Design Discovery

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Winter 2021

January 13, 2021

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

Hall of Fame or Shame?

http://www.dol.wa.gov

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Hall of Fame!

http://www.dol.wa.gov/

- UI is (mostly) clean & uncluttered
- Most common task prominent (renew)
- 3 other key user/tasks right up front
- Less important info (tweets, videos) below fold
- Multiple language options are clearly indicated
- Similarity & connectedness lives strong aesthetics & accessible navigation

- A bit busy overall, but easy to fix
- Update of top white word (really an update?)
Hall of Shame!

http://www.dol.wa.gov/

- UI is clean & uncluttered (lots of whitespace)
- Most common task in white bar near top
- Less important info below fold
- Language translation at top
- Contrast of white bar indicates navigation

- Huge wasted first read: “How can we help you today?” And large image!
- Have to click through menus to get to tasks
- Unclear why a lot of the things are above fold
  - - two things about COVID

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Outline

- Design Discovery
- Needfinding

Design Process: Discovery

- Discovery
- Design Exploration
- Design Refinement
- Production
  - characteristics of customers & tasks (aka Needfinding)
  - understand client’s expectations
  - determine scope of project
  - evaluate existing practices & products

Design Thinking Process

- Empathize
- Define
- Ideate
- Prototype
- Test
Empathy: Feel what they feel

Principles
1) Immerse
2) Observe
3) Engage

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

Technique: Active Observation

Observe & interview without knowing what you are looking for
discover what is interesting!

Needs
Needs finding

gaps within a system

discovering opportunities by recognizing those gaps

Bronislaw Malinowski Learning From Trobriand Islanders (1914)

Image Courtesy Wikipedia: https://upload.wikimedia.org/wikipedia/commons/1/1e/Wmalinowski_trobriand_isles_1918.jpg
Pay attention to all the artifacts

Look for workarounds & hacks

“Errors” are a goldmine

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.

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

Figure out the story of what and why…

And tell a new one

Defer your agenda & unlock their world

Walk in the interviewee's shoes

Be curious

Have a "beginners' mindset"
Good interviews require a broad set of questions - but be prepared to veer.

Interviews typically share the same basic structure as a story.

- Introduction
- Rising Action
- Climax
- Denouement
- Reflection
- Wrap-Up

Closed-ended questions / What
Open-ended questions / Why

I'm here to learn about...

What Did She Do Wrong?

A Better Introduction...

Interview Questions – Background
- Background — “Tell me about what you do here.”
- Sequence — “Walk me through your day yesterday…then what do you do next?”
- Physical tour — “Take me on a tour of how you build the panels...”
- Virtual tour — “Walk me through your sales process from the beginning...”
- Participation — “Can you show me exactly how you prepare a customer bid?”
- Exhaustive List — “What are all the different municipalities where you sell?”
Prof. James A. Landay
Stanford University

**Interview**

- **Interview Questions – Build Rapport**
  - Native Outsider Perspective — "I’m not from LA, how does the housing market work here?"
  - Changes Over Time — "How are things different than they were last year?"
  - Reflecting Back — "So, what I hear you saying is.....is that right?"
  - Quantity — "How many of your competitors fall into that category?"
  - Tasks and organizational structures — "Can you draw me a diagram of your org chart?"
  - Native Language — "Why do you call your office ‘the command post’?"

- **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.

You mentioned you were focused on a calm year, but I hear you say you have no time to plan a vacation...

Adapted from Michael Barry

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?”

Keep recording...the last five minutes of an interview are the best.

Adapted from Michael Barry
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 (themes), but be ready to veer to pull threads

Administrivia

2) Studio assignments coming out late Wed PM - attend assigned studio unless pre-cleared by staff
   - inform TA if you will not be there this week (e.g., have some excused absence)
3) Studio absence policy
   - 1st absence for free for a legit reason (must inform TA in advance)
   - 2nd absence for a legit reason requires make-up assignment (must inform TA in advance)
   - after that you start to lose participation points
4) Teams will be arranged by Friday night/Saturday afternoon at latest
5) Use the slack channels to keep up with Q&A & announcements
6) Make sure to regularly check course web site: cs147.stanford.edu

Choosing Participants

- Representative of target users (current or future users)
  - usually not Stanford students
- Interview people on both sides of an interaction (e.g., Lyft)
- 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 minute

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???

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
- “Tell me a story about yourself”

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

Good Questions

“...What’s worked for you???”
[(a little bit of)] Silence is Golden

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
• Get their 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]?

What mistakes do you spot?

What works well?

the truck owner
“Hearing is through the ears, but listening is through the mind.” – Someone

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

Share With Your Team
- Stories
- Photos
- Sketches
- Quotes

Break into random groups of 3
Person 1 interview Person 2 for 2 min. Person 3 observe, take notes, & time it what worked & what to improve – share Switch roles → 3 rounds of interview/share Find a good story from the last 3 months

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.
Ethical Considerations in Needfinding

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

“the ‘at-risk’ label is highly problematic and often implicitly racist and classist… [it] locates problems in individuals, families, and communities, rather than in institutional structures that create and maintain inequality.”

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
  - your job is to design & build systems customers will want, not systems customers say they want
  - “Henry Ford—Steve Jobs Fallacy”

• Design/observe forever without prototyping
  - rapid prototyping, evaluation & iteration is key

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

• Ruined by Design: A Design Ethics and Activism Book by Mike Monteiro, 2019

Needfinding Summary

• Build empathy with customers

• Listen to them to discover interesting insights
Next Time

- Studio
  - Design Project 0 – and team preferences

- Lecture
  - Monday - Martin Luther King, Jr. Holiday
  - Wednesday - Define: Unpacking needfinding results to define problem/domain of interest

- Readings
  - Tips for Working Successfully in a Group by Randy Pausch
  - The Discipline of Teams, by Katzenbach and Smith, Harvard Business Review

- Listen: Invisible Women, 99% Invisible, Episode 363 (39 minutes)