EXCERPTS FROM

THE FIELD GUIDE TO HUMAN-CENTERED DESIGN

DESIGN KIT

The Field Guide to Human-Centered Design

By IDEO.org

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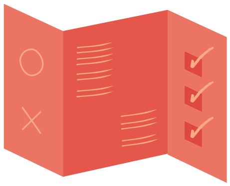
What Does It Mean to Be a Human-Centered Designer?

Embracing human-centered design means believing that all problems, even the seemingly intractable ones like poverty, gender equality, and clean water, are solvable. Moreover, it means believing that the people who face those problems every day are the ones who hold the key to their answer. Human-centered design offers problem solvers of any stripe a chance to design with communities, to deeply understand the people they're looking to serve, to dream up scores of ideas, and to create innovative new solutions rooted in people's actual needs.

At IDEO.org and IDEO, we've used human-centered design for decades to create products, services, experiences, and social enterprises that have been adopted and embraced because we've kept people's lives and desires at the core. The social sector is ripe for innovation, and we've seen time and again how our approach has the power to unlock real impact. Being a human-centered designer is about believing that as long as you stay grounded in what you've learned from people, your team can arrive at new solutions that the world needs. And with this Field Guide, you're now armed with the tools needed to bring that belief to life.

METHODS

Create a Project Plan



Get organized, understand your strengths, and start identifying what your team will need to come up with innovative solutions.

As you set out to solve your challenge, you'll need to create a plan. This gives you a chance to think through all the logistics of your project, and even though they're bound to change as things progress, you'll be in much better shape if you can plan for what's ahead. Reflect on your timeline, the space you'll work in, your staff, your budget, what skills you'll need, trips you'll take, and what you'll need to produce. Getting a good handle on all of this information can keep you on track.

TIME
60-90 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pen, paper, Post-its, calendar

PARTICIPANTS
Design team

STEPS

01 A good place to start is with a calendar. Print out or make a large one and put it up in your workspace. Now mark key dates. They could be deadlines, important meetings, travel dates, or times when your team members are unavailable.

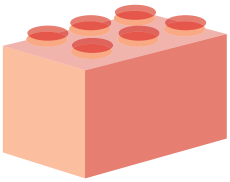
02 Now that you've got a sense of your timeline, look at your budget and staff. Do you have everything that you'll need? If you foresee constraints, how can you get around them?

03 You'll need to get smart on your topic before you head into the field. Who should you talk to now? What will you need to read to be up to speed on your challenge?

04 Answer questions like: When should my team head into the field? Will my team make one visit or two? Will our partners be visiting? Will we need to physically make something? How much time, money, and manpower will we need to produce it?

05 Your project plan will change as things evolve, and that's perfectly OK. You can always amend things as you go but make sure that you're really thinking through your project before you start.

Build a Team



An interdisciplinary mix of thinkers, makers, and doers is just the right combination to tackle any design challenge.

Human-centered design works best with cross-disciplinary teams. You could put three business designers to work on a new social enterprise, but if you throw a graphic designer, a journalist, or an industrial designer into the mix, you're going to bring new modes of thinking to your team. It's smart to have a hunch about what kind of talent your team will need—if you're designing a social enterprise, a business designer is probably a good bet—but you won't get unexpected solutions with an expected team.

STEPS

01 First, assess how many team members you'll need, your staff's availability, and when your project should start and end.

02 Look at the core members of your team and determine what they're good at and what they're not so good at.

03 Is there a clear technical capability that you'll need but don't currently have—maybe a mechanical engineer, a graphic designer, a skilled writer? Remember that you can always add a team member for a shorter period of time when their skills are most important.

TIME
60 minutes

DIFFICULTY
Hard

WHAT YOU'LL NEED
Pen, paper

PARTICIPANTS
Project lead, partner organizations

Define Your Audience

Consider the broad spectrum of people who will be touched by your design solution.

Before you dig into your in-context research, it's critical to know who you're designing for. You're bound to learn more once you're in the field, but having an idea of your target audience's needs, contexts, and history will help ensure that you start your research by asking smart questions. And don't limit your thinking just to the people you're designing for. You may need to consider governments, NGOs, other businesses, or competitors.

STEPS

TIME
30-60 minutes

DIFFICULTY
Easy

WHAT YOU'LL NEED
Pen, paper, Post-its

PARTICIPANTS
Design team

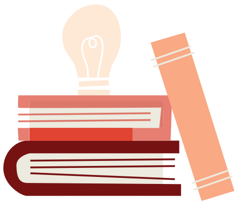
01 With your team, write down the people or groups that are directly involved in or reached by your project. Are you designing for children? For farmers? Write all the groups down on Post-its and put them on a wall so you can visualize your audience.

02 Now add people or groups who are peripherally relevant, or are associated with your direct audience.

03 Think about the connections these people have with your topic. Who are the fans? Who are the skeptics? Who do you most need on your side? Add them to the wall.

04 Now arrange these Post-its into a map of the people involved in your challenge. Save it and refer to it as you move through the Inspiration phase.

Secondary Research



Getting up to speed on your challenge is crucial to success in the field.

Human-centered design is all about talking with people about their challenges, ambitions, and constraints. But as you move through the Inspiration phase, there will be moments where you'll need more context, history, or data than a man-on-the-street style Interview can afford. Social sector challenges can be really thorny, which is why Secondary Research, whether done online, by reading books, or by crunching numbers, can help you ask the right questions. At IDEO.org, we find that a firm foundation of knowledge is the best place from which to tackle a design challenge.

TIME
1-2 days

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Internet connection, pen, notebook, research materials

PARTICIPANTS
Design team

STEPS

01 Once you know your design challenge, it's time to start learning about its broader context. You can bone up quickly by exploring the most recent news in the field. Use the Internet, newspapers, magazines, or journals to know what's new.

02 Try to find recent innovations in your particular area. They could be technological, behavioral, or cultural. Understanding the edge of what's possible will help you ask great questions.

03 Take a look at other solutions in your area. Which ones worked? Which ones didn't? Are there any that feel similar to what you might design? Any solutions that have inspired you to make one of your own?

04 Because Interviews (p. 39) can be highly subjective, use your Secondary Research to get the facts and figures you'll need to understand the context of your challenge.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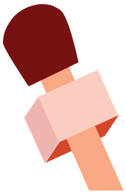
INSPIRATION

The Inspiration phase is about learning on the fly, opening yourself up to creative possibilities, and trusting that as long as you remain grounded in desires of the communities you're engaging, your ideas will evolve into the right solutions. You'll build your team, get smart on your challenge, and talk to a staggering variety of people.

THIS PHASE WILL HELP YOU ANSWER
How do I get started?
How do I conduct an interview?
How do I keep people at the center of my research?
What are other tools I can use to understand people?

Interview



There's no better way to understand the hopes, desires, and aspirations of those you're designing for than by talking with them directly.

Interviews really are the crux of the Inspiration phase. Human-centered design is about getting to the people you're designing for and hearing from them in their own words. Interviews can be a bit daunting, but by following these steps below you'll unlock all kinds of insights and understanding that you'll never get sitting behind your desk. Whenever possible, conduct your Interviews in the person's space. You can learn so much about a person's mindset, behavior, and lifestyle by talking with them where they live or work.

