

# INTRO TO DESIGN THINKING

*Social Entrepreneurship ASB*

*January 25th, 2010*

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# INTRO

*a little about me*

*a little bit about you?*

*by the end of today...*

- General design thinking framework
- Needfinding tips
- Whole-group activity

# DESIGN THINKING

WHAT WHEN HOW

# *a definition*

- an approach to **solving design problems** by **understanding users' needs** and developing **insights** to solve those needs

- When taken to its fullest, as much a **mindset** as a **process**



*and that mindset?*

- Only through contact, observation & empathy with end-users can you hope to design solutions that fit into their environment

*as opposed to?*

- “We have this problem, let's jump in and get in a room and brainstorm solutions”
- “We have this technology, what can we use it for?”
- “Our competitors just launched X; how can we do X quickly?”

# DESIGN THINKING

WHAT WHEN How

*when?*

- Developing & deploying a solution to a problem presented in your organization, or on your own

*or,*

- Quickly come up to speed with a domain you're unfamiliar with, or surprise yourself regarding a domain you already know

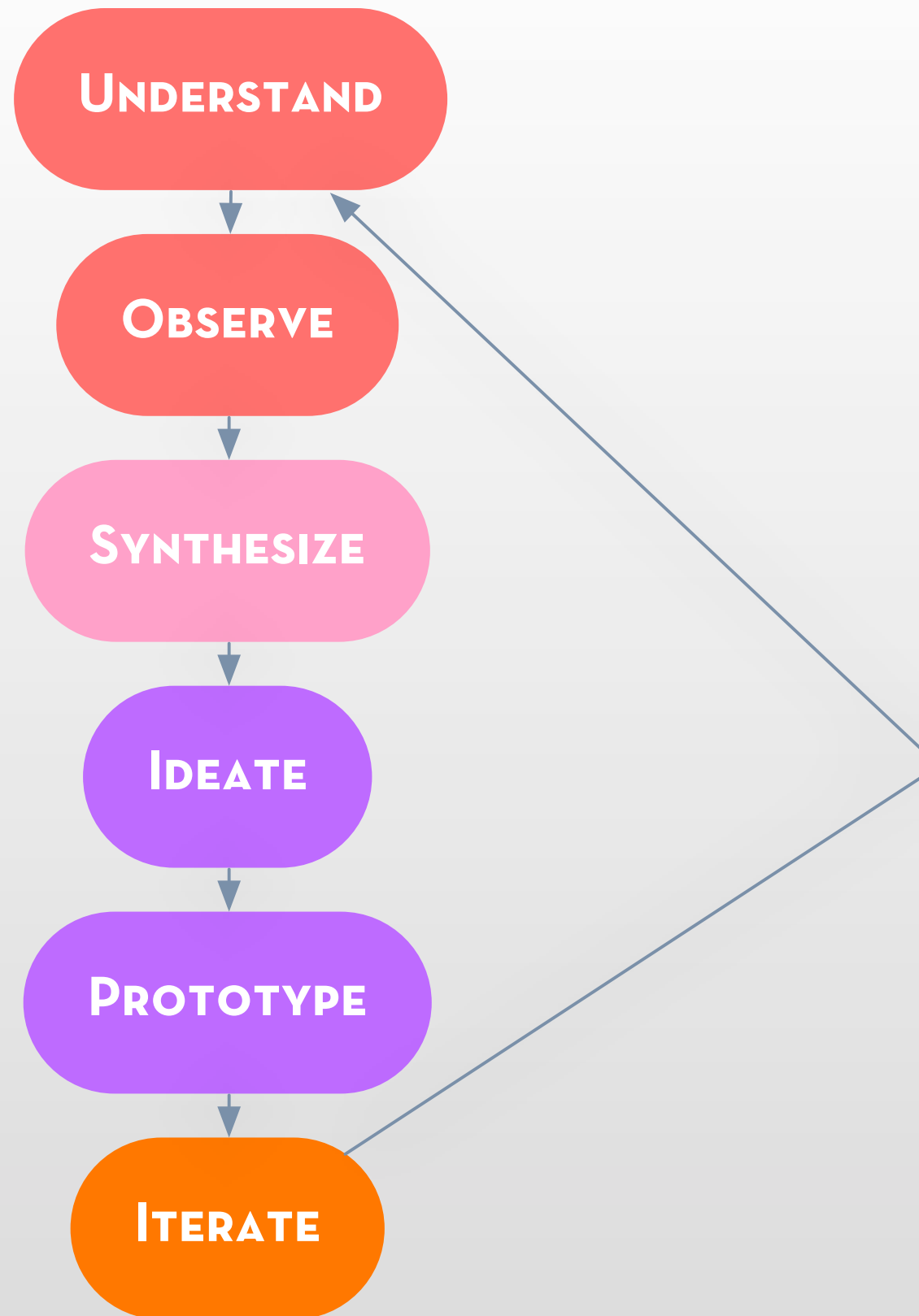
# DESIGN THINKING

WHAT WHEN How

# *the process*

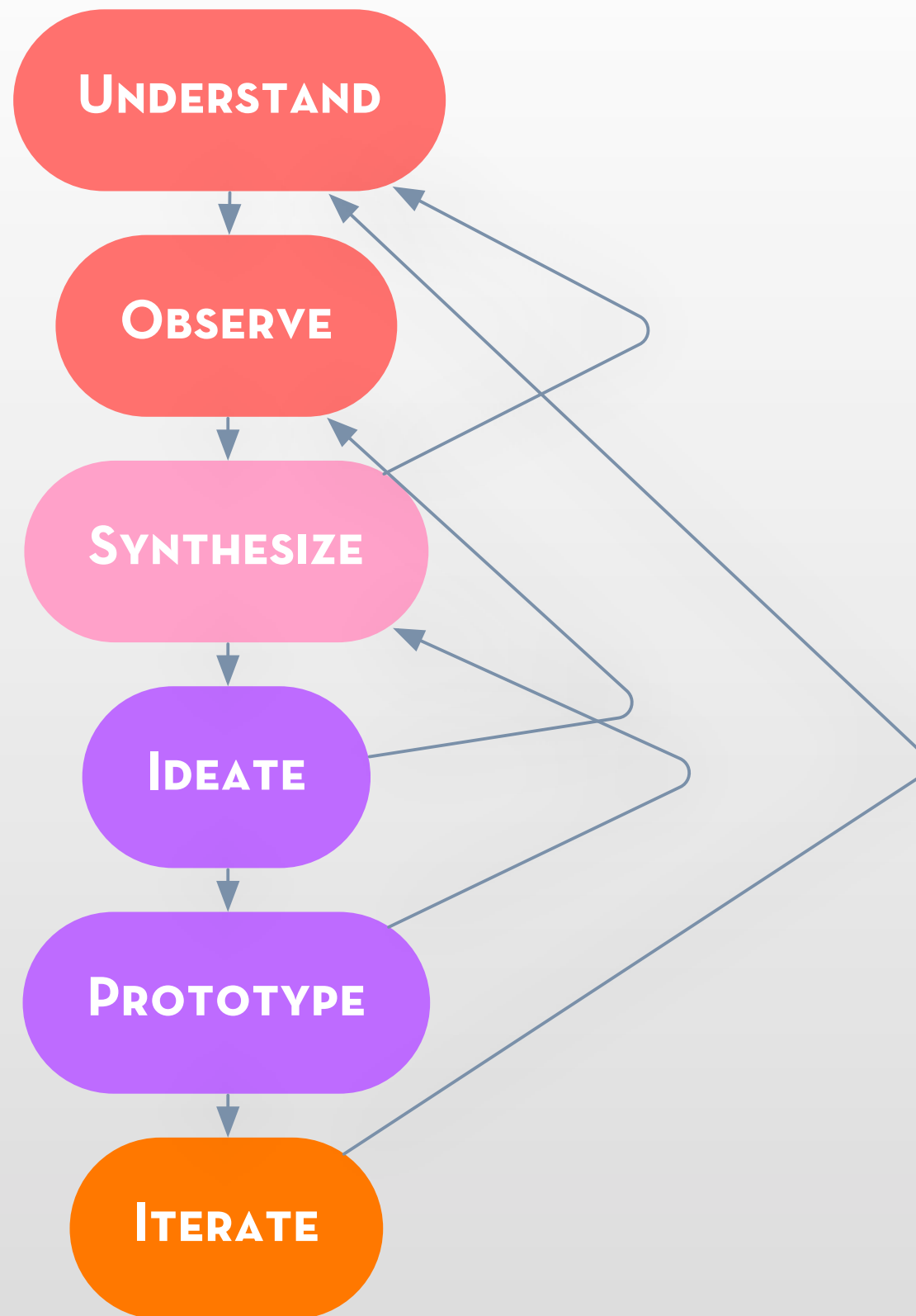
- different names for the steps, but same overall idea

