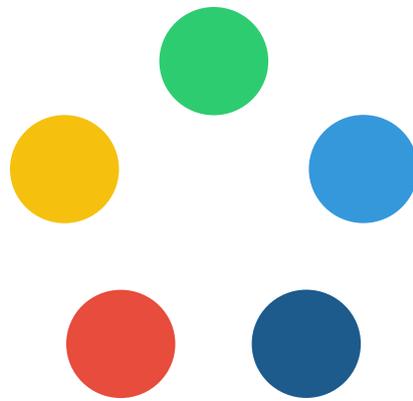


indemic.

Introduction to Design Thinking

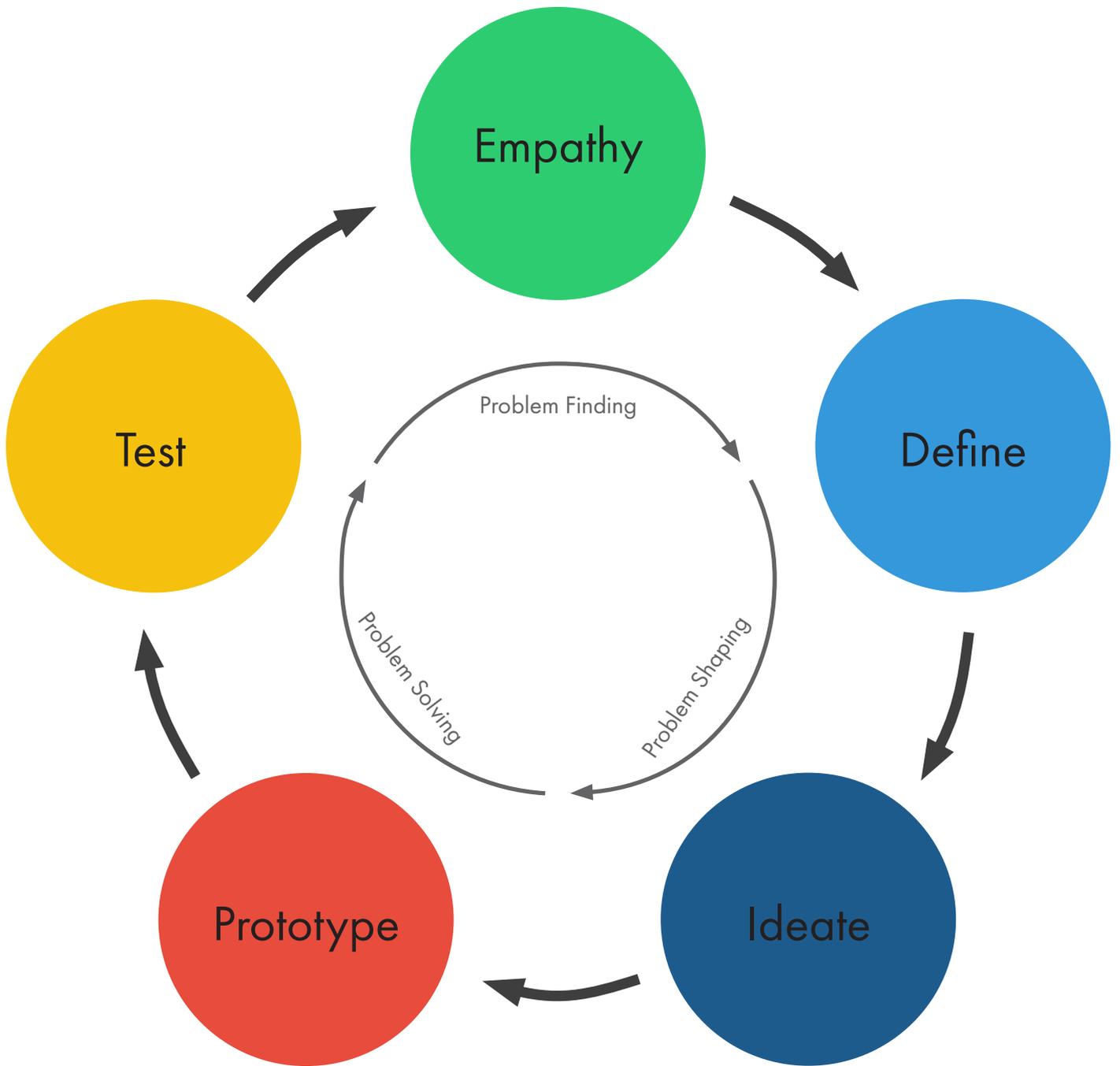


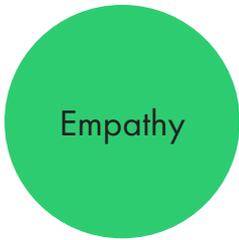
WHAT is Design Thinking?

