Design Thinking for Creating Innovations and Creativity

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(รองศาสตราจารย์ พ.ต.ต.ดร.ดนุวศิน เจริญ)

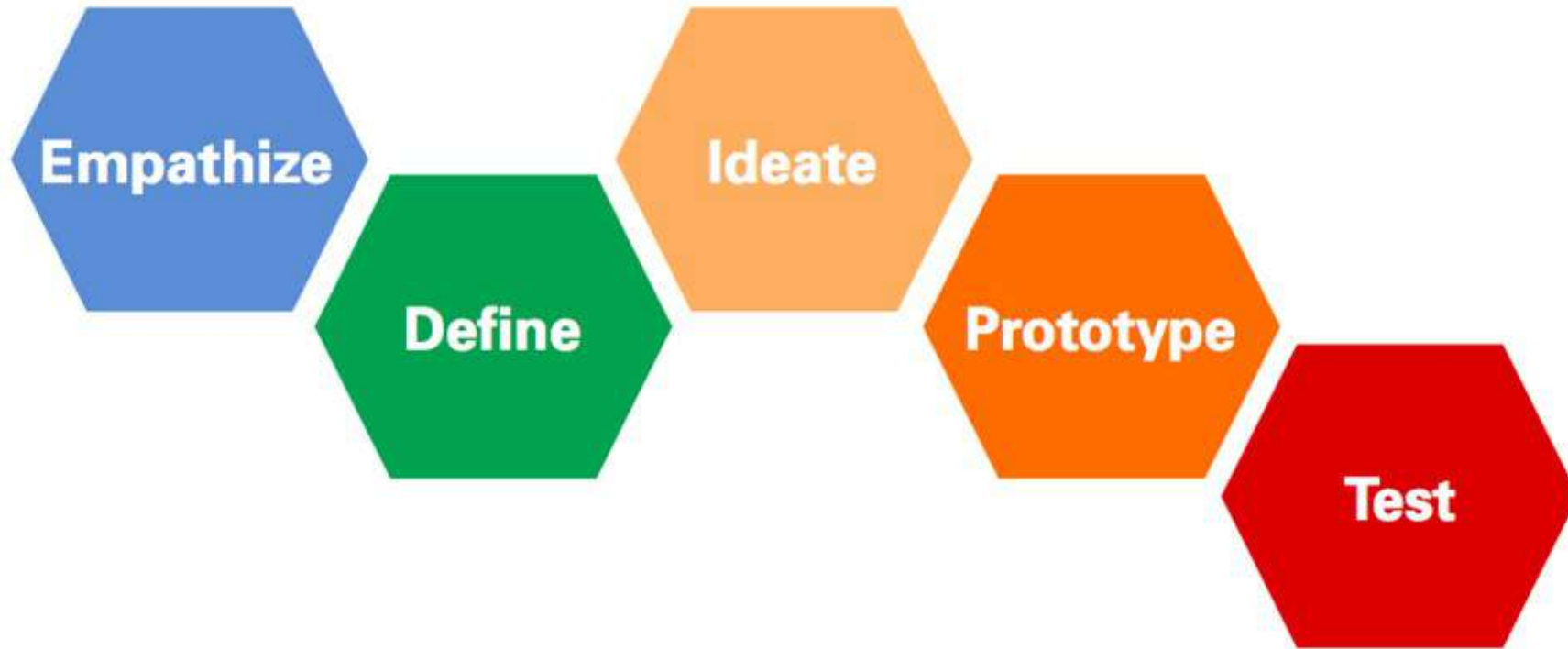Associate Professor/Director of the Center for Business Innovations
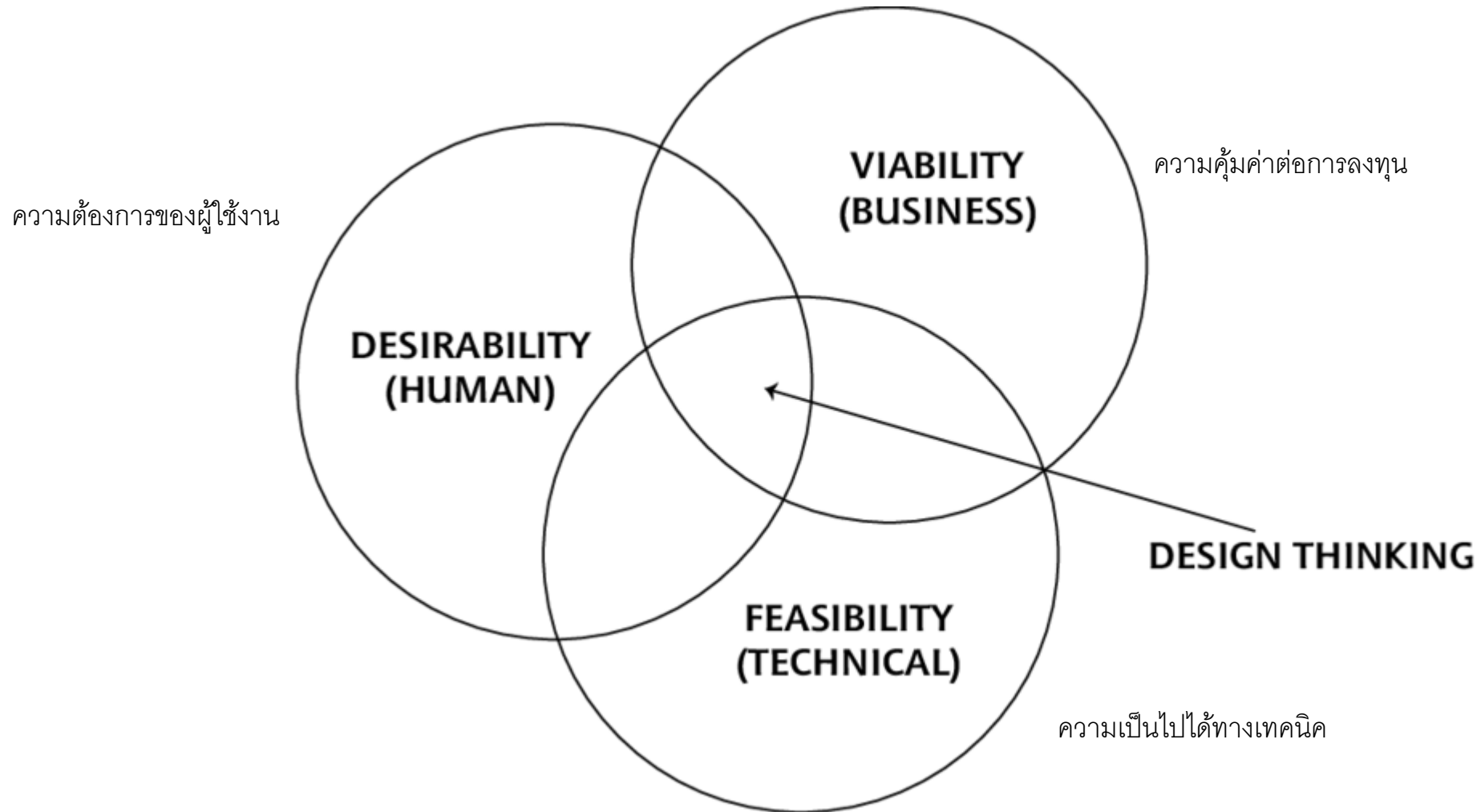
NIDA Business School

