hours (but usually much sooner). Should that change, you will be notified in advance.

POLICIES & PROCEDURES

Disabilities

Students who require special accommodations for disabilities must obtain clearance from the Office of Disability Services at the beginning of the semester. For further information, contact the Coordinator of Disability Services in the Office of the Vice President for Student Affairs at 718.636.3711.

Incompletes

Incompletes will not be awarded except in cases of documented medical reasons and at the discretion of the professor.

Institute-Wide Policies

All Institute-wide policies are listed in the Bulletin under “Community Standards” available online at http://www.pratt.edu/student_life/student_affairs/student_policies/ and which include policies on attendance, academic integrity, plagiarism, computer, and network use.

Laptops & Cell phones

Please turn your cell phone off during class. Laptops are permitted in the classroom for coursework purposes only.

Research Participation

As part of the course requirements, students may be asked to participate in research studies being conducted by SILS faculty.

Revisions to the Syllabus

While this syllabus provides a reliable framework for the course, including readings and assignments, it is subject to change pending notice in class and on the course website.

SILS E-PORTFOLIO

Starting Fall 2012, all students entering the MSLIS degree program are required to complete an e-portfolio that must be approved by their advisor before they will be permitted to graduate. The e-portfolio provides students with an opportunity to showcase their best work from the courses they

have taken at SILS, and an opportunity to demonstrate they have met the learning objectives of a Master of Information and Library Science.

Work completed for this course may be included in the e-portfolio. Students must demonstrate that their work fulfills at least one of the following learning outcomes:

1. Students carry-out and apply research.
2. Students demonstrate excellent communication skills and create and convey content.
3. Students use information technology and digital tools effectively.
4. Students apply concepts related to use and users of information and user needs and perspectives.
5. Students perform within the framework of professional practice.

Detailed information on the learning outcomes, requirements and how to create your e-portfolio is available from:

http://www.pratt.edu/academics/information_and_library_sciences/degree_programs/sils_eportfolio/

ACADEMIC HONESTY

I take issues of academic honesty very seriously. Instances of cheating, plagiarism, and improper use of intellectual property will not be tolerated. Do not plagiarize or copy from anywhere, including articles, websites, class handouts, class slides, other students' work, web design templates, work you have submitted to another course, etc. Unless specifically indicated otherwise, all assignments submitted for this course must be your own work, with sources properly cited.

Any assignment that includes copied material will be given an automatic *zero* – this includes cases where only a portion of the assignment is copied. Depending on the nature of the offense, this may also result in failure of the course. **No excuses will be accepted.**

*****Below is the official academic integrity policy of Pratt Institute*****

Pratt Institute considers Academic Integrity highly important. Instances of cheating, plagiarism, and wrongful use of intellectual property will not be tolerated.

- Faculty members will report each incident to the registrar for inclusion in students' files.
- More than one report to the registrar during a student's program of study at Pratt will result in a hearing before the Academic Integrity Board, at which time appropriate sanctions will be decided. These may include dismissal from the Institute.
- The nature and severity of the infraction will be determined by faculty members who can: ask students to repeat an assignment, fail students on the assignment, fail students in the course and/or refer the incident to the Academic Integrity Board.

For more details about these procedures please see the Pratt Student Handbook, the *Pratt Bulletins*, and the pamphlet entitled *Judicial Procedures at Pratt*.

Cheating

If students use dishonest methods to fulfill course requirements, they are cheating. Examples of this include, but are not limited to:

- Obtaining or offering copies of exams or information about the content of exams in advance.
- Bringing notes in any form to a closed book exam.
- Looking at another student's paper during an exam.

- Receiving or communicating any information from or to another student during an exam.

Plagiarism

Plagiarism is a bit more complicated, but the rules of documentation and citation are very specific and are tailored to different academic disciplines. Types of plagiarism include:

- Including any material from any source other than you in a paper or project without proper attribution. This includes material from the Internet, books, papers, or projects by other students, and from any other source.
- Using your own work to fulfill requirements for more than one course
- The extensive use of the ideas of others in your work without proper attribution.
- Turning in work done by another person or a fellow student as one's own.

