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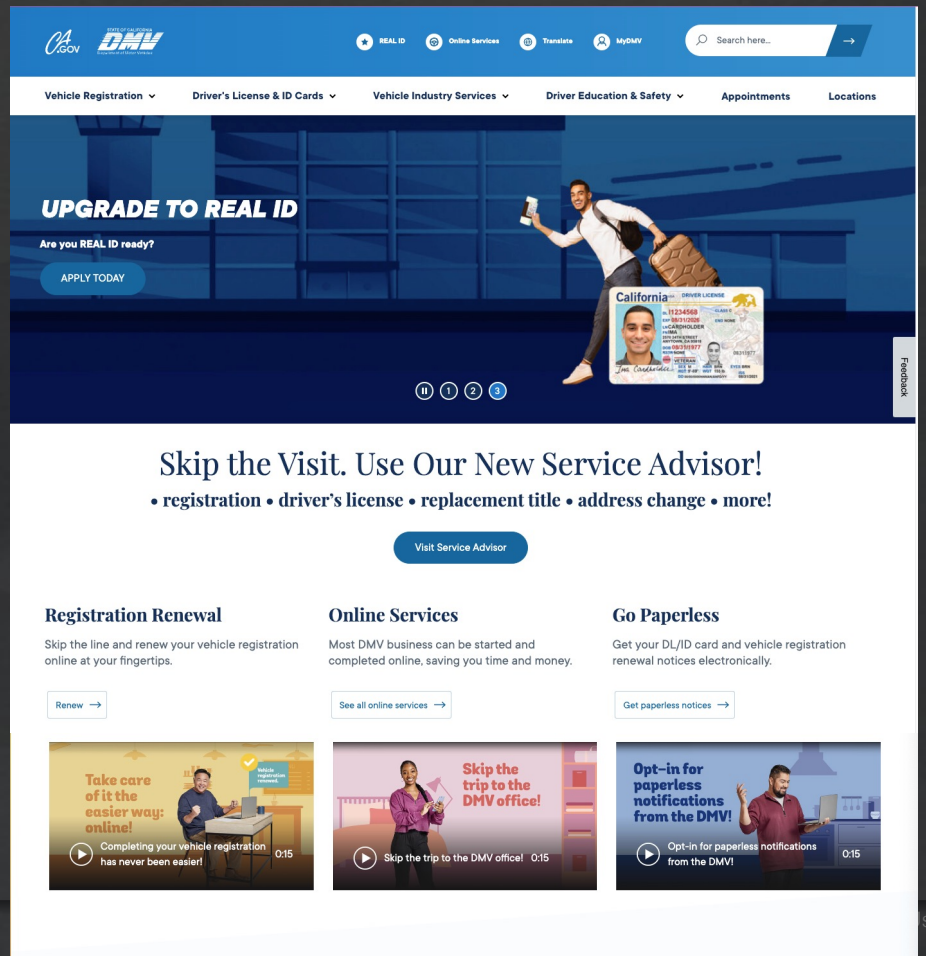
Define

Prof. James A. Landay
Computer Science Department
Stanford University

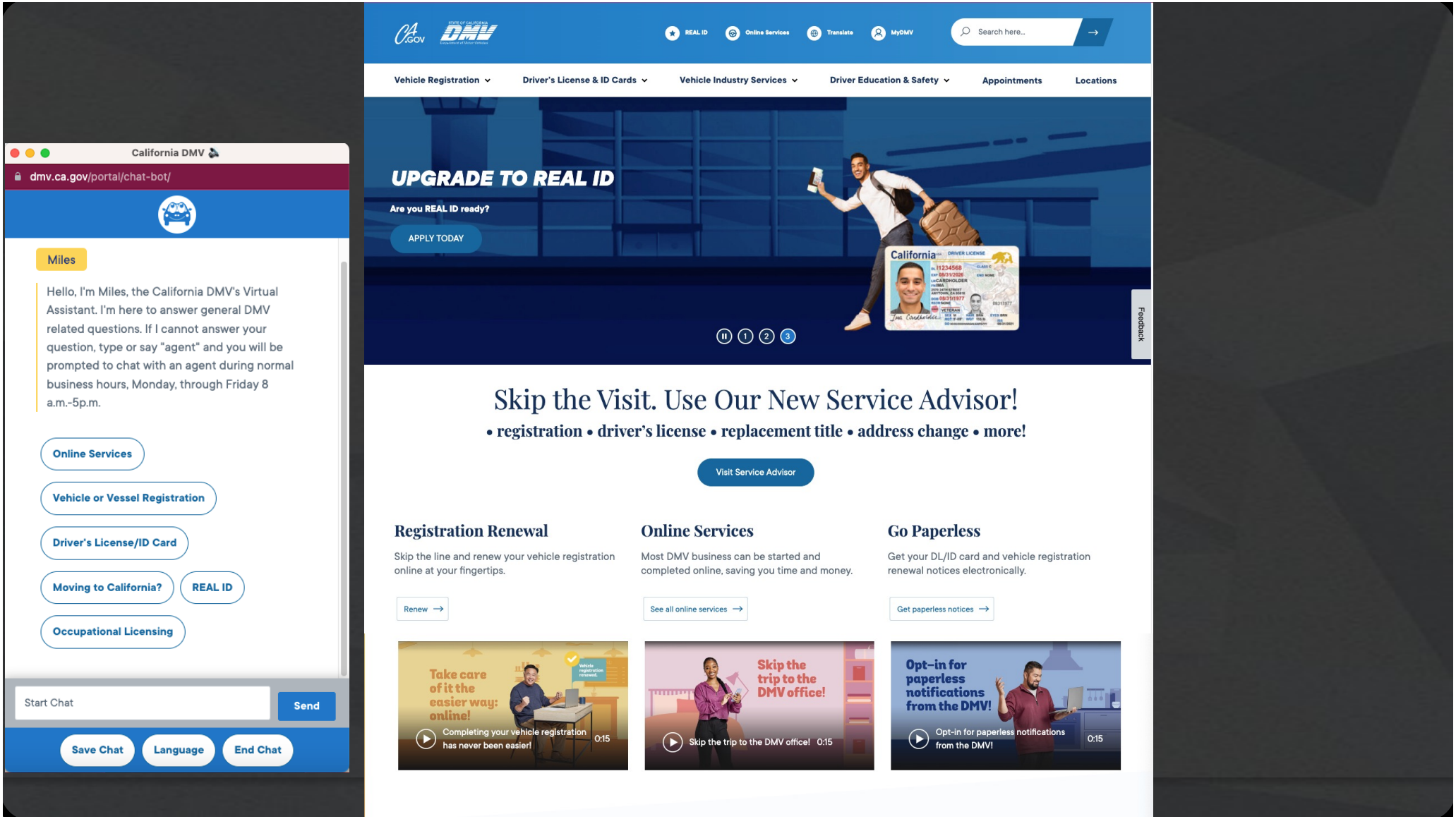
Autumn 2024
September 30, 2024

Slides adapted from d.leadership Define + Ideate slides (https://dschool.stanford.edu/groups/dleadership/wiki/59f08/dleadership_2015.html)
Additional resources from bootcamp bootleg (https://hci.stanford.edu/courses/cs147/2021/wi/readings/bootcamp_bootleg.pdf)

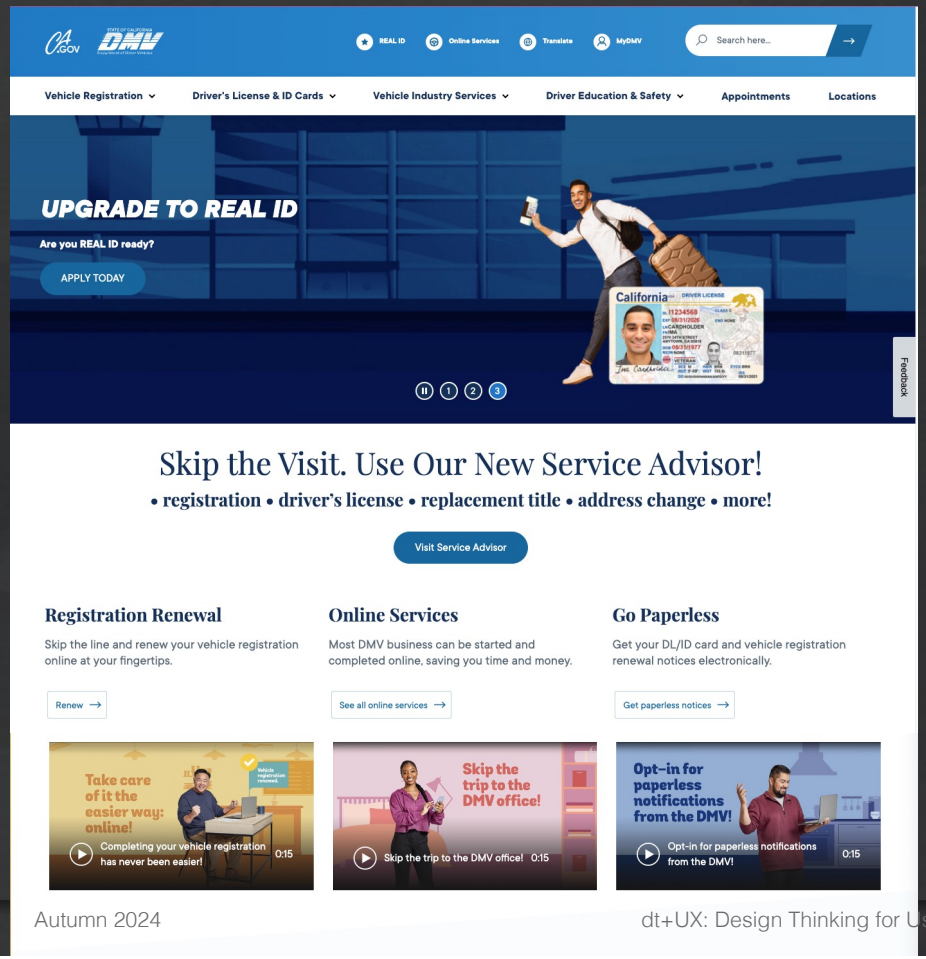
Hall of Fame or Shame?



http://dmv.ca.gov


California DMV
dmv.ca.gov/portal/chat-bot/
Miles
Hello, I'm Miles, the California DMV's Virtual Assistant. I'm here to answer general DMV related questions. If I cannot answer your question, type or say "agent" and you will be prompted to chat with an agent during normal business hours, Monday, through Friday 8 a.m.-5p.m.
Online Services
Vehicle or Vessel Registration
Driver's License/ID Card
Moving to California?
REAL ID
Occupational Licensing
Start Chat
Send
Save Chat
Language
End Chat
REAL ID
Online Services
Translate
MyDMV
Search here...
Vehicle Registration
Driver's License & ID Cards
Vehicle Industry Services
Driver Education & Safety
Appointments
Locations
UPGRADE TO REAL ID
Are you REAL ID ready?
APPLY TODAY
Feedback
Skip the Visit. Use Our New Service Advisor!
• registration • driver's license • replacement title • address change • more!
Visit Service Advisor
Registration Renewal
Skip the line and renew your vehicle registration online at your fingertips.
Renew
Online Services
Most DMV business can be started and completed online, saving you time and money.
See all online services
Go Paperless
Get your DL/ID card and vehicle registration renewal notices electronically.
Get paperless notices
Take care of it the easier way: online!
Completing your vehicle registration has never been easier!
0:15
Skip the trip to the DMV office!
Skip the trip to the DMV office! 0:15
Opt-in for paperless notifications from the DMV!
Opt-in for paperless notifications from the DMV!
0:15

Hall of Fame!