My experience at Stanford d.School

Design Thinking Road Map

Design Thinking

Source: Brown, T. (2009). Designers: think big. *TEDGlobal July 2009*.
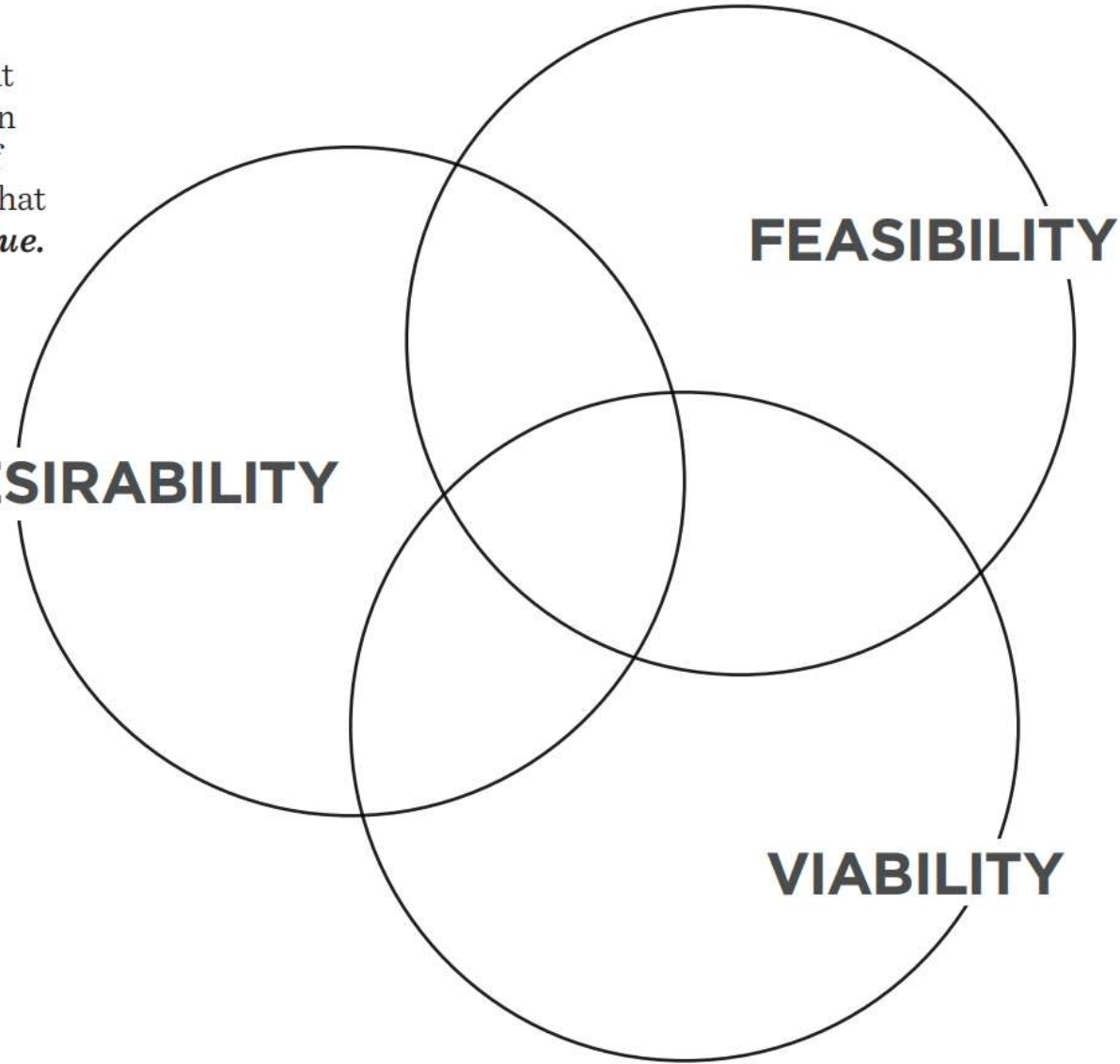
1 DESIRABILITY

We also refer to design thinking as a human-centered process because it begins with people. We want to listen to the dreams, wants, and *desires* of others, and then propose a solution that addresses what people *need* and *value.*

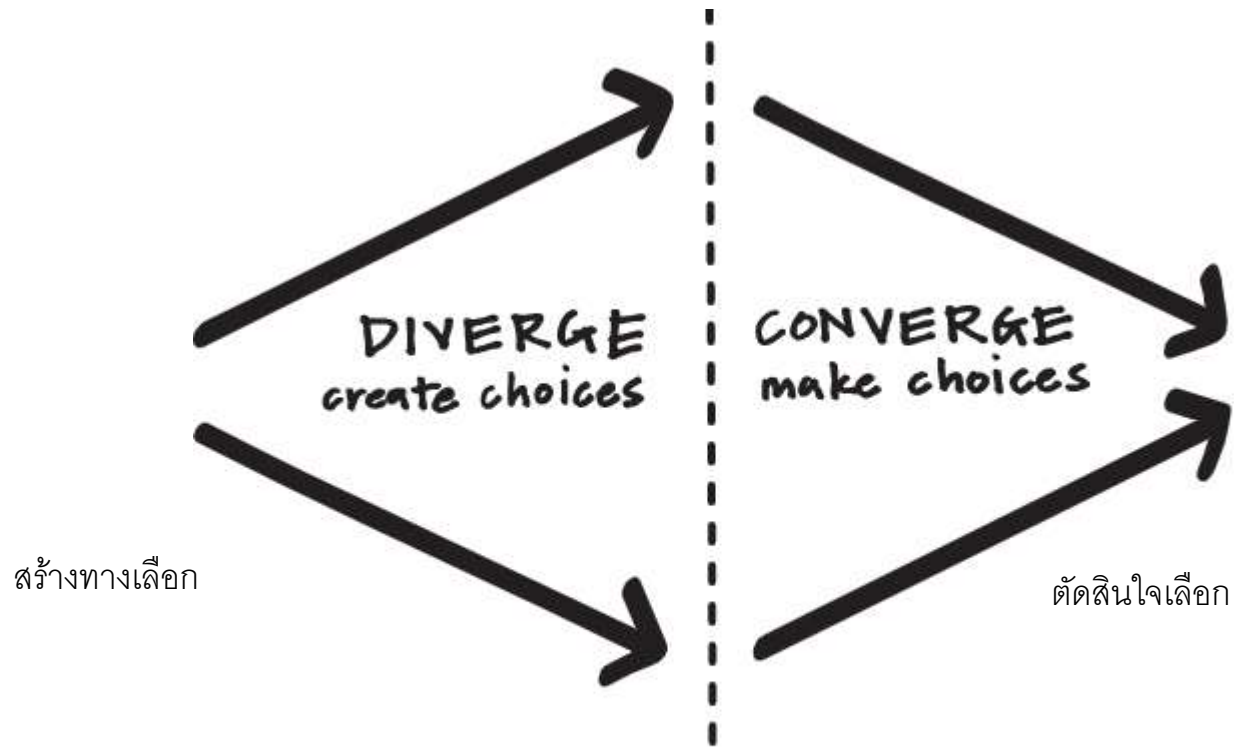## 2 FEASIBILITY

The solutions that surface should be *feasible.*

3 VIABILITY

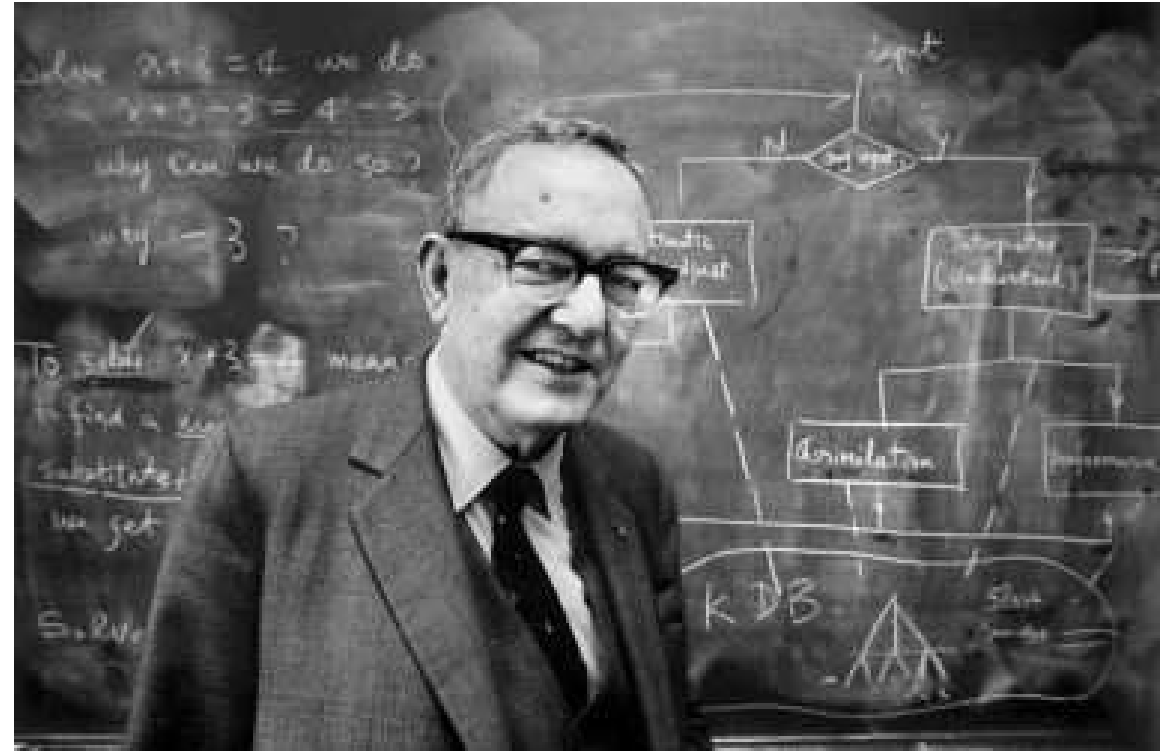And they have to be sustainable in different environments. They should make solid *business sense.*

