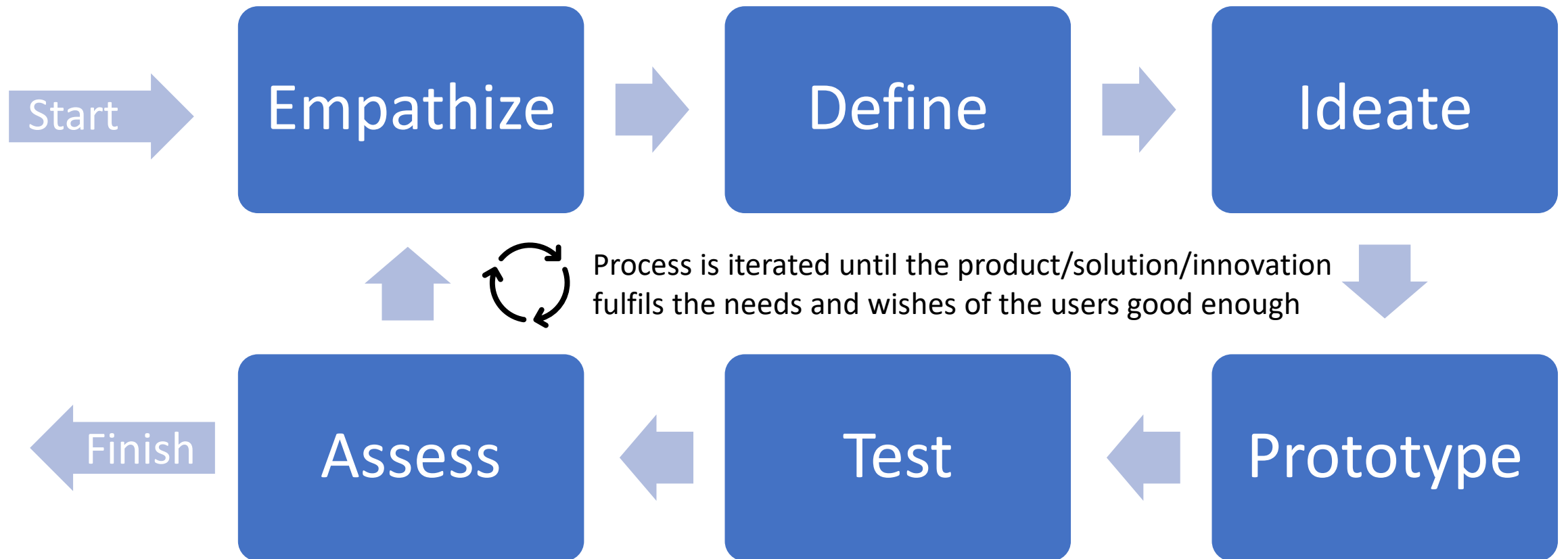# Design Thinking

Key Facts

- Umbrella term for an **iterative innovation process**
- **User-centered approach** to develop innovation: Develops products that fit the need and want of users
- Useful especially for solving problems that are "**wickedly difficult**" = ill-defined and/or tricky
- Approach:
  - **Test with users early** in the process to avoid costly changes in later stages
  - Use **diverse teams** to to tackle problems creatively by developing unique and **out-of-the-box solutions**

6 Phases of Design Thinking

Start → Empathize → Define → Ideate

Process is iterated until the product/solution/innovation fulfils the needs and wishes of the users good enough

Finish ← Assess ← Test ← Prototype

Phases of Design Thinking: Empathize

- Goal: Understanding the needs and wants of users (non-judgemental)
- Approach:
  - Interviewing the target group
  - (Market) research
  - Surveys
  - Shadowing (*observing a customer/user*)
  - In Public Adminstration: Engaging with citizens e.g. with the World Café Method

Phases of Design Thinking: Define

- Goal: Summarize gains knowledge by creating human-centric problem statements

- Approach
  - Creating Personas: Portraits of protentional users, that detail:
  - Jobs-to-be-done: The users needs
  - The user's personality
  - Cultural Background
  - Gains and Pains: the users preferences

Phases of Design Thinking: Ideate

- Goal: The team comes up with radical ideas

- Approach:
  - Different brainstorming methods and creativity methods
  - Examples: Brainwriting, Six hats method, morphologic box, What's the opposite-brainstorming technique
  - It's important not to limit the teams ideas at this stage to allow for out-of-the-box solutions

Phases of Design Thinking: Prototype

- Goal: Create low-res objects and experiences

- Approach:
  Possible methods to produce prototypes are:
  - Card Box prototypes
  - Wireframes in web design
  - 3D-Printing
  - Virtual Reality experiences

Phases of Design Thinking: Test

- Goal: Gather Data and gain deeper empathy on users needs and want by testing the prototypes

- Approach:
  - Test the functionality
  - Test with users for usability, but also to understand the interest of the customers etc.
  - User feedback can be gathered for example by survey, research, observation, eye tracking eg.

Phases of Design Thinking: Assess

- Goal: Decide whether the product/innovation/process is good enough for release or another iteration is needed

- Approach:
  - Assess the product by openly giving and receiving feedback
  - If not, the process starts again
  - It is not always necessary to repeat the whole process, but the process is started at a later stage

Applications

- Software Development: User-Centered Design
- Business Model Innovation
- Systems engineering
- Operations management
- Supply chain planning
- Public Administration: New Public Governance

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