

IS/HCC 760: Human Computer Interaction

Fall 2014

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Office hours By appointment (ITE 431)

Class Info Monday, 4:30–7:00pm, ITE 406

Course Description

This course is intended to introduce students to the significant trends within HCI, to explore classic and contemporary readings in HCI, and to prepare students to conduct independent research and design interactive systems.

Course Format

This is a seminar style class. Students are expected to complete all background reading before class, to take an active part in leading discussions, ask questions of one another, and offer their thoughts on topics being discussed. You are learning and critically engaging with the work together.

Course Objectives

1. Students will become familiar with key works and people within HCI that have shaped and influenced the field.
2. Students will become acquainted with the various conferences and journals that serve as key resources within the HCI community.
3. Students will learn to identify articles on a specific topic within HCI, and to read these articles to identify key results (practical and theoretical), limitations (stated and unstated), and future research directions (stated and unstated).
4. Students will learn to identify and critique theories and assumptions that serve as the foundation for research within the field of HCI, and to relate these theories and assumptions to the design of interactions between people and technology.
5. Students will identify their place within the field of HCI, both in terms of historical roots and future trajectories.
6. Students will be able to formulate a perspective on 'what is HCI'.

Course Materials

There is no required textbook for this course. There will be readings from peer-reviewed conference and journal articles. These will either be uploaded to Blackboard or you can find them on the ACM Digital Library <http://dl.acm.org/>.

Grading

The major components of this course are:

1. Reading, Engaging, Contributing (20%)
2. Leading, Summarizing (20%)

3. Contextualizing (20%)
4. Internalizing (40%)

20% Reading, Engaging, Contributing

Each week, we will cover approximately four readings. **Students are expected to read and engage with the assigned readings and contribute to the class discussions every week.** Students should come prepared to discuss the topic of the week with insights gleaned from the assigned readings.

When you are reading, try to engage with the text by asking yourselves questions like: Why was this person writing about this? What is the impact of this work? Why is this paper still relevant? Could this work have been done differently? Where do I see the impact of this work in technology around me? (This is not an exhaustive list of questions to ask, but simply a starting point for how to *engage* with what you are reading.)

This is an easy 20% as this is what you are here for most of all. If you aren't doing the readings and at least voicing your thoughts on some of those readings then why are you taking the class?

20% Leading, Summarizing

Every week, there will be some students who will be providing summaries of the readings and leading the class in discussion. Those students will be responsible for:

1. Identifying 1-2 recent research article(s) on the week's topic (5%)
2. Summarizing all of the readings for the class (5%)
3. Leading the in-class discussion (10%)

The summary of *all* of the articles will be approximately 2 typewritten pages and posted to Blackboard by the start of the class in which the papers will be discussed. The recent article will be identified and uploaded to Blackboard **by the start of the prior class**. I expect you to run the article by me before it is due to be uploaded. I suggest not waiting until the last minute as often the first article you find is not the best representative article to use and I will provide you with hints as to what to think about and where to look. Remember, though, I'm here as a resource to help you find a good article – not to tell you what article to use. Here are some online starting points for finding HCI articles. These resources can be accessed on campus, or can be accessed from off campus via the UMBC library:

<http://aok.lib.umbc.edu/services/remoteaccess.php>

The ACM Digital Library: <http://portal.acm.org>

HCI Bibliography: <http://hcibib.org/>

Google Scholar: <http://scholar.google.com>

Leading the class discussion on the week's topic is about asking questions (such as those listed above for engaging in the readings) in order to, as a class, come to an

understanding as to what you learned from those particular readings. Don't worry, I will also be there to help.

20% Contextualizing

Every week, there will be some students who will be providing biographical sketches of the authors we are reading. A biographical sketch would include: who they worked with/under, what disciplinary background they arose from, what historical time were they influenced by, what they are most notable for, what are they doing now, etc. These sketches should include a photo as well as a "question to ask" if you ever meet them at a conference. This is to provide some contextualizing as to why certain ideas arose when they did as well as provide you with a 'name with a face' in case you ever meet one of these notables (these are real live people after all – well, at least most of them are alive).