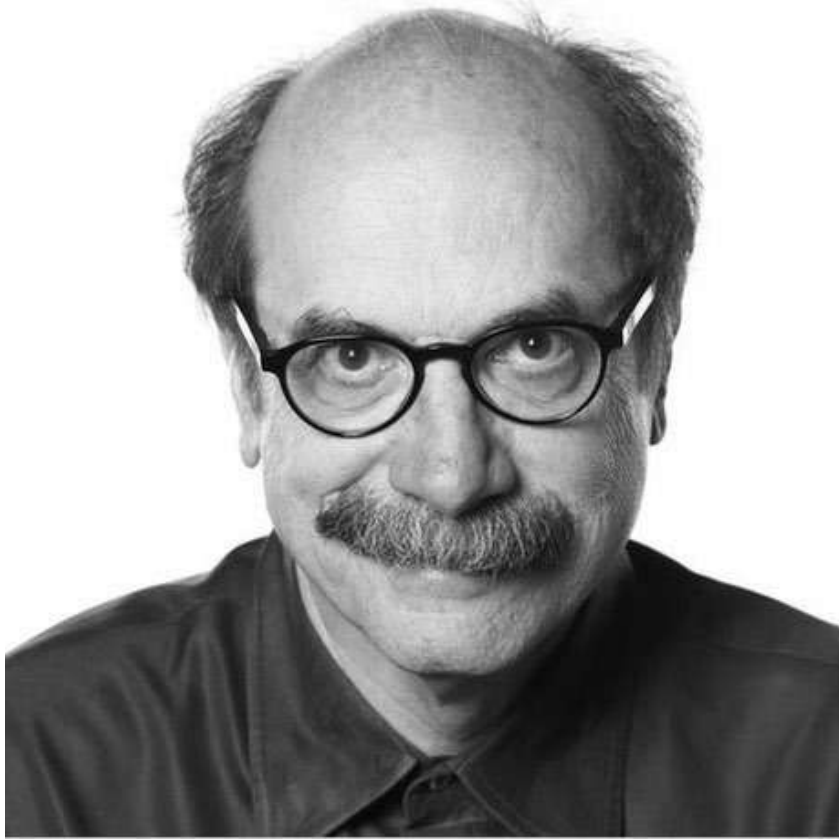We start here! ➡ **DESIRABILITY**

FEASIBILITY

VIABILITY

Paper clip challenge

Divergent thinking➜Convergent Thinking

สร้างทางเลือก

ตัดสินใจเลือก
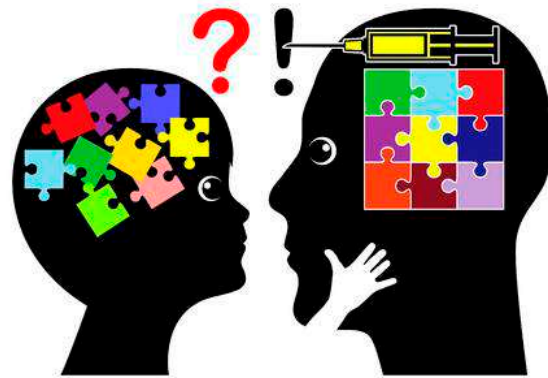
Divergent and convergent thinking
IDEO

Design Thinking History

Problems to be solved

Does the problem....

Focus on human value?

เกี่ยวข้องกับคน

Have high level of uncertainty?

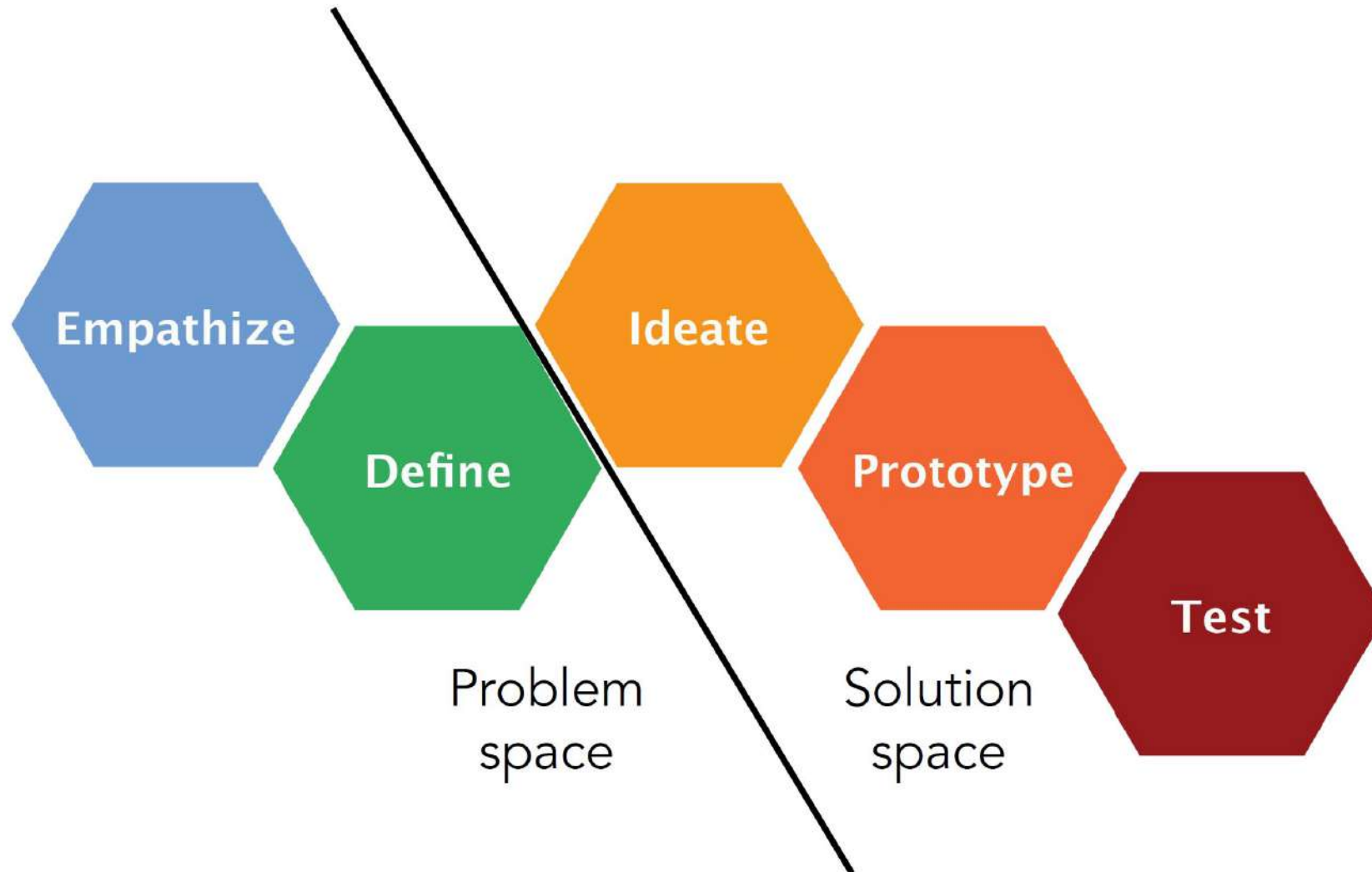มีความไม่แน่นอน หรือยังไม่มีทางออก

Is difficult to solve?

ยากในการแก้ไข

Has no data?

ขาดข้อมูล

Source: Paweł Żebrowski

Design Thinking Road Map

Empathize Define Ideate Prototype Test

Problem space   Solution space

EMPATHIZE

Observe in the user's environment

การเข้าไปสังเกตุกลุ่มเป้าหมาย

Engage with the users (through interviews)