TIME
60-90 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, paper, Interview Guide worksheet p. 166

PARTICIPANTS
Design team, person you're designing for

STEPS

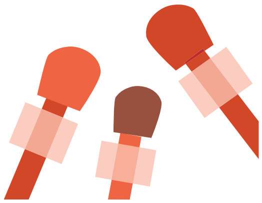
01 No more than three research team members should attend any single Interview so as to not overwhelm the participant or crowd the location. Each team member should have a clear role (i.e. interviewer, note-taker, photographer).

02 Come prepared with a set of questions you'd like to ask. Start by asking broad questions about the person's life, values, and habits, before asking more specific questions that relate directly to your challenge.

03 Make sure to write down exactly what the person says, not what you think they might mean. This process is premised on hearing exactly what people are saying. If you're relying on a translator, make sure he or she understands that you want direct quotes, not the gist of what the person says.

04 What you hear is only one data point. Be sure to observe the person's body language and surroundings and see what you can learn from the context in which you're talking. Take pictures, provided you get permission first.

Group Interview



You can come to a quick understanding of a community's life, dynamics, and needs by conducting a Group Interview.

Though a Group Interview may not offer the depth of an individual Interview (p. 39) in someone's home, it can give you a compelling look at how a larger set of the people you're designing for operates. The best Group Interviews seek to hear everyone's voice, get diverse opinions, and are strategic about group makeup. For example, an all-female group might give you insight into the role of women in a society whereas a mixed group may not. If you're looking to learn quickly what is valuable to a community, Group Interviews are a great place to start.

STEPS

TIME
90-120 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, paper, camera

PARTICIPANTS
At least 2 members of the design team, 7-10 people you're designing for

01 Identify the sort of group you want to talk with. If you're trying to learn something specific, organize the group so that they're likely to have good answers to the questions that you've got.

02 Convene the Group Interview on neutral ground, perhaps a shared community space that people of all ages, races, and genders can access.

03 In a Group Interview, be certain to have one person asking the questions and other team members taking notes and capturing what the group is saying.

04 Come prepared with a strategy to engage the quieter members of the group. This can mean asking them questions directly or finding ways to make the more vocal members of the group recede for a moment.

05 Group Interviews are a great setting to identify who you might want to go deeper with in a Co-Creation Session (p. 109).

Expert Interview

Experts can fill you in quickly on a topic, and give you key insights into relevant history, context, and innovations.

Though the crux of the Inspiration phase is talking with the people you're designing for, you can gain valuable perspective by talking to experts. Experts can often give you a systems-level view of your project area, tell you about recent innovations—successes and failures—and offer the perspectives of organizations like banks, governments, or NGOs. You might also look to experts for specific technical advice.

TIME
60-90 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, camera, notebook

PARTICIPANTS
Design team, expert

STEPS

01 Determine what kind of expert you need. If you're working in agriculture, perhaps an agronomist. In reproductive health? A doctor or policymaker may be a good bet.

02 When recruiting your experts, give them a preview of the kinds of questions you'll be asking and let them know how much of their time you'll need.

03 Choose experts with varying points of view. You don't want the same opinions over and over.

04 Ask smart, researched questions. Though you should come prepared with an idea of what you'd like to learn, make sure your game plan is flexible enough to allow you to pursue unexpected lines of inquiry.

05 Record your Expert Interview with whatever tools you have. A pen and paper work fine.

Card Sort

This simple exercise will help you identify what's most important to the people you're designing for.

A Card Sort is a quick and easy way to spark conversation about what matters most to people. By putting a deck of cards, each with a word or single image, in someone's hands and then asking them to rank them in order of preference, you'll gain huge insight into what really counts. You can also use the Card Sort exercise to start a deeper conversation about what a person values and why.

TIME
30 minutes

DIFFICULTY
Easy

WHAT YOU'LL NEED
Premade cards on p. 168 or your own cards

PARTICIPANTS
Design team, person you're designing for

STEPS

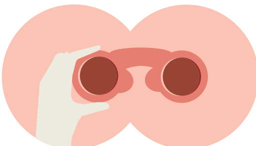
01 Make your own deck of cards or use the cards provided in the Resources section on p. 168. If you're making your own cards, use either a word or a picture on each card. Whatever you select, make sure that it's easy to understand. Pictures are a better choice if the person doing the Card Sort speaks another language or cannot read.

02 When tailoring your deck of cards to your precise research objectives, be sure that you're mixing concrete ideas with more abstract ones. You can learn a lot about how the person you're designing for understands the world by making this exercise more than just a simple ranking.

03 Now give the cards to the person you're designing for and ask her to sort them according to what's most important.

04 There are a couple variations on this Method that work nicely: Instead of asking the person you're designing for to rank the cards in order of preference, ask her to arrange them as she sees fit. The results might surprise you. Another tweak is to pose different scenarios. Ask the person you're designing for how she would sort the cards if she had more money, if she were old, if she lived in a big city.

Peers Observing Peers



Get a glimpse into the community you're designing for by seeing how they document their own lives.

You'll be talking to a lot of people as part of the Inspiration phase, but learning from the people you're designing for can also mean empowering them to do some of the research themselves and then share back with you. You may also find that social and gender dynamics, or research around a sensitive subject, like sexual health for example, may limit how much the people you're designing for are willing to tell you. By bringing the people you're designing for in as partners in your research and giving them the tools to capture their own attitudes and hopes, you'll learn more than you ever could on your own.

TIME
2-4 hours

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, paper, camera, art supplies

PARTICIPANTS
Design team, person you're designing for

STEPS

01 There are a number of ways you can get a person you're designing for to observe and document her peers and community. Start by determining how you want to learn. It could be through Interviews (p. 39), photos, Collages (p. 61), Card Sorts (p. 57), etc.

02 Outfit the person you're designing for with what she'll need—a camera perhaps, art supplies, a notebook pen—and take her through the observation and reporting process.

03 Offer support throughout the observation and reporting process. Make certain that she knows that there is no right answer and that you only want the honest opinions, hopes, and fears of the people she talks to.

04 When she's done, collect what she's produced, but also be sure to Interview her about how the process went. You'll want more than just the facts, so be sure to find out what surprised or inspired her, how her opinions might have changed, and what she learned about her peers.


1
2
3
4
5

IDEATION

In the Ideation phase you'll share what you've learned with your team, make sense of a vast amount of data, and identify opportunities for design. You'll generate lots of ideas, some of which you'll keep, and others which you'll discard. You'll get tangible by building rough prototypes of your ideas, then you'll share them with the people from whom you've learned and get their feedback. You'll keep iterating, refining, and building until you're ready to get your solution out into the world.

THIS PHASE WILL HELP YOU ANSWER

How do I make sense of what I've learned?
How do I turn my learnings into an opportunity for design?
How do I make a prototype?
How do I know my idea is working?

Download Your Learnings

In the Inspiration phase you gathered tons of information. Here's how you share it with your team and put it to use.

