FIRST EDITION

DESIGN THINKING FOR LIBRARIES

A TOOLKIT FOR PATRON-CENTERED DESIGN

IDEO

FIRST EDITION / TWO THOUSAND FIFTEEN

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CHAPTER

1

GETTING STARTED

Welcome to the design thinking for libraries toolkit.

This introductory chapter will orient you to the design thinking approach, and show you how you might use the toolkit in the context of your library. We're glad you're interested in learning how to create better solutions for your users and community!

GETTING STARTED

THIS TOOLKIT IS FOR YOU

THIS TOOLKIT CAN HELP YOU CREATE SOLUTIONS FOR EVERYDAY CHALLENGES

While libraries have existed for centuries there has never been a time as well suited to reflect on the future of libraries. In many communities around the world public libraries are still the only place where any person, regardless of education or skill level, can have access to information. Libraries have long been rooted in the development of cities, communities, and a knowledge economy. As Andrew Carnegie said, "a library outranks any other one thing a community can do to benefit its people. It is a never failing spring in the desert."

As vital as libraries are, many remain underutilized and have limited budgets and resources. The challenges facing librarians are real, complex, and varied. Given the rapidly evolving information landscape, librarians need new answers which requires new perspectives, tools, and approaches. For the sake of clarity we'll be addressing librarians throughout this toolkit, but in reality we know that anyone who works within the library setting would benefit from using design thinking in day-to-day work.

It's important to note that some libraries have shifted their approach and perspective to adapt to 21st century needs. For instance, libraries are continually re-framing their purpose and offerings based on the library as a hub of citizen services, a co-working space, and a platform for experimentation. Our hope is to see more of this diverse use in the future. Today you all have the opportunity to become ambassadors of change.

DESIGN THINKING IS ONE OF THESE APPROACHES

We created this toolkit to introduce a way of working that will help you strengthen your library by understanding the needs of your patrons and engaging your communities like never before through a method that we call design thinking. Several other industries, particularly business and education, have used this people-focused approach for decades to solve problems. In this toolkit we have adapted these methods for the library setting, you will learn the steps to develop better services, tools, and experiences for your patrons.

GETTING STARTED

A CALL TO ACTION

As a librarian or member of library staff, it's your mission to improve society by facilitating knowledge. That facilitation needs to start with the community itself. In order to continuously evolve and improve the library's offerings, you will want to have a deep understanding of the needs of your community, users and non-users alike. No one knows these communities better than you, the librarians who serve them.

We know your days are often very busy and demands on the library system are high, but this is all the more reason to employ new ways of thinking in your everyday work. You may be asking yourself, "What about my lack of funding or resources?" and our answer to that is start to shift your thinking from what you don't have to what you do have. Actionable and immediate change is entirely possible within the existing constraints and not all innovations are brand new. There's a common saying that "creativity loves constraints" so keep an open mind, and let this approach inspire you to find a new perspectives on your work. We hope you accept our invitation.

WHO ARE WE?

We are IDEO, a global design and innovation consultancy that works with companies as diverse as startups and nonprofits to multinational corporations. We are renowned for being the company that designed Apple's first mouse and the first laptop computer. Today, we use design thinking to solve a wide range of problems, like improving sanitation in Ghana and redesigning the cafeteria in San Francisco public schools.

You might be asking yourself, "What do they know about libraries and how can they relate to our position?" As a consultancy, we're constantly working with clients on issues where we are not the experts. We study a problem in-depth, and then offer a fresh point of view to our clients in order to tackle the big-picture problems. So while you may not consider yourselves "designers," know that your fresh view can actually work in your favor. You don't have to be an expert designer to use the methods of design thinking.

Additionally, thanks to funding from the Bill & Melinda Gates Foundation through the Global Libraries program, we spent over a year working closely with librarians to create this design thinking toolkit. We partnered with the Chicago Public Library in the U.S., and Aarhus Public Libraries in Denmark. We observed over forty librarians across ten countries, and then synthesized our learnings. We'd also like to thank the following organizations for their support in the making of the toolkit:

· Bucharest Metropolitan Library
· READ Nepal
· Jamaica Library Service
· Vinnytsia Regional Universal Research Library
· Beyond Access, IREX

We gathered great insights into some of the challenges you face on a daily basis, but we know that there is plenty we still don't know. We welcome your feedback, questions, and stories so that we can continue to improve this toolkit. Join this list of libraries that are pioneering this approach, and share your experience here: hello@designthinkingforlibraries.com.
Now let's get started!

"I changed the way I thought about the book club program at our branch. No one was showing up! I learned from several conversations with patrons that the library might not be the best location for the club to meet. I decided to prototype a version of the club in a place people were naturally gathering–a coffee shop down the street. So much of this approach is talking to your patrons and just trying something new."

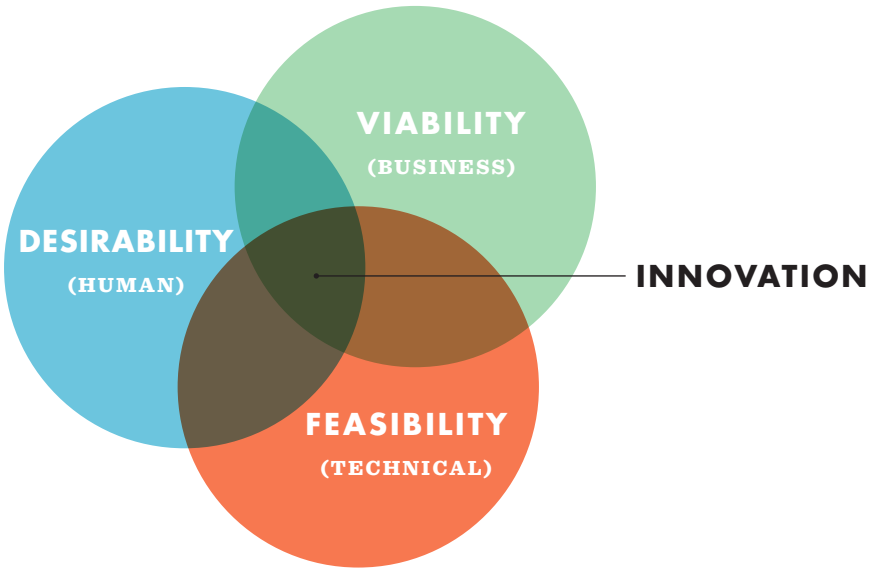
Jeremy Kitchen, a librarian at the Bridgeport branch of Chicago Public Library, reflecting on the design thinking approach.

GETTING STARTED

What is Design Thinking?

DESIGN THINKING IS BOTH AN APPROACH AND A MINDSET

Design thinking is a creative approach, or a series of steps that will help you design meaningful solutions for your library. If you think about it as a Venn diagram, design thinking solutions exist at the intersection of three factors: desirability, feasibility, and viability. In other words, when the solution is desirable, it's financially viable, and it's technologically feasible, innovation happens where these factors overlap.



While it might look intimidating at first glance, design thinking is actually a deeply empathic and intuitive process that taps into abilities we inherently all have but often overlook. In other words, you don't have to be a designer to use creative tools to solve problems. Instead, design thinking relies on our ability to be intuitive, to recognize patterns, to construct ideas that resonate emotionally and rationally, and to be expressive through action. The design thinking process starts by assessing people's needs which is why it goes hand in hand with a methodology we call "human-centered design."

Design thinking is also a mindset because you start to view the world like a designer, even if you aren't one. Thinking like a designer isn't about knowing how to draw, it is about embracing the unknown and being creative in the face of ambiguity. Adopting a designer's mindset enables you to see problems as opportunities and gives you confidence to start creating transformative solutions. We know this approach might be different from the way you normally work and the idea of not knowing the end result can be scary, but keep in mind it is important to trust the process.

GETTING STARTED: WHAT IS DESIGN THINKING?

EXAMPLE 1

Below is an example that shows the value of design thinking. The following is an excerpt from Creative Confidence, a book by IDEO founders Tom & David Kelley:

One of my favorite stories of creative confidence is a story from Doug Dietz, a designer at GE Healthcare. He recently wrapped up a project working on a brand new, beautiful MRI machine. One day while observing his design live in the hospital, he encountered a young patient heading towards the scan room with her parents. She was clearly terrified, tears rolling down her face. At the sight of the young girl, the MRI technician instantly called for the anesthesiologist.

This moment changed his perspective forever and he knew he had to make a change. He enrolled in a Stanford d.school course and learned how to approach the challenge from a human-centered design perspective that would ultimately help him make MRIs less terrifying for children. Doug knew he wouldn't be able to secure significant funding to redesign an MRI machine from scratch, so he focused on the experience instead. He and his team transformed the MRI machine into a kid's adventure story with the patient starring in the lead role. They applied colorful decals to the outside of the machine and on every surface of the room, covering the equipment, floor, ceilings and walls. They also created a script for the technician to lead their patients through the adventure.

Some of the prototypes included a pirate ship — a captain's wheel surrounding the opening of the chamber made the area feel less claustrophobic, where the patient gets to pick a treasure from the pirate's chest at the end. With these new designs, the number of patients needing sedation decreased dramatically. Patients were happier. Hospitals were happier. His greatest achievement however was when a little girl once asked her mom after the scan: "can we come back tomorrow?"

Approach a problem with a creative mindset like Doug did, and so many new opportunities present themselves.

EXAMPLE 2

Here's another example of design thinking in an educational context with an excerpt from one of our other open-source toolkits, Design Thinking for Educators:

Michael Schurr, a 2nd grade teacher in New York, realized that he never asked his students what would make them comfortable in the classroom. He had been spending hours assembling content for the bulletin boards in his classroom, but the students had not engaged with them.

He started a design thinking project with the following design challenge: How might my classroom be designed to better meet my students' needs? He decided to talk directly with his students to figure out the best design for their environment.

While interviewing his students, he found that the problem was that the students could not see the bulletin boards.

Based on his students' input, he was able to redesign his classroom to better address the needs and desires of his students. He lowered the bulletin boards so that his students could actually see the content, and created a more comfortable semi-private space for the students to study. After making these small adjustments, his students are more engaged and move more fluidly in the classroom space. Now, Michael consistently engages his students in helping him more effectively shape their learning experience. He is using design to re-imagine his classroom through the lens of his students' eyes.

Example 1

Example 2

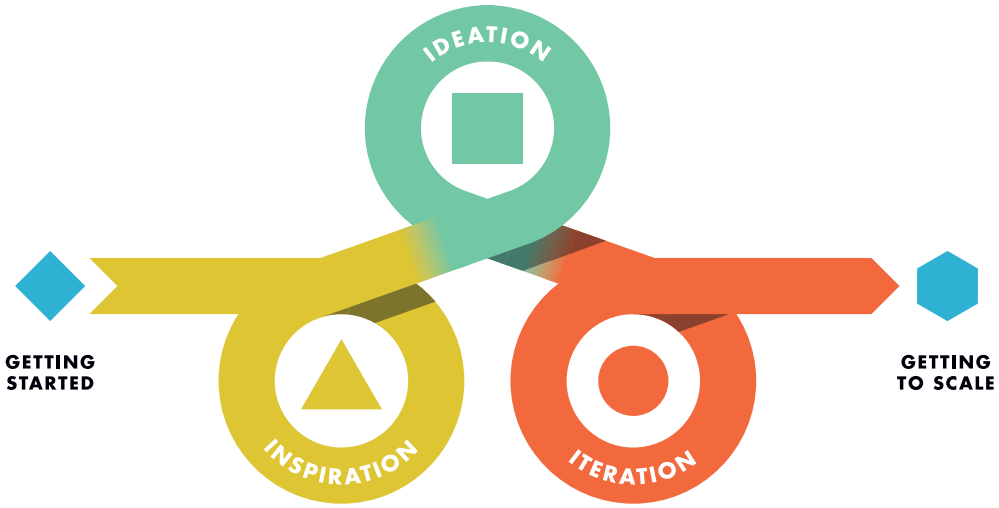
GETTING STARTED

The Design Thinking Process

The design thinking process is best thought of as a system of overlapping phases rather than a sequence of orderly steps. There are three phases to keep in mind: inspiration, ideation, and iteration. Once you transition an idea into a sustainable offering we call that "getting to scale," meaning your idea has broader impact and the capacity to effect organizational and even systemic change. As you read through these chapters you will develop a deeper understanding of each design thinking phase by learning about specific projects that IDEO has completed over the years.

Additionally, while you move through these phases it's important to know that the process is non-linear, alternating between convergent and divergent thinking, the abstract and the concrete. As you start to learn this process using the toolkit you will likely progress through these phases in a sequence, but as you become more experienced with design thinking you will find that you are able to move between and cycle through them with greater ease and confidence.

THE DESIGN THINKING PROCESS



GETTING STARTED: THE DESIGN THINKING PROCESS

INSPIRATION
is about framing a design challenge and discovering new perspectives on the opportunity.

I have a challenge.

How do I approach it?

IDEATION
is about generating ideas and making them tangible.

I've learned something.

How do I interpret it and express my ideas?

ITERATION
is about continual experimentation based on user feedback.

I have a prototype.

How do I test it with users and refine it?

THE APPROACH IS...

PATRON-CENTERED
It starts and ends with the patron's needs (as opposed to the library's needs). The library as an organization will follow when you put the patron first.

BASED ON LEARNING BY DOING
It's about getting out from behind your desk, mobilizing people, stepping outside of your comfort zone, and getting your hands dirty.

EXPERIMENTAL
It is a non-linear process that demands flexibility and a hunger for constant evolution.

THE MINDSET IS...

FRESHLY NAIVE
It's about looking at the world with fresh eyes and with a beginner's mind, be willing to learn something new about the library that you know so well.

CREATIVELY CONFIDENT
It's about losing the fear of failure and critique, being okay with not knowing the "right" answer and seeing beauty in imperfection and the unfinished.

OPTIMISTIC
It's the belief that problems are really just opportunities in disguise, and that a few people working together in a new way can change the future for the better.

GETTING STARTED

A Note About Language

The terminology used to describe the design thinking process can vary greatly. Indeed, not even the term "human-centered design" or "design thinking" is universal among its practitioners. For the purposes of this toolkit we position human-centered design as the philosophy and origins of the methodology described here, while design thinking refers to the literal practice of the approach and mindset.

As you explore other resources contained in this document you will notice several different descriptions for each phase of the design process, all of which speak to the same general process even though they might be broken down in different sections with slightly different titles.

ALTERNATE TERMS

INSPIRATION	IDEATION	ITERATION
Discovery	Ideate	Implementation
Discover	Create	Experimentation
Hear	Prototype	Deliver
Interpretation		Evolution
Empathize		Test
Define		

We have taken great care in clarifying our terms to make this toolkit as understandable as possible. While many of the terms we use in the design process have become commonplace in many contexts, we recognize that there are still more library settings that have had very little exposure to the terms we use. For this reason, we have provided a glossary (pg. 119) of definitions at the end of this toolkit for your reference.

CURIOUS ABOUT OTHER TERMS IN THIS TOOLKIT? VISIT OUR GLOSSARY:

page 117

GETTING STARTED

What Does the Process Look Like in Action?

A design thinking team of four children's librarians and one branch manager assembled at the Chicago Public Library (CPL) to think about children and the concept of play. Inspired by their shared belief that the act of play is integral to child development, they posed the question: How might we integrate play into CPL's core children's services.

INSPIRATION

To gather inspiration the team conducted interviews and observations at the Chicago Children's museum, Bronzeville Children's museum, the Exploratorium, and other libraries. They interviewed experts on the topic of play, including two librarians who held opposing views—one who championed play and one who was skeptical of its value. These interviews informed the team about the various attitudes about play in the library, and the range of support and challenges they might face in their design project. Finally, the team interviewed three families to understand how families use the library together, and how the library fits into the larger context of their lives.

One of the photos taken during an interview with two siblings. The team asked kids to participate in a collage exercise to help better articulate their desires and needs in a library space.

GETTING STARTED: WHAT DOES THE PROCESS LOOK LIKE IN ACTION?

IDEATION

Using their research inspiration the team began generating ideas. Through several team meetings they shared stories from their experiences, pieced together patterns, and formed several insights that would guide their design. The following are four of the team's findings:

- Libraries are perceived as the third safe place between school and home, and therefore there is potentially more permission to experiment with offerings.
- The library should be part of the investigative process in a child's life.
- Parents and librarians have a tendency to want to control or structure play, so new programs have to balance a need for control with a need for flexibility that is inherent in play activities.
- Parents of school-aged children want a separation between play and study.

The team quickly brainstormed ways to turn their insights into actionable ideas and prototypes. In just five hours the team used basic building materials (mostly foam core and toys) to come up with a new kind of children's space that enabled children to tell stories to one another. Through play children could use props and drawing tools to learn how to craft a story within a beginning, middle, and end narrative structure. To make the idea tangible the library staff prototyped the design in a physical manner. Their prototype included several elements for performative storytelling, including a performance background (made from foam core with a video projection), simple costumes, and handmade puppets.

Photos that capture the prototype that the team created within the existing library stacks, using materials on-hand such as puppets, construction paper, a projector, and a laptop computer.

GETTING STARTED: WHAT DOES THE PROCESS LOOK LIKE IN ACTION?

ITERATION

The team's first prototype was a window in the library dedicated to interactive storytelling in Chicago's Chinatown branch. The team set up a large storybook background as a stage, and provided costumes and various props for the children to act out scenes. In addition, they set up a writing center adjacent to the windows with a magnetic chalkboard for writing stories and adding details to the stage. The goal was to engage children in creating and acting out stories. It intentionally required little facilitation or involvement from the librarians, as with many branches in the system, Chinatown was lightly staffed. While the mini-pilot was running the team gathered feedback from parents and children alike and conducted observations. A visiting kindergarten class loved the open space for book sharing. Some kids liked the costumes, but it rarely connected back to storytelling. The ideas were appealing mainly to a younger crowd.

The team learned two important points form the mini-pilot. First, they found that older children were too self-conscious to perform in an open space. Second, children were more interested in drawing than writing on the boards, they were not crafting stories but drawing images. Also, based on their observations, the team questioned children's comfort with performing in front of other children versus interacting with them.

Inspired by this emerging question and their other learnings, the team planned another mini-pilot, an event that both celebrated children's interest in drawing and empowered them to create new stories. At the event children were invited to create comics either with existing well-known characters from books they loved, or with new characters of their own inventions. The children could respond to each other's stories, creating a collective comic in real-time together. This event focused more on interaction than performance. Since this was a live event the team was much more involved, leading activities that invited children to collaborate and inviting them to draw comics in the window frames and create their own mini comic books.

Again, the team conducted interviews and observations during the event. They could see that the children were willing to collaborate in telling stories and understood the concept of a story having a clear beginning, middle, and end. The children also loved doing an activity like writing on the walls, which they could not do at home.

From this iteration of their experiment they learned several new things:

- Families need structure in activities, to varying degrees, at least until play in the library becomes routine.
- Families need permission to be loud, they are not accustomed to this in a library setting!
- Some staff will need to change their views about noise and control, this may require training and a shift in staff philosophies.

The team observes two children at the writing center during the first mini-pilot.

Photos of the story-telling window during the team's second mini-pilot.

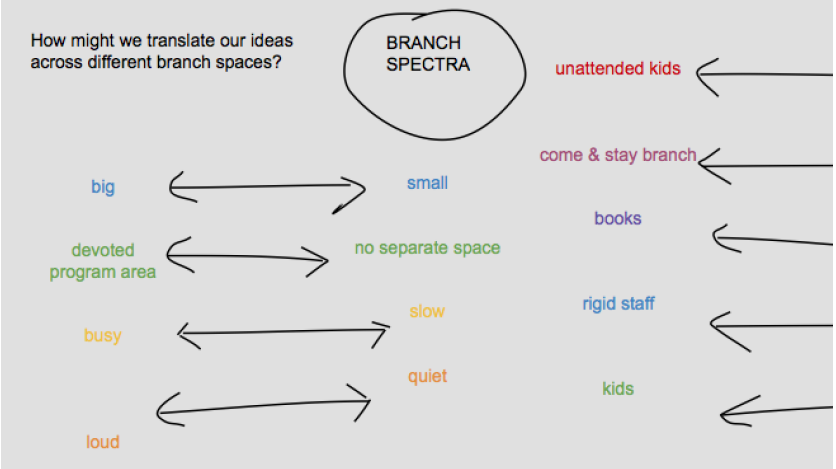
GETTING STARTED: WHAT DOES THE PROCESS LOOK LIKE IN ACTION?

GETTING TO SCALE

Based on these two activities a new design challenge emerged— how might we translate our ideas across different branches? The team had gone through the design thinking process, and now thought about how to scale their idea to other locations.

According to the team leader, John Glynn, they realized, "We will have greater system-wide impact around play if we focus less on tools (such as play materials and toys), and more on services and roles as librarians." As they created play-based programs and activities for children and scaled the programs across branches, the team wanted to be sensitive about unique branch cultures.

As they experimented in several different contexts, the team continued to learn about how an idea might adapt to very different environments and staff cultures. Their learnings have been used as principles in the design of several new children's areas that promote play as a central theme of the space. By spreading what they have learned throughout the system, they hope to influence both the conversion of existing space and new construction. Their hope is that every branch contains a service, space, and program that demonstrates the value of play and storytelling in childhood learning.



(Top) The team created a framework that addressed the different qualities of each branch, which allowed branches to assess their own readiness for a new type of play offering.

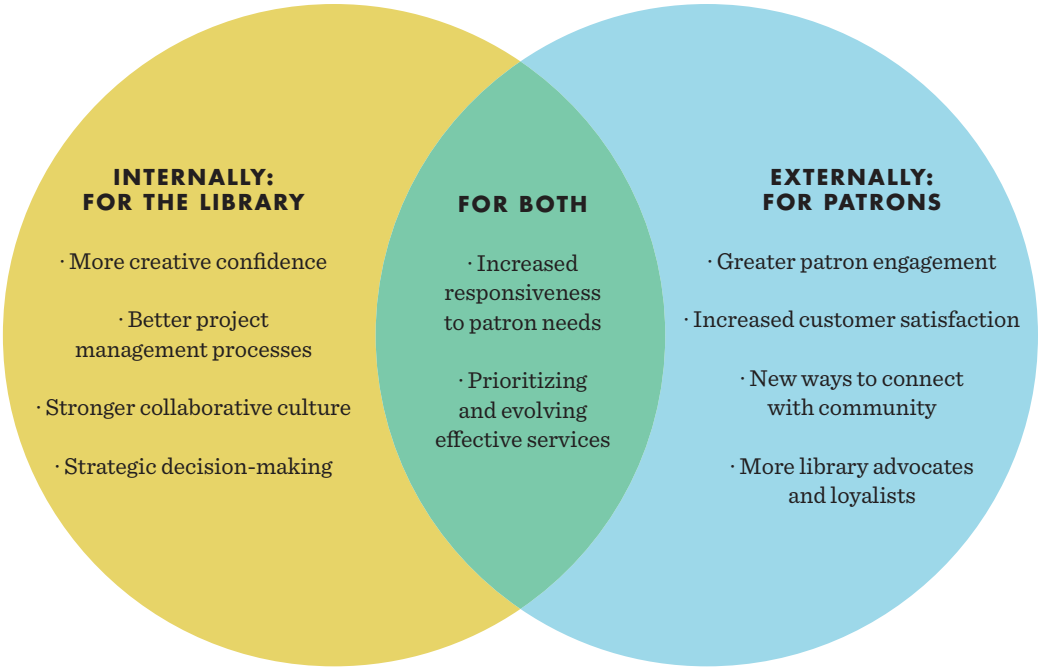
(Bottom) An architectural rendering of the new children's space in Chicago's Albany Park neighborhood, which includes the storytelling window walls first prototyped by the team.

GETTING STARTED

Why is This Valuable for Librarians?

Beyond uncovering solutions to the challenges you face on a day-to-day basis, practicing design thinking will also help you and your library develop a new way of working. Of course, design thinking starts with engaging your users, but from there it can spread throughout an organization and provide several benefits for both the library and its patrons.

> "Fresh eyes are free, the idea that innovation is expensive is a misconception! All you need is to look at your world in a new way to be able to see all the possibilities that already exist."
>
> *A team focused on teen programming at the Chicago Public Library*



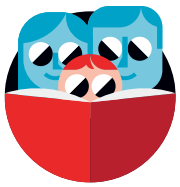
GETTING STARTED

What Can You Use it For? Who Uses This?

YOU CAN USE DESIGN THINKING TO TACKLE ANY CHALLENGE.

When people think of design they often think of aesthetics such as form, or tangible objects like the design of a beautiful chair. But design thinking as a process can have a much broader impact and you can use it to solve for all kinds of library challenges including programs, spaces, services, and systems. With that in mind, we interviewed library partners around the world, and created a catalogue of types of challenges libraries commonly face. These challenges are written as "How Might We..." questions, as you may be asking yourself these same questions, and there are many possible answers and solutions to each one. We hope this catalogue sparks ideas for how you might want to use design thinking in your own library. Because every library faces different challenges, we're inviting you and your team to pick a real-world challenge your library faces and use that as the basis of the exercises we'll soon introduce.

> "Take small steps, what you design doesn't have to be a completely new idea, sometimes it's better to improve on an idea that already exists to some degree."
>
> *A team focused on the element of play at Chicago Public Library*



PROGRAMS

SERVICES

SPACES

SYSTEMS

GETTING STARTED: WHAT CAN YOU USE IT FOR? WHO USES THIS?

PROGRAMS

Library programs are a great place to start using design thinking since they are a series of events that are easy to build upon, modify, and iterate. As a librarian, you are likely already a 'master designer' of several programs, like a summer reading challenge or a speaker series. When designing programs, you will want to consider how the programs will be facilitated, what content and resources you might need, and the context (physical or virtual) in which they take place.

Examples

How Might We...support and differentiate early childhood literacy programs for children by involving the whole family?

How Might We...design a game-based learning program that encourages hands-on creating and making in the digital age?

SERVICES

While programs are typically time-specific offerings like classes, services are often a systemic offering that people not only attend, but use and advocate. Service design often focuses on making the systems behind services, like communication or technology, better for the customer. Some good examples include tiffin lunch delivery in India, on-demand taxi service, and of course the borrowing of a library book! Great services harness the power of the library, librarians, and all of the library's resources to move society forward.

