EECS 330: Introduction to Human-Computer Interaction

Northwestern University, Winter 2015

Instructor

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Teaching Assistants

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Course Description

Human-Computer Interaction (HCI) is a rapidly expanding area of research and development that has transformed the way we use computers over the past forty years. This course introduces fundamental principles for designing and analyzing interactive systems. Topics include user-centered design, human cognitive and physical abilities, prototyping and evaluation techniques, and graphical design fundamentals. The course also reviews emerging areas of HCI research including mobile interaction, augmented-reality, multi-touch interaction, tangible interaction, and ubiquitous computing. The course project requires students to work in teams to design and test a user interface using HTML5 and JavaScript. No prior programming experience is required.

Prerequisites: none
Course Website: https://canvas.northwestern.edu/courses/9667
Location & Times: TECH LR 2, Mondays and Wednesdays 1:00 - 1:50pm
Sections: Thursdays and Fridays

Team Project

The heart of this course is a quarter-long project. You will work in teams to design and prototype a novel user interface. User interface design is an iterative process; you will build your interface as successively higher-fidelity prototypes. You are free to choose the topic for your project, but it must have something to do with the course theme, **Health and Wellness**. Each team will consist of 4 people. Students who are not registered for course credit may not participate in the group project. Some assignments will have both an individual and team component. As such your course grade will be determined both by the quality of your team's collaborative effort and by the quality of your individual contribution to your team.

Assignments

Team Project Assignments (65%)	Due Date	Weight
P1: Problem Statement and Team	Jan 12	5%
P2: Interviews and Observations	Jan 20	10%
P3: Users, Tasks, and Personas	Jan 26	10%
P4: Sketches and Storyboards	Feb 2	10%
P5: Paper Prototyping	Feb 9	10%
P6: Computer Prototype	Mar 2	10%
P7: Final Presentation	Mar 13	10%

Individual Assignments (35%)	Due Date	Weight
HW1: Web App 1	Feb 16	5%
HW2: Web App 2	Feb 23	5%
Attendance and Studio Participation		10%
Assessments		15%

Attendance and Readings
You are expected to complete assigned readings before class. Lectures will be devoted to hands-on activities that build on the assigned readings. Readings will be posted on the course website prior to lecture. Attendance at all lectures is required. Unexcused absences will directly affect your grades.

Studios
On most Thursdays or Fridays, we will be meeting in studio. The purpose of studio is for you and your group to get feedback on your group projects.

Late Policy
Assignments are due at the beginning of the designated class period. Assignments turned in up to 24 hours late will be penalized 10%. Similarly, assignments turned in between 24 and 48 hours late will be penalized 20%. Assignments turned in more the 48 hours late will not be accepted under most circumstances. If you are having trouble with homework, communicate with us! You have both TAs and professors with which you can discuss any problems you are having.

Collaboration Policy
You are expected to complete individual assignments individually. It is acceptable to get help online, from TAs, and from students. However, it is not acceptable to copy solutions directly from any source. In general:

- write your solutions entirely on your own
- do not share written materials or code with anyone else
- do not look at written material or code created by anyone else for this assignment

Academic Integrity at Northwestern
Students are expected to comply with University regulations regarding academic integrity. If you are in doubt about what constitutes academic dishonesty, speak to the instructor before the assignment is due and/or examine the University web site. Academic dishonesty includes, but is not limited to cheating on an exam (e.g., copying others' answers, providing information to others, using a crib sheet) or plagiarism of a paper (e.g., taking material from readings without citation, copying another student's paper). Failure to maintain academic integrity on an assignment will result in a loss of credit for that assignment at a minimum. Other penalties may also apply. The guidelines for determining academic dishonesty and procedures followed in a suspected incident of academic dishonesty are detailed on the website.

Students with Disabilities
In compliance with Northwestern University policy and equal access laws, the instructor is available to discuss appropriate academic accommodations that you may require as a student with a disability. Request for academic accommodations need to be made during the first week of the quarter, except for unusual circumstances, so arrangements can be made. Students are encouraged to register with Services for Students with Disabilities (SSD) for disability verification and for determination of reasonable academic accommodations. Read more at: http://www.northwestern.edu/accessiblenu/

Schedule
Topics and readings are subject to change. Changes will be announced in class and posted on the course web site. Readings will be made available through the course website.

Date	Topic	Reading Due	Assignment
Jan 5 M	L1: Introduction and History of HCI		
Jan 7 W	L2: User-Centered Design	Kelley, 2001, Ch. 3, 4	
Jan 12 M	L3: Interviews & Observations		P1 due
Jan 14 W	L4: Users, Tasks, & Personas	Norman, 2002, Ch. 1	
Jan 16 F	Studio		
Jan 19 M	MLK Day – NO CLASS		P2 due
Jan 21 W	L5: Affordances, Mappings, and Metaphor	Norman, 2002, Ch. 2	
Jan 23 F	Studio		
Jan 26 M	L6: Sketches and Storyboarding	Buxton, 2007	P3 due
Jan 28 W	ASSESSMENT 1		
Jan 30 F	Studio		
Feb 2 M	L7: Prototyping	Kelley, 2001, Ch. 6	P4 due
Feb 4 W	L8: Evaluation and User Testing		
Feb 6 F	Studio		
Feb 9 M	L9: HTML5 and the DOM	w3schools.com	P5 due
Feb 11 W	L10: CSS		
Feb 13 F	Studio		
Feb 16 M	L11: JavaScript		HW1 due
Feb 18 W	L12: Color and Typography	Williams, 2008	
Feb 20 F	Studio		
Feb 23 M	L13: Layout, Alignment, and Form Design		HW2 due
Feb 25 W	L14: Emotional Design	Norman, 2004	
Feb 27 F	Studio		
Mar 2 M	L15: Accessibility	Universal Design	P6 due
Mar 4 W	L16: Errors, Safety, and Recovery		
Mar 6 F	Studio		
Mar 9 M	L17: Emerging Interaction Styles	Microsoft, 2008	
Mar 11 W	ASSESSMENT 2		
Mar 13 F	FINAL PRESENTATIONS (in studio)		P7 due

Portions of this syllabus were adapted from materials of Rob Miller (MIT), Darren Gergle (Northwestern), and Orit Shaer (Wellesley).