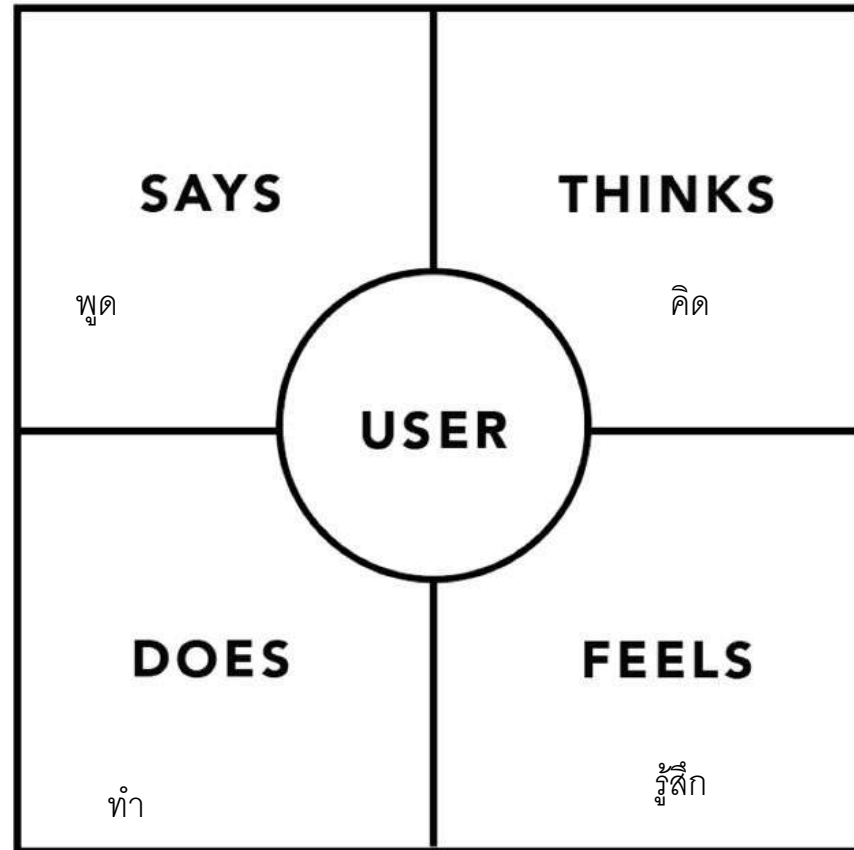การเข้าไปมีส่วนร่วมกับกลุ่มเป้าหมาย

Immerse yourself with user's environment

การเข้าไปอยู่ในสภาพแวดล้อมเดียวกับกลุ่มเป้าหมาย

"By watching people you can capture physical manifestations of their experiences, what they do and say…the best solutions come out of the best insight into human behavior," (Stanford d.School)
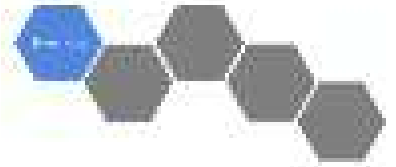
Source: Stanford d.School

EMPATHY MAP

SAYS พูด	**THINKS** คิด
DOES ทำ	**FEELS** รู้สึก

USER (center)

NNGROUP.COM NN/g
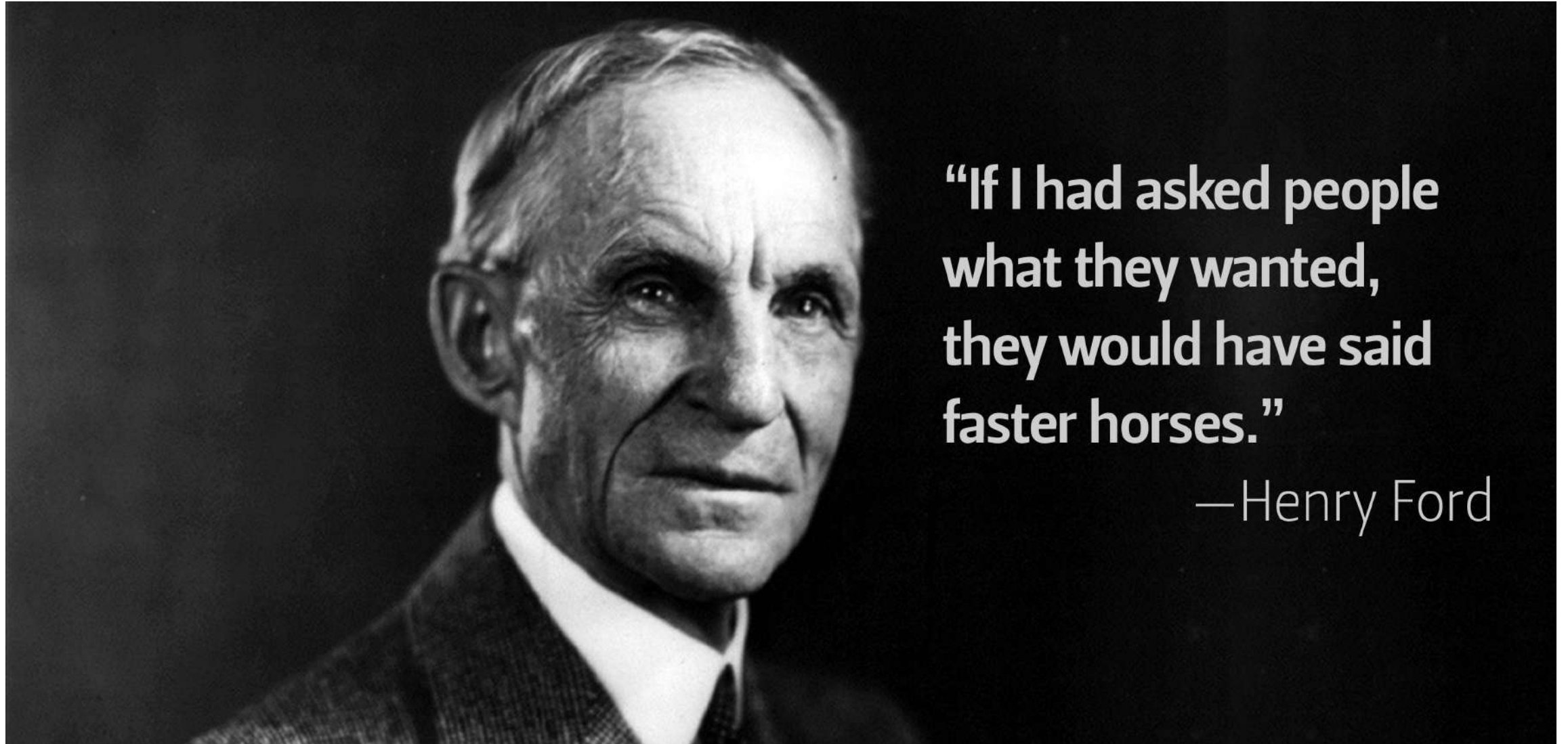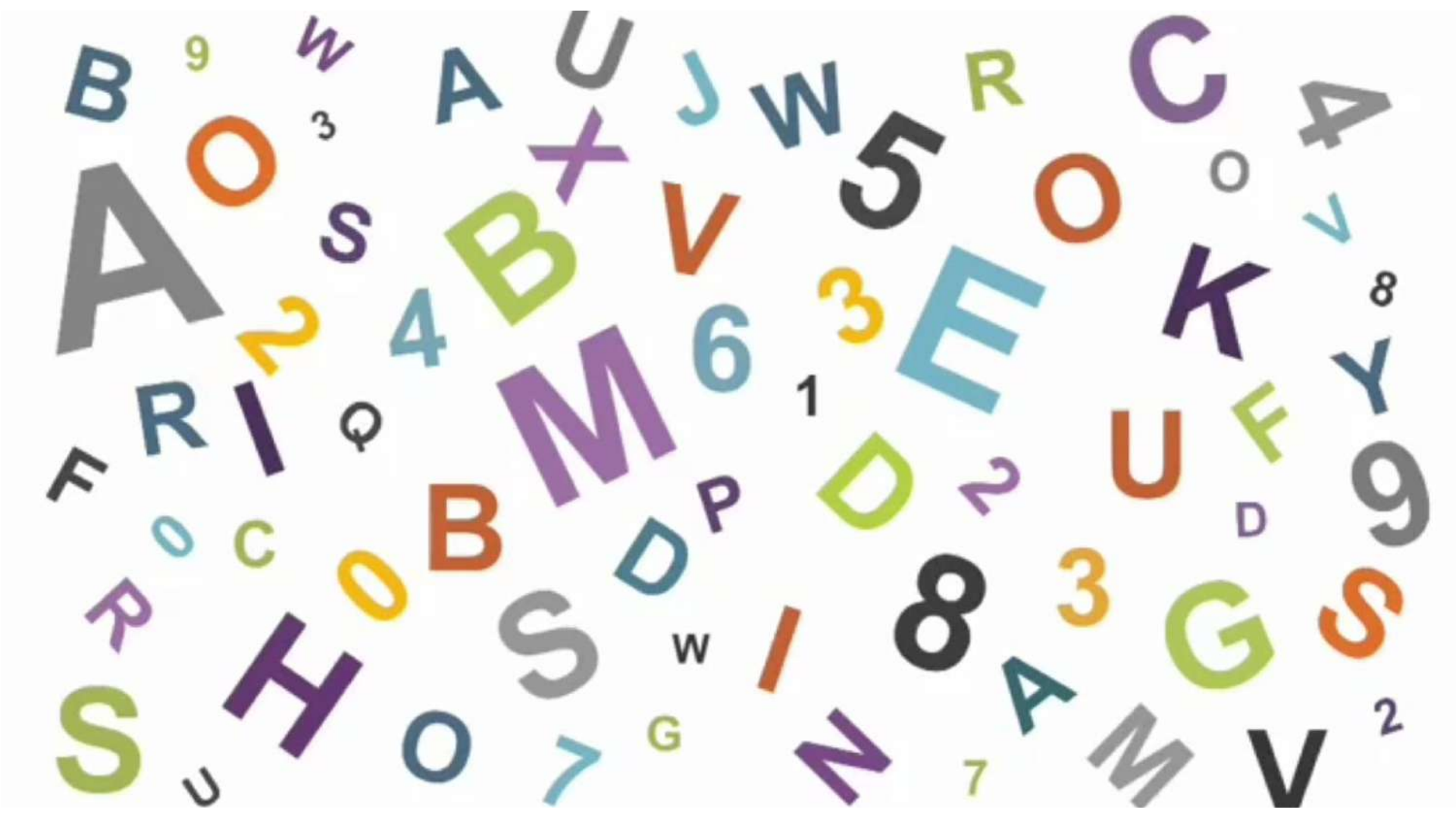
Observe > Engage > Watch > Listen

