Cognitive Science 102C: Cognitive Design Studio (6 credits)
Advice

Why do so few people make significant contributions?
Is it luck?
What is the difference between those who do and those who might have done?
If you think you can’t almost certainly you won’t

Why not do significant things and really first class work?
Have you ever done your absolute best in a course?
Are you making maximum use of being a member of the UCSD community?

Advice:
Prepare yourself. The time to start is now.
Do what you love and learn to love what you do
To do significant things you have to neglect other things
Be careful about commitments but when you commit really do it
Take time to think important thoughts
Be especially careful about who you spend time with
Introductions

**Professor:** Jim Hollan

*Office Hour:* Wed 9:00-10:00
and by appointment in 159 CSB
or DCOG-HCI Lab (SSRB 100)

*Email:* hollan@cogsci.ucsd.edu

*Web:* hci.ucsd.edu/hollan

*Lab:* hci.ucsd.edu

*Blog:* professorhollan.blogspot.com

**Grad TAs:** Adam Fouse
and Nancy Renner

**Undergrad IAs:** Jenny Chang,
Garron Engstrom, Paul
Nguyen, Alan Tran, and
Samantha Tse

**Project Advisors:**

*Postdoc:* Nadir Weibel
*Grad:* Anne Marie Piper
*Undergrad:* Matt Soave

**Email Instructors:**

102C@hci.ucsd.edu

Use this email for all course-related communication.
Textbook:

Rapid Contextual Design: A How-To Guide to Key Techniques for User-Centered Design

Readings this week:

UCSD Policy on Integrity of Scholarship

Ch. 1 Introduction

Ch. 2 Planning Your Rapid CD Project
Wiki: cogsci102c.wetpaint.com

Cognitive Design Home

Professor:
Jim Hollan
Office Hour: Wednesday 9:00-10:00 & by appointment.
Office: 159 Cognitive Science Building

Graduate TAs: Adam Fousa and Nancy Renner
Undergraduate IAs: Jenny Chang, Garron Engstrom,
Paul Nguyen, Alan Tran, and Samantha Tse

Textbook:

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Post Doctoral Advisor: Nadir Weibel
Graduate Student Advisor: Anne Marie Piper

Email Instructors:
102C@hei.ucsd.edu

This is a project-based course focused on the process of cognitive design. Students work in teams to design and evaluate a prototype application or redesign
This is a project-based course focused on the process of user-centered system design

- Students work in teams to design and evaluate a prototype application or redesign an existing system based on data from users.

- The goal of the course is to create opportunities for you to practice the skills required for effective user-centered design.
  - Cognitive design principles and practices have wide applicability.
  - While projects often focus on human-computer interaction applications, projects in many other areas also fit well with the goals of the course.

- We will discuss potential projects over the next two weeks.

- **You must commit to a project team by the third week.** Each project team will have 6-10 members.

- This is a very time consuming course. Capes for most of our courses list hours/week in the range from 3-5. For 102C it is typically 10-15. We recently increased credit from 4 hours to 6 hours.
Consider Dropping Course

- If you haven’t taken 102A and 102B
  - Need approval if haven’t taken 102A and 102B
  - 102C will be a better course for you if you have complete these two courses first
  - 102C is intended to be a capstone design course

- If you don’t have time to invest in a projects-based course
  - Not like other courses that you can do in spurts
  - Projects are extremely time consuming
  - You have to work consistently throughout the quarter

- If you don’t want to learn to participate in a fairly large team
  - Working in a team and coordinating activities is challenging
  - Teams can be frustrating, especially if others don’t contribute their fair share
  - Challenging issues associated with joint presentations and papers
Individual and Group Portfolios

- You will maintain a personal wiki page on the class wiki to document your course-related activities. You should post to it at least weekly by Sunday evening. Start this week. It will be a personal portfolio documenting your work.
  - Typically it will be a summary of what you did on your project during the past week and your plans for the upcoming week
  - At times it might focus on a problem you are confronting so that the instructors and others on your project team might be able to offer suggestions
  - Over the quarter it should serve to summarize the state of the project and document the contributions you are making.
- After groups form, you will move your wiki page under your group’s project page and continue to post each week
Project Updates and Issues

• We will devote some class time each week to informal project updates and to issues raised on the wiki.

• Once your projects are underway each group will present updates of their project and plans.

• There will also be a final presentation of your project at the end of the quarter.
Project Paper

• Another important part of the course is writing a paper describing your project.

• Although you will work in a team on your project, you have options in how you write the final paper
  – You can elect to write your final paper collaboratively, submitting one paper as a team.
  – You also have the option of writing it individually or working in smaller groups to write the final paper.

• Improving your writing skills is extremely valuable.
  – Clear writing goes hand in hand with clear thinking.
  – Your goal is to produce a crisp clear conceptually sound paper.
  – To accomplish this you need to structure the paper to help the reader understand what you did, why you did it, and what they can conclude about what you did.
  – Write with precision and clarity
Grading

25% Your participation as documented in your personal and group wiki updates, judgments of TAs/IAs, and summary judgments of your and other group member participation

25% Two Midterm Exams (April 14 and May 12)

25% Final Project Presentation to Class

25% Final Paper
Projects

User-centered design necessitates that you look closely at people, their activities, and the communities of practice in which they participate.