Examples

How Might We...create a user-friendly web experiences that is on par with the 21st century digital landscape?

How Might We...provide relevant assistance to adults to learn IT, especially those adults who are reluctant to ask for help?

SPACES

Physical environments signal to people about how to behave and influence how they feel. Keep in mind that space is not necessarily about aesthetics, like the color of the paint on the wall. What is important is how people react to the color and what it makes them do. In design thinking we talk less about spaces that "look" like something, and more about spaces that "act" like something. When re-thinking a library space, you will want to consider building constraints, circulation and flow of users, and specific tools in the environment that might make the space more interactive.

Examples

How Might We...create a welcoming ambiance in the library environment that encourages users to linger and stay?

How Might We...take advantage of unused space, or re-distribute space so that patrons can discover more of what the library has to offer?

SYSTEMS

At the largest scale, systems represent multiple stakeholders, relationships, and needs, which can be thought of as a network or an organization. Examples include a banking system, citywide lunch program, and again the library system. Designing systems means integrating multiple, interdependent services in order to have an impact. Challenges often involve high-level strategy surrounding priorities, policies, and key communications.

Examples

How Might We...design productive, mutually-beneficial partnerships with local schools and other educational institutions?

How Might We...redesign library metrics so that people understand the value of the library in more meaningful and emotional ways?

GETTING STARTED

How This Toolkit Works

This toolkit is divided up into two parts: this guide which consists of readings and references, and an activities workbook that helps you start learning by doing the methods themselves. Any notes on timing for each method and exercise are purely suggestive–on average, working through the entire toolkit can take 5-8 hours a week for the next six weeks, but can stretch or compact depending on how much time you have with your core team.

A NOTE ON TOOLKIT DEVELOPMENT

We recognize that this toolkit has some limitations which we would like to address and acknowledge up front. In design thinking, you cannot design for everyone and we could not create this toolkit for everyone. We acknowledge that:

- First, there is a language bias. We are based in the U.S. and while we have worked with librarians all over the world, our primary means of communication has been in English. Our hope is that we write the initial toolkit in English, and then others may translate it to increase its accessibility.

- Second, we offer many examples in this toolkit that have a bias toward the U.S. and Europe. This stems from our direct work with Chicago Public Library and Aarhus Public Library. However, we have tried our best to include many examples from diverse contexts worldwide.

HARD PRESSED FOR TIME?

By reading this toolkit we believe that you can experience the process based on multiple timelines, whether you only have an hour, a day, or a month. You won't have as much depth into the process but it will get you started in the process. If your time is very limited we recommend that you skip to:

- Warm Up: Design a Better Commute, located in the *Activities Workbook*, which will let you experience all phases of the process in under an hour.

- At-A-Glance Guide, a separate document that you can download from: www.designthinkingforlibraries.com which summarizes the approach in a nutshell.

FEELING READY? FEELING NERVOUS?

The truth is, we know from experience that anyone can learn and use design thinking to create impact, it just takes practice and preparation. With that in mind, please use the next three sections to help prepare your library for design thinking:

1. A Conversation with Leadership
The case for using design thinking in libraries, from a leader's point of view.

2. Team building 101
Tips for setting up successful teams.

3. Habits + Logistics
Ways of working that will help ease your journey in learning about design thinking.

IS YOUR TIME LIMITED? SKIP TO:

- In the *Activities Workbook*, turn to Chapter 1, Activity 5, page 10

- *At-a-Glance-Guide*, a separate file on our website: www.designthinkingforlibraries.com

A CONVERSATION WITH LEADERSHIP

In collaboration with IDEO, staff at Aarhus Public Libraries and Chicago Public Library have used the design thinking approach in their libraries to improve the user experience. In the following interview, we asked leaders from both institutions to reflect on the value of the approach, and advice they would give to those who are new to the process.

ROLF HAPEL is the Director of Citizens' Service and Libraries in City of Aarhus, Denmark. He previously worked in four Danish cities as a librarian, deputy manager and director of public services, becoming director of Aarhus Public Libraries in 1994. Aarhus Public Libraries has a long earned reputation of creating innovative services and developments using methods of co-creation and user involvement. The library was appointed European Centre of Excellence in the late 1990s and received the Bill and Melinda Gates Foundation "Access to Learning Award" in 2004. Rolf is currently occupied with the building of the new main library in Aarhus, Dokk1, to be opened mid-2015.

BRIAN BANNON is the 12th commissioner of the Chicago Public Library, which is among the most visited civic institutions in the city and among the largest public library systems in the United States. As the chief executive, he has focused on increasing Internet and advanced technology access in Chicago's 80 locations, increasing educational services to families, and supporting economic advancement for job seekers and small businesses. As a result, Chicagoans are using the library in record numbers to access online tools, check out materials, and connect with one another through the extensive branch library network. Prior to joining the CPL, Brian was a senior executive at the San Francisco Public Library and served in leadership roles at the Seattle Public Library and the Bill and Melinda Gates Foundation.

Q: BY HAVING YOUR LIBRARY STAFF ADOPT DESIGN THINKING METHODS, WHAT BENEFITS DO YOU THINK YOUR COMMUNITY OR PATRONS RECEIVE?

Rolf: I think that our users receive two major benefits: One is that their needs and demands are taken seriously, and they are acknowledged as being heard. They are recognized as active resources in a library transformation process, not just passive consumers of services–hence there is what you could call a democratic benefit. The second benefit is that the patrons' input is actually transformed into something new or better in terms of services.

Brian: It has been well documented that breakthrough innovation most often happens despite an organization's efforts to innovate. Successful new services and products are often hidden in plain sight, created by accident or initiated by one rogue leader. The good news for libraries is that supporting innovation doesn't have to be expensive or elaborate. We believe we can unlock the best ideas within our teams by encouraging them to deeply engage with our patrons' life experiences. Design thinking allows staff to free themselves from the typical problem-solving approach by following a roadmap that leads to insights that in turn lead to action. We no longer have to invent a process each time we want to tackle a new problem or pursue a new idea. Design thinking's emphasis on low-fidelity experimentation allow us to test ideas without large investments of time or resources. We no longer need to build a new program before we know if it will be effective.

Q: HOW DID YOUR STAFF BENEFIT FROM WORKING ON DESIGN THINKING PROJECTS?

Rolf: Staff members engaging in design thinking have learned a lot on several levels. They've learned concretely on the actual projects–for example, how users prefer the functionality of certain service points in the library. Perhaps more interestingly, they've learned how the role of the library worker transforms into a facilitator role with methods of design thinking: they are there to help spur new perspectives and ideas, both amongst staff and patrons.

Brian: Reflecting on our first year working with IDEO and Aarhus, we can say with certainty, our community has benefited from new and revitalized services as a result of this engagement. A benefit we hadn't fully anticipated has been the positive impact on our staff and organizational culture. Providing staff the encouragement, tools, and responsibility to explore new services, has ignited a culture shift. Their successes and failures, from which we've also learned, have built confidence in our collective ability to lead and created a solid foundation for designing the future of the Chicago Public Library.

Q: WHY DO YOU THINK DESIGN THINKING IS IMPORTANT TO KNOW ABOUT AND UTILIZE IN A LIBRARY SETTING?

Rolf: I firmly believe that libraries can learn and benefit tremendously from methods that are developed in other sectors of society. I also believe that libraries have an advantage in being able to be early adopters compared to other public sector institutions, where governmental demands of a zero fault culture may put restraints on the ability to think out-of-the-box.

Brian: In response to the rapidly changing world, private sector companies have used human-centered design to solve tough problems and build new products and services for years. The non-profit and government sector can use the same approach to address challenges in within their respective environments. Public libraries have successfully evolved to meet the changing world around them, and in many ways are masters of evolution. Even still, we must accelerate our evolution, and that is where design thinking can help.

Q: AS A LEADER, WHAT WOULD BE YOUR MOST IMPORTANT PIECE OF ADVICE TO ANOTHER LIBRARY LEADER CONSIDERING HOW TO SUPPORT DESIGN THINKING IN THEIR LIBRARY?

Brian: If you are clear about your priorities and vision, design thinking is a powerful tool to get you where you need to go. It can also help build the organizational culture required for long-term future success.

Rolf: Discuss with staff members how you'd like to apply design thinking: which themes or issues are relevant? Then, just try it out with patrons–it is actually not that difficult to use, and I promise that the results will be great.

GETTING STARTED

Prep: Team Building 101

Strong teams are the engines that propel design thinking forward.

In design thinking your best work will be done as a team. As you embark on the process you may use this guide as a single practitioner, but we highly recommend working in a group in order to learn how it feels to be part of a design team. This is how we foster the kind of strong collaborations which will push the project further than if you were on your own.

WORK WITHIN YOUR ROUTINE

Knowing that your time is limited, consider planning team meetings within your existing schedule, the routine will help you find time to commit to this exercise.

START SMALL

A team will work best if it consists of a core group of two to five people. Some say three team members is the ideal number so that if there's a disagreement between two people, the third can help the team break through it. In any case, starting on the smaller side will make it easier to coordinate schedules and make decisions. If you still feel like others are missing out, have them participate as "extended team members" outside of your core team and involve them in brainstorms, feedback sessions, or to help you get unstuck when it's most useful.

LOOK FOR DIVERSITY

Select people who have different perspectives on an issue and can therefore contribute from different angles, you will have a better chance of coming up with unexpected solutions. The members of your group will have very different working styles, personalities, and preferences so find time to discuss these differences at your first meeting.

"Encourage diverse teams—having team members that represent different areas of the library, and have differing backgrounds and experiences can lead to stronger and more creative collaborations.

Sidsel Bech-Petersen, a library transformer at Aarhus Public Libraries"

GETTING STARTED: PREP TEAM BUILDING 101

SHARE A HOME BASE

It will be easier to schedule time together and meet if you and your team members are already in the same location or branch (or at least one nearby). You will also have more chances to meet and discuss progress spontaneously if you are co-located.

FAVOR ENTHUSIASM

It will be easier to schedule time together and meet if you and your team members are already in the same location or branch (or at least one nearby). You will also have more chances to meet and discuss progress spontaneously if you are co-located.

ALLOW FOR ALONE TIME

While most of this work should be done as a team, make sure to allow for individual work time as well since significant progress can come from solitary thinking, processing, and planning.

SELECT A TEAM LEADER

As a team think about your respective responsibilities, schedule constraints, and expertise. The team leader will:

- Facilitate team discussions, ensure that everyone is heard, and resolve any disputes
- Be most familiar with the toolkit material. We advise thoroughly reading through chapters and the additional references at the end of each chapter
- Monitor the progress of the project and update other stakeholders outside of the team as necessary

As a team leader you will likely spend significantly more time than other team members organizing your group around design thinking activities. You should also consider your level of leadership with regards to your team. You don't want to be so senior that others might be intimidated to contribute, however, you should be experienced enough at your organization that you have deep connections to the community and feel completely empowered to try something new.

SELECT OTHER ROLES FOR YOUR TEAM

We find that teams work best when everyone has particular responsibilities and ownership over project content. Think about other roles people might play on your team, depending on their individual personalities and affinities. We've included an activity that can help you determine these roles. See *Activities Workbook* page 6.

The teams at Aarhus Public Libraries included 4-5 people, and often a mix of non-librarians or librarians with different focus areas to ensure a diversity of perspectives.

READY TO DETERMINE TEAM ROLES?

In the *Activities Workbook*, turn to Chapter 1, Activity 3, page 6.

GETTING STARTED

Prep: Habits and Logistics

DESIGN THINKING CAN BE A MESSY PROCESS BUT A FEW HABITS CAN HELP YOU MAINTAIN CLARITY AND ORDER.

A Chicago team's project space consists of a communal table, supplies, and ample wall space for posting up thoughts and ideas.

"Involve the whole team in the whole process, if people miss out on different parts it's hard to come together as a team to design together later on.

A team from Aarhus Public Libraries, reflecting on team involvement"

GETTING STARTED: PREP - HABITS AND LOGISTICS

KEEP A PROJECT SPACE

The design thinking process requires space for your team to work but you won't need much–even a wall might be enough. The space will allow you to store your ideas and thoughts in a central location and gives the team a physical reminder of the work that's been done. Use the walls or large boards to stick inspiring imagery or notes from your research so the team can be continuously immersed in your learnings. Shared visual reminders will help your team track progress and stay focused on the challenge. If you start to feel stuck, try a change of scenery and move to a different space if your boards are mobile.

PROTECT TEAM TIME

Clarify the time commitment for your project with the entire team up front. Create calendar invites and notify other colleagues outside of the core team with whom you'll be working on this design project to set expectations around your schedule. The easiest way to lose momentum is to skip meetings or get pulled in too many directions. Either find a recurring time for meetings that your team agrees to, or plan your meetings as far in advance as you can if they will vary from week to week.

SET UP A COMMUNICATION STRATEGY

In your first meeting determine how you and your team would like to communicate outside of meetings. Organize everyone's contact information and note preferences for when they are available and how they might be reached. As you start to document your project you may also want to mutually agree on a similar digital platform to store media and progress, like Google Docs, a Wordpress Blog, or a Tumblr.

VISUALIZE IT

Expressing your ideas in a visual manner is one of the keys to the design thinking process. When we articulate ideas with pictures or sketches instead of words, we help spark others' imagination and establish ideas in a more meaningful and memorable way. People can immediately grasp what's going on in a picture —they can point to parts of it, interpret it in different ways, and easily build upon it!

EXTERNALIZE

Externalizing your ideas goes hand in hand with being visual. Externalizing is about sharing your ideas, thoughts, questions, and concerns. Instead of writing thoughts in your own notebook, try writing in large handwriting on a Post-it for your team member to see. Your thoughts won't get lost in conversation since it can be posted on the wall. Post-its, or small sticky notes, also have limited space so you can't write an essay, forcing you (and others) to distill thoughts in the most succinct way possible.

DOCUMENT ZEALOUSLY

In order to affect real change in your library you will eventually need to have more people than your core team involved–perhaps the leadership or the larger community that you serve. You will need to tell the story of your work by showing the process toward creating impact. Set yourself up for success by documenting your project as much as you can along the way. It might be helpful to appoint someone on your team as the designated "documenter," who will take time after every meeting to record progress. Bring documenting tools, like a pen, paper, voice recorder, and most importantly, a camera (or camera phone) wherever you go so you can capture moments on the fly. Create a habit of uploading, organizing, and captioning any photos or media at the end of each day or week.

Good luck and have fun!

References

READ

DESIGN THINKING FOR SOCIAL INNOVATION
http://www.ideo.com/images/uploads/thoughts/2010_SSIR_DesignThinking.pdf

THE TEN FACES OF INNOVATION
http://www.tenfacesofinnovation.com/tenfaces/index.htm

DESIGN KIT
http://www.designkit.org/

HUMAN-CENTERED DESIGN FOR SOCIAL INNOVATION
Getting Started and Class 1 Readings
http://plusacumen.org/human-centered-design-for-social-innovation-course-materials/

EXERCISES

D.SCHOOL CRASH COURSE
http://dschool.stanford.edu/dgift/

WATCH

IDEO CEO TIM BROWN'S TED TALK
http://www.ted.com/talks/tim_brown_on_creativity_and_play

IDEO FOUNDER DAVID KELLEY'S TED TALK
http://www.ted.com/talks/david_kelley_how_to_build_your_creative_confidence

THE IDEO DEEP DIVE - SHOPPING CART VIDEO
http://www.youtube.com/watch?v=M66ZU2P-CIcM

CREATIVE CONFIDENCE
http://www.designkit.org/mindsets/3

CHAPTER

2

INSPIRATION

Creating meaningful solutions in your library begins with finding inspiration in the world around you, and gaining a deep understanding of people's needs.

The Inspiration phase is about listening, observing, and being open to the unexpected. While we may sometimes think of inspiration as something that happens to you, inspiration in design thinking is an active exploration. With the right preparation, the Inspiration phase will empower you with new experiences and perspectives and will give you a great foundation for the next stages of design.

INSPIRATION *Overview*

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PLAN YOUR RESEARCH *pg. 41*

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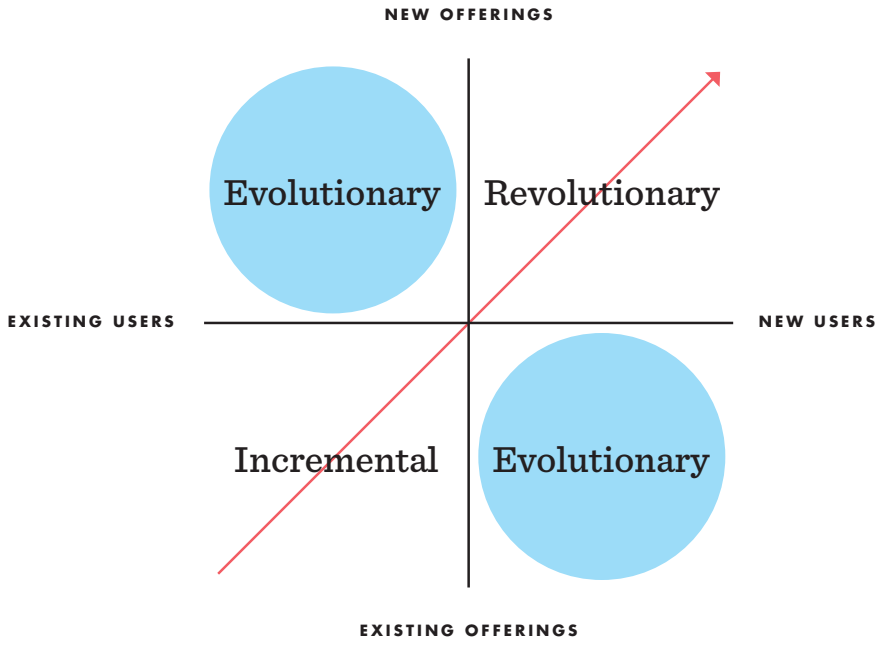
STEP 1

DEFINE A DESIGN CHALLENGE

The first step in finding inspiration is to reflect on types of challenges that are well suited to design thinking in libraries: programs, space, services, or systems. There may be operational challenges you are facing as well: staffing issues, an inefficient shelving system, or the process of technology procurement. Don't let that discourage you. Change is a process that can be either incremental, evolutionary, or revolutionary, depending on what you create (the offering) and for who (the users). When starting out with design thinking, we recommend aiming to create evolutionary solutions, which means either developing new ideas for your existing users, or leveraging existing ideas for new users.



To define your challenge, first identify a user group and a problem that needs to be solved. From there, you'll frame your challenge in the form of a question, and determine an appropriate timeline for your project.

STEP 1: DEFINE A DESIGN CHALLENGE

Identify Target Users

The first step toward defining your design challenge is to identify a target user group. What we've learned over the years is that when you design with 'everyone' in mind, you design for no one. The goal of Design Thinking is not to create a one-size-fits-all design project, but to focus on a problem for a particular group of people. This doesn't mean that other user groups won't also love your idea–but as a starting place for design, try to describe a specific and meaningful target user.

FOCUS ON THE USER'S ISSUES, NOT YOURS

Going back to this idea of human-centered design, it's time to turn your attention to your users. We know you have plenty of issues you want to tackle on your list, but for the purposes of this project, we're focusing on your users. Ask yourself questions like, "What needs have we identified for our user group of local teens?" versus "How do we get more teens to utilize the library?". If you can explain why it's important to work on a challenge with this user group, you're off to a good start.

BEHAVIORS VS. DEMOGRAPHICS

Your target group will be defined based on both user behaviors and demographics. Demographics alone such as age, gender, and socioeconomic status don't paint a very full picture people's lives. We've found that the deeper layers of a user's behaviors, beliefs, and values provide much richer fodder for design. Example behaviors include: how people use technology, how people use the library, how people commute, and so on. Behaviors tend to cut across demographics, and are generally easier to design for.

START WITH A COMMUNITY

A great way to define behaviors is to identify a community of people in your library. Examples of communities include: groups that hold genealogy meetings, children who visit for storytime, or teenagers who play video games on computers. Think about communities that you know well–groups that you see often or have sparked your curiosity. You're more likely to have these personal relationships at a local library level as opposed to a large central library, so we recommend situating your challenge at a branch you know well.

At the Chicago Public Library, one librarian's target group of users consisted of English language learners, pictured here.

STEP 1: DEFINE A DESIGN CHALLENGE

Identify the Problem

Once you have selected your target user group, think about what kinds of problems they are facing in the library. Rather than focusing on your lack of resources, consider what you wish for your user group. It could be that your target user group has an inherent problem. For example, if the target user group is "elderly people who don't know how to use computers," your problem is obvious from the behaviors you've identified right off the bat. If your user group is "people who come to the library for genealogy interest group meetings," you can start to think about what their problems might be. What could you help them with? What have might be a roadblock or a source of frustration for them? Perhaps they don't have proper access to the files they need, or the space they use is not well designed for their needs. At this early stage, you will need to define a problem, but keep in mind it will shift and change as you learn more. Start somewhere and be open to letting your understanding of the problem evolve.

> "Lay a strong foundation to your project from the start–choose a specific user group to focus on before committing to anything else."
>
> *Mark Kaplan, a librarian at the Bezazian branch of Chicago Public Library.*

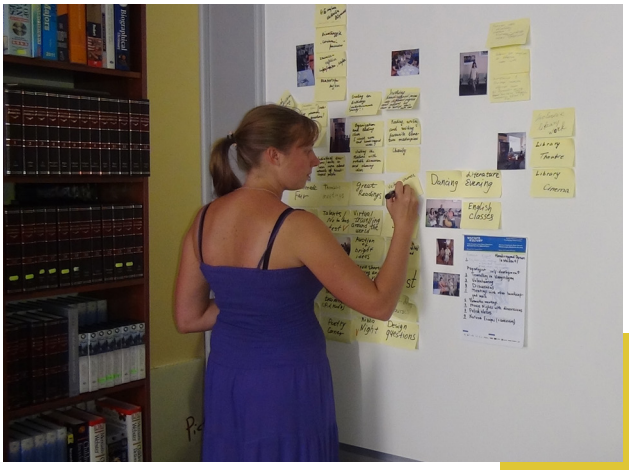
TEAM LEADER

DETERMINE A REALISTIC SCOPE

In order to set your team up for success, consider a feasible scope when identifying a problem. You may have idealistic dreams about making our organizations better, less bureaucratic, or to change widespread perceptions the library. However, the key to defining a challenge is framing a problem that is actionable with the time and resources you have. We feel that these big dreams can only be addressed through tangible, thoughtfully scoped projects. Once you've created a convincing solution for a relatively small design project, you can demonstrate to others what's possible, and scale it up from there to have a broader impact.

SIZING THE OPPORTUNITY

Consider how you might turn your challenge into an opportunity. We do this by writing what we call a "How Might We (HMW) question." The breadth and depth of your particular HMW question is crucial: If you ask too broad a question, you won't know where to start. Ask a question that's too narrow, and you risk stifling creativity.



At the Vinnytsia Regional Library in Ukraine, a team maps out possible challenges for their target group of handicapped users at the library.

STEP 1: DEFINE A DESIGN CHALLENGE

Here are some simple guidelines to follow when crafting your challenge, combining your target group and a problem:

1. Focus on a specific user group in the library

2. Make sure your question is addressing a problem

3. Leave room for opportunities to explore multiple solutions

4. Ensure it is feasible to complete the project in a 5-6 week timeline
   (or whatever timeline you have deemed appropriate with your team)

Here are two examples of design questions that teams from the Chicago Public Library created. We've included versions of their questions that are too broad, too narrow, and the final versions that are just right. Additionally, be sure to center the question around the user.

EXAMPLE 1

Too broad: How might we get teenagers to come to the library?

Too narrow: How might we create digital skills classes for teenagers?

Just right: How might we create relevant digital services for underserved teenagers who visit the library after school?

The "too broad" example asks a huge question that's too big to answer in one design project. It's also problematic because it's about "getting a user to do something," which you should always avoid in your HMW question. Design thinking isn't about controlling your user, it's about doing a better job of serving their needs. The "too narrow" example is too focused on the solution rather than the big-picture problem. A successful design question allows for exploration and multiple possibilities for a solution. Moreover, the questions do not consider the user's behaviors;– the phrase "for teenagers" is not indicative of their needs. The "just right" example focuses on a specific user group and their behaviors in the library, addresses a problem, and offers the potential to explore multiple solutions. It also has enough focus so that you can deeply explore the question over a 5-6 week timeline.

EXAMPLE 2

Too broad: How might we encourage more play in the library?

Too narrow: How might we encourage children to play with costumes during storytime events?

Just right: How might we introduce more play in library events for children who may not be experiencing it at school?

You can see the same patterns in this example. The "too broad" example is not doable in a short amount of time; the "too narrow example" is too focused on a direct solution, and not enough on the bigger problem. The "just right" example opens the door to multiple solutions, and demonstrates the need for this particular user group.

STEP 1: DEFINE A DESIGN CHALLENGE

Working with Constraints

Now that you've thought about a great design challenge, it's time to consider some of the context and constraints you are facing. Constraints can seem daunting, but we've learned over the years that the best designs are born out of tough constraints. What seems like a set of limitations can actually help you narrow in and focus on the right challenges. Constraints can also help surface other creative options that wouldn't normally be considered.

BUDGET

This might be the biggest constraint you'll have. Here are a few questions to review as you begin your project:

- Do you have a budget already? If so, how much?
- Will you have to fundraise to complete your project? If so, where and how might you do this?
- Do you have all the talent you need on your team already?
- Will you have to allocate any money to hiring outside help to complete your project?
- Think about what you might build. Will you need to set aside a budget for this?
- As part of research, will you need to incentivize participants who you engage with things like gift cards or free coffee as a small gesture of thanks?

MATERIALS

Take stock of what existing supplies, technology, and tools you have in order to make your design solution come to life. Consider:

- What kinds of prototyping supplies will you need or have? *(i.e. paper, glue, tape, scissors, pens)*
- What kinds of technology will you need or have? *(i.e. phones, computers, printers)*
- What tools might you need or have? *(i.e. audio recorder for interviews, Post-its or sticky notes, large boards for displaying Post-its, notebooks for team members)*

At the Aarhus Public Library, librarians organized project tools so that pens, tape, and other supplies would always be on hand.

