



# DESIGN THINKING TO ADDRESS COMPLEX PROBLEMS

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College for Behavioral Health Leadership

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The Social Policy Institute and Idea Lab have partnered to help health and human service organizations achieve their goals using design thinking and other creative problem solving tools.



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# OUR VISION

Design Thinking + Systems Thinking + Strategic Actions

=

A Health and Human Service Ecosystem that is  
Effective, Efficient and Increases the Well Being  
of Those Served



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“A methodology for innovation that combines creative and analytical approaches and requires collaboration across disciplines.”

- Stanford d. School



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“Design thinking can be described as a discipline that uses the designer’s sensibility and methods to match people’s needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity.”

- Tim Brown, IDEO



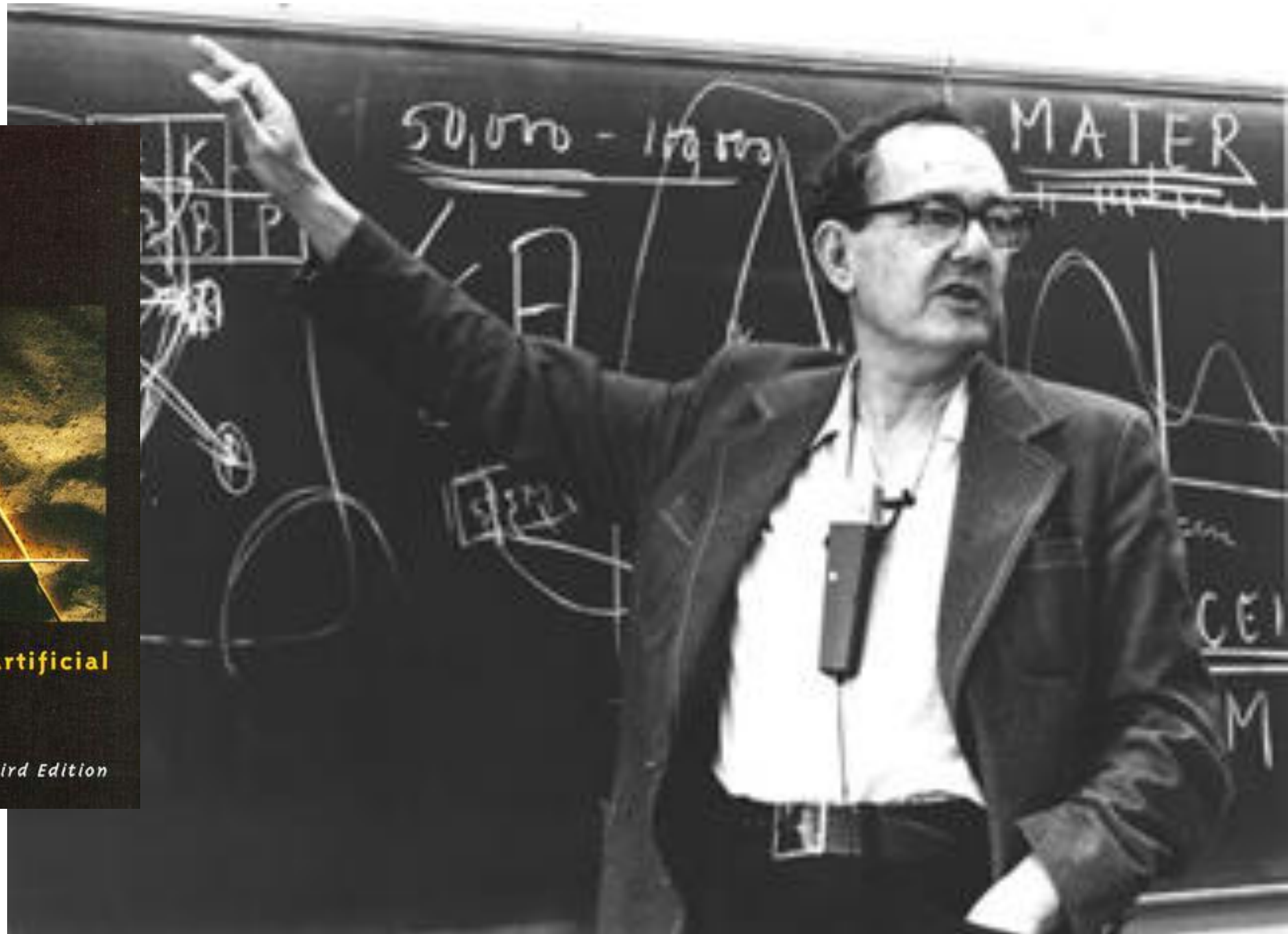
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**Herbert A. Simon**



**The Sciences of the Artificial**

*Third Edition*





HARVARD UNIVERSITY  
GRADUATE SCHOOL OF DESIGN

Peter G. Rowe

★


# Design Thinking

The slide features a yellow background. At the top left, there are three small square boxes, each containing a different architectural diagram of a building facade. The top diagram is a simple trapezoid with a triangular roof. The middle diagram is a trapezoid with a triangular roof and a dashed line indicating a different roofline. The bottom diagram is a classical temple facade with columns. To the right of these diagrams is a hand-drawn star symbol. Below the diagrams is the title "Design Thinking" in a large, bold, black font. At the bottom of the slide is a hand-drawn sketch of a building facade with a palm tree and a hill.


REVIEW OF CREATIVE STRATEGIES



① HARD WORK } USUALLY COMES FIRST MOST OF THE STRATEGIES LISTED ARE MOST USEFUL WHEN YOU ARE "BLOCKED"


② CREATE A SUPPORTIVE ENVIRONMENT  INVEST IN YOURSELF


③ RELAX EVEN  TAP YOUR SUBCONSCIOUS

④ BRAINSTORMING 


⑤ LISTS


⑥ METALISTS → LISTS OF THINGS TO MAKE LISTS OF!

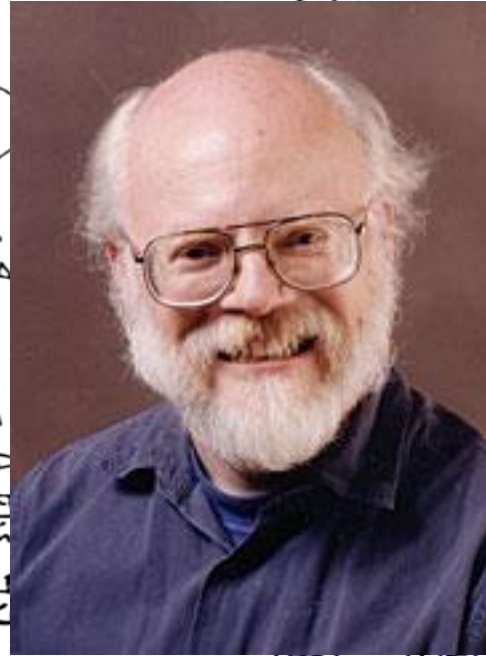
⑦ MORPHOLOGICAL ANALYSIS: MATCHING UP ATTRIBUTE LISTS  POWER SOURCE TIMING MECH

⑧ IDEA LOGS  + DRAWING: TANGIBLE SPEC




⑨ HUMOR

⑩ CONVERSATION 

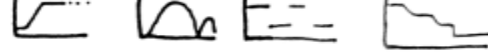
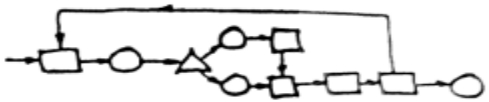
⑪ FORCED TRANSFORMATIONS CHECKLIST SOLITARE  MAGNIFY REVERSE/INVERT COMBINE



