



Design Thinking

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**What
Do
You
See?**



**What
Do
You
See?**



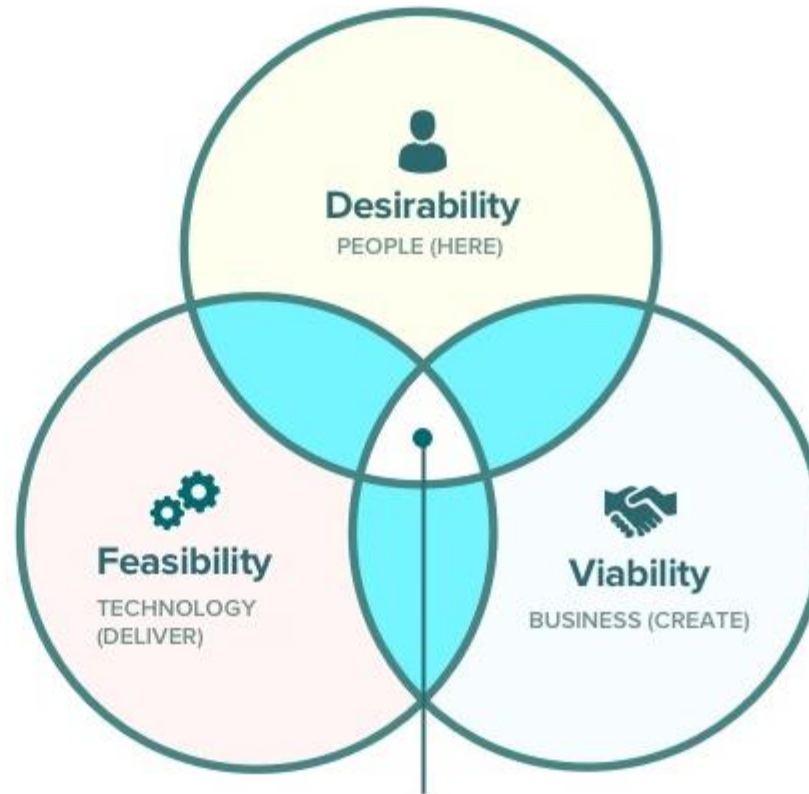
**You
Can't
Unsee**



What Is Design Thinking?

Design Thinking is an **iterative process** in which we seek to understand the **user, challenge assumptions**, and **redefine problems** in an attempt to **identify alternative strategies** and **solutions** that might not be instantly apparent with our initial level of understanding.

Human-Centered Design Principles

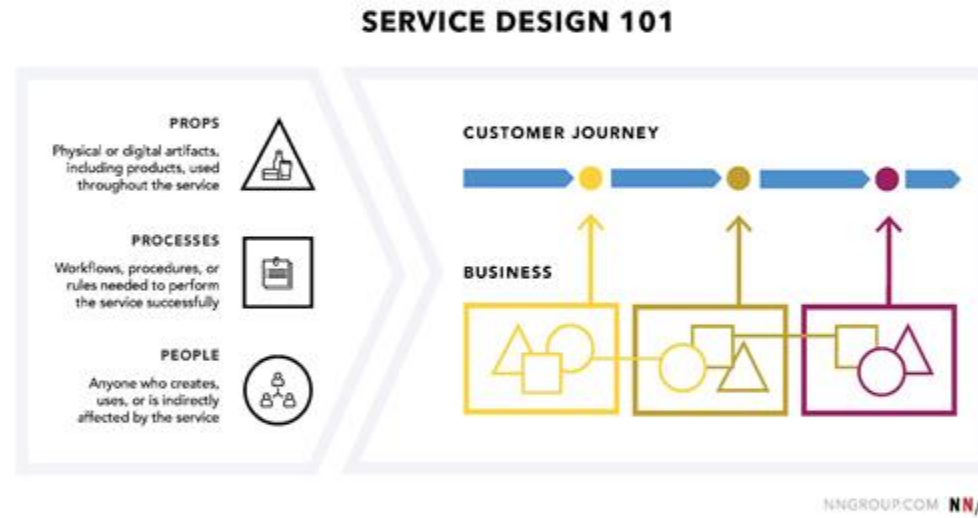


Human Center Design

What can be designed?