STEP 1: DEFINE A DESIGN CHALLENGE

TEAM BUILDING

In Chapter 1, we talked about team building and how to create strong teams. Beyond having an interdisciplinary team, be ready for your team needs to potentially shift and change throughout the course of your project. This is normal! Try to maintain the same core team members, but feel free to reach out to other experts as necessary. Ask yourself the following questions:

- How much time can each person reasonably devote to this project? How might team members have varying levels of responsibility based on these constraints?
- Will the team have to work outside of normal business hours? How might they be incentivized to do so?
- As team members devote time to this project, how might others help to support their role? Does anyone need to approve of team members' participation in this project, such as library staff leadership?

TIMELINE

Setting up a solid work plan and feasible calendar with goals is a critical part of the scoping process. At IDEO, we like to print out huge calendar posters that outline deadlines, travel dates, interim meetings, vacations, and more, so that these timeline factors are visible to the entire team. Think about the questions below as you plan out your timeline:

- Do you have a start date for your project?
- Do you have a target deadline for when you want to test out your first solution?
- Do you have key dates and milestones to take into account?
- How much flexibility do you have in your timeline? Things don't always go as planned!

Lastly, on the note of project timing, while we suggest that you allot 4-8 hours a week for 5-6 weeks, that is a ballpark estimate based on the number of hours we anticipate your reading and activities to take. While it's not an insignificant amount of time every week, we also know from experience the importance of keeping the momentum going throughout the entire process. Particularly when you're stretching yourselves and learning new concepts, it's as important as ever to stay on task and focused on the process alongside your teammates in order for the ideas to really sink in.

READY TO DEFINE YOUR DESIGN CHALLENGE?

In the *Activities Workbook*, turn to Chapter 2, Activity 1, page 16

STEP 2

EXPLORE RESEARCH METHODS

> Innovation starts with people, not ideas. Learning from users first is key. People are at the forefront of this process. By taking the time to interview and observe our patrons, we can learn what is really important to them. We remain relevant and put our energy and resources where we will see the most impact.
>
> *A team at Chicago Public Library reflects on their research.*

Unlike research in the library setting, research in design thinking is about listening, observing, and being open to the unexpected. Design research, as we call it, is about opening up possibilities rather than validating or providing evidence. With the right preparation, this phase can inspire you with new, fresh perspectives on your challenge and give you a great foundation for the next stages of your design.

In the research phase, you will plan and conduct research to better understand the users and the problem. This research will lead to new insights, which will lead to new ideas. Be ready and open to surprising discoveries about your library, your patrons, and the problems you want to address. We hope this research will inspire you to see your library with fresh eyes.

Yulia, a librarian from Ukraine, wanted to better understand the needs of handicapped users. Her team visited a local rehabilitation center and discussed the users' hobbies and interests over lunch.

STEP 2: EXPLORE RESEARCH METHODS

Methods Overview

In your project, you'll likely use most of the core research methods listed below. You may also want to incorporate additional methods included at the end of our list. Every project demands a different approach to research, but to get started, we'd recommend starting with these core methods.

The core methods help you to gain a deeper understanding of the user as a person through conversation, observation, and literally putting yourself in the user's shoes. Keep in mind that people don't always do what they say, and don't always say how they feel. It is your job while researching to try to recognize those nuances and contradictions and understand them as much as possible.

CORE RESEARCH METHODS

USER INTERVIEWS

One of the foundations of design thinking is understanding the user. Through these interviews you can capture the user's needs, values, and beliefs. To do these interviews, think about who you will be designing for. Consider the core library patron, library staff, and the extended community.

Use this when:

You need a basic understanding of the user's needs, values, and beliefs. It is ideal to do these interviews at the beginning of your project.

EXPERT INTERVIEWS

Expert interviews are a great way to learn a lot of information about your problem very quickly. Think about who are the inspiring researchers or organizations in the space of your design challenge.

Use this when:

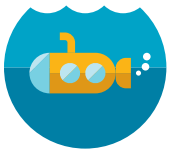
You would like to quickly get a better understanding of the problem you working on. These interviews are ideal at the very beginning of the project.

OBSERVATION

People often say and do very different things. While interviews help you understand values and beliefs, observation can reveal actual behaviors. When observing, take note of a person's facial expressions, body language, walking style, and how he/she interacts with others and the world.

Use this when:

You want to better understand the user's actual needs and behaviors.



IMMERSIVE EXPERIENCES

This method, which enables you to empathize with your user, is also known as participant observation. By immersing yourself in a new experience, you can better understand the motivations, thoughts, and feelings of the user in the moment. For example, if you were designing for the blind, you could immerse yourself in that experience by trying to perform simple tasks while blindfolded.

Use this when:

You want to gain deep empathy for your user, and to see your library through their eyes.

ANALOGOUS SETTINGS

Experiencing analogous settings can help you see your challenge in a new light: consider the activities, emotions, and behaviors that make up the experience of your challenge. Then look for scenarios outside the library that have these aspects in common with your challenge. For example, if you were thinking about introducing play in library events, you could visit a children's museum, a toy store, a puppet show, or a carnival.

Use this when:

You want to explore your problem from a different point of view.

STEP 2: EXPLORE RESEARCH METHODS

Methods Overview

ADDITIONAL RESEARCH METHODS

The collection of design research methods is wide-ranging, diverse and always growing. Beyond the core methods, feel free to experiment with the additional methods below. These may help you hone in on specific things you'd like to learn, and can be great complements to your conversations with users.

PERSONAL DIARIES

Ask users to write reflections at the end of the day on certain moments or themes. This gives them time for personal and uninterrupted thinking, and gives you an interviewee's thoughts captured in their own words.

Use this when:

You want to learn about a user's experience over an extended amount of time.

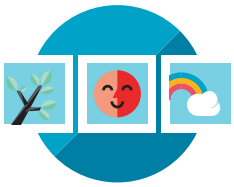


PHOTO ESSAYS

Give users a disposable camera and a list of objects and/or experiences to photograph throughout their day. This gives you a firsthand, visual perspective on your participants by seeing what's important to them and part of their everyday life. You'll receive a visual "day in the life" of the user.

Use this when:

You want to compare and contrast the different daily experiences and realities of a set of users.

JOURNEY MAPS

Ask users to create a personal timeline of an experience, then have them map how they felt at different points along the way. Use the map as a visual jumping-off point for conversation.

Use this when:

You want to discuss a complicated system or series of interactions with a user. (The process of buying a car is a good example.)

CARD SORTS

Create a series of cards with a single word or image on it and ask users to prioritize what's most/least important, interesting, or relevant to them.

Use this when:

You want multiple users to narrow down a set of ideas, or when you want to understand patterns in value judgment across users.

CONCEPT PROVOCATIONS

These are a series of concept drawings with accompanying explanations. Concepts could be outliers meant to illicit a strong reaction, or early ideas you might want to build into prototypes.

Use this when:

You want early feedback on why users like or don't like certain features.

STEP 2 of 4

READY TO LIST IDEAS FOR RESEARCH METHODS?

In the *Activities Workbook*, turn to Chapter 2, Activity 2, pg. 20

STEP 2: EXPLORE RESEARCH METHODS

User Interviews

The core principle of design thinking is simple: We learn from people. While you have your own point of view, assumptions, interests, and goals, it is important to temporarily set those aside to learn from other people. This approach encourages you to spend quality time with people to gain deeper insights and inspiration from their lives. We also know that it can be intimidating to approach people that you don't know and ask them a bunch of questions. But all of this becomes easier with practice and preparation. Here's where to start.

BRAINSTORM OTHER PEOPLE TO MEET

User interviews are essentially conversations with people who are part of a group that you would like to better understand for your project. Imagine a map of all the people who would have opinions and a point of view about your design challenge, such as library staffers and local community organizations. As a team, choose who you want to learn from and how you want to get in contact with them.

THINK OF EXTREMES

Typically, people design toward the idea of the target user. But identifying and interviewing individuals who are extremely familiar or completely unfamiliar with a product or service can highlight key issues of the challenge and provide valuable insight for improvement. Think of people you might want to talk to that represent extremes in behavior: super users, non-users, loyalists, skeptics, or champions, for example.

PLAN THE INTERACTION AND LOGISTICS

Think about what exactly you want the interaction with your user to look like. Where do you want to meet them? Is there an activity you can do together to enrich the conversation? What questions will you ask them? Interviews generally last about 45-60 minutes, and we suggest having no more than three people present for these interviews.

RECRUIT PARTICIPANTS

You'll need to connect with the people you want to interview. Don't be afraid to tap into personal networks–ask your friends, family, and other colleagues who may have a more extensive network to see who's interesting in helping you on your project. You can also recruit patrons in the library. Even if you don't know them, people are generally happy to share what they know, particularly if you tell them that your goal is to create positive change in the library. One way to increase interest is to offer a small incentive, like a gift certificate for coffee or any other small gesture of thanks.

EXAMPLE

A team from Aarhus Public Library was working to understand the needs related to technology use in the library. They connected with their social network to recruit a variety of users, some who were very technologically savvy and others who had very little experience with technology, like the user pictured here. They sent emails to friends and family, and found several participants for interviews. They conducted hour-long interviews with users in their homes to learn about their needs pertaining to technology in the library. As part of the interview, the design team asked to look at the users' phones and any other devices they regularly used. At the end of the interview, they gave participants two free movie tickets.

STEP 2: EXPLORE RESEARCH METHODS

Expert Interviews

Experts interviews are exactly as they sound: interviews with someone who has deep expertise in an area that is integral to your project. Experts can be especially helpful when you need to learn a large amount of information in a short amount of time, or if you want to know what's cutting edge within a field. Use your own network to find experts who will inspire you. Simply email people and see if they are willing to talk with you, or connect you with other experts.

CHOOSE YOUR ANGLE

You will want to choose experts based on your objective. Are you looking for someone with a radical opinion, or do you want to gain a more historical overview of what's worked and what hasn't? Get a few different perspectives to balance out your information.

EXAMPLE

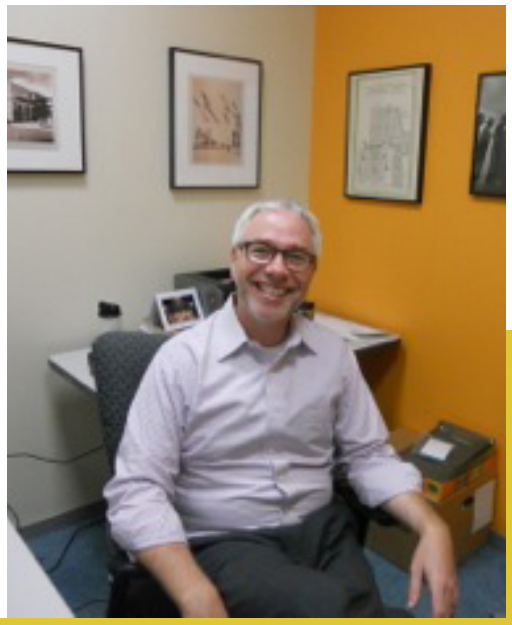
For a project on the future of public libraries, IDEO interviewed a professor and librarian at the University of Chicago Mansueto Library. Their library has two parts: One is a traditional collection of monographs, and the other is a massive underground storage system that delivers books using automatic retrieval. This underground systems is for rare books. From the experts, we learned an interesting point of view about the future of libraries. They felt that while monographs may eventually be entirely available digitally, there will still be a need for rare and special books at libraries. This makes storage systems like Mansueto especially important for the future of the book.

SET UP FOR A PRODUCTIVE CONVERSATION

Carefully plan how you want the conversation to flow. Consider asking the expert to actively help you work on an early concept. Using videoconferencing tools like Skype will allow you to share and build on visual concepts in real time.

EXAMPLE

For a project on teen engagement at Chicago Public Library, a team of librarians interviewed the library's own Teen Services director, Jeremy Dunn in his office. Make sure to consider fellow staff at your library as possible experts to interview.



STEP 2: EXPLORE RESEARCH METHODS

Observations

Observation is an important part of design thinking because people may tell you one thing and then do another. In fact, people are often unaware of many things they do. While you can learn about a person's motivations and values in a user interview, it is ideal to learn about actual behavior through observation. Observation can become one of your best tools for design thinking. The key is keep your eyes open–actively look at what your users are doing, inside the library and out.

PLAN YOUR OBSERVATIONS

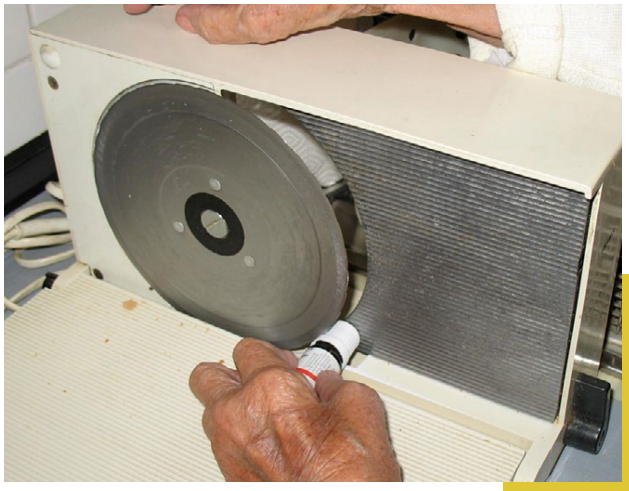
Choose a group, event or activity that you would like to observe. Or if you work directly with your users, spend some time observing their behaviors relevant to your project. You could end up observing their behaviors during an interview. You can ask people to show you how they do things or where they keep things. Keep your eyes open for anything interesting or unexpected.

REFLECT ON WHAT YOU'VE OBSERVED

Immediately after your observation, reflect upon the moments you found most interesting. Capture them on Post-its or in your notebook so you will be able to share back with your team in a way that is accurate, vivid, and visual.

EXAMPLE

On a health care project at IDEO, we interviewed a woman who was taking several prescription medications. The woman was arthritic, so the interviewer asked her if it was difficult to open her medication. She replied "no." The interviewer then asked if she could show them how she opened her medication, and she proceeded to use a meat grinder to open the bottle. This was an important learning for the team because she had found a workaround to make it easier to open her bottles, but it was a very extreme solution. They would have never learned this if they hadn't observed her actual behavior.



STEP 2: EXPLORE RESEARCH METHODS

Immersive Experiences

Immersive Experience, also known as participant observation, is practiced by ethnographers, and is very useful for design thinking. It is an excellent way to build empathy with your users and to understand the world from their point of view. While you may not spend weeks on end with your users in their environment, you can be conscientious about meeting them in an environment that's natural, or routine, for them.

FRESH EYES

Because you work in the library on a daily basis, you have developed ingrained habits and perspectives. One great way to bring freshness back to your perspective is to spend a day "in your patron's shoes." Spend a day as a patron in the library: check out a book, use a patron-facing computer, or go to spaces you generally don't visit. If you are working with children, look at the world from their four-foot tall vantage point. If you are working with people who use a wheelchair, try to get around the city or the library in one. These experiences will change the way you see the world.

NEW EXPERIENCES

Another option is to seek out new experiences that might help you build empathy with your users. For example, if you are looking for new ideas on ways to provide healthier food options for people in need, you might visit a low-cost cafeteria or fast food restaurant during the lunchtime rush. Wait in line, order a meal, and observe the space as you eat.

EXAMPLE

On a project about increasing smallholder farmer income for IDE Ethiopia, IDEO's design team stayed overnight in Arsi Negelle, Ethiopia, where the team plowed the family's fields the next morning. The overnight enabled the team to get beyond the common stories people tell NGOs and instead learn about one farmer's intimate plans for the future.

STEP 2: EXPLORE RESEARCH METHODS

Analogous Experiences

You're probably familiar with the concept of an analogy. It's an associative thought process that allows us to transfer meaning from one particular subject to another. Analogous research does the same: It takes inspiration from a different context or experience that's in many ways unrelated to the subject of your design challenge so that can help you gain a fresh perspective.

BRAINSTORM ANALOGOUS EXPERIENCES

Think of experiences that are outside of your subject area but that in some way have a connection with your research objective. For example, if your objective is to create community, think of groups that have done that well. A team working to create a sense of community for an online college interviewed a former Navy SEAL to understand how they structure bootcamp to create intentional bonds amongst recruits.

Ask yourself, what are the different roles the library plays? In the context of the problem you'd like to solve, what are analogous problems or situations in the world that might give you inspiration?

EXAMPLE 1

Consider the library as a third place. A third place is a social space that is separate from the home and the workplace. What are other third places you could explore? Perhaps a coffee shop or a community center.

Consider the library as a learning center. In this context, an analogous setting could be a museum, cultural center, or even a school.

Other analogous settings we could imagine for libraries are playgrounds, markets, Internet cafes, community gardens, and parks.

EXAMPLE 2

For a Design Thinking library project in Denmark, IDEO explored activities for children and families. They were considering the library as a space for interactive exhibitions, so they decided to visit the local museum for inspiration. At the museum, they found interactive exhibitions that were made for adults but appealed to children, and they found an engaging creative space for both children and adults to take part in arts and crafts projects.

Example 1

STEP 3

PLAN YOUR RESEARCH

A great way to start preparing for research is to create a wishlist of your ideal plan. Think about which methods will best help you understand users and answer questions. Begin choosing research methods and thinking about documenting your research: if you are doing your observations in the library, you can most likely take photos and video. If you are doing your observations at a different site, you may need to get permission to take photographs and video.

One way that we prepare for these experiences is to pretend we are tourists visiting another country for the very first time. Imagine you are brand new to your library so that you can try to see it with freshness and naiveté.

ASK TO FOLLOW PEOPLE AROUND

As part of your interview, you may be able to have an immersive experience if you ask to follow someone throughout their day or routine. Ask someone like a page or clerk at the library or a patron who is checking out a book. You can ask questions about what they are doing during the process.

PUT YOURSELF IN THEIR SHOES

Rather than following someone around, what if you experience the library as a person who is in your target user group? For example, you could participate in a workshop, check out a book, do some writing or reading in the library during the day. Try to see your library from the user's point of view.

CAPTURE WHAT YOU SEE

Take lots of notes and photos of what you see, hear, feel, smell, and taste during a field visit. Capture direct quotes whenever possible. Write down your immediate thoughts without worrying about an interpretation.

TAKE PHOTOGRAPHS

Photographs help you remember who you talked to and what you saw. Photographs taken during your interviews will make your research more visual, meaningful, and easier to recall and navigate. Always ask interviewees if it's okay to take photographs, and never use those photographs for anything beyond internal project use.

"Field trips were valuable. We were able to get inspired and open up to new ideas. We learned that change doesn't have to be that hard. As you're preparing your wishlist, know that these trips are worth the time it takes to get out there and see what other organizations are doing. We came away inspired and excited about possibilities for CPL."

A team at Chicago Public Library reflects on their research.

READY TO DIG INTO RESEARCH PLANNING?

In the *Activities Workbook*, turn to Chapter 2, Activity 4, pg. 23

STEP 3: PLAN YOUR RESEARCH

Prepare for Interviews

Interviews are essentially conversations, but that doesn't mean they are easy. When speaking with research participants, try to make them feel at ease, as if you are having coffee or tea together. It may be surprising, but conducting an interview with a casual tone requires rigorous preparation.

Once you have scheduled your interviews, you want to plan what you will ask. Because interviews are conversations, you don't want them to be overly formal, but it helps to have a set of questions. The questions act as a reference to ensure you cover all the discussion topics, but you can always ask questions that are not included in the discussion guide.

IDENTIFY OBJECTIVES

As a team, think about the goal of your design challenge. Ask yourselves some basic questions: Why are you doing the research? What are you trying find out? Know that the most valuable part of creating a discussion guide is the thinking that goes into it.

ORGANIZE YOUR QUESTIONS

A good rule of thumb is to start with some easy questions, then go deep. This will give your interviewee time to get comfortable with you.

- Gather basic relevant demographics first. Ask people their age, what they do for a living, if they have children, etc.
- Begin with questions that are simple, but also broad. You want to capture bigger ideas before you delve into details. For example, if you are interviewing someone about how their family uses the library, you might start with a prompt like, "Tell me about why you bring your children to the library" or Tell me about the last time your family came to the library."
- Go deep: Ask questions about hopes, fears, and ambitions. It's best if these questions are open-ended but relate subtly back to your design challenge. In the family library use example, later in the interview you might ask questions like, "What are your hopes and dreams for your children?"

WORD QUESTIONS STRATEGICALLY

Frame questions in an open-ended way. This helps you to further explore your challenge and interesting themes you discover during the conversations with greater depth.

TRY THINGS LIKE:

- "Tell me about an experience..."
- "Tell me the story of..."
- "Tell me about the last time you..."
- "What are the best/worst parts about...?"
- "Can you help me understand more about...?"

Encourage people to tell you their whole story and avoid questions that lead to yes/no answers.

HOW-TO CONDUCT AN INTERVIEW

Once you have recruited participants, you need to interview them. Here are some general guidelines for you to follow.

ESTABLISH TRUST WITH INTERVIEWEES

Create a trusting atmosphere by starting the conversation on a casual note. Talk about a subject that is unrelated to your research first to make the interviewee feel comfortable. Be considerate of the space you are in, and make sure you have an appropriate level of privacy.

- *Listen patiently. Do not interrupt, and allow for pauses to give participants time to think.*
- *Use nonverbal gestures, such as eye contact, nodding, and smiling, to reassure participants you are engaged and interested in what they are saying.*
- *Encourage participants to show as well as tell. Ask participants to show you the object or space they are talking about.*
- *Have participants draw what they are talking about.*
- *Try asking "why?" in response to consecutive answers.*

KNOW WHAT TO LOOK FOR

Look for indications that reveal what people care about, and keep in mind that they may contradict themselves. What people "say" is often different than what they actually "do."

- *Look for cues in the things that people surround themselves with or the way they carry themselves.*
- *Notice workarounds and adaptations people have made to make a system or tool serve their needs better.*

CAPTURE WHAT YOU SEE

Take lots of notes and photos of what you see, hear, feel, smell, and taste during a field visit. Capture direct quotes whenever possible. Write down your immediate thoughts without worrying about an interpretation.

CAPTURE QUOTES

During your interview, capture important quotes directly rather than interpreting what you think the person is saying. Later, when sharing back with your team, you will have a more accurate record of who the person is—on their terms and in their language.

JUST TAKE IT IN

Don't worry too much about making sense of the experience in the moment. Later on, it might influence your project in ways you never imagined.

STEP 4

DOCUMENT DURING RESEARCH

It's easy to feel overwhelmed by the amount of information you have gathered after an interview. Taking time immediately after an interview session to capture what you've observed will help you tremendously later when you tell stories with your team. Plan an extra 10-20 minutes after an interview or observation so that you can share your initial impressions with your teammates while they are fresh in your mind. It is important that this doesn't happen in front of the person you just interviewed, so if you are in the library, you will want to move to a location that is away from patrons. Compare experiences and impressions, but don't worry about interpreting these stories yet.

RESEARCH TOP 5

One simple way to approach this is to record your top five most important impressions, something we call: Research Top 5. It only takes a couple of minutes, and you will have a nice foundation for the Ideation phase. There are several things you want to consider including in your Research Top 5. Were there any memorable quotes or stories? What was most surprising to you? What was interesting about the way he/she interacted with the environment?

Consider any questions you would like to explore in your next interview. Capture questions or ideas that emerged after the interview to add to your interview guide.

WANT MORE TIPS ON DOCUMENTING?

In the *Activities Workbook*, turn to Chapter 2, Activity 5, page 25

STEP 4: DOCUMENT DURING RESEARCH

Stay Organized

An important practice to develop while you are doing research is to organize all the information you collect. At the end of the day, be sure to upload your photos and videos, and keep your notes on display in your working space so that you can easily see and access them. The more organized you are as you do your research, the more efficiently you will be able to complete the next phases of your project.

HAVE A TEAM DOCUMENTARIAN

It will be easier to maintain a habit of staying organized if you have someone on your team own that responsibility. If you haven't done so already, think about which team member might be best to continually organize and archive your research information. This person will also be in charge of printing out photos, and capturing your team's progress with a camera.

USE ONLINE TOOLS

There are plenty of online tools that you can leverage to help you stay organized. Below are free resources that you may want to try, especially if you are undertaking a lot of research, or have a large or extended team involved in your design project. If you aren't familiar with any of these, we recommend trying these out with your team, as one tool isn't a perfect fit for all, and it may take a bit of trial and error.

ARCHIVING

Basecamp is a web-based project management application. It has a calendar function built in, and can store all kinds of documents that you can share with you team. If there are any changes or discussions on your Basecamp site, an immediate notification will be sent to your team, so you can keep track of progress even if your team isn't in the same location.

Dropbox is a service that allows you to bring videos, photos, and any other files into the online "cloud," so you can access those documents from anywhere. This is a great resource for sharing large files, which cannot be sent over email.

COLLABORATING

Google Docs is our number one recommended tool for collaboration on writing. Use it to capture questions, document meetings notes, and build a shared body of insights or information. While most of you work will happen on the walls of your project space, Google Docs will be useful in capturing all the thought on the walls down on paper.

PLANNING

Doodle is a web-based service that's good to use if you're trying to plan a meeting with a lot of people. Use Doodle to find a mutually agreeable time to meet.

With ***Google Calendar***, you can invite team members to the same calendar, and share milestone dates, appointments, and meeting times. This will be helpful when you are coordinating research, longer meetings with your team, or user feedback sessions.

SHARING

Wordpress is a blog platform that is great for capturing project reflections. As you embark on your design project, it's important to carve out time to write and reflect on your team's progress.

Google Plus is great if you have a Google account–if you don't, we highly recommend signing up for one. Google Plus is a social network that allows you to see updates from friends and groups. Use Google Plus to share inspiration amongst your team, like websites, photos, and videos.

CASE STUDY No. 1

"Gutcheck"

THE CHALLENGE

Colorectal cancer is the second leading cause of cancer-related death in the United States that affects both men and women equally. While screening is the best way to detect it early on, when treatment is most effective, only half of people age 50 and over actually go in for screenings. To tackle the problem, IDEO partnered with the US government Department of Health and Human Services (HHS).

