Human-Computer Interaction Design

COGS120/CSE170 - "Intro. HCI"

Instructor: Philip Guo

Week 1 - Needfinding (2016-09-27)

some slides adapted from Scott Klemmer's Intro. HCI course

Learning Objective

to be able to discover user needs using participant observations and interviews.

Outline

- A quick tour through the course calendar
- Needfinding: why and how
- Needfinding in-class activity & discussion

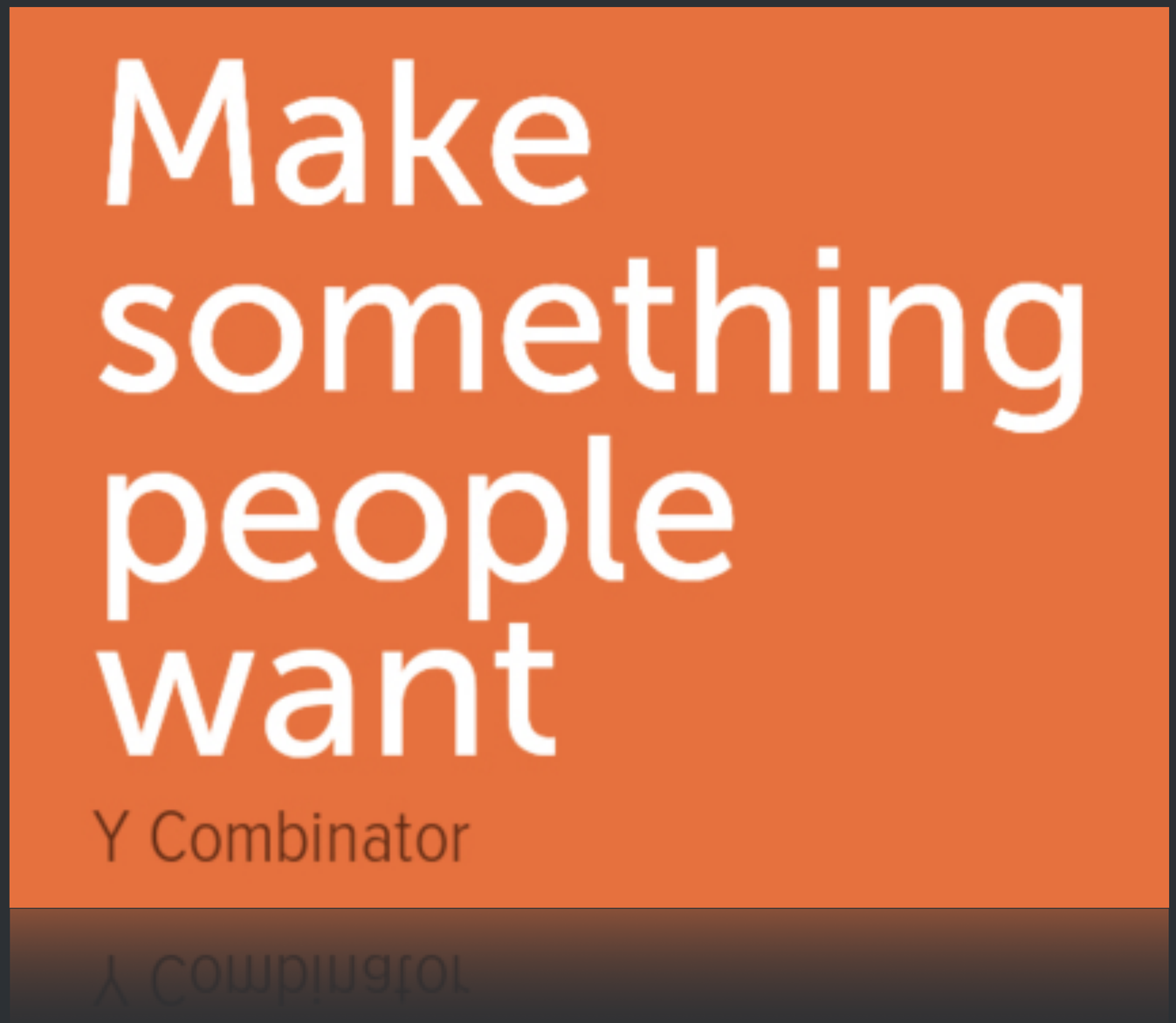
A Quick Tour Through the Course Calendar

Needfinding =

Finding potential

user needs

Needfinding: why?



Needfinding attempt 1:

"What do you need?"

Needfinding attempt 2:

"What problems do you have with [X]?"