⑫ SYNECTICS

DIRECT ANALOGY }  ALTIMETER  
PERSONAL ANALOGY }  BOING BOING  
COMPRESSED CONFLICT }  "SAFE ATTACK"

⑬ DIAGRAMMING PHYSICAL PROCESS

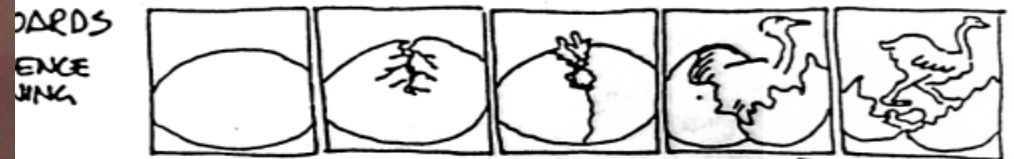
ACTIVITY VS TIME   
FLOW CHARTS 


CREATIVE IRREVERENT ATTITUDE: QUESTION ASSUMPTIONS  WHAT IF: "NO GRAVITY" • "BLAST OFF" HOUSE PAINT • JOKE TELLING TRASH CANS

	1	2	3	4	5
1					
2					
3					
4					
5					


WEIGHTING FACTORS PRIORITIES


GO BACKWARDS: IMAGINE YOURSELF FINISHED - THINK BACK TO MILESTONES




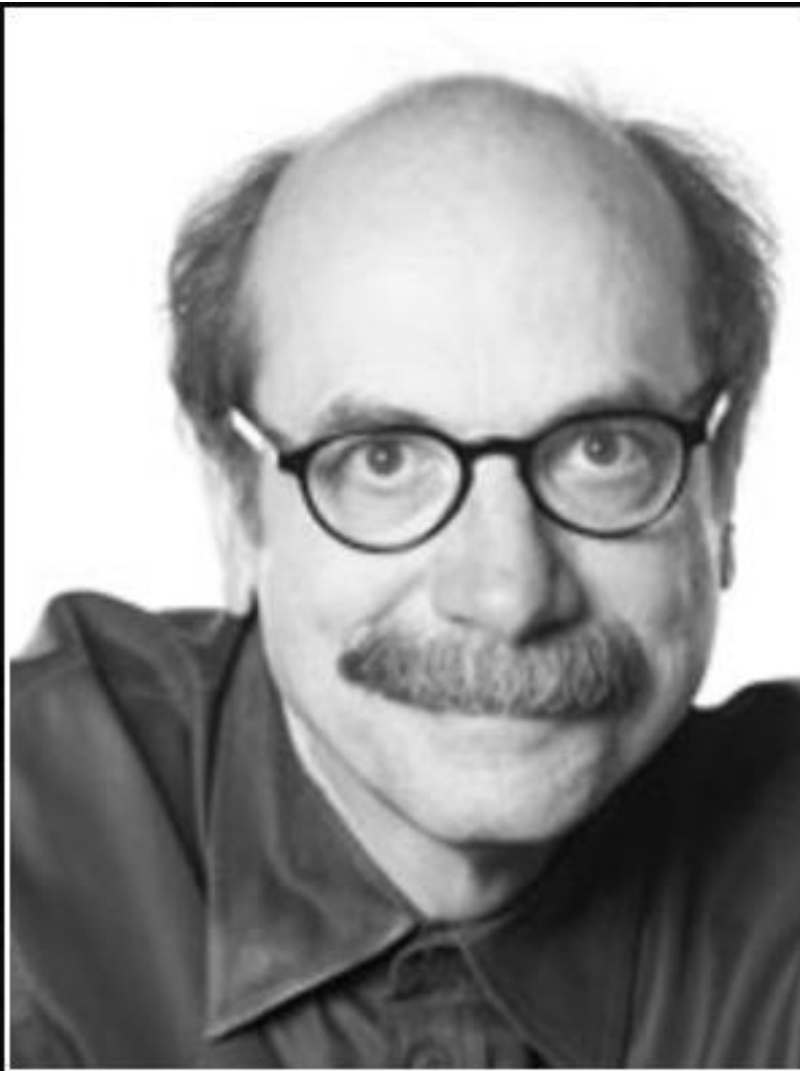
WHY DIAGRAM (PROBLEM/SOLUTION DIAGRAM) REDEFINE PROBLEM ~ IS IT TOO NARROW, SPECIFIC?  WHY IS IT A PROBLEM? HOW TO SOLVE IT

THINKING ~ JIM ADAMS BE AWARE OF COGNITIVE STYLES & FLEXIBLE WITH THEM TRY NOT TO SPECIALIZE

MAPS DIAGRAMS  NEAT NOTES CONTAIN MESSY INFORMATION MESSY NOTE CONTAIN NEAT INFORMATION

⑭ META SUMMARY: VISUAL THINKING DRAW  SEE IMAGINE

⑮ DIAGRAM YOURSELF GOAL: A UNIFIED AMBIDEXTROUS THINKER  GOOD LUCK!



The main tenet of design thinking is empathy for the people you're trying to design for. Leadership is exactly the same thing - building empathy for the people that you're entrusted to help.

