Human-Computer Interaction
Design Studio

Jofish Kaye   **John C. Tang**

1 April 2014   http://cs247.stanford.edu

Course Staff

Course Goals

Brainstorming Exercise

Course Structure

P1: Thoughtless Acts

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Brainstorming Exercise

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P1: Thoughtless Acts

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Data viz
Ed-tech

Mon 10am
Meyer

Coursera
Google

Grace Kwan

Graham Roth
gsroth@stanford.edu
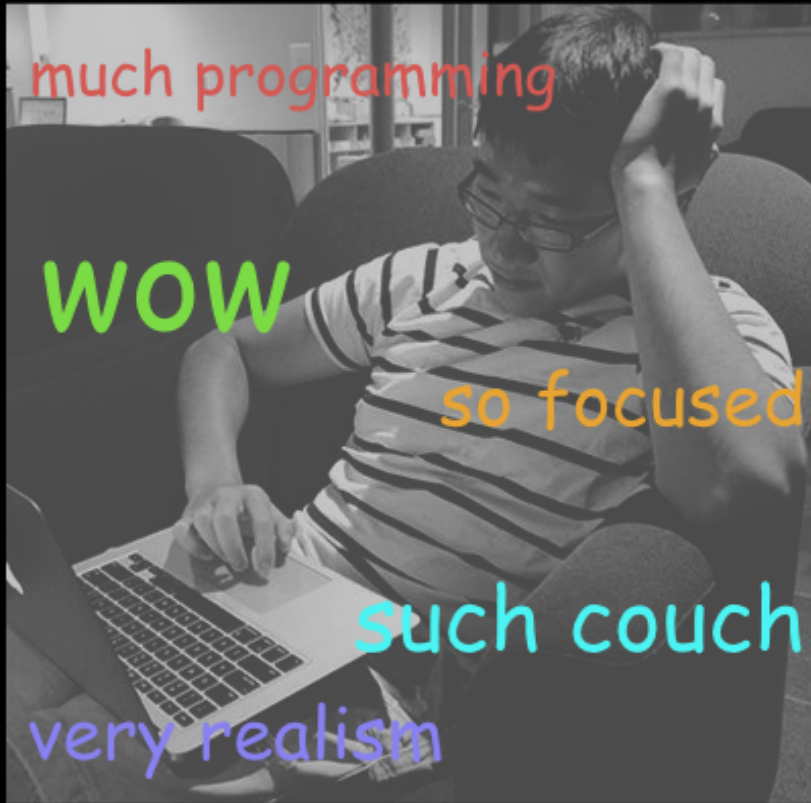
CSS Wizard

———

Photoshop Tinkerer

———

Builder of Things

———

Type Enthusiast

———

Actor

Boring UI Wang
borui@stanford.edu
stanford.edu/~borui
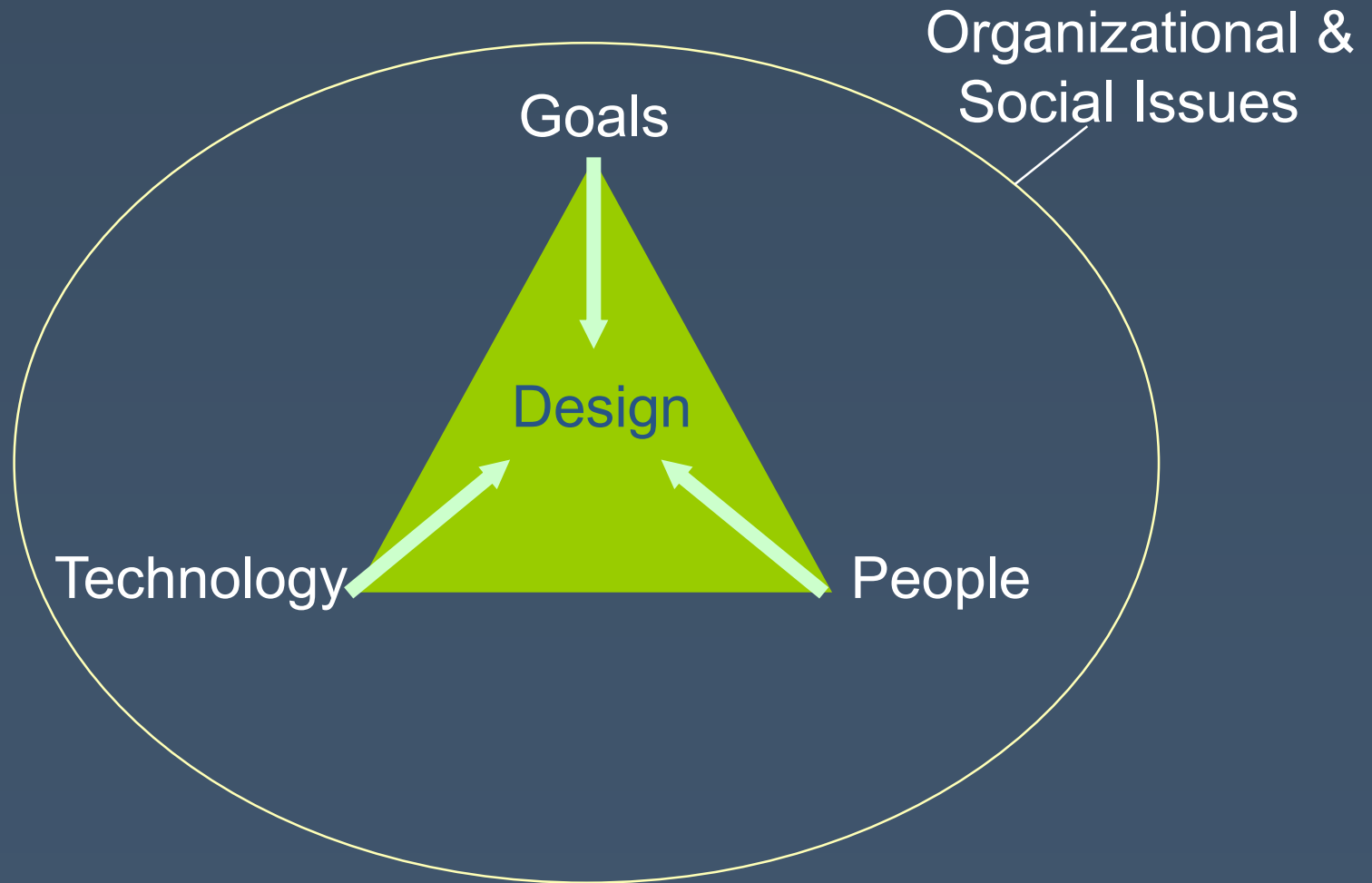audio / photo / education / crowd source

