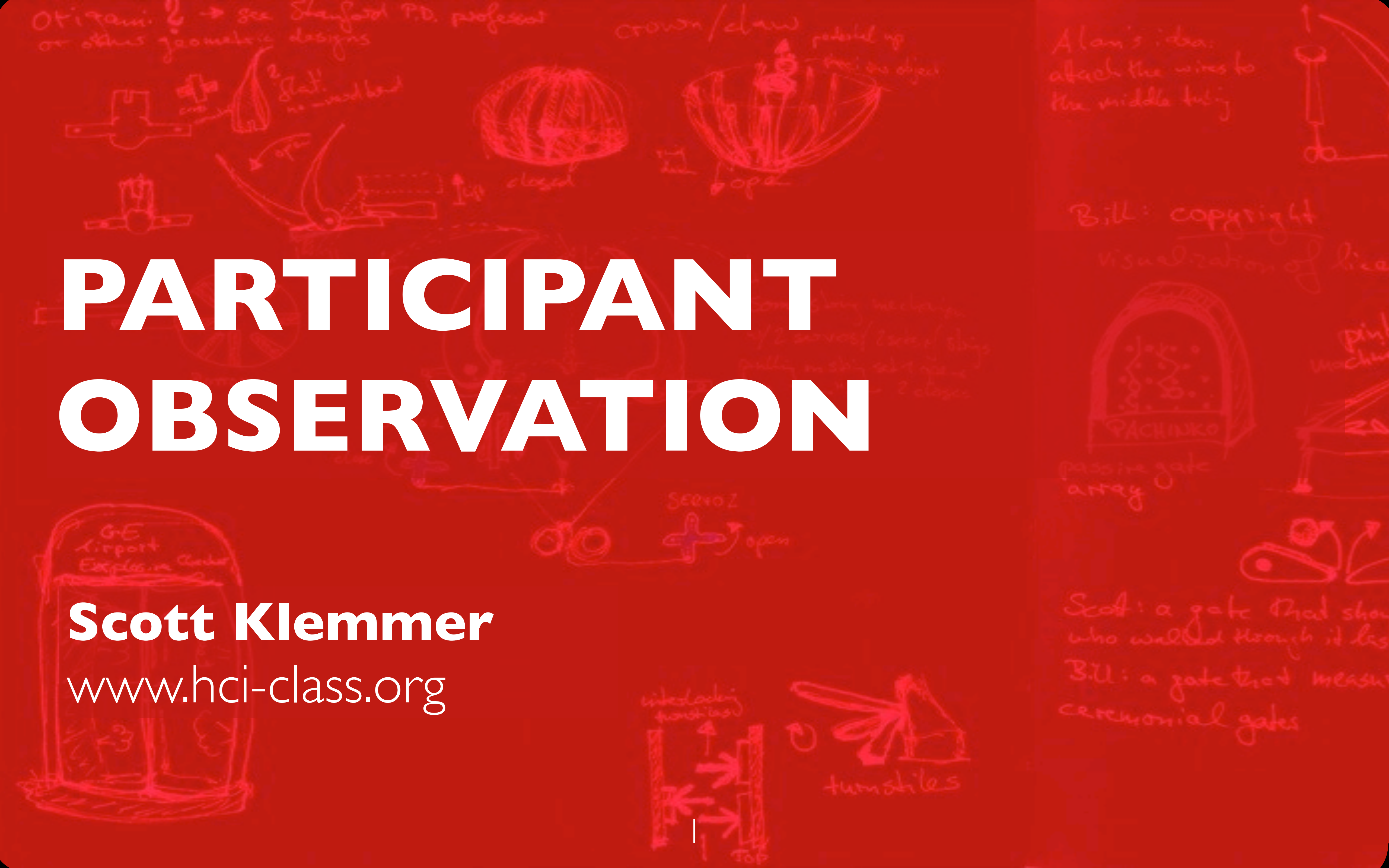


# PARTICIPANT OBSERVATION

**Scott Klemmer**

[www.hci-class.org](http://www.hci-class.org)





# Additional Needfinding Strategies

scott klemmer

# Longitudinal or Sporadic Behavior?

# Diary Studies

- Give people a diary that they complete at a specified time or interval
- Structured task
- Can use journals, cameras, voice, video
- Tailor the recording to the context
- Can scale better than direct observation
- Easier tools -> better results
- May require some practice, training, reminding

