Course Overview
INFO 110 Human-Computer Interaction I
Winter 2006, Dr. Gerry Stahl

Course Description

INFO 110 focuses on *the design and evaluation* of *interactive systems* from a user-centered perspective. You will explore and learn about how people and groups of people perceive, use, share and communicate about information, and how interaction technologies can take these human issues into account. You will become familiar with basic design principles and evaluation techniques in the field of human-computer interaction (HCI).

When you have completed this course, you should be able to:

- Describe the scope of study of HCI and Interaction Design
- Recognize the importance of User-Centered Design — and the consequences of not paying attention to it
- Understand basic principles of human memory, perception and learning and how these relate to graphical user interface design
- Describe the interaction between people, the work they do, the information systems they use, and the environments in which they work
- Adopt a user-oriented approach to the design of interactive computer systems
- Adopt a user-oriented approach to the evaluation of interactive computer systems

Focus this Term

This quarter, the course will address three issues that are important for HCI today and in the future (designing for consumers, complexity and collaboration):

- How can a designer know how a design will really be used by consumers or users?
- How can a design help people to manage a complex activity?
- How can a design support interaction and collaboration in groups?

The hands-on class project this quarter is to explore interaction design for a particular problem that illustrates these three course issues. The problem underlying the weekly group assignments is:

> How should software be designed to support groups of three to six students to collaboratively discuss and solve challenging problems in algebra and geometry in an online chat environment with a shared whiteboard?

This problem is a topic of leading-edge research. Your work in this course may be adopted within the Virtual Math Teams project at the Math Forum @ Drexel. We will approach this real-world problem systematically using HCI methods of task analysis, system design and user-centered evaluation. During the quarter, teams of students in the course will develop web-based portfolios and present their solutions to this problem.

Course Approach to Learning

This course will engage in *problem-based collaborative learning*. You will learn primarily by applying HCI methods in projects conducted by small groups of students. There will be weekly activities for hands-on engagement with the topics of interaction design. After you form into small project groups, you will have assignments to try out the ideas you are studying by sharing, discussing and negotiating your creative ideas with the other members of your group. Your group will decide on a presentation of the work you do to share with the rest of the class. By the end of the course, your group will have a portfolio of small projects, including documentation of the ideas, sources and interactions that went into your group work process.

Please note: This course requires extensive online group work. You will be required to use Blackboard, VMT-Chat and your own group website. You will have to meet online with your group throughout the week and to develop a website with weekly presentations. (If you have not done this before, you will learn how to do it in the course). You may have to use the computers in the CRC if you do not have a high-speed Internet connection on your own computer. You will work hard and learn a lot. This course is taught differently from what you might be used to. Taking this course means you have agreed to try the approach of this course as described in this Course Overview. *If you are not prepared to do this, you should drop the course*.

Course Textbooks

The course content is presented by two well-known textbooks and several essays. Together, the texts cover the basic established principles of HCI theory and practice at an introductory level. They also provide background ideas for the group projects. There will be no lectures on HCI topics. You are expected to read the writings carefully, take notes and be critical. There will be a threaded discussion area to raise questions, make comments and discuss the readings with other students and the instructor.

There is one textbook that you must purchase, one that you can download, and some supplementary readings that are available on the course website. You will be reading the two textbooks carefully from cover to cover. The textbook that you must purchase is:

> Norman, D. (1988) *The Design of Everyday Things*. New York: Doubleday.

The book you must download is:

> Lewis, C. & Rieman, J. (1993) *Task-Centered User Interface Design: A Practical Introduction*. Available at: http://hcibib.org/tcuid/ and from Blackboard.

Course Assignments

The main reading assignments are from the textbooks and are listed below. They will be supplemented by short additional readings. There will be weekly project assignments – mostly group projects. All projects are due online by midnight Tuesday night.

Week	Start date	Topic	Reading	Project	Deadline
1	Jan 11	Intro to HCI	POET 1, TCUID 1, S&B	Critique Reason; group website, name, logo	Jan 17
2	Jan 18	Designing for complexity	POET 2, TCUID 2, Complexity	Reflection on chat experience	Jan 24
3	Jan 25	Designing for consumers	POET 3, TCUID 3, Groupware	Requirements for improved functionality	Jan 31
4	Feb 1	Designing for collaboration	POET 4, TCUID 4	Midterm exam	Feb 7
5	Feb 8	Design	POET 5, TCUID 5, Grudin	Interface mockup	Feb 14
6	Feb 15	Design	POET 6, TCUID 6, misc.	Heuristic evaluation	Feb 21
7	Feb 22	Evaluation	POET 7, misc.	Cognitive walkthrough	Feb 28
8	Mar 1	Evaluation	TBA	Interface redesign	Mar 7
9	Mar 8	Evaluation	TBA	Final exam	Mar 14
10	Mar 15	Reflection	—		

Course Requirements

TEXTBOOK READINGS: Read the textbooks (POET and TCUID) and supplementary readings carefully. Take notes.

