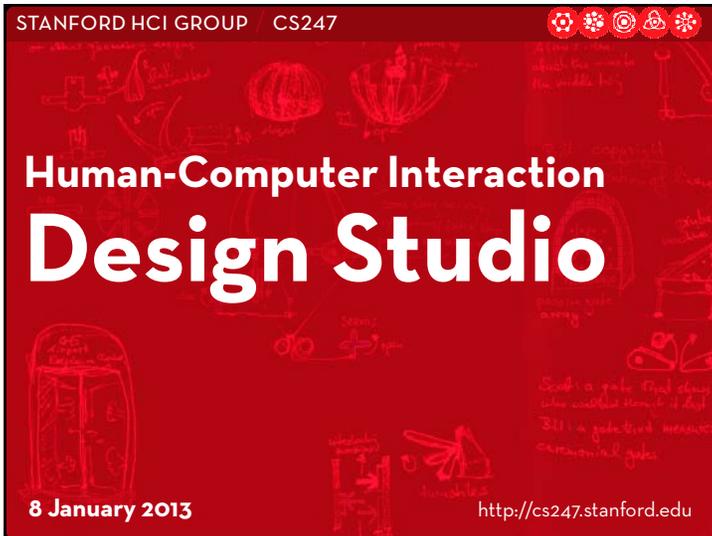


STANFORD HCI GROUP / CS247

Human-Computer Interaction  
**Design Studio**

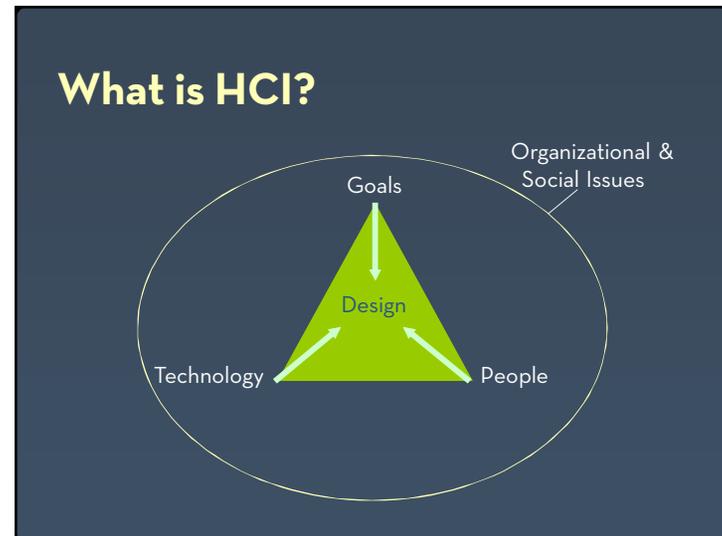
8 January 2013

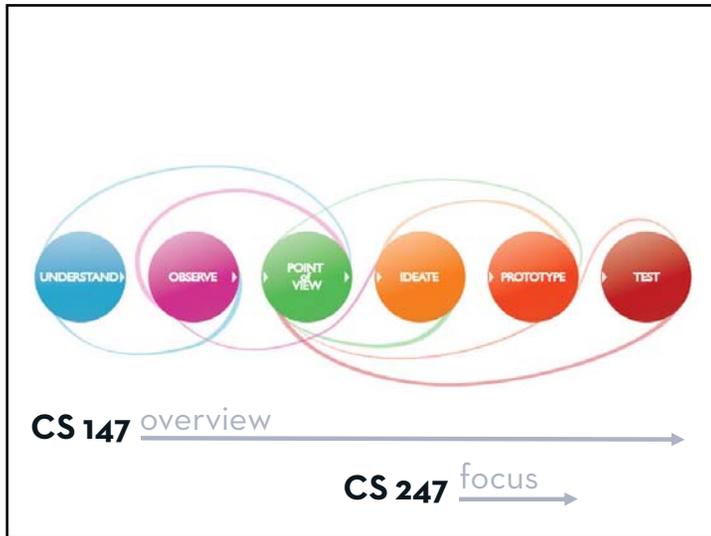
<http://cs247.stanford.edu>



Course Goals  
Course Staff  
Course Structure  
P1: Thoughtless Acts

**Course Goals**  
Course Staff  
Course Structure  
P1: Thoughtless Acts





**By the end of the class,  
you will be skilled at  
rapid ideation and  
prototyping for HCI.**

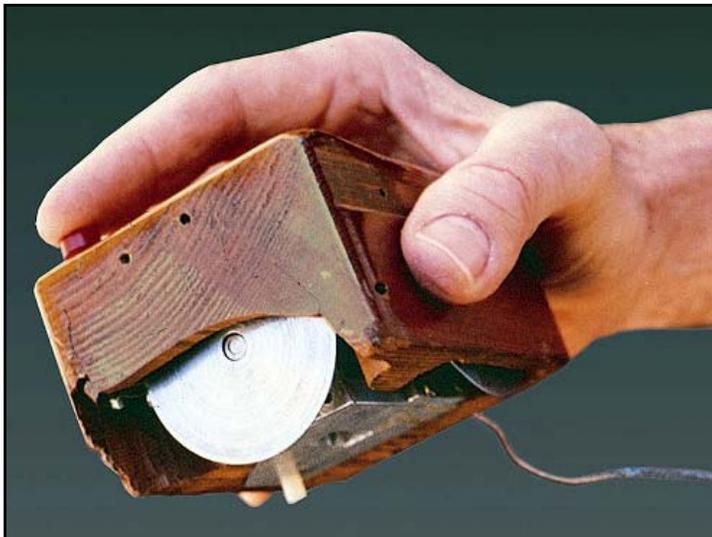
## Course Goals

Learn early-stage design skills  
User interfaces for novel domains  
Design studio learning environment  
Experiential (vs. task-based) HCI  
Rapid design iteration

## Stanford HCI Curriculum

- 147** Introduction to HCI  
*Learn the fundamentals of HCI*
- 247** Interaction Design Studio  
*Intensive, hands-on HCI design practice*
- 376** Research Topics in HCI  
*Learn HCI research landscape & frontier*
- 448B** Data Visualization and others...  
*In-depth study of specific HCI topics*

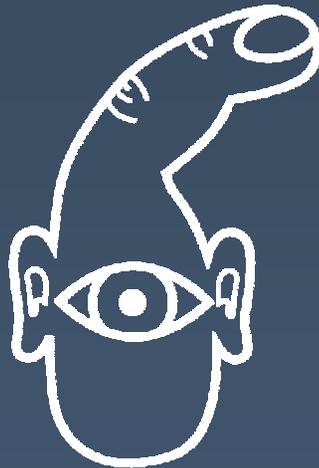
**Gestural interfaces:**  
novel interactive  
experiences using  
sensing technologies.



Navigator Video (1987)  
iPhone (2007)  
Siri (2011)



Microsoft Productivity Concept Video (2011)