# Experience Sampling

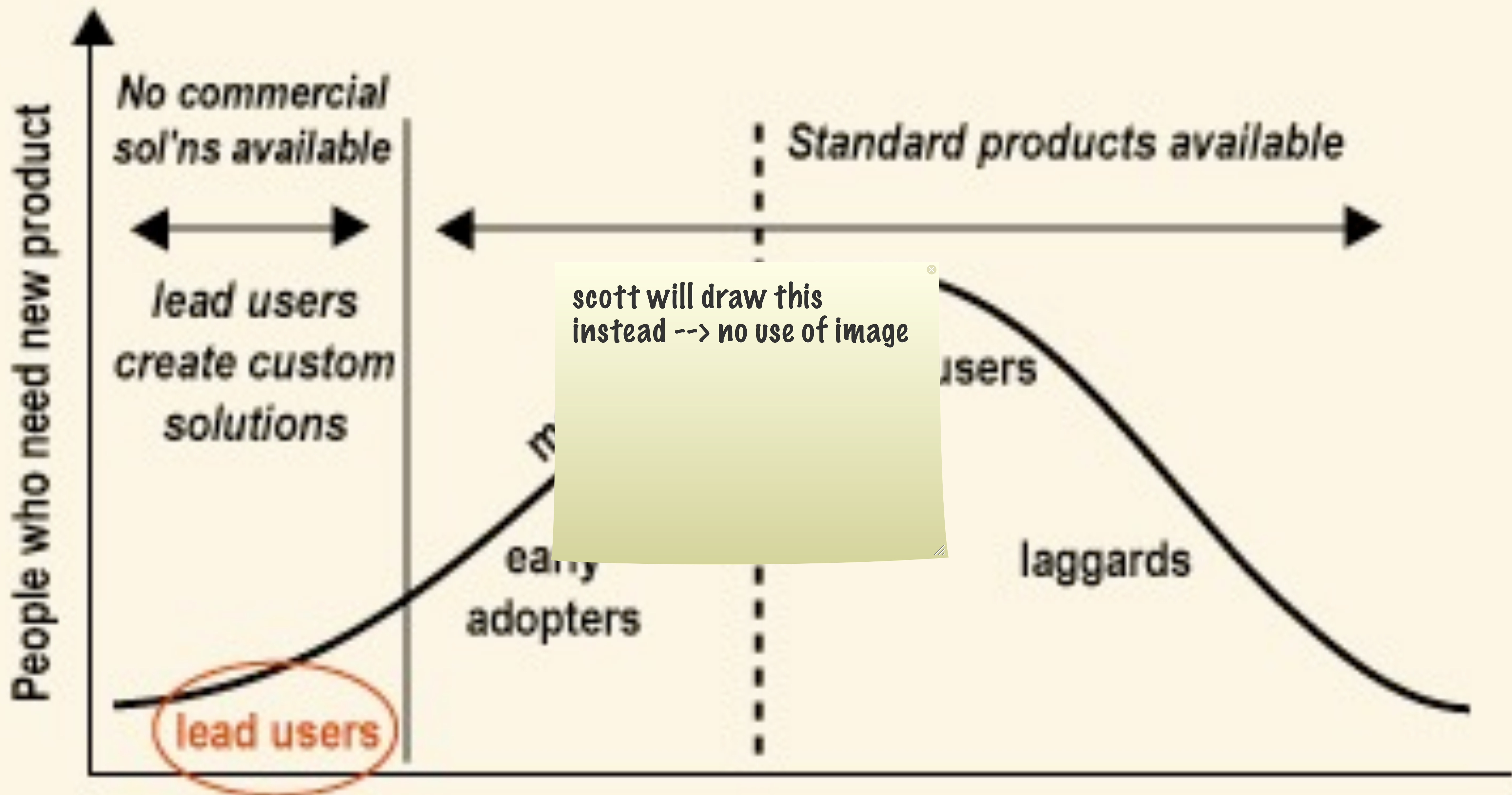


# Lead Users



scott will show this on the TV screen in the background, so not direct use of image





# Extreme Users



# Keeping Users in Mind

# Personas

- A model of a person, an example.
  - includes demographic information, but should also capture a person's motivation, beliefs, intentions, behavior and goals
- Draw a picture of your persona or use a photo
  - give him or her a name, an occupation, a background, a social situation, some hopes, dreams, and goals etc. Give the persona a story to tell
- Knowing what our persona thinks, does, and feel help build empathy
  - so that you can understand the state of mind, emotion, philosophy, beliefs, or point of view of the user
- Empathy leads to insights which leads to design opportunities



Ultimately, it's the design

# CREATING DESIGN GOALS

Scott Klemmer





# Herb Simon and the

## Ant

- An ant's behavior looks complex, but the complexity is (mostly) in the environment.
- So if we change the environment, we change the behavior.
- Design transforms existing situations into (hopefully) preferred ones.