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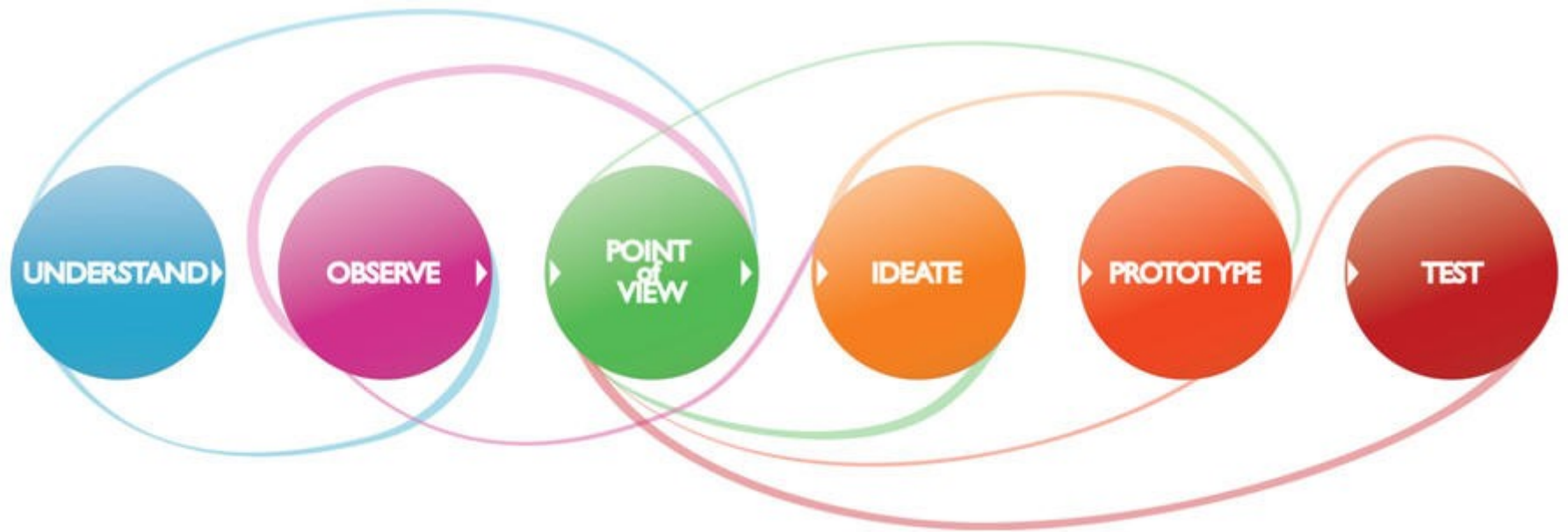**Course Goals**
Brainstorming Exercise
Course Structure
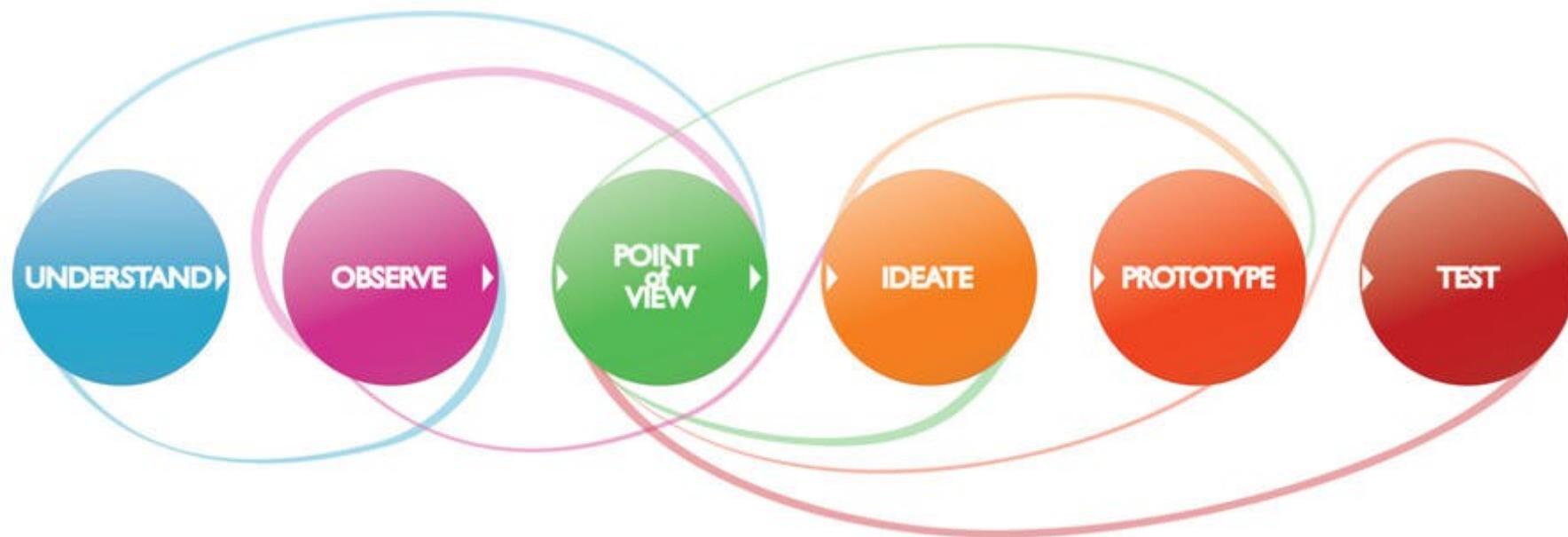P1: Thoughtless Acts

