

Advanced Human-Computer Interaction Design
Comm / Info 4400, Spring 2012
Tuesday & Thursday, 10:10-11:25am
Kennedy 213

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Office Hours: Mondays 10:30 a.m. - 11:30 a.m.
(or by appointment)

Overview

This upper-level course will provide you an understanding of and experience with using advanced concepts and techniques in human-computer interaction (HCI) design.

This course is **not an introduction** to the basic mechanics of interface design. If you have not taken COMM/INFO 3450, you should familiarize yourself with the material covered in that course, including but not limited to **usability, consistency, redundancy, affordances, Fitt's Law, usability evaluation, and other concepts** discussed in:

- Norman, D. (1988). *The Design of Everyday Things*. New York: Basic Books.
- Shneiderman, B. and Plaisant, C. (2009). *Designing the User Interface: Strategies for Effective Human-Computer Interaction* (5th Edition). Boston: Addison-Wesley Publishing Co.

Prerequisite: Comm/Info 3450 or permission of the instructor

Course Expectations

Your assessment in this course will be based on your completion of the following, each of which is described in detail later in this syllabus.

Individual	40%
Attendance and participation	15%
Complete regular assignments	10%
Write design critique paper	10%
Perform self-evaluation and group-evaluation	5%
Group	60%
Leading one class discussion	15%
Semester Team Project	45%

Course Website and Readings

All information pertaining to this course, including this syllabus, announcements,

assignments, readings, and links to external resources, will be made available via the course website on Blackboard (<http://blackboard.cornell.edu>). Any changes to the syllabus will be posted to the website. It is your responsibility to check Blackboard regularly for announcements and updates.

Enrolling in Blackboard

1. Log in at <http://blackboard.cornell.edu>
2. Click the “All Blackboard Courses” tab
3. Enter the course number in the Course Search Box
4. Click the “Enroll” button

Individual Assessment

The individual portion of your assessment will be based on the following four components. With the exception of attendance and participation, a full description and assessment criteria will be given in class and made available on the website.

Attendance and Participation – The concepts and skills involved in this course cannot be learned through reading and rote memorization; they must be used and practiced. The majority of class time will accordingly be spent practicing these skills and applying these concepts. As a result, attending and participating in class sessions is mandatory, and will be assessed in the following ways:

- Class discussions: Most class days will involve both small-group and whole-class discussions, in which you will be expected to participate by contributing your thoughts and insights.
- Pop quizzes: Occasionally, you will be asked to complete a short quiz at the beginning of class consisting of a short, simple question based on the readings for that day. If you completed the reading, you should have no problem answering the question.

Regular Assignments – Periodically, you will be given homework-style assignments to exercise some particular skill. These will generally be assigned approximately one week in advance, with the full assignment description and assessment criteria provided on the website.

Design Critique Paper – You will write a short paper critiquing the design of an HCI system of your choosing. This paper should consider not only the technical elements of the design, but also the sociocultural elements and the assumptions that the design evidences.

Self-Evaluation and Group-Evaluation – At the end of the semester, you will complete an evaluation of your work during the course—both as an individual and as a member of your group—and an evaluation of your group’s work together.

Group Assessment

Near the beginning of the semester, you will participate in an in-class activity to help you find group members with similar interests. Each group will have two roles. First, each group will be responsible for leading class discussion on one day. Second, each group will propose and complete a semester project.

Leading Class Discussion – The field of HCI is broad and diverse, making it virtually impossible to cover every aspect in a one-semester course. To ensure that this course is relevant to your interests, several days of instruction have been set aside for topics chosen by you. Along with your group, you will suggest three topics on which you might like to lead a class discussion; you should prioritize your list, as many groups may be interested in similar or over-lapping topics. The instructor will then select one of those topics and assign you a day on which to present.

You are welcome and encouraged to be creative and wide-ranging in your topic selection. Here are a few possible suggestions:

- Tangible Interfaces
- Robotics and Human-Robot Interaction (HRI)
- Touch Screen Interfaces
- Tabletop Interaction
- Computing in the Arts
- Pen-based Interfaces
- Contextual Inquiry
- Theoretical Foundations
- Research through Design
- Interaction Design and Children

Once your chosen topic is assigned, you and your group will be responsible for selecting one or two readings, suggesting a discussion question for blackboard, presenting on this topic to the class, and designing an in-class to help your classmates. You should *not* plan on lecturing for 75 minutes. The class sessions during the first half of the semester should give you a sample of the types of activities that might be useful in helping explore the topic you choose.

Semester Team Project – The best way to understand HCI is to do it. The semester project will give you and your group a chance to gain experience with HCI methods that are most relevant to you. The assessment of your project will consist of three portions:

- Proposal: You and your group will prepare a description of what you would like to do for your project, including a timeline with completion dates for project activities, as well as suggested evaluation criteria.
- Progress report: Part way through your project, you will prepare a progress report detailing your completion of project activities thus far, any obstacles that have emerged, and any adjustments to be made to your original plan.
- In-class poster: You will create a poster to present the results of your project to the class, which will be presented during an in-class poster session.
- Final deliverable: You will submit some concrete deliverable, as specified in your proposal, demonstrating the completion of your project and summarizing the

results. This will likely, though not necessarily, be a written project report.