# All design is redesign

- At least for me, that says we ought to have a really good sense of what the existing situations are and what preferred means for us. “preferred” has to do with both the user’s goals and your point of view as a designer.



# So far...

- So we have a sense of what people *do* and their high-level values, goals, and contexts.
- That'll help us connect observation to design. What's our lever?

# You'll be able to

- When you are designing, what matters? What should it accomplish?
- Estimate whether different designs are meaningfully different



# You're doing this

## already

Design often includes activity analysis *implicitly*

- Problem: leap to (just) one solution.
- Our goal is to make it explicit

# Making this explicit

- Gives you a *conceptual* representation
- This increases your mindfulness as a designer, connects you to the texture of the domain, and helps you communicate and discuss with other stakeholders
- Having this intermediate, conceptual representation makes it easier to be creative because you're taking a couple

# The outcome of activity

## analysis

- What are the steps?
- What are the artifacts?
- What are the goals?  
(how you'll measure success)
- What are the pain points?





HOW TO WIN FRIENDS  
Change Your World  
Use Your Hands  
David Kelley shows  
the school  
SUPERHERO SKOOL  
Life 2.0  
Design 2.0  
Beyond Gray Matter  
Rule Breakers & In  
Translance  
Summer Camp  
Design Camp  
Innovation Camp  
CAMP  
d CAMP  
& Camp  
Almost like real world  
Design Ed  
Search + Design

LEADERSHIP +  
FACILITATION/C  
LEADING BY DOING  
CREATING CULTURE  
HOW TO BUILD A TEAM  
TEAMWORK  
PROCESS - PRO  
NEGOTIATION CAMP

Person on the left, wearing a dark shirt and shorts, is sitting at a table and looking towards the whiteboard. He is holding a pen and appears to be taking notes or working on a document.

Person on the right, wearing a light-colored striped shirt, is sitting at the table and pointing at the whiteboard. He is looking at the diagram titled 'TEAM SPACE'.





# Example: steps

- Unlock driver's door
- Take a seat behind the wheel
- Insert key in ignition switch
- Turn key fully clockwise
- When engine starts, release the key
- from

<http://www.nwlink.com/~donclark/hrd/isd/cognitive-task-analyses.html>

# Example: artifacts

- key
- car
  - door-lock
  - ignition switch

# Example: goals

- (your point of view comes in here)
- Turn on the car?
- Pick up bread?
- Make a meal?
- Have a satisfying evening?



# Example: pain points

- In the narrow version:  
necessary to put the key in? It's already in the car. Why not just drive off?
- In the slightly broader framing,  
the pain point could be needing  
a car to get bread.  
(Alternatively, bread could be  
delivered, or you could  
walk/bike/...)

# That helps us create interfaces that...

- From Hackos and Redish: Usable Interfaces
- Reflect workflows that are familiar or comfortable
- Support users' learning styles
- Are compatible in the users' working environment
- encompass a design concept (a metaphor or idiom) that is familiar to the users
- Have a consistency of presentation (layout, icons, interactions) that

- Are the things that your interface is designing for something that users actually do -- or might want to do? Activities can and do change over time -- often evolving along with technology -- and you don't need to just make current paths easy.

# Activity Analysis is

easiest for

- workflows like doing taxes or travel planning
- Repeated activities, like scheduling (why does it take 17 emails?)



# Challenge: we don't

## design tasks

- Activities and objects don't map 1:1  
(a smartphone is not just one "activity")
- We design artifacts. So a forum has multiple tasks.

8636 **FW: [SERC 21127:] Upcoming Kayak Piloting Clinics**

J  
jo

... From: [redacted] f@... Cc: [redacted] er@... Sent: Wed, Mar 20, 2013 3:44 PM PDT  
[SERC 21127:] Upcoming...

8637 **quick report from tonight's March Board meeting**

Di  
di

Greetings... Gratitude was sent our way by NPS for the work on Olga ...can't thank you enough for the time, the  
the craft and the care...

8638 **Re: quick report from tonight's March Board meeting**

Su  
m

I for one am INCREDIBLY appreciative of these notes, the communication and information is WONDERFUL.  
Â Â S [redacted] Â ... From:...

