

D.SCHOOL BOOTCAMP BOOTLEG

Check this out — it's the d.school bootcamp bootleg.

The bootleg is a working document that captures some of the teaching we impart in “design thinking bootcamp,” our introductory course, so that you can go try it out in the world for yourself. The guide outlines each mode of a human-centered design process, and describes a number of methods which may support your design thinking throughout the process. These process modes and methods provide a tangible toolkit which support the seven d.mindsets — shown on the following page — which we feel are vital attitudes for a design thinker to hold.

We have collected the methods presented in this guide from a wide range of people and organizations who have helped us build the content we use to impart design thinking. Think of this guide as a curation of the work of many individuals, who hail both from the d.school and also from other far-reaching areas of the design world. We are continuing to think about the challenge of referencing collectively developed content and acknowledging individuals' efforts to create that content. For now, in place of a proper solution, we thank all the people who have contributed to the methods collected in this guide. We welcome your reactions to this bootleg edition, and invite you to share the stories of how you use it in the field. Let us know what you find useful, and what methods you'd suggest we add, along the way.

Cheers,
d.school teaching team



FOCUS ON
HUMAN VALUES



SHOW
DON'T TELL



CREATE CLARITY
FROM COMPLEXITY



GET EXPERIMENTAL
AND EXPERIENTIAL



BE MINDFUL
OF PROCESS



BIAS TOWARD
ACTION



COLLABORATE
ACROSS BOUNDARIES

D.MINDSETS

MODES

EMPATHIZE

WHAT is the empathize mode

Empathize is the beginning of the design process. To empathize, we:

- **Observe.** View users and their behavior in the context of their entire lives.
- **Engage.** Interact with and interview users through both scheduled and short 'intercept' encounters.

WHY do we empathize

As design thinkers, the problems we are trying to solve are rarely our own—they are those of a particular user; in order to design for the user, we must build empathy for who they are and what is important to them.

Watching what people do and how they interact with their environment gives us clues about what they think and feel. It also helps us to learn about what they need. By watching people you can capture physical manifestations of their experiences, what they do and say. This will allow you to interpret intangible meaning of those experiences in order to uncover insights. These insights will lead you to the innovative solutions. The best solutions come out of the best insights into human behavior. But learning to recognize those insights is harder than you might think. Why? Because our minds automatically filter out a lot of information without us even realizing it. We need to learn to see things “with a fresh set of eyes,” and empathizing is what gives us those new eyes.

Engaging with people directly reveals a tremendous amount about the way they think and the values they hold. Sometimes these thoughts and values are not obvious to the people who hold them, and a good engagement can surprise both the designer and the subject by the unanticipated insights that are revealed. The stories that people tell and the things that people say they do—even if they are different from what they actually do—are strong indicators of their deeply held beliefs about the way the world is. Good designs are build on a solid understanding of these kinds of beliefs and values. We engage to...

- Uncover needs that people have which they may or may not be aware of
- Guide innovation efforts
- Identify someone to design for
- Discover the emotions that guide behaviors

MODES

DEFINE

WHAT is the define mode

The goal of the Define mode is to come up with an **actionable problem statement**. It is a mode of “focus” rather than “flaring.” This should be a guiding statement that focuses on insights and needs of a particular user that you uncovered during the empathize mode.

WHY do we define

The define mode is critical to the design process because it explicitly expresses the problem we are striving to address through our efforts. In order to be truly generative, we must first craft a narrow problem statement from which to spring into solution generation activities. As a test, a good point of view (POV) is one that:

- Provides focus and frames the problem
- Inspires your team
- Provides a reference for evaluating competing ideas
- Empowers your team to make decisions independently in parallel
- Fuels brainstorming 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 and reformulate as you learn by doing
- Guides our innovation efforts.

MODES

IDEATE

WHAT is the ideate mode

Ideate is the point in the design process at which we focus on idea generation. Mentally it represents a process of “going wide” in terms of concepts and outcomes—it is a mode of “flaring” rather than “focus.” Ideation provides both the fuel and also the source material for building prototypes and getting innovative solutions into the hands of your users.

WHY do we ideate

We ideate in order to transition from identifying problems into creating solutions for our users. Various forms of ideation are leveraged to:

- step beyond obvious solutions and thus increase the innovation potential of our solution set
- harness the collective perspectives and strengths of our teams
- uncover unexpected areas of exploration
- to create fluency (volume) and flexibility (variety) in our innovation options
- to get obvious solutions out of our heads, and drive our teams beyond them

PROTOTYPE

WHAT is the prototype mode

The prototype mode is the iterative generation of low-resolution artifacts that will later be tested by users. A prototype can be *anything* that a user can interact with – be it a wall of post-it notes, a role-playing activity, or even a storyboard.

HOW do we prototype

Start building. Even if you aren't sure what you're doing, the act of picking up some materials (post-its, tape, and found objects are a good way to start!) will be enough to get you going.

Don't spend too long on one prototype. Move on before you find yourself getting too emotionally attached to any one prototype.

Build with the user in mind. What do you hope to test with the user? What sorts of behavior do you expect? Answering these questions will help focus your prototyping and help you receive meaningful feedback in the testing phase.

ID a variable. Identify what's being tested with each prototype. A prototype should answer a particular question when tested.

WHY do we prototype

To learn. If a picture is worth a thousand words, a prototype is worth a thousand pictures.

To solve disagreements. Prototyping is a powerful tool that can eliminate ambiguity, assist in ideation, and reduce miscommunication.

To start a conversation. Our interactions with users should revolve around a conversation piece, not words. A prototype is an opportunity to have another, directed conversation with a user.

To test possibilities. Staying low-res allows you to pursue many different ideas generated in Ideate mode without committing to a direction too early on.

To fail quickly and cheaply. Committing as few resources as possible to each idea means less time and money invested up front.

To manage the solution-building process. Identifying a variable also encourages you to break a large problem down into smaller, testable chunks.

MODES

TEST

WHAT is the test mode

The test mode is another iterative mode in which we place our low-resolution artifacts in the appropriate context of the user's life. In regards to a team's solution, we should always prototype as if we know we're right, but test as if we know we're wrong—testing is the chance to refine our solutions and make them better.

HOW do we test

Show don't tell. Put your prototype in the user's hands. And don't talk (yet). Watch how they use (and misuse!) what you have given them; how they handle and interact with it; listen to what they say about it, questions they have.

Ask users to compare. Bringing multiple prototypes to the field to test gives users a basis for comparison, and comparisons often reveal latent needs.

ID a variable. Identify what's being tested with each prototype. A prototype should answer a particular question when tested.

WHY do we test

To refine our prototypes and solutions. Testing informs the next iterations of prototypes. Sometimes this means going back to the drawing board.

To learn more about our user. Testing is another opportunity to build empathy through observation and engagement—it often yields unexpected insights.

To refine our POV. Sometimes testing reveals that not only did we not get the solution right, but also that we have failed to frame the problem correctly.

METHOD

Assume a Beginner's Mindset



WHY assume a beginner's mindset

Designers (as humans in general) tend to carry some baggage in regards to some situations, challenges, problems, and opportunities – think of these things as shortcuts in a sense-maker's toolkit. These prior experiences, perceptions, assumptions, misconceptions, and stereotypes can restrict the amount of empathy a designer is able to build for his or her users. Assume a beginner's mindset in order to put aside these biases, so that you can approach a design challenge afresh.

HOW to assume a beginner's mindset

Don't judge. Just observe and engage users without the influence of value judgments upon their actions, circumstances, decisions, or “issues.”

Question everything. Even (and especially) the things you think you already understand. Ask questions to learn about how the user perceives the world. Think about a 5-year-old who asks “Why?” a hundred times.


Be truly curious. Strive to assume a posture of wonder and curiosity, especially in circumstances that seem either familiar or frightening.