What is HCI?

Design Process

Design Process

CS 147 *overview*

Design Process

CS 147 *overview* →

CS 247 *focus* →

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

547 HCI Seminar

nnn Ask Michael Bernstein…
In-depth study of specific HCI topics

Some CS247 history:
http://wendyju.com/publications/TeachingID-DUX2005.pdf

Tools for Social Communication : Novel everyday experiences using technology to stay connected.

Dimensions for Communication Media

Video-image-textual-audio-olfactory-phatic
Synchronous – asynchronous
Rich media – poor media
Close ties – weak ties
Mobile – desktop
Private – public – anonymous
Local – global
Broadcast – personalized
etc.

Social Communication is Hot
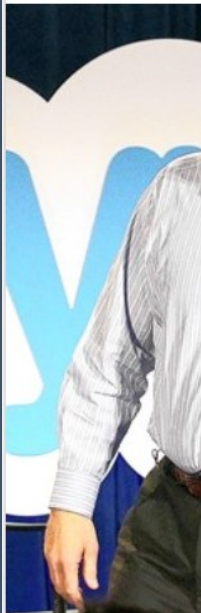

THE WALL STREET JOURNAL

TECHNOLOGY

Microsoft D...

CEO Ballmer Defen...

By NICK WINGFIEL...

Updated May 11, 2011 12...

Microsoft CEO Steve B...
Francisco. *Justin Sulliv...*

TC News TCTV Events

Yahoo's Shopping Spr...
Conference Calling St...

rondee It's your call.

YAHOO!

We've been acquired by Yahoo!

When we set out to build Rondee, we sought to help as many small businesses as possible become more productive.

We're excited to join Yahoo!'s Small Business team and continue with Yahoo!'s goal of helping small businesses succeed online.

Astrid, GoPollGo and Loki Studios to name just f...
dinosaur. After June 30th, the company's websit...
access their data or create new conference calls...

The New York Times

FEBRUARY 19, 2014, 5:18 PM | 💬 133 Comments

Facebook Enters $16 Billion Deal for WhatsApp

By DAVID GELLES and VINDU GOEL

Tho...
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Peter DaSilva for The New York Times