Now that you've got a huge amount of notes, photos, impressions, and quotes, it's time to start making sense of them. Because teamwork is so critical to human-centered design, IDEO.org teams download their learnings as groups. One by one, you'll go around the room, capture your ideas and stories on Post-its, and put them on big sheets of paper. It's critical to pay close attention to your teammates' stories, learnings, and hunches. This is a rich and powerful way to share what you've heard and part of the goal is to make your individual learnings group knowledge.

TIME
30 minutes per download

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, Post-its, a wall or board

PARTICIPANTS
Design team

STEPS

01 Take turns downloading. Start by getting rid of other distractions and sitting in a circle.

02 When it's your turn, put all key information you want to share on Post-its and use them as you describe who you met, what you saw, the facts you gathered, and your impressions of the experience.

03 Cluster the Post-its together as you put them on the wall or on a board so that you have a record of your discussion.

04 When it's not your turn, pay close attention. Feel free to ask questions if something isn't clear.

05 This process is best done the day of an Interview (p. 39) or after a day in the field. Download while your experiences and perceptions are fresh.

Share Inspiring Stories

Once you've had a chance to Download Your Learnings it's time to make sense of them. One way is to share the best of what you heard with your teammates.

Over the course of the Inspiration phase, you've heard stories or had experiences that stuck with you. Most likely, they won't be the ultimate solutions to your design challenge, but chances are they'll resonate with your team as well. At IDEO.org, we Share Inspiring Stories with our teammates so that they become part of our collective consciousness. The goal is to build a repository of stories for your team to draw from, tell, and retell. Capturing those powerful anecdotes and building them into the very narrative of your team's work helps everyone down the line.

STEPS

TIME
30-60 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, Post-its, a large sheet of paper, tape

PARTICIPANTS
Design team

01 Affix a large piece of paper to the wall to capture all the team's Post-it notes and ideas from the story in one place.

02 Tell the most compelling stories from the field to your teammates. Try to be both specific (talking about what actually happened) and descriptive (using physical senses to give texture to the description). Report on who, what, when, where, why, and how. And then invite each of your teammates to share their own inspiring stories.

03 As you listen to your teammates' stories, write down notes and observations on Post-its. Use concise and complete sentences that everyone on your team can easily understand. Capture quotes, the person's life history, household details, income, aspirations, barriers, and any other observations.

04 Write large enough so that everyone can read your notes. Then put all the Post-its up on the wall, organizing them into separate categories for each person that your team interviewed and each place that your team visited.

05 At the end of story sharing, you'll have many sheets lined up on the wall with hundreds of Post-it notes. Consider this shared information as a group and start to own the most compelling stories you heard.

Find Themes

As you share your learnings with your team, patterns and themes are likely to emerge. Here's how to spot and make sense of them.

Once you've had a chance to Download Your Learnings (p. 77) and Share Inspiring Stories (p. 78), you're ready to Find Themes. Take a good long look across your Interviews (p. 39), Analogous Inspiration (p. 53), and other learnings. Have any patterns emerged? Is there a compelling insight you heard again and again? A consistent problem the people you're designing for face? What feels significant? What surprised you? These themes are bound to change, but as you move through the Ideation phase, continue to Find Themes and sort out what they mean.

TIME
60-90 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Your Post-its and boards from previous Ideation sessions

PARTICIPANTS
Design team

STEPS

01 Gather your team around your Post-its from previous Ideation sessions. Move the most compelling, common, and inspiring quotes, stories, or ideas to a new board and sort them into categories.

02 Look for patterns and relationships between your categories and move the Post-its around as you continue grouping. The goal is to identify key themes and then to translate them into opportunities for design.

03 Arrange and rearrange the Post-its, discuss, debate, and talk through what's emerging. Don't stop until everyone is satisfied that the clusters represent rich opportunities for design.

04 Identifying these themes will help you Create Frameworks (p. 89) and write Design Principles (p. 105).

Create Insight Statements

A critical piece of the Ideation phase is plucking the insights that will drive your design out of the huge body of information you've gathered.

You've heard a lot from a lot of different people, downloaded learnings, and identified key themes from your research. The next step in the synthesis process is to Create Insight Statements, succinct sentences that will point the way forward. Insight statements are incredibly valuable as they'll help you frame How Might We (p. 85) questions and give shape and form to subsequent Brainstorms (p. 94). It's not always easy to create them, and it will probably take some work editing them down to the three to five main insights that will help you drive toward solutions.

TIME
60 minutes

DIFFICULTY
Hard

WHAT YOU'LL NEED
Pens, Create Insight Statements worksheet p. 176, your work from Find Themes

PARTICIPANTS
Design team

STEPS

01 Take the themes that you identified in Find Themes (p. 80) and put them up on a wall or board.

02 Now, take one of the themes and rephrase it as a short statement. You're not looking for a solution here, merely transforming a theme into what feels like a core insight of your research. This is a building block, not a resolved question.

03 Once you've done this for all the themes, look back at your original design challenge. Sift through your insight statements and discard the ones that don't directly relate to your challenge. You only want three to five insights statements.

04 Take another pass at refining your insights. Make sure that they convey the sense of a new perspective or possibility. Consider inviting someone who is not part of your team to read your insight statements and see how they resonate.

Create Frameworks

A framework is a visual representation of a system and a great way to make sense of data. Use them to highlight key relationships and develop your strategy.

During the Ideation phase it can feel like you've got tons of information but no way to organize it. At IDEO.org, we Create Frameworks to help synthesize our learnings and find clarity in what are often highly complex challenges. Frameworks like 2x2s, relational maps, and journey maps help you start to visualize patterns, understand the perspectives of the people you're designing for, and help you unpack the context you're working in.

TIME
60-90 minutes

DIFFICULTY
Hard

WHAT YOU'LL NEED
Pens, Post-its, paper

PARTICIPANTS
Design team

STEPS

01 As you Share Inspiring Stories (p. 78), listen for moments when the topic seems to fit into a larger system or feels related to something else you heard.

02 When patterns start to emerge, draw them. At first they can be simple frameworks like Venn diagrams or 2x2 matrices. These simple diagrams can help you map a few forces at work at once.

03 As the systems you hear about become more complex, and you start to think about what you might design, your frameworks will too. For example, a journey map—which charts the steps from first hearing of your product to trying it to recommending it to a friend—might become relevant.

04 Keep refining your frameworks as you move through the Ideation phase and feel free to invent new ones. Your frameworks are bound to change, and that's OK. Frameworks are only meant to help you visualize your system, not to capture it perfectly the first time out.

Create Frameworks

Journey Map

A journey map, allows you to visualize a process beginning to end. This simple framework will help you to more easily imagine the entire flow of an experience, whether it's how a service may work or all the touchpoints of a customer's journey with a product. This doesn't need to be an in-depth, detailed representation, but rather a quick-and-dirty way of thinking out how a process unfolds.

Relational Map

A relational map is used to see how different ideas relate to one another. This type of framework can organize some of what you've learned during the Inspiration phase, visualize how things connect, and help you to find patterns. You might start by putting one idea at the center and then mapping how your other ideas and insights play off of it.