Spatial Design



Product Design



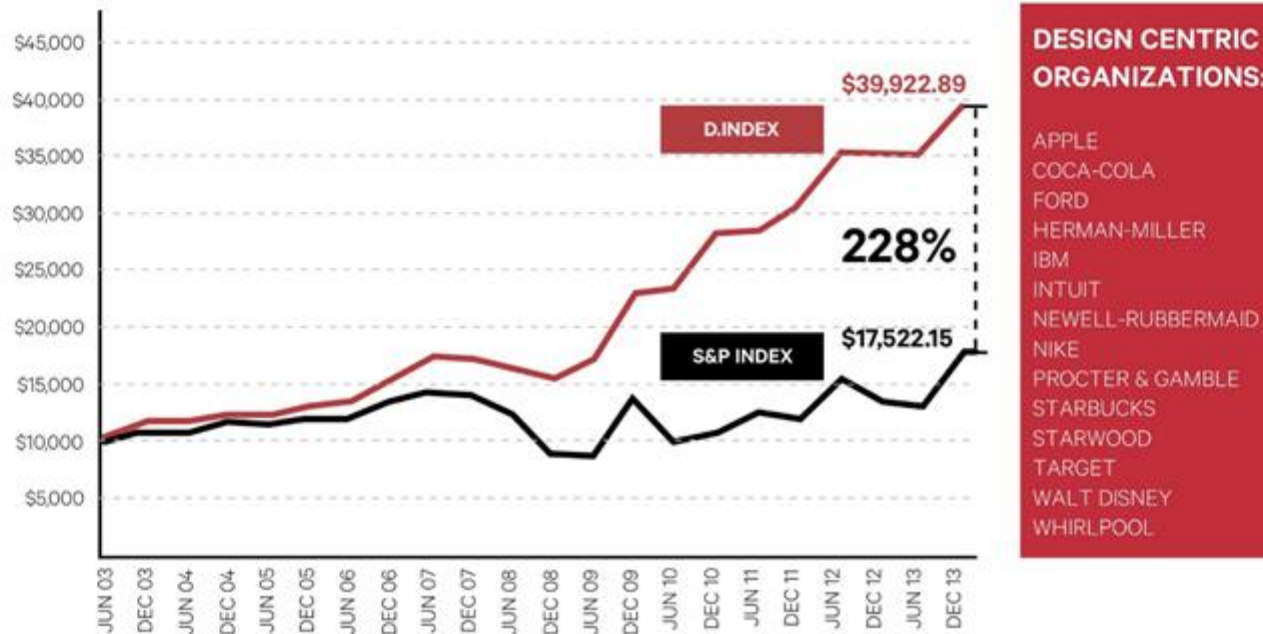
Fashion Design

**In reality,
EVERYTHING
Can
Be
DESIGNED**

Processes
Products
Services
Space
Product
Way of Life
e.t.c

Design Thinking In The Corporate World

Investing In Design Is A Proven Strategy