Needfinding attempt 3:

[post questions to online forums]

"What problems do you all have with [X]? What can I build for you all that would fulfill your needs?"

PARTICIPANT

OBSERVATION

“You Can Observe a Lot Just by Watching”

—Yogi Berra

Image courtesy of www.omnitracs.com/applications-and-products/applications

Observing truck drivers using data entry devices

Observing truck drivers using data entry devices

Image courtesy of Qualcomm MCP

Bronislaw Malinowski - participant observation - Trobriand Islands, 1918
Image Courtesy Wikipedia: http://en.wikipedia.org/wiki/File:Wmalinowski_triobriand_isles_1918.jpg

What should we strive to learn by participant observation?

Tacit (Unspoken) Knowledge:

"Deep Hanging Out" (Genevieve Bell, Intel)

What should we strive to learn by participant observation?

1. What do people do now?
2. What values and goals do people have?
3. How are these particular activities embedded in a larger ecology?
4. Similarities and differences across people
5. ...and other types of context, like time of day

Observation Technique: Be an Apprentice

- Set up a partnership with the people to be observed
- Be taught the steps in the process
- Observe all of the practices
- Validate what you are observing with those observed as you go along
- Play the role of a naive novice — don't interject with your "expert" opinions.

INTERVIEWS

Scheduled Interviews Facilitate Depth

Create a "Field Guide" (Steve Portigal's insights)

- Introduction and participant background
- Main body of interview
- Projection/dream questions [optional at the end]
- Wrap up

Choosing Participants

- Representative of target users
- May be current users of a similar system
- Might also be the *non-users*

Approximate if Necessary

(may not be ideal, but better than nothing)

Conducting An Interview

- Introduce yourself, explain your purpose
- The interview is about them, not you!
- Begin with open-ended, unbiased, non-leading questions
- Ask the question and let them answer

(a little bit of)

Silence is Golden

What Are Bad Questions?

“Is the daily update an important feature to you?”

“Would you like stores with less clutter?”
(Walmart case study, watch video from website)

“Would you like to do less work in this class?”

“What would you like in a tool for [X]?”

Other Types of Questions to Avoid

- What they would do / like / want in hypothetical scenarios
- How often they do things
- How much they like things on an absolute scale
- Avoid binary questions

Follow up

- Adjust your questions to their previous answers
- Ask questions in language they use / understand
- Pick up on and ask for examples
- Be flexible

Do a Trial Run first

(gives you practice, catches bugs)

should you record audio or video?

Audio/Video: Drawbacks

- Time-consuming to review / edit
- Can change participants' responses; people may be self-conscious
- Requires permission; may be awkward
- Audio easier than video, though

Audio/Video: Benefits

- A robust record
- Highlights are GREAT for communication / presentations
- Helps you focus on interviewing

Photos Are Powerful Reminders

{Photos + notepad} can approximate fidelity of audio/video if done well.

What are the gems?

- You've uncovered a surprise or found what is missing
- You can explain why people do unusual things
- You want to tell others about what you have learned

Share with your team

- Stories
- Photos
- Sketches
- Quotes

Save Records - It’ll help later

- Keep photos, notes, and artifacts
- Helps tie all design to use, rather than debating things on an abstract plane

OK YOUR TURN!

IN-CLASS PARTICIPANT OBSERVATION ACTIVITY

(designed along with TA Shawn Kang, Fall 2016)

Form a group of 3 with your neighbors

- Say hi and introduce yourself. They won't bite (hopefully!)

- **Person A**: wants to find a restaurant to go to lunch with B, who is their boss.

- **Person B**: boss who plans to go to lunch with A but doesn't have access to web/mobile themselves. is not very tech-savvy, but is very picky about food and has strong opinions overall.

- **Person C**: observer who watches A and B interact. (needs to not be shy about maybe reporting findings in front of class)

Take 10-15 minutes for role playing …

- Person A and B should try to agree on a place for lunch, with Person A using their cell phone to look up places (if they have decent Internet access on it), or their laptop (if they don't).
- Remember, Person B is the non-tech-savvy, super-picky-about-food, strongly-opinionated boss. Get into the role :)
- Person C is a ***silent*** observer watching how A interacts with their phone/laptop, and how A interacts with B. Do not talk to either A or B. Get a clear view of the phone/laptop, though.