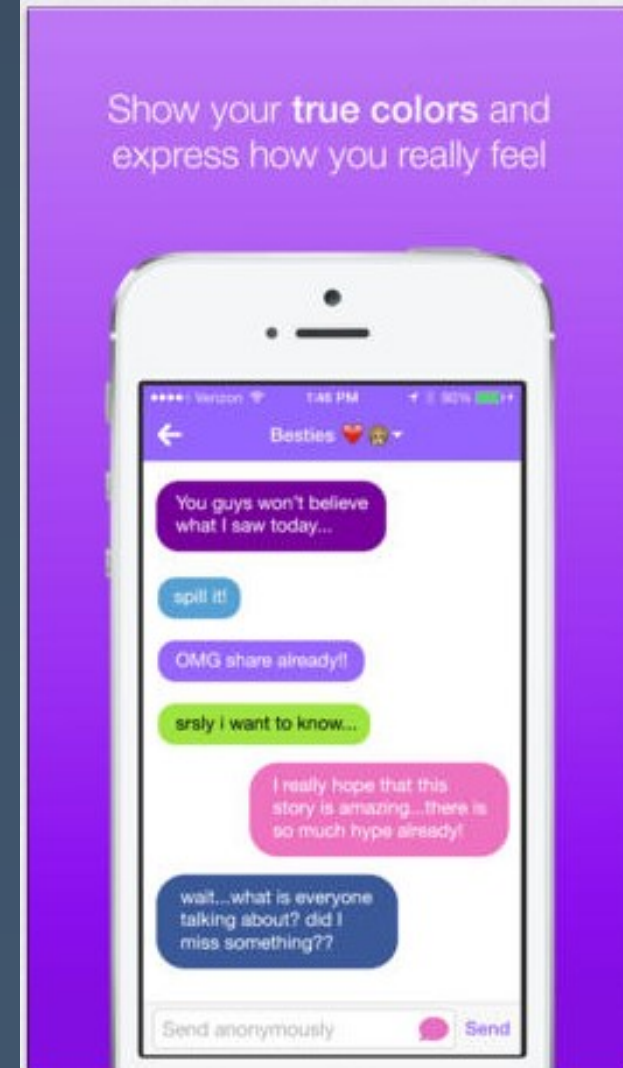WhatsApp's founders Brian Acton, left, and Jan Koum at its offices in Mountain View, Calif.
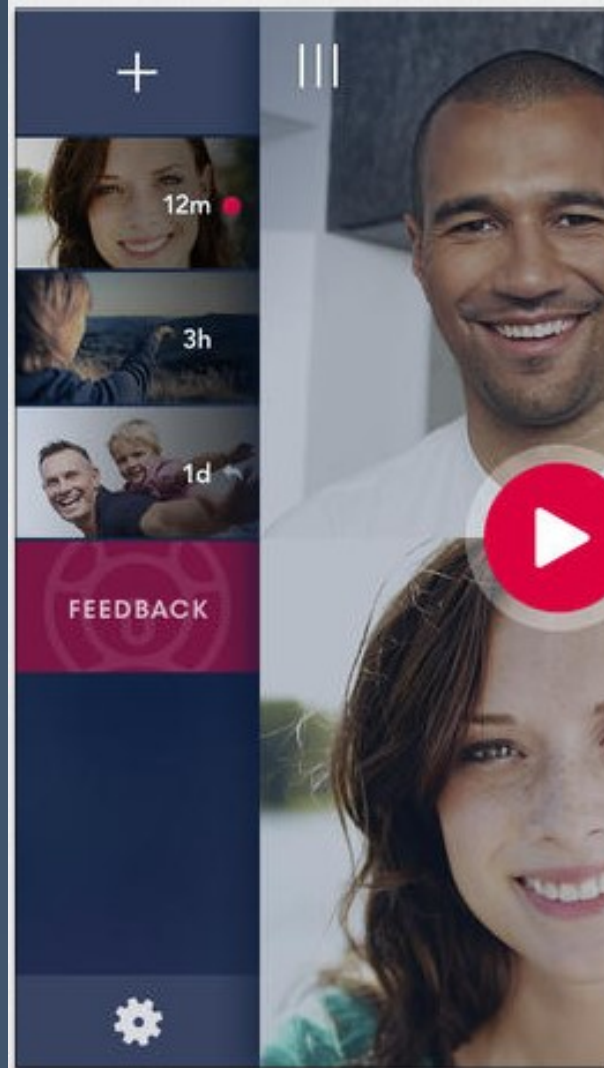
Please remember us in your startup!