THE OVERVIEW

In order to understand why people are not getting screened for colon cancer, IDEO conducted research in a variety of contexts. These methods included: extensive, in-home interviews with patients facing a range of chronic to acute conditions; "fly on the wall" observations of patient-doctor conversations; discussions with different types of doctors, and meetings with experts in decision-making and medical research translation. The team discovered that the challenge is the gap in perspective and communication between the doctors and patients. While doctors, the medical experts, have the knowledge to explain the importance of a colon screening and the different types of colon screenings, the patients are the experts when it comes to knowing their own lifestyle how any treatment will fit into their life.

The design solution was a communication toolkit—website, patient video testimonials, conversation tip cards, posters, brochures, and t-shirts—that supports the patient decision-making journey from awareness of different screening options to taking steps toward improving their health.

WHY INSPIRATION WAS IMPORTANT

Through research, the team realized they needed to build a tool to facilitate better conversations. IDEO designer Amy Schwartz explains how the variety of research methods ultimately illuminated the fact that "doctors are from Mars and patients are from Venus. In other words, by watching patients and doctors communicate, the team better understood how differently they were approaching the issue. The team had to empathize, or see the challenge through the user's point of view, which in this case was the patient.

For inspiration, they looked for analogous situations where a non-expert (such as the patient) and expert (the doctors) had to communicate to come to a decision together. Schwartz points to the dynamic between a hairstylist and client. While the hairstylist understands the technical differences between different haircuts, a client's needs, beyond the looks, are based on lifestyle choices, like how often they want to get their hair cut during the year and how much time they'll spend styling it.

CASE STUDY No. 2

"Chinese Dating Service"

THE CHALLENGE

One of the leading online dating platforms in China has over 70 million accumulated registered users, but compared to its website, the user retention rate for the company's app was low. At the same time, people felt that the dating experience was too transactional. As a result, the company asked IDEO to gamify the experience with the goal of drawing a stronger engagement by making it more fun and romantic.

THE OVERVIEW

The team knew they wanted to learn more about the target user–young singles–and their dating behaviors, so they experimented with two innovative research techniques: photos diaries and group discussions. For the photo diaries, the team asked four men and four women to create a Valentine's Day diary comprised of "ethnographic selfies," or pictures they took of themselves throughout the day. This was an opportunity to examine not only what the users said they valued but their behaviors as well. In addition, the team hosted a group discussion that started as a party and evolved into an online chat group with the goal of learning more about collective play, fun and love.

Ultimately, IDEO redesigned the company's app, switching over from a platform that previously only allowed users to communicate via email to one that offers a variety of playful and social ways of interacting. For instance, having learned that people like to consult their family and friends regarding who they date, the app offers a social element.

WHY INSPIRATION WAS IMPORTANT

You can see that the one-on-one user interview is a solid foundation for research, but it's a starting point, not the end point. Don't be afraid to get creative like this team did with different research methods. "Who is telling story and how they tell it matters," said IDEO designer Ge Jin. "When people are telling their own stories in a relaxed way, that's where we get the most insightful information." Not only that, but the more touch points or opportunities you have to connect with your users, the better opportunity you have to build their trust. The team built trust with research participants through multiple technology channels. Hosting a group online chat as research was beneficial on two levels: it enabled the designers to observe group dynamics, dig deeper, and ask questions they might not have thought of during the individual interviews. In addition, it was another chance and another mode of connecting with users and therefore another opportunity to gain their trust. While we so often see technology as a barrier to connection, this was a great example of new technology enabling us relate in a new way.

References

READ

DESIGN THINKING FOR EDUCATORS TOOLKIT, 2ND EDITION

Discover Chapter
http://www.designthinkingforeducators.com/

DESIGN KIT INSPIRATION METHODS
http://www.designkit.org/methods

How Intelligent Constraints Drive Creativity
http://blogs.hbr.org/2013/01/how-intelligent-constraints-dr/

WATCH

HUMAN CENTERED-DESIGN IN ACTION
Learn more about the different Discover methods used by the IDEO.org team as part of a clean cook-stoves project in Tanzania. Download the final deliverable from the project:
http://bit.ly/cookstovesdeliverable

EMPATHY
Emi Kolawole, Editor-in-Residence at the d. school at Stanford University, talks about the importance of empathy on Design Kit.
http://www.designkit.org/mindsets/4

CHAPTER

3

IDEATION

The Ideation phase transforms your research into actionable insights that will become the foundation for tangible design.

From what you learned in the Inspiration phase, you will develop insights that will help define opportunities for design. Through brainstorming, you will come up with lots of ideas. Finally, you will take your ideas out of your mind and turn them into something tangible that you can test in the real world.

IDEATION *Overview*

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STEP 2

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CREATE BRAINSTORM PROMPTS *pg. 59*

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· Brooks Pure Project *pg. 77*

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STEP 1

TELL STORIES

By now, you've talked to many people and explored several new perspectives on your challenge. It's time to share what you've learned with the rest of your team in order to start developing insights and recognizing themes.

> "It was time consuming, but we gained far more insights from the field trips and interviews that we were able to talk about as a whole team. Those experiences that did not get shared through storytelling were almost wasted."
>
> *John Glynn, Children's librarian at Chicago Public Library*

Share Stories with Your Team

Sharing stories is about telling stories with a specific intention: to highlight rich areas of opportunity. Some teams may have divided up while conducting research while others did all of the research together. Either way, it's now critical to set aside time to tell each other stories that are both thoughtful and evocative. This is when you can immerse yourself in different user perspectives and gain a deeper understanding of your design challenge in the context of peoples' lives.

TEAM LEADER

SET UP A STORYTELLING SESSION

For every interview, analogous experience, or other research experience, we'd recommend planning for at least 15 minutes of storytelling time with your team. Make sure you set up the room with plenty of wall space, and distribute pens and sticky notes to all team members. Print out photos from each experience, and have tape ready to post these up on the wall.

TAKE TURNS

Refer back to your list of research experiences organized by type of research, and try to share all of your research chronologically. If you are telling the story, it's always helpful to revisit the notes you took during your interview or observation.

ACTIVELY LISTEN

While you are listening to one another, you and your teammates should compare and contrast the things you have learned. Where are there different opinions? Where is there tension, and where are there contradictions? Look for patterns that emerge.

A library team in Aarhus interviewed a whole family at the same time, so they told stories from each of the family members' perspectives.

STEP 1: TELL STORIES

HOW TO TELL A GOOD STORY

- Use vivid details and descriptions as you tell stories
- Avoid generalizations, being judgmental, or evaluative

FOR AN INTERVIEW / OBSERVATION:

- ***Personal Details:*** Who did you meet? *(name, age, location, occupation, family makeup)*
- ***Interesting Stories:*** What was the most memorable and/or surprising story this person told you? If you made a Research Top 5, look back at these highlights to help you refresh your memory. If this was an observation, what could you glean from facial expression, body language, and actions in context?
- ***B.V.B:*** This is an acronym to help you remember Behaviors, Values, and Beliefs: the basics to getting to the deeply functional and emotional relationships that your person has to the challenge topic. What are rituals or behaviors unique to this person? What did he/she value most? What does this participant believe in?
- ***Motivations/Barriers:*** What motivates this person? What does he/she care about most? What was a barrier for him/her? What did he/she find frustrating?
- ***Context:*** What was his/her context (home, office, workspace, other) like? If in the library, how did he/she interact with it?
- ***Remaining Questions:*** What questions would you explore if you were to have another conversation with this participant?

FOR AN IMMERSION / ANALOGOUS EXPERIENCE:

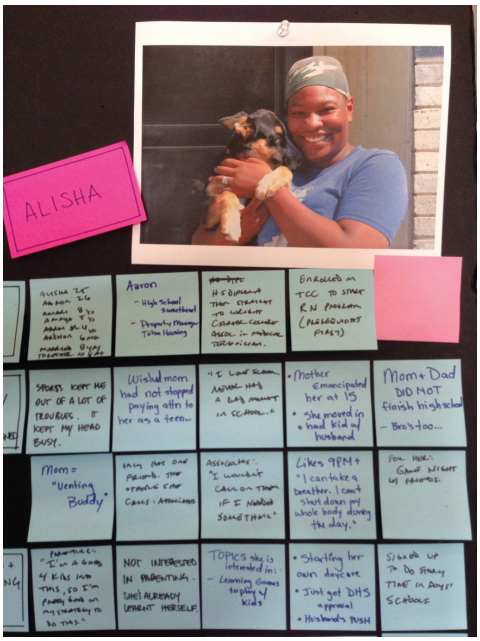
- Location details: Where did you go and how does it connect with your challenge topic?
- Interesting stories: What was the most memorable or surprising part of the visit? How did the experience give you a fresh perspective on your challenge?

CAPTURE THE INFORMATION IN SMALL, OR BITE-SIZED, PIECES

While one person speaks, others should take notes on sticky notes. Make sure to write large and legibly enough so that everyone can see the notes. Use concise phrases or sentences that everyone on your team can easily understand. It's particularly helpful to incorporate meaningful quotes to represent the participant's voice.

DISPLAY YOUR NOTES

Collect all notes from your storytelling session and put them on the wall in an orderly manner. Start with photos, basic details of the person or visit, and then your takeaway. It's important to organize these so that you can navigate your notes and build upon them in next steps.



An example of how a team displayed notes before telling stories to one another.

STEP 1 *of* 5

WANT TO LEARN MORE ABOUT CAPTURING STORIES?

- Turn to "A Closer Look: Evolution of Your Notes" page 54
- In the *Activities Workbook*, turn to Chapter 3, Activity 2, page 29

STEP 2

FIND THEMES

You have your sticky notes on the wall, photos from your visits, and takeaways from each experience. Now it's time to draw connections across your research to identify patterns and themes.

Identify Patterns

Look at all of your notes and begin to notice where patterns might emerge. While you were telling stories in the last step, what quotes, ideas, or other thoughts came up again and again? These are likely the starting point for themes, which go hand in hand with the rich insights that will drive your design.

CLUSTER INFORMATION

Across interviews and research experiences, organize related pieces of information into clusters on your board. What did many people mention? Which issues were obvious? As you starting clustering information with your team, make sure to discuss any disagreements around where information is clustered.

LOOK BEYOND THE SURFACE

Identify which pieces of information seem to elicit more energy from your team members. What takeaways spark more questions and invite you to build on thoughts? Notes that have the most momentum are often things that indicate struggles or opportunities. These notes have the greatest potential to lead to an insight.

RECOGNIZE RELATIONSHIPS

You will find that information within clusters will have relationships with one another. How are they related? What's the common thread? Don't be afraid to group and regroup your categories; this is a non-linear process and relationships will change as you continue to process and organize new information. By defining the relationship, you can better formulate an actionable theme that applies to each cluster of notes.

FIND ACTIONABLE HEADLINES

Name the clusters you've just defined with an actionable headline–a short phrase that summarizes the information below, but with enough depth that it's immediately clear where there might be a need or an opportunity. The headline should indicate an issue that will inform how you will generate ideas.

READY TO IDENTIFY PATTERNS?

In the Activities Workbook, turn to Chapter 3, Activity 3, page 30

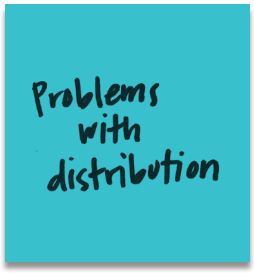
A CLOSER LOOK:

EVOLUTION OF YOUR NOTES

Throughout Ideation, your perspective on your challenge will evolve and change. By deeply understanding your observations, you have a better chance of letting them inspire you to have new ideas. The key is to let your research marinate, through several stages. Hold yourself back from immediately turning learnings into solutions. Take time to organize and make sense of the information. The more deeply you interpret your findings–as opposed to jumping to conclusions–the more you can be open to novel insights and ideas that may surprise you. It may be a little uncomfortable at first, but stay with it. With thoughtful interpretation, the more you can draw non-obvious insights, which eventually lead to better solutions.

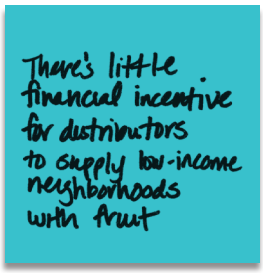
LEARNINGS

Learnings are what you record of your research at the most basic level from sharing stories: direct quotes, anecdotes, first impressions, notes on the environment, notes on what was most memorable or surprising, and a collection from your Research Top 5.



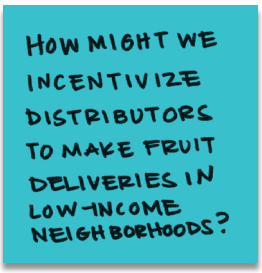
THEMES

Themes emerge when you organize your learnings. They indicate an overarching issue or need. It is important to keep both the name of the theme as well as the learnings associated with the theme up on the board, so that you don't lose your thoughts as you move onto the next stage.



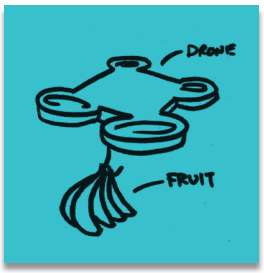
INSIGHTS

Insights are statements that interpret patterns in your research. They can provide new understanding or perspective on an issue. You will come up with insights from the information you have organized and are deeply relevant to the challenge at hand. They may not always be new discoveries in the world, but they speak to a new understanding of interconnected learnings you have amassed.



HOW MIGHT WE'S (HMWS)

The How Might We (HMW) questions at this stage frame brainstorming sessions. Compared to what you have done with "Define a Design Challenge," these HMW questions will be far more tactical than your challenge question, and you will have several as opposed to just one. In addition, rather than worrying about whether the question is too broad or too narrow, focus instead on crafting questions that feel generative, exciting, and that have the potential for lots of solutions. This stage will be covered further in Step 3.



IDEAS

Ideas are concepts that are generated during a brainstorming session. Ideas can be practical and simple or wild and crazy (like the hypothetical delivery drone in the example above, which could make low-cost fruit deliveries). We'd recommend that you generate as many ideas as possible, and to represent them as visual sketches as much as you can. This stage will be covered further in Step 4.

STEP 2: FIND THEMES

Turn Themes Into Insights

Insights are the concise expression of what you learned from your research activities. They combine observation with inference to create new meaning. They reflect an understanding of the issue at hand, and feel unexpected, non-obvious, and interesting. Insights allow you to see the world in a new way and are the catalysts for new ideas.

Some criteria for solid insights include the following. Good insights are...

INTUITIVE
They make sense based on gut instinct. They feel surprising yet true.

NOT OBVIOUS
They illuminate something under the surface. They pass what we call the "So What?" test—meaning, there's an answer for why this question matters.

GENERATIVE
They suggest opportunities for new ideas and concepts.

STICKY
They are pithy, boldly stated, and get repeated amongst the team in discussion.

READY TO TURN THEMES INTO INSIGHTS?

In the Activities Workbook, turn to Chapter 3, Activity 4, page 31

STEP 2: FIND THEMES

MAKE YOUR THEMES ACTIONABLE

Take a look at the themes you've created for each of your clusters, and make sure that they speak to a need. As you shape themes into insights, you'll want to write full statements, e.g. "There is no financial incentive for distributors to deliver fruit in the community." Write the full sentence on a sticky note and label your cluster with this new sentence.

PRIORITIZE INSIGHTS AGAINST YOUR CHALLENGE

Revisit your design challenge: How do your insights relate to the challenge? Which insights feel strongest and most relevant? This is the time to look across the buckets and choose the 3-5 most important insights, while editing out pieces of information that may be less important.

REFINE YOUR INSIGHTS

Experiment with the wording and structure to best communicate your insights. Aim for memorable, short sentences that boldly state what you believe in based on your research. One formula you might follow looks like this:

People need/want/have _____, but/despite/because of _____.

e.g. People need help with the electronic resources available at the library, but are intimidated by the staff behind the IT help desk.

GET AN OUTSIDE PERSPECTIVE

Once you have several insights formed, consider inviting someone outside of your team to read your insights. This new perspective can help you filter which insights feel bold, fresh, and fruitful.

EXAMPLE

IDEO.org partnered with the Consultative Group to Assist the Poor (CGAP) to design new and more accessible savings products for low-income Mexicans. When the IDEO.org team began conducting research in Mexico City, they learned that people were in fact saving in all sorts of incredibly diverse ways. However, these savings methods were outside of the formal banking system and often not talked about by people in the community in a language related to savings. Based upon this important insight, the team began designing a series of savings products building off of, instead of replacing, the informal savings behaviors in which low-income Mexicans were already engaged.

STEP 2: FIND THEMES

Apply Frameworks

Now that you have some strong insights, it's time to find the right way to communicate them. We commonly channel our insights into frameworks so that we can do the following: 1. Make the information more visual and 2. Delve more deeply into the relationships that the insights represent. Frameworks help to organize your thoughts and provide structure for further interpretation.

BE COMFORTABLE NOT KNOWING

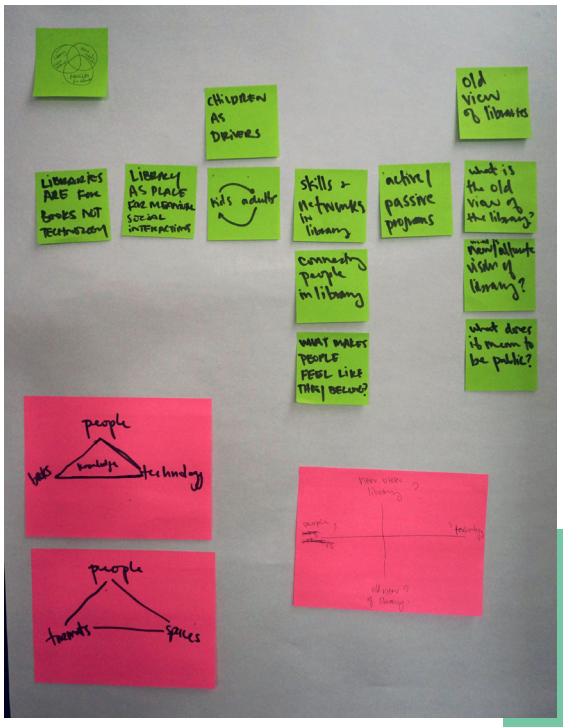
The act of finding themes, developing insights, and then communicating those insights in meaningful ways is likely the most mentally exhausting part of the design thinking process. This is because it can feel like you aren't moving in any particular direction, and there are more questions than answers. Try to suspend disbelief for the moment and focus on what you can reasonably interpret. You are in a process of creating new information, and it takes a significant amount of mental energy and time to shape these thoughts.

REFLECT ON THE BIGGER PICTURE

As you think about frameworks that represent or integrate your insights, step back and think about the bigger picture of the problem. The process of making sense of your findings is often alternately divergent (feeling expansive and multi-directional) and convergent (feeling conclusive and narrowing in on a direction), and this is one of those moments in which you want to be divergent. How can you be more exploratory with your insights? What can your frameworks show from the insights you've created? How might your frameworks shed light on new rules, relationships, or perceptions of an idea?

REVISIT WHEN NECESSARY

Feeling stuck on a framework? Feel free to treat them as simply sketches on a paper and move on to the next one, knowing that you may come back to it. Frameworks are never perfect on the first try, and we encourage you to view them as an idea ever in development. Experimenting with multiple frameworks allows you to worry less about perfecting a paradigm and more about quickly seeing multiple ways of looking at a problem. Don't treat any framework too preciously–these are meant to be discussed, built upon, critiqued, torn up, and re-constructed!



An example of exploring several frameworks during a workshop with Aarhus Public Libraries.

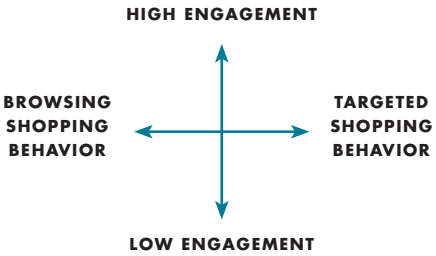
STEP 2 of 5

A CLOSER LOOK: FRAMEWORKS IN ACTION

Here are a few examples of frameworks you may want to experiment with as you learn to communicate your insights in new ways.

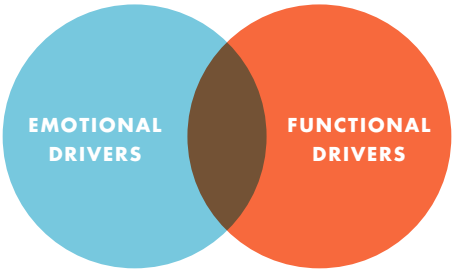
SERVICE JOURNEY

Customer journeys are a great place to start when thinking about an experience, service, or process over time. A service journey is essentially a diagram or map that illustrates a user's moods and behaviors before, during and after using a service, showing how the user feels at different stages of the experience. What are the emotional high and low points from the user perspective, as well as pain points (moments of struggle or disappointment) and moments of opportunity?



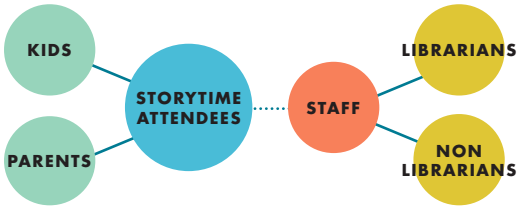
TWO-BY-TWO

This tool helps you to map out spectrums of behaviors and qualities. It highlights the tensions between categories and can point to opportunities to design for within each quadrant. What types of user behaviors are you designing for? If you are thinking about types of users, what would move them from one quadrant to another?



VENN DIAGRAM

Venn Diagrams are a simple way to express relationships between ideas, as well as overlaps and intersections between ideas. Think about the sizes of the circles as well as the degree to which they overlap. What's the sweet spot, and what's outside of the circles entirely?



RELATIONSHIP MAP

A relationship map visualizes a set of stakeholders in your service or organization. It can also represent process flow and connections in a larger system.

STEP 3

CREATE BRAINSTORM PROMPTS

The insights you have created serve as starting points for generating ideas. They likely already speak to a need or opportunity; now the trick is turn those insight statements into a question that sparks lots of ideas.

Form How Might We Questions

You will now form another round of "How Might We" (HMW) questions. The questions at this stage are about setting the stage for a productive brainstorm, rather than outlining the purpose of an entire project.

DEVELOP THE RIGHT-SIZED QUESTIONS

Build off of your insight sentences to create questions that start with "How Might We...?" This question acts as an invitation for input and exploration. Again, there are HMW questions for brainstorms that can be too narrow or too broad. The key here is to ensure that the question is broad enough to allow for multiple solutions, and narrow enough to provide immediate direction for possibilities. If you're finding that your questions already imply a certain solution, zoom out and ask yourself why you'd want that solution. Then incorporate that reason into your HMW question. For example:

Insight:
People need help with the electronic resources available at the library, but they are intimidated by the staff behind the IT help desk.

Question:
How might we help people seeking electronic resources engage with the IT help desk in new ways?

CHOOSE BRAINSTORM QUESTIONS

Select three of your best HMW questions for your brainstorm session. Trust your gut and choose questions that you feel are both exciting and hold the most potential to generate lots of ideas. Make sure to select the questions that feel important to solve for, even if they seem difficult to answer.

READY TO FORM HMW QUESTIONS?

In the Activities Workbook, turn to Chapter 3, Activity 5, page 32

STEP 4

GENERATE IDEAS

> Brainstorming lots of ideas as a team, sketching, and choosing ideas to move forward with generated a lot of excitement for the project ahead!
>
> *A team from Chicago Public Library*

One of the best ways to generate a lot of ideas at one time is to set up a brainstorm session. It can seem like brainstorming is wild and unstructured, but it is actually a focused activity that involves both discipline and preparation. After you practice setting up a brainstorm, you will find that you can easily incorporate this type of generative activity in other meetings and team work sessions.

Set Up a Brainstorm

Think of a brainstorm session as a special type of meeting. You will want to consider attendees, space, timing, and supplies. Take some time to set up appropriately to get the most out of your session.

STEP 4: GENERATE IDEAS

INVITE A DIVERSE GROUP OF PEOPLE

A brainstorm is a great time to tap into the expertise of people beyond your core team. Think about inviting other colleagues and staff, leadership, experts, or other people who you think would be interested in your design challenge. Try to include a total of 6-8 people.

TEAM LEADER

RESERVE A SPACE

Depending on the number of people in your brainstorm, choose a room (this can be your existing project space) that has ample wall space for sticky notes and ideas. Make sure that everyone has a chair to sit in and room to move around. You may also want to display boards of the images / notes on your research that led to your key insights.

TEAM LEADER

PREP THE SPACE WITH SUPPLIES

Gather materials like sticky notes, pens, markers, tape, and paper (we often cut letter-sized paper in half for larger concept sketches). Also, never underestimate the power of some drinks and snacks in the room to keep energy levels high.

TEAM LEADER

CURATE THE WALLS

At the beginning of the your brainstorm, and sometimes throughout, you will want to refer to the questions you are tackling as well as other project information. You may want to display boards from your research that show who you've talked to, where you've visited, and the insights that led to the brainstorm, in case anyone is curious about your journey thus far. In addition, make sure that your brainstorm prompts are written large and posted up on the wall, with empty space left below for new ideas.

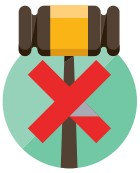
ANTICIPATE TIMING

A good brainstorm never drags on for too long. It may seem that the longer a brainstorm lasts, the more ideas you'll receive, but in fact a productive brainstorm generally lasts for about 45 minutes to an hour. If you have three prompts, you might want to spend the first five minutes giving everyone background on the project, and dedicate about 15 minutes to each question after that. If you are finding the energy dying down early on a question, feel free to move on. Assign the role of a timekeeper to someone on your team to make sure your pacing stays on target.

A CLOSER LOOK:

BRAINSTORM RULES

These seven rules will make your brainstorming session focused, effective, and fun. Introduce them at the start of every brainstorm to ensure that there's agreement amongst the team to follow the rules.



DEFER JUDGMENT

There are no bad ideas in a brainstorm, so keep your critique to yourself. You want to create a safe space that encourages even the shyest people at the table to contribute ideas.

ENCOURAGE WILD IDEAS

There is no better time than a brainstorm to bring up crazy, aspirational ideas. Even if an idea doesn't seem realistic, it may spark an idea for someone else.