Find patterns. Look for interesting threads and themes that emerge across interactions with users.

Listen. Really. Lose your agenda and let the scene soak into your psyche. Absorb what users say to you, and how they say it, without thinking about the next thing you're going to say.

METHOD

What? | How? | Why?

concrete		emotional
WHAT (what are they doing in the photo?)	HOW (how are they doing it?)	WHY (why are they doing it this way? Take a guess!)
-little girl picking root vegetables	-she's smiling, even though it looks bigger than her, it looks fun	-somehow it's been made into a game...gardening is fun...getting messy is fun to her?
		

WHY use What? | How? | Why?

If you're in observation mode, What? | How? | Why? is a tool that can help you drive to deeper levels of observation. It is a simple tool that allows you to move from concrete observations of the happenings of a particular situation to the more abstract potential emotions and motives that are at play in the situation you're observing. This is a particularly powerful technique to leverage when analyzing pictures that your team has taken into the field, both for synthesis purposes, and also to direct your team to future areas for needfinding.

HOW to use What? | How? | Why?

Set-up: Divide a sheet into three sections: What?, How?, and Why?

Start with concrete observations:

What is the person you're observing doing in a particular situation or photograph? Use descriptive phrases packed with adjectives and relative descriptions.

Move to understanding:

How is the person you're observing doing what they are doing? Does it require effort? Do they appear rushed? Pained? Does the activity or situation appear to be impacting the users state of being positively or negatively? Again, use as many descriptive phrases as possible here.

Step out on a limb of interpretation:

Why is the person you're observing doing what they're doing, and in the particular way that they are doing it? This step usually requires that you make informed guesses regarding motivation and emotions. Step out on a limb in order to project meaning into the situation that you have been observing. This step will reveal assumptions that you should test with users, and often uncovers unexpected realizations about a particular situation.

METHOD

User Camera Study



WHY do a user camera study

In empathy work, you want to understand your users' lives, and specific tasks within the context of their lives. A User Camera Study allows us to understand a user's experience by seeing it through their eyes. It will also allow you to understand environments to which you might not normally have access.

HOW to do a user camera study

1. Identify subjects whose perspective you are interested in learning more about.
2. Explain the purpose of the study.
3. Get permission to use images they take.
4. Provide a camera to your subject and instructions such as: "We would like to understand what a day in your life feels like. On a day of your choosing, take this camera with you everywhere you go, and take photos of experiences that are important to you." Or you could try: "Please document your [subject] experience with this camera."
5. Afterwards, have your subject walk you through the pictures and explain the significance of what they Captured. Return to a good empathetic interviewing technique to understand the deeper meaning of the visuals and experience they represent.

METHOD

Interview Preparation



WHY prepare for an interview

Time with users is precious, we need to make the most of it! While we always must allow room for the spontaneous, blissful serendipity of a user-guided conversation, we should never abdicate our responsibility to prepare for interviews, particularly with users with whom we have been working with a period of time. Especially in following up with users (after testing, etc), it is imperative to plan carefully for your interviews.

HOW to prepare for an interview

Brainstorm questions

Get all of the potential questions your team can generate down in written format. Try to build on one another's ideas in order to flesh out meaningful subject areas.

Identify and order themes

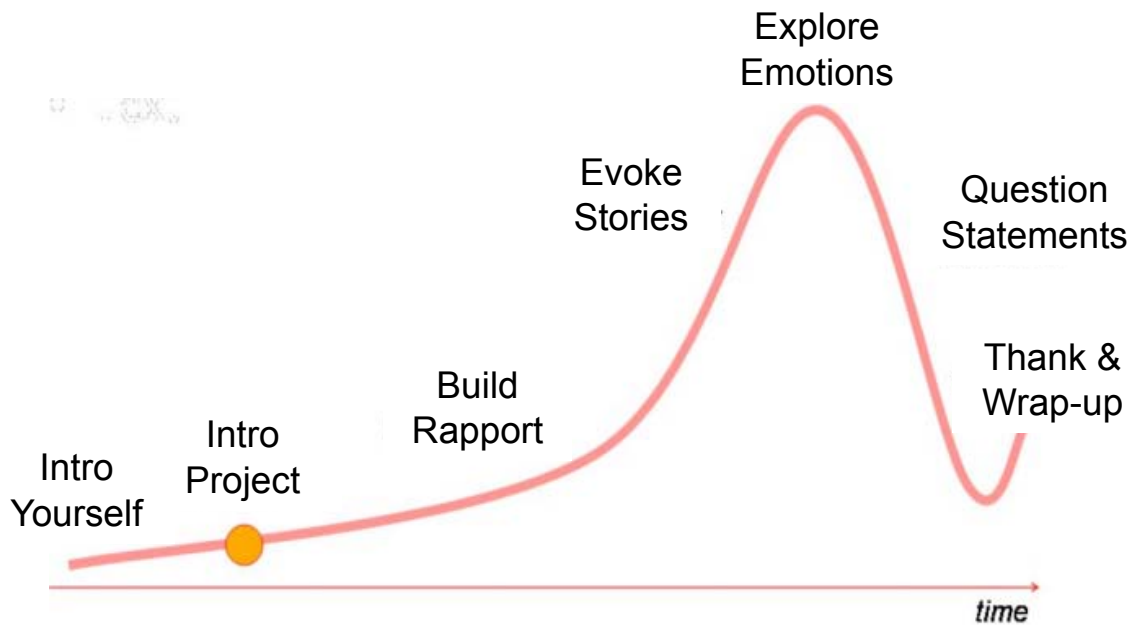
Similar to "grouping" in synthesis, have your team identify themes or subject areas into which most questions fall; once you've identified the themes of your question-pool, determine the order that would allow the conversation to flow most naturally. This will enable you to structure the flow of your interview, decreasing the potential for hosting a seemingly-scattershot interaction with your user.

Refine questions

Once you have all the questions grouped by theme and order, you may find that there are some redundant areas of conversation, or questions that seem strangely out of place. Take a few moments to make sure that you leave room in your planning to ask plenty of "why?" questions, plenty of "tell me about the last time you ___?" questions, and plenty of questions that are directed at how the user FEELS.

METHOD

Interview for Empathy



WHY interview?

We want to understand a person's experience as a user in the space so that we can determine how to innovate for him or her. By understanding the choices that person makes and the behaviors that person engages in, we can identify needs and design for these needs.

HOW to interviewing

Never say "usually" when asking a question. Instead, ask about a specific instance or occurrence, such as "tell me about the last time you ____"

Ask why. Even when you think you know the answer, ask people why they do or say things. The answers will sometimes surprise you. A conversation started from one question should go on as long as it needs to.

Encourage stories. Whether or not the stories people tell are true, they reveal how they think about the world. Ask questions that get people telling stories.

Look for inconsistencies. Sometimes what people say and what they do are different. These inconsistencies often hide interesting insights.

Listen to nonverbal cues. Be aware of body language and emotions.

Don't be afraid of silence. Interviewers often feel the need to ask another question when there is a pause. If you allow for silence, a person can reflect on what they've just said and may reveal something deeper.

Don't suggest answers to your questions. Even if they pause before answering, don't help them by suggesting an answer. This can unintentionally get people to say things that agree with your expectations.

Ask questions neutrally. "What do you think about this idea?" is a better question than "Don't you think this idea is great?" because the first question doesn't imply that there is a right answer.

Don't ask binary questions. Binary questions can be answered in a word; you want to host a conversation built upon stories.

Only ten words to a question. Your user will get lost inside long questions.

Only ask one question at a time, one person at a time. Resist the urge to ambush your user.

Make sure you're prepared to capture. Always interview in pairs. If this is absolutely impossible, you MUST use a voice recorder—it is impossible to engage a user and take detailed notes at the same time.