— *David M. Kelley* —

**AZ QUOTES**

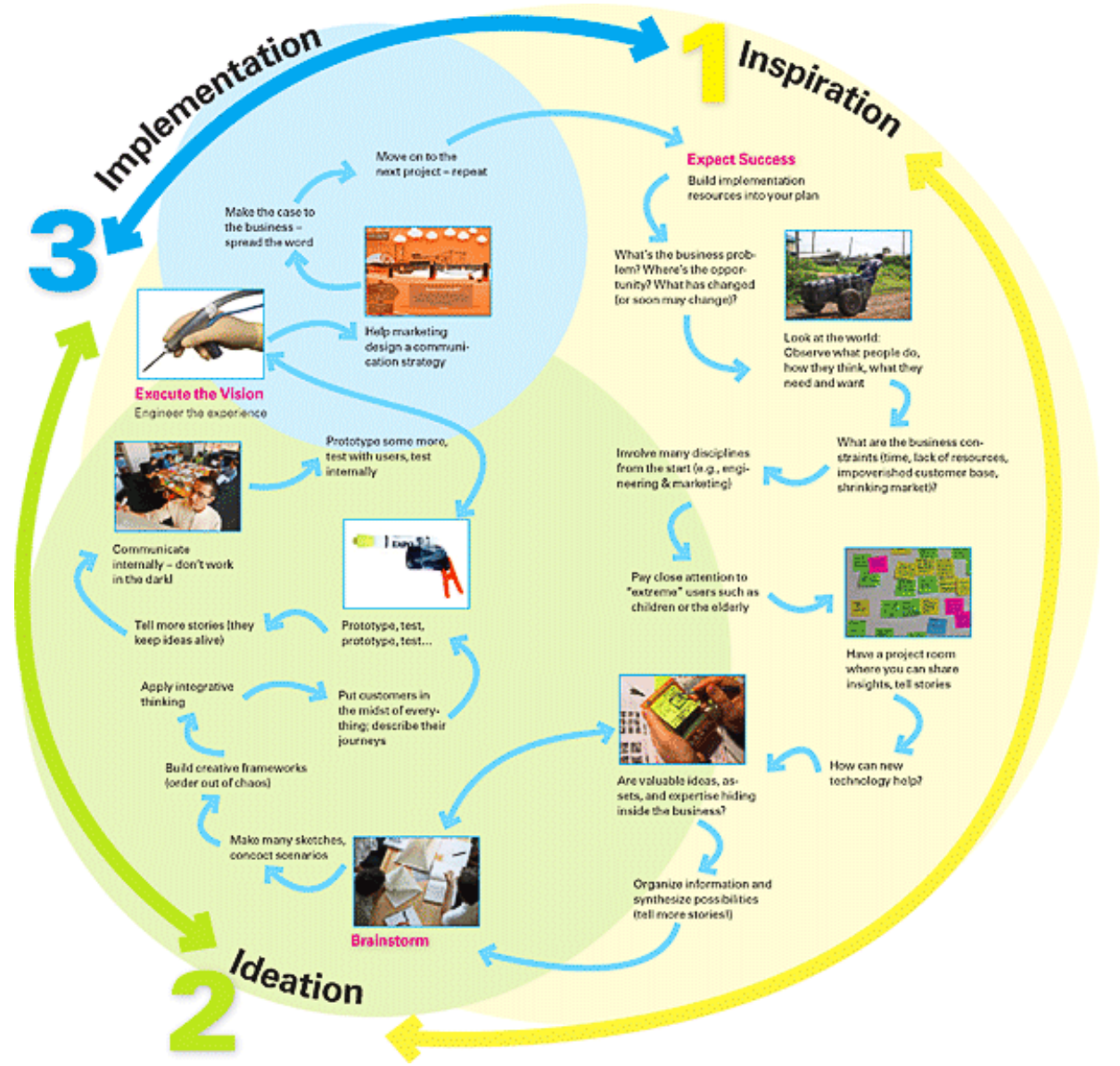
## WICKED PROBLEMS IN DESIGN THINKING

Richard Buchanan

### THE WICKED PROBLEMS THEORY OF DESIGN

Recent conferences on design are evidence of a coherent, if not always systematic, effort to reach a clearer understanding of design as an integrative discipline. However, the participants, who

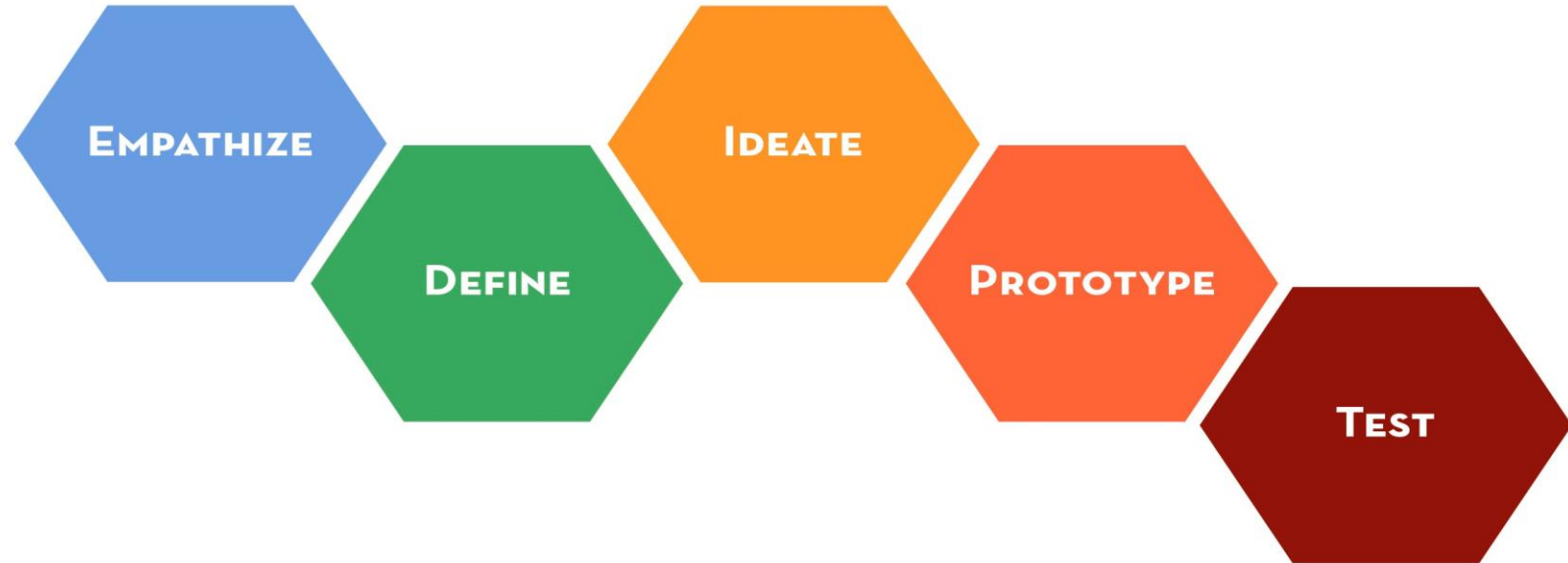
scientists share in the new liberal art of design thinking, they are also masters of specialized subject matters and their related methods, as found in physics, chemistry, biology, mathematics, the social sciences, or one of the many subfields into which these sciences have been divided.<sup>1</sup> This creates one of the central problems of communica-





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d. School | Hasso Plattner Institute of Design at Stanford



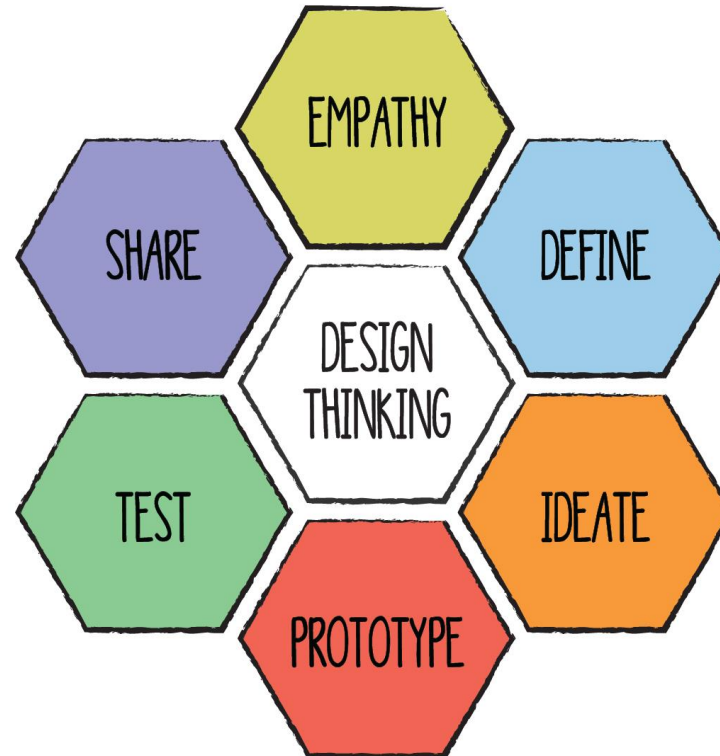
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# WHAT IS DESIGN THINKING?



