

Intro to Human-Computer Interaction Design

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<http://cs147.stanford.edu>

Here's how I got interested in HCI.

A public service announcement

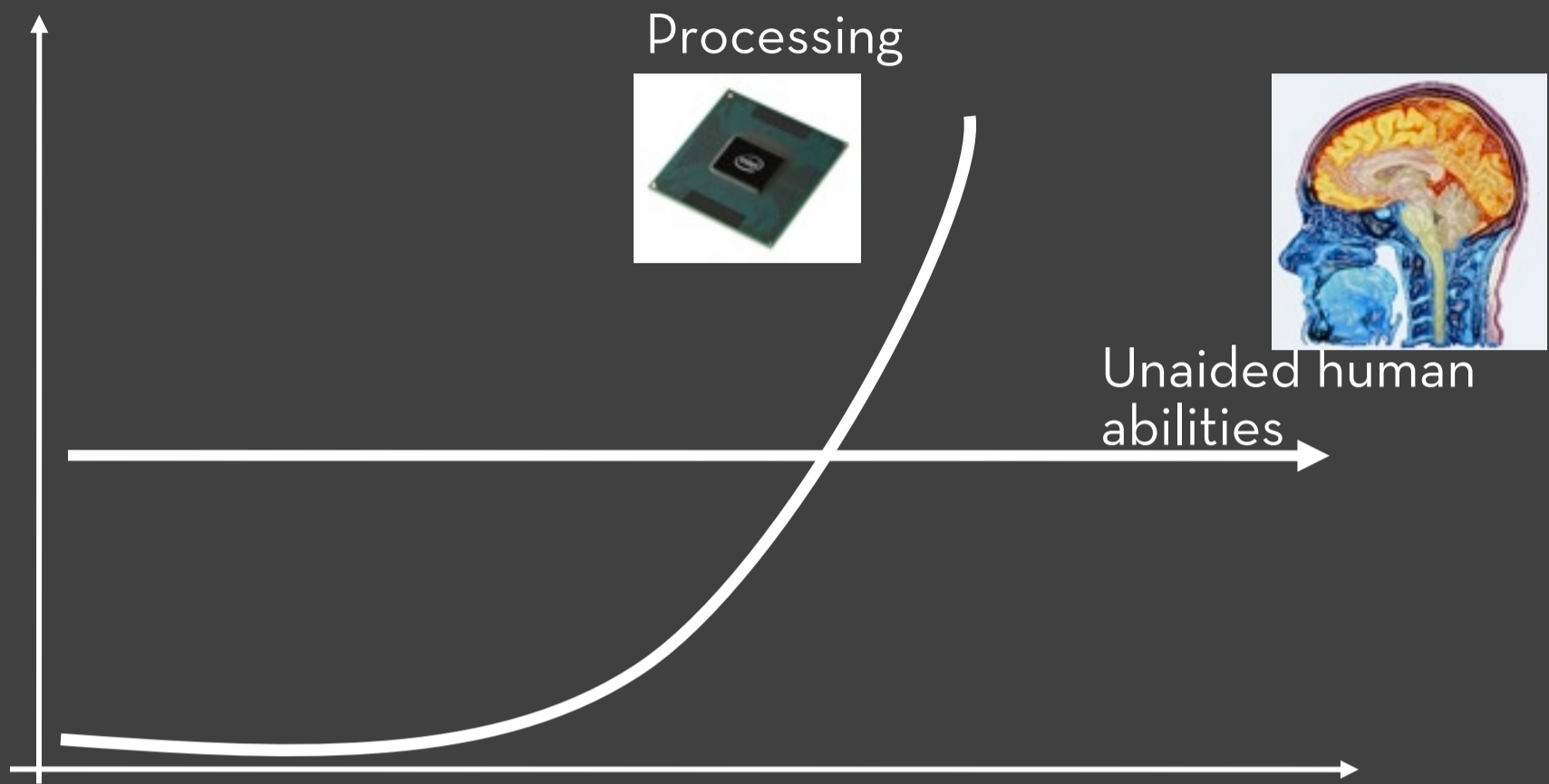
I can see you

Students that sit up front learn more

Students with computers out learn less

Note-taking can be valuable

Technology Trends



Thanks to Moore's law, we now have much more computing power, cheaper than we did 10 years ago. That stands in stark contrast with the human mind: the unaided mind is no smarter now than it was a decade ago. Any benefits to our human abilities come from design; we can think of our computers as cognitive prosthetics. And we can think of the field of human-computer interaction as being born out of these two lines crossing. When computing time is expensive and people time is relatively cheap, it makes sense for people to supplicate themselves to the machine and conform to how it works. But when computing is cheap and people time is relatively expensive, it's time to put those extra gigaflops to work for us. This is when design matters.



As computing expands beyond the developed world, it can be of particular value to both enable and understand how technology is being appropriated and adapted for local contexts. Genevieve Bell, an ethnographer at Intel, pointed me to a small example of this, that in Malaysia, there is now a mobile phone with an integrated compass. Why an integrated compass? To find Mecca of course! This phone does cultural work almost unimaginable in a western context.



Which gets us to the model of mobile computing that we don't want...

For 40 years, we've had the keyboard and mouse, which works great for desktop applications, but not so well for mobile ones.

Mobile Interaction Design

Many Design Choices

- Think different from GUI/Web
- Swiss army vs. dedicated
- Pen/speech modalities
- Integrate with other tasks
- Social apps