Person C's (People C's?) report back …

- What difficulties or stumbles did A have when using mobile or web app?
- Did A and B both look on the screen at once? Did A and B both try to interact with the app?
- Any unusual interactions with the app?
- What did you wish you could jump in to suggest but couldn't, since you had to remain silent?
- What do you think A or B need to make this restaurant-picking scenario go smoother?
- [focus on problems & needs; don't jump to solutions just yet]

WRAP-UP: DISTILLING YOUR INSIGHTS

Your goal:
develop a point of view

When pitching your app idea to the class or potential investors, conveying your point of view is critical. For Assignment 1, you will all submit a point of view after making observations in the wild. One common mistake is making the point of view about the solution. The best point of views are nowhere near recommending a specific solution, and instead are a comment on *people* and important aspects of *life*.
(from TA Rob Gougelet, Fall 2016)

What are some point-of-views for this in-class pretend scenario?

When pitching your app idea to the class or potential investors, conveying your point of view is critical. For Assignment 1, you will all submit a point of view after making observations in the wild. One common mistake is making the point of view about the solution. The best point of views are nowhere near recommending a specific solution, and instead are a comment on *people* and important aspects of *life*.
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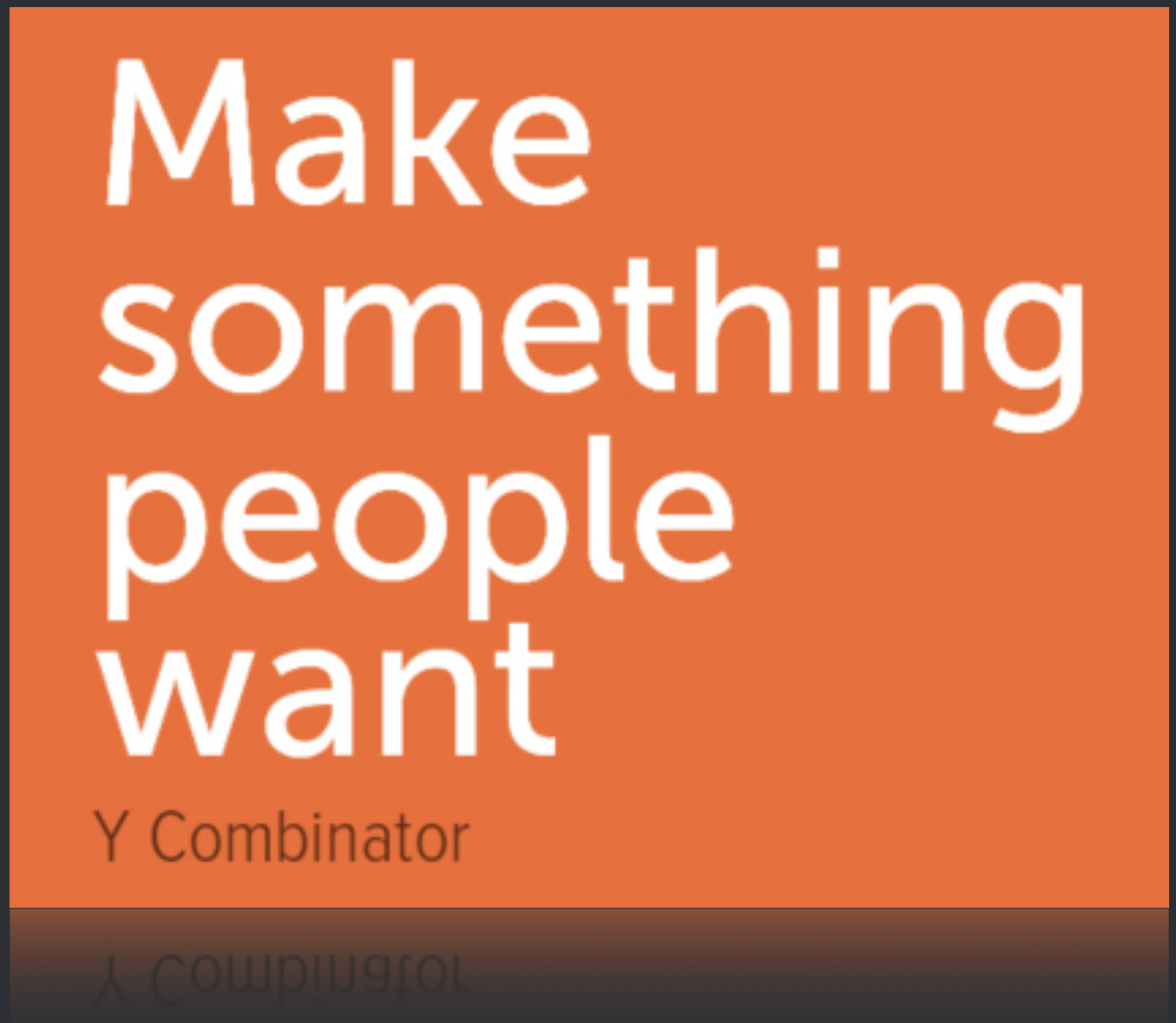
Flare, then focus.