BLACKBOARD DISCUSSION: Discuss the readings and other course issues in the class discussion board. Each week, as soon as you have finished a reading, enter a comment or question in the Blackboard discussion board; return a couple days later to respond to the discussion. Each student should enter at least three comments in Blackboard each week.

GROUP PROJECTS: Collaborate actively in your project group. Participate fully in all group projects. You are responsible for making your group a successful collaborative experience in which everyone participates, contributes and learns.

GROUP PRESENTATIONS: Most class time will be devoted to sharing of the accomplishments of the groups. Each group should make a coherent presentation of their work during the week on the group project. Each group member should take a lead in some of the presentations.

MIDTERM EXAM: Submit a paper of about 5 single-spaced pages containing your reflections on the course. This should be a reflection from your personal, individual perspective on how the course is going for you. Devote about a page to each of the following: (a) your thoughts on the issues of designing for consumers, complexity and collaboration, (b) your thoughts on the content of the textbooks and the online discussion of them, (c) your thoughts on the organization of the course as community knowledge building, (d) your thoughts on the work of your group, and (e) your conceptual design for extending VMT-Chat.

FINAL EXAM: At the end of the term, submit a paper of about 10 single-spaced pages containing your reflections on the course. This should be a reflection from your personal, individual perspective on what you accomplished in this course and what you learned. You should prepare notes for this throughout the term and begin to write well before the end of the term. Devote about 2 pages to each of the following: (a) your thoughts on the issues of designing for consumers, complexity and collaboration, (b) your thoughts on the content of the textbooks and the online discussion of them, (c) your thoughts on the organization of the course as community knowledge building, (d) your thoughts on the work of your group, and (e) your thoughts on HCI and your future.

Course Grading

The course work will involve online discussions and weekly group or individual projects. Grading will be based half on your individual participation in the course and in your group, and half on the grade of your project group for its portfolio of solutions to group projects. Grading is not curved: it is possible for all groups and even all individuals to earn an A in this course. Most students who take an honest interest in the course and exert reasonable effort in all aspects of the course can receive an A. Failure to do your share in your group work or presentations, to do the reading, to contribute to online discussion or to write an adequate midterm or final exam will lower your grade. Because groups all report their work frequently, you can evaluate for yourself how your group is doing. The midterm and final will clearly reflect how well you have worked and learned individually. Assume that your grade will be an accurate measure of what your group and you have accomplished in this course.

50%	individual	
	10%	Careful study of course readings
	10%	Participation in online discussions
	10%	Participation in project group
	10%	Midterm exam
	10%	Final exam
50%	group	
	10%	Quality of group products
	10%	Quality of group collaboration
	10%	Use of techniques from the readings
	10%	Quality of presentations to class
	10%	Quality of group web portfolio

grades	
A	90-100%
B	80-89%
C	70-79%
D	50-69%
F	0-49%

Course Web Space

A special web space has been set up for this course: http://iisweb.cis.drexel.edu/stahl/winter06/ This includes group spaces. You will work with your group to develop an online group portfolio during the quarter. To set up your group web space, go to ftp://iisweb.cis.drexel.edu/stahl/winter06 and login with username = info110 and password = 110info. You should set up a directory on your local hard-disk to mirror and backup what goes in the web space. Go to the subdirectory for your group. Then create your homepage as a file named index.html and save it in this new subdirectory. You can use Word to design your homepage, including formatting, diagrams and digital pictures, or you can use a tool like FrontPage or DreamWeaver. If you use Word, do a (single file) SaveAsWeb. This will save your page as an HTML (mhtml) page for the Web. Be sure that any pictures and linked files are included in your subdirectory. Then publish your homepage, etc. to your Web Space. To do this you can open your IE browser to the ftp address above and drag the files into the ftp site. Then re-open your browser with the http address above to see if it looks like you intended.

