

CS377E: DESIGNING SOLUTIONS TO GLOBAL GRAND CHALLENGES: SMART EDUCATION

Needfinding

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

1

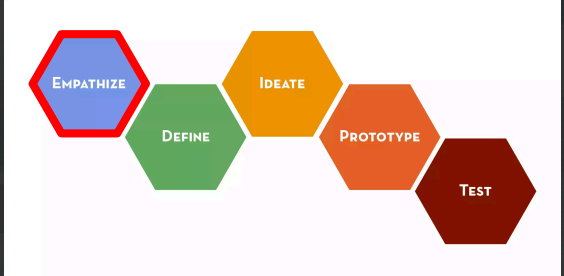
Outline

- Needfinding
- Exercise
- Unpacking




2

Design Thinking Process



3

Empathy: Feel what they feel



Principles

- 1) Immerse
- 2) Observe
- 3) Engage

4

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



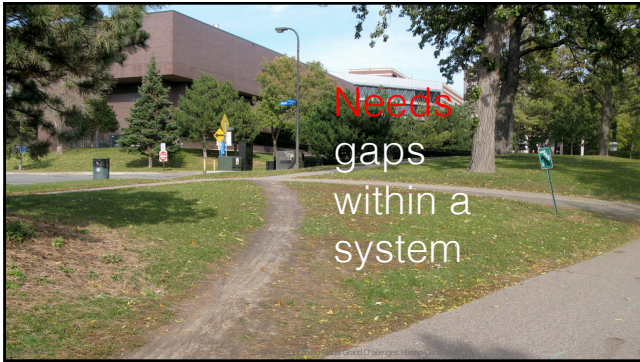
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Technique: Active Observation



Observe & interview *without knowing what* you are looking for

6



7



8



9



10

Pay attention to *all* the artifacts

Look for workarounds & hacks

“Errors” are a goldmine

11

A photograph of a woman in a kitchen looking at a shelf. The text "Getting to Why" is overlaid in white.

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

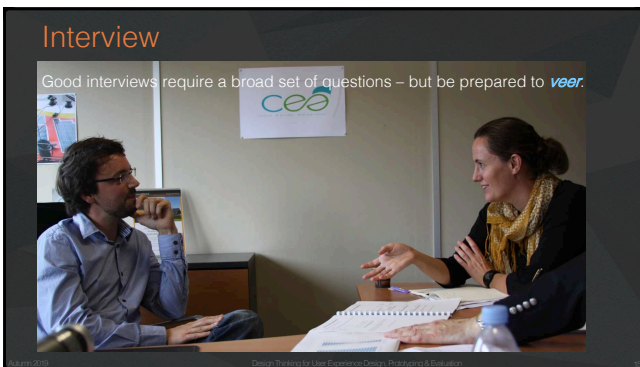
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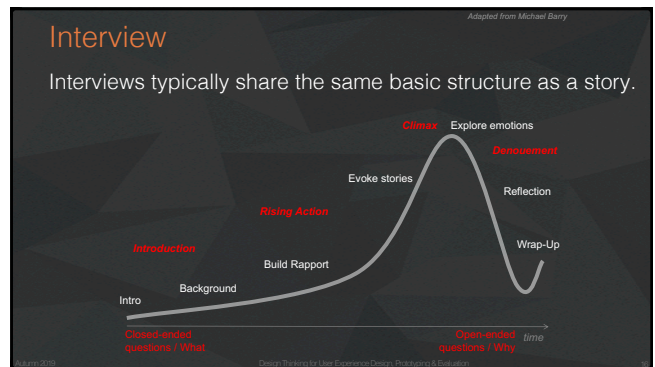
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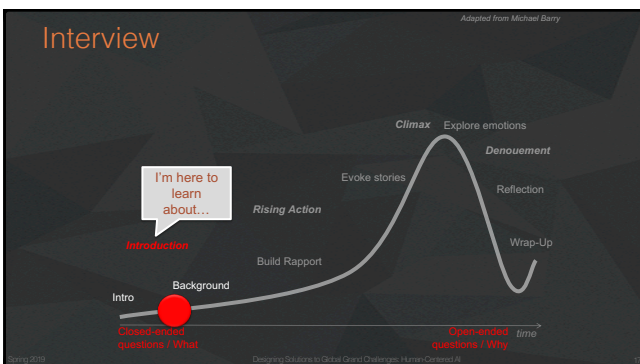
14



15



16



17

- **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?”