METHOD

Team Share-and-Capture



WHY team share-and-capture

A team share serves at least three purposes. First, it allows team members to come up to speed about what different people saw and heard in the field. Even if all the team members were present for the fieldwork, comparing how each experienced it is valuable. Second, in listening and probing for more information, team members can draw out more nuance and meaning from the experience than you may have initially realized. This starts the synthesis process. Third, in capturing each interesting detail of the fieldwork, you begin the space saturation process.

HOW to team share-and-capture

Unpack observations and air all the stories that stick out to you about what you saw and heard during your empathy fieldwork. Each member in the group should tell user stories and share notes while other members headline quotes, surprises, and other interesting bits – one headline per post-it. These post-its become part of the team's space saturation, and can also be physically grouped to illuminate theme and patterns that emerge (See “Saturate and Group” method card).

The end goal is to understand what is really going on with each user. Discover who that person is and what that person needs in regards to your problem space.

METHOD

Space Saturate and Group



WHY space saturate and group

You space saturate to help you unpack thoughts and experiences into tangible and visual pieces of information that you surround yourself with to inform and inspire the design team. You group these findings to explore what themes and patterns emerge, and strive to move toward identifying meaningful needs of people and insights that will inform your design solutions.

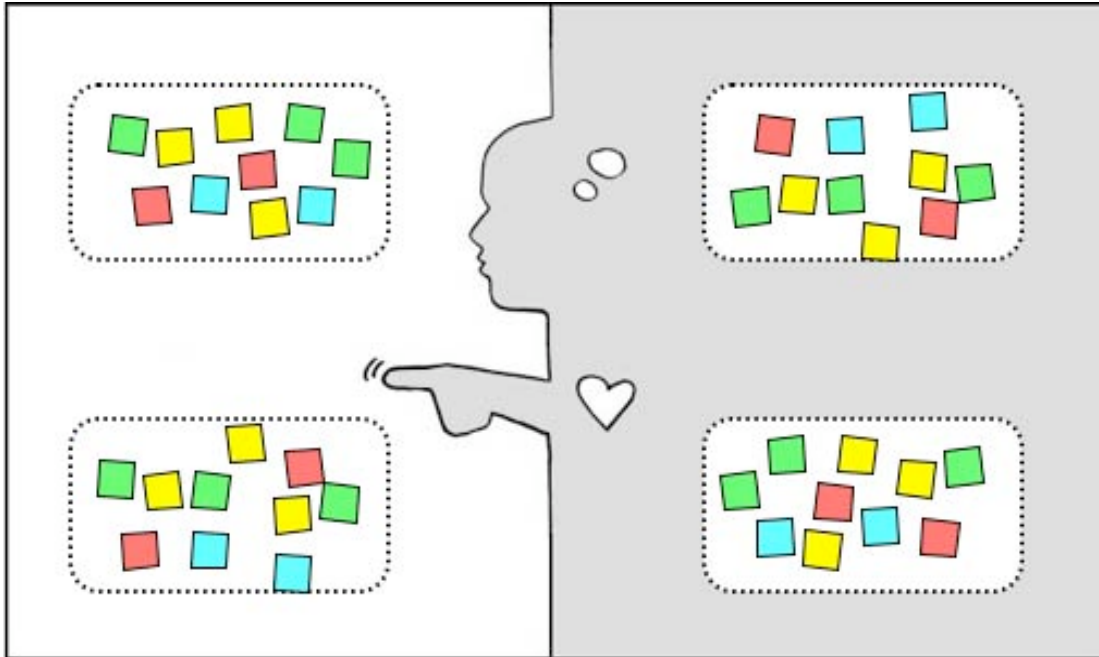
HOW to space saturate and group

Saturate your wall space (or work boards) with items such as pictures of relevant products, environments, and users you met, and post-its headlining interesting findings (see “Team Share-and-Capture”). In order to begin to synthesize the information, group the post-its and pictures into the areas that the information tends to bunch. You likely have some ideas of the patterns within the data from the unpacking you did produce the notes. For example, you may have seen and heard many things related to feeling safe, and many things regarding desire for efficiency. Within the group of ‘safety’, go beyond the theme and try to see if there is a deeper connection that may lead to an insight such as “Feeling safe is more about who I am with than where I am”. Maybe there is a relation between groups that you realize as you place items in groups – that safety is often at odds with users’ desire for efficiency. Try one set of grouping, discuss (and write down) the findings, and then create a new set of groups. The end goal is to synthesize data into interesting findings and create insights which will be useful to you in creating design solutions.

It is common to do the grouping with post-its headlining interesting stories from fieldwork. But grouping is also useful to think about similarities among a group of products, objects, or users.

METHOD

Empathy Map



WHY use an empathy map

Good design is grounded in a deep understanding of the person for whom you are designing. Designers have many techniques for developing this sort of empathy. An Empathy Map is one tool to help us synthesize our observations and draw out unexpected insights.

HOW to use an empathy map

UNPACK: Create a four quadrant layout on paper or a whiteboard. Populate the map by taking note of the following four traits of your user as you review your notes, audio, and video from your fieldwork:

- SAY: What are some quotes and defining words your user said?
- DO: What actions and behaviors did you notice?
- THINK: What might your user be thinking? What does this tell you about his or her beliefs?
- FEEL: What emotions might your subject be feeling?

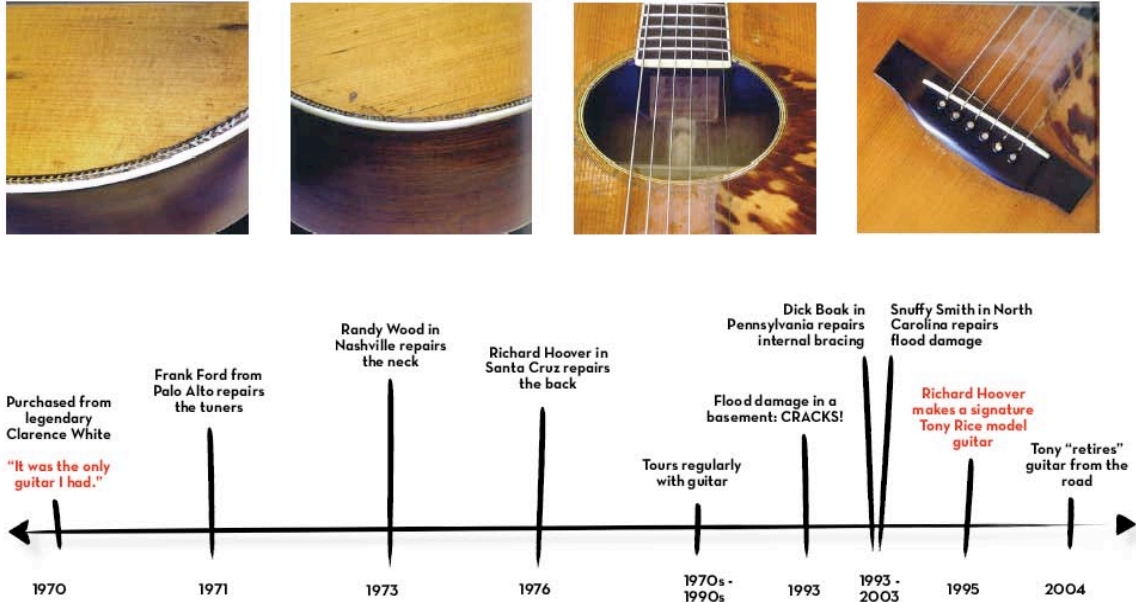
Note that thoughts/beliefs and feelings/emotions cannot be observed directly. They must be inferred by paying careful attention to various clues. Pay attention to body language, tone, and choice of words.

