

Psych350x: Human Factors in Technology

Spring 2008

Please keep this syllabus for your future reference.

Why do some technologies make our lives easier, while others make our lives harder?

Class Meeting Location & Time: Lagomarcino Hall W272, Tuesday/Thursday at 2:10 - 3:30pm

Prerequisites: *Psychology 101 & junior classification-*

This is a learner-centered class which requires that you think critically and creativity. Unlike a traditional lecture class, you will actively explore the domain of human computer interaction with my guidance.

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Catalog Description

Understanding human behavior and cognition at the human computer interface level. Particularity, it examines the emergent interactive technologies, human computer interaction, user centered design, usability analysis, and usability testing.

Overview

Our interaction with computing technologies is going to rapidly change over the next decade. This upcoming revolution will be driven by the exponential growth of technology, which will quickly result in smaller and less expensive computing devices. This recent explosion of technological availability reflects a transition in computing infrastructures referred to by Alan Kay as the "Third Paradigm". This revolution is a result of the number of computing devices surpassing the number of people in the human population. This infrastructure shift will require a ubiquitous paradigm which emphasizes support of the user's natural tasks with technology fading to the background (e.g., cell phones, PDA, intelligent agents). How can technology interface with humans in ways that facilitate usability? Insight into this question is provided through interdisciplinary investigations (Psychology, Computer Science, Art, etc.) into the complex interactions between humans and computers. This investigatory process will be the focus of this class.

Learning Outcomes

- You will be able to
 - identify strengths and weaknesses of interface design
 - contribute within an multidisciplinary team
 - complete prototype usability testing
 - provide a formal presentation of your team's project results
 - discuss new human computer technologies
 - understand user-centered design

Textbook Available at the Bookstore

Wickens, C. D., Gordon, S. E., & Liu, Y. (1998). *An introduction to human factors engineering (1st Ed.)*. Addison Wesley Longman. ISBN 0-321-01229-1

Attendance

You are not required to attend class, unless teams are presenting their projects. Nevertheless, you are responsible for any announcements and all material covered in class. Be aware that a majority of the exam content will come directly from class activities. Additionally, class activities will provide extra credit towards your final grade. If you must miss a class, please get activity notes and announcements from your fellow classmates.

Participation

You are expected to engage in class discussions. Successful class discussants complete the required readings and think about their question or comment before speaking. If you do not feel comfortable speaking up in a large group, please post your question or comment on the class discussion board on WebCT.

Maintaining a Professional Environment

- Make sure that your computational devices do not cause unexpected disruptions.
- Please resist the urge to talk when others are sharing with the class.
- It is critical that you respect the opinions of your fellow classmates.
- Please arrive to class on time or early.
- If you must leave early, please sit close to an exit.

Using WebCT

Part of your class participation will be completed on the WebCT class discussion board.

Within WebCT you may also access:

- Assignments
- Quizzes
- Exam Scores
- Lecture Slides
- Other instructional material

Why are we using a discussion board in this class?

The class discussion board within WebCT is a powerful collaborative tool, which is going to allow you to access and modify content on the internet at any time of day. A discussion board facilitates your ability to communicate and collaborate with your classmates outside of class time. In addition, the discussion board will help us all stay up-to-date on new HCI topics and provide a platform for virtual discussions.

Posting to the HCI Discussion

You are required to post an interesting HCI entry weekly, except during exam weeks or when team presentations are occurring. By the end of the semester you should have posted 10 entries as indicated on the course calendar; postings are due by 5pm on Friday.

The HCI entry should revolve around the topics covered in this class. Your entry needs to contain quality comments about a newly developed technology or about some innovative research within the field of HCI.

Every week, up to four students will have the opportunity to present their HCI entry. Each volunteer will give a 5 minute presentation about their HCI entry and answer any questions from their fellow classmates about the entry. Those who give presentations will earn extra credit.

Team Projects

The teams will be composed of students with varying backgrounds. Your team will work together to find solutions to HCI problems. Your HCI solutions will be presented within a final paper and presentation.

The project will be divided into *four phases of design* each containing deliverables. These deliverables will represent your team's work. Additional details for this project will be provided at a later date.

Phases of Design – (Due Date): Percentage of Final Course Grade

1. Analysis - (Feb. 14th): 10%
2. Design - (Feb. 28th): 5%
3. Testing - (March 27th): 5%
4. Development - (April 17th): 20%

Quizzes

You will be expected to complete a quiz on WebCT composed of 7 multiple-choice questions for each chapter (i.e., 9 total quizzes). These questions are designed to test your understanding of concepts presented in the chapters and lectures. These quizzes will also help you check your understanding of the material. Thus, if you find something is difficult to understand, you should ask about it during class or during office hours.

Exams

Except under extraordinary circumstances, you will not be able to make-up a missed exam. If you have such a circumstance, please see me immediately.

If you completed all three exams with scores above 50% on each, then your two best exam scores will count 20% each. If you miss an exam or you score less than 50% on an exam, then each of the exams will count 13.3%.

These exams test what you have learned from the readings (quiz-like questions) and class activities (short answer). The class activity questions will require you to use problem solving and critical thinking skills. Exam review sessions will be provided during the class preceding the scheduled exam.