ถ้าถามคนว่าเค้าต้องการอะไร เค้าจะบอกว่าต้องการม้าที่วิ่งเร็วขึ้น   เฮนรี่ ฟอร์ด

"If I had asked people what they wanted, they would have said faster horses."
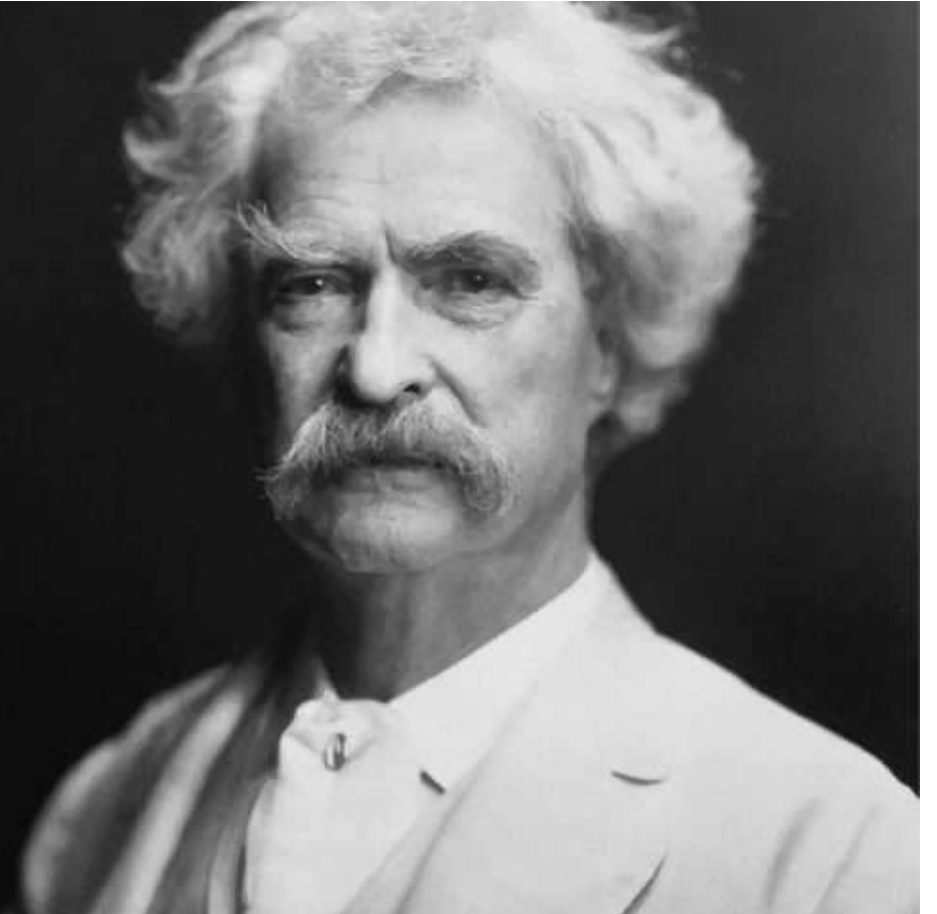—Henry Ford

OBVIOUS

HIDDEN
OBVIOUS

Insights that are obvious only *after* you point them out

มันไม่ใช่สิ่งที่เราไม่รู้ที่ทำให้เราอยู่ในภาวะที่ลำบาก แต่เป็นสิ่งที่เรารู้แต่ว่ามันไม่ใช่

มาร์ค ทเวนน์

It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so.

Mark Twain

Why empathy?

- To know what the target group really wants (เพื่อเข้าใจกลุ่มเป้าหมาย)
- Problems to solves rarely out problems (เพื่อเข้าใจปัญหาอุปสรรคของกลุ่มเป้าหมาย)
- To remove filters from our head (เพื่อนำอคติออกจากความคิดเรา)

A recent situation when I felt I belonged was...

4

Something that ...y ...ess

3

A compliment I receive often is...

2

When I'm new to a group I tend to...

1

If I could only eat one food for a year it would be...

BUILT RAPPORT (BE AT THEIR LEVEL - LITERALLY)

BUILDING PSYCHOLOGICAL SAFETY (NOTE: IT'S A PROCESS)

DESIGN PROJECT BRIEF

THE SCENE:

THE CHALLENGE:
How might we reimagine learning beyond the formal education system

THE PROCESS:

THIS CHALLENGE IS BROAD

I IDENTIFY ACTIONABLE OPPORTUNITIES

INSPIRED BY ... PEOPLE

GO FROM P... "HOW MIGHT W...

HMW #1: The Basic HMW

HMW #2: Identify an Untapped...

HMW #3: The Analogous HMW

UNPACK YOUR INTERVIEWS

CREATE A POINT-OF-VIEW STATEMENT (POV)

IS THERE A VASE EMBEDED IN YOUR POV?

ASSESS YOUR INTERVIEWING SKILLS

BRINGING DIFFERENT PERSPECTIVES TOGETHER

DEMO!

DO!

Designers approach empathy...

- **Without judgement** (ไม่มีอคติ หรือตัดสิน)
- **With a beginner's eyes** (มองด้วยสายตัวเหมือเด็ก)
- **With curiosity** (เต็มไปด้วยคำถาม)
- **Optimistically** (มองในแง่ดี)
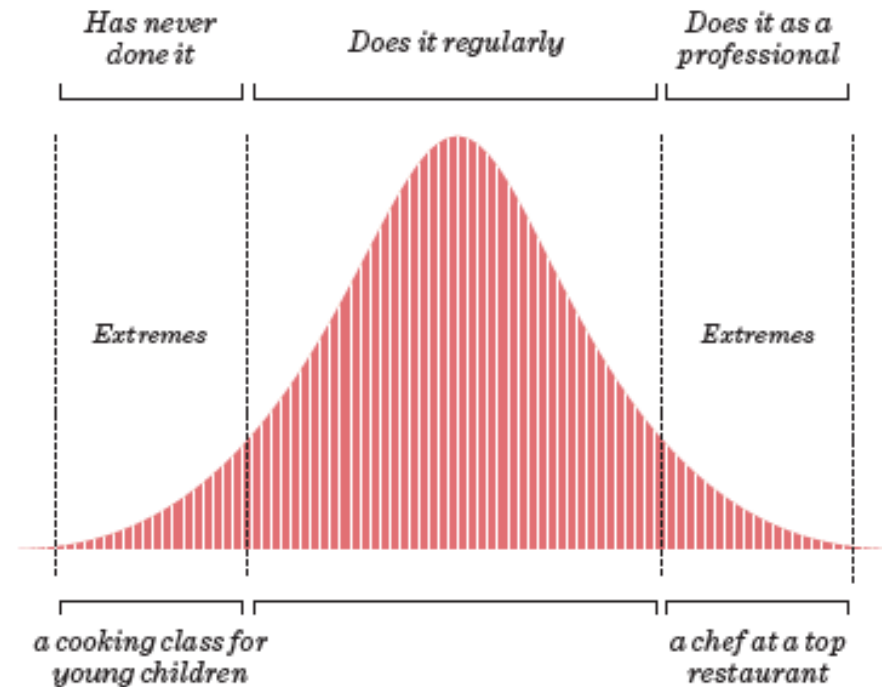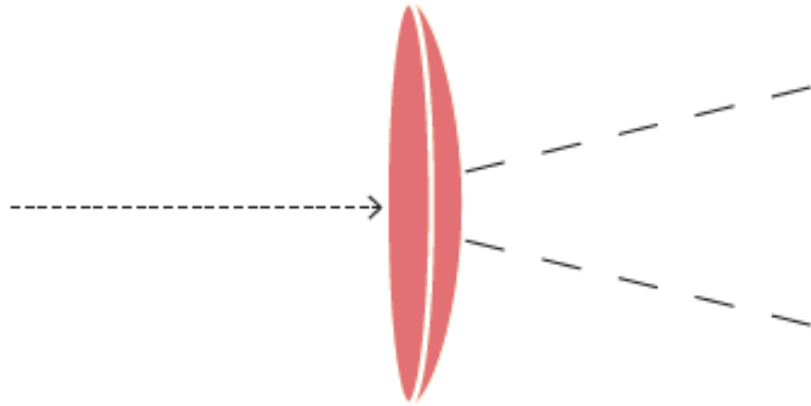- **Respectfully** (ให้ความเคารพในความเห็นที่แตกต่าง)