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# **Design thinking in health and human services is a:**

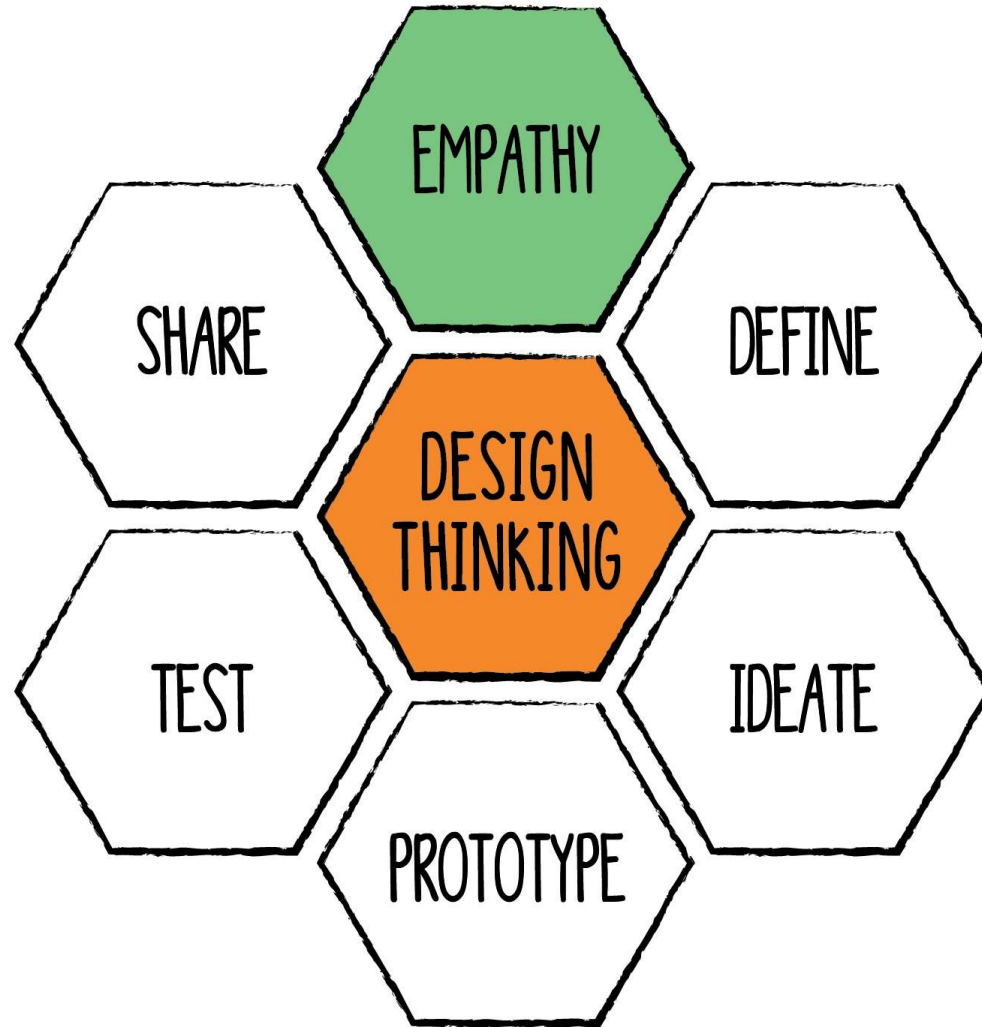
- Process for engagement and innovation
- Common language
- Broad and effective toolbox
- Process to guide critical problem solving skills





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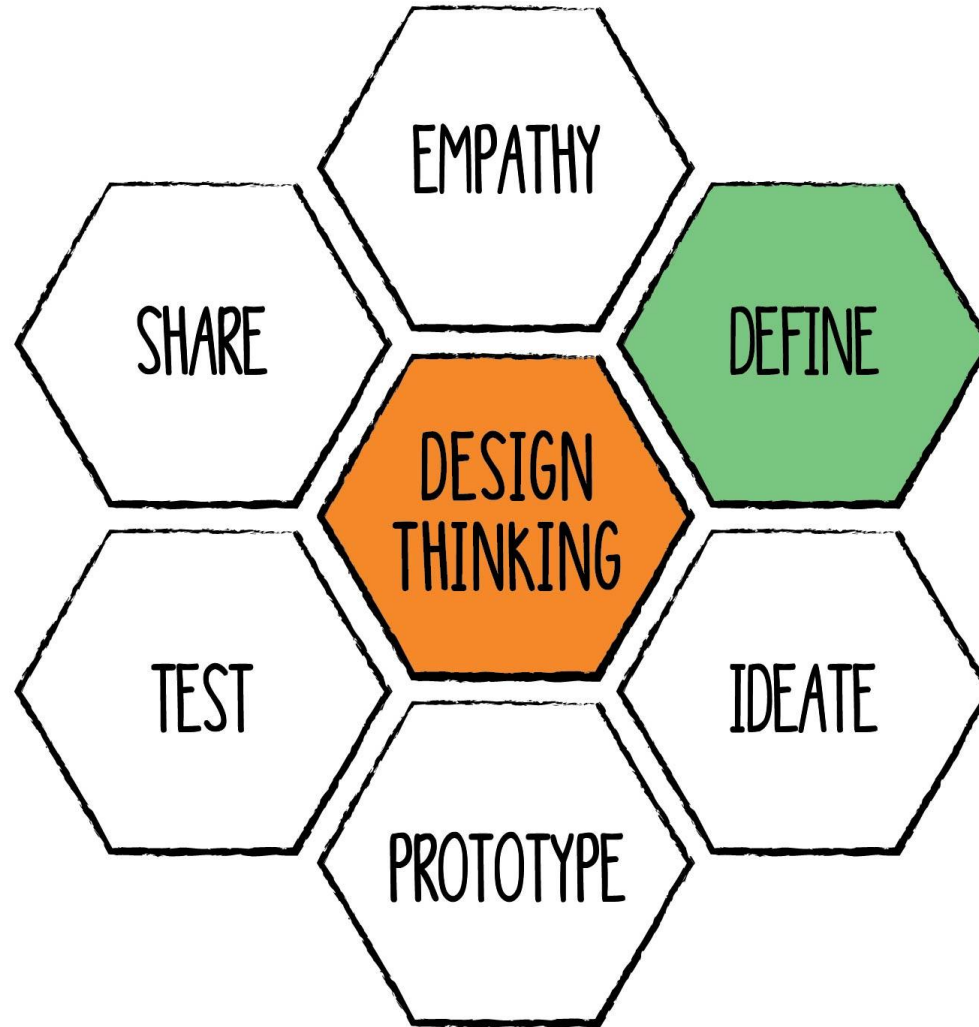


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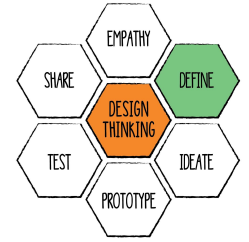


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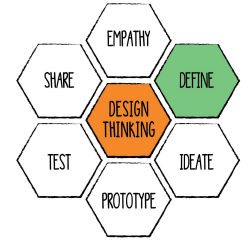


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The goal of the Define mode is to craft a meaningful and actionable problem statement.