Please remember that all work must be the student's own. If it is not, the source should be cited and documented appropriately.

If there are aspects of this statement that are not understood, ask faculty members for help.

COURSE SCHEDULE (DETAILED)

Week	Date	Topic	Due
1	8/29	Welcome + Overview	
2	9/5	Evaluation: History and Process <ul style="list-style-type: none"> ▪ Rogers, Y., Sharp, H., & Preece, J. (2011). Introducing evaluation. In <i>Interaction Design: Beyond Human-Computer Interaction</i> (3rd Ed.) (pp. 433-451). Chichester: John Wiley & Sons, Inc. ▪ DOET, Ch. 1, 2 	
3	9/12	Usability and User Experience Reports <ul style="list-style-type: none"> ▪ Brown, D. (2011). Usability reports. In <i>Communicating Design: Developing Web Site Documentation for Design and Planning</i> (2nd Ed.) (pp. 274-288). Berkeley, CA: New Riders. ▪ DOET, Ch. 3, 4 	
4	9/19	The Design (and Evaluation) of Everyday Things <ul style="list-style-type: none"> ▪ DOET, Ch. 5, 7 	A1
5	9/26	Cognitive Walkthrough <ul style="list-style-type: none"> ▪ UTE, Ch. 3 ▪ Wharton, C., Rieman, J., Lewis, C., & Polson, P. (1994). The cognitive walkthrough method: A practitioner's guide. In J. Nielsen, & R. Mack (Eds.), <i>Usability inspection methods</i> (pp. 105-140). New York, NY: John Wiley & Sons, Inc. 	
6	10/3	Heuristic Evaluation <ul style="list-style-type: none"> ▪ Nielsen, J. (n.d.). How to conduct a heuristic evaluation. Retrieved from: http://www.useit.com/papers/heuristic/heuristic_evaluation.html ▪ Nielsen, J. (n.d.). Ten usability heuristics. Retrieved from: http://www.useit.com/papers/heuristic/heuristic_list.html ▪ Nielsen, J. (n.d.) Severity ratings for usability problems. Retrieved from: http://www.useit.com/papers/heuristic/severityrating.html 	E1
7	10/10	Study Design & Participant Recruitment <ul style="list-style-type: none"> ▪ UTE, Ch. 2 	

8	10/17	Diary Studies & Living Laboratories	E2
		<ul style="list-style-type: none"> ▪ Rieman, J. (1993). The diary study: A workplace-oriented research tool to guide laboratory efforts. In <i>Proceedings of the INTERACT '93 and CHI '93 conference on Human factors in computing systems (CHI '93)</i> (pp. 321-326). doi:10.1145/169059.169255 ▪ Chi, E. H. (2009). A position paper on 'Living Laboratories': Rethinking ecological designs and experimentation in Human-Computer Interaction. In J. A. Jacko (Ed.), <i>Proceedings of the 13th International Conference on Human-Computer Interaction, Part I: New Trends</i> (pp. 597-605). Berlin: Springer-Verlag. 	
9	10/24	User Testing I (set-up & planning)	
		<ul style="list-style-type: none"> ▪ UTE, Ch. 6 	
10	10/31	User Testing II (implementation & measurements)	E3
		<ul style="list-style-type: none"> ▪ UTE, Ch. 7 	
11	11/7	User Testing III (data analysis)	
		<ul style="list-style-type: none"> ▪ UTE, Ch. 8 	
12	11/14	User Testing IV (reporting)	
		<ul style="list-style-type: none"> ▪ UTE, Ch. 9 	
13	11/21	**NO CLASS** Thanksgiving Break	
14	11/28	The Future of Usability Evaluation	E4
		<ul style="list-style-type: none"> ▪ <i>No readings this week</i> 	
15	12/5	LAB – time for project	
16	12/12	FINALS WEEK – projects due	Group Report + A2