Source: Justin Ferrell

When you observe

- **Look for things that prompt behavior** (ดูว่าสิ่งอะไรเป็นตัวกำหนดถึงพฤติกรรม)

- **Look for adaptations** (ดูว่ากลุ่มเป้าหมายต้องมีการปรับตัวอย่างไรบ้าง)

- **Look for what people care about (**ดูว่าเค้าให้ความสำคัญกับอะไร)

- **Look for body language** (สังเกตภาษากาย)

- **Look for patterns** (สังเกตแนวโน้มของพฤติกรรม)

- **Look for the unexpected** (สังเกตสิ่งที่สิ่งที่ไม่ได้เปิดเผย หรือสิ่งที่อยู่เหนือความคาดหมาย)
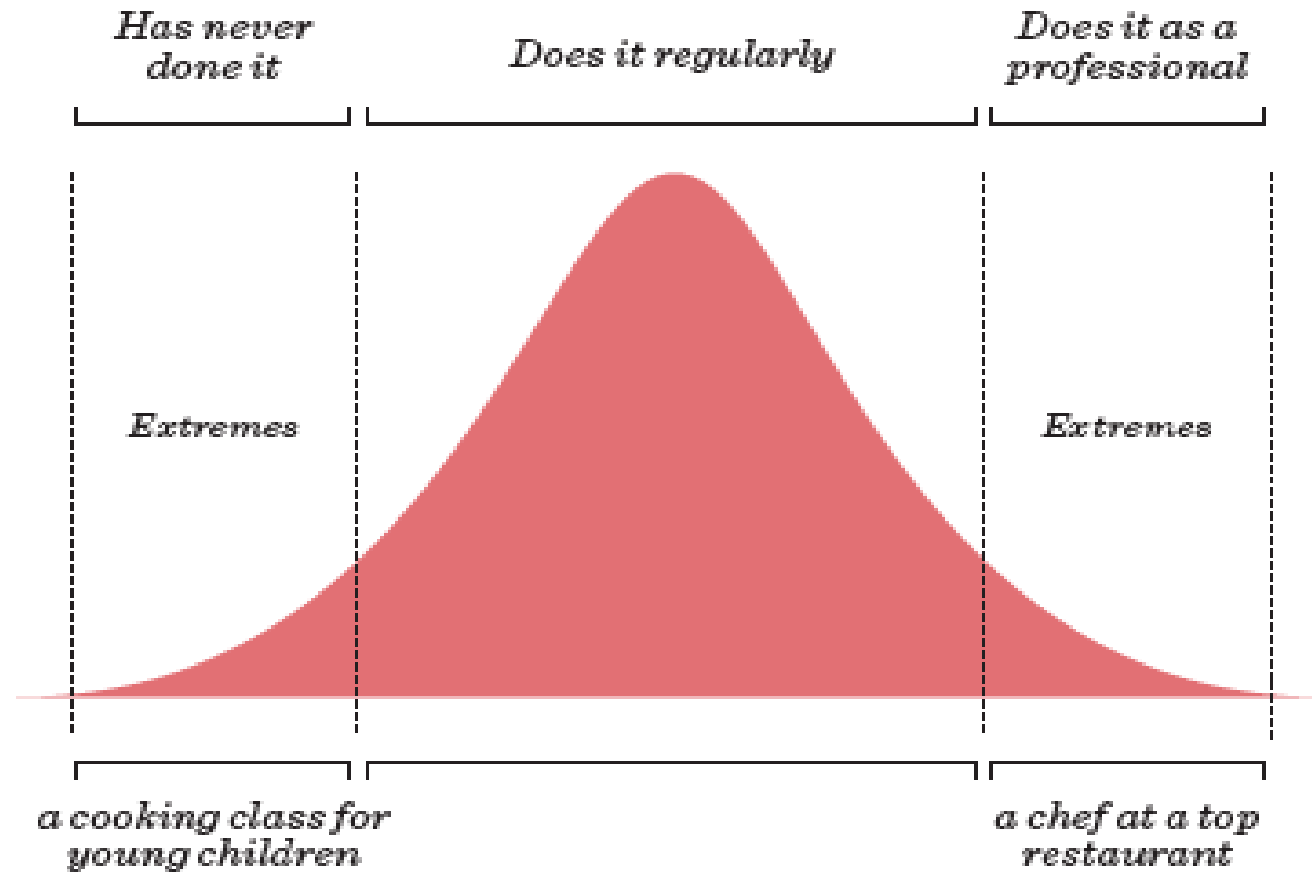
Identify Extreme User
(การระบุผู้ใช้ที่มีพฤติกรรมสุดโต่ง)

Has never done it

Does it regularly

Does it as a professional

Extremes

Extremes

a cooking class for young children

a chef at a top restaurant

GET SPECIFIC = WHO ARE THESE PEOPLE?

Identify Extreme User

STRETCH EXAMPLE = LEVEL OF COOKING EXPERIENCE

Has never done it

Does it regularly

Does it as a professional

Extremes

Extremes

a cooking class for young children

a chef at a top restaurant

GET SPECIFIC = WHO ARE THESE PEOPLE?

Interview Tips

- Ask open-ended questions (ถามคำถามปลายเปิด)
- Show me (แสดงให้เห็น)
- Start broad and finish deep (เริ่มต้นจากคำถามกว้างไปสู่ลึก)
- Build rapport (สร้างความสัมพันธ์ที่ดี)
- Body Language (สังเกตภาษากาย)
- Minimizing your presence (เน้นฟังมากกว่าพูด)

Capturing an Interview

- Interesting Quotes (ดูประโยคที่น่าสนใจ)
- Problems (ดูประเด็นปัญหา)
- Opportunities (ดูโอกาส)
- Interpretations (แปลความต้องการ)
- Ideas (ดู idea ที่น่าสนใจ)
- Insights (ดูว่าอะไรเป็นความต้องการที่ซ่อนอยู่)

Customer persona

Picture & Name (รูปภาพและชื่อ)	**Behaviours** (พฤติกรรม)
• What does the persona look like? • What is its name? • Choose a picture and a name that are representative, that allow you to develop sympathy for the persona	• What are the persona's relevant behaviours? • Consider common tasks, spare time activities, and attitude
Demographics (ข้อมูลพื้นฐาน)	**Needs & Goals** (ปัญหาและความต้องการ)
• What are the persona's relevant characteristics? • Consider demographics, job, and lifestyle.	• Why would the persona want to buy or use the product? • What problems should the product solve? • What benefits does the persona want to achieve?

Personas

Name	Picture
• Alliteration makes it easier to remember ("Harried Henry").	
Description	**Values**
• Provide details that help us understand the context in which the persona will interact with the system. • Avoid details that have nothing to do with the system. • Goal is to be able to imagine being "in that person's shoes" after reading the description.	• What value does this person want the system to deliver? • What is this person looking forward to getting out of the system? • Try to stay away from describing the "what" or the "how" of features at this point. Focus on "why."

Example - persona

"Hannah"	Behaviours
	• Receives and signs for the delivery of medical drugs • Works only from 2pm to 5pm at the local pharmacy in Punggol Plaza; the rest of time works in NUH
Demographics • Pharmacist at a local NTUC Unity Healthcare pharmacy in Punggol Plaza • 29 years old • Working for past 2 years	**Needs & Goals** • Have busy schedule every day • Like to be kept informed on status of delivery so she can plan her daily work schedule

Background:

*Staff Accountant at Founder Accounting

*Completed his undergraduate degree at Penn State and his masters at Cornell University

*Has a serious girlfriend and two dogs (a Labrador retriever and a pug mix)

Demographics:

*Male

*Age 34

*Annual HH income: $125,000

*Lives in a townhouse-style condo in an urban area

Goals:

*Become a senior accountant within 3-5 years

*Achieve a salary of $80,000 so that he can purchase a single family home

*Network aggressively in order to build professional contacts

Tommy Technology

Hobbies & Interests:

*Running 5K races with his girlfriend

*Watching Game of Thrones

*Going out to brunch with other young couples

*Taking one nice vacation a year to established tourist destinations

Challenges:

*Wants to have a more modern website, but isn't the final decision-maker

*Struggles with being seen as the "young guy" in the office and being taken less seriously as a result

Common Objections:

*I love the idea of a new website, by my boss will never go for it! He doesn't see the value in new technology.

*I'd love to get started on a new website, but I don't think I can get buy-in from my boss. He never takes my ideas seriously.