Design Exploration

http://dumbstruck.me/   http://chatwala.com/   http://rumrapp.com/
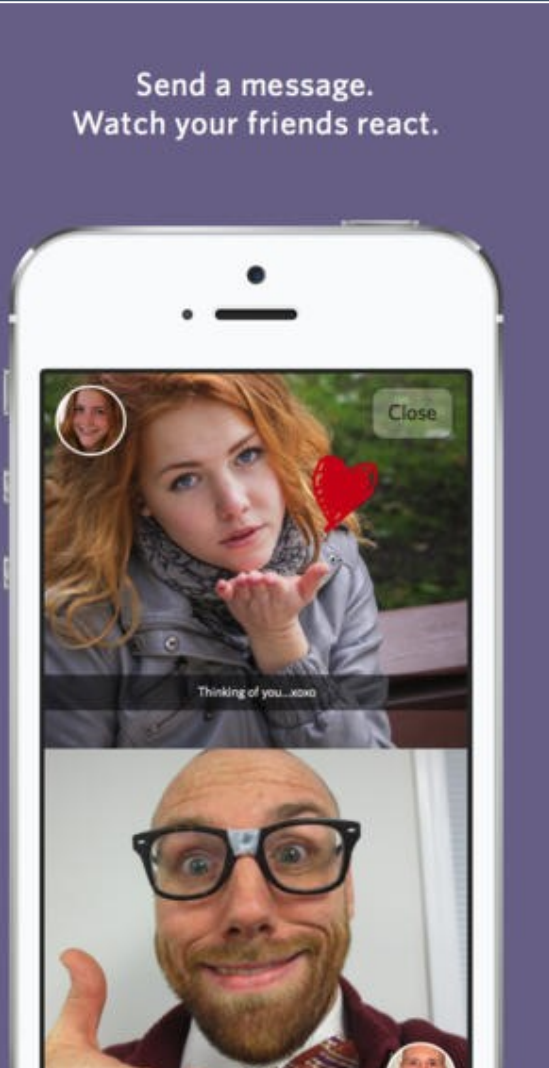
Jofish's Research Interests: Build
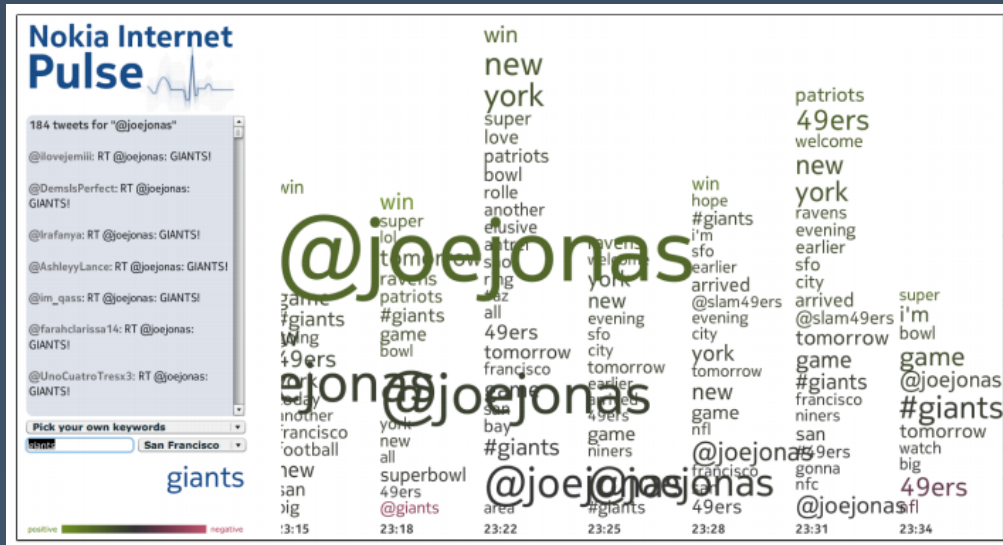
Jofish's Research Interests: Build & Study
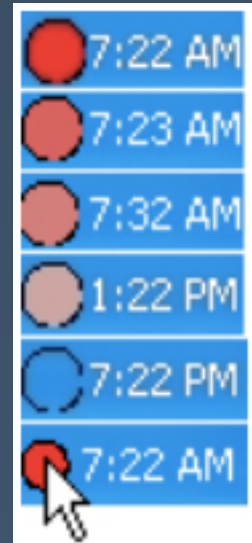
Jofish's Research Interests: Study
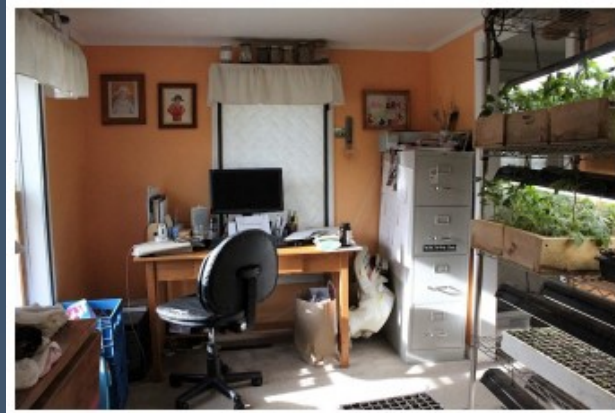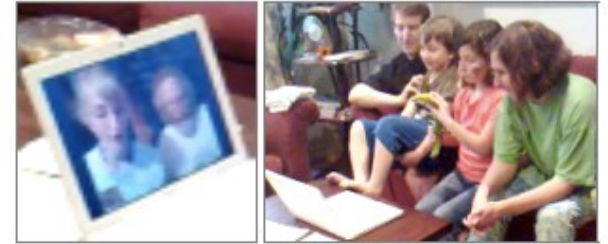
John's Research Interests (1)