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

- Large wasted first read: "UPGRADE TO REAL ID". And large image! (rotates among 3)
- Have to click through menus to get to tasks

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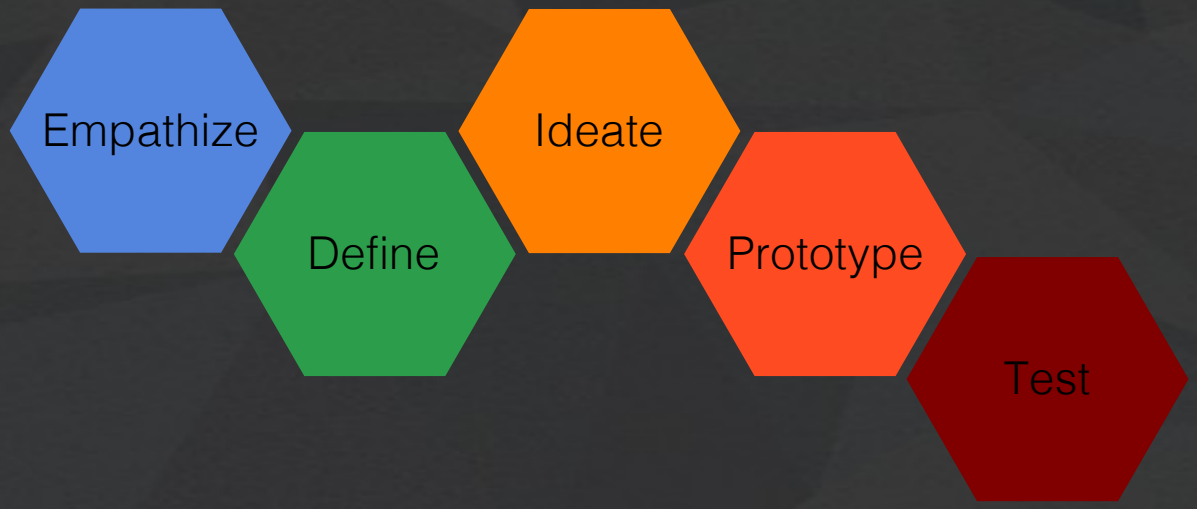
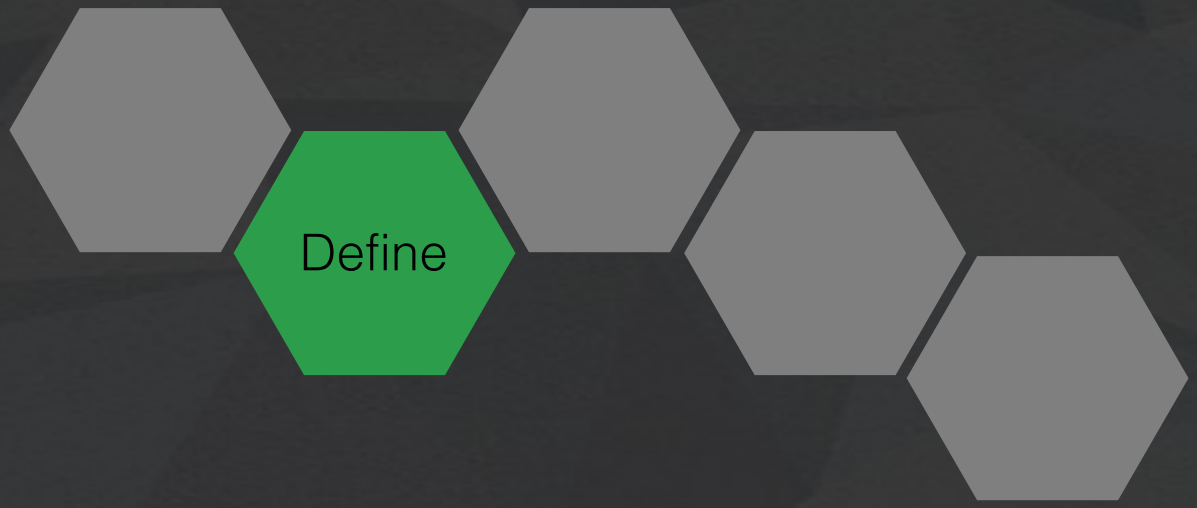
Outline

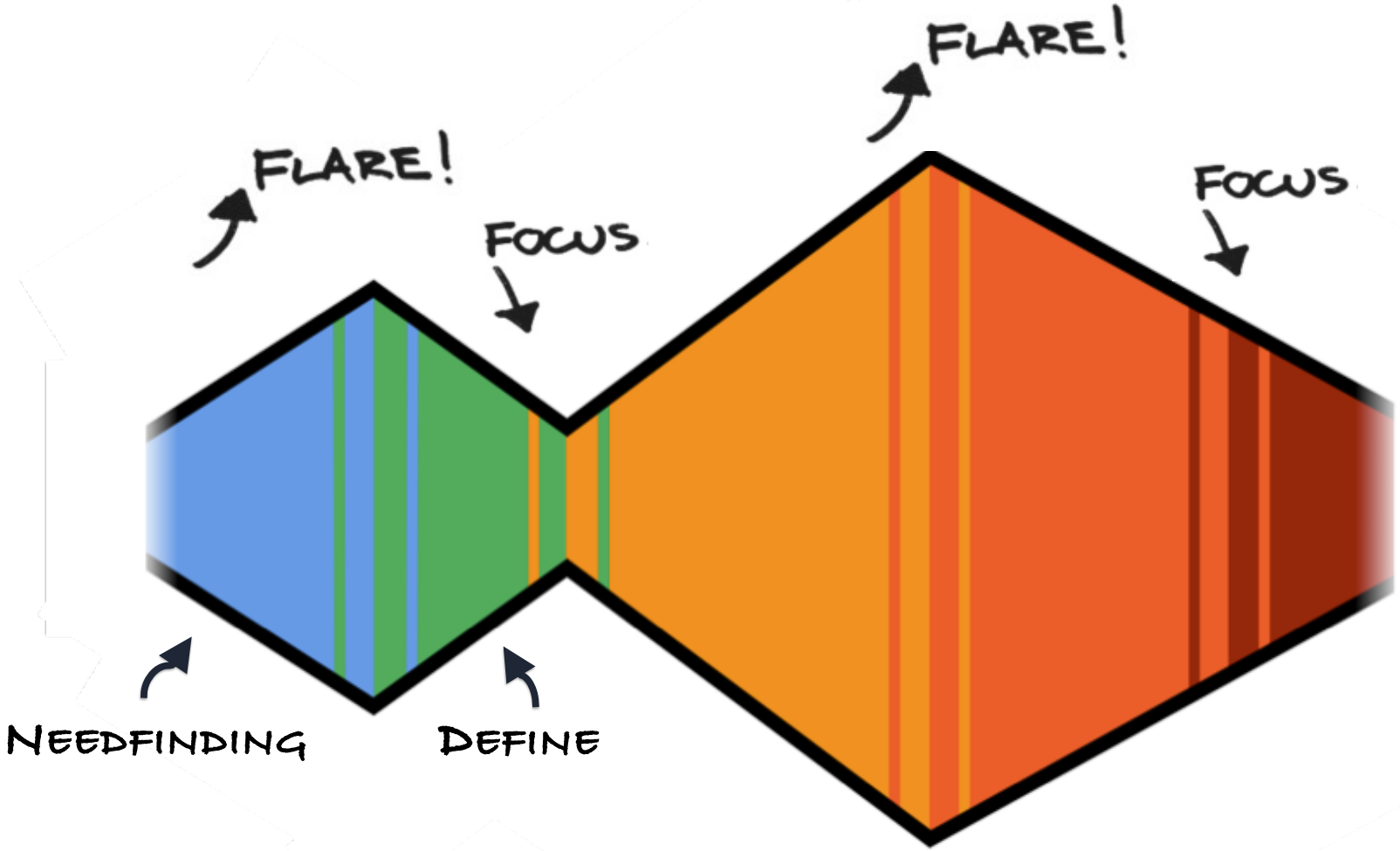
- Design thinking process
- Inferring insights
- Point of views
- Administrivia
- Team break
- Unpacking data
- Writing & evaluating POVs