IDENTIFY NEEDS: “Needs” are human emotional or physical necessities and desires. Needs help define your design challenge. Remember: Needs are *verbs* (activities and desires with which your user could use help), not *nouns* (solutions). Identify needs directly out of the user traits you noted, or from contradictions between two traits – such as a disconnect between what she says and what she does. Write down needs on the side of your Empathy Map.

IDENTIFY INSIGHTS: An “Insight” is a remarkable realization that you could leverage to better respond to a design challenge. Insights often grow from contradictions between two user attributes (either within a quadrant or from two different quadrants) or from asking yourself “Why?” when you notice strange behavior. Write down potential insights on the side of your Empathy Map.

METHOD

Journey Map



WHY use a journey map

In gaining empathy for a person or understanding of one's process through an experience, considering the details of that process can illuminate areas for potential insights. Creating a journey map is an excellent way to systematically think about the steps or milestones of a process. A journey map can be used for your own empathy work, or to communicate your findings to others.

HOW to use a journey map

Create diagrams that capture multiple observations, e.g. a map of a user's day, a map of a user's experience, or a map of how a product moves through a space (from manufacturing to store shelf to user's hands). Consider a process or journey that is relevant, or even tangential to, your problem space. For example, you could consider your user's morning breakfast routine. You could capture every event of one person's exercise in a month - and consider who she was with, where she came from, where she exercised, and where she went afterwards. Or perhaps you are developing a dating service website; you could document every communication between two people before the first date. One important concern is to be comprehensive within the variables you choose to capture. (Don't overlook the opening of the window shades in the morning breakfast routine.) What seems meaningless, could actually be the nugget that develops into a stunning insight.

Organize the data in a way that makes sense: a timeline of events, a number of parallel timelines that allows for easy comparison, a series of pictures, or a stack of cards. Then look for patterns and anomalies and question why those themes or events occurred. Push yourself to connect individual events to a larger context or framework. It is often the pairing of an observation with the designer's knowledge and perspective that yields a meaningful insight.

METHOD

Composite Character Profile



Franklin

- 38 years old
- Divorced
- 2 kids
- Diabetic
- Free-clinic care-giver
- Has extreme tendencies in consumption and preparation of food.
- Balances his health and that of others, favoring the health of others.

WHAT is a composite character profile

The composite character profile is a synthesis method whereby the team creates a (semi)-fictional character who embodies the human observations the team has made in the field. These might include "typical" characteristics, trends, and other patterns that the team has identified in their user group over the course of their field work.

WHY use a composite character profile

The composite character profile can be used to bucket interesting observations into one specific, recognizable character. Teams sometimes get hung up on outlying (or non-essential) characteristics of any of a number of particular potential users, and the composite character profile is a way for them to focus the team's attention on the salient and relevant characteristics of the user whom they wish to address. Forming a composite character can be a great way to create a "guinea pig" to keep the team moving forward.

HOW to use a composite character profile

In order to create a composite character profile, a team needs to have unpacked its field observations and saturated its team space. After this is done, a team should survey across the individual users it encountered in the field to identify relevant dimensions of commonality and/or complementarity - these dimensions could be demographic information, strange proclivities and habits, or sources of motivation, to name only a few. After several dimensions of commonality have been identified, list these features of the user; if there are any dimensions of complementarity (those which may not be shared by all users, but are interesting to the team and not necessarily mutually exclusive), the team should add these as well. Last, give your character a name, and make sure every member of the team buys into the identity and corresponding characteristics that the team has created.

METHOD

Fill-In-The-Blank Character Profile

Attribute	The Character
Name	
Age and Life-Stage	
Occupation	
Family Situation	
Hobbies and Interests	
Attitudes Towards Health	
Key Values	
Media Interests	
Strengths/Weaknesses	
A Regular Ritual	
Loyalty to a Brand	
A Source of Pleasure	
A Habit He Desires	
A Habit He Wants to Kick	
Something Under Control	
Something Out of Control	

Adaptation of "Whose Life?," Steve Bishop, IDEO

WHY use a Fill-In-The-Blank Character Profile?

The FITBCP is a great tool to get you thinking about some dimensions of your user that will help you better understand him or her. It could be used for a real person or as a tool to construct your composite character. The method helps you catalogue some typically interesting characteristics of an individual, either during synthesis, or during an interview itself. Using the Character Profile list can reveal gaps in your understanding and can lead you to further areas of exploration. Note of caution: the character profile should only be leveraged to the extent that it is informative; it is not a silver bullet to empathy work, and will likely need to be adapted to fit the needs of the design challenge and context of a team's project.

HOW to use a Fill-In-The-Blank Character Profile

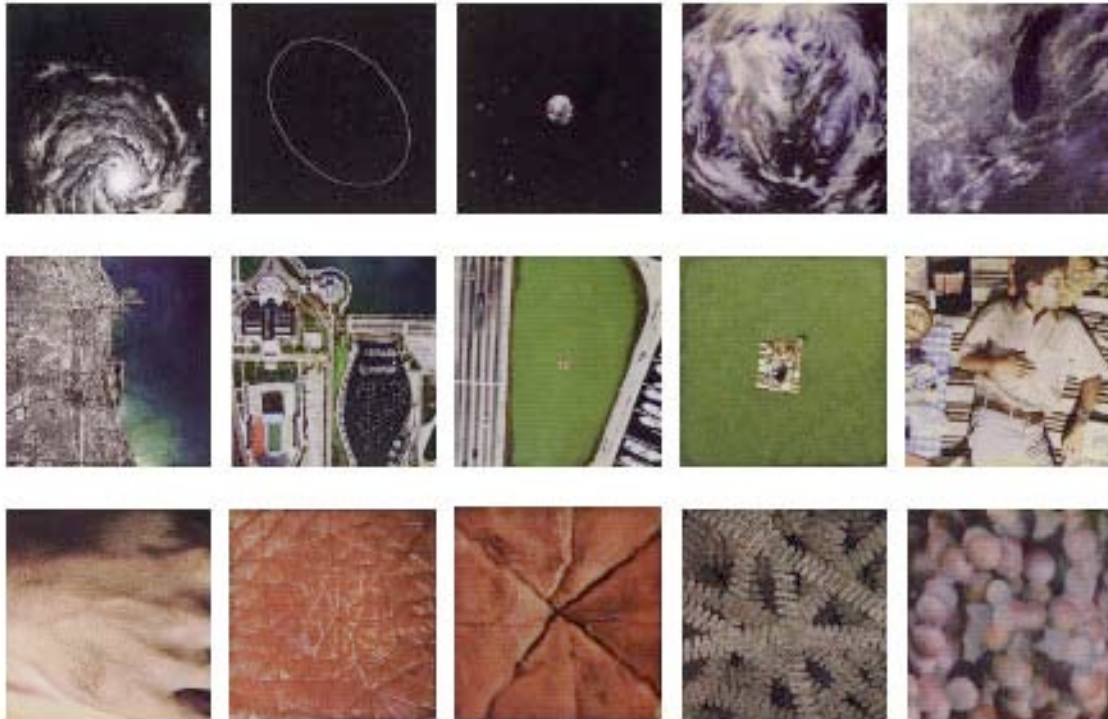
Make it your own. First confirm that the characteristics in the profile are relevant to your empathy work; if you're not sure, leave it – these recommendations have been culled from many successful field researchers.

Fill it out.

Refine it for next time.

METHOD

Powers of Ten



WHY use powers of ten

Powers of Ten is a reframing technique that can be used as a synthesis or ideation method. It allows the design team to use an intentional approach to considering the problem at varied magnitudes of framing.