Biggest Fears:

*Getting stuck in a job and not advancing up the corporate ladder as quickly as he'd like

*Economic recessions that mean he'll never be able to retire
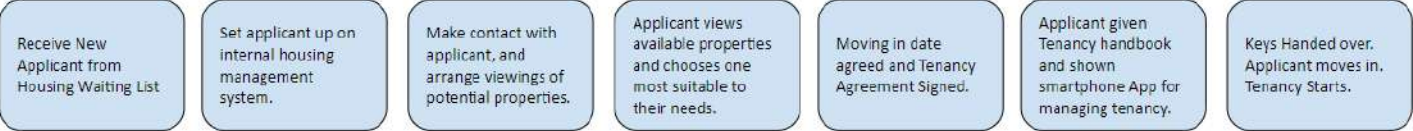
*Life passing him by too quickly

EMPATHY MAP

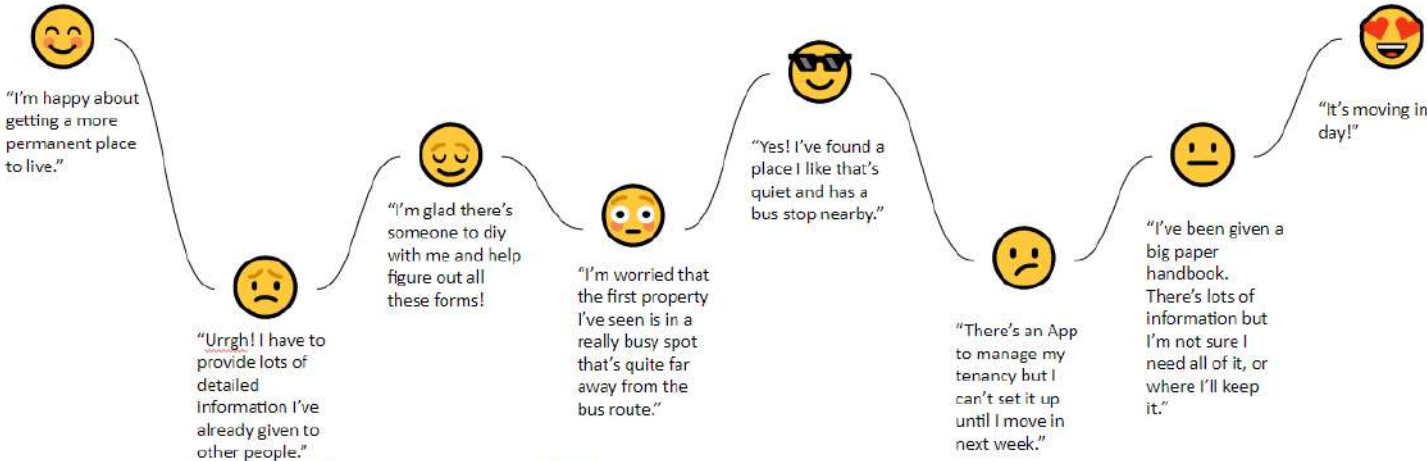## What does he THINK AND FEEL?
คิดและรู้สึก

what really counts
major preoccupations
worries & aspirations

What does he HEAR?
ได้ยิน

what friends say
what boss say
what influencers say

What does he SEE?
เห็น

environment
friends
what the market offers

What does he SAY AND DO?
พูดและทำ

attitude in public
appearance
behavior towards others

PAIN
ปัญหาอุปสรรค

fears
frustrations
obstacles

GAIN
สิ่งที่สร้างความพึงพอใจ

"wants" / needs
measures of success
obstacles

Source: Adapted from XPLANE

Empathy Map courtesy of
www.eventmodelgeneration.com

Empathy Map

customer journey mapping

The Process

| Receive New Applicant from Housing Waiting List | Set applicant up on internal housing management system. | Make contact with applicant, and arrange viewings of potential properties. | Applicant views available properties and chooses one most suitable to their needs. | Moving in date agreed and Tenancy Agreement Signed. | Applicant given Tenancy handbook and shown smartphone App for managing tenancy. | Keys Handed over. Applicant moves in. Tenancy Starts. |

Customer Journey Map

"I'm happy about getting a more permanent place to live."

"Urrgh! I have to provide lots of detailed information I've already given to other people."

"I'm glad there's someone to diy with me and help figure out all these forms!"

"I'm worried that the first property I've seen is in a really busy spot that's quite far away from the bus route."

"Yes! I've found a place I like that's quiet and has a bus stop nearby."

"There's an App to manage my tenancy but I can't set it up until I move in next week."

"I've been given a big paper handbook. There's lots of information but I'm not sure I need all of it, or where I'll keep it."

"It's moving in day!"

Opportunities

How might we ask the applicant for less data or make the process of capturing data much more user friendly?

How might we better capture people's preferences so we only show them properties that are likely to meet their needs?

How might we change our smartphone app so that people can sign in before their tenancy officially goes lives?

How might we redesign the tenants handbook so that the information is more convenient to reference?

customer journey mapping
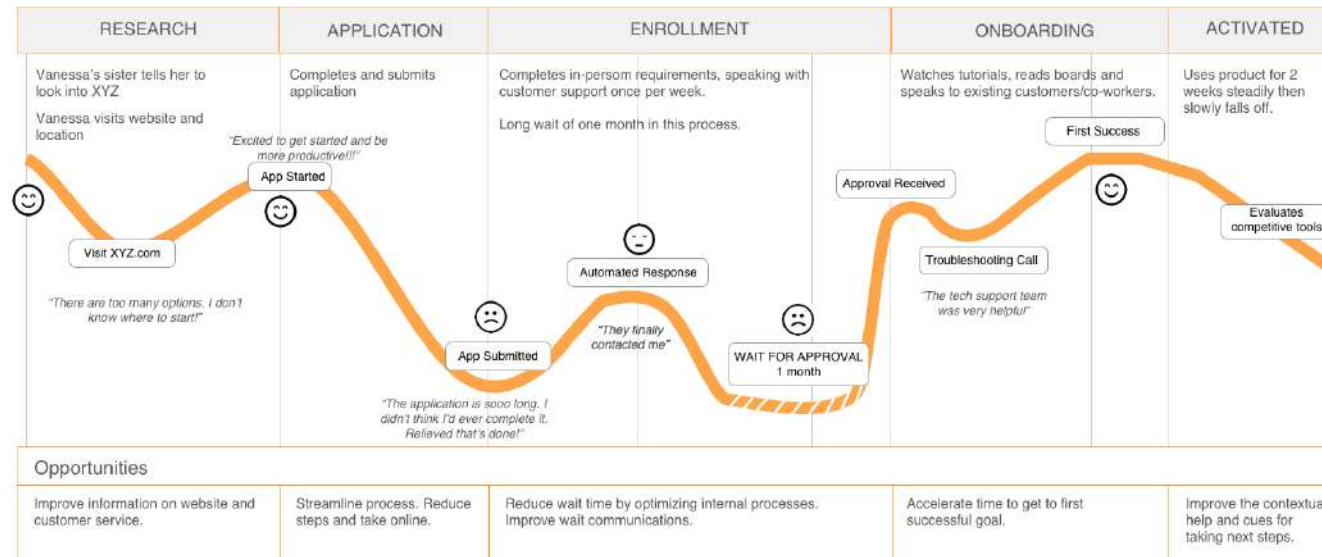
customer journey mapping

Customer Journey Map

Stage	Awareness	Research	Consideration	Purchase	Use	Post-purchase
Time in phase *x weeks/days.*						
Customer needs *What are their pain points?*						
Key touchpoints *What are they doing? Customer actions and interactions with your company.*						
Channels *Where are they interacting with your company? e.g. website, email.*						
Feelings *Highs and lows e.g. frustration, anxiety, joy.*						
Barriers *What is preventing them from moving onto the next phase?*						
Moments of truth *Positive interactions that had a lasting impression.*						

customer journey mapping

	Record	Download to computer	Import to editing software	Edit the video	Export	Upload	Share
ACTIONS	Charge battery / Buy blank tapes	Find cable / Transfer to PC	Choose & install app / Import footage	Add Crossfades music / Tinker for hours	Choose file format, codec / Wait for export ... zzzz	Select hosting service / Upload file	Send out chain mail / Link to myspace, bebo, etc.
QUESTIONS	Do I have blank tapes? / Batteries charged? / Spare battery packed?	Why is it taking so long?	Which app is best? / Is my PC compatible?		What's a CODEC? / What settings are best?	Where can I put this file?	
HAPPY MOMENTS	Video quality is amazing! / Love the long zoom				Labour of love – looks great		HOORAY friends like it!
PAIN POINTS	So much preparation!	Can't find goddam cable! / out of disk space. Huh?	Hard to pick the right app	Takes way too long	It came out all blocky! / Too many decisions!	Youtube is 10 mins max	Doesn't play on mum's PC / Too much work overall!
OPPORTUNITIES	Use Flash storage not tape / Allow AA batteries	Build an integrated USB cable	Preload editing app free on camera	Streamlined editor – less control but quicker!	Video recorded as web ready / Jargon free export options	Share as one click feature of editor	Jargon free export options / Ensure a joined up 'end to end' experience

Define

1

Organize and focus the unique insights that you uncovered during the first mode into clusters of related insights.