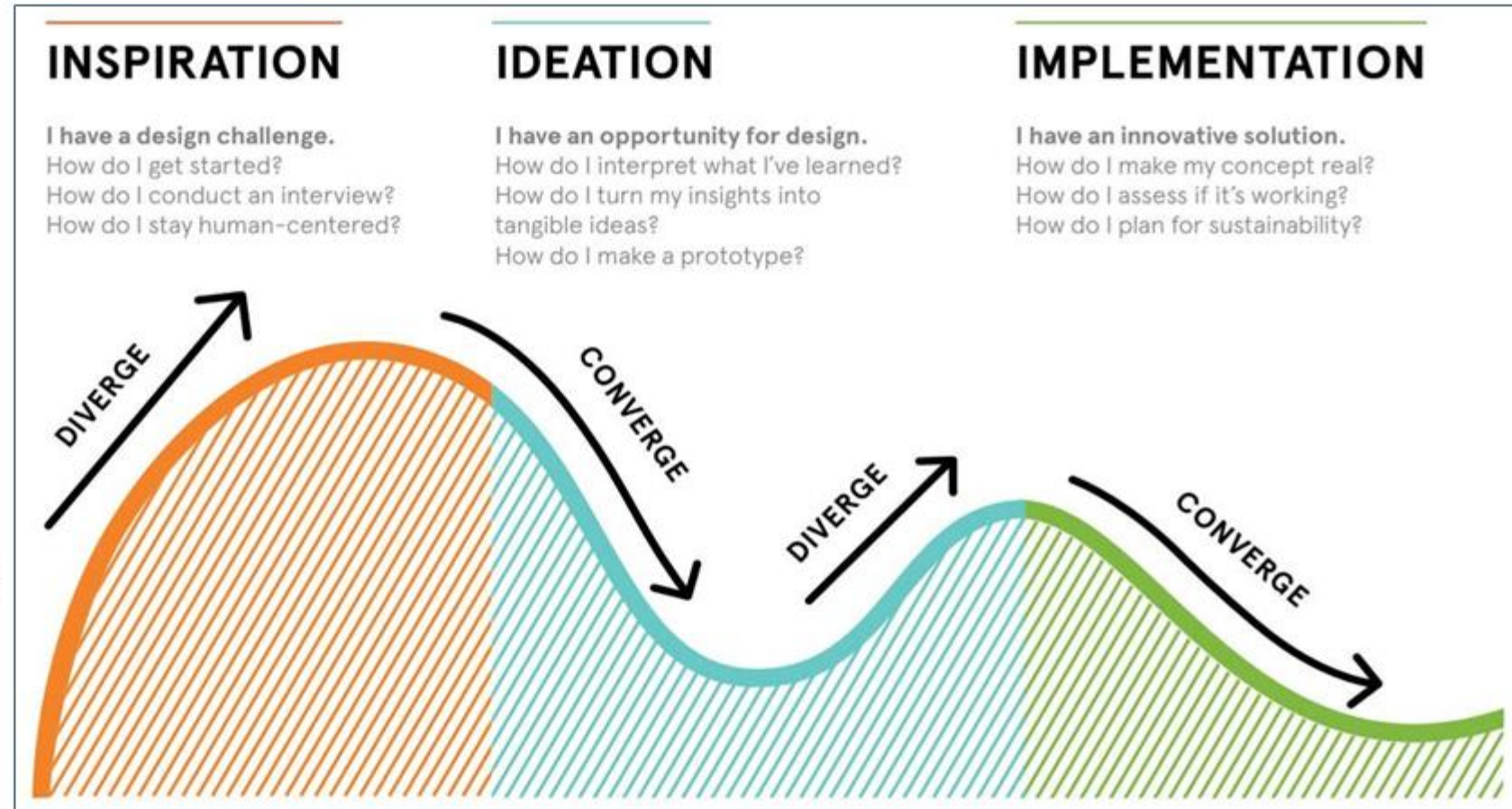


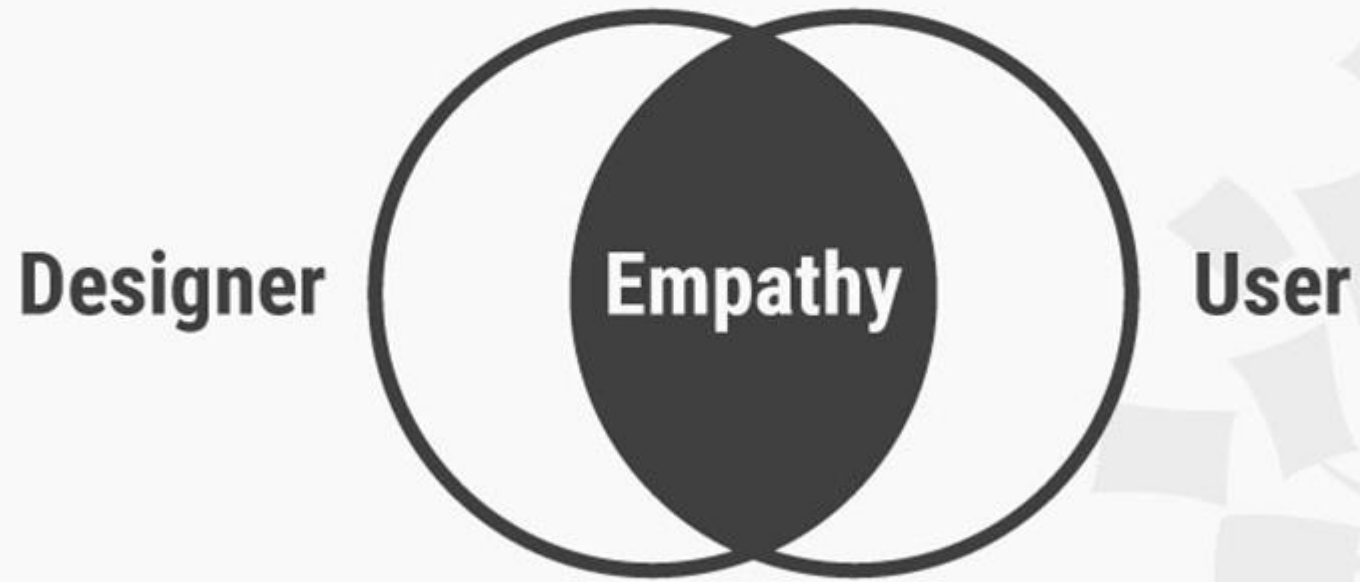
DESIGN CENTRIC ORGANIZATIONS:

APPLE
COCA-COLA
FORD
HERMAN-MILLER
IBM
INTUIT
NEWELL-RUBBERMAID
NIKE
PROCTER & GAMBLE
STARBUCKS
STARWOOD
TARGET
WALT DISNEY
WHIRLPOOL

