Define

Prof. James A. Landay
Computer Science Department
Stanford University
Spring 2019

Outline

- Inferring insights
- Point of views

Design Thinking

Empathize  Ideate  Prototype  Test

Design Thinking

REALIZE

Define  FOCUS
REALIZE NEW INSIGHTS
REFRAME THE PROBLEM. UNCOVER OPPORTUNITIES.

OBSERVATION + INFERENCE = INSIGHT

ACTIONABLE LEARNING ABOUT PEOPLE

NOTICE SOMETHING
“I WONDER IF THIS MEANS . . . ?”

We think of collecting art as deeply personal, but in fact for them art is about what others are going to think.

We heard:
“I don’t understand. Why is this $50 and this $5000. I actually like the $50 one more, but maybe it sucks.”

“What do my friends like?”

We think of collecting art as deeply personal, but in fact for them art is about what others are going to think.

Making Art Accessible to Young Professionals

“I don’t understand. Why is this $50 and this $5000. I actually like the $50 one more, but maybe it sucks.”

“What do my friends like?”

We think of collecting art as deeply personal, but in fact for them art is about what others are going to think.

“We heard:”

“We think of collecting art as deeply personal, but in fact for them art is about what others are going to think.”

“I don’t understand. Why is this $50 and this $5000. I actually like the $50 one more, but maybe it sucks.”

“What do my friends like?”

We think of collecting art as deeply personal, but in fact for them art is about what others are going to think.

“We heard:”

“We think of collecting art as deeply personal, but in fact for them art is about what others are going to think.”

“I don’t understand. Why is this $50 and this $5000. I actually like the $50 one more, but maybe it sucks.”

“What do my friends like?”

We think of collecting art as deeply personal, but in fact for them art is about what others are going to think.

“We heard:”

“We think of collecting art as deeply personal, but in fact for them art is about what others are going to think.”

“I don’t understand. Why is this $50 and this $5000. I actually like the $50 one more, but maybe it sucks.”

“What do my friends like?”

We think of collecting art as deeply personal, but in fact for them art is about what others are going to think.

“We heard:”

“We think of collecting art as deeply personal, but in fact for them art is about what others are going to think.”
The presumed mindset:

**ART IS DEEPLY PERSONAL.**

The realization:

**ART IS FASHION ON THE WALL.**

---

**FOCUS ON ONE MEANINGFUL CHALLENGE**

---

Focus by Writing a “Point of View”

**WE MET . . .**

(user you are inspired by)

**WE WERE AMAZED TO REALIZE . . .**

(Insight—verb reflecting user needs)

**IT WOULD BE GAME-CHANGING TO . . .**

(Synthesized statement to leverage in designing solution. NOT just a reason for the need!)

---

Focus by Writing a “Point of View”

**WE MET . . .**

(a guy in his twenties with a good new job and a new apartment)

**WE WERE AMAZED TO REALIZE . . .**

(art is fashion on the wall: it’s about what other people are going to think of you)

**IT WOULD BE GAME-CHANGING TO . . .**

(help buyers cut through the paralysis of doubt)
Point of View: How?

- **Unpack** your empathy work
- Leap from observations to identifying **user**, **needs**, & **insights**
- **Reframe** the problem as a **POV**

Empathy Map to Help Synthesize

<table>
<thead>
<tr>
<th>say</th>
<th>think</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observations</td>
<td>Inferences</td>
</tr>
<tr>
<td>do</td>
<td>feel</td>
</tr>
</tbody>
</table>
Empathy Map to Help Synthesize

say think
do feel

Identifying Needs

WHAT DOES SHE NEED?
- A ladder, more books, ...
- NO, these are solutions
- Acknowledgement from her peers that she is a hard worker?
- A strong voice driven by knowledge & education?
- More social time with her father through reading together?
- These needs are more powerful & inspiring for design

UNPACK INSIGHTS

POINT OF VIEW

I wonder if this means ...

TENSIONS, CONTRADICTIONS, SURPRISES

INSIGHTS

identify user, needs, and insights

combine to create point of view
combine to create point of view

UNPACK:
INSIGHTS
POINT OF VIEW

DO IT NOW:

UNPACK: done – use this to get to needs
INSIGHTS: infer challenge from your needs
POINT OF VIEW: 1 written sentence

We met X
We were amazed to realize...
It would be game-changing to...

Point of View

WE MET . . .
(extreme user you are inspired by)

WE WERE AMAZED TO REALIZE . . .
(what did you learn that’s new? What is their need?)

IT WOULD BE GAME-CHANGING TO . . .
(frame up an inspired challenge for yourself – the insight.)
(don’t dictate the solution.)