Distance collaboration, telepresence
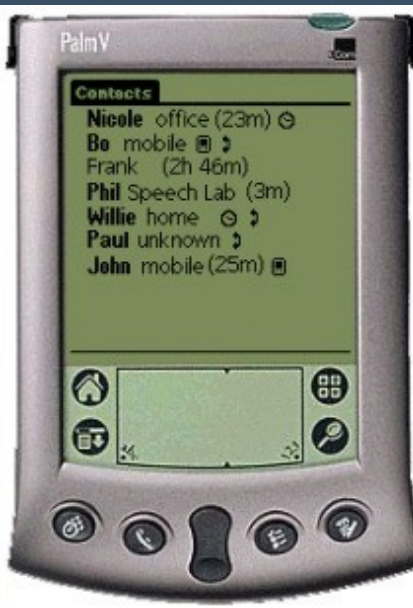
ConNexus   **Awarenex**
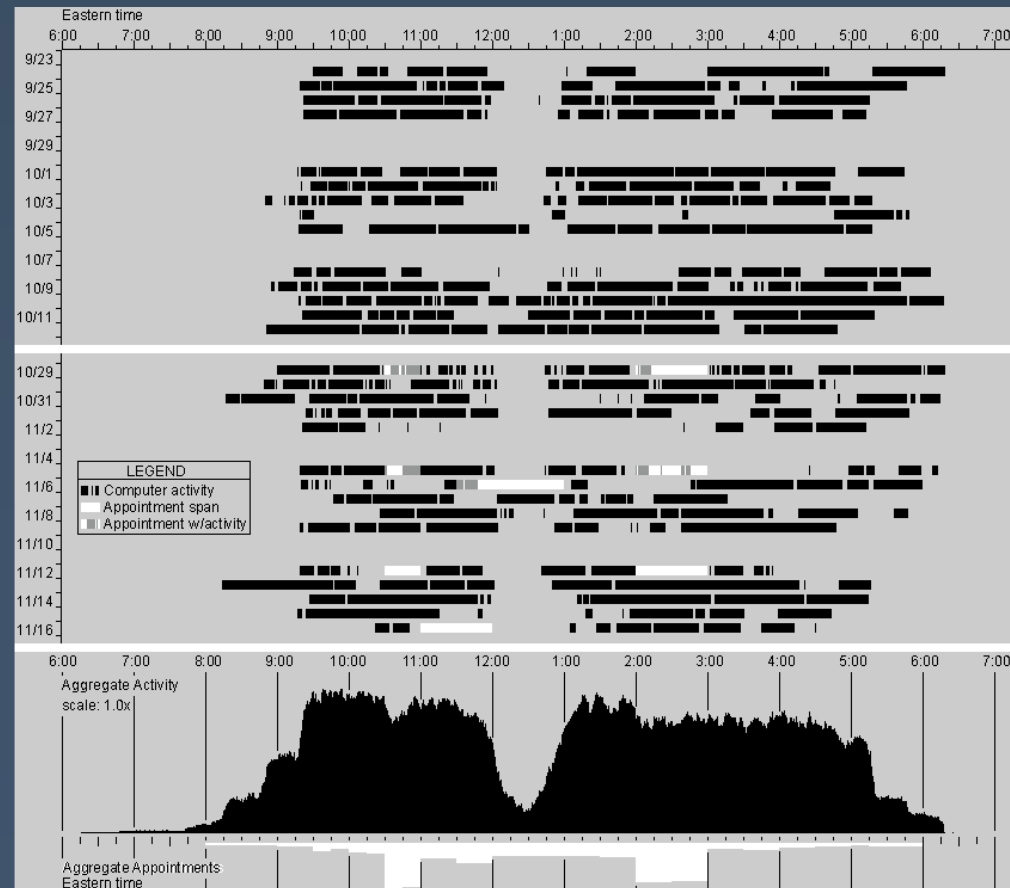
Work Rhythms

John's Research Interests (2)

Fade-in video windows

Physical proxies to support interaction
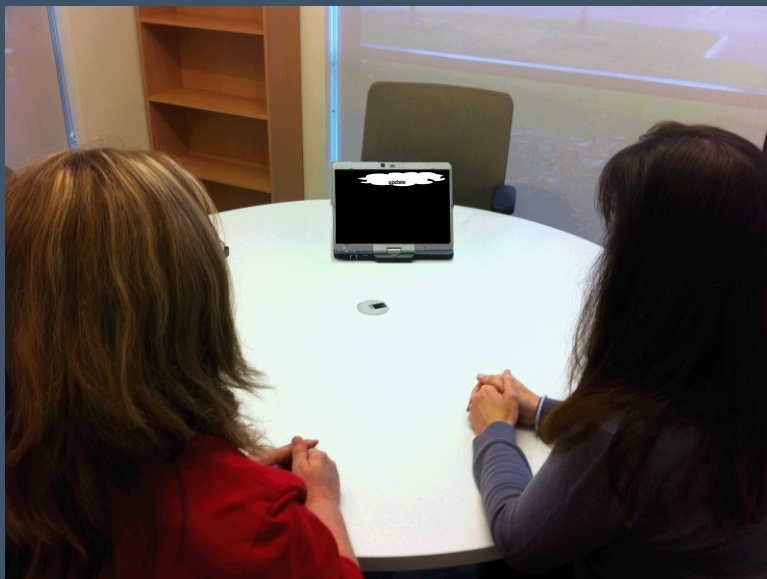
Time Travel Proxy

Home Proxy

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

What application domains are the most compelling?

What pitfalls lie in wait?

Break!

We're over-subscribed

Musical chairs

Preference given to:

      HCI majors

      Need this class to graduate

      Have all the necessary background

      Submit a compelling haiku

If you submitted an application and want to withdraw, send email to cs247@cs.stanford.edu

Course Staff

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Brainstorming Exercise

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P1: Thoughtless Acts

Creativity is difficult.