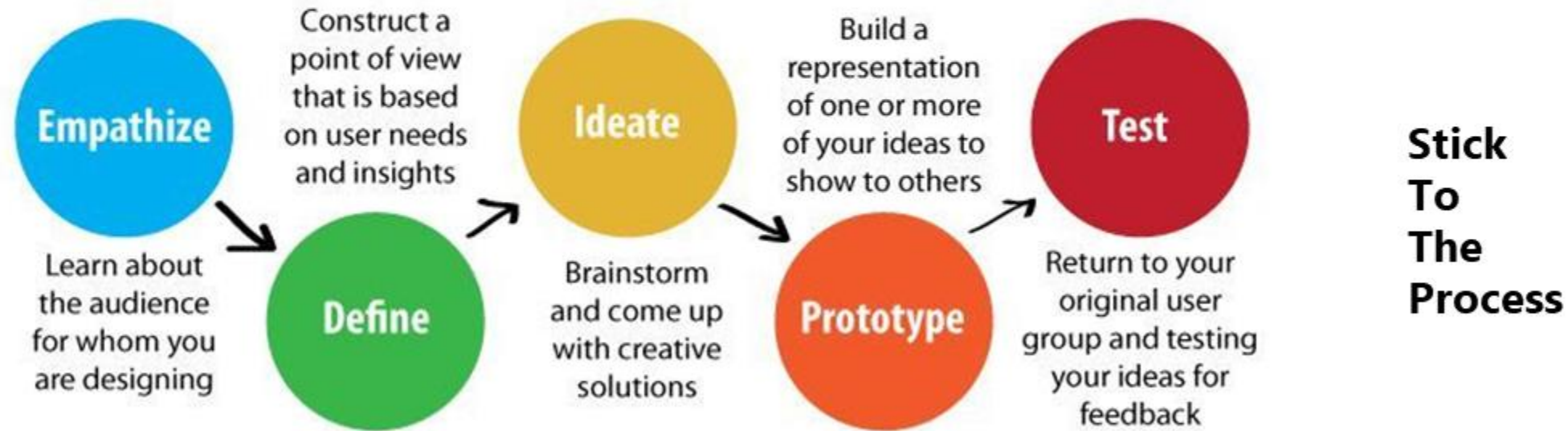
"The dmi: Design Value Index" Design Management Institute, 2013

Human-centered Design Processes





Design Thinking Processes



Design Thinking As An Iterative Process

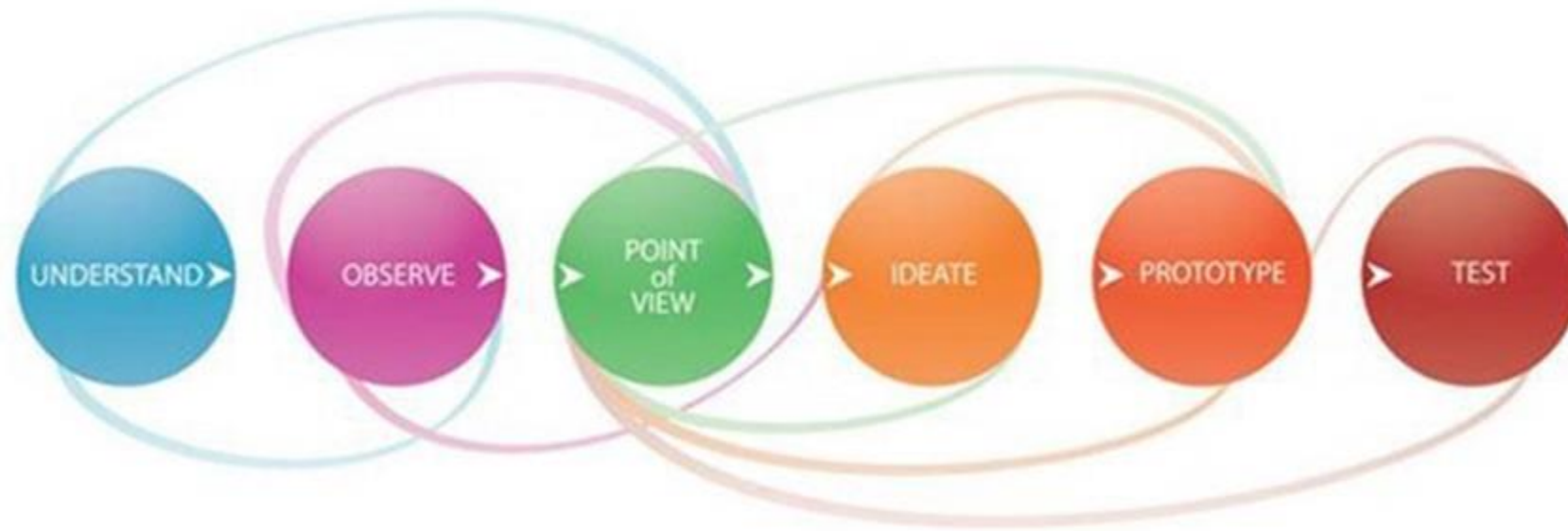


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Understand



In the Understand phase, we work to frame the overall design challenge and research and reflect on overall context for our work.