8639 **Re: quick report from tonight's March Board meeting**

M  
m

Yes, it's great to know this stuff and I am in awe of your energy and dedication. Regards, Madeleine ... [Non-text  
message have been removed]...

8640 **Re: quick report from tonight's March Board meeting**

Co  
ka

Yay, Diane. thank you so much. ... From: [redacted] r@...> To: "[redacted]  
com>, "Diane Walton"...

8641 **Why They Posted "Danger: BIOHAZARD" on Tuesday**

M  
m

Hey all, I was curious about why those "Danger: Biohazard" signs were posted on the Beach Tuesday, so I did a  
around the Web. It turns out...

8642 **Re: Why They Posted "Danger: BIOHAZARD" on Tuesday**

En  
jo

Mark: Thanks for this information. What I take away from this experience is that we must be very careful to not  
the day before the SF PUC ...

8643 **Mar. 22 Happy Hour: "Paul and Melissa are coming! Paul and Melissa a**

ki  
ki

Dolphins, Come have some fun next door Friday night at an extra special Happy Hour. Same bat time, same b  
we get to hang out with our former

# Have multiple related activities

- The same person uses the same design to achieve slightly different things
- Also, different people may do things slightly differently
- Because they have slightly different goals, expertise, ...
- For empathy, keep 'em human

# Recap

- What are the steps?
- What are the artifacts?
- What are the goals?
- What are the pain points?

# You can and should adapt this

- More or less formal?
- Diagrams? Text? Pictures?  
Video?
- Narrow or broad?
  - Individual v. group viewpoint?
- Include more or other things  
like joy points, not just pain  
points



Be creative  
and have  
fun!

# Interviewing

scott klemmer



# Choosing Participants

- Representative of target users
- May be current users of a similar system
- Might also be the *non-users*

# Say you were designing...

- A lecture support system
- Who would you interview?

# Recruiting Participants

- Get a diverse set of stakeholders
- Use incentives and motivation
- Approximate better than nothing



**Approximate if Necessary**  
(may not be ideal, but better than  
nothing)

# The Importance of Being Curious

# Malcolm Gladwell on Journalism

from the introduction to *What the Dog Saw*

# What Are Good Questions?

“Is the daily update an important feature to you?”



“Would you like stores with less clutter?”

What would you like in a tool?

# Other 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”

# Good Questions



# Conducting An Interview

- Introduce yourself, explain your purpose
- The interview is about them, not you!
- Begin with open, unbiased questions
- Ask the question and let them answer

(a little bit of)  
Silence is Golden

# Follow up

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

Scheduled Interviews  
Facilitate Depth

Plans are useless  
Planning is invaluable



Do a Trial Run first  
(gives you practice, catches bugs)

where to interview?

should you record audio  
or video?

# Audio/Video: Drawbacks

- Time-consuming to review / edit
- Can change participants' responses
- Requires permission

# Audio/video: Benefits

- A robust record
- Highlights are GREAT for communication
- Helps you focus on interviewing

# Photos Are Powerful Reminders



# What is are the gems?

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

# Share with your team

- Stories
- Photos
- Sketches
- Quotes

# Save Records - It'll help later

- Keep photos, notes, and artifacts
- Helps tie all design to use, rather than debating things on an abstract plane

# Further Reading

- Mike Kuniavsky, Observing the User Experience
- Beyer and Holtzblatt, Contextual Design
- Jeanette Blomberg
- Paul Dourish
- Diana Forsythe, “It’s just a matter of common sense”



“You Can Observe a Lot  
Just by Watching”

—Yogi Berra







# Tacit Knowledge: Deep Hanging Out

1. What do people do now?
2. What values and goals do people have?
3. How are these particular activities embedded in a larger ecology?
4. Similarities and differences across people
5. ...and other types of context, like time of day

# Process v. Practice

## Jack Whalen & the Call Center

# Apprentice

- Set up a partnership with the people to be observed
- Be taught the steps in the process
- Observe all of the practices
- Validate what you are observing with those observed as you go along

Look for workarounds & hacks

“Errors” are a goldmine



WHEN USER  
HITS MACHINE

will be receiving  
permission from  
stu and parc

# Walmart

# To learn more...

- Institute of Design at Stanford, <http://dschool.stanford.edu>
- Kuniavsky, *Observing the User Experience*
- Beyer & Holtzblatt, *Contextual Design*