



Phases of Design Thinking

A Human-Centered
Approach to Problem
Solving

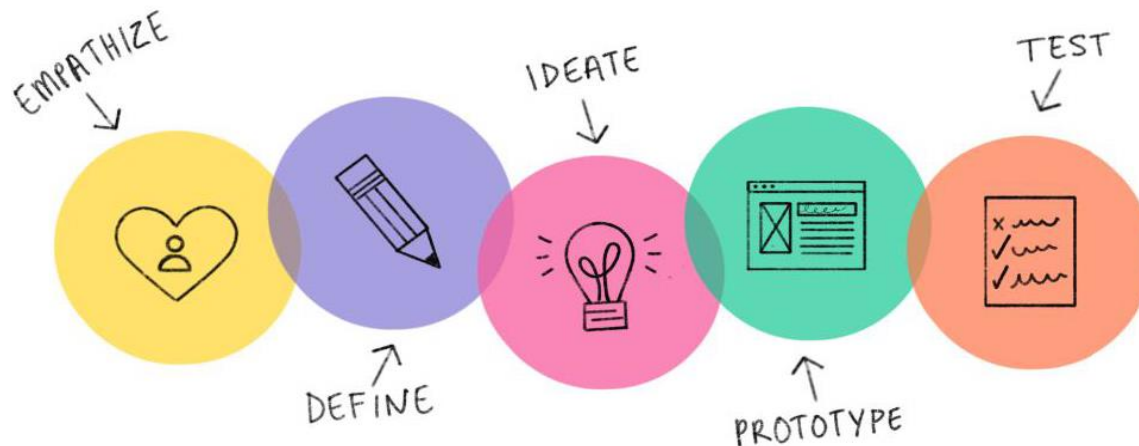
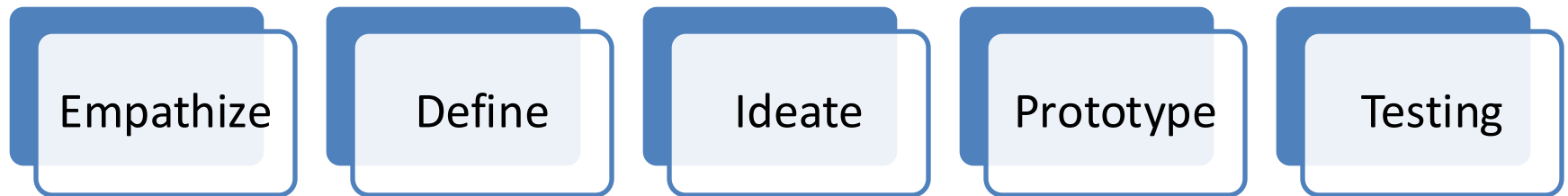


What is Design Thinking?

- Design Thinking is an iterative, human-centered approach to innovation.
- It focuses on understanding user needs and creating effective solutions.
- It is widely used in product design, business strategy, education, and more.



Phases of Design thinking



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Empathize

The first step is about **developing a deep understanding of the people** for whom you are designing the solution.

This requires **research, observation, and engagement** to uncover users' emotions, motivations, and pain points.

Methods for Empathizing:

- **Interviews & Surveys** – Directly talking to users to understand their experiences and challenges.
- **Observation (Ethnographic Research)** – Watching users interact with products or environments to uncover unspoken needs.
- **Empathy Maps** – A tool to visualize what users **say, think, feel, and do** to better understand their behaviors.

Define

After gathering insights from the Empathize phase, the next step is to **synthesize findings into a clear and concise problem statement**. This phase ensures that teams are solving the right problem.

Steps in Defining the Problem:

1. **Identify User Needs** – Analyze data from interviews and observations.
2. **Reframe the Challenge** – Focus on defining the problem from the user's perspective.
3. **Write a Problem Statement** – Use the "**How Might We (HMW)**" format to frame the challenge creatively.

Example of a Problem Statement:

"How might we design a more intuitive and engaging learning platform for university students who struggle with online courses?"



Ideate

This phase involves **brainstorming a wide range of possible solutions**. Teams explore **outside-the-box ideas** without judgment.

Techniques for Ideation:

- **Brainstorming** – Rapidly generating as many ideas as possible.
- **SCAMPER (Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, Reverse)** – A structured technique to innovate existing solutions.
- **Mind Mapping** – Organizing ideas visually to explore different solutions.

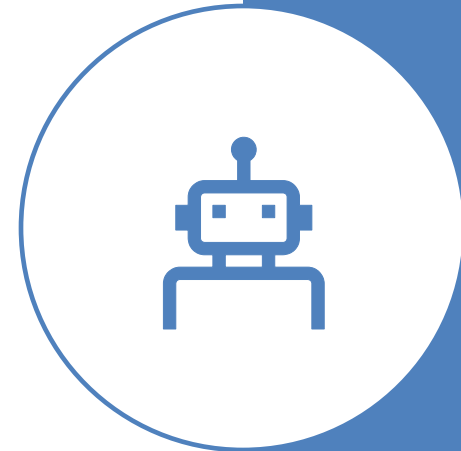


Prototype

Prototyping is about **creating tangible representations** of ideas to test and refine them. These can be **low-fidelity (paper sketches, wireframes)** or **high-fidelity (interactive digital models, physical mockups)**.

Types of Prototypes:

- **Low-Fidelity Prototypes:** Simple sketches, storyboards, or paper models.
- **High-Fidelity Prototypes:** Digital wireframes, interactive apps, or 3D models.



Test

Testing is where you **validate prototypes with real users** to see what works and what doesn't. The goal is to gather feedback and **iterate** on the solution until it effectively solves the problem.

How to Conduct Testing:

- **Observe Users Interacting with the Prototype** – Identify pain points and areas of improvement.
- **Ask for Direct Feedback** – Use interviews or surveys to gather qualitative insights.
- **Iterate Based on Feedback** – Improve the prototype and test again.





Key Characteristics of Design Thinking

- **Human-Centered** – Focuses on user needs and experiences.
- **Iterative & Non-Linear** – Steps can be revisited multiple times.
- **Collaborative** – Involves teamwork and diverse perspectives.
- **Experimental** – Encourages trying new approaches and refining them.