Methods In The Understand Phase


1. Defining the Problem Statement

2. Reviewing contexts

- Desk Research
- Expert interviews
- Plant Metaphor
- Convergence Maps
- Trends (From-To-Matrix)

3. Writing design briefs

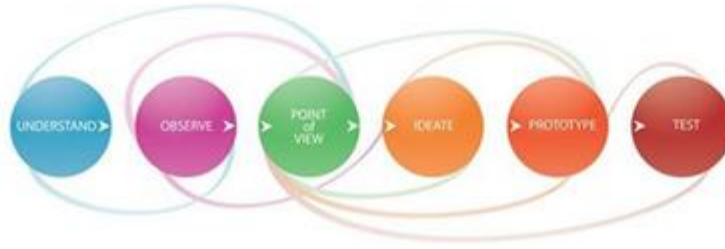
- What is the problem?
- Why are we solving it?
- Who's facing the problem?
- What are the goals?
- How will the proposed solution work, what it must do?
- What is the budget?
- What materials are needed?
- What alternative exists?
- When do we deliver?



DESIGN PROBLEM	DESIGN BRIEF
<p>Today traffic is an increasing problem on our roads. there has also been an increase in speeding and drink driving. The Government has tried to cut back on the number of accidents with speed camera and informative advertisement on television etc.... However, young children are at a particular risk and need to be educated in road safety.</p> <p>By V.Ryan</p>	<p>The local primary school has approached my small electronics firm to produce a working model of a pedestrian crossing. This will be used to show the children how to cross the road safely.</p> <p>I shall make the model interesting for the children by using:</p> <ul style="list-style-type: none">Bright / flashing lightsSounds - buzzersInteractive buttonsBright Colours <p>I shall make it safe by:</p> <ul style="list-style-type: none">Making sure that there are no places where fingers could be trappedSecuring any small parts so that they cannot be swallowedMaking sure it is waterproof and checking that the circuits are not on display.

NAME:	BRIEF AND PROBLEM	DATE:
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Observe



Developing an empathetic understanding of people's thoughts, feelings, needs and behavior.

Observing their pains.