Creativity is difficult.

But, it can be developed.

Brainstorming Rules

Defer judgment. Separate idea generation from idea selection. For now, suspend critique.

Encourage wild ideas. Breakthrough ideas are next to the absurd ones.

Build on others' ideas. Listen and add to the flow.

Go for volume. To have a good idea, have lots of ideas.

One conversation at a time. Keep momentum; save side conversations for later.

Headline. Capture the essence and move on. Don't stall the group with a long-winded idea.

Brainstorming Success

Fluency: you leave with a lot of good ideas. A good brainstorm can result in ~100 ideas/hour.

Flexibility: you have a wide variety of concept directions hidden in the mess of ideas.

Springboards: you leave with a handful of great springboards that you can start to prototype.

The room looks like this!

Brainstorming Exercise

- Take out something to make notes on
- One minute
- Generate <u>at least</u> 10 ideas:

What communication superpower
would you like to have?

Brainstorm reflection

- How many ideas did you generate?
- Share and record

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P1: Thoughtless Acts

Class Sessions

Lectures

Studio and critique

Show and tell

Guest speakers

In-class exercises / sharing

This is a briskly-moving project class

Lab Sections (1-unit, optional)

Wed. 6-7:50pm in 380-380d
Will cover skills & technologies useful in class:
Communication app overview
Messaging APIs
Code Prototyping
Video Production & Prototyping
Hands-on help
Can attend any Lab session, even if not registered

Special Evening Events

April 23, 6:00-7:50pm (during lab time slot)

    Meet industry coaches

    (at least one person per team)

June 4, 6:00-9:00pm

    Final Presentation

    Judges, coaches, and industry guests

    Attendance required

Expected Background

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 Observing comm. fieldwork – 5 days

P3 Communication programming – 1 week

P4 Course project – 8 weeks (weekly milestones)

Prototyping & critique in studio sessions
Coaches from industry
Multiple testing cycles
Final presentation

Grading

P1 Thoughtless Acts *(individual)* 5%
P2 Observing Communication *(group)* 15%
P3 Programming exercise *(pairs)* 15%
P4 Course project *(group)* 55%
Course Participation 10%
Note the group work, and plan ahead!

But is design work inherently subjective?
Rubrics provided for each assignment to help

About Coursework

Late policy

  In class presentations cannot be late

  For homework submitted online at 12:00 noon, late submissions docked 15% a day.

  Contact us with extenuating circumstances <u>before</u> the deadline

The honor code

  We expect everyone to do their fair share in collaborative work

  We expect academic integrity about doing your own work

Respect

For your fellow students

For us

For your participants

No harassment. Please do see
http://www.acm.org/sigs/volunteer_resources/officers_manual/anti-harassment-policy for definitions

Enrollment

A **course application** is at cs247.stanford.edu

If you have not responded to the application yet, do **ASAP by 8pm tonight.**

We will review all submitted applications and will send enrollment updates tomorrow.

Enrollment will include 81 students plus an ordered waitlist. If you are on the waitlist, we encourage you to participate in lecture & P1.

Dropping this class

This is a group project-based class.

Dropping this class while in the middle of a group project is unfair to your classmates

Effective drop date for this class is noon on Tuesday, April 15th (P3 deadline)

If you do not hand in P3 or join a P4 group, we will assume you are dropping the class.

(Stanford drop date is Friday April 18th.)

Course Q & A

CS247 Q&A Forum on piazza.com:
piazza.com/stanford/spring2014/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**.

Office Hours

Jofish: Thursday 2-3pm, d.School Atrium

John, Thursday April 3, after class
    By appointment (over Skype or Hangouts)
    Regular weekly Hangout?

Grace: Mondays 10:00am, Meyer 2nd floor
Graham: Wednesdays 4:00, d.school atrium
Borui: Tuesdays 1:15, d.school atrium

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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 (*not breakdown*).

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.
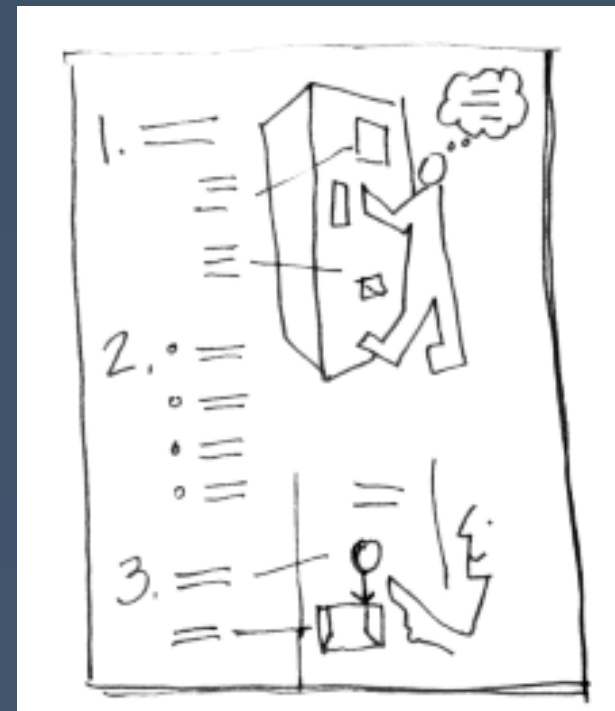
Brainstorm design opportunities.

