

# *User Interface Design, Prototyping, and Evaluation*

## *CS 160 - Fall 2002*

**Lecture: Monday and Wednesday, 10:30-12, 405 Soda**

**Discussion: Th 9-10AM and 10-11AM, 320 Soda**

### **Course Website**

<http://www.cs.berkeley.edu/projects/io/courses/cs160/fall2002>

### **For the First Week...**

- You are required to fill out the appeals form with an attached sheet explaining why you want to take this class. You must turn it in **no later** than Thursday the 29<sup>th</sup> at noon. You may give the completed form to any one of the cs160 teaching staff, or leave them in Prof. Mankoff's mailbox outside of 681 Soda Hall. We will announce the appeals on Friday at 5 pm.
- Both the first and second assignments are due next Wednesday, September 4<sup>th</sup>. Consult the course website for more information regarding the assignments.
- Wednesday's class will be cancelled if the strike is still ongoing. Check the class website on Wednesday after 9am for a final decision on this. The makeup class is on Thursday during discussion from 9-10 am or 10-11 am at 320 Soda. You may come to either session, but it is required.
- Also note that you are required to participate in a service learning activity Saturday, September 7<sup>th</sup>. Consult the section on Volunteer Work in this syllabus for more info.

### **Course Description**

CS 160, or Human Computer Interaction, is a class where you will learn to prototype, evaluate, and design a user interface. You will be expected to work with a group of three other students in this project-based course, and you will be asked to choose exactly what application to build based on interviews with users who you select. Throughout the course of this project, you will work closely with users.

### **Contacting the Teaching Staff**

**Professor:** Jennifer Mankoff, EECS  
(510) 643-4205 (preferred); [jmankoff@cs.berkeley.edu](mailto:jmankoff@cs.berkeley.edu)

**Office & Hours:** 681 Soda Hall. M, Th 4-5 (until Labor Day). After Labor Day, TBA

**Head TA:** Anoop Sinha, [aks@cs.berkeley.edu](mailto:aks@cs.berkeley.edu)  
Office Hours: TBA

**Assistant TA:** Gary Hsieh, [garyh@eecs.berkeley.edu](mailto:garyh@eecs.berkeley.edu)  
Office Hours: TBA

- Prof. Mankoff, the TA and the assistant TA will all hold regular office hours (listed above). Each of us has different preferred contact methods. Prof. Mankoff prefers phone to email, if you send her an email, it should only contain yes or no questions.
- A class ombudsman will be assigned during the first week. He or she will have the responsibility of letting the teaching staff know of any student concerns that are not being met. Feel free to let him or her know about any problems
- Students with disabilities should contact the instructor to discuss any accommodations that are necessary
- We will keep you informed about important announcements by posting them at the front of the class home page.

## Preamble

CS160 is concerned with the design, evaluation, and use of applications. In contrast, most of the other classes in Berkeley CS focus on the inner workings of technology. You will make use of technology to develop your applications, but you will not learn about technology in particular. The skills you develop, while not directly relevant to other computer science courses, will be useful wherever you go after Cal.

CS160 is an upper division course, and one of few where you will work extensively on one, independently chosen project. To participate fully in this course, you are required to have taken CS 61B. Additionally, you must be majoring in cognitive science or computer science. CogSci C100/Psych C120B is required for cognitive scientists. Statistics or Psych 101 are optional, but relevant classes, as are a variety of upper division computer science classes including 169, 182, 184, 186, 188, or 195.

You will be expected to actively participate in lectures, complete readings ahead of time, and, most importantly, participate equally and fully in your group project. The teaching staff will promptly return graded homework to you, and will be available to provide feedback and help with problems.

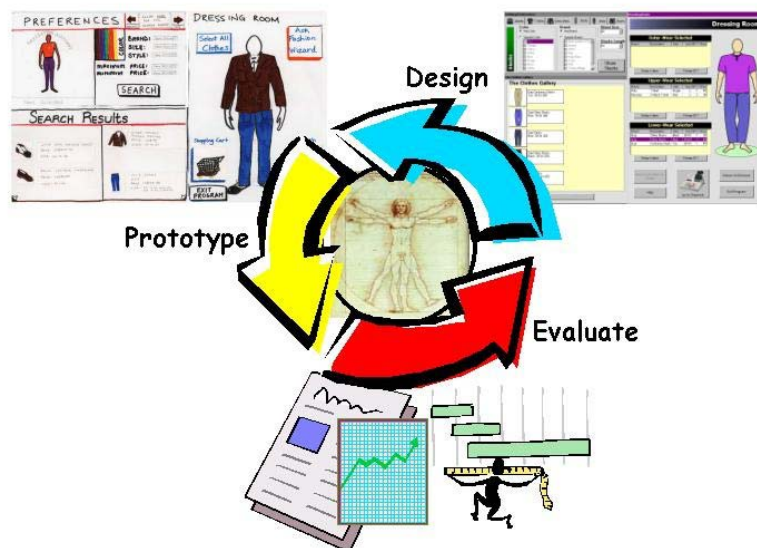
In the future, you will often have to design interfaces for people who work and live in significantly different environments from the one you are accustomed to. In order to create a realistic difference between you and your users, you will be required to work on an application for a specific group of people, none of whom are students. You will get to know these people through a **required** weekend activity during the second weekend of the semester. More information on timing will be provided before the first day of class.