40% Internalizing

Each student will complete an individual paper delving into a specific topic in HCI and identifying how he or she can contribute to that topic or use that topic in a research question.

Students will first select a topic, which must be approved by the instructor. Then, students must identify and read 10 relevant articles related to their chosen topic. The final paper will describe a specific theme in the area of HCI along with the relevant historical and contemporary literature and its application to a contemporary research problem or design problem of your choosing. The project is broken down into several milestones:

- *Project proposal (10%, due 9/29)*. A one-page document describing the research area that you would like to examine for your course project.
- *Paper draft (15%, due 11/17)*. A complete draft of your paper, including references. The paper should be between 4-8 pages, not counting references, in CHI archival paper format.
- *Final paper (15%, due 12/15)*. The final version of your paper. The requirements are the same as the draft. This submission should include a list of changes from the prior revision.

Academic Integrity

Students should be sure to review UMBC's official statements and policies regarding academic integrity which can be found at:
<http://www.umbc.edu/provost/integrity.html>

Student Accommodations

UMBC is committed to eliminating discriminatory obstacles that disadvantage students based on disability. Student Support Services (http://www.umbc.edu/sss/html/sss_disab.htm) is the UMBC department designated to receive and maintain confidential files of disability-related documentation, certify eligibility for services, determine reasonable

accommodations, develop with each student plans for the provision of such accommodations, and serve as a liaison between faculty members and students regarding disability-related issues. If you have a disability and want to request accommodations, contact SSS in the Math/Psych Bldg., room 213 or at 410-455-2459. SSS will require you to provide appropriate documentation of disability. If you require accommodations for this class, make an appointment to meet with me to discuss your SSS-approved accommodations.

Week	Class	Theme	Readings	Who's Who
1	8-Sep	Getting started	Syllabus	
2	15-Sep	Visionaries	<p>Grudin, J. (2008). A moving target: The evolution of HCI. In A. Sears & J. A. Jacko (Eds.), The human computer interaction handbook: Fundamentals, evolving technologies, and emerging applications, 2nd ed. (pp. 1-24). New York: Lawrence Erlbaum Associates. (On Blackboard)</p> <p>Bush, V. (1945). As we may think. The Atlantic. (On BB)</p> <p>Licklider, J.C.R. (1960). Man-Computer Symbiosis. IRE Transactions of Human Factors in Electronics HFE-1(1), 4-11. http://groups.csail.mit.edu/medg/people/psz/Licklider.html</p> <p>Englebart, D. (1986) The oNLine System (NLS) demo. http://www.youtube.com/watch?v=JflgzSoTMOs</p>	J. Grudin J.C.R. Licklider D. Englebart V. Bush
3	22-Sep	Information Processor	<p>Ehrlich, K. (2008). The essential role of mental models in HCI: Card, Moran, and Newell. In T. Erickson & D.W. McDonaals (Eds). HCI Remixed. MIT Press. (On BB)</p> <p>John, B. & Kieras D.E. (1996). The GOMS Family of User Interface Analysis Techniques: Comparison and Contrast. ACM TOCHI. (On ACM DL)</p>	S.K. Card T. Moran A. Newell B. John
4	29-Sep	Manipulation & Movement	<p>Fitts, P.M. 1954. The information capacity of the human motor system in controlling the amplitude of movement. Journal of Experimental Psychology, 47: 381-391. (On BB)</p> <p>Hutchins, E., Hollan, J., & Norman,D.A. (1986). Direct Manipulation Interfaces. In D.A.N. & S. Draper (Eds.), User Centered System Design: New perspectives on human-computer interaction. Hillsdale, New Jersey: Lawrence Erlbaum. (On BB)</p> <p style="text-align: center;">Proposals Due - Submit to Blackboard</p>	P.M. Fitts E. Hutchins

