

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

**Unique Number:** 27810  
**Semester:** Spring, 2017  
**Instructor:** Ramona Broussard, MSIS  
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**Office Hours:** by appointment.  
**Class Time and location:** T-Th, 11-12:30, SZB 284

### *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.

*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.

### *Course Schedule*

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DATE	DAY	Topic and in-class activities	Readings (due by class time)	Deliverable (due by class time)
Jan 17	Tues	Introductions	none	
19	Thurs	Historical examples of failure; in-class surveys	Proctor & Van Zandt chapter 1	
24	Tues	Overview of research methods; in-class question-writing excercise	Proctor & Van Zandt pp. 25-32	
26	Thurs	Examples of research methods	Proctor & Van Zandt pp. 32-41 & 49-52	Instrument 1: Questionnaire
31	Tues	Human Error in systems	Proctor & Van Zandt chapter 3	
Feb 2	Thurs	Information processing	Proctor & Van Zandt pp. 81-90 & 97-107	
7	Tues	(Human) Visual perception	Proctor & Van Zandt chapter 5	Report 1: Questionnaire
9	Thurs	Perception of the world	Proctor & Van Zandt chapter 6	
14	Tues	Other senses; peer reviewing	Proctor & Van Zandt pp. 165-178	
16	Thurs	Other senses cont.; in-class question-writing excercise (for interviews)	Proctor & Van Zandt pp. 178-191	Peer response 1
21	Tues	In-class work	none	
23	Thurs	Displays	Proctor & Van Zandt pp. 193-213	Instrument 2: Interview questions
28	Tues	Displays part 2; First in-class critique of a provided instrument	Proctor & Van Zandt pp. 213-226	
Mar 2	Thurs	Mental workload; in-class interview excercise	Proctor & Van Zandt chapter 9	
7	Tues	(Human) Retention	Proctor & Van Zandt chapter 10	Report 2: Interviews
9	Thurs	Decision-making	Proctor & Van Zandt chapter 11	

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14	Tues	SPRING BREAK	none	
16	Thurs	SPRING BREAK	none	
21	Tues	Selection/action/reaction	Proctor & Van Zandt chapter 13	Peer response 2
23	Thurs	Movement	Proctor & Van Zandt pp. 367-388	Instrument 3: Diary study method and recruiting outline
28	Tues	Skill acquisition	Proctor & Van Zandt pp. 388-395	Report 3: Diary study
30	Thurs	Controls	Proctor & Van Zandt pp. 397-409	
Apr 4	Tues	Controls part 2	Proctor & Van Zandt pp. 409-429	Peer response 3
6	Thurs	Workspaces	Proctor & Van Zandt pp. 433-441	Instrument 4: Experimental design
13	Tues	Workspaces part 2	Proctor & Van Zandt pp. 441-465	
18	Thurs	Environments (workspaces part 3)	Proctor & Van Zandt pp 467-473 & 477-479 & 486-487 & 489 & 492 & 497	
20	Tues	HR & HCI	Proctor & Van Zandt chapter 18	Report 4: Experiment
27	Thurs	Virtual work day - no class.	none	Instrument 5: Your choice
May 2	Tues	Summing up; Second in-class critique of a provided instrument	Proctor & Van Zandt chapter 19	Peer response 4
4	Thurs	Summing up	none	Report 5: Your choice

### *Assignments and grading*

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%, with a maximum possible of 20 points or 20%. That means you can completely miss up to 4 quizzes with no penalty. 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 Instrument critiques: 10%*

Twice during class time (Feb. 28 and April 27) I will provide you with an established research instrument to critique. You will write 1-2 pages describing problems with the instrument, explicitly referring to relevant sources.

#### *Sample research projects part 1: 5x instruments of measurement 10%*

You will turn in your instrument in advance of conducting each sample 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 40%*

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.
- At least 5 visualizations of your analysis (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: 20%*

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

- Suggest 3-4 future directions for the research area.
- Suggest 4-5 interface innovations based on their findings.
- Ask the author 2-3 questions about their findings.

Title	Repetitions x percent each	Total percent of final	Due dates
Quiz	20x1% (24 provided)	20%	All days with Proctor & Van Zandt readings
Critique	2x5%	10%	Feb 28, Apr 27
Instrument	5x2%	10%	Jan 26, Feb 23, Mar 23, Apr 6, Apr 27
Report	5x8%	40%	Feb 7, Mar 7, Mar 28, Apr 20, May 4
Peer response	4x5%	20%	Feb 16, Mar 21, Apr 4, May 2

*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.

*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.

*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.

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