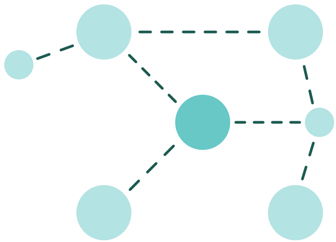
2x2

A 2x2 gives you a way to plot your ideas along two separate axes and then home in on insights and themes. By sorting information in this way, you'll uncover patterns that allow you to draw broader inferences. For instance, you might sort things based on different behavioral, societal, or environmental classifications, using each end of the axis as the extreme. If you were looking into behavioral characteristics associated with the use of adopting a new technology, the x-axis might read risk-taking versus risk-averse, while the y-axis could be digital versus analog.

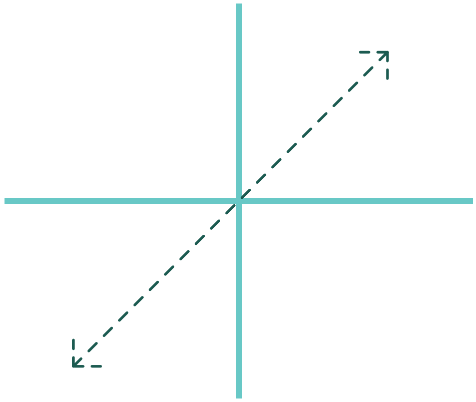
Types of Frameworks

Journey Map

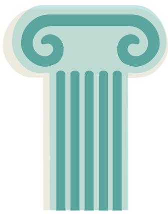
Relational Map



2x2



Design Principles



As you build out your ideas, you'll notice that certain unifying elements are starting to guide the design. Here's how to recognize them.

Design Principles are the guardrails of your solution—quick, memorable recipes that will help keep further iterations consistent. These principles describe the most important elements of your solution and give integrity and form to what you're designing. Odds are, they will align with the themes you found earlier in the Ideation phase. You'll also find that they'll evolve as you design things, so don't be afraid to revise them. Keep them short and memorable, like, "Talk like people talk" or "Keep women at the center of the business." Lower-level ideas like "The logo is blue" are not Design Principles.

STEPS

01 Look at your most important Post-its and what you came to in Finding Themes (p. 80) in particular.

02 Consider the core principles underpinning those themes. Frame these as positive statements that might tell you how and what to design. Remember, Design Principles operate as a group, and it's likely that you'll need to identify several.

03 Look at the Design Principles you've come up with. Are they short and to the point? Do they describe just one idea? Try to avoid overly complicating them. If it feels like there are multiple ideas going on, break them into smaller parts.

04 Review your Design Principles and make sure they cover the key aspects of your solution. Modify any that don't.

05 Be ready to revise your Design Principles as you start to build prototypes and test your ideas. Some Design Principles won't reveal themselves until you've actually designed and tested something, but once you spot them they'll become essential.

TIME
60-90 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, Post-its, your work from Find Themes

PARTICIPANTS
Design team

How Might We

Translate your insight statements into opportunities for design by reframing them as "How Might We" questions.

By Finding Themes (p. 80) and Creating Insight Statements (p. 81), you've identified problem areas that pose challenges to the people you're designing for. Now, try reframing your insight statements as How Might We questions to turn those challenges into opportunities for design. We use the How Might We format because it suggests that a solution is possible and because they offer you the chance to answer them in a variety of ways. A properly framed How Might We doesn't suggest a particular solution, but gives you the perfect frame for innovative thinking.

STEPS

TIME
60 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Insight statements, pens, Create How Might We Questions worksheet p. 177

PARTICIPANTS
Design team

01 Start by looking at the insight statements that you've created. Try rephrasing them as questions by adding "How might we" at the beginning. Use the worksheet on p. 177.

02 The goal is to find opportunities for design, so if your insights suggest several How Might We questions that's great.

03 Now take a look at your How Might We question and ask yourself if it allows for a variety of solutions. If it doesn't, broaden it. Your How Might We should generate a number of possible answers and will become a launchpad for your Brainstorms (p. 94).

04 Finally, make sure that your How Might We's aren't too broad. It's a tricky process but a good How Might We should give you both a narrow enough frame to let you know where to start your Brainstorm, but also enough breadth to give you room to explore wild ideas.

Brainstorm

Energize your team and drum up a staggering amount of innovative ideas.

At IDEO.org, we use Brainstorms to tap into a broad body of knowledge and creativity. Over the course of your project you should do them not only with your design team, but also with partners and the people you're designing for. Refer to Brainstorm Rules (p. 95) for the specifics of what makes for a fruitful brainstorm, but remember that the best policy is to promote openness, lots of ideas, and creativity over immediate feasibility. Brainstorms work best when the group is positive, optimistic, and focused on generating as many ideas as possible.

TIME
30-60 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, Post-its, a large sheet of paper or whiteboard

PARTICIPANTS
Design team, partners, community members

STEPS

01 Pass out pens and Post-its to everyone and have a large piece of paper, wall, or whiteboard on which to stick them.

02 Review the Brainstorm Rules before you start.

03 Pose the question or prompt you want the group to answer. Even better if you write it down and put it at the top of the paper, wall, or whiteboard.

04 As each person has an idea, have her describe to the group as she puts her Post-it on the wall or board.

05 Generate as many ideas as possible.

Brainstorm Rules

At IDEO.org we have seven little rules that unlock the creative power of a brainstorming session.

We've all been in Brainstorms (p. 94) that went nowhere. At IDEO.org, the goal isn't a perfect idea, it's lots of ideas, collaboration, and openness to wild solutions. The last thing you want in a Brainstorm is someone who, instead of coming up with ideas, only talks about why the ones already mentioned won't work. Not only does that kill creativity, but it shifts the group's mindset from a generative one to a critical one. The only way to get to good ideas is to have lots to choose from.

TIME
5 minutes for review before a Brainstorm

DIFFICULTY
Easy

WHAT YOU'LL NEED
Print out the Brainstorm Rules

PARTICIPANTS
Design team, any partners or people you're designing for who are relevant

STEPS

01 **Defer judgement.** You never know where a good idea is going to come from. The key is to make everyone feel like they can say the idea on their mind and allow others to build on it.

02 **Encourage wild ideas.** Wild ideas can often give rise to creative leaps. When devising ideas that are wacky or out there, we tend to imagine what we want without the constraints of technology or materials.