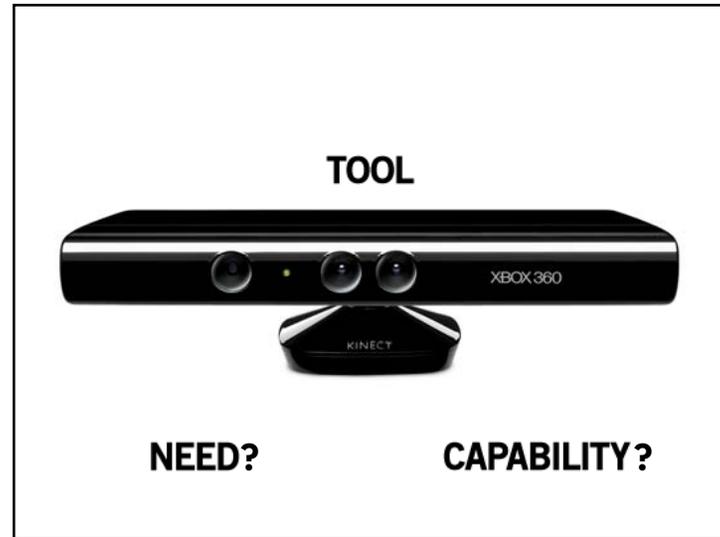
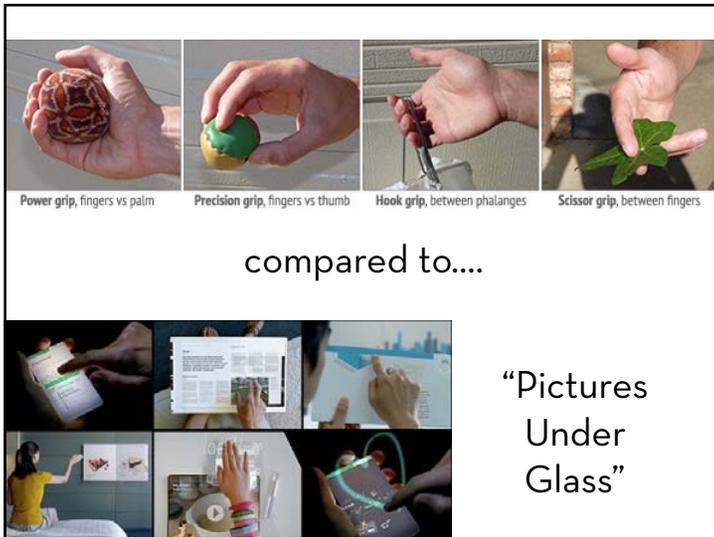
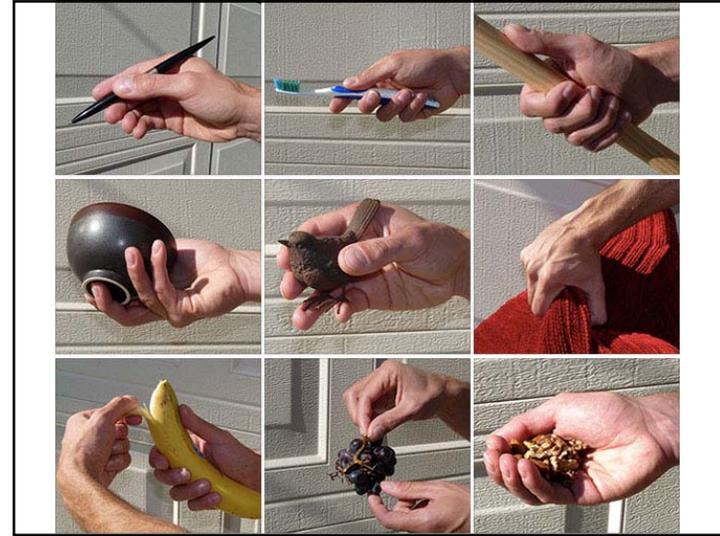
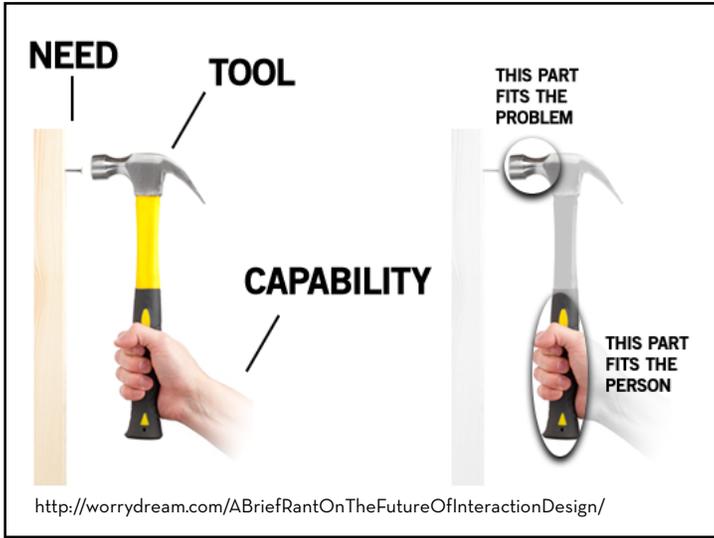


[O'Sullivan]

...this vision, from an interaction perspective, is *not visionary*. It's a timid increment from the status quo, and the status quo, from an interaction perspective, is actually rather terrible.

- Bret Victor

(p.s. Bret is speaking in CS547 on Jan 25)



How might we enable new interactions appropriate to the context of use?

What application domains are the most compelling?

What pitfalls lie in wait?

Course Goals

**Course Staff**

Course Structure

P1: Thoughtless Acts



**Jeffrey Heer**

Assistant Professor, Computer Science  
[vis.stanford.edu/jheer](http://vis.stanford.edu/jheer)



**Michael Bernstein**

Assistant Professor  
Computer Science  
[hci.stanford.edu/msb](http://hci.stanford.edu/msb)



Hi, I'm Arvind Satyanarayan.

arvindsatya@cs.stanford.edu

- I'm a 2<sup>nd</sup> year Ph.D. student working with Jeff.
- My research interests broadly cover visualization & web design, and collaborative multi-surface interaction. Sound interesting? Let's grab coffee!
- Office Hours: Wednesdays 4-5pm the iRoom (Gates B23).
- Bonus: I'm obsessed with all things Disney (which now, *marvelously*, includes Star Wars too!).