BUILD ON THE IDEAS OF OTHERS

When you hear an idea from a teammate, think "and..." rather than "but..." in order to be as generative and open as possible. Think about how you would combine or extend the ideas into new territory.

STAY FOCUSED ON TOPIC

Keep your brainstorming focused on the How Might We question at hand. Keep up a rhythm and pace that creates momentum around the topic, and avoid the rhetorical and philosophical unknown.

ONE CONVERSATION AT A TIME

All ideas should be heard, so only one person should talk at a time. Wait your turn to share, and make sure the whole group is listening.

BE VISUAL

Draw your ideas, as opposed to just writing them down. Stick figures and simple sketches can say much more than a string of words, and they will be easier to remember and build upon. For more on being visual, check out the HOW-TO on the next page.

GO FOR QUANTITY

Set an outrageous goal for the number of ideas you will generate–then try to surpass it. We have found that the best way to find a good idea is to first have lots of ideas, so try not to second-guess yourself while quickly producing many possibilities.

HOW-TO

MAKE IDEAS VISUAL

Part 1 of 2

One of the keys to creative, effective concepts is to make your ideas visual. It helps others immediately understand your idea, while leaving the door open for others to build upon or interpret your idea in meaningful ways. We firmly believe that anyone can be visual, but it does take some practice. During your free time, amp up your skills sketching the items below.

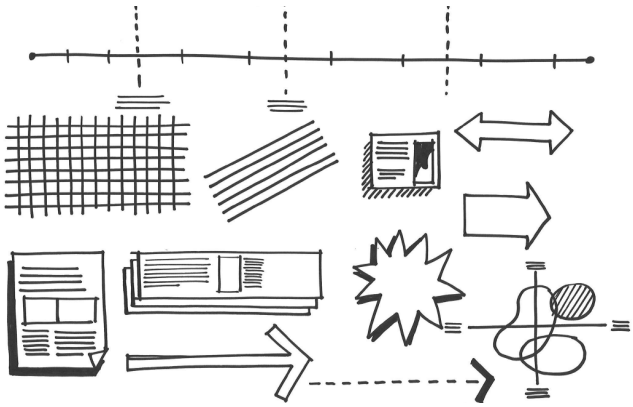
Soon, you will find that communicating visually is almost always more effective (and fun!) than a written explanation. As you begin practicing, make sure you have enough room to freely move not only your hand but your body. Have a stack of blank scratch paper ready, and just keep practicing until these pieces start flowing from your hand with ease.

STRAIGHT LINES

It may sound surprising, but circles and lines are the building blocks to almost 80% of what you will need when sketching. Start with lines. Instead of timidly drawing a series of lines, think about a straight line as a direct shot from point A to point B. Draw two endpoints, and then keep your eye trained on point B as you put pen to paper from point A. Visualize where you want the pen to go, and confidently draw those strokes.

Straight lines create:

- Frames
- Squares
- Rectangles
- Arrows
- Shadows
- Frameworks

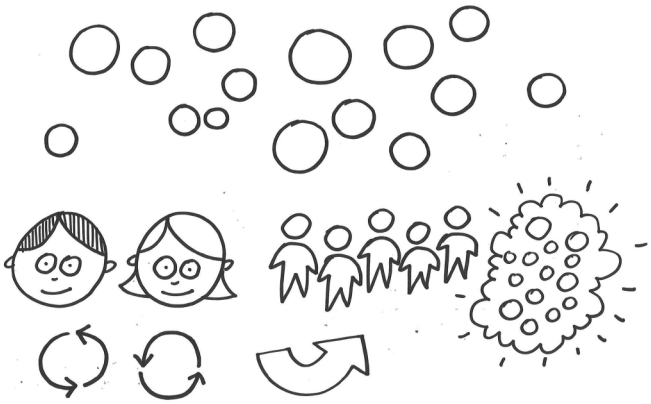


CIRCLES

Circles are your other best friend when it comes to creating great visuals. Stop worrying about creating the 'perfect' circle and focus on quickly drawing many circles, from small to large. Focus on a consistent shape and weight of pen to paper. Finally, once you have gotten the motion down, try to make your starting and stopping points meet in a nice, smooth circle.

Circles create:

- Heads
- Clouds
- Cycles
- Texture
- Curved Arrows



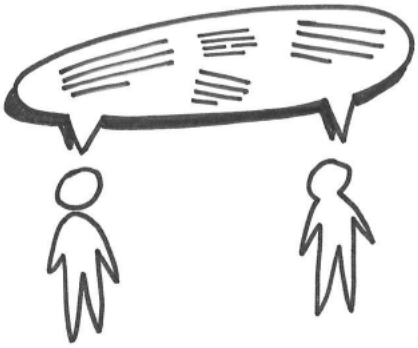
HOW-TO

MAKE IDEAS VISUAL

Part 2 of 2

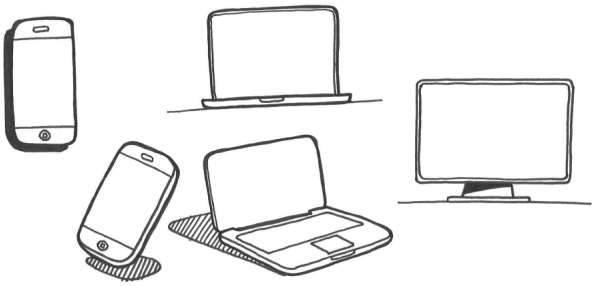
PEOPLE

The secret to drawing people is abstraction. Stick figures are fine, but the next step up (which is just as easy!) is to use a circle as a head and a starburst shape as a body. Heads are surprisingly easy, too. All you have to do is a circle for the outline of a face, use two more circles for eyes, and semi-circles for ears and hair.



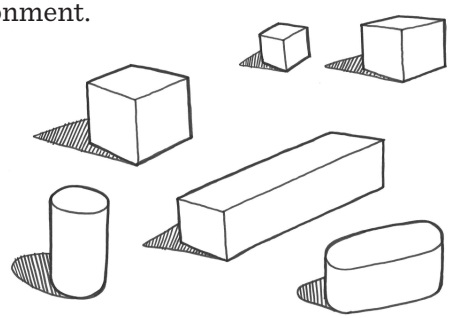
TOOLS

When we sketch ideas around service, we often incorporate common tools and interfaces (such as an iPad screen or that might contribute to the overall concept. Practice drawing circles and lines with slight curvatures at the edges to form things like iPhone screens, kiosks, laptops, and other devices.



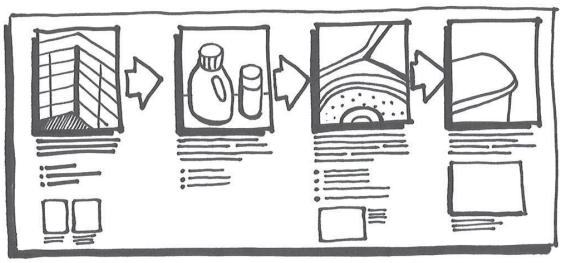
SCENES

If some part of your concept or idea takes place indoors, consider setting the stage using a few simple strokes to indicate a space or room. Practice drawing boxes and cubes, which can represent a building, or a room from a birds-eye view. Varying the dimensions of that cube can produce shelves, desks, walls, flooring, or other aspects of an environment.



SEQUENCES AND JOURNEYS

For some concepts, it is important to sketch out a sequence of events over time. This is especially true if you are depicting a user journey across a series of steps. For example, what happens at home, on the way to the library, at the library, and after the visit. In these cases, number the sequence so that it's clear what happens first, and use arrows to show progression. Try to highlight the parts of your sketch at each stage that you feel are most important to understanding the overall idea.



STEP 4: GENERATE IDEAS

Facilitate a Brainstorm

Now that you have set up a brainstorm session, it is time to ensure that the brainstorm runs well. Here are some tips on how to create a safe and positive atmosphere so the team can come up with great ideas.

TEAM LEADER

SELECT A FACILITATOR

The person who set up the brainstorm, or the team leader, should facilitate the session. Facilitation means understanding the brainstorming rules, the prompts, and will mean that you will not be participating so much in the idea creation so much as capturing the team's ideas.

TEAM LEADER

GIVE AN INTRODUCTION

At the start of the brainstorm, set aside some time to explain the purpose of the brainstorm and the brainstorm prompts, especially for those in the room outside of the core project team. In addition, review the brainstorm rules and ask if anyone has any questions before starting.

TEAM LEADER

PASS OUT SUPPLIES

Gather your team near the wall on which you will place your sticky notes. Ensure that everyone participating has a pad of sticky notes and a pen. If you are using half-sheets of paper, make sure you have tape so you can adhere your ideas to the wall. Remind everyone to write and draw large on the notes, so ideas are visible to everyone.

MAKE SURE EACH IDEA IS HEARD AND CAPTURED

Focus on one brainstorm prompt at a time and strive to have one conversation at a time. If people talk over one another, you risk losing ideas, and it does not feel as welcoming to participate. If you are facilitating, ensure that each person holds up their idea as they explain it. If you have a sketch of an idea, adding a title to your note helps, so people have a name or phrase for the idea they are seeing.

KEEP THE ENERGY HIGH

Ensure that the pace of the brainstorm stays fast and dynamic. Each idea should only take 15-20 seconds to explain, and everyone should speak up so that it does not become a monopoly of ideas. Switch to a new brainstorm prompt every 15 minutes or so.

"Sharing ideas visually, or thinking out loud together, is an important skill that really helped the team to stay together. Visual sharing through sketches and post-its is a practice that we would recommend, but we still need to remind ourselves to do at meetings. It doesn't come naturally yet, but some of our most productive meetings have incorporated visual methods of sharing and recording."

A team from Chicago Public Library

STEP 4 of 5

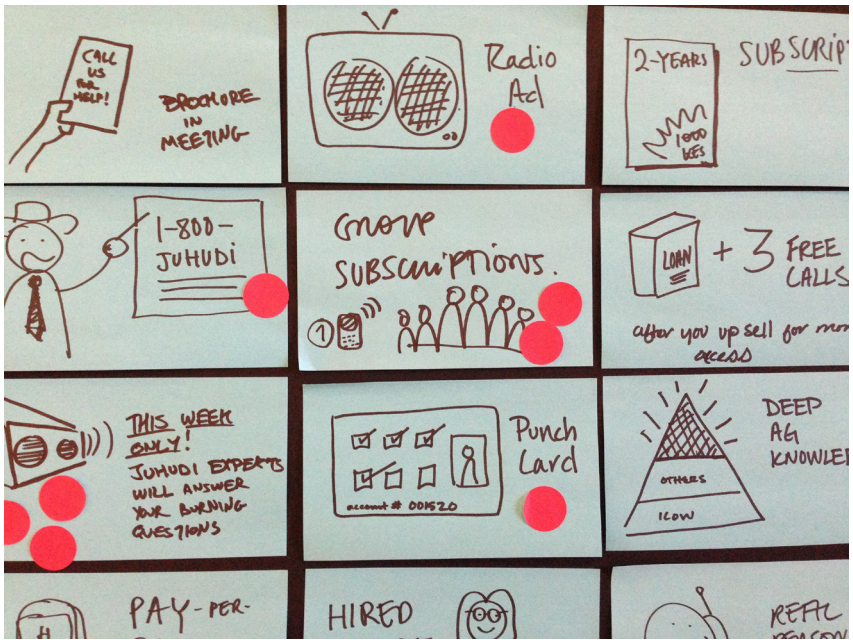
READY TO BRAINSTORM?

In the *Activities Workbook*, turn to Chapter 3, Activity 3, page 33

STEP 4: GENERATE IDEAS

Use Heatmaps to Select Ideas

Immediately after a generative brainstorm, take note of the passion and energy that your team has around certain ideas. With voting on ideas, or "heatmapping," you will see concentrations of votes for ideas that everyone is excited about, creating areas of "heat" and "energy." By voting on ideas as a group, you can more broadly involve others and gain alignment for how you will move forward.



CLUSTER IDEAS

Spend a few minutes after the brainstorm to cluster similar or related ideas.

VOTE ON FAVORITES

Use stickers (we use colored dots) or sticky notes to indicate a "vote" on an idea. Give your team a limited number of dots–for example, 3-5, depending on the number of ideas you have. Limiting the number of votes ensures that people are choosing the ideas they feel most strongly about. Ask the team to vote on ideas that feel both: 1. likely to succeed and 2. fresh and innovative.

DISCUSS RESULTS

Step back from your ideas and see where there are areas of many dots and therefore the most votes. As a team, evaluate the most promising ideas and decide which ones to develop further. Be realistic about the number you can pursue–aim for two or three ideas to start with.

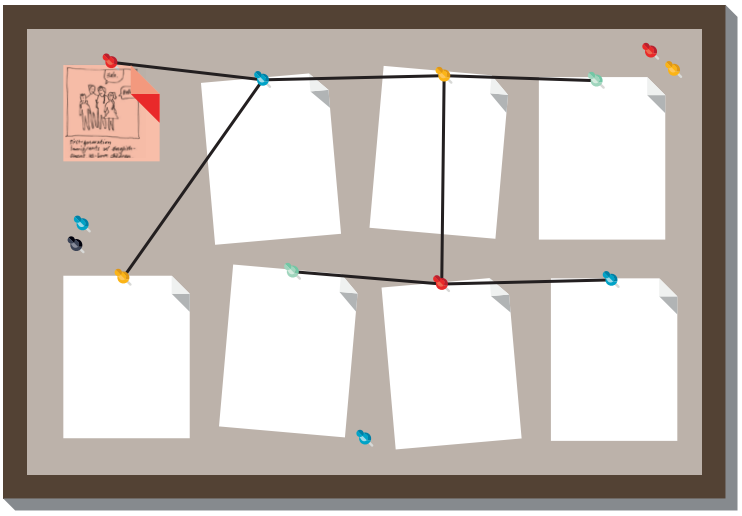
STEP 5

CREATE PROTOTYPES

It is now time to start making your top ideas tangible. A prototype, or a physical representation of your concept, enables you to share an idea with other people, get feedback, and learn how to further refine it. You can prototype just about anything. In this section, you will learn how to start prototyping, and in the next chapter, you will see how you can refine prototypes to learn from users in context.

Create a Concept Map

Revisit your top ideas and consider how you can turn them into prototypes. As part of this step, you will want to distill the intent of your concept based on few key questions. By working together to describe your ideas, your team will have a better shared understanding of what you want to achieve, and it will make dividing up tasks while prototyping much easier.



Hold on to key sticky notes from brainstorms that describe your top ideas–they are the starting point to a concept map!

STEP 5: CREATE PROTOTYPES

EVALUATE YOUR BEST IDEAS

Look back at your brainstorm and the ideas that received the most voting dots. As a team, evaluate the ideas based on the questions below, which can help you gauge which idea might be best to start prototyping. This does not mean that the other ideas will go away. You can certainly keep them around in your "promising idea archive" and tackle them later on.

- Instinctively, how excited are you about this idea?
- How innovative and fresh does this idea feel?
- How practical, realistic, and feasible is this idea?

DISTILL THE IDEA

With your team, using a large sheet of paper, summarize your idea in a single sentence. At the very top of the paper, give your concept a title. Bring over the sticky notes from your brainstorm related to this idea so you have a reminder of where the idea came from. Write a few bullet points on how this idea will impact the challenge and the user you are addressing.

BREAK DOWN THE USER EXPERIENCE

Any concept that you have thought of will have a beginning, middle, and end for a user experiencing it. Though you might just have one or two sticky notes from your brainstorm that speak to your idea, it is time to unpack the meaning behind the concept and really flesh out each stage of the program, service, or space you are envisioning. Draw out a journey or a series of scenes, starting with a sketch and a few bullet points on who your ideal user is. Make sure to cover the questions below in your concept map:

- Who is your user? What are his or her defining behaviors and/or characteristics?
- How does your user hear about the concept? How do you build awareness?
- How does your user actually begin using the concept?
- What is happening while your user is experiencing your concept? Who or what else is involved and needed?
- After the user experiences the concept, what happens next?
- How does the concept help your user in the long-term?
- Does your user advocate for the concept and tell others about it?

READY TO CREATE A CONCEPT MAP?

In the Activities Workbook, turn to Chapter 3, Activity 7, page 34

STEP 5: CREATE PROTOTYPES

Create a Prototyping Game Plan

After you have created a concept map, it can seem overwhelming to prototype everything at once. Instead, focus on the prototypes that you will learn the most from testing out. For now, concentrate on making the ideas real amongst your team. These initial prototypes will serve as the foundation to live experimentation, which you will learn more about in the next chapter.

ASK THE RIGHT QUESTIONS

We cannot stress enough that the key to successful prototyping is asking the right questions. If your question is too broad, you will not learn as much as you would like. Under each one the stages of your concept map, write down the single most important question to answer about that piece in the user experience.

For example, say your challenge is about helping boys with homework in after-school literacy programs. If the first part of your concept deals with signing up for tutoring appointments online, your "question to answer" at this point might be: "Would the users be willing to log on to a sign-up system for homework help?"

From there, think about how you would want to test this question. This could mean creating a mock-up of a computer screen or series of screens, sketched out simply on a piece of paper. You could explain to your user what the site would look like, how it would communicate the homework program, and ask whether they would be willing to use this sign-up system.

PRIORITIZE PROTOTYPES

Look back at the questions you are hoping to answer. Which ones feel the most important and urgent? Which ones do you honestly feel like you have no answer to? Which questions have inherent assumptions? These questions are likely the ones that you should prototype first. Rank the pieces of your concept map in order of priority and choose the top 1-2 parts of your concept to prototype.

READY TO CREATE A PROTOTYPING GAME PLAN?

In the *Activities Workbook*, turn to Chapter 3, Activity 8, page 38

A CLOSER LOOK:

BREAKING DOWN A CONCEPT

Remember that a prototype is essentially a tangible answer to a theoretical question. Rather than testing an entire idea, prototypes help you answer very specific questions within an idea. If you ask too broad of a question, or make a prototype that's too elaborate, you might not find the answers you are looking for, and you will lose time in the design process.

Example of concept parts-turned-prototypes:

As part of a workshop, a team was thinking of new ways to help youth with alcohol addiction. They had an idea involving mobile counseling centers that could visit different neighborhoods. The team decided to build a scale model prototype of the mobile counseling center. While this prototype helped the team get more clarity on what the center might look like, it did not help them answer any of the specific questions on how people might interact with the center and what impact it could have.

Here are ways you could break down this larger idea into smaller, tangible prototypes:

CONCEPT: MOBILE COUNSELING CENTER

CONCEPT PART 1:

Learning about the alcohol counseling sessions.

PROTOTYPE:

Printing information about counseling sessions on paper and plastic bags that liquor stores are required to use.

SPECIFIC QUESTION:

Does advertising for counseling sessions in places where these users might naturally be make people more likely to respond?

CONCEPT PART 2:

Signing up for a counseling session.

PROTOTYPE:

Setting up a hotline where friends and families who know someone struggling with addiction can call and connect advisors with users.

SPECIFIC QUESTION:

Is working through friends and family networks more or less effective than other routes?

CONCEPT PART 3:

Centers helping users stay sober after counseling.

PROTOTYPE:

A flexible support system that allows people to design their own mix of email newsletters, support groups, and check-in calls.

SPECIFIC QUESTION:

Do people want to design their own support systems, and if so, what are preferred ways that the center can provide support?

A CLOSER LOOK:

WAYS TO PROTOTYPE

Part 1 of 2

You can tangibly represent your ideas in a myriad of ways. Prototyping is not about getting it right the first time, so we would encourage you to try out lots of methods to see what might work with the idea you are envisioning. Gather the supplies you can muster and start building!

SUPPLIES

A lot of these supplies feel like they belong in kindergarten, and that is okay. Find any supplies that you think would be fun to work with and are not too expensive.

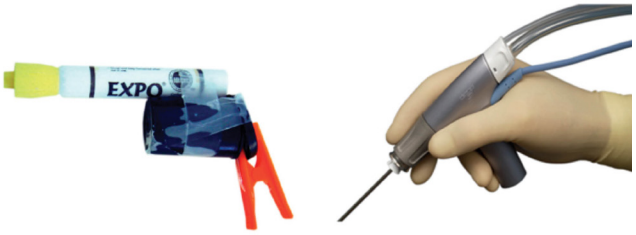
- Paper: Construction paper, poster board, any heavy weight paper, foamcore, cardboard, boxes
- Adhesive: gluesticks, hot glue gun, tape
- Pens: markers, crayons
- Fabrics: cotton balls, felt, cloth
- Craft supplies: popsicle sticks, paint, brushes, string, pipe-cleaners
- Tools: rulers, scissors, measuring tape, staplers

Ways to prototype:

A MODEL

Put together a simple three-dimensional representation of your idea. This could be a scale model or an actual-size scale experience that you can walk through with your team.

An example of a presentation using a model, using existing resources like foam blocks, an umbrella, construction paper, and so on.



For an IDEO project, the team prototyped a relatively complex surgical tool using a marker, an empty film canister and a clip (left)–this simple prototype helped envision a new way to create a much more ergonomic medical device for surgeons (final product on right).

A CLOSER LOOK:

WAYS TO PROTOTYPE

Part 2 of 2

A DIGITAL MOCK-UP

Mock-up a digital tool with sketches of screens on paper. Tape the paper to the screen of a device like a phone or computer to mimic the context of a digital interaction.

A ROLE-PLAY

Act out the experience of your idea. Try on the roles of the people in the situation and uncover the questions that they might ask. Consider assembling simple props, uniforms, or other tools that a service role might need while engaging a user in the library.

As part of an IDEO project to reinvent the pharmacy, a team member prototyped a service interaction by playing the role of a new health guide, which helped the team better understand what an advisory conversation might feel like.

AN ADVERTISEMENT

Create a mock-up of an advertisement that promotes your idea, whether it is a program, service, or space. Think about how you would build awareness of the offer and how you would communicate its value to different users.

A design team created a mock flyer that advertises a sanitation concept to a potential user. A prototype like this can help you understand how you would communicate to users.

A REVAMPED SPACE

If your prototype concerns the design of space, see if you can prototype within that existing space or create a scene that describes what the environment should feel like. Feel free to build off of existing furniture and desks and remember to keep things representational. (For example, in the world of prototyping, cardboard boxes can be chairs, and carts can act as bookshelves!)

A team creates a prototype of elements in a children's space using a wheeled cart as "shelves," seat cushions, and toys.

STEP 5: CREATE PROTOTYPES

Plan a Make Day

One of the best ways to start prototyping in a quick, fun way is to plan what we call a 'make day,' or 'make-a-thon.' Setting aside one day or half-day with your team to start making things is a great way to get in the mood of building quickly and intuitively. In the design thinking approach, we believe that quickly translating ideas into tangible prototypes is much more valuable than meticulously planning for a new idea to be realized over a longer period of time. This is because we believe that you can learn far more–and more cheaply–with a simple prototype, rather than a big, expensive endeavor that puts not only money but time on the line. We call these simple prototypes "low fidelity."

We know that the idea of prototyping might seem scary at first, especially if it has been a while since you have used crafts and built things with your hands. Think back to when you were a child and you had no inhibitions about drawing or playing pretend with whatever you had on hand. You were resourceful, energized, and brave. Try to get back into this mindset as you begin prototyping.

> "It's important to know that the first idea you prototype may not be "right"–it probably won't be–but that's not the final product! You have to start somewhere and just do it."
>
> *A team from Aarhus Public Library*

STEP 5 *of* 5

A team in Aarhus works quickly to focus in on one idea to prototype during their make day.

READY TO PLAN A MAKE DAY?

In the *Activities Workbook*, turn to Chapter 3, Activity 9, page 39

STEP 5: CREATE PROTOTYPES

TEAM LEADER

SET A SCHEDULE AND GOAL FOR THE DAY

Make days work best when tightly timed and scheduled. Having a tight time constraint can help you and your team feel the pressure and excitement of building something new in just a few hours. Set a goal together to create at least 2-3 prototypes of a concept by the end of your make day, and divide up your team into sub-teams if you have enough people to do so.

TALK LESS, DO MORE

Consider this mantra while prototyping: Spend less time discussing an idea and more time using your hands to build or sketch an idea out. This is not the time to have long conversations or philosophical arguments. This is the time to make things intuitively without the fear of what others will think. It is not about having the right answer, it is about having at least ONE answer. Save the critique and intellectual discussion for later.

GATHER SUPPLIES AND SPACE

Review the supplies list in "A Closer Look: Ways to Prototype" and gather as much of these that you can. Reserve a space in your library where you can spread out, as things might get a bit messy as your start to prototype.

PRACTICE SHARING YOUR PROTOTYPE

Make time at the end of the day to have your full team meet and review what you have created. If you have extended team members–like interested community members outside of your team, or other partners–this may be a good time to involve them in the make day. If you have multiple prototypes within your team, present them to one another and, if applicable, try to experience each others' prototypes, even in role play or 'pretend' situations.

At a make day at Aarhus Public Library, the team shares and explains their prototype with other library teams and staff.

REMEMBER TO FAIL FORWARD

Some prototypes will feel great while others will fall flat. Try not to dwell on what seems like failure because, in fact, when we fail, we learn something new. Before you even start building, embrace the idea that a prototype that does not work can offer wisdom for how you will want to move forward (we call this idea 'failing forward'). Read on to the next chapter to learn how to receive the most productive feedback from people, and how that propels the design process forward.

STEP 5: CREATE PROTOTYPES

EXAMPLE: CPL MAKE DAY

As part of the Make Day, a team of librarians at the Chicago Public Library focused on creating a co-working space within the library prototyped a concept around a class focused on publishing. The concept was a small-scale class that would teach interested users how to publish a book online. In the span of a couple hours, the team discussed how the concept would work, rearranged the furniture in the space of the library to represent a possible classroom setting, and created communication to spread awareness for their program idea.

Mark Kaplan, a team lead at Chicago Public Library, explains the team's prototype at the end of the make day to other staff and library leadership.

The team prototypes a digital month-long calendar of programming to spread awareness to users, using simple materials like colored paper and markers.

The team dreamed of having a coffee bar integrated into their class concept, so they made a simple prototype of a sign and paper coffee "cups" to represent their idea.