5	6-Oct	Affordances	<p>Norman, D. A. (1988). "The Psychopathology of Everyday Things. In: The Psychology of Everyday Things." New York, NY: Basic Books, Inc. (on BB)</p> <p>Mackay, W. (1999) "Is paper safer? The role of paper flight strips in air traffic control." ACM Transactions on Computer-Human Interaction, ACM Press, 6(4), 311-340. (In the ACM DL)</p>	<p>D.A. Norman W. Mackay</p>
6	13-Oct	HCI Below the UI	<p>Greenberg, S., Marwood, D. (1994). Real-time Groupware as a Distributed System: Concurrency Control and its Effect on the Interface. Proceedings of the Conference on Computer Supported Cooperative Work, Chapel Hill, NC. pp. 207- 217. (In the ACM DL)</p> <p>Myers, B., S.E. Hudson, and R. Pausch (2001). "Past, Present and Future of User Interface Software Tools," in J. M. Carroll, (ed.) HCI In the New Millennium. ACM Press, 213-233. (On BB)</p>	<p>S. Greenberg B. Myers S.E. Hudson R. Pausch</p>
7	20-Oct	Visualizations	<p>Furnas, G. W. 1986. Generalized fisheye views. In Proceedings of CHI '86, 16-23. (In the ACM DL)</p> <p>Tufte, E. (1990). Envisioning Information. Graphics Press. Chapters on Analytical Design & Layering and Separation (On Blackboard)</p>	<p>G. Furnas E. Tufte</p>
8	27-Oct	Video	<p>Galloway, K. and Rabinowitz, S. (1980) Hole in Space. Mobile Image Videotape. https://www.youtube.com/watch?v=QSMVtE1QjaU#t=49</p> <p>Hollan, J, and S Stornetta. 1992. Beyond being there. In Proceedings of ACM CHI '92 Conference on Human Factors in Computing Systems. New York: ACM Press. (In the ACM DL)</p>	<p>J. Hollan S. Stornetta</p>
9	3-Nov	Ubicomp	<p>Weiser, M. (1991). The Computer for the Twenty-First Century. Scientific American (September 1991) pp. 66 – 75. (On BB)</p> <p>Dourish, P. (2004). What we talk about when we talk about context. Personal Ubiquitous Computing, 8(1), 19-30. (On BB)</p>	<p>M. Weiser P. Dourish</p>

10	10-Nov	Groupware	<p>Berlin, L. M., Jeffries, R., O'Day, V., Paepcke, A. and Wharton, C. 1993. Where Did You Put It? Issues in the Design and Use of a Group Memory. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. ACM Press, New York, NY, 23-30 (In the ACM DL)</p> <p>Orlikowski, W. (1992) Learning from Notes: Organizational Issues in Groupware Implementation. Proceedings of the Conference on Computer Supported Cooperative Work (November, Toronto, Canada), ACM/SIGCHI & SIGOIS, NY: 362-369. (On Blackboard)</p>	<p>R. Jeffries W. Orlikowski</p>
11	17-Nov	No Class - First Draft Due - Submit to Blackboard		
12	24-Nov	CMC & Online	<p>Hiltz, S.R. & Turoff, M. (1981). The evolution of user behavior in a computerized conferencing system. CACM 24(11), 739-751. (On BB)</p> <p>Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. Management science, 32(5), 554-571. (On BB)</p>	<p>S. R. Hiltz M. Turoff R. L. Daft</p>
13	1-Dec	CSCW & Orgs	<p>Schmidt, K. and L. Bannon. (1992). Taking CSCW Seriously: Supporting articulation work. Computer Supported Cooperative Work 1 (1): 7-40. (In ACM DL)</p> <p>Ackerman, M. S. (2000). The Intellectual Challenge of CSCW: The Gap Between Social Requirements and Technical Feasibility. Human-Computer Interaction, 15(2-3), 179-204. (In ACM DL)</p>	<p>K. Schmidt L. Bannon M. Ackerman</p>
14	8-Dec	Situational	<p>Suchman, L. 1983. Office Procedures as Practical Action: Models of Work and System Design, ACM Transactions on Office Information Systems, 1 (4): 320-328. (In the ACM DL)</p> <p>Boehner, K., DePaula, R., Dourish, P., & Sengers, P. (2007). How emotion is made and measured. International Journal of Human-Computer Studies, 65(4), 275-291.</p>	<p>L. Suchman P. Sengers</p>
15	15-Dec	Final Papers Due - Submit to Blackboard		