HOW to use powers of ten

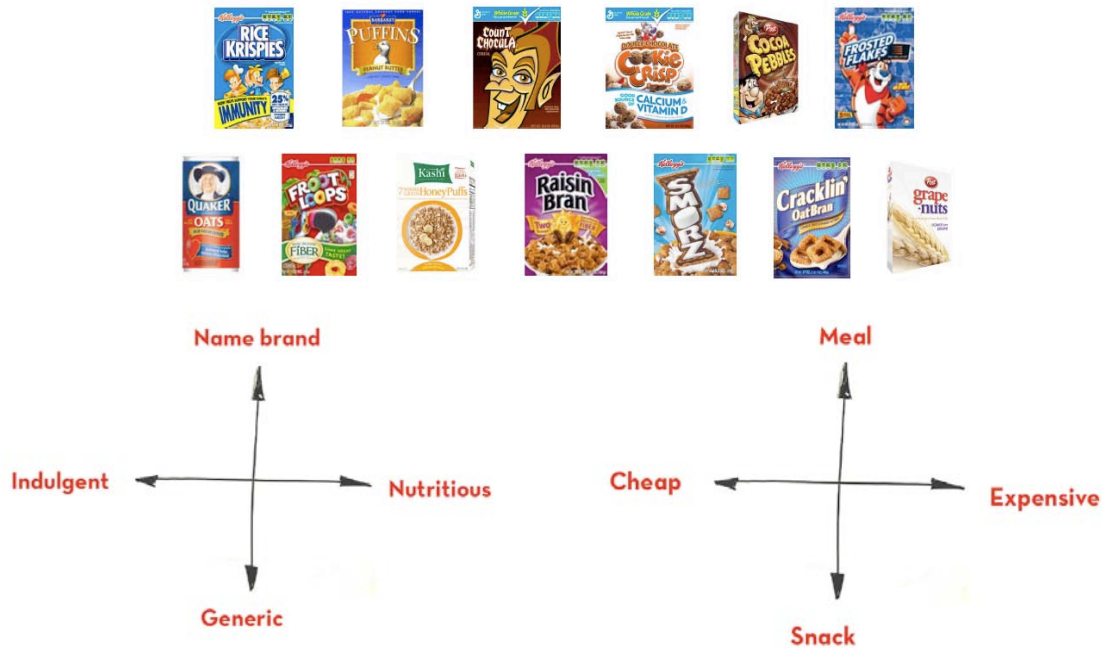
The concept of Powers of Ten is to consider one aspect over increasing and decreasing magnitudes of context. Let's take two examples to illustrate how Powers of Ten could be used during a design process:

POWERS OF TEN FOR INSIGHT DEVELOPMENT: In this example, imagine you are designing a checkout experience, and you are trying to understand a user's motivation and approach to an aspect of her life. You are thinking about how she makes buying decisions. We made the observation that she read a number of customer reviews before making a purchase and are developing an insight that she values her peers' opinions when making purchases. Consider what her behavior might be for buying various items over a wide range of costs, from a pack of gum, to a pair of shoes, to a couch, to a car, to a house. Capture this in writing. Probe for nuances in your insight and see where it breaks down. Perhaps this could develop into a framework, such as a 2x2.

POWERS OF TEN FOR IDEATION: During brainstorming groups idea generation lulls from time to time. One way to facilitate new energy is to use Powers of Ten. Continue with your brainstorming topic, but add a constraint that changes the magnitude of the solution space. "What if it had to cost more than a million dollars to implement?", "What about under 25 cents?", "What if it was physically larger than this room?", "Smaller than deck of cards", "Had no physical presence", "Took more than four hours to complete the experience?", "Less than 30 seconds?". More power to you.

METHOD

2x2 Matrix



WHY use a 2x2 matrix

A 2x2 matrix is a tool to scaffold thinking and conversation about your users and problem space. Use it during your synthesis process to help you think about relationships between things or people. The hope is that insights will come out from using a 2x2. 2x2 matrices are also great to visually communicate a relationship you want to convey.

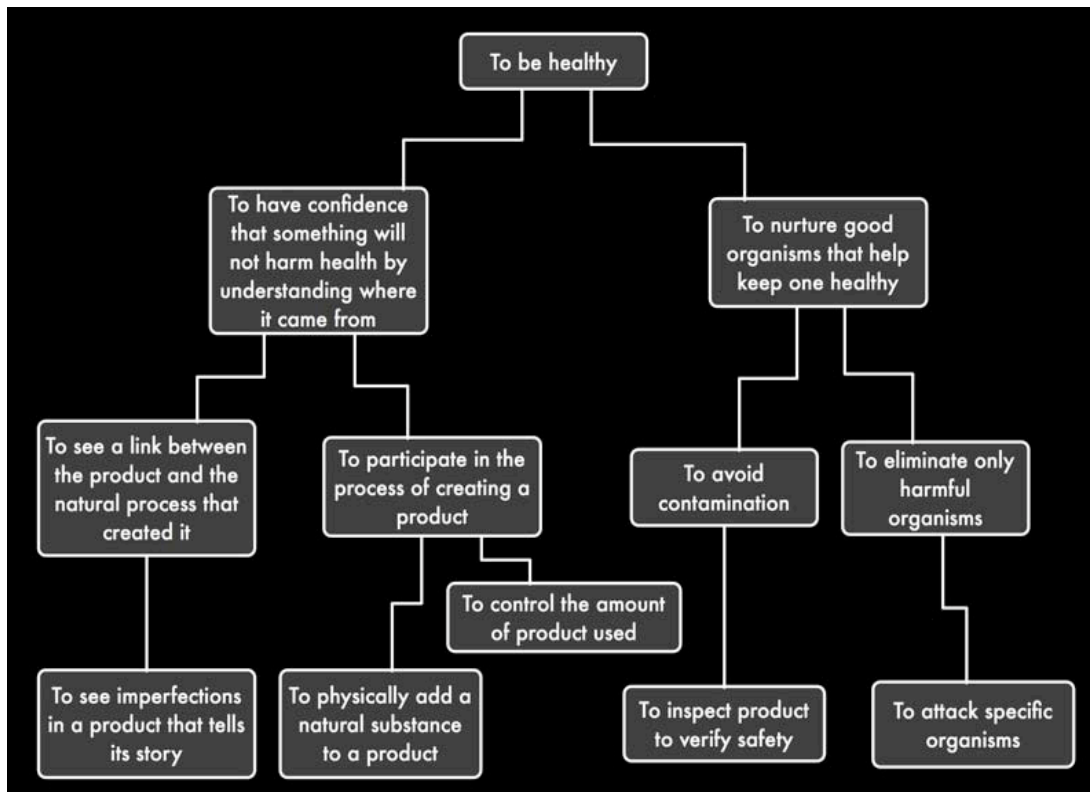
HOW to use a 2x2 matrix

Pick two spectra (one on each axis), draw a 2x2 matrix, and plot items in the map. The items could be product, objects, motivations, people, quotes, materials – any group of things that would be useful to explore. Put opposites on either end of each axis. You might place coffee drinkers on a matrix of passion for coffee (low-to-high) vs. economic status (rich-to-poor). Look for relationships by seeing where groups start to form. See what quadrants are very full or empty; where does the assumed correlation break down? The discussion that is spurred by trying to place items on the matrix is often as valuable as the producing the map itself. You may need to try a number of combinations of spectra to get one that is meaningful and informative. Try some combinations, even if you are not sure which is right – the first attempts will inform the ones to follow.

One common use for a 2x2 matrix is to consider the competitive landscape. In this case, an empty quadrant could signal a market opportunity (or a very bad idea).

METHOD

Why-How Laddering



WHY why-how ladder

As a general rule, asking 'why' tends to yield more abstract statements and asking 'how' gets you more specific ones. Often times abstract statements are more meaningful but not as directly actionable, and the opposite is true of more specific statements. That is why you ask 'why?' often during interviews - in order to get toward more meaningful feelings from users rather than specific likes and dislikes, and surface layer answers. When you think about the needs of someone, you can use why-how laddering to flesh out a number of needs, and find a middle stratum of needs that are both meaningful and actionable.

