Design Discovery

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* some slides based on those of Julie Stanford, Sliced Bread Design

Outline

• Design Discovery

Hall of Fame or Shame?

How can we help you today?

Drivers

- Get a driver license
- Renew your driver license
- License your vehicle
- Get a specialty license

Professions

- Get a professional license
- Get a business license

Vehicles & boats

- Get a car license
- Get a fishing license

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- Find offices & hours
- Moving to WA?
- View list of licenses

- Learn more and file now!

- Learn about help for Central Washington wildlife victims.

- Timeline Videos

Stadium

Hall of Fame or Shame?

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similarities & connectedness given strong aesthetic & indicates navigation
- "How can we help you today?" wastes real estate
- a bit busy overall

- UI is clean & uncluttered
- Less important info (tweets, videos) below the fold
- Multiple language options are clearly indicated

http://www.dol.wa.gov/
Design Process: Discovery

- characteristics of customers & tasks (AKA Needfinding)
- understand client’s expectations
- determine scope of project
- evaluate existing practices & products

“You Are Not the Customer”

- Seems obvious, but…
  - different experiences
  - different terminology
  - different ways of looking at the world
- Easy to think of self as typical customer

Understanding the Customer

- How do you learn how your customers work & live as well as interact with technology?
  - interviews
  - self report
  - logging/analytics
  - observation
- How do you learn how your customers think?
  - understand human cognition
  - observe users performing tasks
- Important to carry out in naturalistic settings
  - outside the lab → “ecologically valid”

“You Can Observe a Lot Just by Watching”
—Yogi Berra

Design Thinking Process

- Empathize
- Define
- Ideate
- Prototype
- Test

Empathy: Feel what they feel

Principles
1) Immerse
2) Observe
3) Engage
Bronislaw Malinowski Learning From Trobriand Islanders (1914)

Technique: Active Observation

Observer & interview
without knowing what
you are looking for

Facts

Inferences

Assumptions

Observe & interview without knowing what you are looking for

Needs
gaps
within a
system

Needfinding
discovering
opportunities
by recognizing those gaps

Figure out the story of what and why...

And tell a new one
Pay attention to all the artifacts

Look for workarounds & hacks

"Errors" are a goldmine

Getting to Why

Needfinding starts with basic questions of everyday experiences

But moves from
- closed ended questions to open ended questions
- “whats” to “whys”
- actions to feelings

Engage people in their environment

A needfinding interview is....

One in which the interviewee speaks 90% of the time.
Be ready to hear something new and be changed by it.

Defer your agenda & unlock their world

Step into the interviewee’s shoes
Be curious
Have a “beginners mindset”

Interview

Good interviews require a broad set of questions – but be prepared to veer.

Interviews typically share the same basic structure as a story.
What Did She Do Wrong?

Interview

A Better Introduction...

Interview Questions – Background

Interview

Interview Questions – Build Rapport
Interview

Walk me through all the jobs you’ve had since high school.

Interview Questions – Stories & Emotions

- Clarification – "... and when you say, "I’m a closer," what do you mean exactly?"
- Success and Failure – "Describe your most successful sales call. Now tell me about a sales call that was an absolute disaster."
- Peer Comparison – "Do your colleagues share your sales techniques?"
- Other Viewpoint Comparison – "What would other solar owners think about that?"
- Characterization and Comparison – "Could you characterize your sales style and compare it to Mike’s?"

Follow up and pull that thread

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

I heard you say that you were reluctant to talk to John... tell me more about that.
Interview Questions – Reflection

- **Point to Their Reaction** – "Why do you roll your eyes when you say that?"
- **Suggestive Opinion** – "Some people have very negative feelings about emotional sales pitches. What are your feelings about it?"
- **Contradictions** – "You tell me you can sell ice cubes to Eskimos but you also tell me you have a deep concern for your customers, how do these two work together?"

