

User Interface Design, Prototyping, and Evaluation

Introduction & Course Overview CSE 441 – Advanced HCI

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University of Washington
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Outline

- Who are we?
- Course overview & schedule
- Introductions
- Teams

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Who are we?

- James Landay
 - Associate Professor in CSE at the University of Washington
 - formerly professor in EECS at UC Berkeley
 - spent 3 years as Director of Intel Research Seattle (ubicomp lab)
 - Ph.D. in CS from Carnegie Mellon '96
 - HCI w/ focus on informal input (pens, speech, etc.), Web design (tools, patterns, etc.), & Ubiquitous Computing
 - founded NetRaker, leader in Web experience management
 - now subsidiary of KeyNote Systems
 - Co-authored *The Design of Sites* with D. van Duyn & J. Hong
- Susumu Harada
 - Ph.D. student in CSE
 - BS in Computer Science from Carnegie Mellon
 - MS in Computer Science from Stanford
 - HCI w/ focus on assistive technology, specifically speech input

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How to Design and Build UIs

- UI Development process
- Usability goals
- User-centered design
- Task analysis & contextual inquiry
- **Rapid prototyping**
- **Evaluation**
- **Programming**

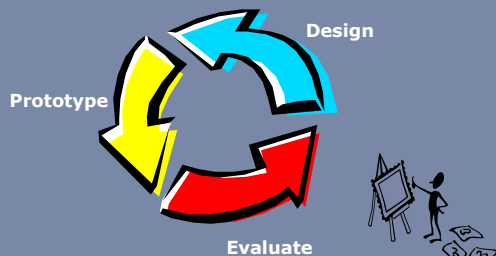
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Iteration

At every stage!



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Goals of the Course

- 1) Learn to prototype, evaluate, & build UIs
 - *the needs & tasks of prospective users*
 - *cognitive/perceptual constraints that affect design*
 - technology & techniques used to prototype UIs
 - techniques for evaluating a user interface design
 - importance of iterative design for usability
 - how to work together on a team project
 - communicate your results to a group
 - key to your future success
- 2) Understand where technology is going & what UIs of the future might be like

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Course Format

- Quarter long project & individual homeworks
- Interactive lectures on Tuesdays
- Studio like design critiques on Thursday
- Monday discussion/“studio” for project work w/ teaching staff (start next week)
- Readings
- All material is (will be) online
 - slides, exercises, readings, schedule
 - <http://www.cs.washington.edu/cse441>
- Have fun & participate! Small for a reason

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Project Description

- We will continue work on projects from CSE440
 - we will give you a list to choose from
- Groups
 - 4 students to a group
 - groups meet with teaching staff every 2 weeks
 - Susumu will help schedule these meetings
 - industrial mentors will also meet with teams
- Cumulative
 - apply several HCI methods to a single interface

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Project Process Overview

- Heuristic Evaluation of current design
- Medium-fi Prototype (using tools) #2
- Online Usability Study
- Interactive Prototype #1 (code)
- Usability Study
- Interactive Prototype #2 (code)
- Final presentations & project fair with industry guests

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Lecture Calendar, Slides, & Due Dates

Tuesday & Thursday, 10:30-11:50

Date	Topics	PPT	PDF	Reading Due	Assignment Due
Tue 1/6	Course Overview & Teaming				
Thu 1/8	Studio Task #1 - Gestalt Principles			Gestalt Principles from Universal Principles of Design	#1 Studio Task #1 - Gestalt Principles
Tue 1/13	Action Analysis & Automated Evaluation			Lewis & Roman Ch. 4.1-4.2 Raskin Ch. 4	
Thu 1/15	In Class Group Heuristic Evaluation - attendance mandatory (Landay at NSF)				#2 Heuristic Evaluation (individual) #3 Heuristic Evaluation (group)
Tue 1/20	Mobile UI Design			TBD	
Thu 1/22	Studio Task #2 - Animation			K-Sketch CHI Paper	#4 Studio Task #2 - Animating Interaction
Tue 1/27	Project Presentation #1				#5 Medium-Fi Prototype #2 (group)
Thu 1/29	Studio Task #3 - Hierarchy			Hierarchy from <i>Universal Principles of Design</i>	#6 Studio Task #3 - Hierarchy and Tagging
Tue 2/3	Modal View Controller			1-6 to 1-16 Arch. of Interactive Sys. 3-1 to 3-9 Event Handling	
Thu 2/5	Studio Task #4 - Confirmation (Landay at HCIIC)			Confirmation from <i>Universal Principles of Design</i>	#7 Studio Task #4 - Confirmation
Tue 2/10	Computer Supported Cooperative Work			Cradin & Parikh	#8 Online Usability Study (group)
Thu 2/12	Online Communities			TBD	
Tue 2/17	MIDTERM				

Administrivia

- Roll
- James' office hours
 - Mon, 10-11 AM (642 Allen Center)
 - TBD online (send Susumu preferred IM IDs)
 - email last name at cs.washington.edu for appointments at other times
- Susumu Harada's office hours
 - Thurs., 4:30-5:30 PM (220 Allen Center)
 - email last name at cs.washington.edu

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Books

- *Universal Principles of Design* by Lidwell, Holden, & Butler
 - I'll give you copies of the 5-7 chapters we will use
- We will also hand out other papers, give you web links, & refer to slides
- Other recommended refs on web page

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Assignments

- Individual
 - 1 written + 6 short studio tasks + one talk
- Group
 - 7 written assignments
 - 3 group presentation/demos with the write-ups
 - all work handed in on Web (group & individual web site)

Grading A Combination Of

- Midterm (20%) [no final exam]
- Individual assignments (25%)
- Group project (45%)
 - demos/presentation (group component)
 - project write-ups and exercises
 - ratings given by other team members & class
- *In class participation (10%)*

Tidbits

- Late Policy
 - no lates on group assignments
 - individual assignments lose one letter grade/day
- Cheating policy
 - will get you an F in the course
 - more than once can get you dismissed
- More information (syllabus/schedule/slides)
 - <http://www.cs.washington.edu/cse441>

Introductions

- Name
- Major
- What you want to get out of the class

Teams

- Start with prior top projects in 440/490L
- Give me your preferences & we assign
 - try to balance skills, etc.
 - teams of 3-5
- Proposed projects
 - [GreenBean \(CSE 440, Autumn 2008\)](#)
 - [Step Intuit \(CSE 440, Autumn 2008\)](#)
 - [ParkSmart \(CSE 440, Autumn 2008\)](#)
 - [MyTransTracker \(CSE 440, Autumn 2008\)](#)
 - [Swickr \(CSE 490L, Spring 2008\)](#)
 - [Radr \(CSE 490L, Spring 2008\)](#)
 - [TripMe \(CSE 440, Autumn 2007\)](#)

Summary

- Thursday
 - Studio assignment #1 – Gestalt Principles
 - Read [Gestalt Principles](#) from *Universal Principles of Design*
 - Turn in online to Susumu so we can access from web directory
 - should all have CSE accounts