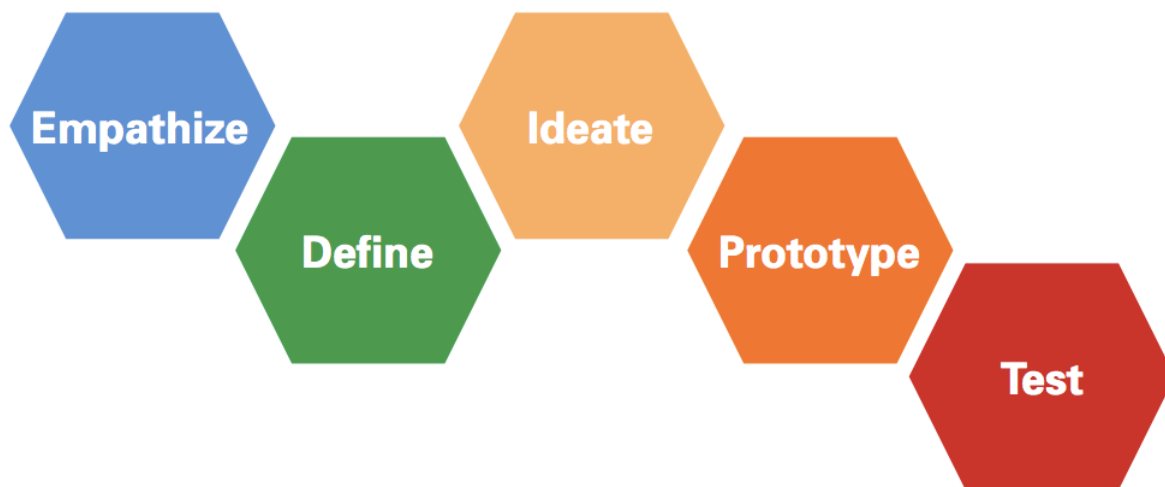


**Design Thinking Framework**



Design Thinking is a design methodology that provides a solution-based approach to solving problems. It's extremely useful in tackling complex problems that are ill-defined or unknown, by understanding the human needs involved, by re-framing the problem in human-centric ways, by creating many ideas in brainstorming sessions, and by adopting a hands-on approach in prototyping and testing.

Understanding these five stages of Design Thinking will empower anyone to apply the Design Thinking methods in order to solve complex problems that occur around us — in our companies, in our countries, and even on the scale of our planet.

We will focus on the five-stage Design Thinking model proposed by the Hasso-Plattner Institute of Design at Stanford (d.school). d.school is the leading university when it comes to teaching Design Thinking. The five stages of Design Thinking, according to d.school, are as follows: Empathise, Define (the problem), Ideate, Prototype, and Test. Let's take a closer look at the five different stages of Design Thinking.

**1. Empathise**

The first stage of the Design Thinking process is to gain an empathic understanding of the problem you are trying to solve. This involves consulting experts to find out more about the area of concern through observing, engaging and empathizing with people to understand their experiences and motivations, as well as immersing yourself in the physical environment so you can gain a deeper personal understanding of the issues involved. Empathy is crucial to a human-centered design process such as Design Thinking, and empathy allows design thinkers to set aside their own assumptions about the world in order to gain insight into users and their needs.

Depending on time constraints, a substantial amount of information is gathered at this stage to use during the next stage and to develop the best possible understanding of the users, their needs, and the problems that underlie the development of that particular product.

## **2. Define (the Problem)**

During the Define stage, you put together the information you have created and gathered during the Empathise stage. This is where you will analyse your observations and synthesise them in order to define the core problems that you and your team have identified up to this point. You should seek to define the problem as a problem statement in a human-centred manner.

To illustrate, instead of defining the problem as your own wish or a need of the company such as, “We need to increase our food-product market share among young teenage girls by 5%,” a much better way to define the problem would be, “Teenage girls need to eat nutritious food in order to thrive, be healthy and grow.”

The Define stage will help the designers in your team gather great ideas to establish features, functions, and any other elements that will allow them to solve the problems or, at the very least, allow users to resolve issues themselves with the minimum of difficulty. In the Define stage you will start to progress to the third stage, Ideate, by asking questions which can help you look for ideas for solutions by asking: “How might we... encourage teenage girls to perform an action that benefits them and also involves your company’s food-product or service?”

## **3. Ideate**

During the third stage of the Design Thinking process, designers are ready to start generating ideas. You’ve grown to understand your users and their needs in the Empathise stage, and you’ve analysed and synthesised your observations in the Define stage, and ended up with a human-centered problem statement. With this solid background, you and your team members can start to “think outside the box” to identify new solutions to the problem statement you’ve created, and you can start to look for alternative ways of viewing the problem. There are hundreds of Ideation techniques such as Brainstorm, Brainwrite, Worst Possible Idea, and SCAMPER. Brainstorm and Worst Possible Idea sessions are typically used to stimulate free thinking and to expand the problem space. It is important to get as many ideas or problem solutions as possible at the beginning of the Ideation phase. You should pick some other Ideation techniques by the end of the Ideation phase to help you investigate and test your ideas so you can find the best way to either solve a problem or provide the elements required to circumvent it.

## **4. Prototype**

The design team will now produce a number of inexpensive, scaled down versions of the product or specific features found within the product, so they can investigate the problem solutions generated in the

previous stage. Prototypes may be shared and tested within the team itself, in other departments, or on a small group of people outside the design team. This is an experimental phase, and the aim is to identify the best possible solution for each of the problems identified during the first three stages. The solutions are implemented within the prototypes, and, one by one, they are investigated and either accepted, improved and re-examined, or rejected on the basis of the users' experiences. By the end of this stage, the design team will have a better idea of the constraints inherent to the product and the problems that are present, and have a clearer view of how real users would behave, think, and feel when interacting with the end product.

## 5. Test

Designers or evaluators rigorously test the complete product using the best solutions identified during the prototyping phase. This is the final stage of the 5 stage-model, but in an iterative process, the results generated during the testing phase are often used to redefine one or more problems and inform the understanding of the users, the conditions of use, how people think, behave, and feel, and to empathise. Even during this phase, alterations and refinements are made in order to rule out problem solutions and derive as deep an understanding of the product and its users as possible.

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Dam, Rikke Friis, and Teo Yu Siang. "5 Stages in the Design Thinking Process." The Interaction Design Foundation, [www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process#:~:text=Design Thinking is a design,based approach to solving problems.&text=The five stages of Design,Ideate, Prototype, and Test](http://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process#:~:text=Design Thinking is a design,based approach to solving problems.&text=The five stages of Design,Ideate, Prototype, and Test).