A few last tips

- Remember that people make sense (to themselves)
- Your job is to be able to explain how they make sense – get to the bottom of things & understand the what & why
- Create a discussion guide with lots of questions, but be ready to veer to pull threads

Choosing Participants

- **Representative of target users (current or future users)**
  - usually not Stanford students
- **Interview people on both sides of an interaction**
- **Experts good for background but aren’t substitute for users**
- **Consider interviewing extreme users**
  - e.g., airport design: flies every week vs. never flown
- **Typically interview 6-12 people individually for 30-90 min**
- **Note** – interviewing children may require permission
Where to Recruit

- Depends on target audience…
- Nextdoor.com
- Facebook / wechat groups
- Craig’s List
- Local email lists (e.g., parents, etc.)
- Snowball sampling – when you recruit someone ask them to pass it on to others they think would be good…
- What’s worked for you????

Administrivia

1) Studio assignments coming out Wed night
   - attend assigned studio unless pre-cleared by staff
   - Inform your TA if you will not be there this Friday (e.g., GHC attendees)
2) Teams will be arranged on Friday night
3) Join the Piazza forum to keep up with questions & announcements at http://piazza.com/stanford/fall2018/cs147
4) CURIS Poster Session, Friday, 3-5 pm on Packard Lawn (free food!)
5) Make sure to check course web site: cs147.stanford.edu

Common Pitfalls – Suggesting Answers

- "How was that decision reached?" Was there a big meeting? Did your boss decide without you?…
- Let the informant paint his or her own categories of meaning
- Avoid suggesting answers
- Trust the question – ask it & stop talking
  Let there be silence
Common Pitfalls – Hypothetical Situations

“What if I designed something that wasn’t as round and soft and annoying as your current thing and instead bounced up and down. Would that work for you?”

“What about your friends? What would they do?
- Ask about events & things that actually happened/exist
- Focus on getting the user’s point of view, not what they think someone else might do

There is More Than One Way to Ask “Why?”

- Tell me more about that
- Tell me what you mean when you say XXX
- [last phrase the person said]?

Interview a Stranger
2 minutes and then switch

Find a good story from their summer

Good Questions
What are the gems?

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

Users: Unique or One of Many?

“Take the attitude that nothing any person does is done for no reason; if you think it’s for no reason, you don’t yet understand the point of view from which it makes sense.

Take the attitude that nothing any person does is unique to them, it always represents an important class of customers whose needs will not be met if you don’t figure out what’s going on.”

(p. 63, Contextual Design)

Ethical Considerations in Needfinding

Testing/fieldwork can be coercive if there is a power imbalance (e.g., in under resourced communities)

People may feel no option but to speak to you or give you their time even though they may not get anything of value in return.
Caveats of User-Centered Design

- Politics
  - "agents of change" can cause controversy
  - important to get buy-in from all those involved

- Customers are not always right
  - cannot anticipate new technology accurately
  - job is to build system customers will want
    - not system customers say they want

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"When the interviewer is a foreign researcher requiring a translator, the bias towards the interviewer’s artifact increases to 5x."

Further Reading

- Books
  - User and Task Analysis for Interface Design by Joann T. Hackos, Janice C. Redish
  - The Inmates are Running the Asylum by Alan Cooper
  - The Design of Everyday Things by Don Norman
  - Observing the User Experience, Goodman, Kuniavsky, & Moed

- Institute of Design at Stanford
  - lots of online materials at http://dschool.stanford.edu

Further Reading on Ethical Issues With Community-based Research

- “Imperialist Tendencies” blog post by Jan Chipchase, http://janchipchase.com/content/essays/imperialist-tendencies/
- “To Hell with Good Intentions” by Ivan Illich, speech to the Conference on InterAmerican Student Projects (CIASP), April 20, 1968, http://www.swaraj.org/illich_hell.htm
Summary

- Know thy user & involve them in design
- Needfinding
  - build empathy with customers
  - listen to them to discover interesting insights

Next Time

- **Lecture**
  - 1) Define: Unpacking the needfinding results to better define the problem/domain of interest
  - 2) Ideate: How might we solve the problem?
- **Readings**
  - d.school’s Empathy Fieldguide
  - Tips for Working Successfully in a Group by Randy Pausch
- **Watch**
  - ABC News Nightline IDEO Deep Dive, July 1999 (22 minutes)
  - Bonus video: ABC News, IDEO Design Thinking, January 2013 (13 minutes)