- A guiding statement that focuses on insights and needs of a particular user.
- Your Problem Statement defines the **RIGHT** challenge to address, based on your new understanding of people and the problem.



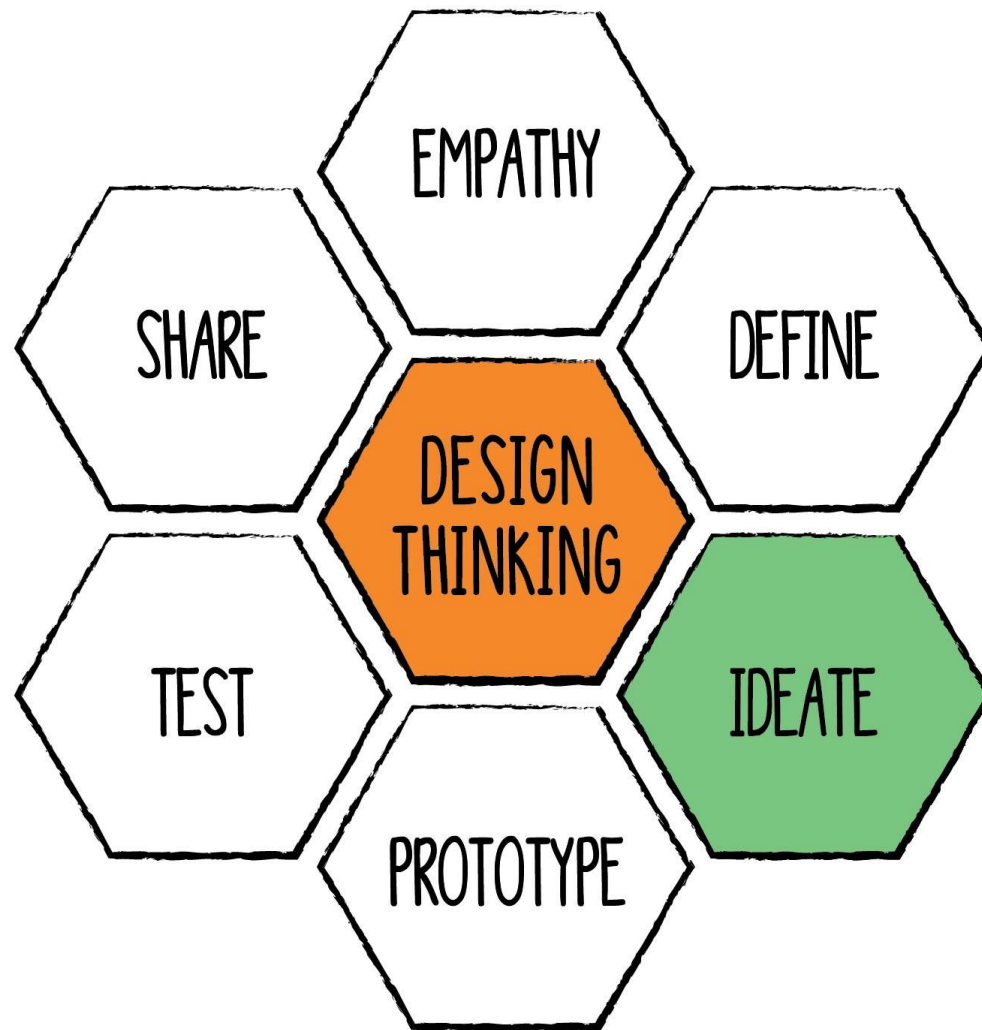
## A good problem statement is one that:

- Provides focus and frames the problem
- Inspires your team
- Informs criteria for evaluating competing ideas
- Empowers your team to make decisions independently in parallel
- Captures the hearts and minds of people you meet



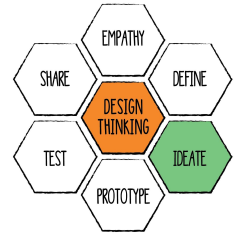
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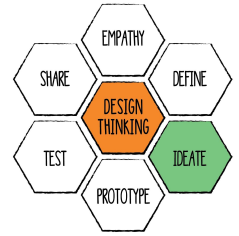
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- You ideate to transition from identifying problems to creating solutions for your users.
- Chance to combine the understanding you have of the problem and the people you are designing for with your imagination to generate solutions.
- Pushing for a widest possible range of (divergent) ideas from which you can select, not simply finding a single, best solution.



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## Various forms of ideation are leveraged to:

- Step beyond obvious solutions and thus increase the innovation potential of your solution set
- Harness the collective perspectives and strengths of your teams
- Uncover unexpected areas of exploration