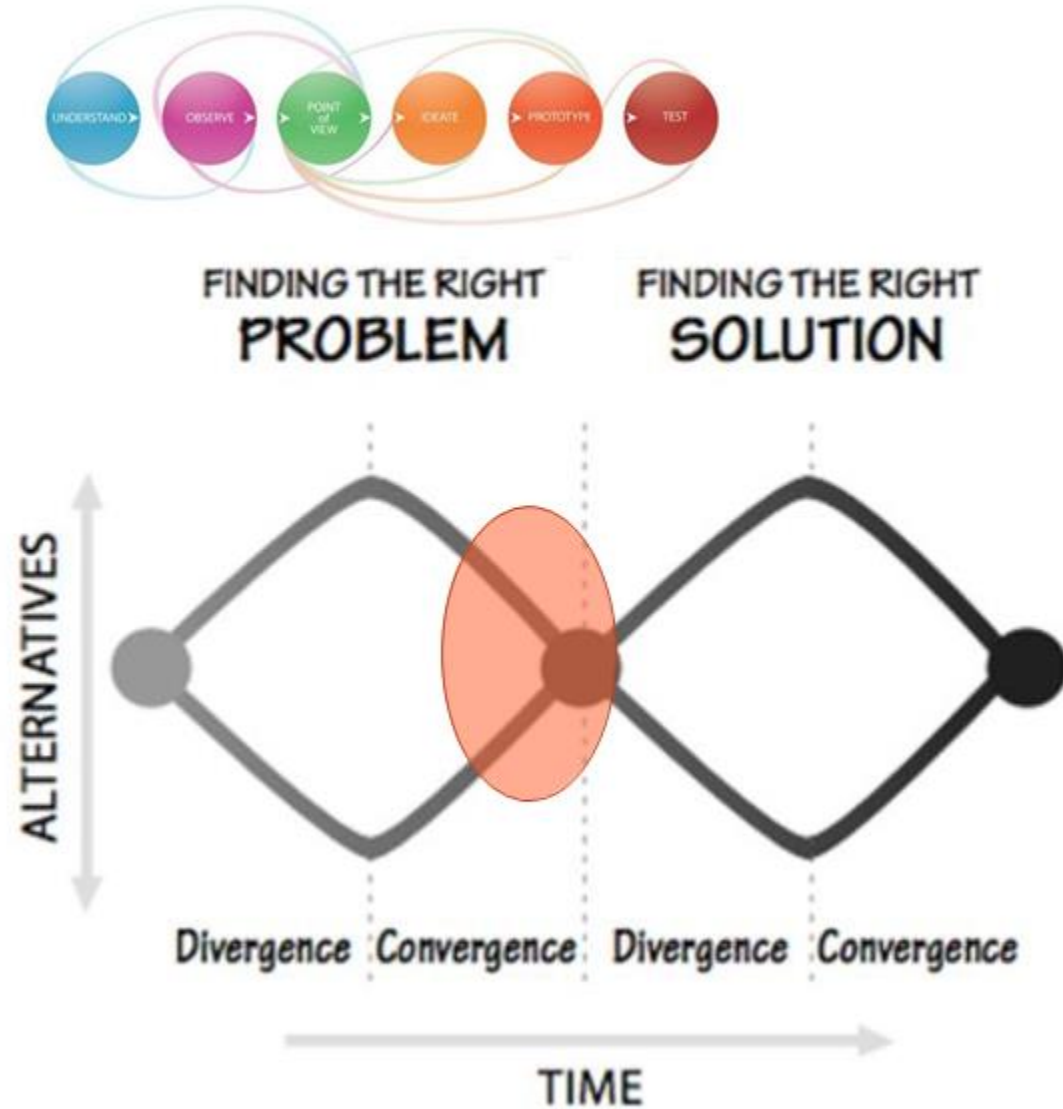
Methods In The Observe Phase

1. Interviews
2. Shadowing
3. Fly On The Wall Observation
4. Unobtrusive Measures
5. Image sorting/picture cards
6. Triading



Define Point Of View

In this phase, we are using convergent thinking to refine the problem statement.



Methods In The Define Point of View Phase

1. Story Share and Capture
2. Develop Personas
3. Affinity clustering/Insight Sorting
4. User Journey Map
5. Abstraction Laddering
6. Problem Tree Analysis
7. Statement Starters
8. Concept Map