Computers have the potential to change people's lives for the better, or for the worse. As computer scientists, and interface designers, we can have a big impact on which happens. Although this course focuses on interface design, HCI is also about functionality, and the context in which that functionality is provided. We have a responsibility to understand the impact that technology will have on people and society, and to design with that in mind.

## Aims and Objectives

When you complete this class, you will be equipped to assess the utility of an interface using one of several different evaluation techniques. You will understand the phases of the design life cycle, and what development and evaluation tools are appropriate to each phase. You will see first-hand the impact of human capabilities on interface design, and the impact that HCI can have on people.

On the right is an image of the design life cycle. Each phase feeds into the next, and the cycle repeats. In this class, we will start with evaluation, through surveys and interviews of potential users. Next will come a design, your project proposal. You will prototype, followed by further evaluation, design, another prototype and so on. In the center of the image is Leonardo DaVinci's image of a person in a circle, the user who is at the center of all this effort.



## Assessment

CS160 includes both group and individual assignments. Much of the grading in this class is qualitative, including assessments of the end user experience of the system and the quality of your designs, evaluations, and prototypes. Grading will be done by the instructor, TA, and assistant TA.

- You will be expected to read papers regularly, and to come to class with prepared answers to discussion questions.
- You will be expected to turn in written documentation at each stage of your group project. You will also turn in working code twice. Each group member will help to give an oral presentation about your project. There will be two in-class exams (a midterm and a final).
- Group assignments will be turned in on the Swiki (<http://kettle.cs.berkeley.edu/cs160-fall-02>). Individual assignments will be handed in on paper at the start of the lecture during which they are due, and emailed to the head TA ([aks@cs.berkeley.edu](mailto:aks@cs.berkeley.edu)), or turned in on the Swiki in some cases.
- Group assignments may not be turned in late. Individual assignments will lose one grade point per day they are late.
- If a group member is not participating, the entire group must meet with the teaching staff. If, after another week, things have not improved, the group may vote him or her out. Similarly, a group member may choose to leave a group if, after meeting with the entire group, and waiting a week, the situation has not improved. Members who leave for either reason will be responsible for finding a new group to join.
- If you have a question about a grade, you should meet with the TA. You may come to the professor if the issue cannot be resolved with the TA's help.
- Cheating will not be tolerated, and will get you an F in the class.

Grading will not be on a curve. Your grade will be a combination of:

- midterm (15%)
- final (20%)
- individual assignments (20%)
- group project (40%)
  - demos/presentation (group component)
  - project write-ups and exercises
  - ratings given by other team members & class
- in class participation (5%)

## Volunteer Work

As part of this class, you are **required** to participate in a service learning activity outside of regular class hours. Each time it is taught, we select a different theme. For example, last spring, students met with disabled women from the community in a day-long seminar that provided inspiration for projects. We have scheduled this semester's service-learning activity for Saturday, September 7th from 9am-1pm. Contact the instructor if for some reason you cannot make this time.

On Saturday, Sept. 7th, you will be working in the soup kitchens of the Berkeley Food & Housing Project. The Berkeley Food and Housing Project (BFHP) provides food, housing, case management, resource counseling and other support services to Berkeley's homeless population through its programs. The programs range from a MultiService Center to permanent housing for mentally disabled adults.

The purpose of this volunteer activity is to orient you towards the needs and roles of different people involved in low income and homeless food and housing. By taking part in an activity at the Berkeley Food & Housing Project, you will gain deeper insight into several roles that may have been previously unfamiliar to you than is possible through straight observation, and make contact with potential participants in your eventual group project.

## **Textbook and other expenses**

All of the readings used in this course will be provided free of charge. Although there is no textbook, we have put supplementary material that may be of interest to you on reserve in the engineering library. Details are provided in the list of readings.

You may wish to offer your users incentives to participate in your evaluations, such as food or a gift certificate. This expense is your choice and your responsibility.

## **Additional Information**

We expect to include at most 50 students in this class, from both CS and Cognitive Science backgrounds. Although these differing backgrounds present a challenge, we believe the benefits are worth it. Over the years, students in CS160 have completed amazing projects. Graduates who took this course have told us that it helped them to get and to succeed in their jobs. We are looking forward to working with you on your projects, and seeing what you accomplish!