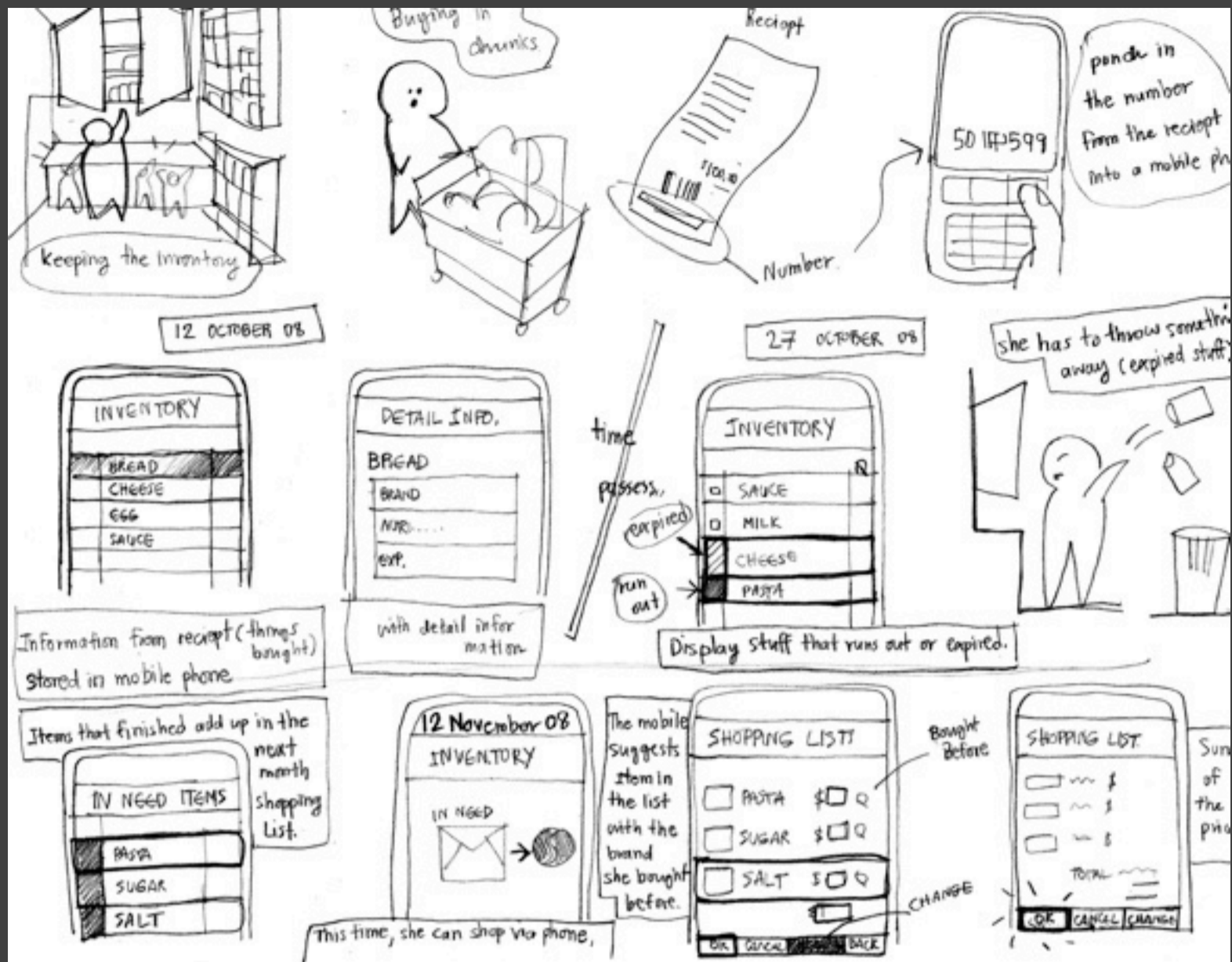
Always in your pocket

Observe



To get design ideas, students start out by doing fieldwork. These observation methods are similar to what an anthropologist would do, only instead of spending time in say Papua New Guinea, we're observing time when people do or could use mobile technology. Exercising, getting healthy food at the grocery store, singing practice, the science lab, even tour guides.