**About Molly:**

Class Year: Senior  
 Age: 21  
 Major: CS HCI Coterm  
 Current Dorm: Jerry  
 Freshman Dorm(s): Arroyo &Trancos (RA)  
 Hometown: Bellevue, WA  
 Favorite Class: Needfinding (ME216A)  
 Favorite CS Class: CS247!!!  
 Extra Curriculars: RA, Design Initiative, Section Leader, Club Soccer, IM Volleyball  
 Plans for after graduation: Google APM  
 Fun Fact: Spent the last 6 months in Europe (3 in Zurich as Google APM intern, 3 in Berlin doing BSOP Study Abroad)

Molly Mackinlay



Masters in  
 Computer  
 Science  
 HCI Specialization



**Vidya Ramesh**

ividya@stanford.edu

Course Goals

Course Staff

**Course Structure**

P1: Thoughtless Acts

## Class Sessions

Studio and critique  
Show and tell  
Lectures  
Guest speakers  
In-class exercises / sharing

## Lab Sections (1-unit, optional)

**Thur**  
**6-8pm in d.school Studio 1**

Will cover skills & technologies useful in class:

- Sketching
- Gestural User Interfaces
- Kinect Programming
- Video Production & Prototyping
- Advanced techniques that you request, e.g., Image, Speech, or Audio Processing

## Expected Background

**In general, there are no pre-requisites.**

However, we do assume:

Familiarity with HCI fundamentals (~CS147)

- Need-finding, prototyping, evaluation

Substantial programming ability (~CS106/7)

- Comfort learning and working with new languages, platforms, and APIs

## Assignments

**P1** Individual observation exercise - 2 days

**P2** Gesture controller - 1.5 weeks

**P3** Fieldwork & brainstorming - 1 week

**P4** Course project - 8 weeks

Prototyping & critique in studio sessions

Coaches from industry

Multiple testing cycles

**Final presentation** fair during finals week

## Grading

- P1** Thoughtless Acts (*individual*) 5%
- P2** Gesture controller (*group*) 20%
- P3** Interviews & brainstorming (*group*) 15%
- P4** Course project (*group*) 50%
- Course Participation** 10%

*But is design work inherently subjective?*  
We provide rubrics for each assignment to help.

Course Goals

Course Staff

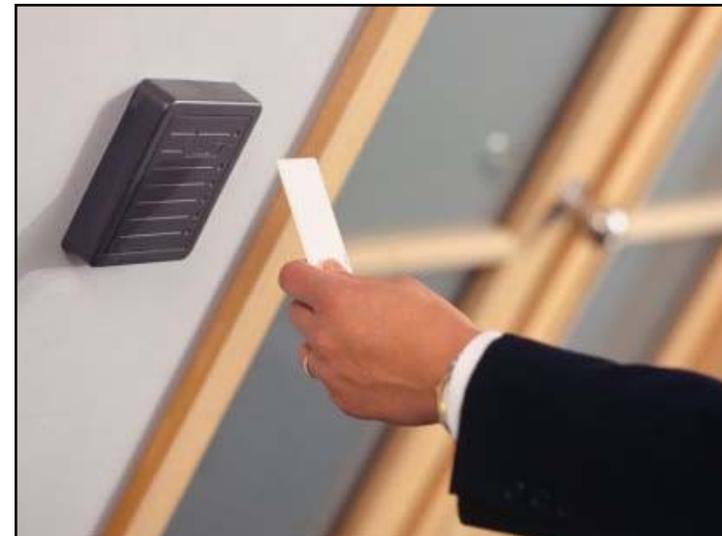
Course Structure

**P1: Thoughtless Acts**

## Thoughtless Acts

"... notice the subtle and amusing ways that people react to the world around them. These 'thoughtless acts' reveal how people behave in a world not always perfectly tailored to their needs and demonstrate the kind of real-world observational approach that can inspire designers..."

Jane Fulton Suri  
IDEO



## P1: Thoughtless Acts

The goals of this project are to:

- Become more sensitive to how people interact with the designed environment
- Recognize underlying needs that lead to improvisational behaviors
- Discovering design opportunities
- Use sketching to highlight an observation

## P1: Thoughtless Acts (due Thur)

Look around you for potential situations of design improvisation.

Choose a situation that you find most interesting in revealing people's unmet needs.

Take a photo that captures your example.

Draw a sketch that captures the essentials.