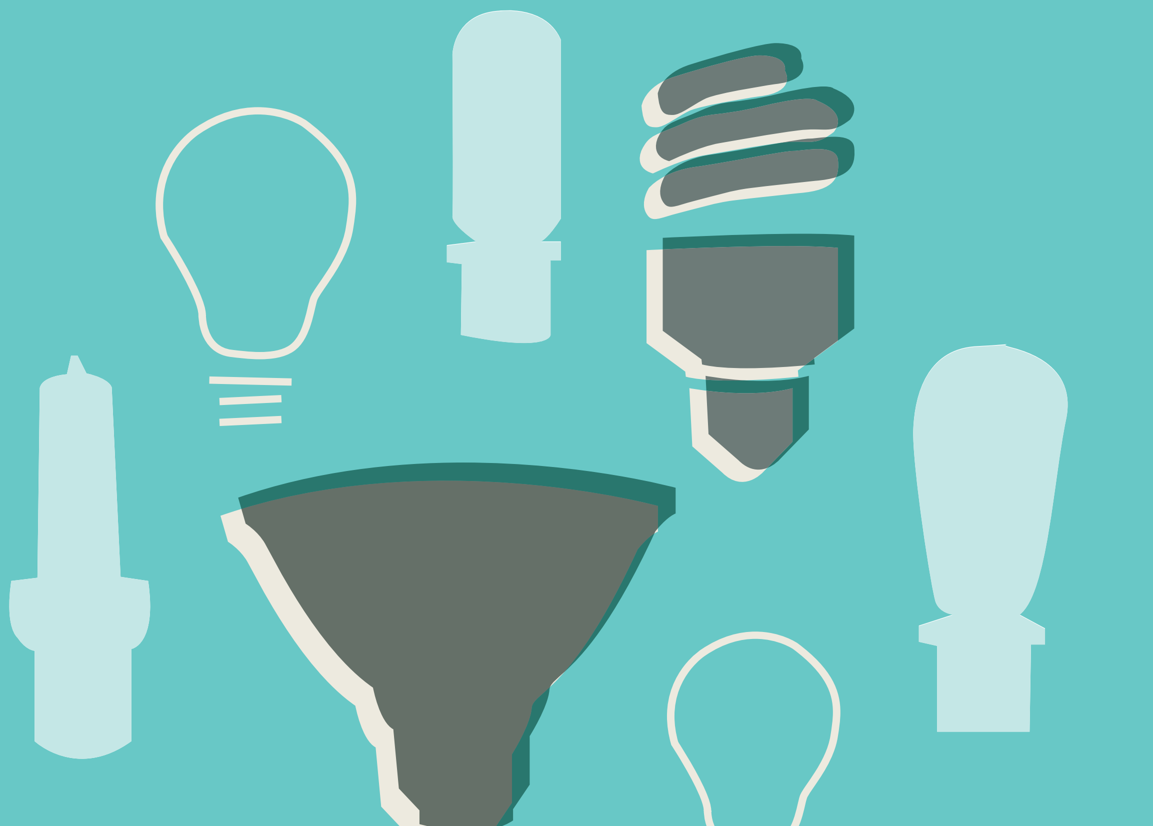
03 **Build on the ideas of others.** Being positive and building on the ideas of others take some skill. In conversation, we try to use " yes, and..." instead of "but."

04 **Stay focused on the topic.** Try to keep the discussion on target, otherwise you may diverge beyond the scope of what you're trying to design for.

05 **One conversation at a time.** Your team is far more likely to build on an idea and make a creative leap if everyone is paying full attention.

06 **Be visual.** In Brainstorms we put our ideas on Post-its and then put them on a wall. Nothing gets an idea across faster than a sketch.

07 **Go for quantity.** Aim for as many new ideas as possible. In a good session, up to 100 ideas are generated in 60 minutes. Crank the ideas out quickly and build on the best ones.



Create a Concept

Move from a handful of ideas and insights into a fully-fledged concept, one that you'll refine and push forward.

So far you've come up with, shared, and even discarded scores of ideas. You further refined things as you Bundled Ideas (p. 97) and now it's time to turn them into a concept. A concept is more polished and complete than an idea. It's more sophisticated, something that you'll want to test with the people you're designing for, and it's starting to look like an answer to your design challenge. This is the moment where you move from problem to solution and it drives everything that comes next.

TIME
60-90 minutes

DIFFICULTY
Hard

WHAT YOU'LL NEED
Pens, Post-its, paper

PARTICIPANTS
Design team

STEPS

01 Take the ideas that you bundled and put them up on the wall on Post-its.

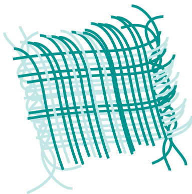
02 Now might be a good time to Create Frameworks (p. 89) out of those bundled ideas. Start to visualize where your bundles are pointing, but think especially hard about making them into a system.

03 Don't worry too much about all the details of your solution now—you don't need a finely tuned Funding Strategy (p. 145) just yet. The goal is to get a robust, flexible concept that addresses the problem you're trying to solve.

04 Keep referring back to your design challenge. Are you answering it? Are there elements missing in your solution? What else can you incorporate to come up with a great solution?

05 Like the rest of human-centered design, there's a bit of trial and error here. And creating a concept means you'll probably create a couple that don't work out. That's fine.

Co-Creation Session



The people you're designing for can tell you plenty, and they can show you more. Here's how to further incorporate them into your design process.

You'll be talking with scores of people throughout your project, and a Co-Creation Session is a great way to get feedback on your ideas and bring people deeper into the process. The purpose of a Co-Creation Session is to convene a group of people from the community you're serving and then get them to design alongside you. You're not just hearing their voices, you're empowering them to join the team. You can co-create services, investigate how communities work, or understand how to brand your solution.

STEPS

TIME
1-3 hours

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, Post-its, paper, a place to meet

PARTICIPANTS
Design team, community members, partners

01 The first step is to identify who you want in your Co-Creation Session. Perhaps it's a handful of people you've already interviewed. Maybe it's a particular demographic like teens or female farmers or people without jobs.

02 Once you know who you want, arrange a space, get the necessary supplies (often pens, Post-its, paper, art supplies), and invite them to join.

03 Maximize a Co-Creation Session with Conversation Starters (p. 45), a Brainstorm (p. 94), Role Playing (p. 118), Rapid Prototyping (p. 119), or other activities to get your group engaged.

04 Capture the feedback your group gives you. The goal isn't just to hear from people, it's to get them on your team. Make sure that you're treating your co-creators as designers, not as Interview (p. 39) subjects.

Rapid Prototyping

Build your prototypes quickly, share them immediately, and keep on learning.

For human-centered designers, Rapid Prototyping is an incredibly effective way to make ideas tangible, to learn through making, and to quickly get key feedback from the people you're designing for. Because prototypes are meant only to convey an idea—not to be perfect—you can quickly move through a variety of iterations, building on what you've learned from the people you're designing for. Rapid Prototyping means that you're building only enough to test your idea, and that you're right back in there making it better once you've gotten feedback.

TIME
120 minutes

DIFFICULTY
Hard

WHAT YOU'LL NEED
Pen, paper, supplies

PARTICIPANTS
Design team

STEPS

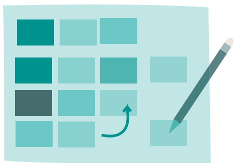
01 Once you've Determined What to Prototype (p. 111), it's time to build it.

02 You can make any number of prototypes: Storyboards (p. 113), Role Playing (p. 118), models, mock-ups. The goal here it to make something tangible that conveys the idea you want to test. No need to make it perfect, just make it good enough to get the idea across.

03 Now take your prototype out and test it with people you're designing for. Put it in their hands and ask them what they make of it. Make sure to Get Feedback (p. 126).

04 Here is where you can Integrate Feedback and Iterate (p. 127). Once you've quickly built another prototype you'll do it all over again until it's just right.

Storyboard



A quick, low-resolution prototype, Storyboards can help you visualize your concept from start to finish.