– Thus a primary project requirement is access to a community of users.

– You also need to ensure that your project is of a scale that can be finished within a quarter.
Project Constraints

In order for the class to function well we need to impose some restrictions. The following constraints will aid us in coordinating class projects:

• **We need to minimize the number of general topic areas for projects.** By general topic area we refer to collections of projects that are similar in the background information and support they require. The purpose of focusing in a few areas is to allow us to bring in appropriate readings and cover topics in class that are relevant to your projects.

• **We definitely want multiple project groups in each general topic area.** Ideally there will be between three and five groups in each of the topic areas. This can be quite useful since groups can share data and other information they collect. It makes class presentations and discussions more interesting.

• **We need to limit the total number of groups to make the class manageable.** This will ensure we have sufficient time to provide consulting and other support services to the groups. Limiting the total number of groups means each group should have at least seven members. The suggested size is 6-8.
Project Issues

One crucial decision is arranging a weekly meeting time for your project team.

– We require you to meet on campus during the day. This will assist the TAs and IAs to serve as consultants to your project.

• One of the **absolute requirements for the formation of a group** is mutual agreement on a weekly meeting time and location.

  • 9:00-9:50 Wednesday WLH 2209, 2113, 2207
  • A fixed weekly meeting time on campus is absolutely essential
  • Your meeting time must be set in stone and not altered
  • Groups will also need to meet at additional times each week
Example Projects: Website Redesign

Over the years we have sometimes focused on website redesigns

Project groups have redesigned websites for:

– Department of Cognitive Science
– Career Services
– StudentLink
– California Digital Library
– An experiment sign-up site for the Department of Psychology
What is Cognitive Science?

Faculty Appointment Available.

People

Email Us

Course Offerings

Interdisciplinary Program

Seminars & Talks

Tech Reports & Software

CogSci Department Only
(Accessible only from a CogSci department computer).

Student Cognitive and Neuroscience Society (SCANS)

Links to Cognitive Science Sites

UCSD  Cognitive Science  Mailcode 6616  9500 Gilman Drive  La Jolla, CA 92037-0515
Voice: (619) 534-4771  FAX: (619) 534-1126  Email: webmaster@cogsci.ucsd.edu  Cogsci WWW server usage stats

Nov 6, 1997 What’s New

1997

COGNITIVE SCIENCE
University of California at San Diego

1997

COGNITIVE DESIGN STUDIO

1997

COGNITIVE SCIENCE
University of California at San Diego

1997
ECL Laboratory

WITH THE FUTURE BEHIND THEM

Analysis of the language and gesture of South America’s indigenous Aymara people indicates a reverse concept of time. Contrary to what had been thought a cognitive universal among humans - a spatial metaphor for time that places the future ahead of oneself and the past behind - the Amerindian group from the Andes locates this imaginary abstraction the other way around: with the past in front of them and the future behind. The study, published in the current issue of the journal Cognitive Science, was led by Embodied Cognition Laboratory director Rafael Núñez.

For details on the research study, see This Week@UCSD or the UCSD NewsRelease. The research was also featured in articles in:

- New York Times
- San Diego Union-Tribune
- Science
- NPR's "Living on Earth"
- BBC World Service
- CBC’s/NPR’s "As It Happens"
Congratulations to Distinguished Professor Marta Kutas who has been elected a Fellow of The Society of Experimental Psychologists, the oldest and most prestigious honorary society in Psychology. The Society elects only a handful of new Fellows each year, and Fellows are elected for Life. ...

199s for Spring 2010:

Ethnographic Study of Cooking
Contact: David Kirsh
Ethnographic study of people cooking in their own and different kitchens. We manipulate the way the recipe appears and

Upcoming Events
Thu April 15th
Qualcomm Seeking Cognitive Science Summer Intern
From: Michelle Vavra
Cognitive Science Undergraduate Students:
Qualcomm is seeking a cognitive science
Career Services
Career Services

Your connection to jobs & graduate education

INFORMATION FOR:
Alumni
Recruiters/Employers
Faculty and Staff
Parents
Contact Us

News Flashes!

» Learn it in the nation’s capitol. UCDC Info Session, 4/1 11a-12p in the Horizon Room.
» Announcing the Triton Spring Job and Internship Fair! Over 140 companies in attendance. Wednesday, April 9th 10:30a-2:30p on Library Walk.
» Renovation! Check our Facebook page for updates & photos on our progress!