HOW to why-how ladder

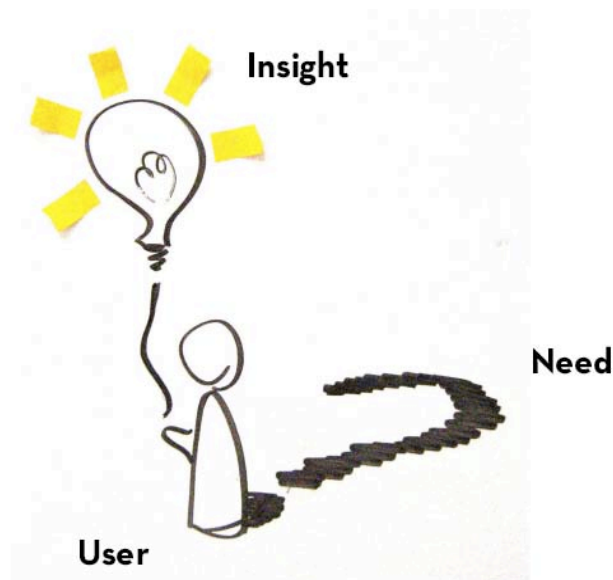
When considering the needs of your user, start with one meaningful one. Write that need on the board and then ladder up from there by asking 'why'. Ask why your user would have that need, and phrase the answer as a need. For example, "Why would she 'need to see a link between a product and the natural process that created it'?" Because she 'needs to have confidence that something will not harm her health by understanding where it came from'." Combine your observations and interviews with your intuition to identify that need. Then take that more abstract need and ask why again, to create another need. Write each on the board above the former. At a certain point you will reach a very abstract need, common to just about everyone, such as the 'need to be healthy'. This is the top of that need hierarchy branch.

You can also ask 'how' to develop more specific needs. Climb up ('why?') and down (how?) in branches to flesh out a set of needs for your user. You might come up to one need and then come back down. In the previous example, you climbed up to the 'need to understand where a product came from'. Then ask 'how' to identify the 'need to participate in the process of creating a product'. There will also be multiple answers to your 'whys' and 'hows' - branch out and write those down.

The result (after some editing and refining) is needs hierarchy that paints a full picture of your user or composite user. Alternatively, you can use this tool to hone in on one or two particularly salient needs.

METHOD

Point-of-View Madlib



WHY use a POV madlib

A point-of-view (POV) is your reframing of a design challenge into an actionable problem statement that will launch you into generative ideation. A POV Madlib provides a scaffolding to develop your POV. A good POV will allow you to ideate in a directed manner, by creating How-Might-We (HMW) questions based on your POV (see “Facilitating Brainstorms”).

HOW to use a POV madlib

Use the following the madlib to capture and harmonize three elements of a POV: user, need, and insight.

[USER] needs to [USER'S NEED] because [SURPRISING INSIGHT]

Use a whiteboard or scratch paper to try out a number of options, playing with each variable and the combinations of them. The need and insight should flow from your unpacking and synthesis work. Remember, ‘needs’ should be verbs, and the insight typically should not simply be a reason for the need, but rather a synthesized statement that you can leverage in designing a solution.

For example, instead of “A teenage girl needs more nutritious food because vitamins are vital to good health” try “A teenage girl with a bleak outlook needs to feel more socially accepted when eating healthy food, because in her hood a social risks is more dangerous than a health risk.” Note how the latter is an actionable, and potentially generative, problem statement, while the former closer to a statement of fact, which spurs little excitement or direction to develop solutions.

METHOD

Point-of-View Metaphor



WHY use a POV metaphor

A point-of-view (POV) is your reframing of a design challenge into an actionable problem statement that will launch you into generative ideation. A POV Metaphor can be a concise and compelling way to capture how you define the design challenge (your POV!). A good metaphor will yield a strong directive of how you go about designing the final solution.

HOW to use a POV metaphor

Use concise analogies to distill ideas. Metaphors can encapsulate your insights in a rich picture. Discover metaphors from the work you do in synthesizing information, and looking at analogies between your user's situation and other areas.

For example, one metaphor from industry is:

"Personal music player as jewelry,"

which provides the directive for creating the iPod. Looking at the headset as jewelry, rather than simply speakers, allows the designer to create a product that users will enjoy as a projection of themselves, rather than merely a utilitarian device.

This potentially could have been seeded by building an insight about how a user views her music collection – that "her identity is linked to the bands she listens to, and her relationships are bolstered by shared music taste."

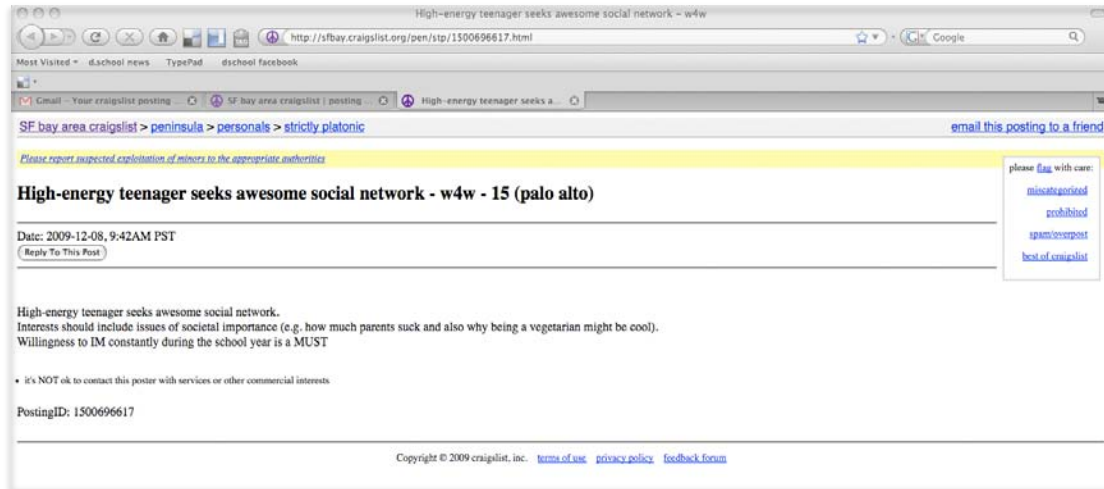
A metaphor can also be embedded into a more comprehensive POV.

For example you may create the following POV:

"A works-hard-plays-hard young professional needs to be motivated at work with a job that is more like a first-person-shooter than Tetris."

METHOD

Point-of-View Want Ad



WHY use a POV want ad

A point-of-view (POV) is your reframing of a design challenge into an actionable problem statement that will launch you into generative ideation. A POV Want Ad can be a good way to express your distilled findings in an intriguing format.

HOW to use a POV want ad

Embed your user, his or her need, and your insights within a the format of a want ad. This way of expressing a POV is often more playful and nuanced than the simple USER+NEED+INSIGHT madlib, but should still have a clarity about how you have reframed the problem. Try this format:

Descriptive characterization of a user,
followed by "seeks" an ambiguous method to meet a implied need,
plus additional flavor to capture your findings.

Ex: "High-energy teenager seeks awesome social network. Interests should include issues of societal importance (e.g. how much parents suck and also why being a vegetarian might be cool). Willingness to IM constantly during the school year is a MUST!"

METHOD

Critical Reading Checklist

Critical Reading Checklist

- 1.) What's the point?
- 2.) Who says?
- 3.) What's new?
- 4.) Who cares?

WHAT is a critical reading checklist

The Checklist is a tool used to determine whether a team has arrived at a meaningful, unique Point of View (POV). It was developed by David Larabee, of the Stanford School of Education, and repurposed in the context of a design process to evaluate POVs.