Design Thinking



Design Thinking

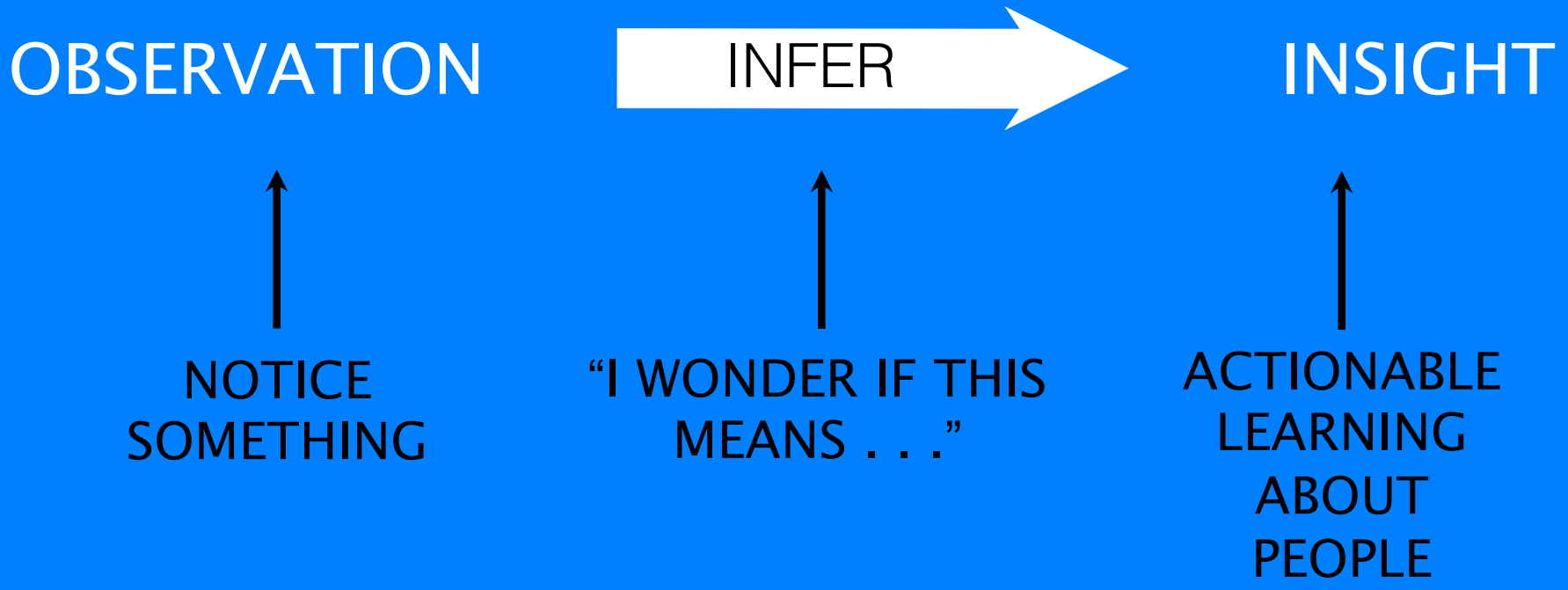


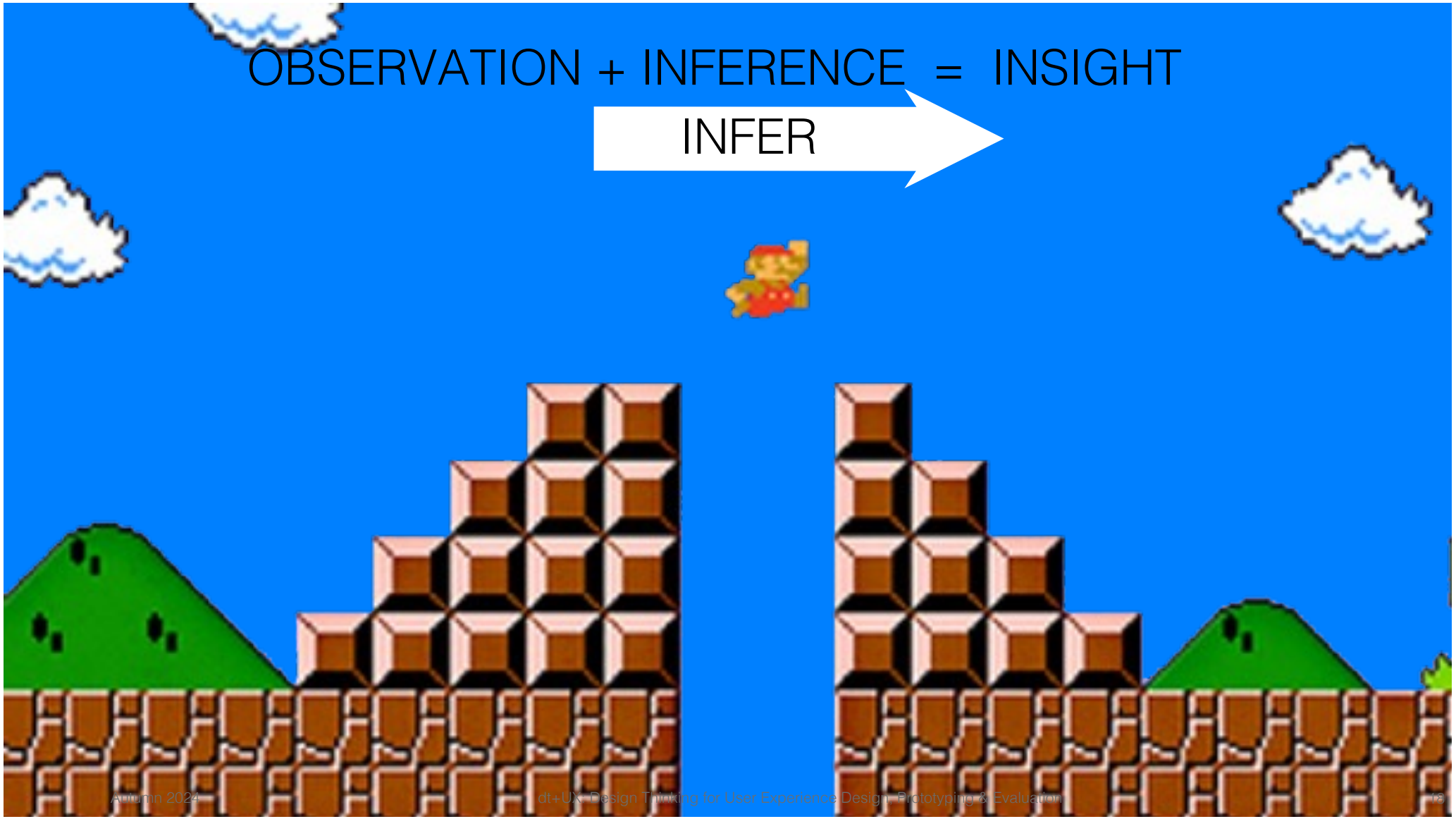

FLARE!
FOCUS
FLARE!
FOCUS
NEEDFINDING
DEFINE

REALIZE

FOCUS

REALIZE
NEW
INSIGHTS
REFRAME THE PROBLEM.
UNCOVER OPPORTUNITIES.


OBSERVATION
INFER
INSIGHT
NOTICE SOMETHING
“I WONDER IF THIS MEANS . . .”
ACTIONABLE LEARNING ABOUT PEOPLE


OBSERVATION + INFERENCE = INSIGHT
INFER

THE SELL:

TIDE REMOVES TOUGH STAINS & KILLS GERMS

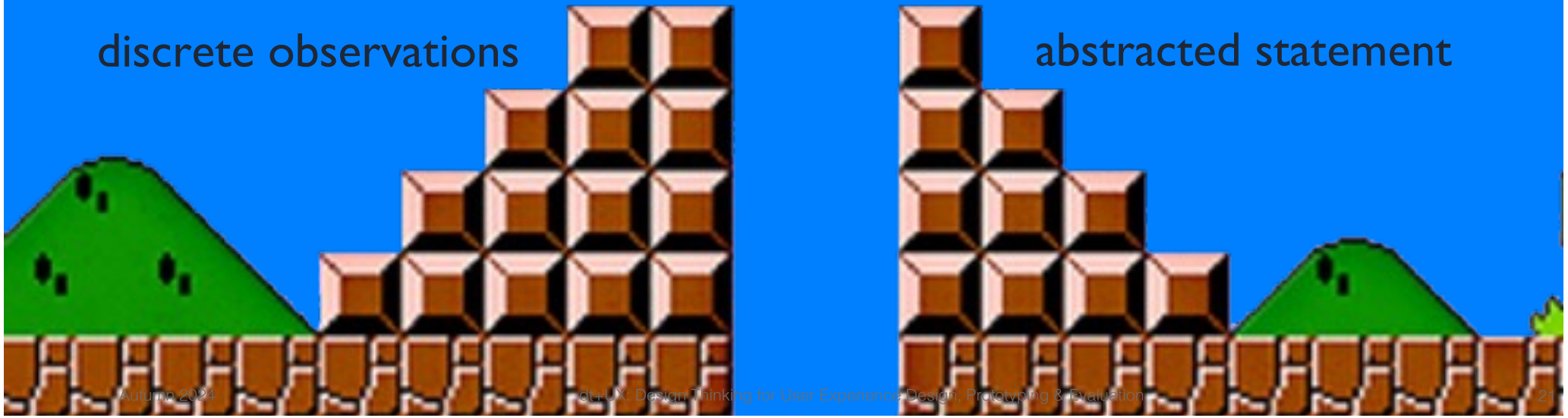
We heard:
"I rarely wash my jeans, I want them to look great longer"

We observed:
Jeans on the back of a chair

Millennials care about their clothes, and that means not cleaning them

discrete observations

abstracted statement



The Perennial Objective:

IMPROVE THE STAIN-REMOVING PERFORMANCE OF TIDE

The Realization:

IT'S NOT ABOUT CLEANING. IT'S ABOUT CARING FOR CLOTHES.

REALIZE

FOCUS

FOCUS ON *ONE* MEANINGFUL CHALLENGE

Focus by Writing a “Point of View”

A unique, concise reframing of the problem that is grounded in user needs & insights.

Focus by Writing a “Point of View”

A unique, concise reframing of the problem that is grounded in user needs & insights.

Focus by Writing a “Point of View”

WE MET . . .
(**person** you are inspired by)

WE WERE SURPRISED TO NOTICE. . .
(**tension, contradiction, or surprise**)

WE WONDER IF THIS MEANS. . .
(what did you infer? **need**—verb reflecting user needs)

IT WOULD BE GAME-CHANGING TO. . .
(Frame up an **inspired challenge** for your team.
NOT a reason for the need! Not a solution, but a **more informed problem**)

Focus by Writing a “Point of View”

WE MET . . .

Chuck, a young millennial living in an apartment in SoCal

WE WERE SURPRISED TO NOTICE. . .

he says he cares about his jeans, but he **doesn’t wash** them often

WE WONDER IF THIS MEANS. . .

he believes the best way to **protect** his jeans is to **not wash** them

NEED

IT WOULD BE GAME-CHANGING TO. . .

help him **care for his clothes** while keeping them clean

INSIGHT

60
LOADS*
Tide
TOTALCARE™
HELPS REVEAL THE
7 SIGNS
OF BEAUTIFUL CLOTHES
FOR HIGH EFFICIENCY MACHINES
renewing rain™
DETERGENT
CAUTION: EYE IRRITANT. HARMFUL IF SWALLOWED. SEE CAUTION ON BACK LABEL.
150 FL OZ (1.17 GAL) 4.43 L

https://hips.hearstapps.com/hmg-prod.s3.amazonaws.com/images/acid-wash-jeans-1612804998.png?crop=0.505xw:1.00xh;0.192xw,0&resize=980:*

Making Art Accessible to Young Professionals

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.

The presumed mindset:

ART IS DEEPLY PERSONAL.

The realization:

ART IS FASHION ON THE WALL.

Focus by Writing a “Point of View”

WE MET . . .
(**person** you are inspired by)

WE WERE SURPRISED TO NOTICE. . .
(**tension, contradiction, or surprise**)

WE WONDER IF THIS MEANS. . .
(what did you infer? **need**—verb reflecting user needs)

IT WOULD BE GAME-CHANGING TO. . .
(Frame up an **inspired challenge** for your team.
NOT a reason for the need! Not a solution, but a **more informed problem**)

WE MET . . .

Joel, a guy in his twenties with a good job and a new apartment

WE WERE SURPRISED TO NOTICE . . .