Broaden, then tighten.

Take-home message:

Observation alone does not guarantee a great design.

Needfinding: why?



Needfinding: why?

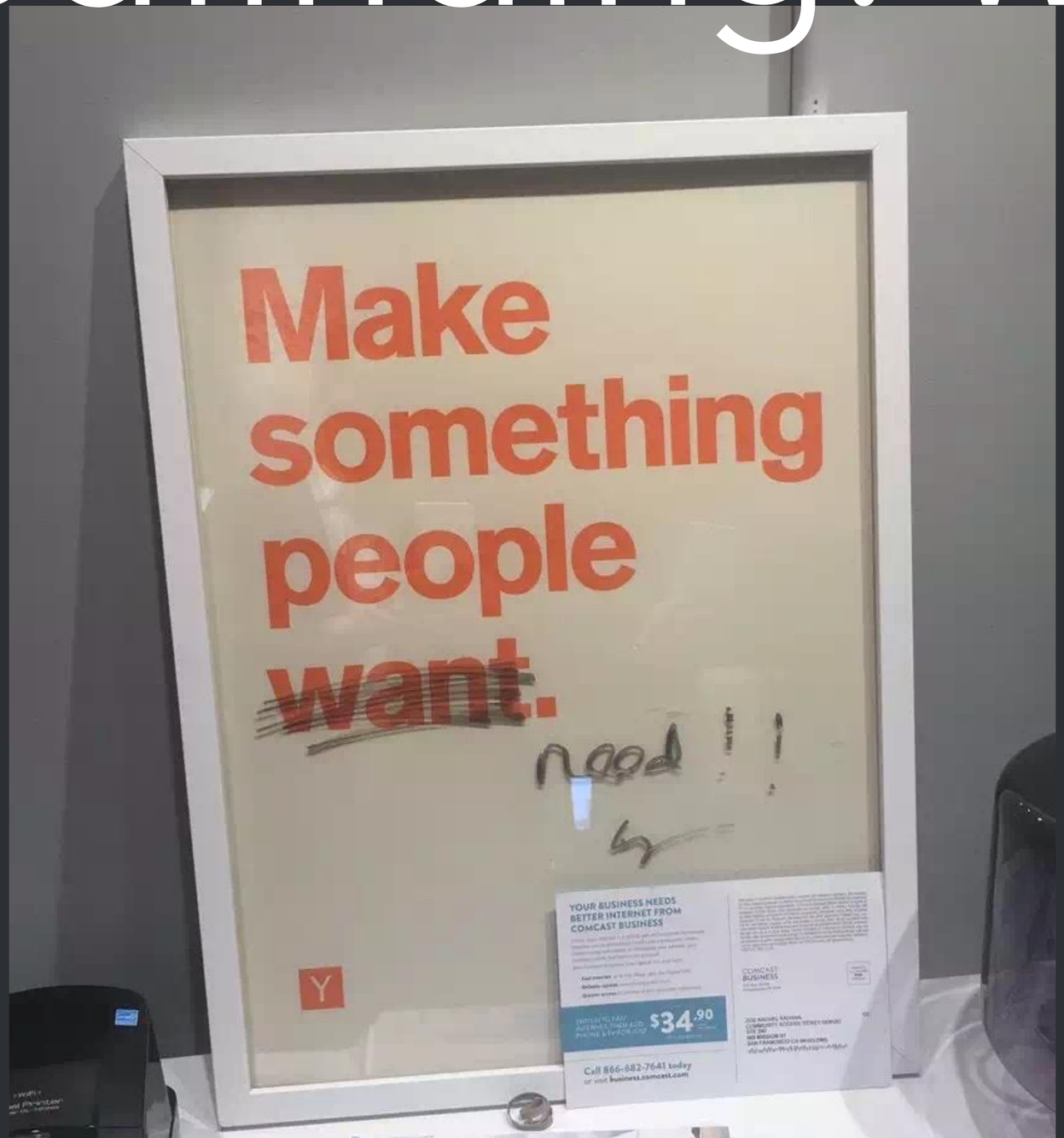


Photo from Kai-Fu Lee

Learning Objective

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TODOs after class

- Make sure you're registered for a studio
- Make sure you're registered for Piazza (the active one that lots of people are posting to, not the old outdated link)