Design thinking is a process of creative problem solving. By using design thinking, you make decisions based on what future customers really want instead of relying only on historical data or making risky bets based on instinct instead of evidence.

WHY use Design Thinking?

Thinking like a designer can transform the way organisations develop products, services, processes, and strategy. This approach, called design thinking, brings together what is desirable from a human point of view with what is technologically feasible and economically viable. It also allows people who aren't trained as designers to use creative tools to address a vast range of challenges.





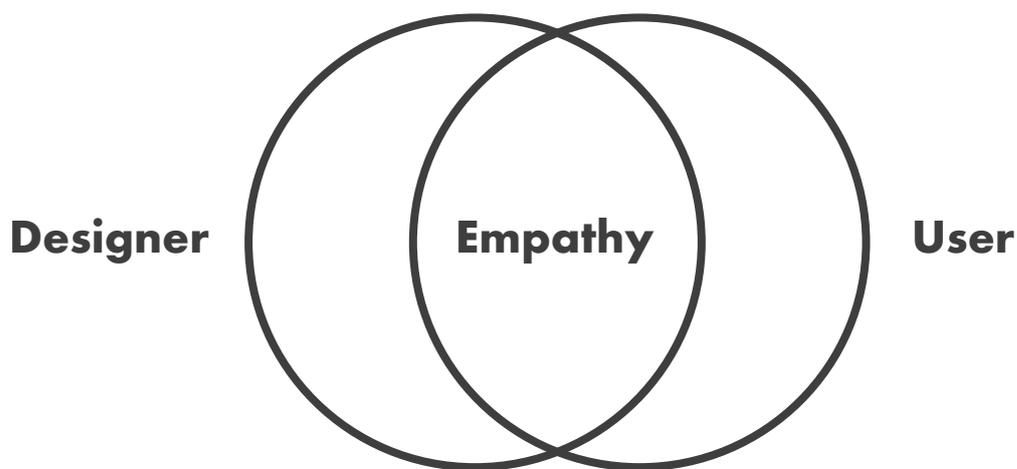
“To create meaningful innovations, you need to know your users and care about their lives.”

WHAT is Empathy

Empathy is the centerpiece of a human-centered design process. Empathy is the work you do to understand people, within the context of your design challenge. It is your effort to understand the way they do things and why, their physical and emotional needs, how they think about world, and what is meaningful to them.

WHY Emphasise

As a design thinker, the problems you are trying to solve are rarely your own—they are those of a particular group of people; in order to design for them, you must gain empathy for who they are and what is important to them.



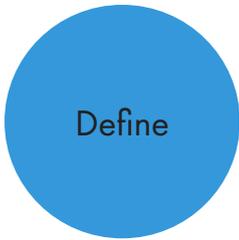
Lets Give it a Go!

Observe. View users and their behavior in context. As much as possible do observations in relevant contexts in addition to interviews. Some of the most powerful realisations come from noticing a **disconnect between what someone says and what they do**. Others come from a work-around someone has created which may be very surprising to you as the designer, but she may not even think to mention in conversation.

Engage. Sometimes we call this technique 'interviewing' but it should really feel more like a conversation. Prepare some questions you'd like to ask, but expect to let the conversation deviate from them. Keep the conversation only loosely bounded. **Elicit stories from the people you talk to, and always ask "Why?" to uncover deeper meaning.** Engagement can come through both short 'intercept' encounters and longer scheduled conversations.

Watch and Listen. Certainly you can, and should, combine observation and engagement. Ask someone to show you how they complete a task. **Have them physically go through the steps, and talk you through why they are doing what they do.** Ask them to vocalize what's going through their mind as they perform a task or interact with an object. Have a conversation in the context of someone's home or workplace – so many stories are embodied in artifacts. Use the environment to prompt deeper questions.





“Framing the right problem is the only way to create the right solution.”

WHAT is Defining

Defining in the design process is all about bringing clarity and focus to the design space. It is your chance, and responsibility, as a design thinker to define the challenge you are taking on, based on what you have learned about your user and about the context. After becoming an instant-expert on the subject and gaining invaluable empathy for the person you are designing for, this stage is about making sense of the widespread information you have gathered.

