INF 315C – Topics in Human Computer Interaction: User Research

Unique Number: 27270

Semester: Spring, 2019

Instructor: Amy Rothbaum, MSIS

Office Hours: By appointment. amyrothbaum@utexas.edu

Class Time and location: UTA 1.502, 7:00-8:30 pm

Syllabus contents

Summary

The course is designed to help students to get hands-on experience with investigating and analyzing how people use designed objects. There is a growing body of work about usability, but there is no substitute for asking people what they actually think, or watching what they actually do! In this class, we will study how to do so properly.

I may change portions of this syllabus throughout the semester to adjust to student needs and my scheduling demands.

Students will enact the following learning techniques:

We will cover a range of methods such as interviewing, surveying, diary studies, and observation. Students will read articles from important interaction design journals and conferences. Students will also conduct sample research projects using the methods we cover,

as well as present the data they gather, both by writing about those data and visualizing their results with charts and other techniques.

Course prerequisites

None

Required Text

Proctor, R. W., & Van Zandt, T. (2008). *Human factors in simple and complex systems*. CRC press.

Supplemental Readings from journals and conferences will be available online via Canvas.

Disabilities

Any student with a documented disability (physical or cognitive) who requires academic accommodations should contact the Services for Students with Disabilities area of the Office of the Dean of Students at 471-6259 (voice) or 471-4641 (TTY for users who are deaf or hard of hearing) as soon as possible to request an official letter outlining authorized accommodations.

Course Schedule

Note: this course schedule is subject to change. Canvas will have the most up-to-date information about due dates.

DATE	DAY	Topic and in-class activities	Readings (due by class time)	Deliverable (due by class time)
Jan 23	Wed	Introductions	none	
28	Mon	Historical examples of failure; in-class surveys	Proctor & Van Zandt chapter 1	
30	Wed	Overview of research methods; in-class question-writing excercize	Proctor & Van Zandt pp. 25-32	
Feb 4	Mon	Examples of research methods	Proctor & Van Zandt pp. 32-41 & 49-52	Instrument 1: Questionnaire
6	Wed	Human Error in systems	Proctor & Van Zandt chapter 3	
11	Mon	Information processing	Proctor & Van Zandt pp. 81-90 & 97-107	
13	Wed	NO CLASS	none	Report 1: Questionnaire
18	Mon	(Human) Visual perception	Proctor & Van Zandt chapter 5	
20	Wed	Perception of the world	Proctor & Van Zandt chapter 6	
25	Mon	Other senses; peer reviewing	Proctor & Van Zandt pp. 165-178	

27	Wed	Other senses cont.; in-class question-writing exercise (for interviews)	Proctor & Van Zandt pp. 178-191	Peer response 1
Mar 4	Mon	Workshop day; Displays: bar charts etc.	Proctor & Van Zandt pp. 193-213	
6	Wed	Displays part 2;	Proctor & Van Zandt pp. 213-226	Instrument 2: Interview questions
11	Mon	First in-class critique of a provided instrument	none	
13	Wed	Mental workload; in-class interview exercise	Proctor & Van Zandt chapter 9	Report 2: Interviews
18	Mon	SPRING BREAK		
20	Wed	SPRING BREAK		
18	Mon	(Human) Retention	Proctor & Van Zandt chapter 10	
20	Wed	Decision-making	Proctor & Van Zandt chapter 11	
25	Mon	Selection/action/reaction	Proctor & Van Zandt chapter 12/13(in class)	Peer response 2
27	Wed	Movement	Proctor & Van Zandt pp. 367-388	Instrument 3: Diary study method/recruiting outline
Apr 1	Mon	Skill acquisition	Proctor & Van Zandt pp. 388-395	
3	Wed	Controls	Proctor & Van Zandt pp. 397-409	Report 3: Diary study

8	Mon	Controls part 2	Proctor & Van Zandt pp. 409-429	Peer response 3
10	Wed	Workspaces	Proctor & Van Zandt pp. 433-441	Instrument 4: Experimental design
15	Mon	TBD	None	
17	Wed	Workspaces part 2	Proctor & Van Zandt pp. 441-465	
22	Mon	Environments (workspaces part 3)	Proctor & Van Zandt pp 467-473, 477-479, 486-487, 489, 492, 497	
24	Wed	HR & HCI	Proctor & Van Zandt chapter 18	Report 4: Experiment
29	Mon	TBD	None	Instrument 5: Your choice
May 1	Wed	Practice	Proctor & Van Zandt chapter 19	Peer response 4
6	Mon	Summing up; Second in-class critique of a provided instrument	none	Report 5: Your choice
10	Fri	NO CLASS		Final critique

Assignments

You will need to complete assigned readings at home, work on 5 sample research projects in two parts, respond to peers' sample research, participate in class, and demonstrate knowledge of the readings.