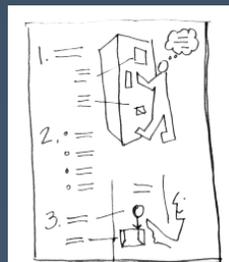
Brainstorm design opportunities.

## P1: Thoughtless Acts (due Thur)

Prepare an 11" x 17" poster including:

Your photo, sketch (with annotations as useful), a short description, and design opportunities.

Come to class prepared to display and discuss your poster. Use simple sketches and bold lettering; it should be easy to read from 4-6 feet away.



**(NOT) SMART MOTION SENSORS**  
by Clara Shih

**1. SITUATION/INTERACTION**  
STERN DINING HALL'S Juice Dispenser

**2. TASK GOAL**  
Student wants a cup of juice

**3. FACTORS**

- dining hall cups are the same size
- machine can't accommodate big cup
- button behavior is inconsistent
- buttons are deceiving, confusing
- different conceptual models

**4. IMPROVEMENTS**

- fewer buttons
- automatic start/stop buttons (color-coded)
- weight-sensitive sensors
- use words instead of pictures

**PROBLEMS:**

- NO WARNING PRIOR TO SHUT-OFF
- NO LIGHTS TO INDICATE WHEN TO TURN OFF
- NO LIGHTS TO INDICATE WHEN TO TURN ON
- NO LIGHTS TO INDICATE WHEN TO TURN OFF
- NO LIGHTS TO INDICATE WHEN TO TURN ON
- NO LIGHTS TO INDICATE WHEN TO TURN OFF
- NO LIGHTS TO INDICATE WHEN TO TURN ON

**POSITIVE FEEDBACK:**

- STUDENTS' EXPECTATION THAT LIGHT SENSORS AREN'T AUTOMATIC

**ADDITIONAL NOTES:**

- STUDENTS' EXPECTATION THAT LIGHT SENSORS AREN'T AUTOMATIC

## Enrollment

A **course application** is at [cs247.stanford.edu](http://cs247.stanford.edu)

If you have not responded to the application yet, please do **as soon as possible**.

We have reviewed all submitted applications and will send enrollment updates late tonight.

Enrollment will include 80 students plus an ordered waitlist. If you are on the waitlist, we encourage you to participate in lecture & P1.

## Next Steps

### Thursday Lecture

Bring in P1 posters for sharing and review.

### Lab Section Thur 6-8pm (recommended!)

Sketching w/ Bill Verplank. Bring a sketch book!

## Course Q & A

CS247 Q&A Forum on piazza.com:

[piazza.com/stanford/winter2013/cs247](http://piazza.com/stanford/winter2013/cs247)

For questions likely to be of interest to other students (e.g., clarification or guidance on projects), please **post to the online forum**.

More sensitive questions should be sent to the course staff at [cs247@cs.stanford.edu](mailto:cs247@cs.stanford.edu).

Questions?



# Haikus

Haikus are easy  
but sometimes they don't make sense  
refrigerator.

Switched to HCI  
Now I take classes I love  
Hashtag follow dreams

Computer say what?!?!?  
User doesn't understand...  
Me take class fix now.

Panic

need to graduate  
please, let me into the class,  
computer science

Graduation Time  
Blossoms With Hope But I Fear  
No Design Ruins Me

Questionable  
Haiku Status

**if istaken(cs247) equals false:  
can't graduate! world ends 2012!  
puppy eyes kthxbai**

**I don't want to do  
anything with my life  
There's nothing that  
could bring me joy  
My life is over  
all because I can't  
take CS 247**

**Concerning  
Taste in Music**

**The U-G-H-B  
It says I must take this class  
So can I, maybe?**

Regarding Tools

**I can hardly wait  
To start working with sensors.  
The wait is ending!**

**I like the Kinect  
I only use terminals  
Someone save my soul**

On Design

**Excited to learn.  
Creating what never was  
using what has been.**

**Creative design,  
Beautiful applications,  
Joy in mastery**

**Learn powerful skill  
Design linking man and tech  
To create the unknown**

**Apps are everywhere  
But not all of them are good  
Interface is key**

**Moore's law holds steady  
Hardware changes rapidly  
But people do not**

**Need HCI 'cause  
though algorithms are great,  
need people to use.**

**Art and programming  
Married to augment our lives  
Create, learn, connect.**

**Parting Thoughts**

**science and art mix  
together to open a  
door to wonderland**

**the fingers that touch  
the face of my creation  
also touch my soul**

**A class that makes you  
write a haiku is a class  
worth taking for all.**