The goal of defining is to craft a meaningful and actionable problem statement – this is what we call a point-of-view. This should be a guiding statement that focuses on insights and needs of a particular user, or composite character. Insights don't often just jump in your lap; rather they emerge from a process of synthesising information to discover connections and patterns. In a word, defining is sense-making.

WHY Define

The Define mode is critical to the design process because it results in your point-of-view (POV): the explicit expression of the problem you are striving to address. More importantly, your POV defines the RIGHT challenge to address, based on your new understanding of people and the problem space. [Crafting a more narrowly focused problem statement tends to yield both greater quantity and higher quality solutions when you are generating ideas.](#)

Defining is also an endeavor to synthesise your scattered findings into powerful insights. It is this synthesis of your empathy work that gives you the advantage that no one else has: discoveries that you can leverage to tackle the design challenge.

Define

Lets Give it a Go!

A point-of-view (POV) is your re-framing of a design challenge into an actionable problem statement that will launch you into generative ideation. A good POV will allow you to ideate in a directed manner, Most of all, your POV captures your design vision – your responsibility and opportunity as a designer is to discover and articulate the meaningful challenge.

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

Use a whiteboard or scratch paper to try out a number of options. The need and insight should flow from your unpacking and synthesis work. Remember, 'needs' should be verbs, and the insight typically should not simply be a reason for the need, but rather a synthesized statement that you can leverage in designing a solution. Keep it sexy (it should intrigue people) and hold the tension in your POV.

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





“It’s not about coming up with the ‘right’ idea, it’s about generating the broadest range of possibilities.”

WHAT is Ideation

Ideation is the design process in which you concentrate on idea generation. Mentally it represents a process of “going wide” in terms of concepts and outcomes. Ideation provides both the fuel and also the source material for building prototypes and getting innovative solutions into the hands of your users.

WHY Ideate

You ideate in order to transition from identifying problems to creating solutions for your users. Ideation is your chance to combine the understanding you have of the problem space and people you are designing for with your imagination to generate solution concepts. [Particularly early in a design project, ideation is about pushing for a widest possible range of ideas from which you can select, not simply finding a single, best solution.](#) The determination of the best solution will be discovered later, through user testing and feedback.

Lets Give it a Go!

“How might we” (HMW) questions are short questions that launch brainstorm. HMWs are seeds for your ideation that fall out of your point-of-view statement or insights (from the exercise prior). A good HMW will create a seed that is broad enough that there are a wide range of solutions but narrow enough that the team is provoked to think of specific, unique ideas.

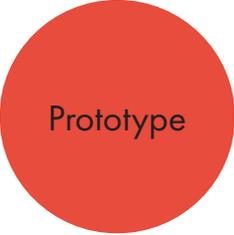
How might we...

For example, between the (possibly) too narrow “HMW create a cone to eat ice cream without dripping” and the too broad “HMW redesign dessert” might be the properly scoped “HMW redesign ice cream to be more portable.” It should be noted, the proper scope of the seed will vary with the project and how much progress you have made in your project work.

Begin with your Point of View (POV), insights, or problem statement. Create small actionable questions that retain your unique and specific perspective. Write these questions beginning with the phrase, “How might we...” It is often helpful to brainstorm the HMW questions before the solutions brainstorm.



“Build to think and test to learn.”



Prototype

WHAT is Prototyping

Prototyping is the iterative generation of artifacts intended to answer questions that get you closer to your final solution. In the early stages of a project that question may be broad – such as “do my users enjoy cooking in a competitive manner?” In these early stages, you should create low-resolution prototypes that are quick and cheap to make (think minutes and cents) but can elicit useful feedback from users and colleagues. In later stages both your prototype and question may get a little more refined. For example, you may create a later stage prototype for the cooking project that aims to find out: “do my users enjoy cooking with voice commands or visual commands”.

A prototype can be anything that a user can interact with – be it a wall of post-it notes, a gadget you put together, a role-playing activity, or even a storyboard. Ideally you bias toward something a user can experience. Walking someone through a scenario with a storyboard is good, but having them role-play through a physical environment that you have created will likely bring out more emotions and responses from that person.

WHY Prototype

To ideate and problem-solve. Build to think.

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

To start a conversation. Your interactions with users are often richer when centered around a conversation piece. A prototype is an opportunity to have another, directed conversation with a user.