You don't need to be a great artist to create a great Storyboard. By visually plotting out elements of your product or service, you can learn a lot about your idea. Not only will this method help you refine what your idea is, it can also help you understand who will use it, where, and how. Like all prototypes, the idea here is to make something really rough as a way to help you think the idea through. It's amazing what putting pen to paper can reveal.

TIME
60 minutes

DIFFICULTY
Easy

WHAT YOU'LL NEED
Pens, Storyboard worksheets p. 178

PARTICIPANTS
Design team

STEPS

01 Determine what part of your idea you want to Storyboard. You don't have to Storyboard the entire thing, and you may find it useful to test a component of your idea like an interaction, or how a customer finds out about your product.

02 Spend no more than 30-45 minutes drawing how your ideas work. Use the series of comic book-style frames on p. 178 or make your own. This will help you spotlight key moments and build a short narrative.

03 Don't get hung up on your drawing abilities. It's more important that a Storyboard helps you fully think through your concept than create something that looks beautiful.

04 Once you're done, act out the Storyboard to your team for feedback.

Role Playing

A quick and tangible way to test an idea or experience is to get into character and act it out.

Role Playing is a type of prototype that is not only pretty easy to build, but can also help you get an idea, experience, or product in front of the people you're designing for quickly. You'd be smart to try Role Playing with your design team first. You may learn a lot by trying on the roles of the people in your small skit before you even get out of the office.

STEPS

01 The main goal of prototyping is to make an idea just tangible enough to elicit a response, whether from you, your team, a partner, or whomever you're designing for.

02 Decide which of your ideas you want to Role Play and assign the necessary roles to your team members.

03 Take about 30 minutes to determine the necessary roles, who will play them, and what it is that you're looking to test—is it a type of interaction, whether a person will respond to a type of product, the effectiveness of a sales pitch?

04 Costumes and props can be highly effective tools in bringing your Role Play to life. Don't spend ages on them, but consider making your prototype that much more realistic. You'd be surprised how far just a few details can go toward making a Role Play feel real.

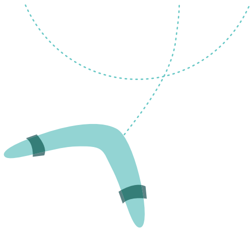
TIME
30-45 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Costumes help, but aren't entirely necessary

PARTICIPANTS
Design team, people you're designing for

Get Feedback



You've learned and built. Now share what you've made with the people you're designing for and see what they think.

Soliciting feedback on your ideas and prototypes is a core element of the Ideation phase, and it helps keep the people you're designing for at the center of your project. It's also a direct path to designing something that those same people will adopt. If the point of a prototype is to test an idea, then collecting feedback from potential users is what pushes things forward.

TIME
60-90 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, paper, your prototype

PARTICIPANTS
Design team, people you're designing for

STEPS

01 Now that you've got a prototype to share, get it in front of the people you're designing for. There are lots of ways to do it: Reconvene a Group Interview (p. 42), intercept people in markets for Interviews (p. 39), do another Expert Interview (p. 43) with your prototype, or perhaps run a Co-Creation Session (p. 109) designed to elicit feedback.

02 Capturing honest feedback is crucial. People may praise your prototype to be nice, so assure them that this is only a tool by which to learn and that you welcome honest, even negative feedback.

03 Share with lots of people so that you get a variety of reactions. Refer back to Extremes and Mainstreams (p. 49) to make sure you're capturing a cross-section of potential users.

04 Write down the feedback you hear and use this opportunity with the people you're designing for to ask more questions and push your ideas further.

Integrate Feedback and Iterate

Let the feedback of the people you're designing for guide the next iteration of your solution.

TIME
90-120 minutes

DIFFICULTY
Hard

WHAT YOU'LL NEED
Information from Get Feedback p. 126, prototyping materials, Post-its

PARTICIPANTS
Design team

Integrating the feedback you hear from the people you're designing for is one of the essential elements of human-centered design. You learned from people in the Inspiration phase, and in the Ideation phase one of the best ways to keep learning from them is to show them what you've made and find out what they think. Integrating their feedback into your work and then coming up with another prototype is the best way to refine your idea until it's something that's bound to be adopted and embraced.

STEPS

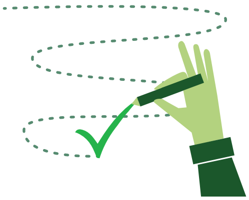
01 Sit with your design team and share the feedback that you collected. Use the Share Inspiring Stories (p. 78) or Download Your Learnings (p. 77) Methods to share what you learned.

02 You'll now probably want to synthesize some of the feedback you got. You can Create Frameworks (p. 89) based on what you heard and how it applies to your idea. You might also now try a Brainstorm (p. 94) around how your idea could change based on your feedback.

03 Get tangible and start building the next iteration of your prototype. Integrating Feedback and Iterating is closely tied to Rapid Prototyping (p. 119). So once you've determined how your prototype should change to reflect the feedback you got, build it.

04 Remember that this is a method for refining your idea, not for getting to the ultimate solution the first time. You'll probably do it a few times to work out the kinks and get to the right answer.

Define Success



Sit down with your team and map out what success looks like. Setting key milestones will keep you on course and give you something to work toward.

Though you've always been driving toward impact with your project, this is a point in the Implementation phase for you to stop and determine how you'll know if you're getting there. You'll determine important milestones in the life of your solution and come to understand what succeeding looks like. Think about a variety of time horizons. What is success in the next two months, in the next year, in five years? Imagine success in terms of both your organization and the people you're designing for. What does success look like in terms of how you've affected them?

TIME
90 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, Post-its, paper

PARTICIPANTS
Design team

STEPS

01 Start by returning to your original design challenge. Use that as a lens to think about what success looks like.

02 Look at your Roadmap (p. 136) and find key delivery dates and milestones. Hitting those dates might be a good indicator of early success. How can you plan to make sure you stay on target?

03 Imagine what success would look like from different angles. Maybe breaking even by a certain date makes sense from a business perspective. What about success in terms of your organizational operations? What about the perspective of the community you're looking to serve?

04 Are there any external measures of success that you need to consider? Are funders or partners going to hold you accountable to certain standards? Plan for those as you Define Success.

05 You can refine how you want to Define Success as you undertake the Monitor and Evaluate (p. 153) Method. They're related and the one will feed the other.

Business Model Canvas

This handy worksheet can help you think through some key aspects of a social enterprise, service, or business.

As you solidify your idea and start to test it, you'll also need to remain cognizant of your business model. A good way to keep it front and center in your mind is by using a Business Model Canvas. This simple sheet asks you key questions like what's your revenue stream, what are key partnerships you'll need to forge, and what resources are vital to your operation. You might even use a Business Model Canvas several times in the process as elements are bound to change as you refine your idea and move toward implementing it.

TIME
90 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, Business Model Canvas worksheet p. 180

PARTICIPANTS
Design team

STEPS

01 Print out a Business Model Canvas for each of your team members. There's a good one in the Resources section on p. 180.

02 Sit down with your team and start to fill out the sections of the Business Model Canvas. When you fill it out the first time, expect for there to be holes. It's okay not to know exactly how everything will work.

03 You may need to pause filling out the sheet to get more information.

04 When you're done, post the Business Model Canvas in your workspace. Like everything else in the human-centered design process, you'll refine it. Consider doing a new one as your project progresses.

