**Syllabus and calendar**

**Term:** Fall 2012  
**Lecture:** Monday, 2:15 pm - 3:45 pm  
**Lab:** Wednesday, 2:15 pm - 3:45 pm  
**Studio:** Fridays 8:30-9:45, 9:30-10:45, 11-12:15p, and 2.15-3:30p

**Description**

In this course, you will learn how to design technologies that bring people joy, rather than frustration. You'll learn several techniques for rapidly prototyping and evaluating multiple interface alternatives — and why rapid prototyping and comparative evaluation are essential to excellent interaction design. You'll learn how to conduct fieldwork with people to help you get design ideas. How to make paper prototypes and low-fidelity mock-ups that are interactive -- and how to use these designs to get feedback from other stakeholders like your teammates, clients, and users. You'll learn principles of visual design so that you can effectively organize and present information with your interfaces. You'll learn principles of perception and cognition that inform effective interaction design. And you'll learn how to perform and analyze controlled experiments online. In many cases, we'll use Web design as the anchoring domain. A lot of the examples will come from the Web, and we'll talk just a bit about Web technologies in particular. When we do so, it will be to support the main goal of this course, which is helping you build human-centered design skills, so that you have the principles and methods to create excellent interfaces with any technology.

Through a series of weekly assignments, you will complete a quarter-long project in teams of three. Each week, in small design studios, you present and discuss work with peers. The setting for the course is mobile web applications. The constraints of this small form factor make this an exciting challenge.

**Prerequisites**

CS106B or equivalent programming experience is a prerequisite for this course. The prerequisite exists because all students will need some fluency in building interactive systems to complete the project. Every student must make a significant contribution to their team's implementation; students who are unable to do so should not take the class. That said, some may do more of the programming work, and others more of the user testing work. Project teams will benefit from being multidisciplinary. Students with less programming experience (and e.g., more design experience) should consider partnering with students who with complementary strengths. Additionally, we presume that all students will have access to a digital camera for use in assignments.

**Teaching Assistants**

There are 11 Teaching Assistants for the fall offering of CS147 and its smaller equivalent, CS77. Here are their names and office hours.

* Rio Akasaka, *Thursday 10:30am - noon at Meyer 2nd floor*
* Katherine Chen, *Wednesday 4:00 - 5:30pm at Meyer 2nd floor* // exception 10/7's OH will be 7-8:30
* Julie Fortuna, *Wednesday 4:00-5:30pm at Bytes*
* Kevin Ho, *Tuesday 3:30 - 5:00pm at Bytes*
* Joy Kim, *Wednesday 10:30 - noon at Bytes*
* Sam King, *Wednesday 7:00-8:30pm at Tresidder Lair*
* Kathryn Papadopoulos, *Monday 4:00-5:30pm at Bytes*
* Vidya Ramesh, *Monday 12:30 - 2:00pm at Bytes*
* Sébastien (Robi) Robaszkiewicz, *Tuesday 11:00 - 12:30pm at Bytes*
* Joel Sadler, *Monday 4-5:30pm at Bytes*
* Arvind Satyanarayan, *Monday 10:30am - noon at Bytes*

**Calendar**

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| **Week** | **Monday** | **Wednesday** | **Assignment** |
| 1 | *September 24* Course introduction [[slides]](http://spark-public.s3.amazonaws.com/hci/slides_pdf/2012/cs147-2011-01-intro.pdf) | *September 26* Lecture: Introduction   * 1.1 Human-Computer Interaction * 1.2 The Power of Prototyping * 1.3 Evaluating Designs * 1.4 The Birth of HCI | Assignment 0: Waiting in Line *Due Thursday, 9/27/2012, 11:59 pm PDT* |
| 2 | *October 1* Lecture: Needfinding   * 2.1 Participant Observation * 2.2 Interviewing * 2.3 Additional Needfinding | *October 3* | Assignment 1: Needfinding *Due Thursday, 10/4/2012, 11:59 pm PDT* |
| 3 | *October 8* Lecture: Rapid Prototyping   * 3.1 Paper Prototyping and Mockups * 3.2 Wizard of Oz * 3.3 Video Prototyping * 3.4 Creating and Comparing Alternatives | *October 10* **Quiz 1** | Assignment 2: Prototyping *Due Thursday, 10/11/2012, 11:59 pm PDT* |
| 4 | *October 15* Lecture: Heuristic Evaluation   * 4.1 Heuristic Evaluation — Why and How? * 4.2 Design Heuristics (Part 1/2) * 4.3 Design Heuristics (Part 2/2) | *October 17* | Assignment 3: Heuristic Evaluation *Due Thursday, 10/18/2012, 11:59 pm PDT* |
| 5 | *October 22* Lecture: Mental Models and Distributing Cognition   * 5.1 Mental Models * 5.2 Representations Matters * 5.3 Distributing Cognition | *October 24* | Assignment 4: Skeleton and a Plan *Due Thursday, 10/25/2012, 11:59 pm PDT* |
| 6 | *October 29* Lecture: Visual Design and Information Design   * 6.1 Visual Design (Part 1) * 6.2 Visual Design (Part 2) * 6.3 Information Design (Part 1) * 6.4 Information Design (Part 2) * 6.5 Information Design (Part 3)   **Quiz 2** | *October 31* | Assignment 5: Meat on the Bones *Due Thursday, 11/1/2012, 11:59 pm PDT* |
| 7 | *November 5* Lecture: Designing experiments   * 7.1 Designing Studies That You Can Learn From * 7.2 Assigning Participants To Conditions * 7.3 Comparing Rates * 7.4 Running Web Experiments * 7.5 Running Web Experiments * 7.6 Running Web Experiments * 7.7 In-Person Experiments | *November 7* | Assignment 6: Ready for Testing *Due Thursday, 11/8/2012, 11:59 pm PDT* |
| 8 | *November 12* | *November 14* | Assignment 7: User Test Results and Online Test Proposal *Due Thursday, 11/15/2012, 11:59 pm PDT* |
| 9 | *November 26* **Quiz 3** | *November 28* | Assignment 8: Fit and Finish *Due Thursday, 11/29/2012, 11:59 pm PDT* |
| 10 | *December 3* | *December 5* | Assignment 9: Online Test Results and Final Presentation *Due Thursday, 12/6/2012, 11:59 pm PDT*  **Final Presentations** *Friday, 12/07/2012, 4-6 pm* |

**About Scott Klemmer**

Scott Klemmer is an Associate Professor of Computer Science at Stanford University. He co-directs the Human-Computer Interaction Group and holds the Bredt Faculty Scholar development chair. Organizations around the world use his lab's open-source design tools and curricula; several books and popular press articles have covered his research and teaching. He has been awarded the Katayanagi Emerging Leadership Prize, Sloan Fellowship, NSF CAREER award, Microsoft Research New Faculty Fellowship, and several best paper awards at the premier HCI conferences (CHI and UIST). His former PhD students are leaders at top universities, research organizations, in Silicon Valley, and social entrepeneurship. He has a dual BA in Art-Semiotics and Computer Science from Brown University, Graphic Design work at RISD, and an MS and PhD in Computer Science from UC Berkeley. He is the program co-chair of UIST 2011.

*Office Hours:* Wednesdays, 3:45‑5:30pm at Gates 384