*in theory...*





*practically...*



*another way of visualizing*

UNDERSTAND

OBSERVE

SYNTHESIZE

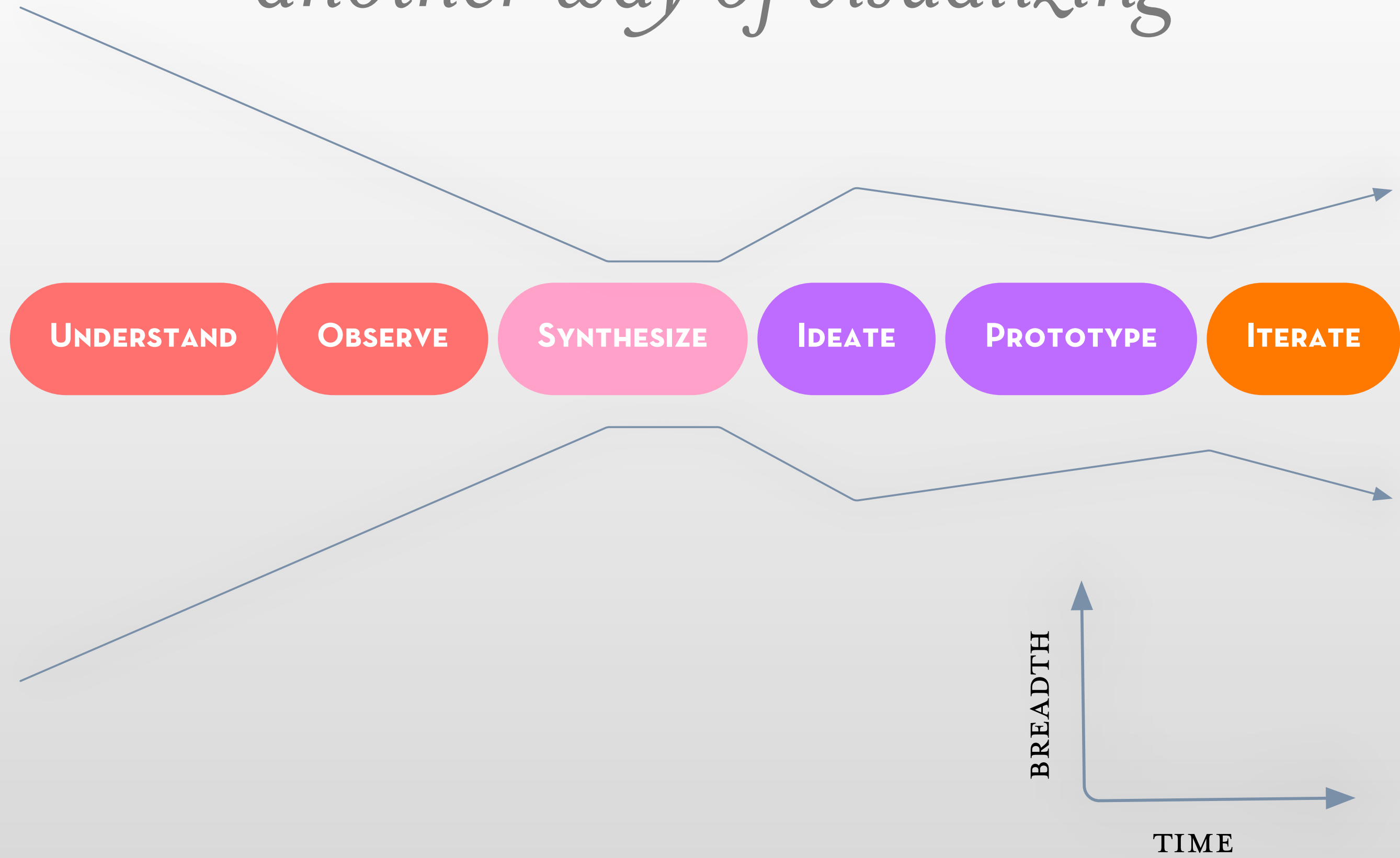
IDEATE

PROTOTYPE

ITERATE

BREADTH

TIME



**UNDERSTAND**

**OBSERVE**

**SYNTHESIZE**

**IDEATE**

**PROTOTYPE**

**ITERATE**

**UNDERSTAND**

*goal*

- Gain basic knowledge so you know the right questions to ask

# *methods*

- Web research (but go beyond Google)
- Brief interviews for background
- Reach out to friends who may be connected/have information on domain

*at the end of this step*

- More questions than answers
- Know what's come before in this space,  
and what the main open questions are

**UNDERSTAND**

**OBSERVE**

**SYNTHESIZE**

**IDEATE**

**PROTOTYPE**

**ITERATE**

**OBSERVE**

*goal*

- Gain **empathy** with your target users by **talking** and **observing** them



*just ask them?*

- *Watch what they do, not what they say.*
- “If I had asked people what they wanted, they would have said faster horses.” (Henry Ford...maybe)

*as a designer...*

- you need to understand your audience even better than they understand themselves

*but...*

- the only way you'll get there is to develop a deep empathy for their habits, beliefs, quirks, workarounds...

*the key word*

WHY?

*when interviewing...*

- Keep asking “why” until it’s unbearably awkward
- Then ask it a one or two more times

# *example*

A: I never leave the house without my phone

Q: Why's that?

A: oh, I'm worried that I'll miss something fun by being out of touch

Q: That's interesting...why does that worry you so much?

A: Well, my group of friends never plans anything, it's all very last minute.

Q: Oh, why do you think you all don't plan much?