METHOD IN ACTION

Business Model Canvas

Partnering with Water and Sanitation for the Urban Poor (WSUP) to improve sanitation solutions in Zambia, an IDEO.org team set out to design the brand and business model for a pit latrine emptying service.

To make sure they were leveraging a new vacuum truck technology—which allowed for more effective and efficient emptying of pit latrines—in a way that best suited the community, the designers set to work thinking about what type of business and service model should be built around it. Ultimately, the service model was designed to encompass a variety of subscription models, from monthly payments for recurring partial emptying service to one-time payments for a full service. This would allow the business to accommodate families with varying levels of liquidity. But in addition to creating a payment system that worked for the community members, the design team needed to find a viable business model for the service itself.

To get a better idea of what might work, they used a Business Model Canvas. This enabled the team to map out and understand what their business might look like from the partners and activities necessary to get the idea off the ground to the value proposition offered to the customer. Furthermore this model provided a quick way to check cost versus revenue streams, which was crucial to seeing if the concept could be taken forward as a sustainable service.

Business Model Canvas

Designed for: Partners and franchise owners/customers **Designed by:** IDEO.org **Date:** April, 2013 **Version:**

Key Partners

Maintenance provider

Franchiser/supplier

Finance

Dump site

Manual pit latrine emptiers

Key Activities

Emptying

Collecting

Key Resources

Consumer-facing collateral

Pit latrine emptying technology

Value Propositions

Full service

- High tech aspirational
- Affordable
- Full empty
- Able to reach every home

Partial Service

- Partial empty
- Fits a users current spending behavior

Customer Relationships

Professional service provider

Channels

- Door-to-door sales
- Kiosk
- Referrals
- Branding on trucks
- The road
- 1-800-dispatch
- Branded toilet

Customer Segments

Latrine owners in urban communities

Cost Structure

- Commissions
- Equipment lease/franchise fee
- Operator/driver salary
- Gas
- Maintenance
- Dumping costs

Revenue Streams

Full Service —> One-time emptying

Partial —> Monthly subscription


1
2
3
4
5

Live Prototyping

A Live Prototype is a chance to run your solution for a couple of weeks out in the real world.

Though you've been getting feedback from the people you're designing for all along, a Live Prototype is one of the most powerful ways to test your solution in the marketplace. Until now, your prototypes have been rough, and they've done only enough to convey the idea you wanted to test. A Live Prototype, however, gives you a chance to stress test your solution in real-world conditions. It can run from a few days to a few weeks, and is a chance to learn how your solution works in practice. Live Prototypes are all about understanding the feasibility and viability of your idea.

TIME
A few days to multiple weeks

DIFFICULTY
Hard

WHAT YOU'LL NEED
Space, staff, permits, or whatever it takes to run your solution in real market conditions

PARTICIPANTS
Design team, key partners, additional staff

STEPS

01 The first thing to do is to determine what it is you want to test in your Live Prototype. It could be the way that people find out about your solution or how your service will run or how your distribution model works. For example, you could run a business out of a kiosk for a week to test a channel strategy.

02 Once you've decided on what you're testing, sort out the logistics of your Live Prototype. Do you need a physical space, additional staff, uniforms, a permit, or anything else?

03 If you have the capacity, think about running a few Live Prototypes at once. This will allow you to test a variety of ideas quickly, and see how they work together, which may also be important.

04 Never stop iterating. If something went wrong on Day 1, try a new approach on Day 2. Live Prototypes are all about learning quickly, iterating on the fly, and pushing your solution closer and closer to the real thing.

05 As always, capture feedback from the people you're designing for.

Monitor and Evaluate

Your goal has always been to have big impact. Design the ways that you'll measure and grow it into your solution.

Throughout the design process you've constantly been learning, evaluating, and improving your solution. And now that you're on the verge of getting it out into the world you'll need a plan to find out if you're having the impact that you want. There are lots of ways to run a Monitoring and Evaluation (M&E) assessment, the key is to understand what kind is right for you. Sometimes it's easy, either your solution makes money or it doesn't. But if you're trying to change a community's behavior or increase the adoption of a service, you may need a more nuanced approach.

TIME
30 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, Post-its, a wall or board

PARTICIPANTS
Design team

STEPS

01 The first thing you'll want to determine is why you need to Monitor and Evaluate your work? Is it to demonstrate impact, to get more funding, to improve business practices, to generate more revenue?

02 Be sure to bring key partners and stakeholders into this conversation. They may have been Monitoring and Evaluating your topic area for years and can provide key insight.

03 Assess whether your team is the best suited to Monitor and Evaluate your work. You may need to hire an outside team or consultants to help you.

04 A common method for assessing impact is a randomized controlled trial (RCT). They are highly rigorous, but are also very expensive and can take years. You'll also be limited in iterating on your solution during an RCT because it may disrupt the test. Dynamic measurement tools (like number of visits or sales numbers) may be more useful for you.

05 Try to find a balance between quantitative and qualitative measurements. A mix of stories and data can be very powerful.

06 Take a prototyping attitude to your measurement. You can always tweak your business model based on the information coming in to maximize your impact.