Point of View

WE MET . . .
(extreme user you are inspired by)

WE WERE AMAZED TO REALIZE . . .
(what did you learn that’s new? What is their need?)

IT WOULD BE GAME-CHANGING TO . . .
(frame up an inspired challenge for yourself – the insight.)
(don’t dictate the solution.)

Prof. James A. Landay
Computer Science Department
Stanford University
Spring 2019

This work is licensed under the Creative Commons Attribution-Noncommercial-Share Alike 3.0 Unported License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-sa/3.0/

Slides adapted from d.leadership Define + Ideate slides (https://dschool.stanford.edu/groups/dleadership/wiki/59f08/dleadership_2015.html)

Additional resources from bootcamp bootleg (http://dschool.stanford.edu/wp-content/uploads/2011/03/BootcampBootleg2010v2SLIM.pdf)
Design Thinking

Empathize
Define
Ideate
Prototype
Test

Design Thinking

Ideate

How do we start?

Innovation potential
separate generation & evaluation

IDEATE

How do we start?

"Might" lets you defer judgment helps people to create options freely opens up more possibilities

How might we...?
POV: We met Janice, a harried mother of 3, rushing through the airport only to wait hours at the gate. We were surprised at the many games she makes up to entertain her children so they don’t irritate frustrated fellow passengers. It would be game changing to bring the other passengers and the airport facilities into helping families have a better travel experience.

**Break POV into pieces**
- HMW entertain kids? HMW slow a mom down?
- HMW separate kids from fellow passengers?
- HMW make the wait the most exciting part of the trip?
- HMW entirely remove the wait time at the airport?

**Amp up the good/Remove the bad**
- HMW make the rush refreshing instead of harrying?
- HMW leverage free time of fellow passengers to share the load?
- HMW make the airport like a spa?
- HMW make playful, loud kids less annoying?

**Explore the opposite**
- HMW make the wait the most exciting part of the trip?

**Question an assumption**
- HMW entirely remove the wait time at the airport?

**Anatomy of a Strong HMW Question**
- **Who**
- **What**
- **When**
- **Where**
- **Why**

Best to have at least 3 W's in a good HMW question.

**Brainstorm Rules**
- one conversation at a time
- encourage wild ideas
- go for quantity
- be visual
- headline!
- stay on topic
- build on the ideas of others
- defer judgment

**DO IT NOW:**
Generate some HMW statements for your project!
POV: We met X. We were surprised to find Y. It would be game changing if Z.

Break POV into pieces
Amp up the good/Remove the bad
Explore the opposite
Question an assumption
Go after adjectives
ID unexpected resources
Create an analogy from need or context
Change a status quo

Constraints Can Energize

“How would you design it with the technology of 100 years ago?”

“What if we had to spend at least a million dollars?”

“Only ideas that would get you fired”

“All ideas must use magic.”

Selecting a Good Problem or Solution Idea

- Frequency
  - want something that occurs often
- Density
  - lots of people experience it
- Pain
  - more than a small annoyance
- Interested
  - your team is motivated to work on this problem

Downselecting Ideas

- Celebrate the success of the brainstorm, take a break, vote!
- Option 1: Heat map voting
  - Everyone starts with an unlimited number of votes (small dots)
  - Then everyone gets 3 final votes on their absolute favorites (large dots) and 1 bonus dark horse vote
- Option 2: Category voting
  - Each person gets a specific number of votes (i.e., 5)
  - Specific categories (Most feasible idea, Craziest idea, Best long shot, my favorite but improbable, short term solution, etc.)
Design Thinking

- Empathize
- Define
- Ideate
- Prototype
- Test

From a resources and project management point of view: Prototyping reduces risk! Early failures are much cheaper (time and $) than late failures!

Next Assignment (due at Monday’s class)

1. Strive for diversity of solutions
2. Prototype: how?
3. Experience Prototype
what new information do you have about the user's need? TEST

what new information do you have about how your solution addresses the need?

Parallel Experience Prototyping Goal

- Prototype to test an assumption
- Prototype can be a piece of idea rather than a complete solution
- Think of it as a needfinding technique
Summary
Experience prototyping allows us to try many ideas quickly & learn more about the problem & solution space (prototype to learn).

Next Time
- Project (due Monday at start of class)
  - Flesh out POVs
  - Create HMWs
  - Brainstorm solutions & select the best
  - Create/test experience prototypes for top 3 solutions
  - Test each prototype with at least 1 target users
  - In presentation, get across what you learned!
  - Class will be used to select the idea to move forward