## HOW MIGHT WE...

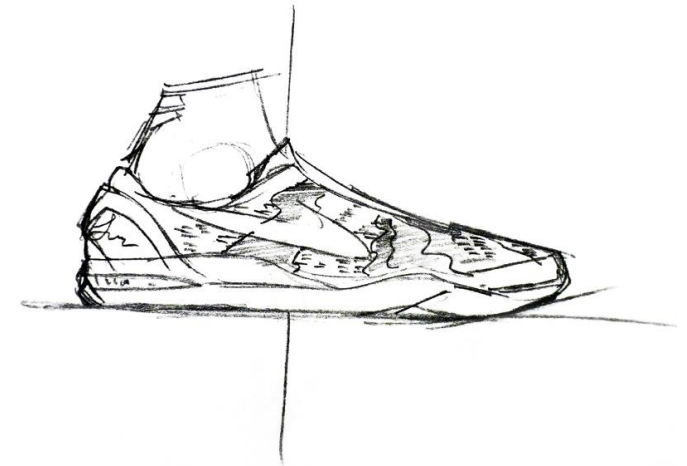
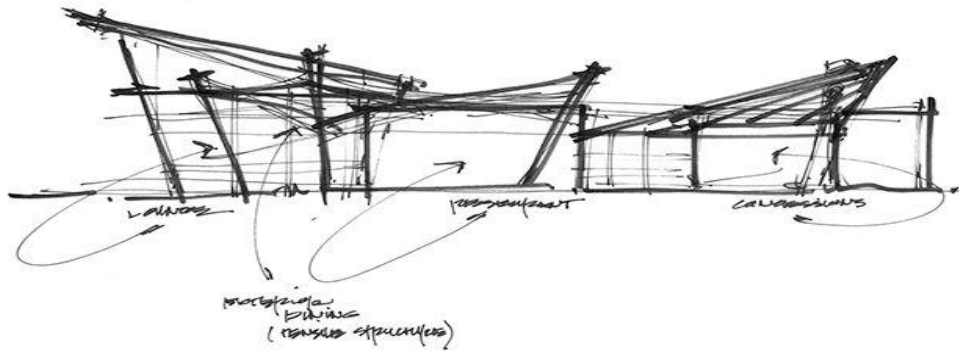
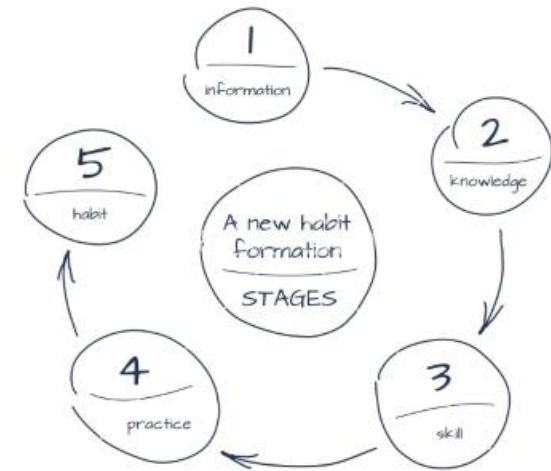
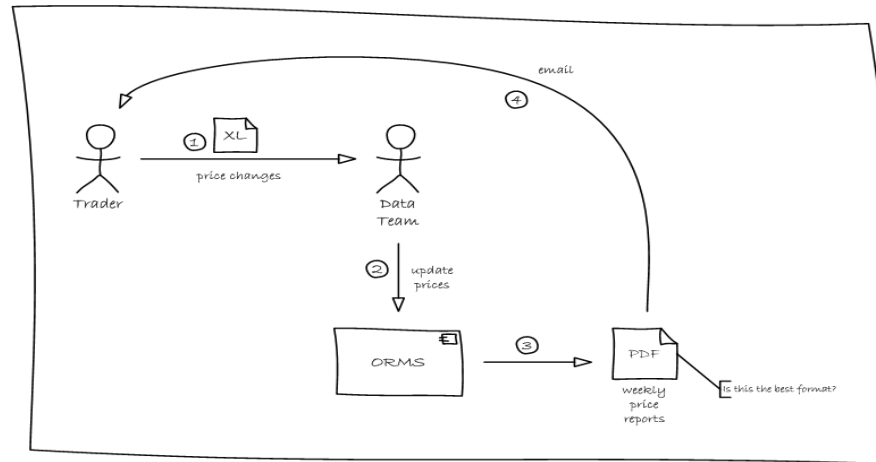
- Create fluency (volume) and flexibility (variety) in our options
- Get obvious solutions out of your heads, and drive your team beyond them





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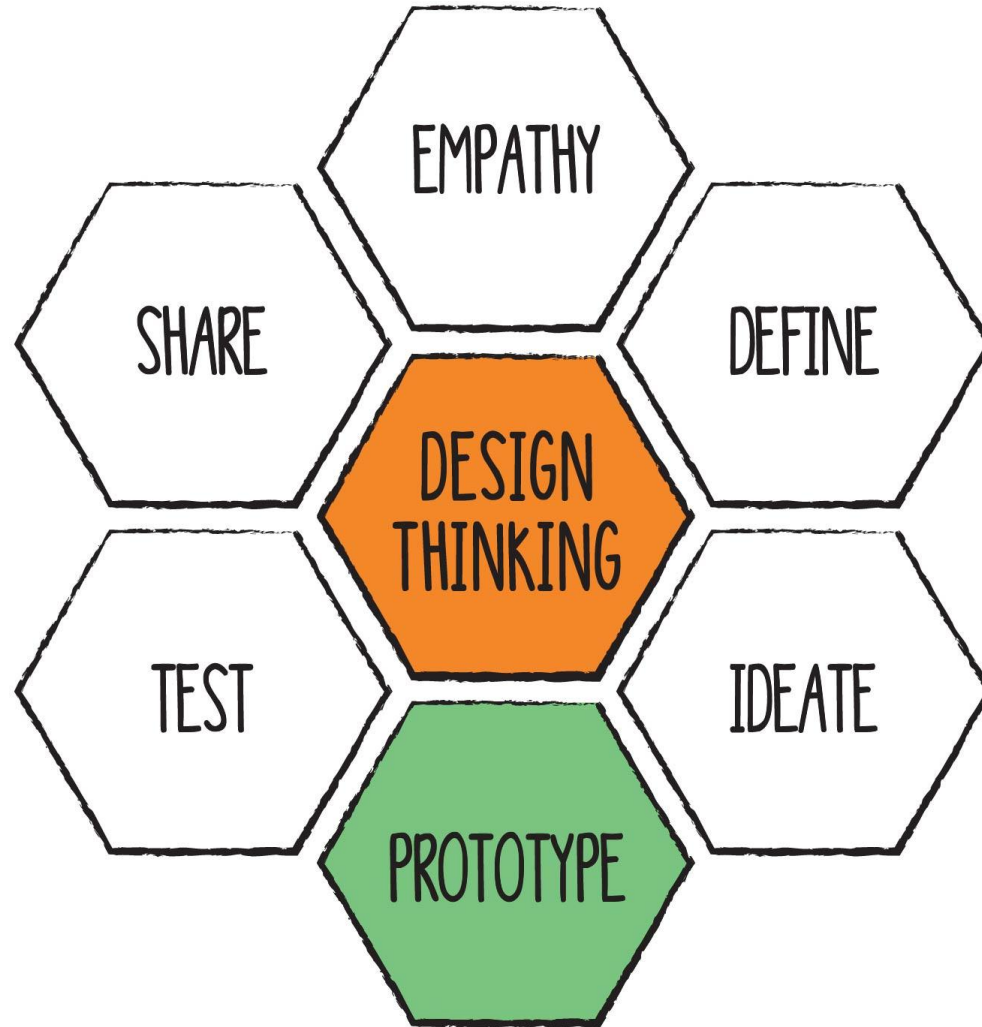


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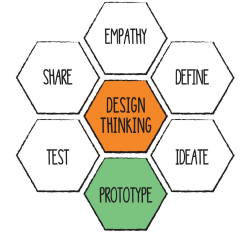
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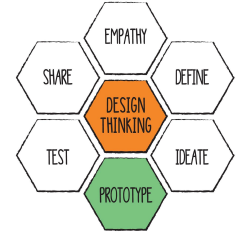
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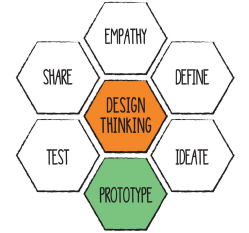
- In the early stages of a project the question may be broad – such as “do my users like to use a remote control?”
- Create low-resolution prototypes that are quick and cheap to make (think minutes and cents) but can elicit (additional) useful feedback from users and colleagues.