18



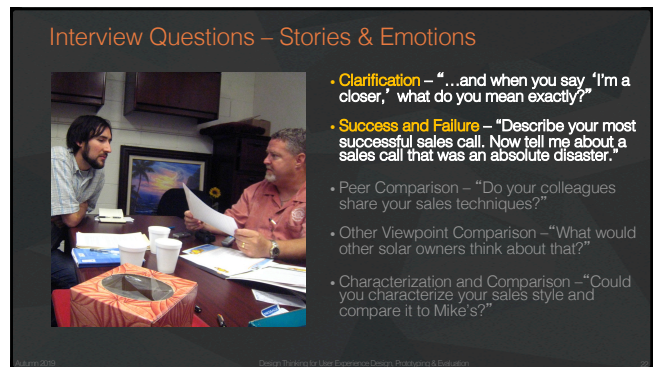
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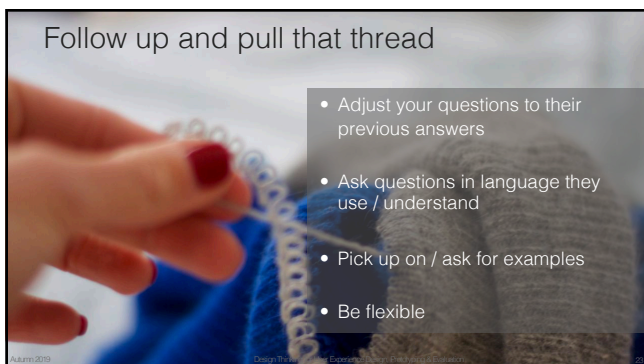
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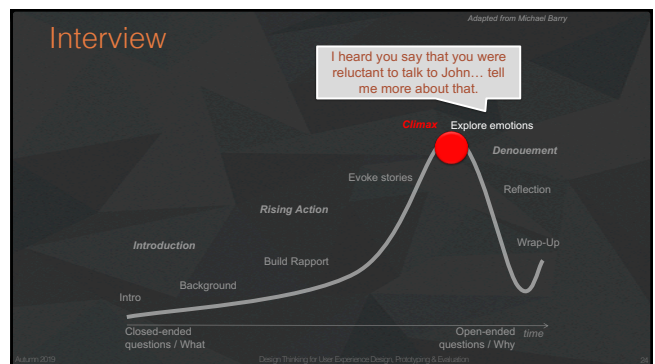
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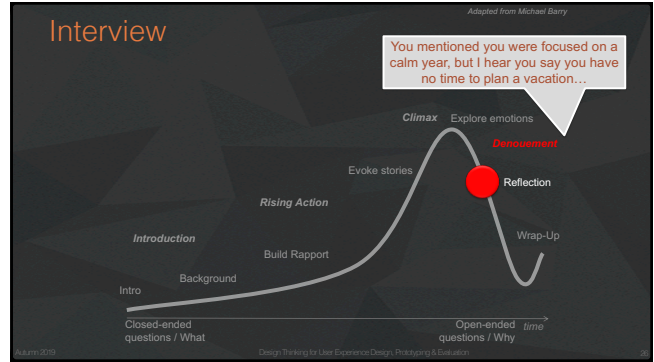
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24




25



26

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?”

27



28

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**

29

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

30

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????

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31


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”

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32

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

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33

(a little bit of)
Silence is Golden

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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**

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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]?

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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

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37

Share with your team

- Stories
- Photos
- Sketches
- Quotes

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Getting Started on Unpacking



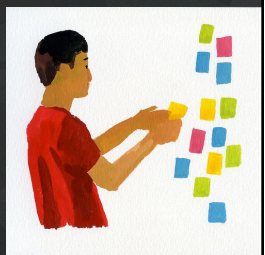
one color Post-it per participant, take notes with a sharpie, write down snippets of everything

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Using the Data Collected in the Field

- Figure out what is important
- Affinity diagramming
 - group info & find relations between groups
 - Post-Its on large surfaces



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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*)

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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.

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Needfinding Summary

- Build empathy with customers
- Listen to them to discover interesting insights

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43

Next Time

- Lecture
 - 1) Define: define the problem/domain of interest
 - 2) Ideate: How might we solve the problem?
- Readings
 - d.school's [Empathy Fieldguide](#)
- Watch
 - [Unpacking/Journey Mapping](#) (17 min.)

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44

44