Participation and Knowledge of the readings part 1: 24x Daily Quizzes: 20%

Throughout the semester, I will administer 24 quizzes (1 on every day you have readings due). The quiz may be at the beginning, middle, or end of the class period. Each quiz will cover that day's readings with 2-4 questions, and will be worth 1 point or 1% of your total final grade, with a maximum possible of 20 points from quizzes, or 20%. As there are 24 quizzes, if you do well on these quizzes, you could potentially completely miss up to 4 quizzes and still get a good grade. No late work! If you miss the time during class when the quiz occurs, you missed it.

Participation and Knowledge of the readings part 2: 2x critiques: 10%

On Canvas l will provide you with some established research to critique. Complete this on your own, not in class. You will answer a series of open questions about problems with the instrument, and will be expected to explicitly refer to relevant sources and concepts from class. You may conduct discussion of the questions in groups if you wish, or on your own, but will fill the critique out individually and will receive individual grades. You *may* use the book and your notes.

Sample research projects part 1: 5x instruments of measurement 15%

You will turn in an instrument of measurement in advance of conducting each sample research project so that you can iterate on it for your subsequent data-gathering and report. Each should:

- Be submitted as one PDF document via Canvas to the appropriate assignment, on time, with college-level writing, and be related to a complex system.
- Include a citation and link to a scholarly paper from the approved list of resources linked in the relevant assignment on Canvas.
- Begin with a paragraph setting out the phenomena, interface, or problem you are addressing following and expanding on that prior study. Do NOT just pull your RQs, hypotheses, propositions, or questions out of thin air.
- Include the instrument itself. (for example: the questionnaire, interview questions, or experimental procedure.)

Sample research projects part 2: 5x data reporting 30%

Next, you will carry out your research, with between 2 and 20 participants, depending on the method at hand (fewer for interviews, more for surveys). You will then provide me with a report, also in PDF format on Canvas, which includes:

- An introductory paragraph setting out the phenomena, interface, or problem you are addressing.
- Between 2 and 5 visualizations of your analysis, depending on the assignment (e.g. charts and graphs). 1-2 sentences explaining why each is important. You MAY describe negative results (e.g.; "I didn't prove my hypothesis.") In fact, acknowledging negative results is an important ethical consideration.
- A concluding paragraph suggesting what this research means for designs related to your topic (see: your own introduction.)
- An appendix with all of the data you collected.
- An appendix with a description of how and why you iterated on your original instrument.
- Citations to background work (e.g. the paper you cited in the first part of this project).

Sample research projects part 3: 4x peer responses: 12%

You will each respond to one of your peers' reports. In your response, you should summarize what the point of their research was, in your own words. Be sure to:

- Suggest 1-2 future directions for the research area.
- Ask the author 2-3 questions about their findings.

Final exam: at-home critique: 13%

Twice during class time I will provide you with some established research to critique. You will write 1-2 pages describing problems with the instrument, explicitly referring to relevant sources from class. You will conduct discussion in groups, but will fill the critique out individually and will receive individual grades. You *may* use the book and your notes.

Grading

Your assignments will be graded based on college-level writing standards including Grammar and spelling, demonstrated clarity of thought, and structure in your writing. Your ability to follow the instructions given and your use of resources from class (including citations). The overall quality of your reports and responses.

Title	**Repetitions x percent each**	**Total percent of final grade**
Quizzes	20x1% (24 provided)	20%
Critiques	2x5%	10%
Instruments	5x3%	15%
Reports	5x6%	30%
Peer responses	4x3%	12%
Final critique	1x13%	13%

I use plus and minus grades for the final grade. The conversion will be as follows:

A	94 – 100 points
A-	90 - 93.9
B+	86 - 89.9
B	83 - 86.9
B-	80 - 82.9
C+	77 - 79.9
C	73 - 76.9
C-	70 - 72.9
D+	67 – 69.9
D	63 - 66.9
D-	60 - 62.9 (minimum for pass/fail students to pass)
F	Below 60

Late Assignments

It is important to complete your work on time, both so you can stay on track and so you can work with your fellow students. You will be docked 10% each day for every day late for any assignment. Plan ahead.

Academic dishonesty

Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University.