He worries his **taste was unrefined** when the pieces he liked didn't align with the more expensive prices

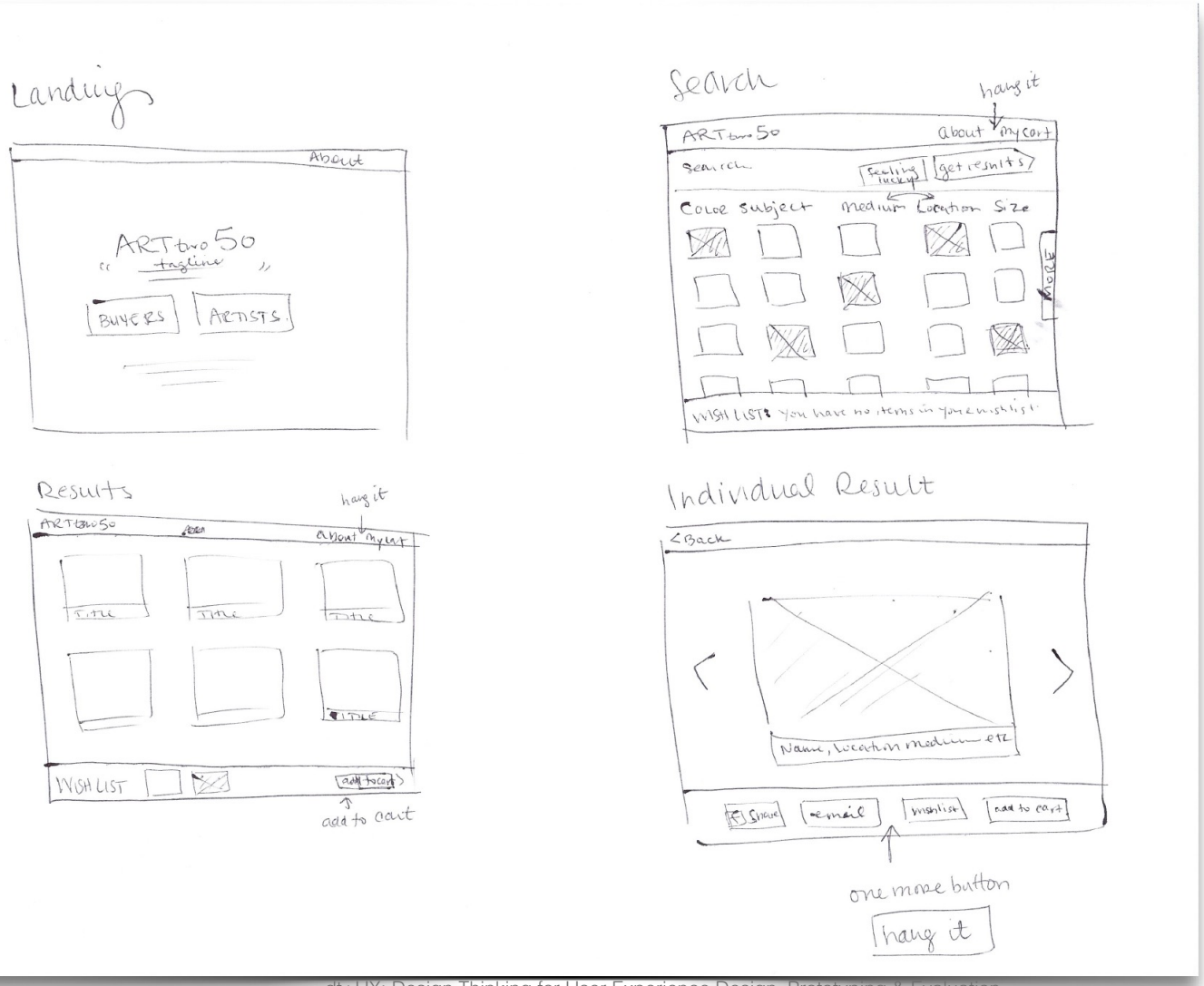
WE WONDER IF THIS MEANS . . .

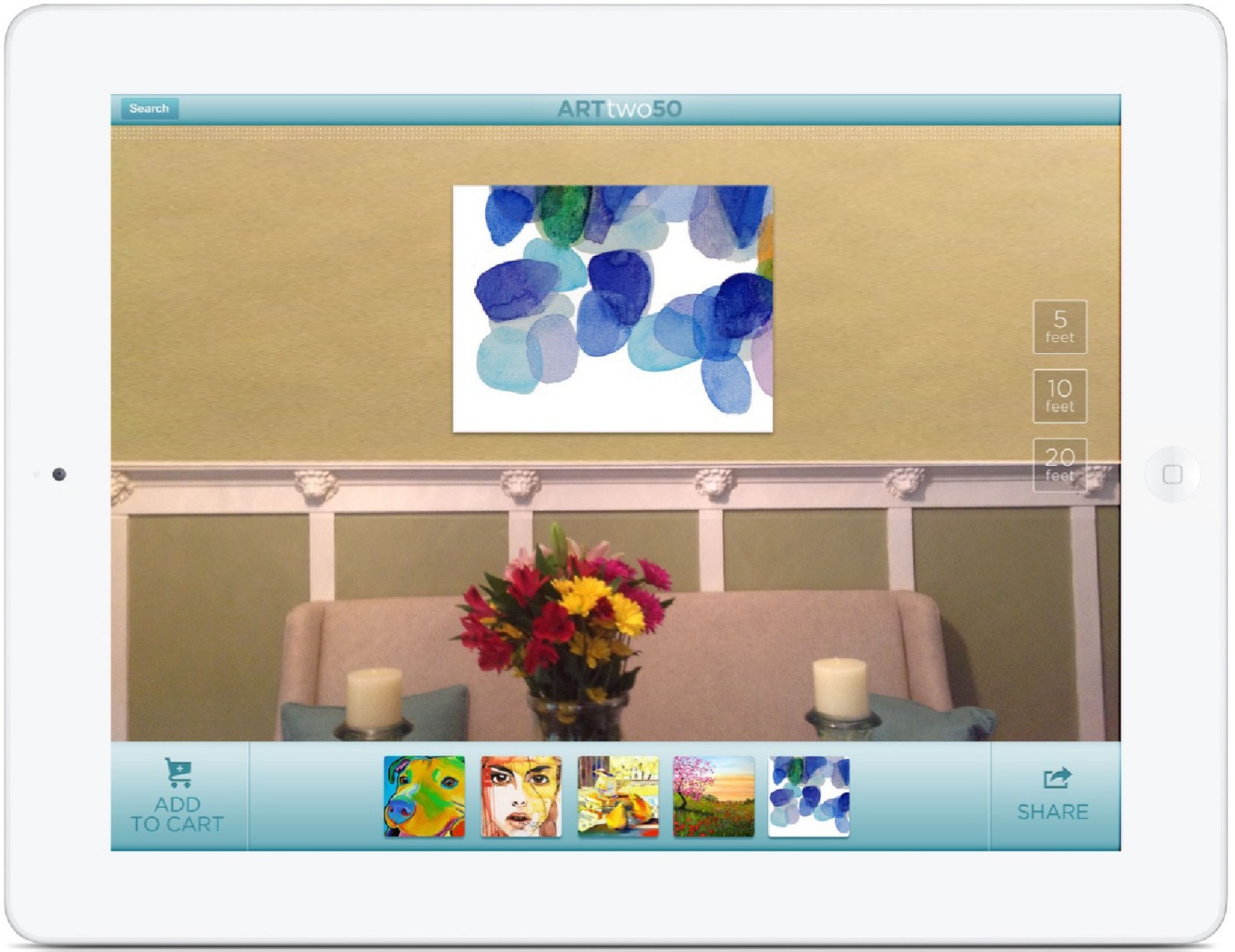
Joel views **art as fashion** on the wall: he wants to **impress** his friends with his taste in art

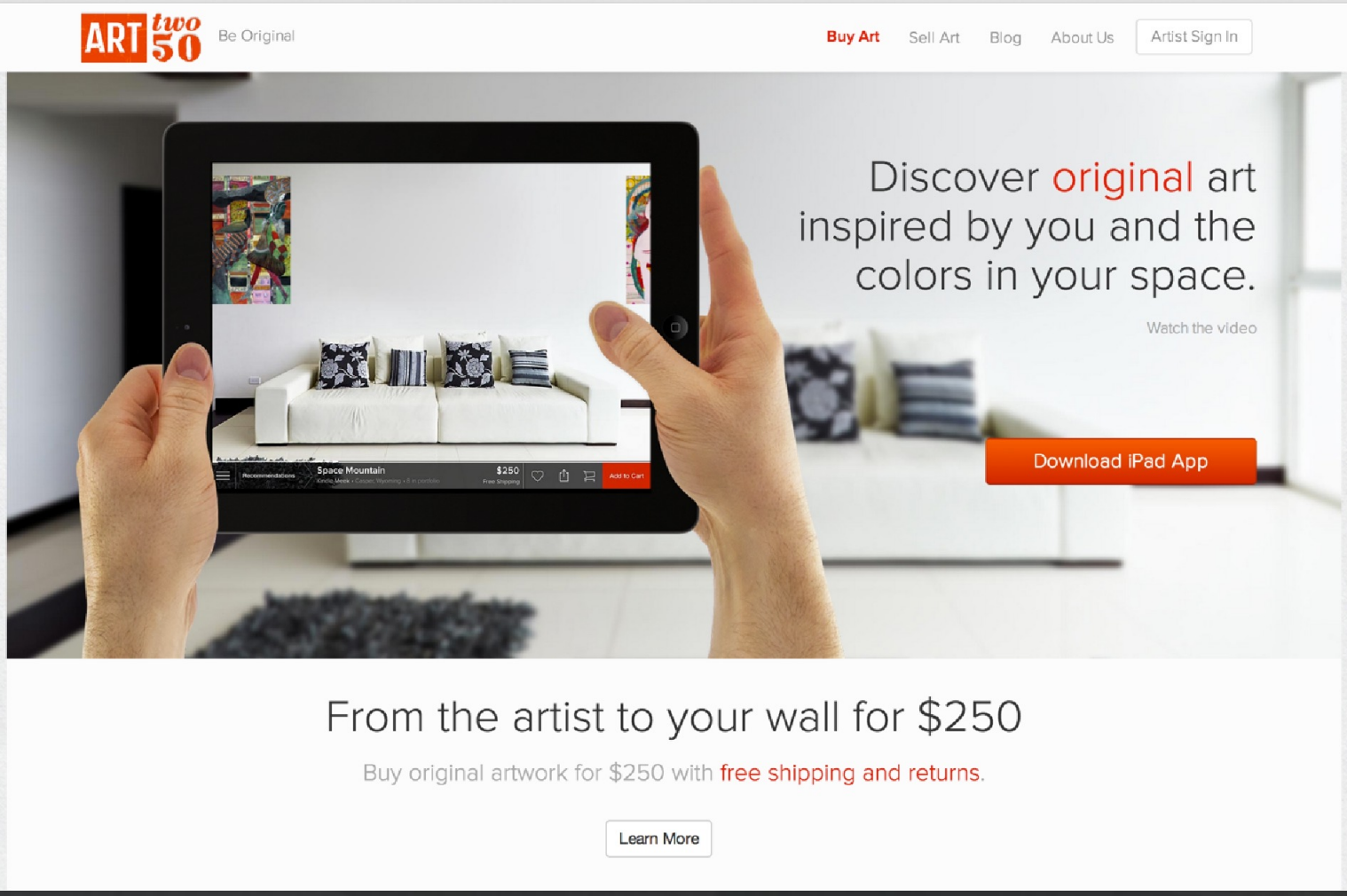
NEED

IT WOULD BE GAME-CHANGING TO . . .

help buyers **cut** through the **paralysis of doubt** ← INSIGHT


Landing
About
ARTtwo50
tagline
BUYERS
ARTISTS
Search
hang it
ARTtwo50
About
myCart
search
feeling lucky
get results
Color
subject
medium
location
size
WISH LIST: you have no items in your wishlist.
Results
hang it
ARTtwo50
About
myCart
TITLE
WISH LIST
add to cart
add to cart
Individual Result
<Back
Name, location, medium, etc
share
email
wishlist
add to cart
one more button
hang it