More details on each of these will be made available via the course Blackboard site when the project is assigned.

The nature of the actual work to be done for your project will be up to your group to decide. You might design, and perhaps implement, a novel system or redesign an existing system. You might conducting a quantitative or qualitative study of some behavior or practice relevant to HCI. You might present an in-depth, thorough critique of an existing design or body of research. You might conduct a controlled evaluation of an existing system or systems. You might write a paper that surveys and summarizes current work in a given area.

Remember, the proposal is a proposal. You are proposing to the instructor what you would like to do for your project; the instructor will work with you to select project activities and deliverables that best fit both your interests and the topic of the course.

Policies and Best Practices

Academic Integrity – Integrity is crucial to your personal academic identity. Your rights and responsibilities in this regard are outlined in the Cornell University Code of Academic Integrity, available at <http://cuinfo.cornell.edu/Academic/AIC.html>.

Violations of the code of conduct include but are not limited to:

- Submitting work in this course that has also been submitted for a grade in another course without prior permission of both instructors.
- Using, obtaining, or providing unauthorized assistance on examinations, papers, or any other academic work.
- Plagiarism, which entails presenting somebody else's words or ideas as your own without proper attribution. Proper attribution includes quotation marks and page numbers for any words taken directly from any piece of another author's work, and/or a citation when you have paraphrased or summarized somebody else's work. More information about plagiarism is available at <http://plagiarism.arts.cornell.edu/tutorial/index.cfm>.

Assignment Template – Unless otherwise stated, all assignments, both individual and group, should use font Times New Roman, size 12 pt, double-spaced. Page margins should be 1" on all sides. Submissions that deviate from these instructions will not be graded. Unless otherwise noted, we recommend that you use the APA style guide in formatting your citations and references. See the guidelines at <http://www.library.cornell.edu/resrch/citmanage/apa>.

Phones and Laptops – Use of such devices during class can be a serious source of disturbance, both to you and others. Before each class session begins, please silence your phone(s). Laptops may only be used for taking notes or engaging in other class-related activities.

Late Submissions – Assignments submitted after their stated deadline will not be accepted. Please make proper arrangements to ensure on-time or early submission of all assignments.

Accommodations – It is Cornell policy to provide reasonable accommodations to students who have a documented disability (e.g., physical, learning, psychiatric, vision, hearing, or systemic) that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact Student Disability Services and their instructors for a confidential discussion of their individual need for academic accommodations. Student Disability Services is located in 420 CCC. Staff can be reached by calling 607-254-4545. **Please contact the instructor early in the semester to make arrangements for such accommodations.**

Course Schedule

NB: Readings, assignments, and topics are subject to change. Please check Blackboard for the most up-to-date information.

Class activities that are outside the normal format noted in *italics*. Days that assignments will be assigned (i.e., described in class) and due noted in **bold**.

Week	Tuesday	Thursday
Jan 24	1 Preliminaries, What is Human-Computer Interaction?	History
Jan 31	2 Iterative Design, Participatory Design Design Critique Assigned	Evaluation Methods – Did it work? Design Critique Assigned
Feb 7	3 <i>Project Group “Speed Dating”</i> Design Critique Due	Cultural Probes – Ambiguity and Interpretation (<i>Combine with grad students</i>) Design Critique Due
Feb 14	4 Emotion and Affect in Computing <i>Guest Lecture</i>	<i>Project Brainstorming</i> Submit Project Group Lists
Feb 21	5 Information Visualization Many Eyes Visualization Assigned	Designing for Social Media <i>Combine with grad students</i>
Feb 28	6 Many Eyes Many Eyes Visualization Due	Studying Social Media Design and Assign Social Media Diaries
Mar 6	7 <i>Proposal Pitches and Critiques</i>	Social Media Review Diaries
Mar 13	8 Mobile & Ubiquitous – Foundations	Mobile & Ubiquitous – Horizons Project Proposals Due
Mar 20	9	SPRING BREAK
Mar 27	10 <i>Group meetings with instructor, proposals returned (in lieu of regular class session)</i>	Interaction Design and Children
Apr 3	11 Student-led session: News in Social Media (Soda Can)	Student-led session: CMC in Online Games (Jetpacks)
Apr 10	12 Student-led session: Wearable Computing (Psychoactive Toad)	Student-led session: Augmented Reality (Muddy Socks)
Apr 17	13 Student-led session: Computing in the Arts (Team Motown) Project Status Reports Due	Student-led session: Public Displays (WYSIWYG)

14 Sustainability / ICT4D
Apr 24

Computing & Society

15 The Future of HCI and Wrap Up
May 1

Project Poster Presentations

Thursday, May 10
Final Project Deliverables Due
Self- and Group-evaluation Due