CASE STUDY No. 1

"School Lunch"

THE CHALLENGE

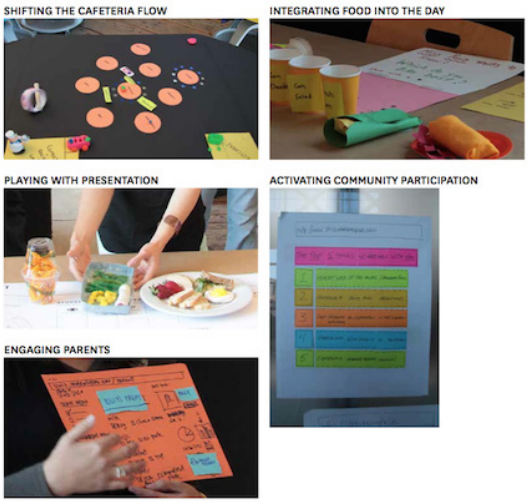
When the lunch bell rang at the San Francisco Unified School District (SFUSD), 72 percent of those who could afford lunch weren't showing up. The district had already hired Revolution Foods, a caterer that serves some of the most nutritional meals in the nation, so it wasn't just about food. It was about the experience of eating at school. In a world in which students are used to expressing their opinions on social media, they had no voice in shaping their lunch experience.

THE OVERVIEW

Working alongside more than 1,300 students, parents, union leaders, nutrition staff, board commissioners, principals, teachers, and community groups, IDEO and SFUSD worked together to redesign school lunch. The team discovered a variety of barriers, including the fact that the district had limited capacity for customer service. Students were waiting in long lines, rushing to finish, and eating in makeshift spaces. Many kids simply opted out and headed off campus with friends, or chose to not eat at all.

The team developed recommendations for three age-appropriate dining experiences: communal eating, student-designed spaces, and new technology platforms. To be sure these ideas would address the operational deficit, IDEO worked closely with SFUSD to develop a robust business model—considering thousands of data points, like the cost- per-meal of a delivery truck route and where the ketchup was placed in cafeteria.

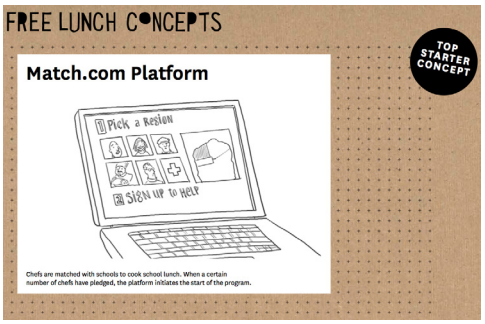
In September, 2013, the San Francisco Unified School Board expressed unanimous enthusiasm for IDEO's work, clearing the path for this new vision of student-centered lunch to take root.



Workshop participants divided into groups and spent an hour brainstorming and developing prototypes to present back to the group.

WHY IDEATION WAS IMPORTANT

Just as we've discussed how design thinking phase isn't entirely linear, the design team went from research to ideation and back to research and then ideation before synthesizing their findings. For every person they met, the team shared the three most memorable quotes, as well as three How Might We questions and three solution-driven ideas. This process of quickly toggling between inspiration and ideation phases resulted in over 50 concepts at the end of their research phase.



Based on the insight that the district should shift from a reimbursement-dependent model to one that incorporates strategic partnerships, the team came up with the idea of matching chefs with schools to cook school lunch.

The team then hosted a workshop to map out six future-oriented scenarios with stakeholders. One example of a scenario was called "smart lunch," where students could use their smartphones to order their lunch in the morning, giving a sense of choice to the student and helping the system predict demand. They then turned the corner quickly from brainstorming ideas to making low fidelity prototypes–in the case of smart lunch, this was a cardboard kiosk with a shelf for an iPad-enabled order app. Following up this work with rounds of community engagement (workshops, online surveys, a public exhibition and more), the team considered every serious idea through the lens of feasibility, desirability and viability to assess whether it was worth pursuing.

The team hosted workshops with stakeholders to get everyone involved in the design process.

CASE STUDY No. 2

"Brooks Pure Project"

THE CHALLENGE

High-performance footwear, clothing, and accessories company Brooks Sports was recognized as a go-to brand for serious runners, but the company had a new mission to create running shoes that are "a perfect ride for every stride." In spite of its success, Brooks wanted to broaden its running audience. Not only was the company missing out on the trend toward ultra-lightweight shoes and/or barefoot running, Brooks had a desire to better understand runners' needs and approached IDEO for help.

THE OVERVIEW

Three collaborative projects focused on helping Brooks better understand runners' emotional needs and deliver on their brand promise through their first lightweight shoes, called the PureProject Collection.

To uncover the role running played in people's lives, the team went on in-context interviews and shopped alongside "non-core runners" age 25-35 throughout the United States and Europe, a group that included new runners, runners who had stopped running for various reasons, and people who run three or less times per week. The team learned that these runners wanted a simpler, more stripped down running experience, yet also wanted the reassurance of a credible, authentic, true-to-running shoe.

The collaboration resulted in a footwear collection and brand story that appeals to both new and experienced runners alike by focusing on the simple, pared-down joy of running. Brooks' PureProject shoes promote a natural stride using lightweight materials and adaptive midsoles. Brooks' sales skyrocketed. PureProject shoes are available for purchase in more than 35 countries, and at over 700 stores in the United States.

The team co-brainstormed around the idea of the dream shoe, using low fidelity materials like felt and hot glue guns to address runners' needs regarding the "feeling" of a run.

WHY IDEATION WAS IMPORTANT

Rather than relying on internal design cues or trend analysis, the team talked to a range of runners directly. They translated their research into the following actionable insights, among others:

- As running shoes have become overly technological and complicated, people are more drawn to shoes with intuitive functions and purposeful design.
- People want to find shoes that fit their unique needs and style and feel confident about their choice.
- There are distinct types of running experiences. Sometimes runners want to "feel" and connect to their run. Others want to "float" during their run, enjoying ample cushioning and plugging in to headphones to zone out.

Based off of these insights, the team asked: How Might We address the needs of runners who want to "feel" rather than "float"? And How Might We create shoes that fit people's unique styles while also making the shoe's functions intuitive and streamlined? To generate the most ideas, the team planned a co-brainstorming session that included not only IDEO designers but also the client team from Brooks. The group represented a diversity of runners and together they ideated by making their own "dream shoe" prototype made with fabric, duct tape, cardboard, and other low fidelity materials. These prototypes represented the unique style and needs of each of the runners, and helped define core design attributes for the iconic PureProject footwear line. Ultimately, the discussion about the running experience evolved into a discussion of an emotional spectrum and letting runners choose how they want to experience the run.

Participants in the "unfocus" groups created a variety of wacky prototypes to design their ideal running shoes.

References

READ

DESIGN THINKING FOR EDUCATORS TOOLKIT, 2ND EDITION

Interpretation and Ideation Chapters
http://www.designthinkingforeducators.com/

DESIGN KIT IDEATION METHODS
http://www.designkit.org/methods

ACUMEN+ SOCIAL INNOVATION COURSE
Class 2 Readings: Ideate

The Ideation phase in action

- Melissa Rohde is working with a community in rural India to design new ways to decrease water scarcity and improve food security. Learn more about her journey through the Ideation stage: http://bit.ly/HCDinIndia

- Carla Lopez reflects on some of the challenges her team faced during the Ideation stage of an IDEO.org project designing new ways to provide technical training for farmers in rural Kenya: http://bit.ly/JKandIDEOorg

WATCH

DESIGN THINKING FOR EDUCATORS EDUTOPIA COURSE: WEEK 3, IDEATION
Hear from IDEO and educators on how they come up with ideas.
http://www.edutopia.org/design-thinking-for-educators-ideation-week-three

EMBRACE AMBIGUITY
Patrice Martin, Co-Lead at IDEO.org, discusses embracing ambiguity on Design Kit.
http://www.designkit.org/mindsets/4

MAKE IT
Krista Donaldson is a designer and CEO of D-Rev, a San Francisco-based organization that designs medical devices to improve the lives of people living on less than $4 per day. She discusses making and prototyping on Design Kit.
http://www.designkit.org/mindsets/4

CHAPTER

4

ITERATION

The Iteration phase takes your ideas and evolves them based on user feedback. Your first idea often isn't the best idea, and you must iterate, or build upon that idea to improve it.

In this phase, you will start experimenting by putting your prototypes into action, gathering feedback, and developing your concept further. The design thinking approach is not always linear, so you may find that you need to return to previous stages of the process in order to continue the evolution of your ideas, experiences and perspectives and will give you a great foundation for the next stages of design.

ITERATION *Overview*

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- IT in the Library Space *pg. 99*

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STEP 1

REFLECT ON ITERATION

Iterative design is based on a process of prototyping and experimentation. You will create tangible concepts, gather user feedback, synthesize information, and evolve your concept. In an ideal situation you will start with prototypes, test your prototypes in the library, and eventually implement your idea to become part of the core service offering.

It is important to note that iteration takes time. Unlike the inspiration and ideation phases, you may go through multiple rounds of iteration on your concept before you are ready to fully implement an idea. The goal here is to create a series of tests, or mini-pilots, that continue to build on your initial prototype, and to remain open to the idea that user feedback will lead you towards directions that you may not have previously anticipated. Think of it as an informed, deliberate version of trial and error–trying something out, knowing that your concept is imperfect and continually learning how to improve along the way.

PROTOTYPING - MINI-PILOT - IMPLEMENTATION

In this stage of the process, we'll being to draw distinctions within iterations of your idea as they develop across a sequence of three modes: prototyping, mini-piloting, and implementation.

A team at Aarhus Public Library creating a prototype using simple, low-fidelity materials.

STEP 1: REFLECT ON ITERATION

PROTOTYPING, as you learned in the last chapter, is the initial step in making ideas tangible. The act of prototyping transforms ideas in your head and puts them in a form that can be understood by others. Prototypes are often incomplete and low fidelity, being representational enough for someone to understand or imagine your idea. In this context, they also become the building blocks for a mini-pilot.

An IDEO design team wanted to design a new diagnostic process to make hearing aids more accessible in rural India. They developed a mini-pilot by training actual technicians and spent several days in villages trying out the diagnostic experience with people who had trouble hearing. They learned very quickly–even after the first couple of sessions–that their protocol was too complex for users and needed to be simplified.

MINI-PILOTS transform your prototypes into fuller experiences for your library users. Planning and running a mini-pilot allows you to evolve your concept for use in the real world. While running your mini-pilots (or experiments, as we sometimes called them), you will gather evidence in order to move toward implementation of your concept. Unlike a prototype, the mini-pilots for this project should operate and function without too much explanation to your users. People should be able to walk up and use them without guidance or facilitation from your team. While pilots are not as low fidelity as a prototype, they're still incomplete and helpful both for generating feedback and evolving your concept.

The Maker Lab is a space that represents an implementation of an idea around a hacker or maker-oriented lab within the library. While it is fully functioning and sustainable day-to-day, it still continues to iterate and change depending on the needs from the community over time.

STEP 1: REFLECT ON ITERATION

IMPLEMENTATION is putting your idea into the world in a more permanent way. This does not mean it is a final solution! You can continue to iterate, but your solution is now at a stage where you are ready to introduce the idea alongside your existing, core offerings. We often equate implementation with the creation of a pilot project; in other words, it is a fuller execution or trial of an idea for a longer period of time. Implementation is often enabled by a larger group of stakeholders who help to put it into the world, including partners, leadership, and other staff. At this stage, your solution will need to be tested and measured based on metrics and indicators of success that you created from the mini-pilot phase.

As you move from prototyping to mini-piloting, you will ask questions like:

· Is this valuable for my target user?

·What aspect of the prototype is worth evolving?

As you move from mini-pilots to full-blown implementation, you will ask slightly different questions:

· Is this sustainable over time?

· Does it have potential to become a core offer?

The following chart distinguishes each part of iteration:

	PROTOTYPE *(working out an idea)*	MINI-PLOT *(trying it out live)*	IMPLEMENTATION *(making it sustainable)*
PURPOSE	makes an idea immediately tangible	deliberately designed with intent and to answer specific questions	a full expression of the vision and its components
PURPOSE	can possibly engage users	functional for users without explanation	both functional and durable enough for users to use over a period of time
PURPOSE	provokes user reactions	begins to create evidence, and can uncover new metrics	highly measured, validation oriented
PURPOSE	driven by key insights	driven by key questions	driven by metrics or indicators of success
SETTING	in a 'test' or protective environment such as the team space	live and real-time within the library	lives alongside existing services in a more permanent manner
SETTING	not necessarily within a real context	contextual	adaptable to multiple sites
FIDELITY	low fidelity and simply representational of an idea	of a fidelity that any user would understand	looks like and works like the real thing
FIDELITY	done rapidly and used to think through ideas	requires extensive planning and fleshing out of ideas	an execution of a fully formed idea
FIDELITY	enabled by the core design team	enabled by both core team and partners or other library staff	enabled by a large stakeholder network
TIMING	creates instances or finite mock-ups	highly iterative and episodic in nature	realized for an extended period of time

READY TO REFLECT ON ITERATION?

In the *Activities Workbook*, turn to Chapter 4, Activity 1, page 42

STEP 2

GET USER FEEDBACK

In the Ideation phase, you created prototypes. Now it's time to use your prototypes to get user feedback, which is one of the most valuable tools in developing an idea.

In design thinking there are at least two points in which it is critical to talk to people: at the beginning of a project to get inspiration, and when you have prototypes, or mini-pilots, to get feedback. Even at this stage, the feedback you gather is meant to be generative so that you can continually adapt your prototype. Feedback will still be exploratory, as opposed to validation-based: it is not about whether you idea is right or wrong–it is about how to make the idea better.

STEP 2 of 4

Plan Feedback Interviews

Feedback interviews have some of the same qualities as the previous interviews, but you will be more focused on learning what users think of your prototype, as opposed to learning about the users' lives in general. You want to get honest feedback–both positive and negative–in order to evolve your ideas. Here are some tips on how to conduct feedback interview.

As part of an IDEO project on household energy use, we gained feedback from a couple by showing them a mock-up of an iPad app that would help them save energy. Using a paper screen interface, the team asked the couple what worked well and what needed more clarification.

CONSIDER THE SETTING

Decide the context where you want to share your idea. Is it helpful to be in an informal setting you are familiar with? Or will you learn the most from seeing your prototype in the context where it will be used?

DEFINE WHAT TO TEST

Determine what kind of feedback you are looking for: Do you want feedback on the first impression of your idea? Are you trying to learn whether people would participate in a new activity you designed? Are you wondering how people would behave differently with your new concept? Create a list that will remind you of the goals of your research.

STEP 2: GET USER FEEDBACK

SELECT FEEDBACK PARTICIPANTS

People who have seen the development of your idea can provide detailed feedback, while those new to the concept can help you understand which aspects are most appealing or difficult. Consider which perspectives are most important. Based off of this, create a list of people you want to engage in the feedback process and from whom you will learn the most. Sometimes the most fruitful feedback comes from short, spontaneous discussion. Include people you have met during your field research as well as new participants. Remember, you can reach out to your social networks and library patrons.

PLAN THE INTERACTION AND LOGISTICS

Determine a meeting place and time frame for your feedback sessions. Consider asking participants to use your prototype ahead of meeting you. A good feedback conversation is a mix of spontaneous reactions to your prototype as well as structured questions designed to compare various peoples' opinions about the same topic. Prepare a question guide that helps you navigate both sides.

CHOOSE OPEN QUESTIONS

Revisit questions that came up during the development of your idea. Pick those that you want to include in feedback sessions. With your team, discuss other areas to explore.

As part of their feedback strategy, an IDEO team held short, impromptu conversations with people on the street to hear their thoughts on their daily commute. The team came prepared with sketches and questions organized on a clipboard to be able to quickly get reactions from passersby.

FRAME QUESTIONS TO ENCOURAGE BUILDING

Formulate your questions so that they lead to constructive feedback and encourage participants to build on your idea, such as:

- "Can you describe what excites you the most about this idea, and why?"
- "If you could change one thing about this prototype, what would it be?"
- "What would you like to improve about this idea?"
- "What don't you like about this idea?"

Organize your questions according to the following structure:

1. Start with general impressions. Let the participants share their initial thoughts about your concept.
2. Ask for specific feedback about your idea.
3. Open up the discussion and encourage a broader conversation.

Create a readable format of the question guide, so you can glance at it quickly during your conversation.

STEP 2: GET USER FEEDBACK

Facilitate Good Feedback

The most important ingredient in a feedback conversation is honesty: people may feel shy about telling you what they really think of your idea if they know that you are very invested in it. Create a setting that encourages an open conversation and think about the following tips when conducting your interview.

INVITE HONESTY AND OPENNESS

Introduce your prototype as a sketch that you are working on. Make it clear that the development of your idea is still in progress, and that you have not spent much time on refining the details of the prototype.

STAY NEUTRAL

Present all concepts with a neutral tone. Do not be defensive. Listen to all the feedback, and take notes both on the positive and negative comments.

ADAPT AS YOU GO

Encourage participants to build on the idea, and change your prototype as you go. Be ready to eliminate or change aspects of the idea.

CAPTURE FEEDBACK

Feedback conversations are rich in information, and the subtle impressions of a participant's reactions are often most important to remember. Take some time right after your session to capture what you have observed. Discuss how to improve your prototype and capture ideas for a next iteration immediately. Plan for some extra time after a feedback session, so you can share your impressions right after your conversation when they are still fresh in your mind.

> "It is important to ask what the users like about the prototype, but it is just as important to ask what they DO NOT like...people do not want to hurt your feelings, but you will learn so much more from those answers as opposed to what they like."
>
> *Marianne, Team IT at Aarhus Public Libraries*

STEP 2 of 4

READY TO PLAN AND FACILITATE FEEDBACK?

In the *Activities Workbook*, turn to Chapter 4, Activity 2, page 43

STEP 2: GET USER FEEDBACK

Synthesize Feedback

Feedback is invaluable to developing an idea, but can also be quite confusing. What you hear across different users may be contradictory, or may not align with your goals. Sort through the responses you receive and decide on what to integrate in your next iteration.

SHARE YOUR IMPRESSIONS

Discuss the conversation with your team and compare each others' learnings. Take notes while considering the following prompts:

- What did participants value the most?
- What got them excited?
- What would convince them about the idea?
- Which parts would participants like to improve?
- What did not work?
- What needs further investigation?

CLUSTER THE FEEDBACK

Share the impressions you captured right after your feedback conversations. Take notes on sticky notes. Sort and cluster the feedback: What was positively received? What concerns came up? What suggestions and builds did you find?

EVALUATE THE RELEVANCE

Take a moment to revisit where you started. What were you trying to learn? Look at your earlier learnings and ideas. What was your original intent? Does it still hold true, based on the feedback you have received?

PRIORITIZE THE FEEDBACK

What is most important to making your idea a success? Sort your notes and create an overview of the feedback you want to respond to. You may prioritize changes where people saw barriers, and emphasize what was well received. Then, iterate! Create a new and improved prototype that you can share, or build on your existing prototype. Going through multiple feedback cycles will greatly help you improve your concept. You'll learn more about this in the next steps.

A team discusses feedback and compares findings shortly after testing a prototype.

STEP 2 of 4

READY TO SYNTHESIZE FEEDBACK?

In the Activities Workbook, turn to Chapter 4, Activity 3, page 45

STEP 3

RUN A MINI-PILOT

A mini-pilot is situated in between making a prototype and implementing your idea. While a prototype makes an idea tangible, the mini-pilot is a way to evolve your prototype into an experience for users. It gives you a chance to improve your idea before fully committing to it for your library users. Here is a broad overview of what to keep in mind when running a mini-pilot in your library.

> "You have to prototype with intent: see the prototypes as a learning tool–this isn't random experimentation, it's experimenting with a goal and a hypothesis for what will happen."
>
> *a team from Aarhus Public Libraries*

Design a Mini-Pilot

There are several ways to design your mini-pilot. You can have a one-day or one-hour pop-up event to have users engage with your idea; you could also produce a multi-day event or a longer-term ongoing experiment. Most importantly, you should ensure that you are testing a hypothesis and answering key questions that will help you develop the idea even further.

DEVELOP A HYPOTHESIS

Given what you know now about the prototype, your users and behaviors, what do you hypothesize will happen during the mini-pilot? What is the ideal scenario? Your hypothesis may not always be right, but will help you articulate goals, assumptions, and expectations.

DEVELOP KEY QUESTIONS

This is critical–without key questions, you are testing without a direction goal for what to learn. With just a few key questions that you want to explore, you will be smarter about what to make for your mini-pilot. One of the common pitfalls of creating a mini-pilot after your initial prototypes is thinking that it has to be elaborate or high-fidelity. This is a misconception! Instead, think of your experiment as a truly focused trial, specifically set up just to answer your key questions.

As you develop your key questions, consider:

- What is most important to learn in order to improve your idea?
- What part of the idea are you most unsure about? How can this be developed into a key question?
- What are the assumptions built into your mini-pilot? How can these be turned into key questions, so you do not assume anything?

STEP 3: RUN A MINI-PILOT

EXAMPLE

A team from IDEO.org designed a water, nutrition and health business to have three components: a door-to-door salesperson, a local kiosk where people could sign up for water delivery and health products, and a delivery service that brought clean water to customers' doorsteps.

They created three mini-pilots that examined these ideas in greater detail over the course of several days. To get the most out of their experimentation, they focused on the following key questions:

1. Do people only want drinking water, or would they like clean water to accomplish other tasks as well (such as washing, cleaning, and cooking?)

2. Are people willing to pay for something in advance without being able to see it (for example, paying for water that will be delivered the following day?)

3. Does it make sense to sell health and nutrition products alongside water?

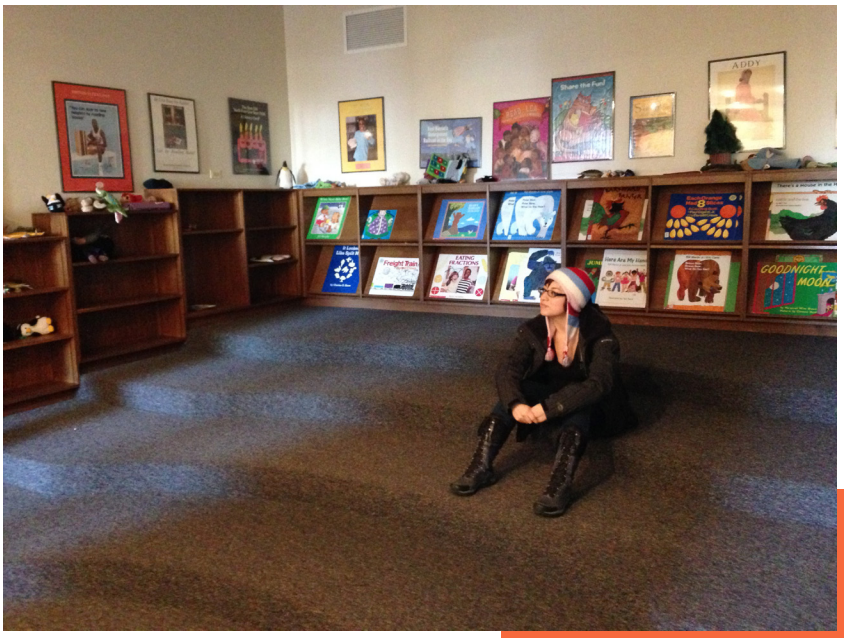
By the end of the first day of the mini-pilot, they had 10 water orders to deliver to paying customers, and learned a ton from this initial set of customers. Because they developed a specific and focused set of key questions before starting to experiment, they could concentrate on answers and learnings that would propel them to the next iteration.

Sales people for the Smart Life business.

DEFINE CONTEXT

Plan the site for your mini-pilot. Unlike a prototype, your mini-pilot must be rooted in a relevant context. For example, if you are designing for teen digital literacy classes at the library, you might set up your mini-pilot in a computer lab or a place with access to digital resources. In thinking about the context for your mini-pilot, consider:

- Based on your key questions, is it best for the mini-pilot to take place inside or outside of the library?
- If you are choosing a specific branch location for your mini-pilot, consider your target audience. Where will the audience most likely go?
- Where do you have the most resources and permission to experiment? Think about a context where you will have more empowerment and ability to take risks.
- In which context are you most likely to engage users? Because you want to increase your chances of getting good feedback, you may want to choose a context in which user interaction is already naturally happening.



To better understand the branch context for their next mini-pilot, members of a team at Chicago Public Library visited the branch in advance to plan for how their idea might adapt to the existing space.

STEP 3: RUN A MINI-PILOT

IDENTIFY RESOURCES

Your mini-pilot will require resources, and as you plan, consider what you will need. Oftentimes, running a mini-pilot will require more effort and more resources than a simple prototype might, as it involves producing a representation of an idea for a user without much explanation. Because it also will take place live and real-time within your environment, you may also need to alert and involve other staff and stakeholders in running your mini-pilot. Consider the following as you gather resources for your next iteration:

- What permissions do you need to start? Can you pull others on board so that they feel involved in a positive way?
- Who will you need to give advance notice? Remind anyone who is skeptical that this is temporary, and that without doing something to improve services, we end up doing nothing and staying within the status quo. And that is not what design thinking is about!
- Whose time do you need to schedule? What times will you conduct your mini-pilot, and does it need to be staffed or facilitated in some way?
- What additional supplies do you need? Again, think of the minimal possible way to execute the idea based on the questions you are trying to answer.

CREATE A PLAN

To start, you also want to draw out a plan. Look back to your concept map that you created when you first started prototyping. You took time and hopefully learned some new things about what worked and what did not in those prototypes. Now you are ready to potentially integrate more of those moments, anchored by the prototypes that you have made.

This next step should do two things: Your mini-pilot should improve and integrate the prototypes you have already made, and you should be exploring how you can build other parts of the map to create a fuller user experience. You may also find it useful to re-frame your concept map in other frameworks for experiment design.

READY TO DESIGN A MINI-PILOT?

In the Activities Workbook, turn to Chapter 4, Activity 4, page 46

A CLOSER LOOK:

MINI-PILOT DESIGN *Part 1 of 4*

While you already have a concept map for your idea, you can use the following frameworks to help further develop your thoughts as you plan your mini-pilot. These frameworks help us visualize experiences, so that you can ensure that you are thinking about the bigger picture perspective of your idea.