Search
ARTtwo50
5 feet
10 feet
20 feet
ADD TO CART
SHARE


ART two 50
Be Original
Buy Art
Sell Art
Blog
About Us
Artist Sign In
Discover original art inspired by you and the colors in your space.
Watch the video
Download iPad App
Space Mountain
$250
Add to Cart
From the artist to your wall for $250
Buy original artwork for $250 with free shipping and returns.
Learn More

Team Wanderlust

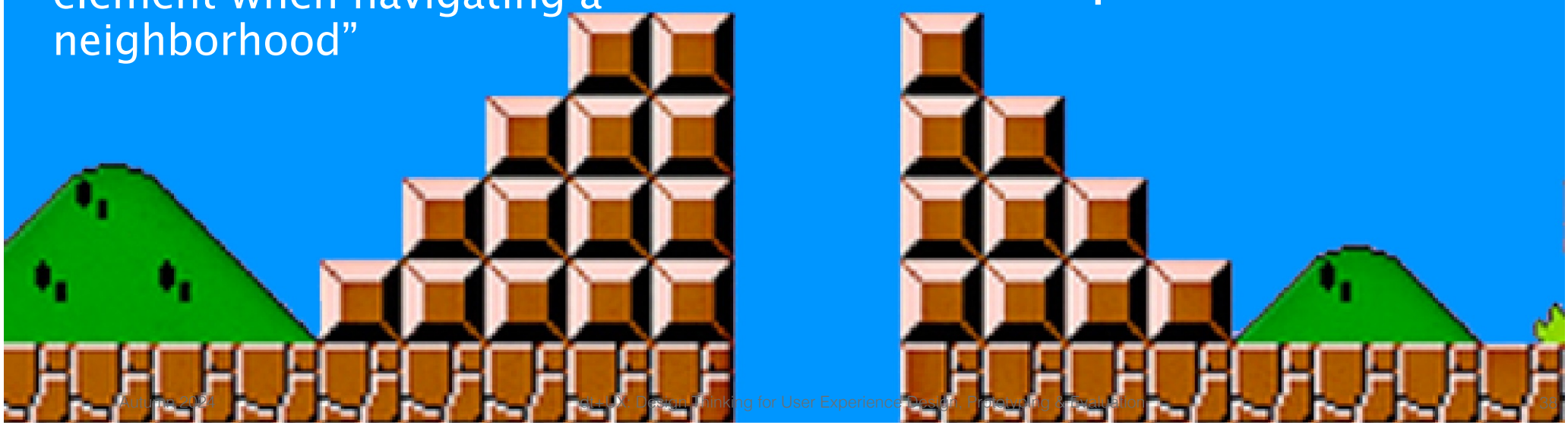
We heard:

"[I'm] a person who only goes to places one always goes – safe bets."

"when visitors come or I'm with other people, I'm motivated to research and explore new places"

"safety is the most important element when navigating a neighborhood"

People are not always searching for the sure thing and other people can serve as motivation to explore new areas



WE MET . . .

Lena, a **newcomer** to the city, who is **afraid to stray** from her routine path

WE WERE SURPRISED TO NOTICE . . .

she **enjoyed diverging** from her usual route to find a restaurant **for her friend** who was visiting

WE WONDER IF THIS MEANS. . .

people are willing to explore **if they feel safe**

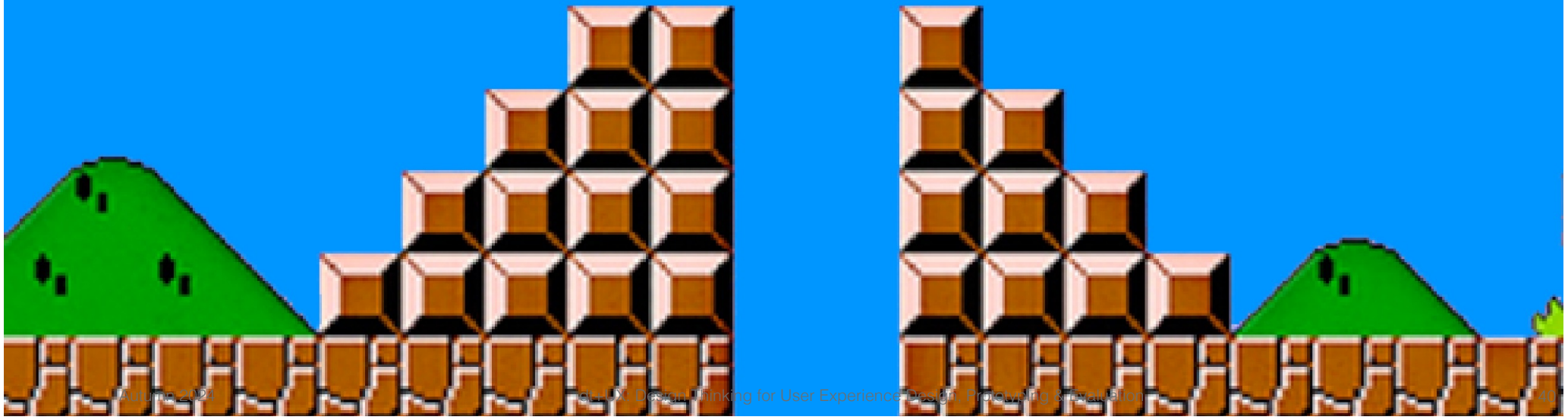
IT WOULD BE GAME-CHANGING TO . . .

motivate people to **explore unfamiliar places**

Team Wanderlust

We heard:
"there was a time that I only had a final destination to visit. Since I wasn't in a rush, as long as I arrived to my final destination, routes did not matter."

The fastest route is not always the preferable route. People need a way to customize their routes depending on context/purpose.



WE MET . . .

JunGu, a short-time visitor from Korea, **exploring the area on his way to a destination**

WE WERE SURPRISED TO NOTICE . . .

people are **not always searching for the fastest** route

WE WONDER IF THIS MEANS. . .

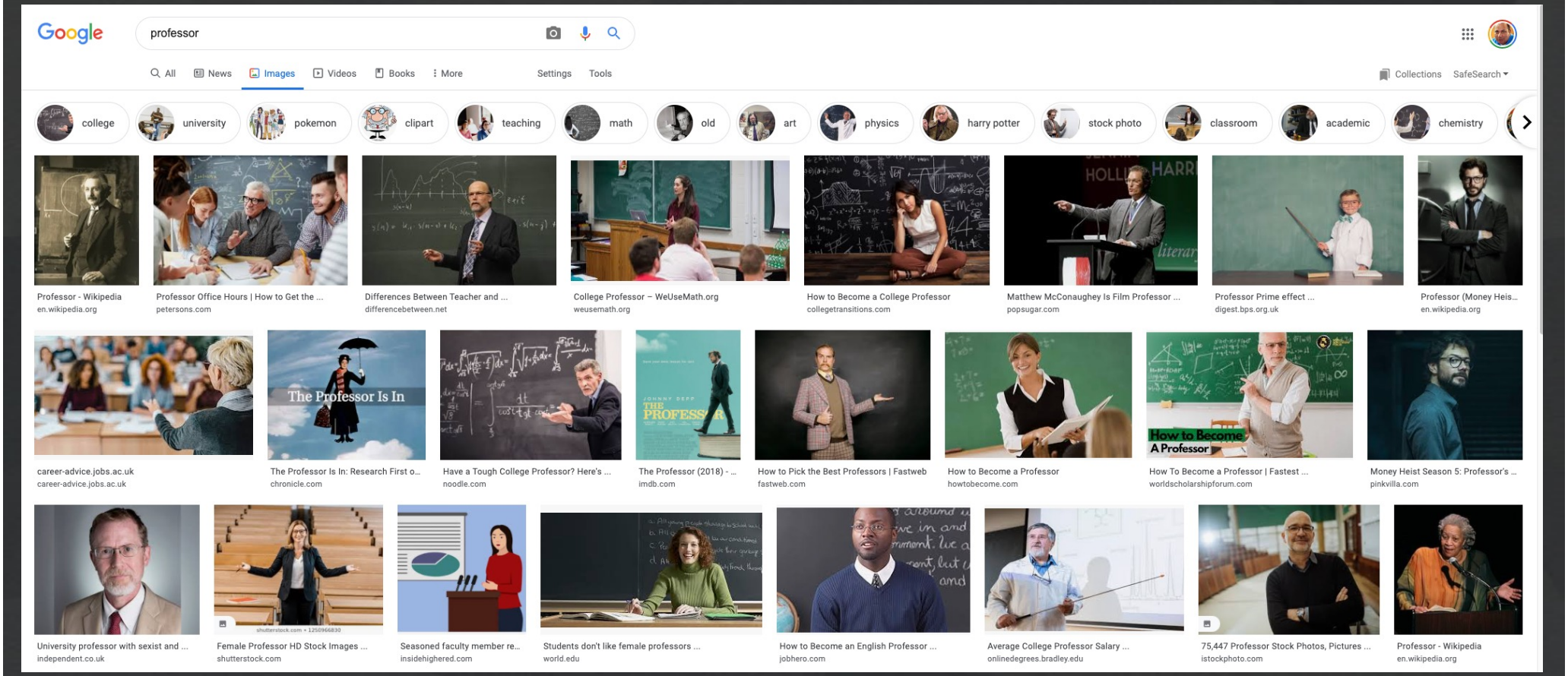
people would like to select **more interesting routes**

IT WOULD BE GAME-CHANGING TO . . .

customize routes based on one's travel goals (interest)

Too much of a solution

POV **Will** Differ Depending On Who You Talk To



Guidelines for Gender Equity and Inclusivity

- HCI Guidelines for Gender Equity and Inclusivity, by Morgan Klaus Scheuerman, Katta Spiel, Oliver L. Haimson, Foad Hamidi, Stacy M. Branham
  [note: lots of good material on this page, but linking directly to the survey section, as relevant for everyone]

Discussion Guide Resources

- Creating an Effective Discussion Guide for User Research, Medium
- 5 Steps to Create Good User Interview Questions, Medium
- Asking the right questions during user research, interviews, and testing, uxdesign.cc, Medium
- Sample UX Research Plan (discussion guide + context), Smashing Magazine
- Just Enough Research, by Erika Hall of Mule Design, Talk at UX Salon 2016 (30 min. video)

Administrivia

- Studio assignment stats

1st choice	2nd choice	3rd choice	4th choice	5th choice	6th choice
77	17	11	3	0	0

- OAE letters – if you have one send to me & Shardul ASAP
- Open mindedness in design
  - follow the needfinding!

Administrivia

- Readings for today
  - *Tips for Working Successfully in a Group* by Randy Pausch
  - *The Discipline of Teams* by Katzenbach and Smith, Harvard Business Review
  - *How to Survive a Critique: A Guide to Giving and Receiving Feedback* by Karen Cheng
- Listen
  - Invisible Women, 99% Invisible, Episode 363 (39 minutes)
- What did you think?

Administrivia: AI Policy

AI policy: In recent years, AI tools have become more and more powerful, and they have been gaining wider adoption in the software development industry. However, AI tools can also inhibit the learning process by undermining the struggle and effort it takes to truly learn a new skill.