A: I think it's because it's sort of uncool to be too on top of things...I keep two separate Google Calendars, one has my real appointments and the other one is mostly empty so it doesn't look like I overplan

Q.....etc

*what are we looking for?*

- Surprises!
- Test: is this interesting enough to tell a stranger on the train about?



# *back to example*

- “This person I talked to never leaves the house without a phone” (not very surprising. Stranger on train yawns and looks away)
- “This person I talked to actually keeps two separate Google Calendars, one for herself that’s full of appointments and the other for her friends to think she’s laid back and doesn’t plan much” (way more interesting)

*“but this person is boring!”*

- Even less outgoing folks can profoundly surprise you when you get them talking about what they’re interested in

# *what's enough?*

- When you interview a new participant and you can anticipate their answers, even when they're talking about detailed parts of what they do

*not always interviewing*

- Observation is powerful!

# *things to observe*

- Quirky workarounds



*thereifixedit.com*

# *things to observe*

- Quirky workarounds
- Behaviors that people do over and over again throughout the day

*coffee shop*

<http://vimeo.com/8628195>



# *things to observe*

- Quirky workarounds
- Behaviors that people do over and over again throughout the day
- Dynamics & interactions between people

# *William Whyte observes NYC*

<http://vimeo.com/6821934>

**UNDERSTAND**

**OBSERVE**

**SYNTHESIZE**

**IDEATE**

**PROTOTYPE**

**ITERATE**

**SYNTHESIZE**

*goal*

- Come up with a point of view statement that will inform your prototyping

*why?*

- You can't design for everyone, and you can't fix every need you identified
- Instead, tightly focus on one