Storyboard / Paper Prototype

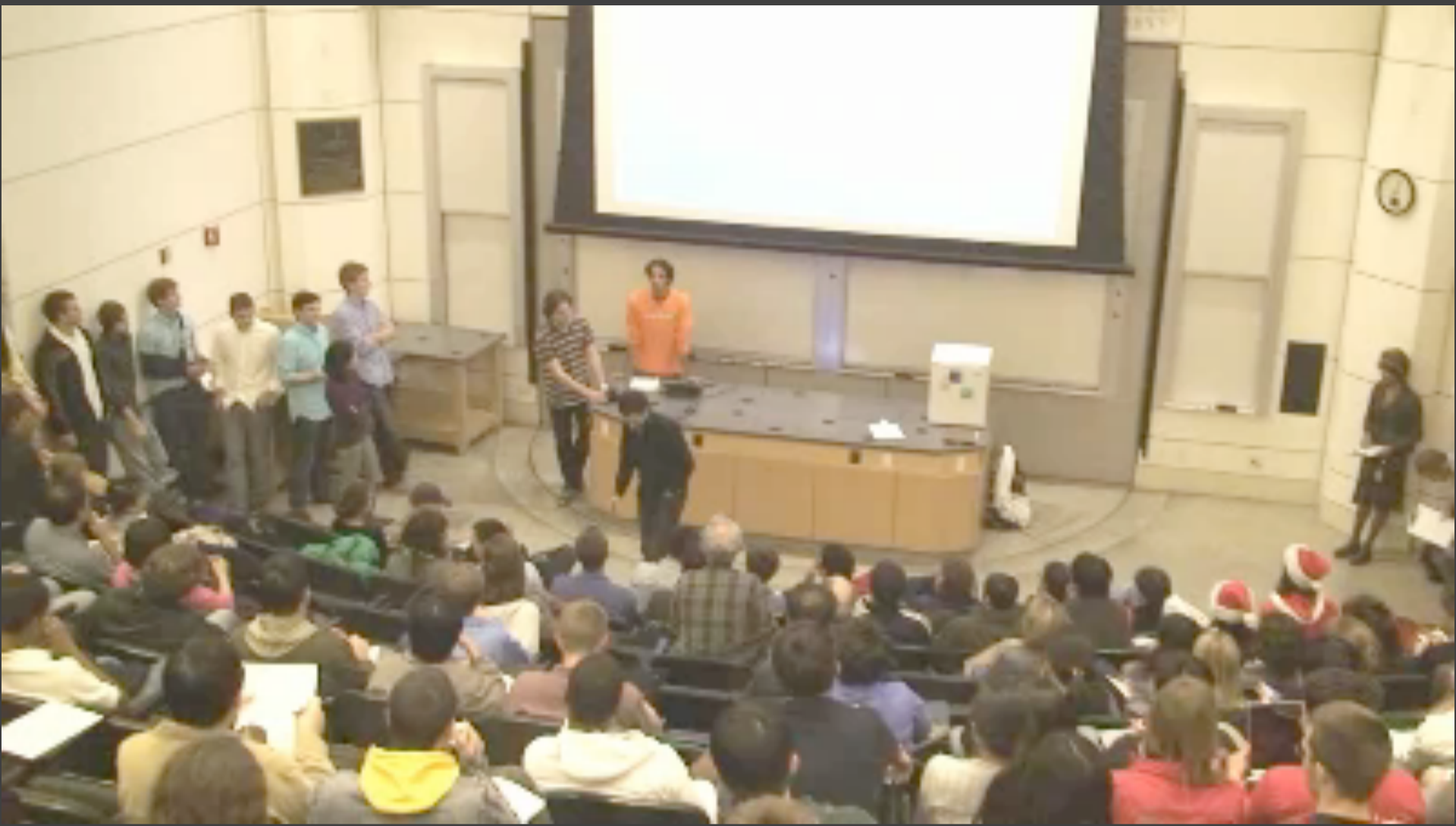


Early on, students create storyboards.

Then, they create a video prototype.
(I'll replace with a downloaded version)

User Testing





- How Did We Get Here?
- Course Outline
- TA Introductions

I'd like to do four things
today.

Course Values

- Designs are for people.
- In design, quality is not arbitrary. But it is contextual. It's about fit to a task
- People's ability to use a design is the ultimate test of its quality
- The best way I know to create good designs is:
 - Observe people and find an actual problem worth solving
 - Rapidly and iteratively create many prototypes
 - Create multiple prototypes in parallel to explore alternatives
 - Seek feedback from peers and users

This is daunting. We'll break down all the parts for you.

LECTURES

- Methods
 - Human-centered design, discovery, mobile, prototyping, design reviews
- Principles
 - Direct manipulation, representations, input, HII, Graphic Design, Information Design
- Evaluation
- Tools and the future

Readings

No textbook. Readings each week. Buy a course reader. (we'll get you started.)

In-class Exam

Thursday, November 12th

PROJECTS

Teams of 3

All teams are within studio
Find somebody with similar goals, who can work at similar times

Weekly Assignments

*Due online, Thursdays at
noon*

Platform

Mobile Web App

Background

CS106B or equivalent

You are responsible for assessing this; it is not enforced. We list the prerequisite because all students will need some fluency in building interactive systems to complete the project. Every student must do at least some of the implementation work. 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.

Lab Y2E2 111

Thursdays, 5:15pm-6:45pm

Place in Curriculum

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Studio

Declare preferences online

Experimental Participation

Grading

- Assignments (825 *points*)
- Midterm (125 *points*)
- Class/Studio Participation (50 *points*)
- Experimental Participation (*Pass/Incomplete*)

- To earn these grades, you must achieve at least these points:

A+	960	B+	860	C+	760
A	920	B	820	C	720
A-	890	B-	790	C-	690

Participation is participating in studio, lecture. Clearly, this will shift grades for someone.

Contacting Us

- My office hours: Tuesdays, 3.30p-5:00p
- For general questions
Post to cs147 general Google Group
- For technical questions
Post to cs147 tech Google Group
- For personal questions:
Email your studio leader

Visit me in office hours!

- What might you come talk about?

Your action items...

- By tomorrow @noon: Declare studio preferences online
- By thursday @noon: Submit ideation assignment

Assigned section time will be emailed to students by midnight on Wednesday (Thurs 12am)