USER JOURNEY

Your concept map may already take into account a loose sequence of events that define the user journey. By categorizing pieces of an experience into these temporal moments, you can ensure that your team is thoughtfully considering the full experience, and not just prototyping one isolated part of that experience. Here's one example of a set of phases in a journey:

ENTICE
· How do you bring awareness of your idea to the user?
· What makes it appealing to your target user?

ENTER
· What is the experience like for your user seeing your concept for the first time?
· What is the first impression?

ENGAGE
· How does the user interact with your idea?
· What are the functional and emotional benefits of use?

EXIT
· What happens at the end of the experience?
· What do users walk away with?

EXTEND
· After using your concept or idea, what happens to the user afterwards?
· How might your user continue use of your concept?

SERVICE FRAMEWORK

If you are designing a service at the library, it may also be useful to map out your mini-pilot in terms of a service framework. We believe that any service is made of essentially three components: spaces, roles (people) and tools. Ensuring that you have thought of all three as part of your service can ensure that you have thoroughly considered the full user experience of your service.

SPACES
What space does your service require?
What does the environment look like, feel like, and act like?

ROLES
Who might facilitate the use of the service?
Are there existing or new roles involved in the service?
Does your service require any training of roles?

TOOLS
What tools and resources will your service require?
Are tools built in or embedded within the spaces or roles in some way?

An example board showing a similar user journey with sketches and ideas for each part of the journey.

A CLOSER LOOK:

MINI-PILOT DESIGN

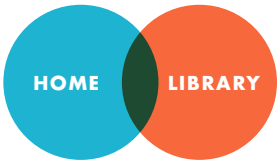
Part 2 of 4

HOME / LIBRARY VENN DIAGRAM

Another very simple way to map out your mini-pilot is to think about how your mini-pilot might impact the user both at home and at the library. Oftentimes, you think of users as always within the context of the library, but it can be very useful imagining how your mini-pilot can work while users are at home. Draw a venn diagram with one circle representing "home" and the other representing "library" and think through the following questions.

HOME

- How might users access information on your idea from home?
- How might users stay connected to your concept from home?
- How would users talk about the concept to their friends or family?



LIBRARY

- How might users engage with your mini-pilot at the library? Throughout the library?
- How does the user encounter the mini-pilot?

EXAMPLE

CHICAGO PUBLIC LIBRARY TEEN POP-UP EVENTS

A team at the Chicago Public Library approached their design challenge with a desire to create more activities to attract teens to the library. Through user interviews they had an insight that teens need enough structure to stay engaged, but also need some freedom to explore and improvise – the teens needed a balance between structured and unstructured activities. During a make day, the team created a mobile teen performance space that offered both structure and freedom in a way that encourages self expression. They then interviewed teens to get feedback on their initial idea. Based on this feedback, their idea began to evolve into a media lab-like experience, where teens could hang out and try out new forms of digital and analog media.

In their journey of transitioning what they learned in their first prototype into a mini-pilot, the team spent time developing a hypothesis and shaping key questions. Some of the questions included: Would teens be interested in both analog and digital-based activities? How much facilitation did the teens need? What was the right amount of time for the library to hold an event like this?

Matthew, one of the members of the project team, speaks to other library staff on their initial prototype, which included curtains to represent walls and cardboard boxes that demonstrated sound speakers.

They ran their first mini-pilot at a branch library in Chicago. They set up one of the multi-purpose rooms with stations for digital music, a selfie booth, painting, and a manual typewriter. Each station was manned with a librarian who helped to gently facilitate the activities.

Matthew, a librarian passionate about music, shows teens how to make music using an iPad during the team's first mini-pilot.

A CLOSER LOOK:

MINI-PILOT DESIGN

Part 3 of 4

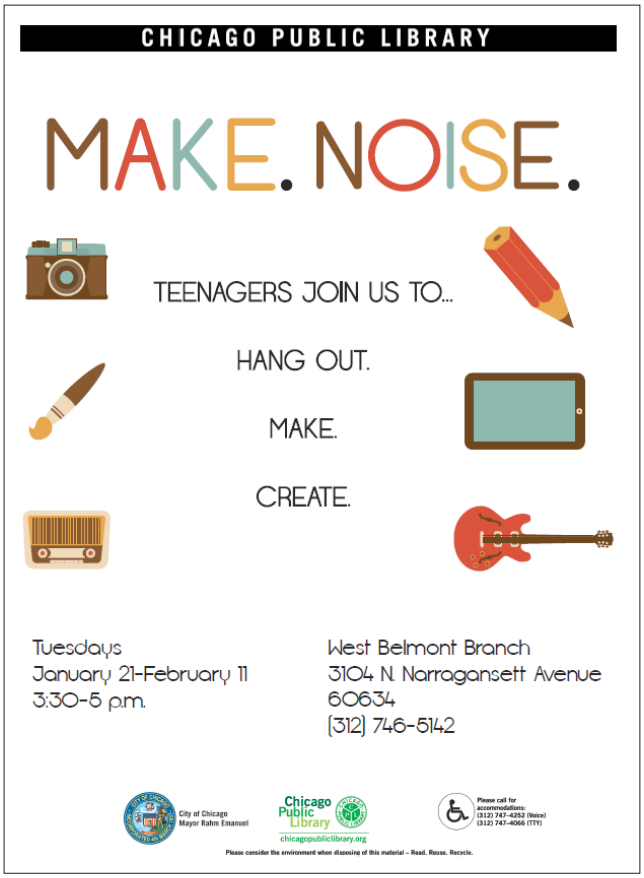
To the team's surprise, the teens were not very interested in digital media, but wanted to paint and play with the typewriter. Activities that did not require much facilitation from the librarians were what the teens gravitated towards. They also realized that the types of activities offered would likely depend on the landscape of after school offerings in a particular area, and that what they should have as part of their lab should complement those existing activities in a local community. After synthesizing their learnings, the team started planning their next iteration.

For their next iteration, the team further developed the concept by learning more about the local context of their chosen library site, and set up a space with activities that were less digital and more analog. One of the activities that teens loved involved mural painting on the walls using washable paint. From their observations, the team saw that teens liked the feeling of breaking the rules, and doing something at the library that they wouldn't be able to do at home–like painting the walls with whatever they wanted!

The team found that more analog activities, like painting and storytelling with a typewriter, were novel to the digital-savvy teens, making them the most popular activities at the event.

The team continued to iterate and developed a teen program called Make Noise, an after-school program for teens to hang out and be creative. It was an ongoing program for one day a week in a branch library. From these experiences, the team has been able to influence the creation of a teen librarian group within the Chicago Public Library, and helped to mentor other librarians hoping to develop teen programming.

A teenager paints a mural with washable paint at the team's second experiment at Chicago's Legler library branch.



A poster advertising the ongoing teen program.

STEP 4

ASSESS YOUR PROGRESS

After collecting your user feedback and observing users in the context of your mini-pilot, synthesize this information to assess your progress. Much of the iteration phase is about being reflective; you will constantly be making sense of feedback and working with your team to build towards the next iteration. At this point, we also recommend assessing practical constraints because you will soon begin to consider how you will sustain your mini-pilot, and how you might want to implement your ideas in a more permanent way.

Integrate Live Feedback

A ton of work has gone into developing your idea, and it is now time to keep the momentum going by reflecting on what you have learned and using that information to improve your idea.

Nicole Steeves, a librarian at Chicago Public Library, gives a tour of a revamped English Language Learning space and receives live feedback from a group of language tutors.

STEP 4: ASSESS YOUR PROGRESS

REVIEW LEARNINGS

Compare notes in the same way you did after you received feedback on your initial prototypes. Because in a mini-pilot, you will have had more time to observe users in a natural context, make sure not to overlook the subtleties of how users interacted with your idea. Take notes on your conversation. Consider using the following prompts:

- What did participants value the most?
- What got them excited?
- What would convince them about the idea?
- Which parts would participants like to improve?
- What did not work?
- What needs further investigation?

LOOK FOR THE UNEXPECTED

One of the most productive ways to reflect upon your mini-pilot is to look for surprising or unexpected behaviors from users. If a user interacted with the experiment in a way that you did not intend, or that you did not anticipate, oftentimes that behavior can be more useful than if they had acted as expected. Discuss with your team if anyone noticed unexpected behaviors from users during the mini-pilot. Observations can include nuances such as walking path, facial expressions, body language, and so on.

REVIEW YOUR KEY QUESTIONS

Revisit your key questions that you developed as you designed your mini-pilot. What questions have you answered, and which ones still remain? What questions may have changed, based on what you have learned so far? What new questions do you have based on your last mini-pilot?

IDENTIFY NEXT STEPS

Look at your concept map and any frameworks you developed when designing your mini-pilot. Discuss with your team how you would like to move forward for your next iteration. Consider questions like:

- What feels desirable, feasible, and viable for both users and the library?
- Which parts of the mini-pilot best address the original design challenge?
- What do we still need to solve as a team?

READY TO INTEGRATE FEEDBACK?

In the *Activities Workbook*, turn to Chapter 4, Activity 5, page 49

STEP 4: ASSESS YOUR PROGRESS

Re-Evaluate Your Concept

> Your first ideas are rarely the best ones, so the way to improve things is to trial and error our way into a better future.
>
> *A leader from Chicago Public Library*

You have now synthesized feedback from your mini-pilot and evolved your idea all the way from your original design challenge, through Inspiration, Ideation, and now Iteration. Take a moment to congratulate your team for working your way through the entire design thinking process. This is a huge first step toward making change happen at your library!

In the next chapter, you will learn more about how to implement your idea as a working program, service, or space alongside what already exists in your library. Generally, it takes several rounds of piloting and reflection before you might be ready to think about implementation. Do not hesitate to review the first phases of the approach–Inspiration and Ideation–and reuse those methods in order to iterate your way forward. As you re-evaluate your concept, consider the pointers below.

STEP 4 of 4

BE CAUTIOUS OF INTEGRATING WHOLE NEW IDEAS

Your mini-pilot may have sparked related, yet separate, ideas. We urge you to capture those ideas and save them for later, rather than trying to integrate them into your existing mini-pilot. It is tempting throw in as many new ideas as possible to see what sticks with users. The danger here is that you lose focus on the key intent and key questions you want to answer with your mini-pilot. Instead, consider trying those ideas later on or perhaps in parallel with a different project team.

EXAMINE SCOPE

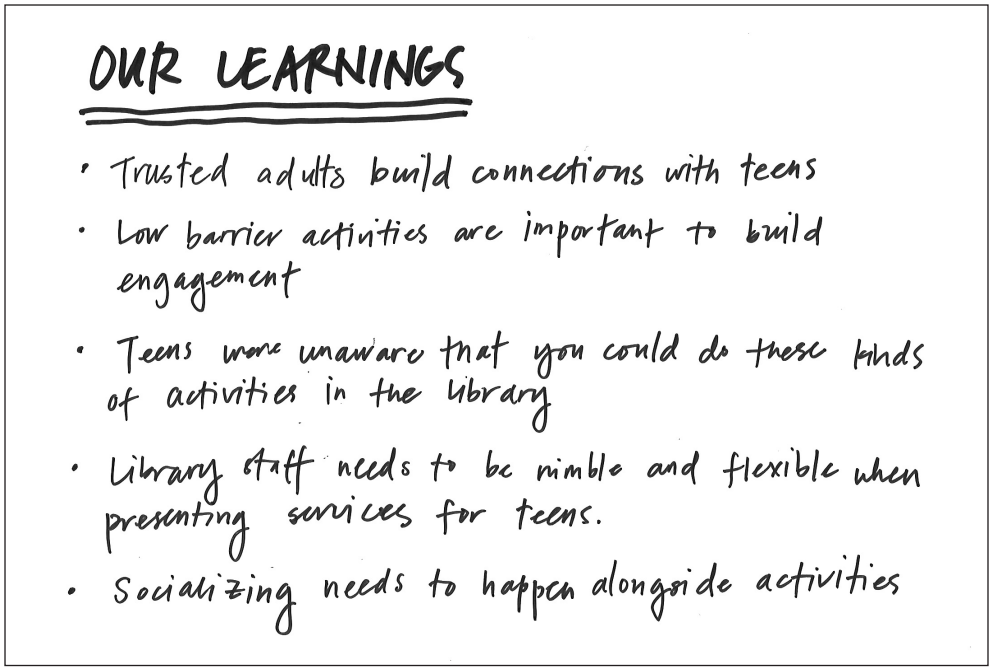
Think of your original scope, or breadth of inquiry, for your project. Has it expanded or contracted? If it has expanded, ask yourself whether you still have enough focus to directly address your original design challenge. If it contracted, ask whether you will have a large enough impact on your target user that you feel your idea will make a difference. Consider: Is implementation possible? Is it resonating enough to launch?

SET GOALS

Through multiple iterations, keep in mind that your goals and hypotheses for your mini-pilot might change. Alongside this, your ideas of what makes a mini-pilot successful will change as well. In the library field, the metrics for success often boil down to quantitative measures like circulation and program attendance. However, other indicators of success will be just as important if not more important to the development of your idea. Start evaluating your mini-pilot experimentation using other types of meaningful metrics such as:

- Length of conversation between librarian and user
- Number of users engaged via word-of-mouth awareness
- Number of visits from first-time users to the library
- Number of new relationships formed between librarians and users

STEP 4: ASSESS YOUR PROGRESS



One team focused on teen programming kept track of progress by clearly spelling out top learnings so far in a list. You may find it useful to organize your learning over time so you can clearly articulate progress to outside stakeholders.

> Many pilots together add up to a whole lot of big impact. Through numerous iterations, maintain focus on your design challenge, your design intent, and keep going!
>
> *A design thinking coach*

STEP 4 of 4

LEARNING IS THE UNIT OF SUCCESS

We encourage you to see the number of learnings from each mini-pilot as the unit for measuring success. We believe that you can have a mini-pilot that draws hundreds of users, but is still unsuccessful if the team did not learn anything new from the experience. Likewise, your mini-pilot may draw just a few visitors and have no impact on circulation. But if you learned more about your users, and how you might improve upon your idea, it is still a success.

TEAM LEADER

PLAN FOR CONTINUED EXPERIMENTATION

Mini-pilots do require various resources and capabilities, namely, money, time and people. In planning your next questions and the mini-pilot to answer those questions, start building a plan for how you might work efficiently and productively with ongoing testing over time.

Estimate timeframes
Specify the amount of time that you will need to create the next iteration of your concept. Do you need time for preparation? Does anyone need to be trained? Do you want to use an existing meeting time differently? You will have learned a lot by now in terms of how long it takes to produce a mini-pilot with your team.

Specify materials
Make a list of all the materials you will need to change or iterate your concept. Are these supplies available at your library? Will you need to purchase any new assets?

Calculate funds
Again, we know that money can be a scarce resource in the library context. Do not let this discourage you. Many ideas require little and sometimes even no money. Brainstorm how to realize your idea with limited funds from the get-go as a brainstorm challenge. Additionally, consider opportunities to tap into existing budgets. Think about creative ways to obtain funds or use resources that you have on hand.

READY TO RE-EVALUATE YOUR CONCEPT?

In the *Activities Workbook*, turn to Chapter 4, Activity 6, page 50

CASE STUDY No. 1

"Swipe Sense"

THE CHALLENGE

We go to hospitals expecting to get better. But in many cases, they only make you sicker. According to the Centers for Disease Control and Prevention, over 2 million Americans contract Hospital Acquired Infections, resulting in 100,000 deaths and over $30 billion in costs to the health care system per year. Experts agree: simply improving staff hand-washing habits could prevent these needless infections. Northwestern University graduates Mert Iseri and Yuri Malina founded SwipeSense, Inc. in 2012 with the goal of incentivizing good hand-hygiene via smart, wearable gel dispensers and a web-based monitoring platform.

THE OVERVIEW

While hospitals have plenty of communal sinks and hand-sanitizing dispensers, time-strapped caregivers simply don't use them, and handwashing monitoring is still done manually with pen and paper. To figure out why compliance is so low, Mert and Yuri spent weeks observing staff at North Shore University Health System. They noticed medical staff wiped their hands on their scrubs, which led to an important insight for brainstorming possible solutions.

SwipeSense partnered with IDEO to prototype alternative products and approaches in both the physical and digital realm. The team worked together to test more than 70 design iterations. While the goal remained the same–eliminate hospital acquired infections–the scope of their project shifted and changed with each iteration. Beyond simply the hand sanitizer device itself, the team examined how providing more data about hand sanitization could provide added value to SwipeSense's business, and the healthcare system at large.

The team sketched a variety of the possible iterations.

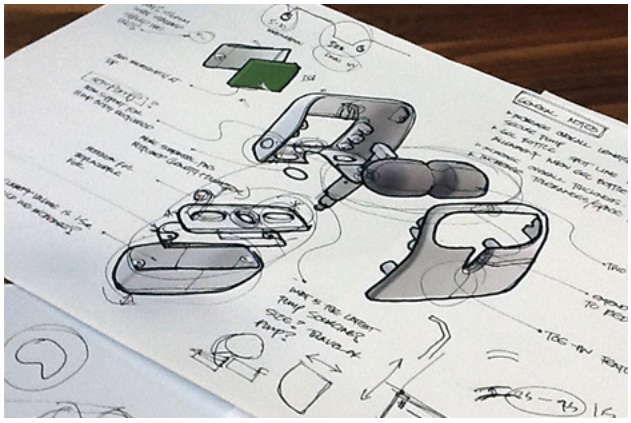
WHY ITERATION WAS IMPORTANT

Mert outlined SwipeSense's four stages of iteration: The first step was recognizing a common habit: People wipe their hands on their pants to "clean" them. So Iseri and Malina came up with the idea of building upon that natural habit for a hand-sanitization solution. The team needed a quick, easy way to get the idea out of their minds into a tangible form, so for their first prototype, they chopped off the top of a deodorant stick and adhered it to their pants to wipe their hands. Then, they considered their users, the people who work in hospitals, and watched them engage with various prototypes to understand what worked and what didn't work.

"It's a process of going back and forth. You need to be humble enough to know that your first idea is probably a crappy idea," Mert says and adds, "Only build as much as you need to get it out there, and not so much to find an answer but to ask to a better question."

From observing users interact with their prototype, the team moved in a direction that was predicated on the action "swipe to squeeze." They then designed the system around creating a gel dispenser with a function that provides sanitization data. At each stage, the questions changed and the scope of the project changed as well. Ultimately, the project wasn't only about hand sanitization, but about the medical community at large.

As they continue to iterate prototypes, they continue designing toward the goal of something that's viable, reliable, and commercially desirable. But as Mert insisted, "the job is not over until you've solved the problem. There's no moment where there's a final version because the universe is ever-changing, and we'll always have to make our product more valuable." While SwipeSense released a patent-pending system in 2013–a user-friendly design that clips easily onto hospital scrubs and records when users disinfect their hands–the team knows they'll continue iterating. Their eventual goal: to save 100,000 lives lost each year.



An early SwipeSense prototype.

CASE STUDY

"IT in the Library Space"

No. 2

THE CHALLENGE

In the Aarhus library in Denmark, the team embarked on a design thinking challenge with the following question: How might we expand technology skills for people with multiple levels of knowledge and experience?

THE OVERVIEW

The team began the project by interviewing a variety of library patrons who had a range of abilities with technology. To capture a breadth of perspectives, the team spoke with several library users and non-users, including a mother who used almost no technology (e.g., did not send any email and did not know how to download apps), as well as a young professional who was very technologically savvy. They also conducted expert interviews with a librarian in charge of technology as well as the chief of city archives. For each of the their interviews, the team came up with How Might We questions that framed the need for these users under the umbrella of their larger design challenge question.

EVA, 39
Why: A total beginner, doesn't have email.
I: HMW create a service which will improve IT skills for total beginners?

BRITT, 34
Why: Uses almost all media
I: HMW create a social aspect to media consumption in the library?

STEEN, 37
Why: Has a library, never goes to the library.
I: Does self-sufficiency negate engagement with the library?

A summary of some of the user interviews Team IT conducted, with one key question arising from each interview

One of the major insights that the team uncovered included the idea that there were far more beginners to technology than the team originally had anticipated. They had assumed that "beginners" consisted mainly of senior citizens. When they visited Eva, the mother who did not use email frequently at home, they noticed that she did have a brochure for a technology skills program at the library, but that it was directed towards senior citizens. Eva felt uncomfortable attending knowing that she was not the intended audience. Additionally, other users wanted recommendations for apps to keep up to date on topics like books, but they wanted the recommendations to come from a trusted advisor with similar taste.

Dorthe, an Aarhus librarian on the left, helps out a user at their iPad Spa mini-pilot.

Based on these insights, the team came up with an initial idea called an iPad Spa, where people could bring their iPad to the library, learn about the features on their device, and download new applications. The spa metaphor was used because the service would be a personalized, one on one interaction offered by librarians to users. Through experimentation, they quickly learned that their awareness campaign–putting flyers in books for the service–was not effective, and that the one-hour long session was too long for users. In addition, the service was quickly veering in a direction of an IT workshop, an existing IT help service, as opposed to the one that emphasized app recommendations.

In their next iteration, Team IT focused on staff recommendations more deliberately. They prototyped an idea around communicating "4 good apps," and instead of putting flyers in books, they strategically placed them around the library in relevant sections.

With the concept idea "4 Good Apps," Team IT placed flyers within subject-related locations; for example, this poster on 4 good cooking apps was placed in the culinary books section.

CASE STUDY

"IT in the Library Space"

No. 2

Page 2 of 2

In talking with library users in the quick intercept format, in other words quick interviews with users who are in the library. Team IT learned that users like to discuss what apps were interesting, which ones they used themselves, and what other users recommended.

Team IT conducts user intercepts to discuss peoples' reactions to "4 Good Apps."

These observations helped the team with their third iteration, a concept around social app conversations. One librarian facilitated a conversation among users about apps, taking pressure off the librarian to be an expert, and giving users the forum to compare notes on an app amongst themselves. The team learned that these social conversations were more animated and relaxed than the IT help sessions where librarians offered one-on-one help; involving multiple users in this way felt more informal and engaging. The team is now adopting these facilitated conversations across several of their IT help programs, giving users a more comfortable forum to learn from one another, instead of relying solely on a librarian.

Users discussing apps during Team IT's series of "social app conversations.

WHY ITERATION WAS IMPORTANT

The team at Aarhus went through several iterations of their mini-pilot, rapidly prototyping solutions that were informed by their last iteration's learnings. In this way, they were able to tease out which parts of the prototype people responded well to and amplify those characteristics in the next iteration. "Don't be afraid to evolve your design challenge," team lead Marianne Krogbaek says. "It may change depending on user input, and you want to make sure you are still passionate about it."

Marianne and her team went through the process already acknowledging the fact that their first idea was likely not the best idea. But instead of planning a formal event series, and putting a ton of resources in planning an ongoing "iPad Spa," they instead used the design thinking approach to test the concept in a low fidelity, simple manner with a few users. This led to a bunch of learnings throughout their iterations that are now being incorporated across many of their IT offerings.

"Our iterations were not only driven by users, but staff involvement as well," Marianne says. Having an extended team of other staff not only accelerated learnings and the production process required to run mini-pilots; it also explored how staff would be able to sustain these services over time. On a final note, Marianne advises, "Just make sure to get up from behind your desk or out of your project space! You'll learn so much more showing a prototype or running a mini-pilot with your users than you ever would in your staff meeting room."

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Experimentation and Evolution Chapters
http://www.designthinkingforeducators.com/

DESIGN KIT IMPLEMENTATION METHODS
http://www.designkit.org/methods

ACUMEN+ SOCIAL INNOVATION COURSE
Class 4 Readings: Prototype

The Iteration phase in action

- The Pepper Eater Team is working in rural Ethiopia to create a simple tool that dramatically improves pepper processing. Learn more about the prototyping methods the team is using as part of the human-centered design process: http://bit.ly/MiJSC4
- MIT's Kevin Kung is working on a project in Kenya to transform organic waste into charcoal. Learn more about Kevin's journey through the human-centered design prototyping process here: http://bit.ly/HCDinKenya

WATCH

DESIGN THINKING FOR EDUCATORS THE IDEO TOY LAB PROTOTYPES A NEW ELMO APP

http://www.youtube.com/watch?v=-SOeMA3D-UEs

EDUTOPIA DESIGN THINKING FOR EDUCATORS COURSE, WEEK FOUR
How do you bring ideas to life?
http://www.edutopia.org/design-thinking-for-educators-experimentation-evolution-week-four

ITERATE, ITERATE, ITERATE
Gaby Brink, founder and chief designer of Tomorrow Partners and the CEO of Sparkwise, discusses the importance of iteration on Design Kit.
http://www.designkit.org/mindsets/7

LEARN FROM FAILURE
Tim Brown, CEO of IDEO, discusses designing experiments on Design Kit.
http://www.designkit.org/mindsets/1

CHAPTER

5

GETTING TO SCALE

Getting to Scale is about planning and putting your idea into the world in a more permanent way.

This may mean taking your mini-pilot idea to several new contexts, or evolving the idea further to make it sustainable in the long run. This phase will help take experimentation to the next level of implementation, but it doesn't mean that evolution of the idea stops there. You'll learn how to tell a compelling story around your idea, compose a long-term road map, and continually guide your project once it's up and running.

During this phase, you will also have a chance to reflect on everything you have learned so far and think about how to support others who would like to learn about the design thinking process.

GETTING TO SCALE
Overview

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CASE STUDIES *pg. 113*

· Clean Team *pg. 113*

· Innova *pg. 115*

REFERENCES *pg. 116*

STEP 1

TELL YOUR STORY

To implement your concept, you will most likely need buy-in from a larger stakeholder group. Communicating to others about the work you have done, the value of your idea, and its potential in the library is central to the design thinking process. At IDEO, we devote time to crafting that communication in a compelling way, so that others will become inspired by the work and want to get involved. Read on for tips and techniques that will help you build a strong narrative to rally further support.

Create a Presentation

STEP 1 of 4

Before you craft your presentation, think about the wide variety of people who will be your audience and how you will communicate with them. Think about who else outside of your core team will need to hear the story to be able to support the growth of your idea into full implementation. The more people you engage throughout the system, the more people will understand how design thinking can lead to better services in the library.