Career Exploration
Getting Started...
Advising
Career Portfolio
Career Workshops
Choosing a Major
Diversity Connections
Making Contacts
Occupational Information
Self-Assessment
Special for Alumni
Special for Grad Students
Survey of Recent Grads

Job Search
Getting Started...
Interviewing
Internship Resources
Job Fairs
Job/Internship Listings
On-Campus Interviewing
Peace Corps Opportunities
Resumes/Cover Letters/CV
Salary Information
Work-Study

Grad/Professional School
Getting Started...
Advising Appointments
Application Essays
Areas of Interest
Fairs: Law & Grad School
Financial Aid/Fellowships
Info Sessions & Panels
Law School Information
Med School Information
Rec Letters & Reference Services
Resources & Libraries
School Recruiter Visits

Center hours: Mon/Tue/Thur: 8:00am-4:30pm; Wed: 8:00am-7:00pm; Fri: 8:00am-2:00pm.
Career Services Center
A Department of Student Affairs

Career Information
Advising | Survey of Recent Grads | Majors to Careers
Research Specific Careers

Jobs & Internships
Internship SuperSite | Job Fairs | Interviewing
WSDM: Career Communication Guide

Professional or Graduate School
Areas of Study | Application Basics
Grad, Law, and Health School Fairs

Events
- Tuesday, March 30
  - 2:00pm  Obtaining an Internship
- Wednesday, March 31
  - 1:00pm  UCDC Info Session
  - 3:30pm  Ultimate Guide to Finding a Job

Spotlight
ALUMNI PROFILE
Profiles in Public Service
Past Projects: Device Interfaces

Over the years a number of excellent projects have focused on interfaces for devices

– Alarm clocks for students
– Parking ticket computer
– ATM
– Car radio controls
– Aerial robotics competition
– Home appliances (microwave, etc)
– PDAs
– Tablet PC
Past Projects: Information Displays

Over the years a number of excellent projects have focused on redesign of information displays

- Kiosk & Information Displays
  - Michael Bedar, Ecoparque in Tijuana

- Maps (campus maps available on ucsd.edu, csb maps)
Past Projects

One way to start is by identifying a problem

– Scheduling meetings
– Remembering passwords
– Meeting new people
– Staying in touch with friends
– Shuttle bus
– Parking
– Department or other organizational unit’s problems: staying in touch with graduates, schedule of talks and events, visits, spotlights of activities
IDEO: Deep Dive
Upcoming Assignments

• Assignment 0: Create an individual wiki page. You should post an update to this page at least weekly, starting this week. Posts should be made by Sunday evening each week.

• Assignment 1: By next Tuesday evening (4/5) add a page under the thoughtless acts page on the wiki with an example of a thoughtless act. Include an image, brief description, and any design idea it generates for you. Be sure to also include your name. IAs and TAs please also join in this exercise.

• Assignment 2: By next Monday evening (4/11) select an object that you think is particularly well designed, one you love to use. If convenient bring it to class next Tuesday (4/12). If not that is fine too. In all cases add a description of the object and your reasons for the selection on the Well-Designed Objects page of the wiki by Monday evening (4/11). Be sure to also include your name. IAs and TAs please also join in this exercise.
Assignment 1: Seeing as a Designer

Jane Suri + IDEO
thoughtless acts? book

Subtle, interesting, and amusing ways that people react to the world around them

Examining how people behave in a world rarely perfectly tailored to their needs.

A real-world observational approach that can inspire designers

thoughtlessacts.com
thoughtless acts

Reacting

We react automatically to the objects and spaces that we encounter
thoughtless acts

Responding

Some qualities and features prompt us to behave in particular ways
thoughtless acts

Co-opting

We discover opportunities
thoughtless acts

Exploiting

We take advantage of physical and mechanical qualities we understand
thoughtless acts

Adapting

We alter the purpose or context of things to meet our objectives
thoughtless acts

Conforming

We learn patterns of behavior from others in our social and cultural group.
thoughtless acts

Signaling

We convey messages and prompts to ourselves and other people.
thoughtless act assignment

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Andy Wilson, MSR, Natural, Analog Interactions with Surface Computing, Depth Cameras and Beyond

Today Thursday, March 31, 2-3pm, CSE 1202

Abstract: I will present a number of works that explore the use of sensing technologies such as Surface and Kinect to enable more natural interactions. A surprising outcome of advanced sensing technology as it is applied to Human Computer Interaction is that as we are able to model more with our digital tools, the more analog the interactions may feel. For example, while most of today’s “multi-touch” interfaces can be viewed as simple extensions of the traditional point-cursor interaction model, we show the image-based output of Surface and Kinect can be situated in a realtime physics engine to produce more natural and lifelike manipulation of virtual objects, simulating friction and collision effects in a realistic manner. I will also present LightSpace, a room instrumented with depth cameras and projectors which aims to transform every available surface into an interactive surface, thus generalizing Surface Computing to passive objects such as uninstrumented walls and tables, as well as our own bodies.

Bio: Andy Wilson is a Senior Researcher at Microsoft Research. There he has been applying sensing technologies to enable new styles of human-computer interaction. His interests include gesture-based interfaces, computer vision, inertial sensing, display technologies and machine learning. In 2002 he helped found the Surface Computing group at Microsoft. Before joining Microsoft, Andy obtained his BA at Cornell University in 1993, and PhD at the MIT Media Laboratory in 2000. Publications and videos of his work are located at http://research.microsoft.com/~awilson.