Taking these factors into mind, we are going to try a new, experimental AI policy this quarter in CS 147. For all assignments except for implementing the Hi-Fi (A8), we ask that you do *not* use AI tools to complete the assignment. These assignments will help you build fundamental design thinking and prototyping skills. For implementing the Hi-Fi prototype (A8), we will allow free use of AI tools as long as their use is credited appropriately in your submission.

Team Meeting Agenda

1. **Schedule weekly meeting** times (2-3)
2. **Make a plan** for how you will get the rest of your interviews & presentation slides done for Thur/Fri
3. Folks who have days where they know they won't be at studio, **schedule your presentations now** & make sure the team is covered & work is made up
4. **Go over the homework assignment** carefully & ask clarifications of your CA or of me during/after break

TEAM MEETING

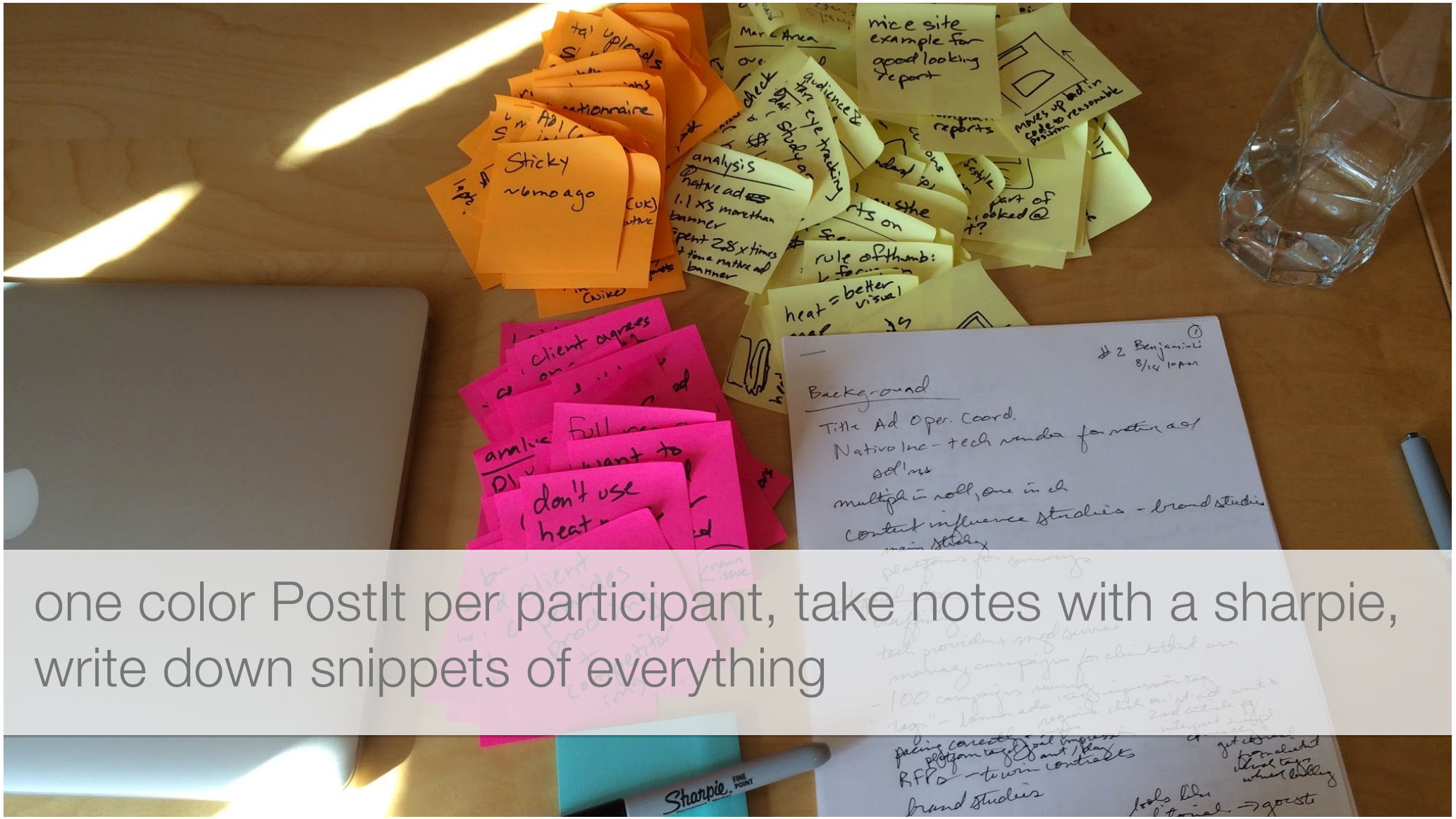
Point of View: How?

- **Unpack** your empathy work
- Leap from observations to identifying **users**, **needs**, & **insights**
- **Reframe** the problem as a Point of View (POV)

UNPACK

INSIGHTS

POINT OF VIEW

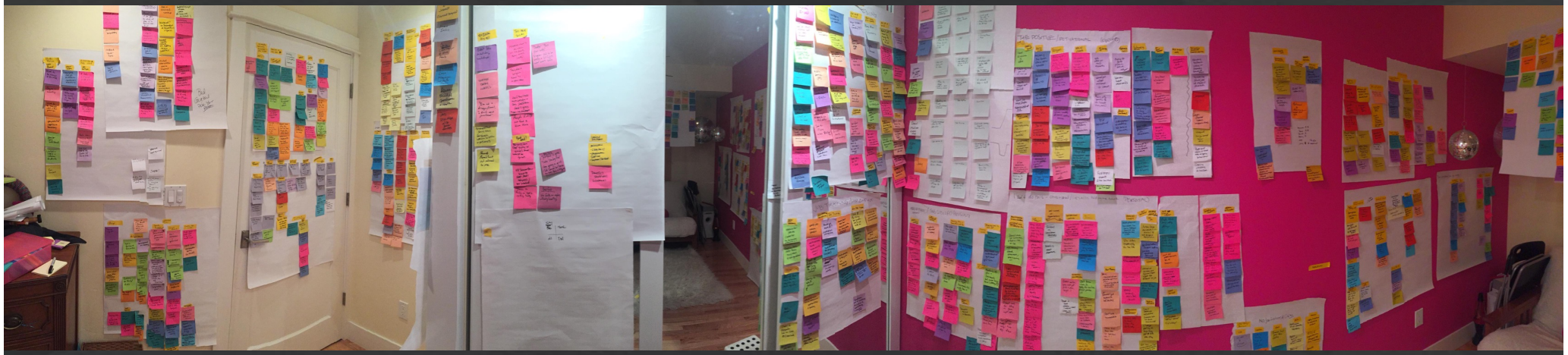


one color PostIt per participant, take notes with a sharpie, write down snippets of everything