(photo below left) Marianne Krogbaek, from Aarhus Public Libraries, delivers a presentation to tell the story of her team's progress.

READY TO CREATE A PRESENTATION?

In the *Activities Workbook*, turn to Chapter 5, Activity 1, page 53

STEP 1: TELL YOUR STORY

FOCUS ON A PURPOSE

Think of your presentation as an advocacy tool. You can use a compelling presentation to:

- Ask for further funding or support
- Introduce your idea to possible partners
- Reflect on progress with the larger organization
- Recruit more team members
- Build greater momentum for your project

CONSIDER YOUR AUDIENCE

Your presentation is a vehicle for communicating to many types of stakeholders, including:

- Your organization's leadership
- Your target users
- Other users, beyond your target group
- Your colleagues
- Extended team members who have not been heavily involved
- Potential partners outside of your organization
- The general public

Build a logical and accessible story, and from there adapt your presentation to different audiences. Keep in mind that the presentation should make sense to everyone, even those unfamiliar with the design thinking approach.

CHOOSE A FORMAT

After you have thought about the purpose and the audience for your presentation, choose how you would like to present in order to reach the right people. Will you present in front of a group? Will you send out a slide presentation via email? Or will you want to do both, and therefore you will need a flexible presentation that can be re-purposed?

ORGANIZE YOUR NARRATIVE

Create a logical progression in your narrative by using the suggested format below. You may want to frame the presentation as a "pitch," or a quick call to action for your audience. A suggested presentation sequence:

- ***Introduce yourself:***
  Who are you? Who is your team?
- ***Define your challenge:***
  What problem did you see, and who are the users?
- ***Inspiration:***
  Who did you talk to and observe, and what were the top learnings?
- ***Ideation:***
  What concepts did you come up with, and how did you prototype them?
- ***Iteration:***
  What feedback did you receive, and how did you build upon that feedback with continued experimentation?
- ***A call to action:***
  What's next for your team?

A team at a school created a "Guide to Investigative Learning," a brochure for new teachers who wanted to learn about design thinking activities.

STEP 2

DEVELOP A ROADMAP

To create a long-term plan, start by articulating your long-term goals. As you think about the future of your concept, consider the following questions: What are your ultimate goals? How do you imagine your idea becoming part of the library in a sustainable way?

Build a Plan

You will now need to craft a roadmap, or timeline, to implement goals. Think about milestones, or significant goals, and smaller week-to-week goals. The revolutionary changes will undoubtedly take more time, but you need to start somewhere with a plan.

CONSIDER SHORT-TERM AND LONG-TERM TIMELINES

Challenge your team to think about what can be accomplished at different points in time. What do you need to accomplish in the short term? Perhaps you will need two weeks to build your project snapshot. But also consider a longer timeline. What will you need to accomplish in one year? Perhaps you will have metrics that need to be reevaluated in six months and then again in one year. As you track your progress against your timeline, you may find that your timeline will shift depending on a variety of factors.

EXAMPLE

In Cambodia, a team from IDE, an international nonprofit, noticed that most of their solutions fell on the "existing offerings" side of the innovation matrix since the organization has a highly defined target group. Yet the solutions spanned a range of those that fit within current projects and programs to new areas of offerings. The team also identified solutions that would start in the lower left corner with adaptations to existing solutions with existing customers, but over time would help the organization migrate into the other quadrants. While many organizations are initially attracted to the idea of revolutionary innovations, in reality an innovation pipeline that focuses on existing capabilities or targets existing customers can be the strongest strategy for the near term.

STEP 2: DEVELOP A ROADMAP

COORDINATE MILESTONES

Consider deadlines or other markers in time that could impact your project. For example, are there funding cycles to be aware of?

Each of these is detailed in following sections in this chapter:

- Piloting your concept
- Crafting and telling your story to gain buy-in from stakeholders
- Measuring the impact of your project on the library
- Stewarding your project over time

Here is a sample plan. You do not have to follow this exactly, but it offers an idea of how you might create your own. Because the design thinking process is iterative and not linear, we conceptualized it as a cyclical process.

ROLES AND RESPONSIBILITIES

Who are your essential team members and what are their roles? Building off of roles originally defined for the team, designate roles for the pilot and implementation stages. Someone who was originally a scribe may now become an official documenter on the blog. Also consider the role your partners will play; you may need them to advocate and support your project.

PILOT

The next step is to run a pilot. In the Iteration chapter, we addressed the difference between prototypes, experiments or mini-pilots, and pilots. As a reminder, pilots are a full expression of the concept. Like a mini-pilot, it runs on its own but is more functional and durable so that it can be used over a long period of time. Iteration can continue during the pilot phase, but you want to be sure the newest iteration looks like and works like the real thing and can exist along with other services. Pilots are highly measured and validated using metrics so that you can gather evidence about impact and value of your concept in the library.

There are many considerations in advance of launching even a small pilot. Here are some things to consider:

- Partners. What partners will you need? The partners are stakeholders who will help champion your process. It could be fellow libraries, management, leaders in the library or even political leaders.
- ***Staff:*** Who are your essential team members, and what are their roles?
- ***Location:*** Will it happen in your library? In a different library?
- ***Resources:*** What you will need for an ongoing pilot?
- ***Metrics:*** How will you measure the impact of your pilot?

STEP
2 *of* 4

READY TO BUILD A ROADMAP PLAN?

In the *Activities Workbook*, turn to Chapter 5, Activity 2, page 55

STEP 2: DEVELOP A ROADMAP

Evaluate Outcomes

Metrics are the standards of measurement by which things like efficiency, performance, and progress are assessed. They are a way to track the results of your pilot over time. Measuring outcomes is critical to the learning cycle. Without a good assessment of the impact a solution has made, there is often not enough information about the direction for the next round of designs. Measuring impact is important for everyone—the implementer, the funder, the design team, and the community. Outcome measurement helps people understand where best to invest their resources. It is an opportunity to assess and plan for the future.

The purpose of metrics is to show the effect of your new service on the library. For your pilot, consider what to measure in order to demonstrate this effect. In libraries, the metrics for success are often quantitative measures like circulation and program attendance. However, other indicators of success will be just as important, if not more important, to the development of your idea. We recommend thinking about two factors: metrics that your organization will value, and metrics that reflect what you've learned when developing your concept.

Explore the following types of metric indicators you can use to measure success. These indicators help measure the positive or negative, intended or unintended effects of your pilot.

STEP 2: DEVELOP A ROADMAP

TYPES OF INDICATORS

LEADING

The impact of some solutions can often take time to become evident, anywhere from months to years. In these cases, it makes sense to track leading indicators. Leading indicators are quantitative measures that reveal a change that can be closely associated with your project. For example, if part of the goal is to increase the number of children reading new books, a leading indicator would be the number of children's books checked out during your mini-pilot. If your goal is to start a new book club, a leading indicator would be the number of people attending book clubs. Leading indicators could be measured through data collected through the library, like attendance and circulation. You could also collect these data through a survey given at the end of an event.

ANALOGOUS

Sometimes it's difficult to see direct impact. This is especially true when your design challenge is about something that is not immediately tangible or visible, like building community or improving relationships. In these cases, try to find an indicator that would logically lead you to conclude whether your goal is being met. For example, if your goal is to get teenagers more involved in your library, you could measure how many teenagers connect with each other and form relationships in a workshop or course. Analogous indicators can be collected through interviews and observations.

AWARENESS

When your goal involves people engaging with or adopting something new, the first step is to know whether they are aware of the solution or design. Measuring awareness is a good early indicator to help understand how big the impact of the solution may be. Measuring awareness is best done through a survey or quick intercepts in the library.

ENGAGEMENT

Like awareness, measuring the number of people who are engaged in a new program is often very meaningful. For example, if the goal is to increase teenagers' access to creative programs, the number of teenagers actively seeking out and participating in the program is a meaningful indicator. You could also measure how many teenagers stay in a program over time, and how many of them tell their friends about it. Engagement indicators can be collected through interviews and surveys.

DYNAMIC CHANGES

When a new solution is introduced, it is important to track the changes over time that occur in the community, library, and even households. These shifts can be completely unexpected and are sometimes positive and sometimes negative. It is crucial to look out for these changes early on in implementation. Dynamic change indicators are often collected through observation. You can also look at longitudinal changes by giving surveys at different points in time to see how responses evolve over time.

READY TO EVALUATE OUTCOMES?

In the *Activities Workbook*, turn to Chapter 5, Activity 3, page 56

STEP 3

STEWARD THE PROJECT

Once you have a pilot going, you will want to guide its evolution as a living program, service, space, or system. Keep in mind that as the world constantly changes, you must attend to your idea and adapt it accordingly. If the needs of your users change, the concept will need to evolve. In other words, the design thinking process is ongoing in order to sustain a desirable, viable, and feasible concept over time. We call this process–where you, your team, and other stakeholders care for the project over time–stewardship.

Plan for Stewardship

STEP 3 *of* 4

The fundamental goals of stewardship are to recruit help, ensure continuity, and have check-ins to determine if the concept is still successful and what needs to change for it to improve.

RECRUIT HELP

You do not have to personally take on this project forever. It is your decision, either individually or as a team, to stay centrally or peripherally involved. As you plan stewardship, think about who in the library will be invited to share the responsibility to move forward. Make your plan for the future clear to everyone involved.

ENSURE CONTINUITY

Continuity is a central part of stewardship. As your idea begins to scale, how do you ensure that it maintains its core value proposition? What if your concept is seasonal, and only runs during the summer? How do you maintain consistency? Create plans for your idea to stay consistent in different places, with different people, and from year to year.

CHECK IN

As you move further away from the original project, consider scheduling check-ins to track the progress of your idea. Depending on your level of involvement with the project at this point, you'll want to schedule milestone meetings with the team stewarding the work. These check-ins will help with continuity and allow you to learn when you adapt your concept.

READY TO PLAN FOR STEWARDSHIP?

In the *Activities Workbook*, turn to Chapter 5, Activity 4, page 57

STEP 4

EVOLVE THIS TOOL

Reflect on your experience. The human-centered design process is all about creative collaboration and pushing yourself out of your comfort zone. There is great value in reflecting on this process in order to improve and build confidence for your next project. Once you have finished the process, take time to reflect as a group on team dynamics, working styles, and what it was like to collaborate as designers. When creating a presentation and crafting the story of your project, many memories and learnings will surface. Keep track of these to discuss as a group and make sure to share your reflections with your design team.

> "Our group became a strong team because our roles and structure evolved naturally, and our team leader was also a team player. We met consistently as a full team. We were really lucky that keeping things fun comes naturally to most of our team members."
>
> *A reflection upon the design thinking experience from a team at Chicago Public Library*

MENTOR OTHERS

Now that you've completed a design thinking project, you may want to inspire others to start their own projects. Perhaps you will find yourself in a position to mentor a new group or to facilitate the design thinking process in a new context. Here, we offer a few tips on mentorship.

- Know where the difficult parts are and help others through it. The most difficult parts are often finding powerful insights and moving from insights to design. Be prepared to help others through this more complex phase of interpretation and sense-making.
- Teach others how to recognize productive versus unproductive lines of inquiry. Refer back to the team's design challenge as a reminder of how stay on track.
- Help with planning the next steps of the process. Help others with what to expect and be prepared for what steps may take more time.
- Be an advocate for a design team. Empower them to reach out for more resources and more stakeholder buy-in.
- Help to shape and facilitate team dynamics.

A team at the Chicago Public Library delivers a presentation to other librarians at the Next Library conference on designing better library services.

STEP 4: EVOLVE THIS TOOL

EXAMPLE

Nicole Steeves, a Language and Literature librarian from the Chicago Public Library, has been through the design thinking process multiple times. "Design thinking projects are easier the second time," Nicole reflects. "Something I feel like I understand more fully after doing more than one design thinking project is the reasoning behind using design thinking at all. That is, anyone might have the idea to have a teen after-school art project lab, or to put tables and chairs in an English-language learner space, or whatever. But, if you DO NOT use design thinking to lead to those decisions, you risk not having a very good answer for why you made them. With design thinking, I can say those choices came from talking to library users and subject experts. And that matters because in the library world, we fret and fret about staying relevant, but design thinking is a methodical, carefully considered method of problem solving and decision making that helps librarians be relevant without guessing and hoping that the project—whatever that is—will fit with users' needs."

Nicole has used this argument for skeptical colleagues when they ask about the value of design thinking. You may have colleagues at the library who may already be on board, but are weary of the commitment and lengthy steps of the toolkit.

Nicole has since mentored other teams learning design thinking. She stressed the importance of fearlessness in vigorously trying out the methods in the toolkit, and how that could be infectious in a positive way for others. Initially, Nicole fielded many questions from those new to the process, including, "Do they really want us to do [interviews, prototypes, this exercise, that video, etc.]?" Nicole says, "My answer was always yes, and that it's always worth it—and before long, those questions went away."

Nicole Steeves, a librarian and design thinking coach at Chicago Public Library, reflects on trying out design thinking methods with several projects.

STEP
4 of 4

SHARE YOUR FEEDBACK WITH US

Finally, we want your feedback so we can evolve the toolkit and make it more useful and relevant to libraries all over the world. Consider this toolkit a prototype, too! Let us know what worked well, what was confusing, and what we can do better. Additionally, if you've embarked on your own design project, let us know about it! Share your experience by sending us your personal stories, photos of your prototypes, and reflections on the process. Drop us a note at: www.designthinkingforlibraries.com

READY TO REFLECT ON YOUR EXPERIENCE?

In the *Activities Workbook*, turn to Chapter 5, Activity 5, page 58

CASE STUDY

No. 1

Page 1 of 2

"Clean Team"

THE CHALLENGE

Some 1 billion city dwellers worldwide lack adequate sanitation facilities in their homes. In Kumasi, Ghana, a city of 2.5 million people, less than 20 percent of the population has in-home sanitation. Many people walk long distances to public toilets; others resort to "flying toilets" (plastic bags tossed outside after use). Unilever and Water and Sanitation for the Urban Poor (WSUP) engaged IDEO.org to help design a suitable toilet and waste collection service to provide a complete in-home sanitation solution.

The first Uniloo delivery.

THE OVERVIEW

The IDEO.org team started by spending time with families in Kumasi to learn about their sanitation needs and wants. IDEO.org team member, Danny Alexander recalls, "The hardest—but most fascinating—part of working in sanitation is the taboo surrounding the subject. Often it's impossible to ask questions directly, and instead we had to be creative, asking questions about people's neighbors, friends, etc." The team also relied on human-centered design tools like observing people inside their homes to gain insights about their lifestyle.

The ideation phase was a lightning-fast leap from learning to prototyping and involved considering not only the physical product but also different service models from a logistics and business perspective. The team asked key questions like: What do people like the look of? How would a urine-diverting toilet work? Would people be comfortable with servicemen coming into their homes? By building a handful of prototypes and modifying existing portable toilets, the team put tangible elements of the service into the hands of Ghanaians. They learned how the service should be positioned, developed early ideas around marketing and promotion, and realized technical limitations, such as water scarcity that would limit flushing capabilities.

Ultimately, the IDEO.org design team returned to Kumasi to test four water-flush and non-flush toilet prototypes in users' homes for a few nights. When they returned to check on the toilets, they discovered that the water-flush toilets had overflowed. While this style had initially been a favorite, the overflow issue combined with a handful of other challenges resulted in the water-flush toilets being unanimously rejected. When a clear winner emerged—the Uniloo toilet—an initial pilot trial was conducted with approximately 60 households in 2011. The pilot showed that low-income householders in Kumasi liked the Uniloo toilets and were willing and able to pay for the service, which was much less expensive than the cost for public toilet use for a family of five. Working with a locally based team, the project is continuing to scale. By the end of 2012, Clean Team was servicing 106 households and had begun production of 1,000 new Uniloo toilets, and in January 2013, a container load of 384 Uniloo toilets arrived in Kumasi. By fall 2014, they had 550 toilets and a new centralized site.

CASE STUDY

No. 1

Page 2 of 2

"Clean Team"

WHY GETTING TO SCALE WAS IMPORTANT

Setting up a series of pilots while scaling up takes into account several important factors.

The buy-in: Getting the community buy-in was crucial, so the team met with the local government, local chiefs (the Ashanti people), and the municipal water department (KMA) in Kumasi to get their feedback. They also had a town hall meeting with local entrepreneurs and a vacuum truck operator to see if they would buy into a franchise of the service or sign up to operate with Clean Team. It helped to know that key partner Unilever was a well-respected brand in the local community.

Storytelling: Word of mouth, such as neighbors talking to other neighbors, was integral to the program's growth. The same people who were "buying into" the concept also needed to help share compelling stories about Clean Team's value and serve as unofficial ambassadors of the program.

The design: When designing the toilets, the team had to consider what type of physical product design would be able to grow at the scale Clean Team envisioned. That meant considering everything from cost to biodegradability to manufacturing capabilities.

Branding: The team learned that anything that looked handmade wasn't taken seriously. The branding and advertising—as well as everything from the logo to servicemen uniforms—needed to look professional. By having a consistent look and feel to the toilets around the community, the program became not only a conversation starter but also something that was recognizable and trustworthy.

Local partnerships: The business plan was built around creating a sustainable business model. That meant building a local team on the ground who could talk to users, understand local norms and customs, collect feedback, and run day-to-day operations.

Consistent branding was central to the Clean Team campaign, including branded uniforms for all the staff members.

CASE STUDY No. 2

"Innova"

THE CHALLENGE

Despite an emerging middle class and rapidly expanding economy, the education system in Peru ranks 65th out of 65 countries. Innova Schools knew they could do better. They envisioned a world-class education at an affordable price for Peru's underserved youth, but they couldn't do it alone.

THE OVERVIEW

Partnering up with IDEO to redesign Innova's entire K–11 learning experience and strategy, the team developed a curriculum, teaching strategies, classrooms and buildings, as well as operational plans and an underlying financial model to run the network of schools. After much research, the team landed on four key innovations:

- Self-directed learning through a blended model that combines teacher-led, project-based experiences in small groups with self-directed digitally based learning.
- Multi-modal buildings that allow for flexibility, such as community spaces, media labs, and cafes.
- Teacher support through an online Teacher Resource Center that includes a database of more than 18,000 custom lesson plans based on the new pedagogical approach.
- An integrated business model that drives toward affordability and leverages both economies of scale that come from building a network of schools and centrally built tools, such as data systems, to allow the network to learn together.

At the time of this publication, Innova Schools will be the largest private network of schools in Peru with 30 schools at a low cost of $130 per student per month. According to Peru's Ministry of Education, which conducts national testing in all private and public schools, Innova's 2013 performance was three times the national average in math and two times the national average in communication. Ultimately the work allowed Innova to do exactly what they had hoped for: build more schools that give Peru's next generation the chance to compete in the global economy.

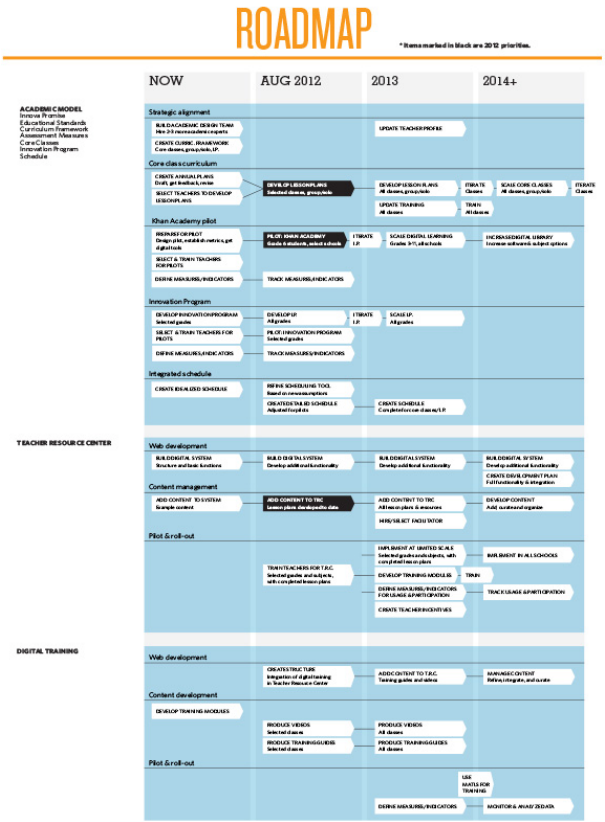
The blended learning approach combines self-directed and group time.

WHY GETTING TO SCALE WAS IMPORTANT

The Innova team is proof that no ambition is too big. Designing an entirely new school system is a massive undertaking, and the effort put into roadmapping and looking at the bigger, long-term picture from the beginning—from an academic model to the building design to physical and digital resources to teacher support—was crucial. Just like building any business, that meant mapping everything to a sustainable financial model.

At each point in the roadmap, Innova had to consider a network of interdependent decisions that represented countless numbers of trade-offs. An increased number of students meant increased student revenue, but it also meant a need for more teachers and teachers' salaries; the use of shared spaces meant a decreased footprint for individual classrooms and an increase in flexible, multi-purpose spaces.

For Innova, prioritizing pieces of the roadmap was essential in planning the launch of the school over a period of two and a half years. The team mapped out each component, from its academic model to the spaces to its digital training model, and showed the timeline of progression from building to refining to scaling.



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http://www.designkit.org/methods

ACUMEN+ SOCIAL INNOVATION COURSE
Class 5 Readings: Moving Forward

WATCH

EDUTOPIA DESIGN THINKING FOR EDUCATORS COURSE, WEEK FIVE

Next Steps
http://vimeo.com/46066965

OPTIMISM

John Bielenberg, co-founder of Future Partners, discusses optimism in the face of tough challenges on Design Kit.
http://www.designkit.org/mindsets/6

GLOSSARY

CONVERGENT / Describing a process of whittling or narrowing down ideas.

DIVERGENT / Describing an expansive type of thinking that is focused on the generation and exploration of ideas.

DESIGN CHALLENGE / The project you have chosen as your focus, often described in the form of a "How Might We" question.

DESIGN THINKING / A creative, intentional problem-solving process that puts the user at the center.

DOWNLOAD / The process of sharing stories from research (especially field trips and user interviews) with the whole design team. Team members listen actively and take notes on sticky notes.

EMPATHY / A key principle in the design thinking process and human-centered design, in which the user's perspective is always represented.

EXPERIMENT / See 'mini-pilot'

HOW MIGHT WE? / (HMW) A positive, actionable question that frames the challenge but does not point to any one solution.

HUMAN-CENTERED ("PEOPLE CENTRIC") / Putting the user and user's perspective at the center of a solution. Human-centered or people-centric design requires having empathy with the user to solve for their specific needs. This philosophy involves starting with people and desirability first, before moving on to feasibility and viability.

IDEATE / To come up with, or generate, lots of ideas. This is an exploratory activity that opens up the imagination to a variety of possibilities.

INTERCEPT / Spontaneous, casual and brief conversations with users in a natural context. Unplanned interviews that garner live feedback for your mini-pilot.

INSIGHTS / Ideas or notions expressed as succinct statements that interpret patterns in your research and can provide new understanding or perspective on the issue.

GLOSSARY

LEARNINGS / The most basic level of information you record from your research, including direct quotes, anecdotes, first impressions, notes on the environment, notes on what was most memorable or surprising, and more.

LOW FIDELITY / Describing the roughness or incompleteness of an idea; denotes that the expression of the idea does not require much time or money and therefore offers little to no risk. It is the opposite of high fidelity, which often will require an investment of time, and in some cases, money.

MAKE DAY OR MAKE-A-THON / A half-day or day-long work session dedicated to transforming ideas and concepts into tangible prototypes. Make Days involve the most basic prototyping supplies, such as cardboard, colored paper, scissors, and pipe cleaners.

MINI-PILOT / The stage after prototyping, when you test the prototype with users in a natural context. We also call the experiment phase a mini-pilot, and it precedes the full-blown pilot phase.

PARKING LOT / Not the kind where you park your motor vehicle. A parking lot in design thinking is the place where you gather the good ideas that will not be used for the current project or prototype. The parking lot is a place to store and remember your good ideas for later on, such as a written document or a poster board.

PILOT / Also known as implementation, this is the act of putting your idea into the world in a more permanent way, alongside existing offerings. At this stage, your solution will need to be tested and measured based on metrics and may still iterate depending on its performance.

PROTOTYPE / A rough, mocked-up, tangible manifestation of your idea. These are low-fidelity and simply representational of your concept.

RESEARCH / In the context of design thinking, the process of exploring the challenge and gathering the inspiration that will drive design. This is done through user and expert interviews, immersive and analogous experiences, and other methods.

ROADMAP / A master plan and timeline for next steps of a project. The roadmap is a key component in the Getting to Scale phase.

GLOSSARY

SERVICE MOMENTS / Discrete points of interaction between a user and a service, often mapped out in a user journey. An example of a service moment is a patron placing a hold on a book, which can be done at home via the website, in the library via the website, or at the reference desk.

STAKEHOLDER / Person or entity that has a stake in, or is somehow impacted by, the design project or solution. Examples of stakeholders include: beneficiaries, advisors, leadership, community members, etc.

SYNTHESIS / The sense-making process in which research is translated and interpreted into insights that prompt design. Useful frameworks for synthesis include journeys, Venn diagrams, two by twos and maps.

TWO BY TWO / A type of framework with opposing axes showing a spectrum along a particular dimension on each axis. This framework is used to organized ideas within the four quadrants, or to demonstrate mappings of ideas across several dimensions.

USER / Customer or group of customers for whom you are designing. Note: a user may be inclusive of someone who does not currently use the library.

WORKAROUND / A user's personal solution to a problem with a service or product, that circumvents the standard procedure. It is often temporary or makeshift. Observing these behaviors often leads to fruitful advances in insights and inspiration.

APPENDIX

APPENDIX.

LICENSING / ACKNOWLEDGMENTS

LICENSING

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APPENDIX

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· Beyond Access, IREX

This is a working prototype. We invite feedback and stories of your own experience of use to hello@designthinkingforlibraries.com. Your stories will inspire others to change libraries for the better. Let's keep iterating, sharing, and learning together.