Point of View Statements

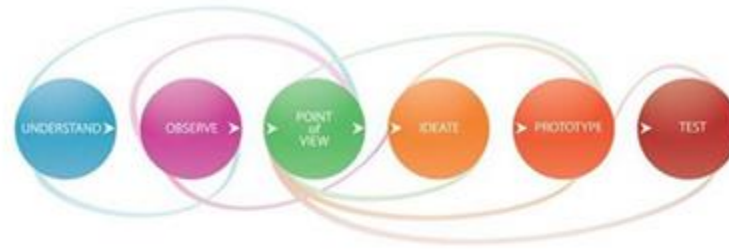
We met _____

We were surprised to notice _____

We wonder if this means _____

It would be game-changing to _____

Ideate



Generate ideas

Structure the ideas

Select the ideas

Refine and document ideas

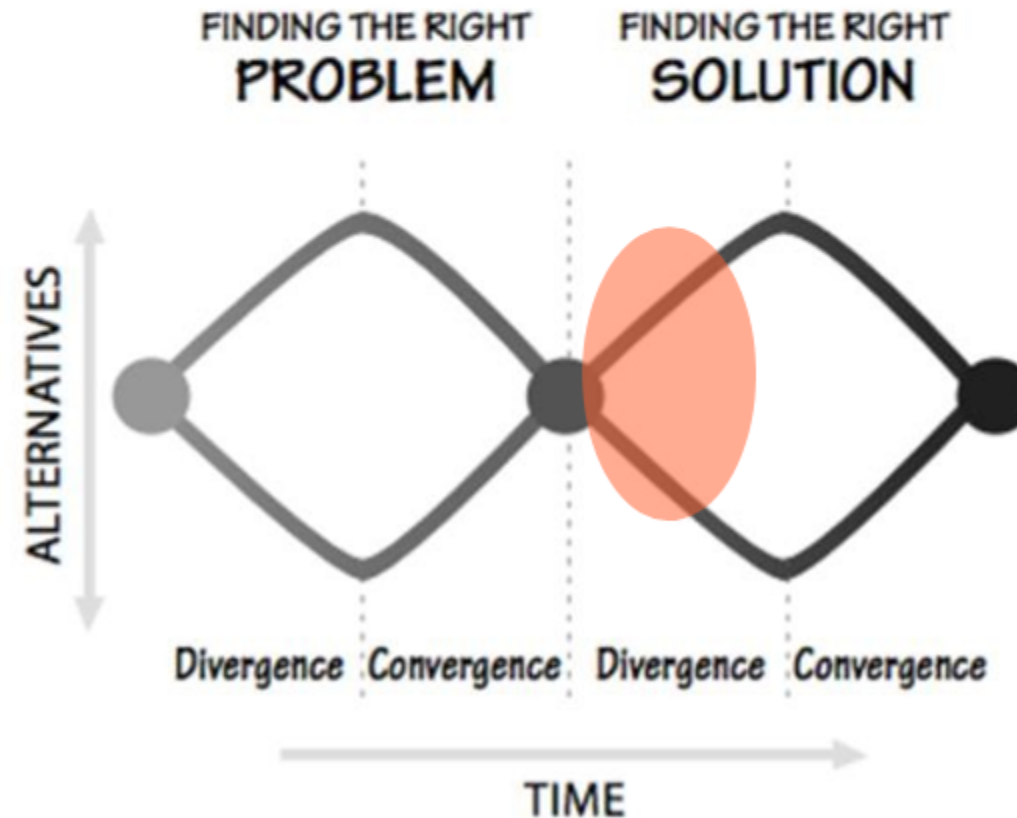
Methods In The Ideate Phase

Generating Ideas:

- Brainstorming
- Creative Matrix
- Concept Metaphors and Analogies
- Alternative worlds
- SCAMPER

Structuring Ideas:

- Grouping into categories
- 2X2 Matrix
- Brainstorming graphic organisation



Substitute

Autonomous vehicle
Artificial intelligence
instead of human
intelligence



Combine

Vehicle + scooter
Steering of a scooter
and space of a car



Rearrange

Folding vehicle

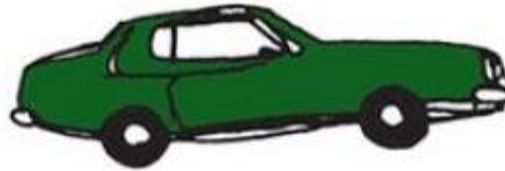


Eliminate

360° turn instead
of reverse gear

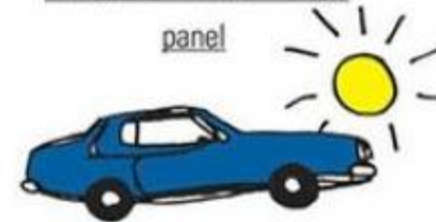


Example car



Put to other uses

Vehicle exterior as a solar
panel



Adapt

Vehicle + bird wings

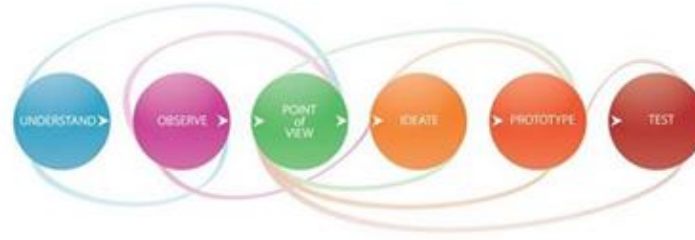


Modify

Wheelchair ramp
from the rear



Prototype



Low Resolution Prototype:

- Created at an early phase
- Usually done very quickly
- Rough approximation of the envisioned solution

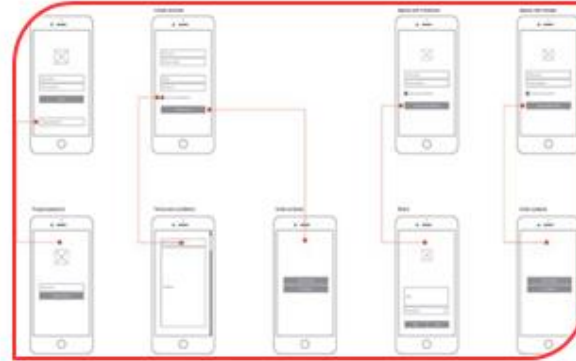
High Resolution Prototype:

- More detailed and more closely resemble the envisioned solution
- Typically require more investment (time and/or money) to create



Methods In The Prototype Phase

1. Physical model
2. Story boards
3. Wire-frame
4. Role Playing
5. "Wizard of Oz"
6. Virtual Prototyping
7. Minimum Viable Product