Assignments Due Dates

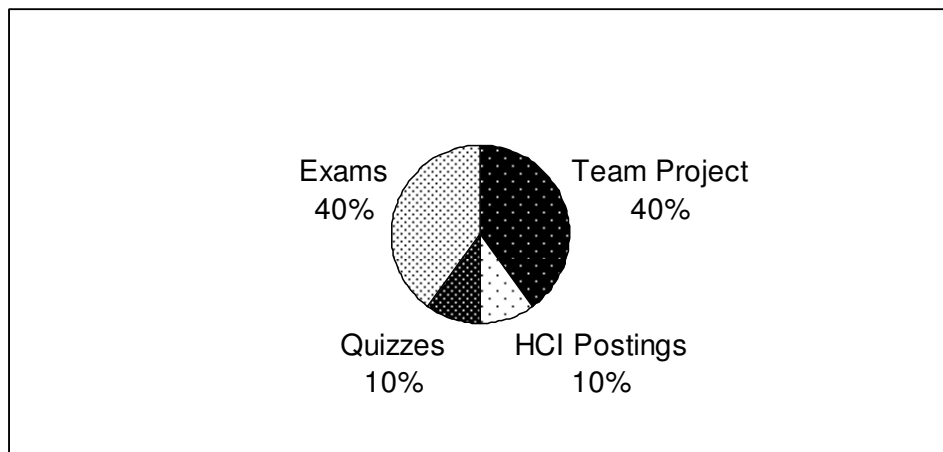
Assignments – Portion of Final Grade:	Due Dates:
*Exam 1 – 20 % or 13.3 %	February 7th
*Exam 2 – 20 % or 13.3 %	March 6th
*Exam 3 – 20 % or 13.3 %	April 10th
Team Project – 40 %	See Team Projects Section
HCI Discussion Postings – 10 %	Friday by 5pm
Quizzes – 10 %	Friday by 5pm

** Exam scores will comprise 40% of your final grade.*

Late Assignments

The due date for each assignment is indicated in the syllabus. Changes will be announced in class. Late assignments will not be accepted. If circumstances beyond your control prevent you from turning in an assignment on time, please send me an e-mail explaining your situation.

Visual Representation of Your Final Grade



Course Grading

Your grade will be based on *your exams scores (as previously described, team projects, HCI discussion, and quiz totals. Any extra credit that you earn from class activities will be added after your basic grade is computed. Extra credit may lead to a maximum increase of 5%.*

Grade:	Percentage:
A	100 - 95
A-	94.9 - 90
B+	89.9 - 86
B	85.9 - 81
B-	80.9 - 77
C+	76.9 - 73
C	72.9 - 68
C-	67.9 - 64
D+	63.9 - 60
D	59.9 - 55
D-	54.9 - 50
F	49.9 - 0

Academic Dishonesty

Cheating will not be tolerated. The regulations regarding academic dishonesty at Iowa State University are specified in the student handbook <http://www.dso.iastate.edu/handbook/PoliciesPract.pdf>

Written work, whether presented through discussion board contributions, e-mails, or paper form must be your independent work. Please avoid the urge to "Copy-and-paste" work. This is plagiarism and will be detected.

Disability Resources and Special Accommodations

If you have a disability and require accommodations, please contact me within the first week so that your learning needs may be appropriately met. You will need to provide documentation of your disability to the Disability Resources (DR) office, located on the main floor of the Student Services Building, Room 1076, (515)-294-6624.

Technology Policy

If you have computational devices (such as laptop, PDA, etc.), I encourage you to bring them to class. However, their use must be related to class activities. For example, recording notes, searching for discussion related information, working on class activities, and instant messaging with *classmates* about discussion related questions are all encouraged. However, surfing the net, watching youtube videos, listening to Mp3s, or drafting players for your Fantasy Football team are not acceptable class technology uses. Furthermore, please make sure that your computational device 'alarms' do not disrupt the class.

Tentative Course Calendar

Dates:	Topics:	Readings:
*January 15, 17	Introduction to Human Factors	Chapter 1
*January 22, 24	Research Methods	Chapter 2
*January 29, 31	Design and Evaluation Methods	Chapter 3
February 5, 7	Review Session, Exam 1	
*February 12, 14	Cognition	Chapter 6
*February 19, 21	Displays	Chapter 8
*February 26, 28	Stress and Workload	Chapter 13
March 4, 6	Review Session, Exam 2	
*March 11, 13	Safety, Accidents, and Human Error	Chapter 14
<i>Spring Break</i>	-----	-----
*March 25, 27	Human Computer Interaction	Chapter 15
*April 1, 3	Social Factors	Chapter 19
April 8, 10	Review Session, Exam 3	
*April 15, 17	To be Announced	
April 22, 24	Team Presentations	-----
April 29, May 1	Team Presentations	-----
May 6	Group\Course Feedback - Celebration	

* *HCI Posting and Quiz due by 5pm on Friday.*

Notice: *The calendar, topics, and assignments are tentative, but exam dates are fixed. I reserve the right to make modifications to this syllabus. Any such modifications will be announced in class.*