Obvious Stuff

Problems & Questions. There is a section of the Blackboard discussion area for raising questions about the course. This is the best place to raise questions because other students may have the same question and they can benefit from seeing the answer; also other students can respond with their views on the issue. If it is an urgent or personal problem, email the instructor or speak with the instructor during class break or after class. If you believe that your group assignment is not going to work out, discuss it with the instructor.

No Excuses. No one is interested in excuses. If you need to miss a class, send the instructor a brief email in advance. If you need to miss any group activity, such as a working meeting or a class presentation, notify the other members of your group as soon as possible and explain how you will contribute to the group. You are responsible for doing your share of the group work during the term; when you ask others to cover for you, let them know how you will make up for it. Everyone knows that things come up, sometimes unexpectedly, but that does not relieve you of your responsibilities.

Plagiarism. Obviously, plagiarism is not tolerated at Drexel and can result in failure. Plagiarism is passing off someone else's ideas, work or words as your own. Collaboration is encouraged, but always give credit to individuals or groups whose ideas, work or words you are reporting, quoting or summarizing.

Academic Honesty. Cheating, academic misconduct, plagiarism, and fabrication are serious breaches of academic integrity and will be dealt with according to University Policy (Section 10 of the Student Handbook.) Students are responsible for their own finished work. Penalties for first offenses range from 0 on an assignment to an F in the course. All offenses are reported to the University Office of Judicial Affairs.

Late Policy. All assignments are due online by midnight Tuesday night. Group presentations cannot be rescheduled. Grades for late written exams will be lowered substantially.

Classroom Etiquette. Please observe the following classroom etiquette to demonstrate respect for your classmates and the instructor:

- Arrive in class on time and plan to attend the entire class. Please let the instructor know before class begins if you have to arrive late or leave early.
- Sit in a place where you can see well. Let the instructor know if you are having trouble seeing or hearing.
- Turn off portable telephones and pagers before class begins.
- Do not hold private conversations during class time.
- Do not sleep in class, read newspapers, magazines or other unrelated materials.
- Do not do email or IM during class.
- Do not eat, drink or chew gum in class. Smoking is prohibited by university policy.
- Keep the classrooms clean. Take away everything that you brought into the room.

Special Needs Students. If you have any special need that must be accommodated, please let the instructor know the first week of class. You must be registered as a special needs student with the university and receive an Accommodation Verification Form prior to receiving the accommodation. Contact with the Office of Disability Services (215-895-2506/7) is strictly confidential. Please make contact as early as possible in order to receive timely accommodations.

Privacy Notice

In general, all work and communication in this course should be treated as public:

- Your work in this course may be studied by other students in the course.
- Any communication on the Internet may end up being seen by people for whom it was not originally intended.
- The web spaces for this course can be viewed by anyone in the world through the Web.
- The instructor and other Drexel faculty, students and staff may have access to anything in Blackboard or the web spaces.
- Future researchers may have access to these materials as data. Although they do not have permission to publish any data about you and although they should ensure anonymity and confidentiality of all personal data, you should assume that activities taking place in this course may be subject to viewing.
- Students in future courses may have access to your work, particularly the group portfolios.

Instructor's Background

Hi. My name is Gerry (pronounced like "Jerry"). For urgent or personal questions, you can contact me directly by email at Gerry.Stahl@drexel.edu. However, it is often better to ask questions about the texts, weekly assignments or other aspects of the course through the class discussion board or in class, so that everyone in the class can see and respond to your questions.

My professional research area is the field of CSCL (Computer-Supported Collaborative Learning). I think that collaborative learning is an exciting and especially effective way to learn.

I believe that there is great potential to design good computer support for it. I have been experimenting with a number of CSCL prototypes and have written many papers on the theory, design and evaluation of interactive systems to support collaborative learning. We will be taking advantage of what I have learned from my research in this course, and I hope you will benefit from this.

I have just completed a book on CSCL entitled *Group Cognition: Computer Support for Building Collaborative Knowledge* and have launched the *International Journal of Computer-Supported Collaborative Learning*.

My background is in computer science and philosophy. At Drexel I teach mainly HCI courses; before coming to Drexel I worked at a large research organization in Germany; before that I was a Research Professor at the University of Colorado in Boulder. The 2002 international CSCL conference was at Boulder and I was the Program Chair for it; I was in charge of the workshops at CSCL 2003 in Norway and CSCL 2005 in Taiwan.

Let me know if you have any questions about my background or check out my home page, where you can see more details and read my papers: http://www.ischool.drexel.edu/faculty/gerry.