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

Get Them up on a Wall…

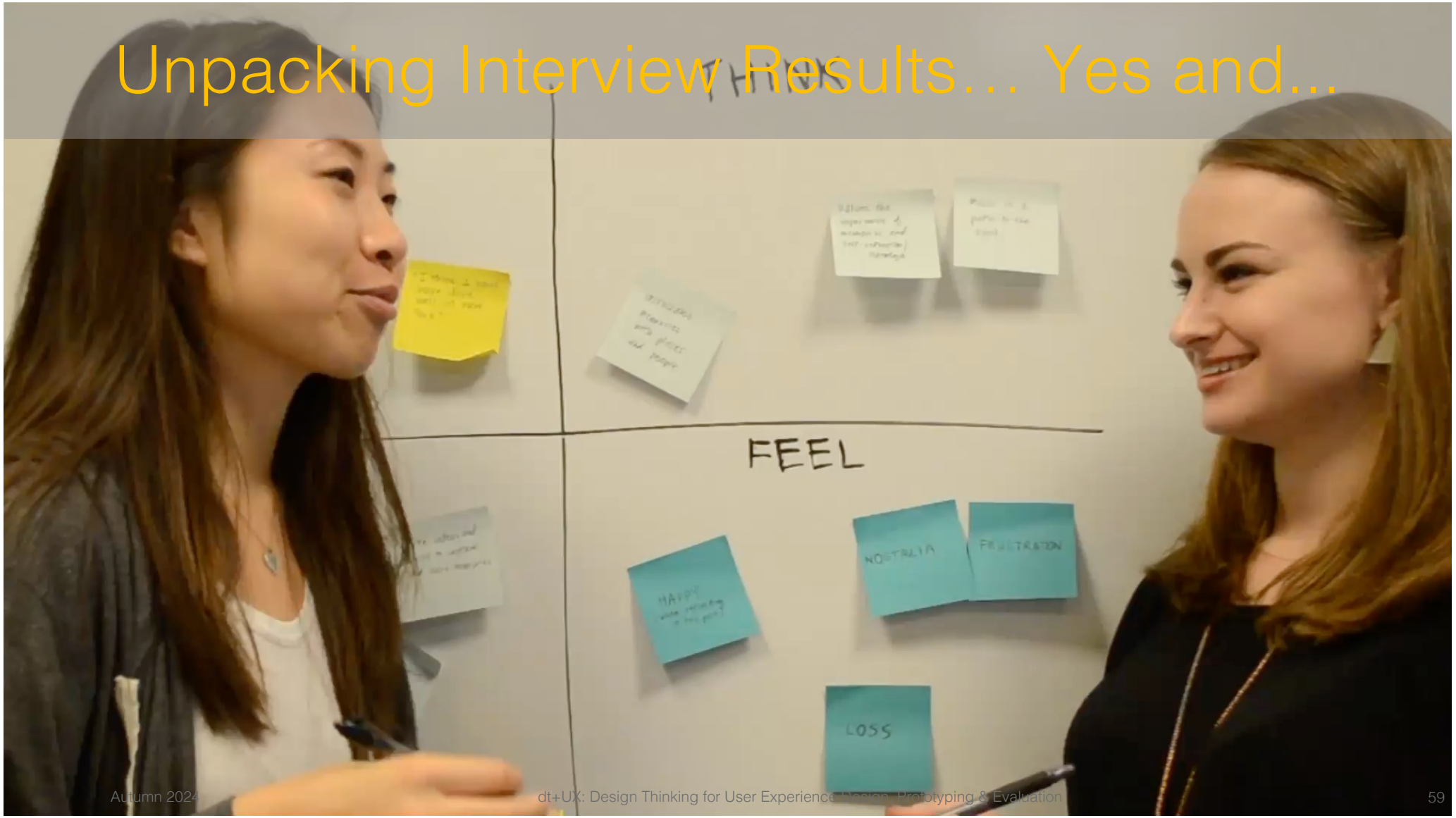


Organize & discuss

Share your Field Stories

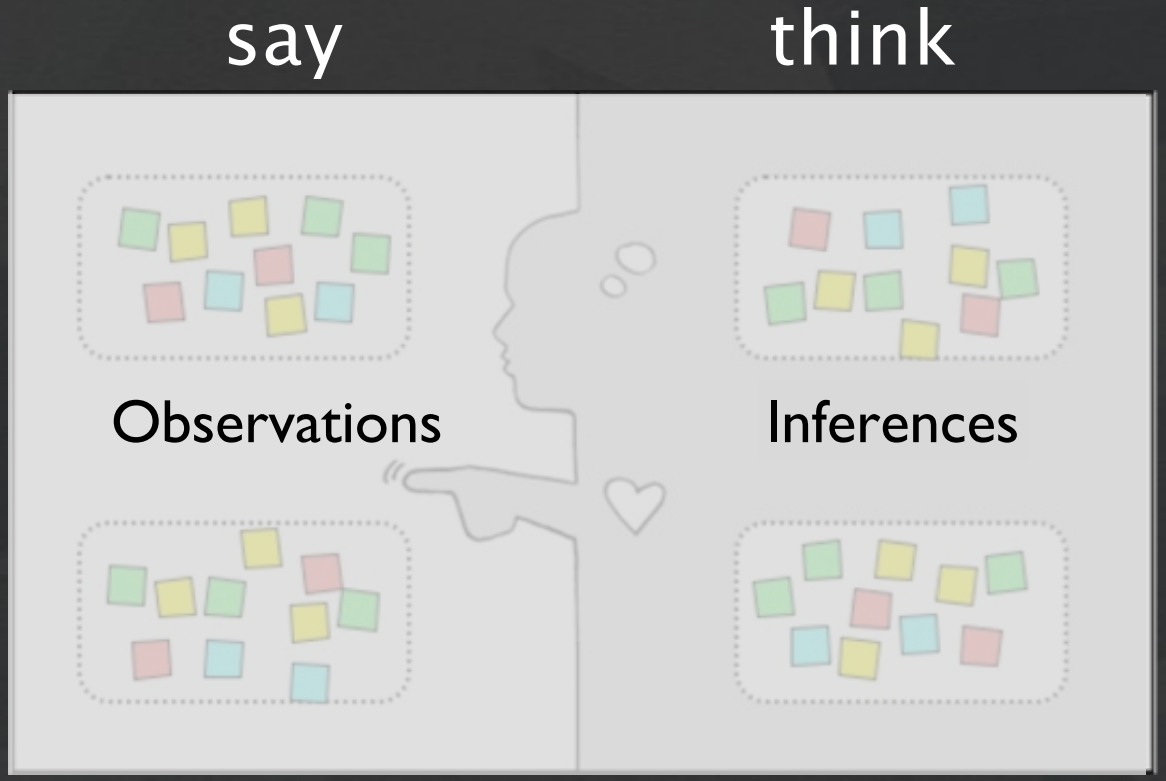
Recall Our Interviews With Bruno...

Unpacking Interview Results… Yes and...



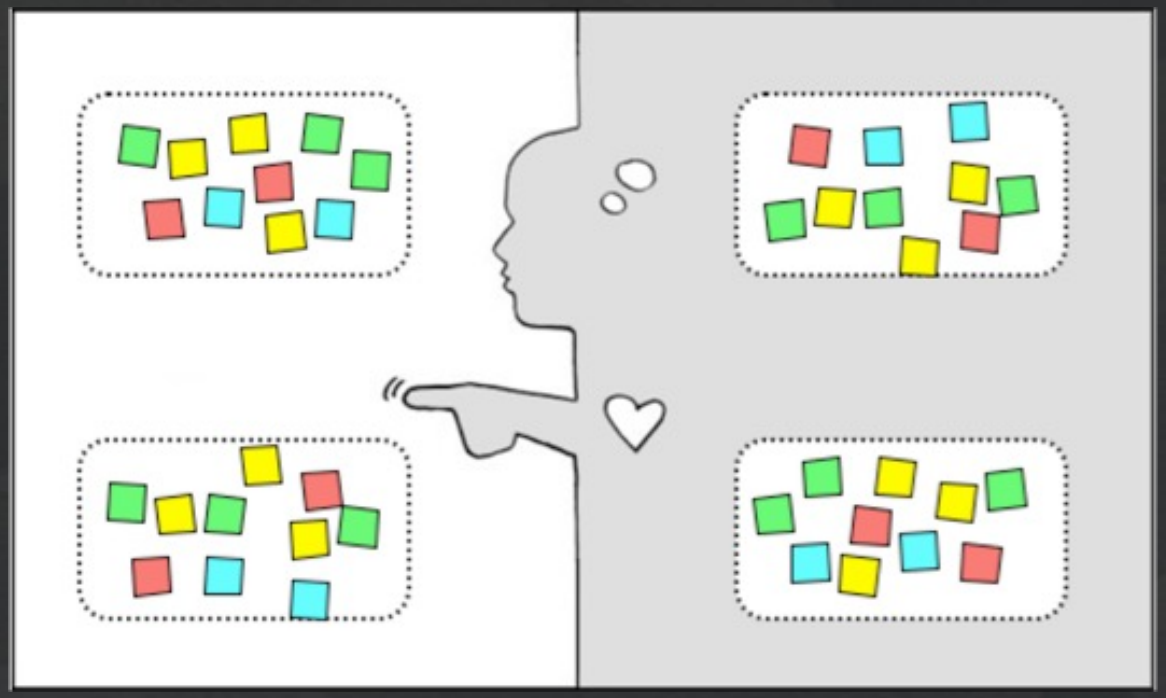
Unpacking Interview Results… Don’t do this!

Empathy Map to Help Synthesize



Unpacking Interview Results…

Empathy Map to Help Synthesize



KEEP A LIST OF

TENSIONS, CONTRADICTIONS, SURPRISES

USE TO FIND NEEDS & INSIGHTS

Identifying Needs

WHAT DOES SHE NEED?

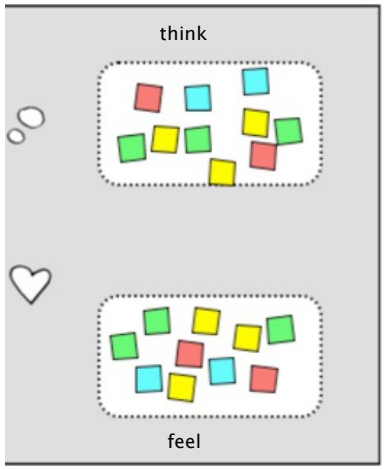
- A ladder, more books, …
  - NO, these are solutions
- Acknowledgement from her peers that she is a hard worker?
- A strong voice driven by knowledge & education?
- More social time with her father through reading together?
- These needs are more **powerful** & **inspiring** for design

UNPACK

INSIGHTS

POINT OF VIEW

I wonder if this means . . .

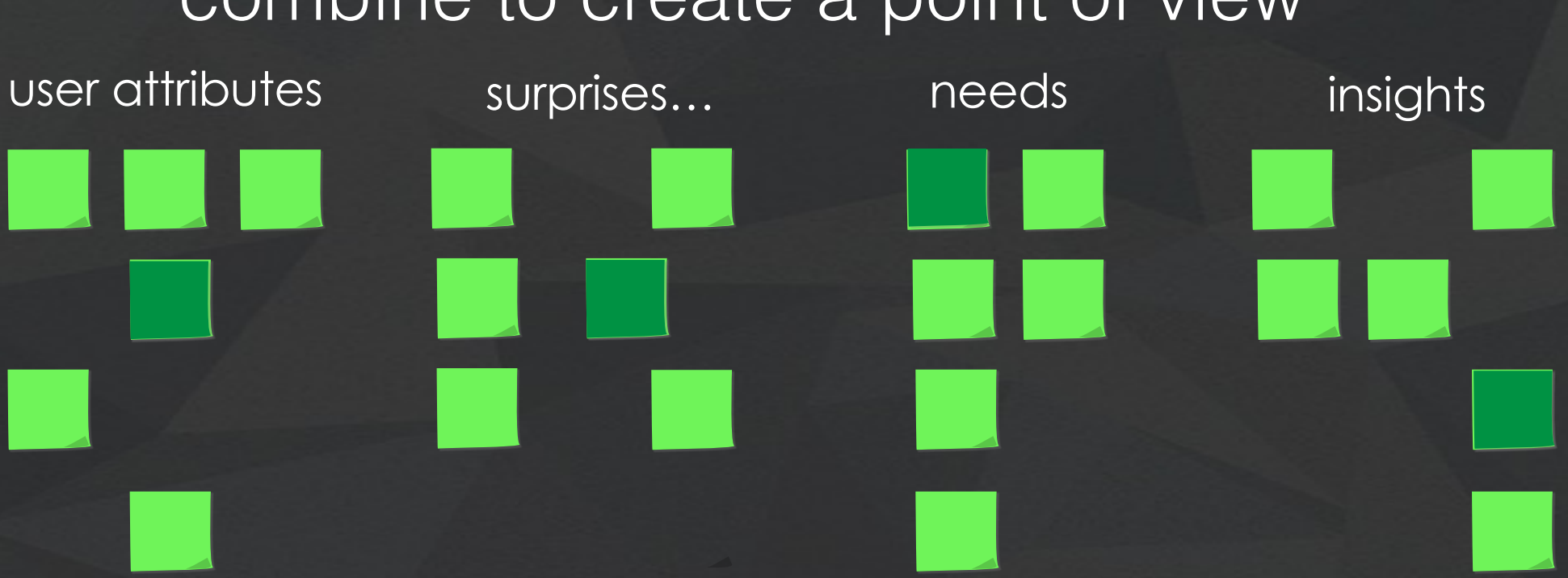


TENSIONS,
CONTRADICTIONS,
SURPRISES

NEEDS & INSIGHTS

identify attributes, surprises, needs, & insights

combine to create a point of view



combine to create a point of view

UNPACK

INSIGHTS

POINT OF VIEW

Point of View

WE MET . . .
(**person** you are inspired by)

WE WERE SURPRISED TO NOTICE. . .
(**tension, contradiction, or surprise**)

WE WONDER IF THIS MEANS. . .
(what did you infer? **need**—verb reflecting user needs)

IT WOULD BE GAME-CHANGING TO. . .
(Frame up an **inspired challenge** for your team. The **insight**.
NOT a reason for the need! Not a solution, but a **more informed problem**)

Characteristics of A Good Point of View

- Provides **focus** & **frames** the problem
- **Inspires** your team
- Provides a **reference for evaluating** competing ideas
- **Fuels brainstorms** by suggesting “how might we” statements
- **Captures the hearts and minds** of people you meet
- Saves you from the impossible task of developing concepts that are **all things to all people**
- Is something you **revisit & reformulate** as you learn

DO IT NOW:

UNPACK: note the say, do, think, & feel

NEEDS/INSIGHTS: infer from observations

POINT OF VIEW: 1 written sentence

the truck owner

https://vimeo.com/9212719

Do It Now:

UNPACK: note the say, do, think, & feel

SURPRISES: surprises, tensions, & contradictions

NEEDS: infer from the observations above

INSIGHTS: take a leap as to what the real problem is

POINT OF VIEW: 1 written sentence

We met X

We were surprised to notice…

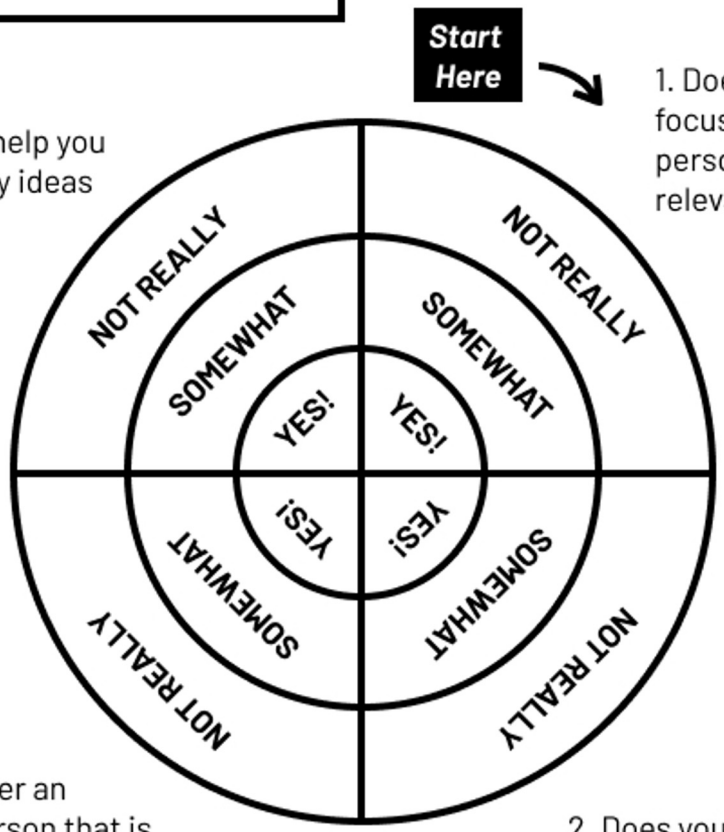
We wonder if this means…

It would be game-changing to…

POVs for the truck owner

- We met…
- We were surprised to notice…
- We wonder if this means…
- It would be game changing to…

EVALUATE YOUR POV

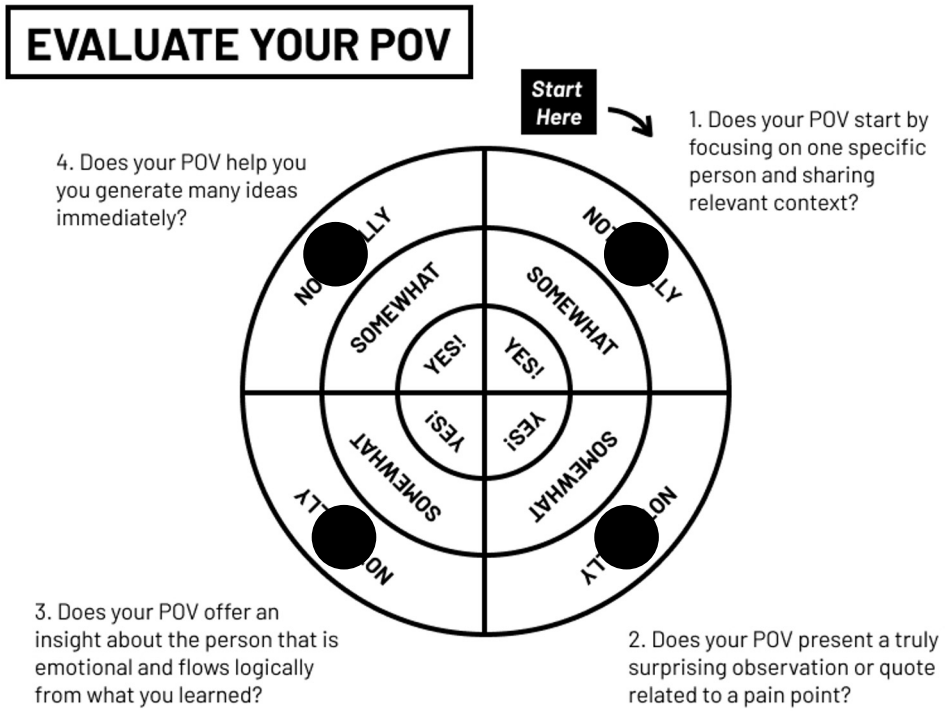


1. Does your POV start by focusing on one specific person and sharing relevant context?

2. Does your POV present a truly surprising observation or quote related to a pain point?

3. Does your POV offer an insight about the person that is emotional and flows logically from what you learned?

4. Does your POV help you you generate many ideas immediately?

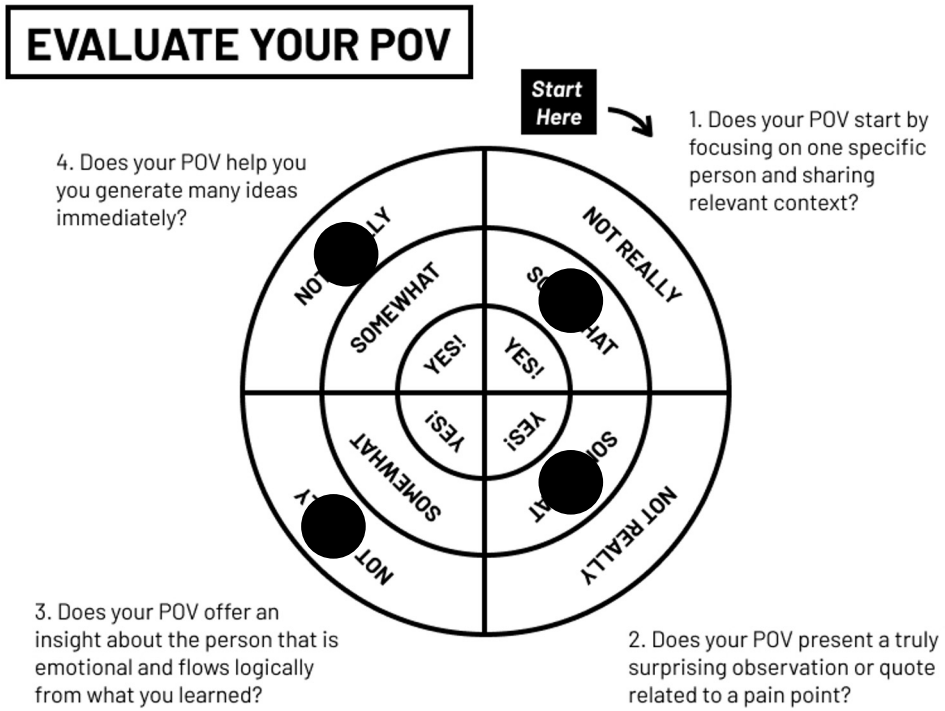


We met… Chuck. ← *No background*

We were surprised to notice… he wears jeans often and they're always dirty because he doesn't clean them. ← *It's a fact that jeans get dirty when you don't clean them. Not surprising.*

We wonder if this means... Chuck is lazy. ← *Focus more on Chuck's emotional experience. Don't label your users.*

It would be game changing to… help him be less lazy. ← *This is a big assumption about Chuck instead of his experience.*

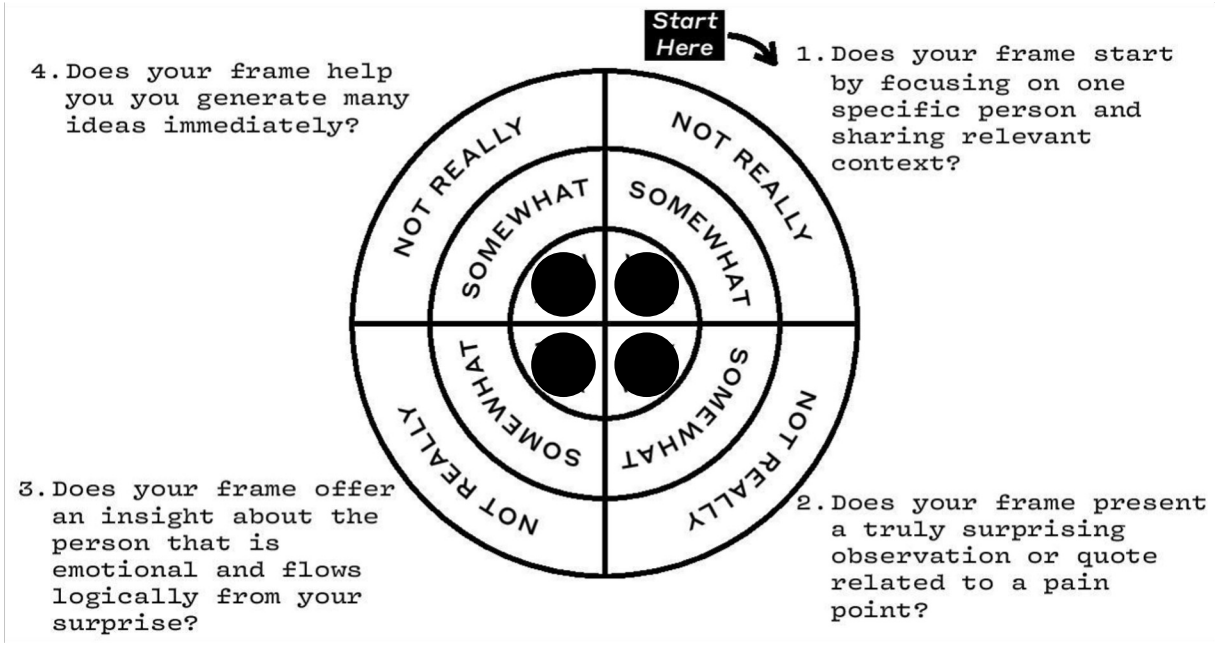


We met… Chuck, a guy who wears jeans all the time. ← *not enough about his identity*

We were surprised to notice… he wears his jeans dirty and chooses not to clean them. ← *why is it surprising he chooses not to clean them?*

We wonder if this means… Chuck doesn't have time to clean his jeans. ← *maybe, but not super logical in explaining his choice.*

It would be game changing to… provide Chuck with faster ways to clean his jeans. ← *limits the brainstorming*



We met… Chuck, a young millennial living in an apartment who loves to wear jeans. ← *lots of context!*

We were surprised to notice… he cares about his jeans and wants to preserve them, but doesn't like to wash them. ← *contradiction!*

We wonder if this means… Chuck believes that the best way to take care of his jeans is to *not* wash them. ← *about Chuck's beliefs!*

It would be game changing to… help him care for and preserve his clothes while still keeping them clean. ← *sky's the limit!*

Further Reading

An Image of Society: Gender and Racial Representation and Impact in Image Search Results for Occupations. Danaë Metaxa, Michelle A. Gan, Su Goh, Jeff Hancock, and James A. Landay. 2021. *Proceedings of the ACM on Human-Computer Interaction*, Volume 5, CSCW1, Article 26 (April 2021), DOI:https://doi.org/10.1145/3449100. CSCW 2021

Next Time

- Wed Lecture
  - Ideate
- Studio
  - present your initial needfinding results & work in studio on Point of Views
  - focus on surprises/contradictions you found

- Read by Wednesday's lecture
  - 4 Steps to Successful Brainstorming by Susan Adams
  - From tecnho-optimism to techno-realism: What it means to innovate responsibly by Margaret Gould Stewart
  - Coping with Hitchhikers and Couch Potatoes on Teams, Excerpt from Oakley, et al.
  - Optional: Early Customer Research (pp. 5-27) by Tom Eisenmann (slides)

- Watch by Wednesday
  - Working in Teams (0:56), Tina Seelig, Stanford Technology Ventures Program