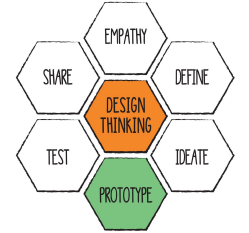
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- In later stages both your prototype and question may get a little more refined.
- A later stage prototype for the remote controls that aims to find out: “Do my users enjoy using a remote control with voice commands or visual commands?”

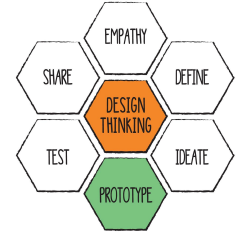


- A prototype can be anything that a user can interact with – be it a wall of post-it notes, a gadget you put together, a role-playing activity, or even a storyboard.
- Bias is toward something a user can experience.
- Having them role-play through a physical object or environment that you have created will likely bring out more emotions and responses



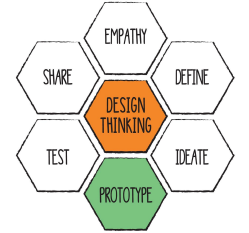
## **Easily overlooked:**

- Once innovation leadership has a promising new idea, the temptation is to go for a quick launch without wasting any more time.
- Time spent on prototyping provides ROI.
- Insures innovative idea has greatly improved odds for success.



## **Easily underestimated:**

- Prototyping may look childish, misconstrued as a playful activity without business benefits.
- Early-stage prototyping ensures potential flaws are discovered early on, when they are not yet costly to repair.



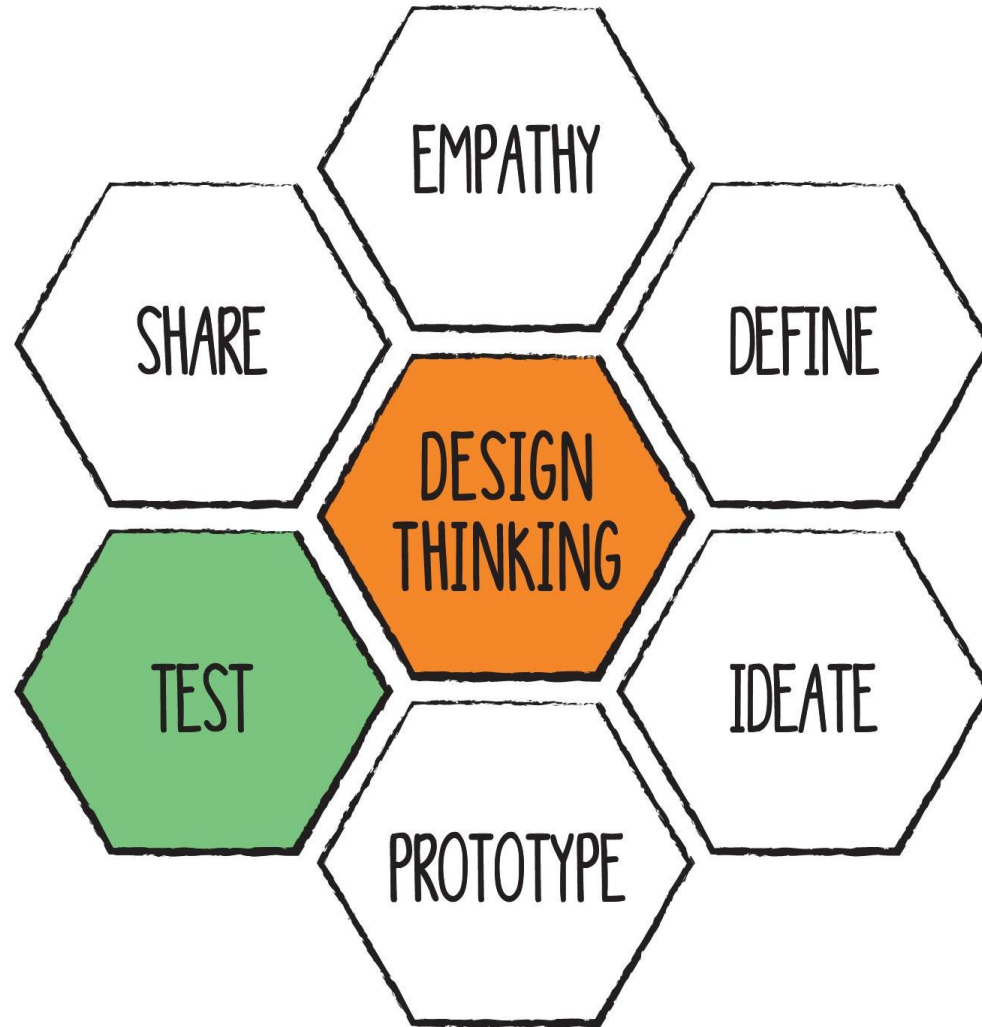
# Key Points for Prototyping

- Start building
- Don't spend too long on one prototype
- Identify a variable
- Build with the user in mind
- Build for the audience

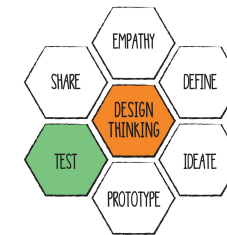


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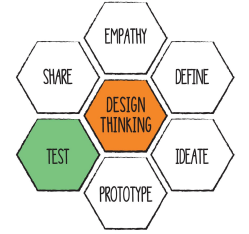
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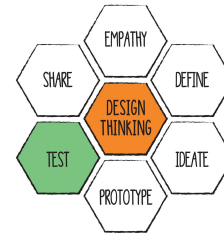
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The Test mode is when you solicit feedback, about the prototypes you have created, from your users, and have another opportunity to gain empathy for the people you are serving.



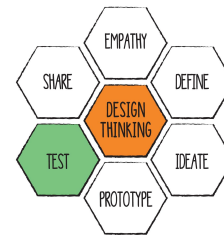
- For a physical object, ask people to take it with them and use it within their normal routines.
- For an experience, try to create a scenario in a location that would capture the real situation.
- If testing a prototype in a real situation is not possible, frame a more realistic situation by having users take on a role or task when approaching your prototype.