WHY use a critical reading checklist

Use this Checklist to ensure that your team's POV is valid, insightful, actionable, unique, narrow, meaningful, and exciting. While this method is not in itself sufficient to address the deficiencies of a POV, it is a great tool to think through and evaluate the usefulness of the POV.

HOW to use a critical reading checklist

We ask ourselves four basic questions about our Point of View:

1. What's the point? – What is your team's angle?
 - What is your team's framework in stating a POV? User-centered? Need-based? Insight-driven?
2. Who says? – How valid is your team's POV?
 - Is your team's position supported by findings from users? Is it a distillation of findings, or a widely applicable statement?
3. What's new? – What is the value-add of your POV?
 - Has your team articulated your findings in a new way? Are they placed in the context of a user? Try being more SPECIFIC.
4. Who cares? – How is your POV significant?
 - Is your team excited? Is this work worth doing? If not, ask "WHY?"!!

METHOD

Stoke



WHY stoke

Stoke activities help teams loosen up and become mentally and physically active. Use stoke activities when energy is wavering, to wake up in the morning, to launch a meeting, or before a brainstorm.

HOW to stoke

Do an activity that is physical and gets your creativity going. Keep it brief (5-10 minutes) and active so you can jump into your design work after. Play charades, play pictionary, or try one of these:

Category, category, die! Line folks up. Name a category (breakfast cereals, vegetables, animals, car manufacturers). Pint at each person in rapid succession, skipping around the group. The player has to name something in the category. If she does not, everyone yells “die!!” and that player is out for the round.

Sound ball Stand in a circle and throw an imaginary ball to each other. Make eye contact with the person you are throwing to, and make a noise as you throw it. The catcher should repeat the noise while catching, and then make a new noise as he throws to next person. Try to increase the speed the ball travels around the circle.

Yes, And Everyone walk around the room randomly, and then one person can make an offer: “We’re all at a cocktail party,” “We’re baby birds,” or “We don’t understand gravity.” Then everyone should shout in unison the response, “Yes” and proceed to take the directive by acting it out. At anytime someone else can yell out the next offer. The answer is always “Yes.”

METHOD

Brainstorming



One Conversation at a Time

Encourage wild ideas

Go for Quantity

Be Visual

Headline!

Stay on Topic

Build on the Ideas of Others

**Defer Judgement -
NO Blocking**

WHY brainstorm

Brainstorming is a great way to come up with a lot of ideas, that you would not be able to create by just sitting down with a pen and paper. The intention of brainstorming is to leverage the collective thinking of the group, by engaging with each other, listening, and building on other ideas. Conducting a brainstorm also creates a distinct segment of time when you intentionally turn up the generative part of your brain and turn down the evaluative part. Brainstorming can be used throughout a design process; of course to come up with design solutions, but also any time you are trying to come up with ideas, such as planning where to do empathy work, or thinking about product and services related to your project.

HOW to brainstorm

Be intentional about setting aside a period of time when your team will be in “brainstorm mode” – when the sole goal is to come up with as many ideas as possible, and when judgment of those ideas will not come into the discussion. Invest energy into a short period of time, like 15 or 30 minutes of high engagement. Get in front of a whiteboard or around a table, but take an active posture of standing or sitting upright. Get close together. Write down clearly what you are brainstorming. Using a How-Might-We (HMW) statement is often a great way to frame a brainstorm (e.g. HMW redesign the way we way we shop online). See the “Seed and Water a Brainstorm” method card.

There are two ways to capture the ideas of a brainstorming.

1. Scribe: the scribe will capture each idea that team members call out on the whiteboard or paper. It is very important to capture every idea, regardless of your own feelings about each idea.
2. All-in: Each person will write down each of his or her ideas as they come, and verbally share it with the group. It is great to do this with post-it notes, so you can write your idea and then stick it on the board.

Follow and (nicely) enforce the brainstorming rules – they are intended to increase your creative output.

METHOD

Seed and Water a Brainstorm



WHY seed and water your brainstorm

Good facilitation is key to a generative brainstorm. You brainstorm to come up with many, wide-ranging ideas; a good facilitator sets the stage for the team to be successful doing this.

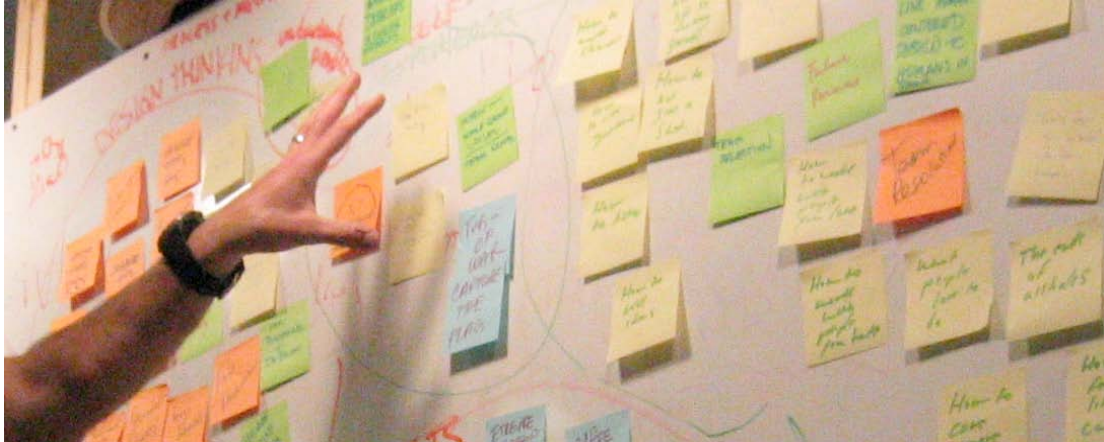
HOW to seed and water your brainstorm

Perhaps the most important aspect of a brainstorm is the seed question that you are brainstorming about. One way to seed the brainstorm is to phrase a How-Might-We (HMW) question. When brainstorming design solutions, these HMWs fall out of your point-of-view statement. Find a middle-ground for your seed that is broad enough that there are a wide range of solutions but narrow enough that the team has some bounds to bounce off of. For example, between the too narrow “HMW create a cone to eat ice cream without dripping” and the too broad “HMW redesign dessert” might be the properly scoped “HMW redesign ice cream to be more portable”. It should be noted, the breadth of the seed will vary with the project and stage you are in within the project. You can also brainstorm the HMW questions themselves before the solutions brainstorm.

As the facilitator it is also your task to keep the ideas flowing. Keep a pulse on the energy of the group. If the group is slowing down or getting stuck adjust the HMW statement to get the group thinking in another direction (prepare some HMW variations ahead of time), or add a constraint that may spark ideas. “What if it had to be round?”, “How would superman do it?”, “How would your spouse design it?”, “How would you design it with the technology of 100 years ago?”

METHOD

Harvest a Brainstorm



WHY harvest a brainstorm

Your brainstorm should generate many, wide-ranging ideas. Now harvest that brainstorm, so those ideas don't just sit there on the board. Harvesting is straight forward for some brainstormers (pick a couple), but when ideating design solutions give some thought to how you select ideas. Carry forward a range of those ideas, so you preserve the breadth of solutions and don't settle only for the safe choice.

HOW to harvest a brainstorm

In the selection process, don't narrow too fast. Don't immediately worry about feasibility. Hang on to the ideas about which the group is excited, amused, or intrigued. An idea that is not plausible may still have an aspect within it that is very useful and meaningful.

Different selection techniques can be used, including these two:

1. Post-it voting – each team member gets three votes and marks three ideas that he or she is attracted to. Independent voting allows all team members to have a voice.
2. The four categories method – the method encourages you hang onto those crazy but meaningful ideas. Elect one or two ideas for each of these four categories: the rational choice, the most meaningful, the darling, and the long shot.