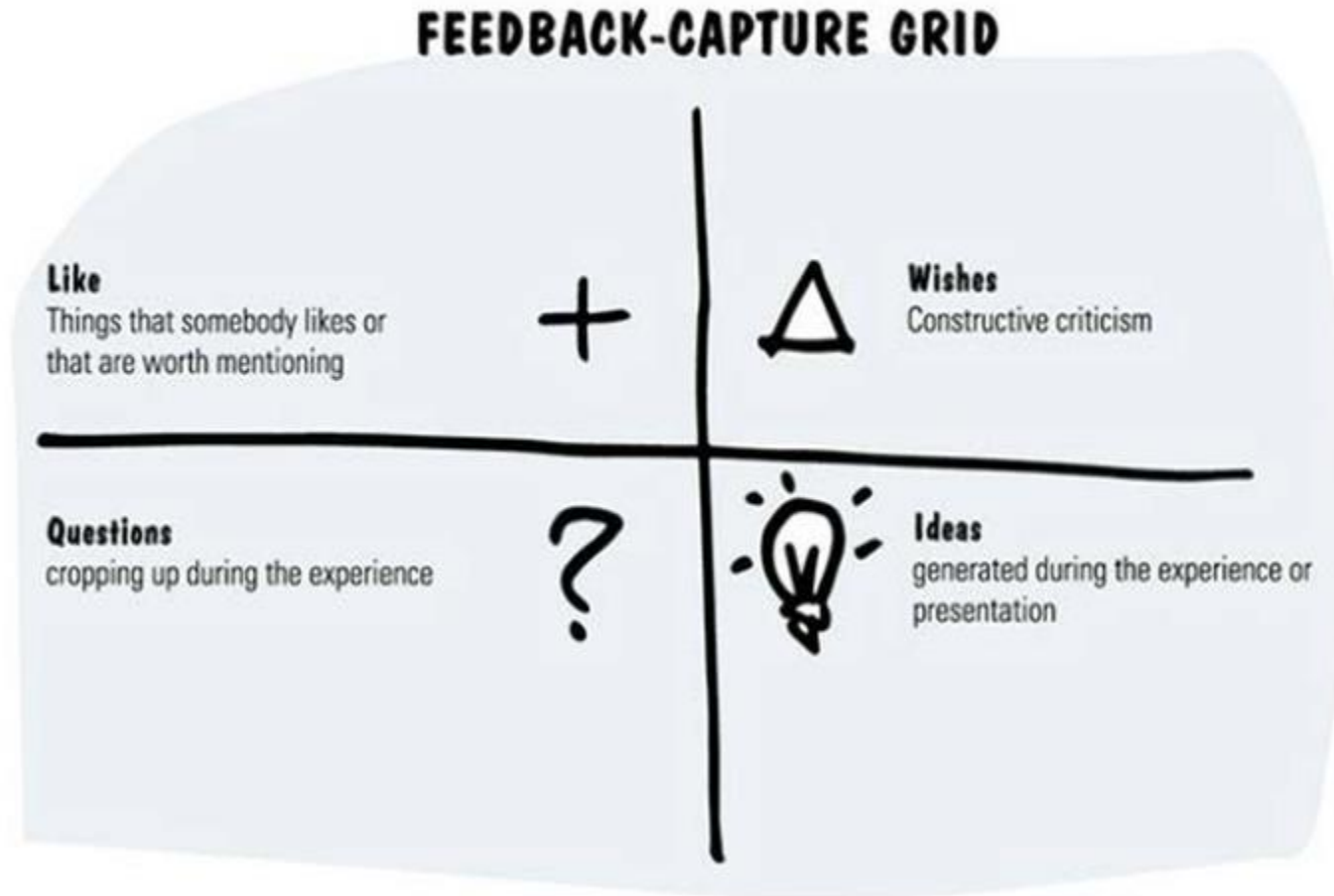
Test



1. Prepare for the test
2. Conduct the test
3. Document results
4. Infer Learning



Capturing Results



Documenting Results

Experiment 1	Learnings 1
Step 1: Hypothesis We believe that. . .	We have learned the following:
Step 2: Test To verify this, we will. . .	
Step 3: Metrics And measure. . .	Documentation of the test (e.g., photos)
Step 4: Criteria We are on the right track if. . .	

A Real life Problem

Personal Work

1. Identify a problem around you
 2. Make it a design challenge
 - How might we improve waste management in Nigeria?
 - How might we expand access to clean water in Lagos?
 - How might we encourage tourism in Lagos?
 - How might we expand affordable housing in Lagos?
 - How might we improve access to nutrition in Nigeria?
 - How might we prepare Nigerians for the future world of work?
 - How might we make the average Nigerian safer?
 - How might we make Nigeria more environmentally friendly?
-
1. Follow the design thinking process
 2. Share your idea with us

Wanna Know More...

<https://www.youtube.com/watch?v=izjhx17NuSE>

IDEO Shopping Cart Design Process -
July, 1999

<https://www.ideo.com/>

<https://www.ideo.org/>

Next Step

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Design Thinking Phases

Phases	Outcome
Understand	Design Brief
Observe	Observation Documentation
Define Point of View	Point of View Statement
Ideate	Ideas Documentation
Prototype	Prototype
Test	Test

IDEO Shopping Cart - <https://www.youtube.com/watch?v=izjhx17NuSE>



QUESTIONS?

You have the floor...



THANK YOU!

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