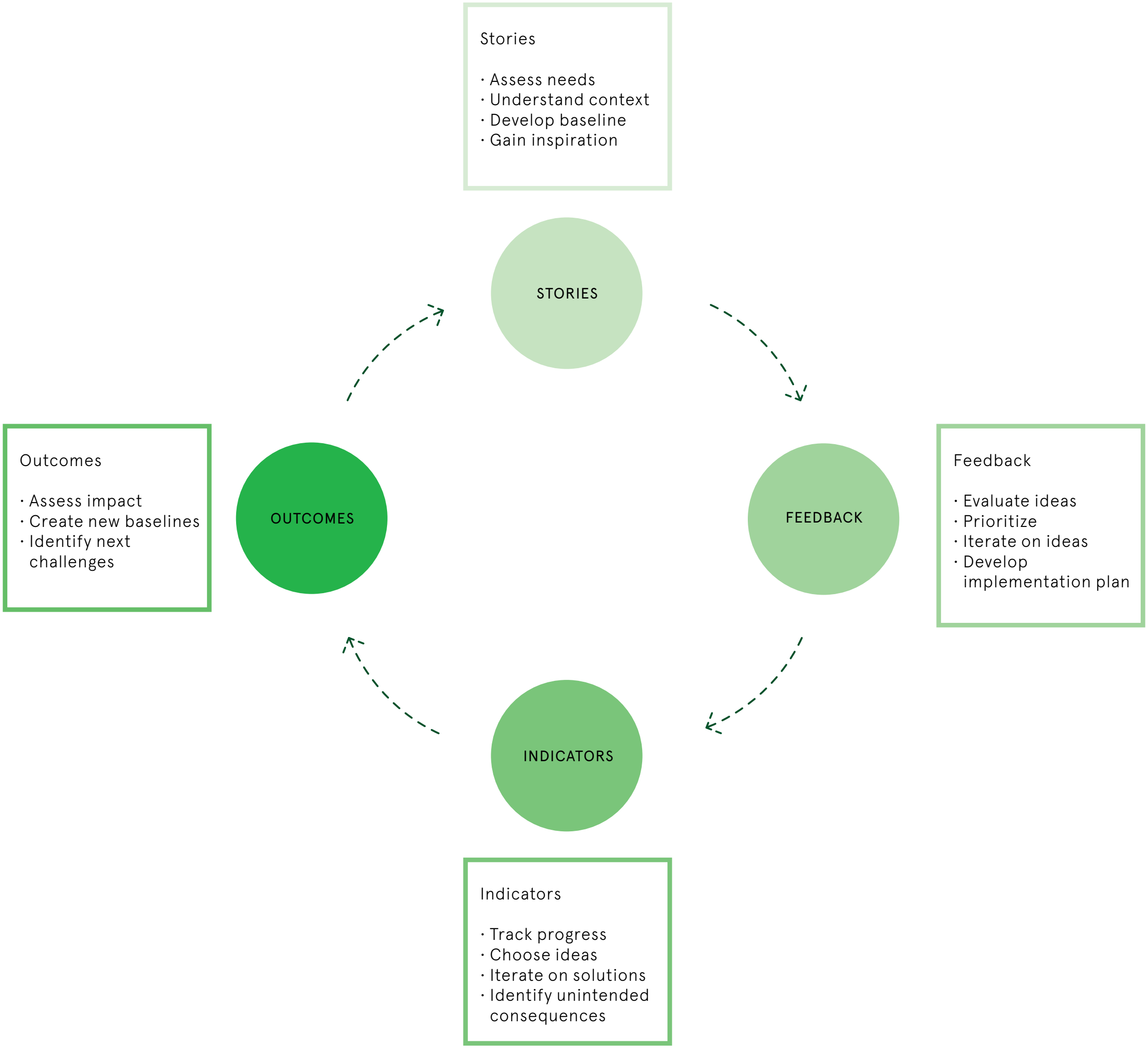
Monitor and Evaluate

In keeping with the human-centered design process as a whole, the Monitoring and Evaluation (M&E) process is rooted in hearing from the community you've designed for and evaluating that feedback to learn what kind of impact you're having. Though your particular sort of evaluation will differ depending on your solution, here is a good place to start to understand what M&E might entail.

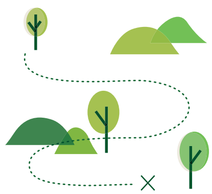
Stories and anecdotes are a great first place to ground your measurement. Keeping in mind the context in which you're working and the people you talked to during the Inspiration phase, you can use what you've learned so far to establish a baseline for the current state of the community you're serving. Then get back out there and talk to the community as you implement your solution. This will ensure that you and your team are always grounded in the needs of the people you're designing for, and it will give you a chance to keep learning, iterating, and collecting anecdotes from the community to track against the baseline.

Tracking progress quantitatively through specific indicators can be a powerful complement to the qualitative measurement you've started with. Remember, not every number or data point will be crucial. What's most important is that you have a well-defined goal of what data to gather and how you plan to interpret it. Bear in mind that there are lots of ways to evaluate data, so have a gameplan for which metrics count most when demonstrating your impact.

By rigorously collecting anecdotal feedback and tracking qualitative indicators, you'll be able to more accurately understand the outcomes of your work. Compare these outcomes to the baseline you established at the outset and to your team's goals to assess if you're having the impact you're aiming for.


Stories
· Assess needs
· Understand context
· Develop baseline
· Gain inspiration
STORIES
Outcomes
· Assess impact
· Create new baselines
· Identify next challenges
OUTCOMES
FEEDBACK
Feedback
· Evaluate ideas
· Prioritize
· Iterate on ideas
· Develop implementation plan
INDICATORS
Indicators
· Track progress
· Choose ideas
· Iterate on solutions
· Identify unintended consequences

Roadmap



You'll need a timeline and a plan of action to get your idea out into the world. A Roadmap can help keep you on time and on target.

You've got a concept you feel great about and you've tested it in the world. Now you'll need to create a plan for how you're going to implement it. A Roadmap helps you gather the key stakeholders in your project and collectively figure out a timeline, assign responsibility for each element of the project, and establish milestones. This is a great Method to do alongside Resource Assessment (p. 137) and Staff Your Project (p. 144) to give you a full picture of how to build your Roadmap.

TIME
90 minutes

DIFFICULTY
Moderate

WHAT YOU'LL NEED
Pens, Post-its, paper, calendar

PARTICIPANTS
Design team, key stakeholders, partners

STEPS

01 Assemble your design team as well as all the critical stakeholders and partners responsible for implementing your idea.

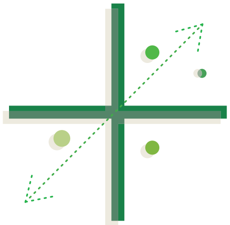
02 Print out a big calendar for the next year or 18 months and use it to map out what needs to happen when. Start putting Post-its on the calendar with key dates like Pilot (p. 146) launch, go-to-market date, etc.

03 It's easy to get lost in all that needs to happen, so think about your calendar in chunks. Figure out what needs to occur in the next month, in three months, in a year. Themes will emerge around the various tracks of work that will need to take place.

04 Think about the major milestones in your project timeline—when you go to market, when you need to start manufacturing, when you launch your website—and get them on the calendar. Use a different colored Post-it for milestones—perhaps even flip them so they look like diamonds instead of squares to stand out.

05 As you add Post-its to the calendar, assign a team member or partner to each track of work. Find someone to own or champion each element of your project and prepare to hold them accountable to the tasks.

Ways to Grow Framework



This chart will help you understand whom your design solution is for and what implementation will look like.

The Ways to Grow Framework is a quick and visual way to understand just how difficult your design solutions might be to implement. This exercise will help you identify whether your solutions are incremental, evolutionary, or revolutionary and whether your solutions extend, adapt, or create a totally new offering. You'll also clarify whether your solutions are targeted at your current user group or whether they expand to a new group. By seeing your solutions in relation to each other, you'll quickly ascertain which ones your organization has the means, manpower, and capacity to undertake.

TIME
30-45 minutes

DIFFICULTY
Easy

WHAT YOU'LL NEED
Pens, Post-its, Ways to Grow Framework worksheet p. 184

PARTICIPANTS
Design team

STEPS

01 Use the Ways to Grow Framework worksheet on p. 184 or draw one on a large sheet of paper. The vertical axis represents the novelty of your offering and the horizontal axis represents its users. Totally new offerings land above the horizontal axis and existing ones land below. An idea aimed at new users falls to the right of the vertical axis and one that affects existing users falls to the left.

02 Now, plot your solutions on the worksheet. Revolutionary new ideas that will attract new users will fall in the top right quadrant. Incremental ideas that offer small builds on existing services will hit below the horizontal axis.

03 Look at the distribution of solutions from incremental to revolutionary. Are there gaps in your portfolio of solutions? Are parts of the matrix blank and others full? If so, do you want to devise solutions that fill all four quadrants?

04 Lots of organizations say that they're interested in revolutionary thinking, but often, incremental and evolutionary change can have the greatest chance for big impact. Think hard about what your organization can realistically achieve and what will benefit your constituents most.

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