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

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

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

Prototype

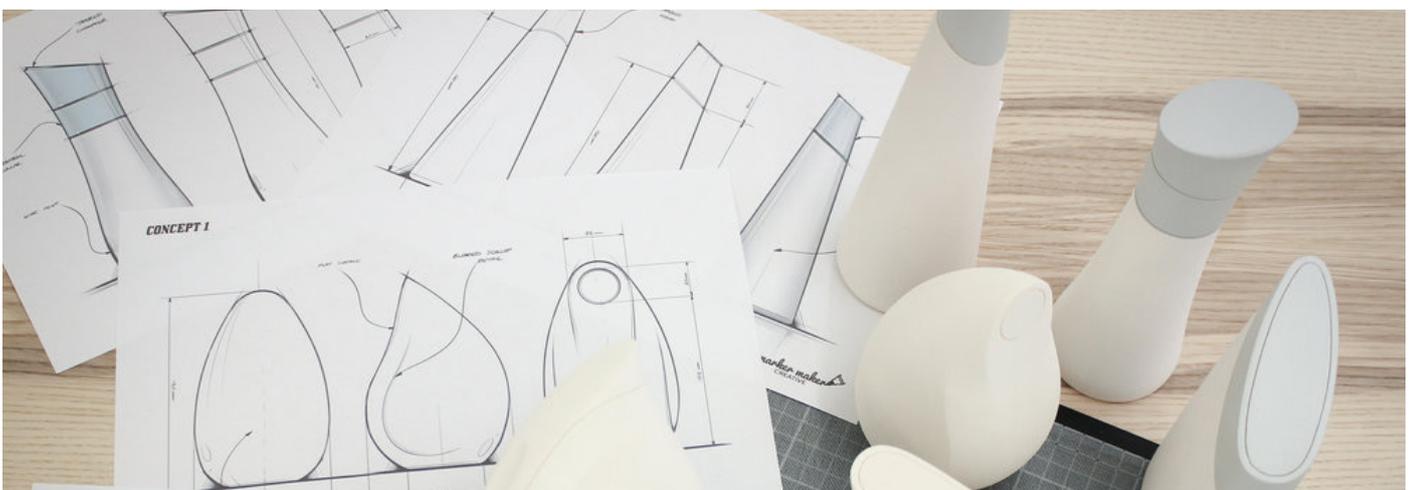
Lets Give it a Go!

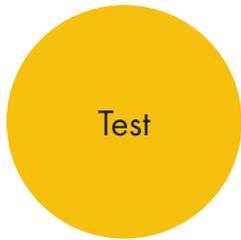
Start building. Even if you aren't sure what you're doing, the act of picking up some materials (post-its, tape, play-dough, Lego and found objects are a good way to start!) will be enough to get you going.

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

ID a variable. Identify what's being tested with each prototype. A prototype should answer a particular question when tested. That said, don't be blind to the other tangential understanding you can gain as someone responds to a prototype.

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





“Testing is an opportunity to learn about your solution and your user.”

WHAT is Testing

Testing is when you solicit feedback, about the prototypes you have created, from your users and have another opportunity to gain empathy for the people you are designing for. **Testing is another opportunity to understand your user, but unlike your initial empathy mode, you have now likely done more framing of the problem and created prototypes to test.** Both these things tend to focus the interaction with users, but don't reduce your “testing” work to asking whether or not people like your solution. Instead, continue to ask “Why?”, and focus on what you can learn about the person and the problem as well as your potential solutions.

Ideally you can test within a real context of the user's life. For a physical object, ask people to take it with them and use it within their normal routines. For an experience, try to create a scenario in a location that would capture the real situation. If testing a prototype in situ is not possible, frame a more realistic situation by having users take on a role or task when approaching your prototype. A rule of thumb: always prototype as if you know you're right, but test as if you know you're wrong—testing is the chance to refine your solutions and make them better.

WHY test

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

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

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

Test

Lets Give it a Go!

Show don't tell. Put your prototype in the user's hands – or your user within an experience. And don't explain everything (yet). Let your tester interpret the prototype. Watch how they use (and misuse!) what you have given them, and how they handle and interact with it; then listen to what they say about it, and the questions they have.

Create Experiences. Create your prototypes and test them in a way that feels like an experience that your user is reacting to, rather than an explanation that your user is evaluating.

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

Let the users add to the prototyping process. Bring along some play-dough, post it notes or some scrap paper. Your users may be able to mock-up some concepts based on the pain points experienced.