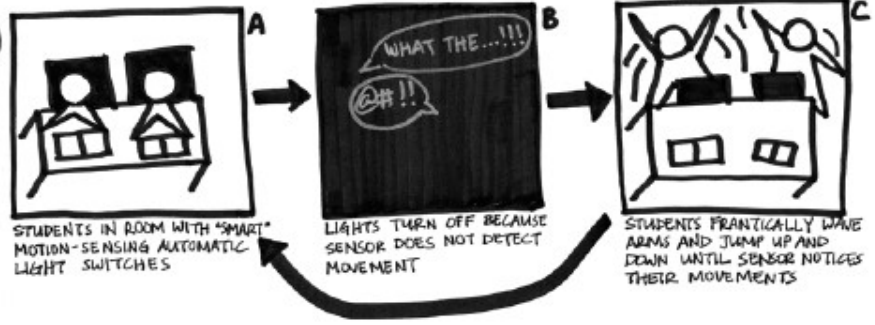# P1: Thoughtless Acts (due Thur)

Prepare an 11" × 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, bold lettering*; should be easy to read from 4-6 feet away.
REMEMBER YOUR PHOTO

P1 HUMAN ERROR

By Clara Shih

(NOT) ^SMART MOTION SENSORS

SITUATION...

①
- A: STUDENTS IN ROOM WITH "SMART" MOTION-SENSING AUTOMATIC LIGHT SWITCHES
- B: WHAT THE...!!! @#!! — LIGHTS TURN OFF BECAUSE SENSOR DOES NOT DETECT MOVEMENT
- C: STUDENTS FRANTICALLY WAVE ARMS AND JUMP UP AND DOWN UNTIL SENSOR NOTICES THEIR MOVEMENTS

MOTIVATIONS...

②
- INITIALLY, THE TASK GOAL IS TO MAINTAIN THE STATUS QUO OF A LIT ROOM. THE STUDENTS BELIEVE THIS CAN BE ACCOMPLISHED BY DOING NOTHING (IE, CONTINUING TO STUDY AT THE TABLE).
- ONCE THE LIGHTS TURN OFF (IN 'B') THE NEW MOTIVATION IS TO TURN THE LIGHTS BACK ON BY ACTIVATING THE MOTION SENSOR. THE STUDENTS ARE UNSURE AS TO HOW THIS CAN BE DONE SO THEY HAPHAZARDLY MOVE AROUND (INCREASING FREQUENCY AND RANGE OF MOTION) UNTIL LIGHTS COME BACK ON IN 'C.'

CONTRIBUTING...

③
- NO WAY TO OVERRIDE AUTOMATIC SWITCH-OFF
- SEDENTARY NATURE OF STUDENT'S WORK
- STUDENTS' EXPECTATION THAT LIGHT SWITCHES AREN'T AUTOMATIC
- UNCLEAR WHAT KIND OF MOTION WOULD SATISFY SENSOR
- NO WARNING PRIOR TO SWITCH-OFF
- UNCLEAR WHERE IN ROOM SENSOR WAS LOCATED

IDEAS...

④

AVOID	SURVIVE
- manual overrides "ON means ON!" - or, no automation in the first place! - students bring in moving toy or antsy friend - stretch breaks every 5 mins	- bring your own flashlight! - learn to live in the dark - continue the haphazard-jumping technique!

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1. SITUATION/INTERACTION

STERN DINING HALL'S Juice Dispenser

ENJOY
Minute Maid
~Premium~
FRUIT JUICES AND DRINKS

ORANGE GUAVA PASSIONFRUIT | ORANGE STRAWBERRY BANANA | ORANGE JUICE

2. TASK GOAL

Student wants a cup of juice

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

4. IMPROVEMENTS
- fewer buttons
- automatic start/stop buttons START STOP (color-coded)
- [weight-sensitive] sensors
- use words instead of pictures

Next Steps

Submit course application
cs247.stanford.edu
Update will be posted by noon tomorrow

If you submitted an application and want to withdraw, send email to cs247@cs.stanford.edu

Lab Section Wed 6:00-7:50pm (recommended!)
Intro to various communication tools

Thursday Lecture
Bring in P1 posters for sharing and review
There will be time to form P2 groups in class

Questions?

Haikus

hai·ku [hahy-koo]

a major form of Japanese verse, written in 17 syllables divided into 3 lines of 5, 7, and 5 syllables, and employing highly evocative allusions and comparisons, often on the subject of nature or one of the seasons.

hai·ku [hahy-koo]

**Japanese verse
3 evocative lines
spring 2014**

**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

On Design

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

Creative design, Beautiful applications, Joy in mastery

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

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

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

Why haiku examples?

design taught
often by example
no recipes to follow

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