# *arriving a point of view*

- POV statements can be thought of as:

**user + need + insight**

# *example*

- from Neema Moraveji, Education PhD  
student at Stanford

# *users*

- Children in classrooms in developing nations



*need*

- Often only a few computers for the whole classrooms, so students can't all use one computer

# *insight*

- By sharing one screen and allowing for multiple mice on that computer, all can play together









l



gl



l



l



gll



glovl



glovel



*similarly...*

- OLPC project

*users*

- Children in classrooms in developing nations

*need*

- Often only a few computers for the whole classrooms, so students can't all use one computer

# *insight*

- By reducing the cost of producing computers, we can increase access to them



# *impact*

- your point of view should have an enormous impact on what you ultimately design
- but later discoveries might lead you to come back and revise your POV

# *Project H Design*

- Non-profit group that uses design thinking to effect change

# *furniture for rural schools*



# *furniture for rural schools*

- **user:** students at rural schools in Mexico
- **need:** working furniture for students
- **insight:** there was a lot of old, broken furniture stored that could be re-used in new pieces



# *Unit T*



# *Unit T*

- **users:** children at children's hospital in Mexico City
- **need:** to keep their belongings with them when they are transferred to the transplant unit; to have their parents with them while they wait
- **insight:** a folding cot, sterilizable containers, and a drawing surface can improve this waiting period

**UNDERSTAND**

**OBSERVE**

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**IDEATE**

*goal*

- based on your point of view, generate as many ideas as possible



# *activities*

- Set yourself a time limit, and try to generate a minimum number of ideas (100 ideas in 60 minutes)
- Come together as a team after activity, & brainstorm together

**UNDERSTAND**

**OBSERVE**

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**ITERATE**

**PROTOTYPE**

*goal*

- Make your ideas real & learn from peoples' reactions to your prototype

# *on prototypes*

- Two most important things:
  - **Rapid**
  - **Focused**

# *rapid & focused*

- Every prototype should **answer a question**
- Examples
  - What does it feel like to hold this object?
  - What should the flow of screens be in an interactive prototype?

# *benefits of lo-fi*

- Users look at a lo-fi prototype and see **potential**; they look at a hi-fi prototype and see **problems**

# *getting user feedback*

- try to find proxy users if our ideal audience isn't available
- introduce your prototype and any background on the current design problem
- come up with 2-3 tasks that you'd like them to perform with your prototype

# *i like, i wish*

- One way of structuring feedback: ask users 2 things they **liked** about the prototype, and 1 thing they **wish** it did differently



**UNDERSTAND**

**OBSERVE**

**SYNTHESIZE**

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**ITERATE**

**ITERATE**

# *goal*

- take insights gained from prototyping and revisit your assumptions; sometimes you might go all the way back to the Understand phase

DESIGN THINKING &  
ENTREPRENEURSHIP

# *@ meebo*

- at the time, 45 person company
- idea: guerilla design thinking
- introducing design process at startup

# *summary*

- **users:** teenagers in Mountain View, Kansas City, and NYC
- **goal:** understand teenagers' communication & mobile phone usage
- **method:** 30 user interviews & observations across 3 cities

# *how to communicate findings?*

- Created a 30-minute video with interview snippets organized by insight, showed it to whole organization

# *lessons learned*

- When faced with tight schedule & limited resources, end up jumping around design process & finding insights wherever possible
- Communicating the process can be as important as communicating the results

*Q's?*



LEARNING MORE

# *classes, etc*

- d.school bootcamp on design thinking
- CSCI47/CS247 on human-computer interaction
- ME377: History & Philosophy of Design
- ME classes on need-finding, good & bad products
- **Objectified** by Gary Hustwit

ACTIVITY

# *outline*

- pair up with the person you know least in the class
- for 5 minutes, describe your ideal wallet to your partner (and show them your current one); then, switch
- use supplies to rapidly prototype a wallet that meets your partner's needs