Carry forward multiple ideas into prototyping. If an idea is so far out there that it seems pointless to test, ask yourselves what about that solution was attractive, and then test that aspect or integrate it into a new solution.

METHOD

Bodystorming



WHAT is a bodystorm

Bodystorming is a unique method that spans empathy work, ideation, and prototyping. Bodystorming is a technique of physically experiencing a situation to derive new ideas. It requires setting up an experience - complete with necessary artifacts and people - and physically "testing" it. Bodystorming can also include physically changing your space during ideation. What you're focused on here is the way you interact with your environment and the choices you make while in it.

WHY bodystorm

We bodystorm to generate unexpected ideas that might not be realized by talking or sketching. We bodystorm to help create empathy in the context of possible solutions for prototyping. If you're stuck in your ideation phase, you can bodystorm in the context of a half-baked concept to get you thinking about alternative ideas. Designing a coffee bar? Set up a few foam cubes and "order" a coffee! Bodystorming is also extremely useful in the context of prototyping concepts. Have a couple concepts you're testing? Bodystorm with both of them to help you evaluate them. Developing any sort of physical environment demands at least a few bodystorms.

HOW to bodystorm

This is a straight-forward method, but one that is only useful if you fully engage with it. Get physical! If you are trying to ideate in the context of hospital patients, try walking through the experience to come up with new ideas. If you are designing products for the elderly, rub some Vaseline on your glasses to view the world through older eyes. Bodystorm by moving around and becoming aware of the physical spaces and experiences related to your solutions. Pay close attention to decision-making directly related to your environment and related emotional reactions. Dig into the "WHY"!

METHOD

Impose Constraints



WHY impose constraints

It is a bit counterintuitive, but imposing constraints with intention can actually increase your creative generation. Think of as many white things as you can in ten seconds. Now think of white things in your kitchen. Did the more constrained prompt spark more ideas?

HOW impose constraints

There are many times throughout the design process when imposing constraints can help you be a more successful designer. However, being conscious of what filters you place on your design process, and when, is very important. Imposing a specific constraint on your idea generation is different than rejecting ideas because of pre-conceived notions of what you are trying to make.

Three areas where imposing constraints can be useful are in ideation, in prototyping, and with time:

IDEATION: During a brainstorm, or when you are ideating with a mindmap, temporarily add a constraint. This constraint might be “What if it were made for the morning?” or “How would McDonalds do it?”. Keep this filter on the ideation for as long as it is useful. (For more, see the “Seed and Water a Brainstorm” card.)

PROTOTYPING: In prototyping, particularly in early stages, you build to think. That is, you reverse the typical direction - of thinking of an idea and then building it - to using building as a tool to ideate. You can increase the output of this process by imposing constraints. Constrain your materials to push toward faster, lower resolution prototypes and increase the role of your imagination. Developing a checkout service? Prototype it with cardboard, post-its and a sharpie. Making a mobility device? Do it with cardboard, post-its and a sharpie. Designing an arcade game? Cardboard, post-its, sharpie.

Additionally, as with brainstorming, put constraints on the solution itself.

How might you design it . . . for the the blind? Without using plastic? Within the space of an elevator?

TIME: Create artificial deadlines to force a bias toward action. Make two prototypes in an hour. Brainstorm intensely for 20 minutes. Spend three hours with users by the end of the weekend. Develop a draft of your point-of-view by the end of the hour.

METHOD

Prototype to Decide



WHY prototype to decide

Often during the design process, it's unclear how to proceed forward, particularly when a team reaches a fork in its decision tree. A prototype can frequently resolve team disagreements and help a team decide which design direction to pursue without having to compromise. The best way to resolve team conflicts about design elements is to prototype and evaluate them with users. Making and evaluating a prototype can be the best way to inform design decisions. If an idea has been prototyped and passes muster with the group, it's a good sign that the idea is worth pursuing further.

HOW to prototype to decide

Staying as low-resolution as possible, develop models of potential design candidates. Be sure to distill the design problem down to discrete elements so you can isolate and be mindful of the variable you are testing. Then try out the prototypes within your team or, even better, take your prototypes to users and get their feedback.

METHOD

Identify a Variable



WHY identify a variable

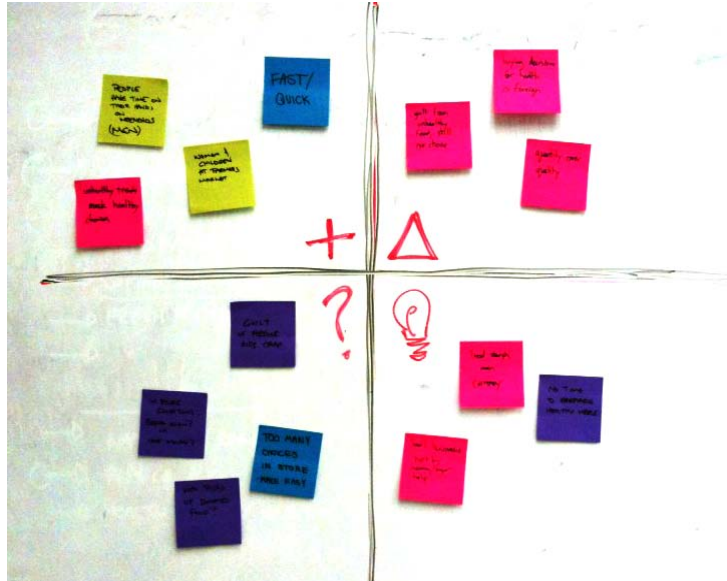
Identifying a variable to test with each prototype focuses the feedback you'll get from sharing and testing it. Present a user with a palette of six options, each varying in one property, and you'll easily be able to draw a conclusion from your testing. It takes some guesswork out of your process. Incorporating too many variables into one prototype can water down the feedback you'll get from your users – what was it were they responding to? You might never find out.

HOW to identify a variable

Prototype with a purpose; think about what you are trying to learn by making a prototype. Identify one variable to flesh out and test with each prototype you build. Bring resolution to that aspect of the prototype. Remember a prototype doesn't have to be, or even look like the solution idea. You might want to know how heavy a device should be. You can create prototypes of varied weight, without making each one operable. In another example, you may want to find out if users prefer getting delivery or picking up themselves – you may not even need to put anything in the box to test this.

METHOD

Feedback Capture Grid



WHY use a feedback capture grid

Use a feedback capture grid to facilitate real-time capture, or post-mortem unpacking, of feedback on presentations and prototypes – times when presenter-critiquer interaction is anticipated. This can be used either to give feedback on progress within the design team or to capture a user's feedback about a prototype. You use the grid because it helps you be systematic about feedback, and more intentional about capturing thoughts in the four different areas.

HOW to use a feedback capture grid

1. Section off a blank page or whiteboard into quadrants.
2. Draw a plus in the upper left quadrant, a delta in the upper right quadrant, a question mark in the lower left quadrant, and a light bulb in the lower right quadrant.

It's pretty simple, really. Fill the four quadrants with your or a user's feedback. Things one likes or finds notable, place in the upper left; constructive criticism goes in the upper right; questions that the experience raised go in the lower left; ideas that the experience or presentation spurred go in the lower right. If you are giving feedback yourself, strive to have equal amounts of feedback in each quadrant (especially the upper two).



FOCUS ON
HUMAN VALUES



SHOW
DON'T TELL



CREATE CLARITY
FROM COMPLEXITY



GET EXPERIMENTAL
AND EXPERIENTIAL



BE MINDFUL
OF PROCESS



BIAS TOWARD
ACTION



COLLABORATE
ACROSS BOUNDARIES

D.MINDSETS