## Testing will help you:

- To refine prototypes and solutions
- To learn more about your user
- To refine your problem statement





## Key Points for Testing

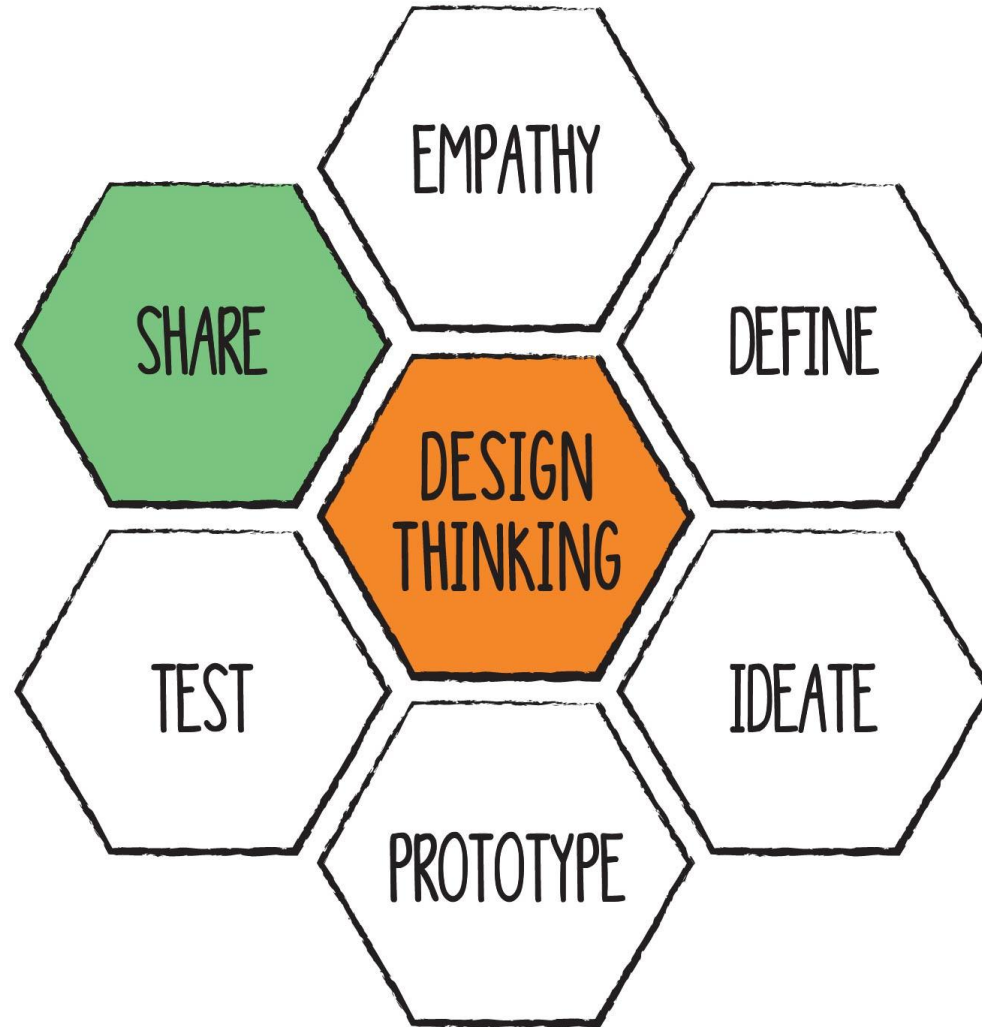
- A rule of thumb: always prototype as if you know you're right, but test as if you know you're wrong
- Testing is the chance to refine your solutions and make them better
- Better to fail fast here than after further time and cost to continue development of the project





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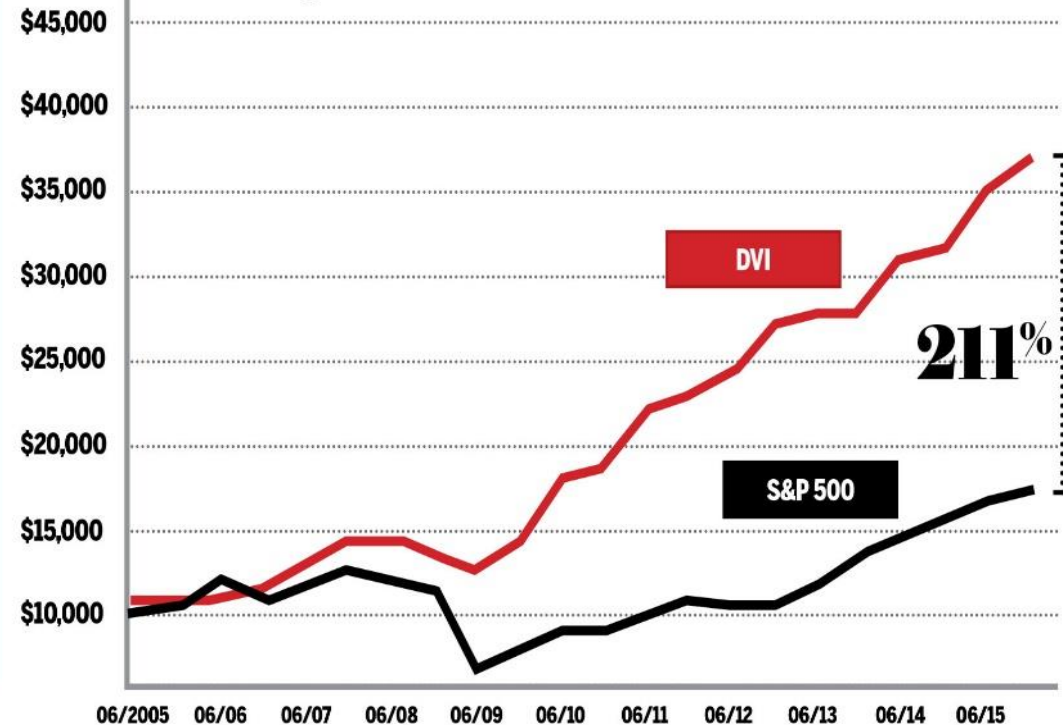
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# DESIGN THINKING AND PERFORMANCE

*The Design Value Index Study shows 10 year returns yielding 2.11 times (211%) that of the S&P 500*

- DESIGN-CENTRIC COMPANIES:**
- APPLE
  - COCA-COLA
  - FORD
  - HERMAN-MILLER
  - IBM
  - INTUIT
  - NIKE
  - PROCTER & GAMBLE
  - SAP
  - STARBUCKS
  - STARWOOD
  - STANLEY BLACK & DECKER
  - STEELCASE
  - TARGET
  - WALT DISNEY
  - WHIRLPOOL

dmi:Design Value Index 2005-2015



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# OUR EXPERIENCE



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# LESSONS LEARNED



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- Design Management Institute . (2015). Design Value Index Results and Commentary. Retrieved from <http://www.dmi.org/?page=2015DVIandOTW>



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# RESOURCES TO GET YOU STARTED

- Development Impact & You – Practical Tools to Trigger & Support Social Innovation at <http://diytoolkit.org/tools/>
- Harvard Business Review – Design for Action by Tim Brown at <https://hbr.org/2015/09/design-for-action>
- Stanford Social Innovation Review – Design Thinking for Social Innovation by Tim Brown & Jocelyn Wyatt at [https://ssir.org/articles/entry/design\\_thinking\\_for\\_social\\_innovation](https://ssir.org/articles/entry/design_thinking_for_social_innovation)
- IDEO's Field Guide to Human-Centered Design at <http://www.designkit.org/resources/1>





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For more information, resources and tools visit our website at:

<http://www.sdsusocialpolicyinstitute.org/design-thinking-resources/>



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