2

Start searching for key themes that immerge across and within the clusters.

3

Create a point-of-view (POV), which focuses the insights, needs and challenges you discovered into a clear statement.

Source: Stanford d.School

Why Define?

- To understand a target group
- Define and redefine the problem

Making sense of interviews' data
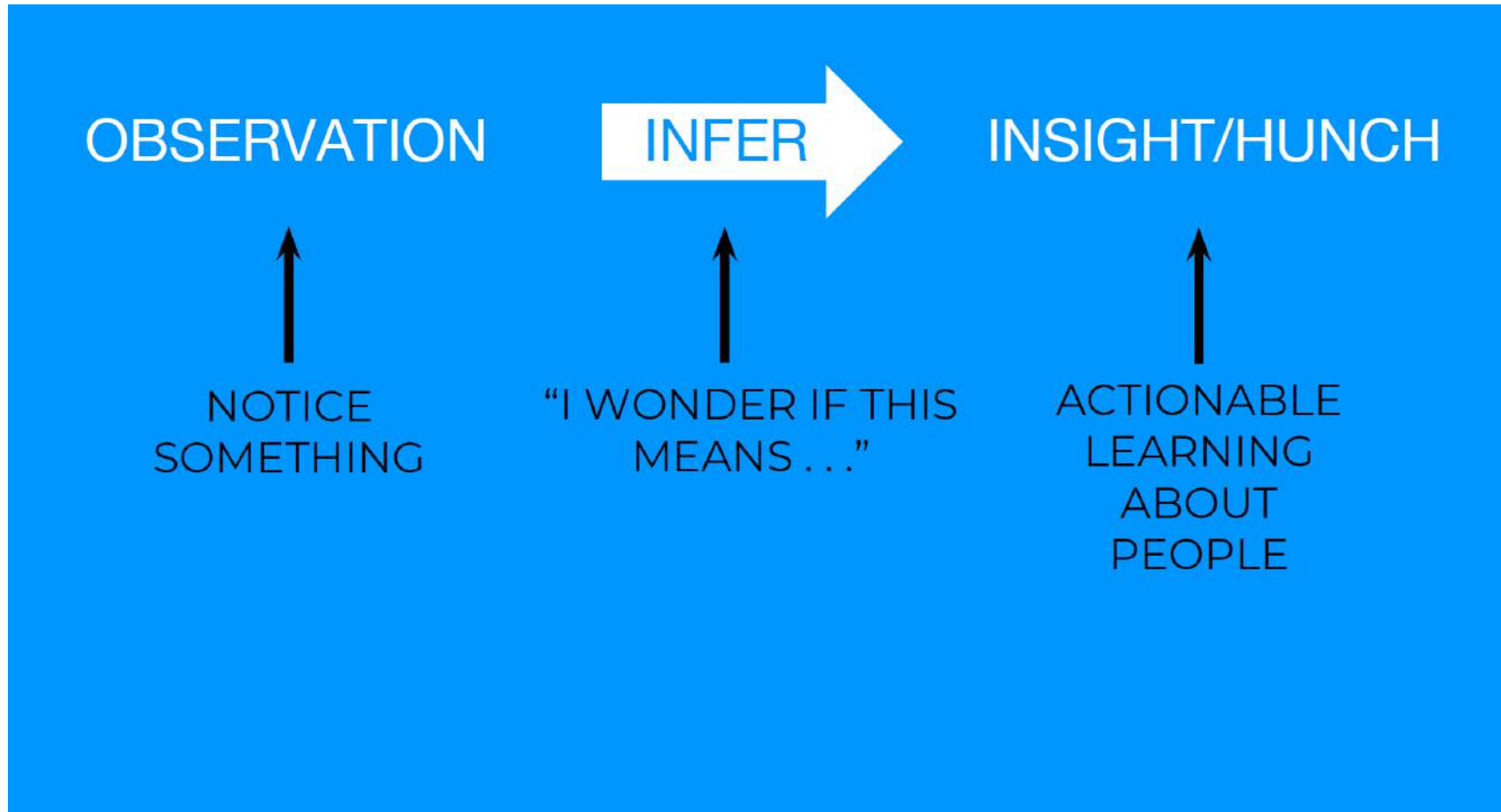
Source: Stanford d.School

Define (con.)

Source: Stanford d.School

Finding the patterns

Source: Stanford d.School

Doug Dietz

Innovation
Architect at
General Electric,
Healthcare Division

Source: Stanford d.School

Source: Stanford d.School

Source: Stanford d.School

OBSERVATION → INFER → INSIGHT/HUNCH
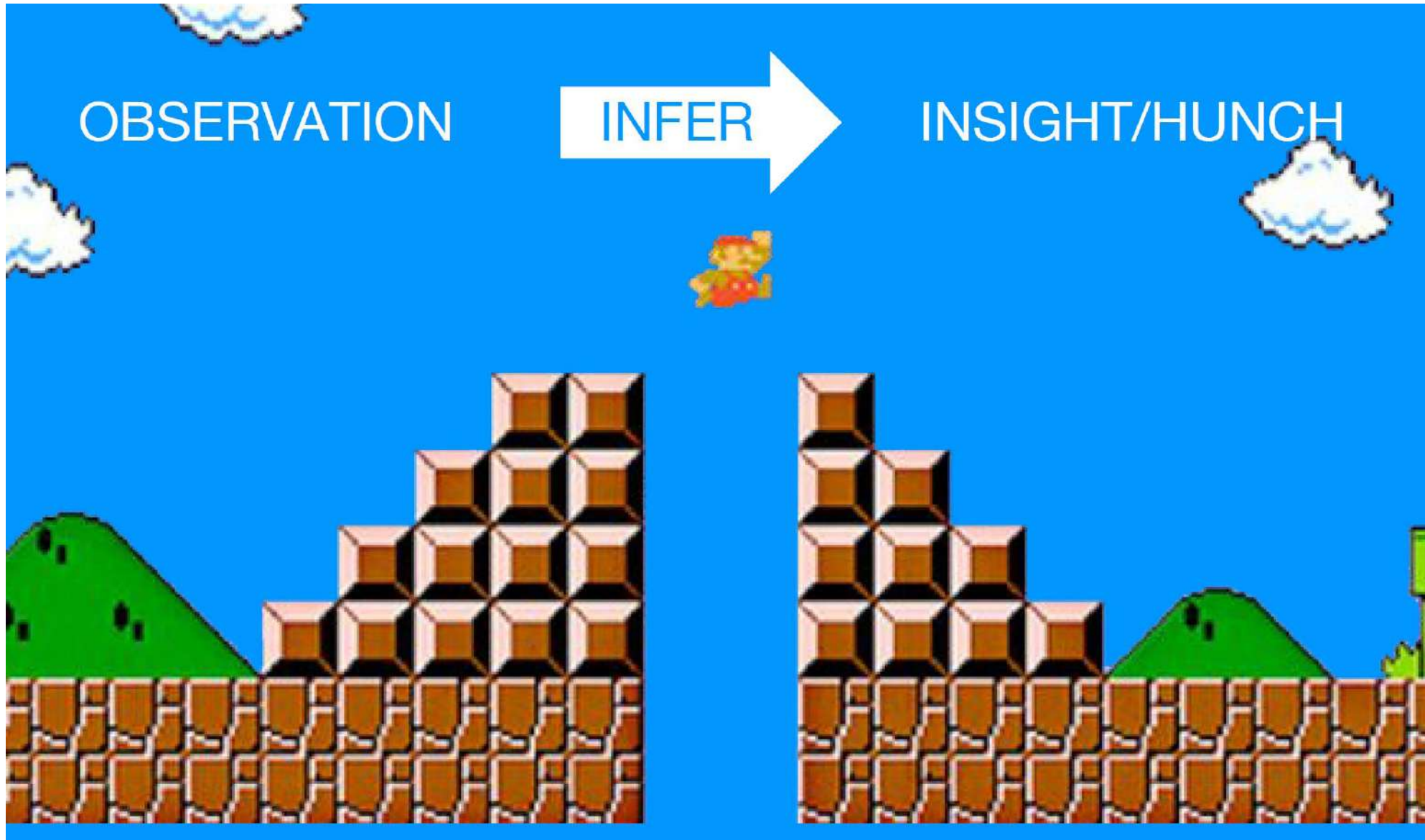
We heard: "My brother gets to go to camp, but I can't go"

We observed: No trophies in the rooms of the sick children, unlike their siblings

Life-threatening illnesses suck all the *adventure* out of their lives

Source: Stanford d.School
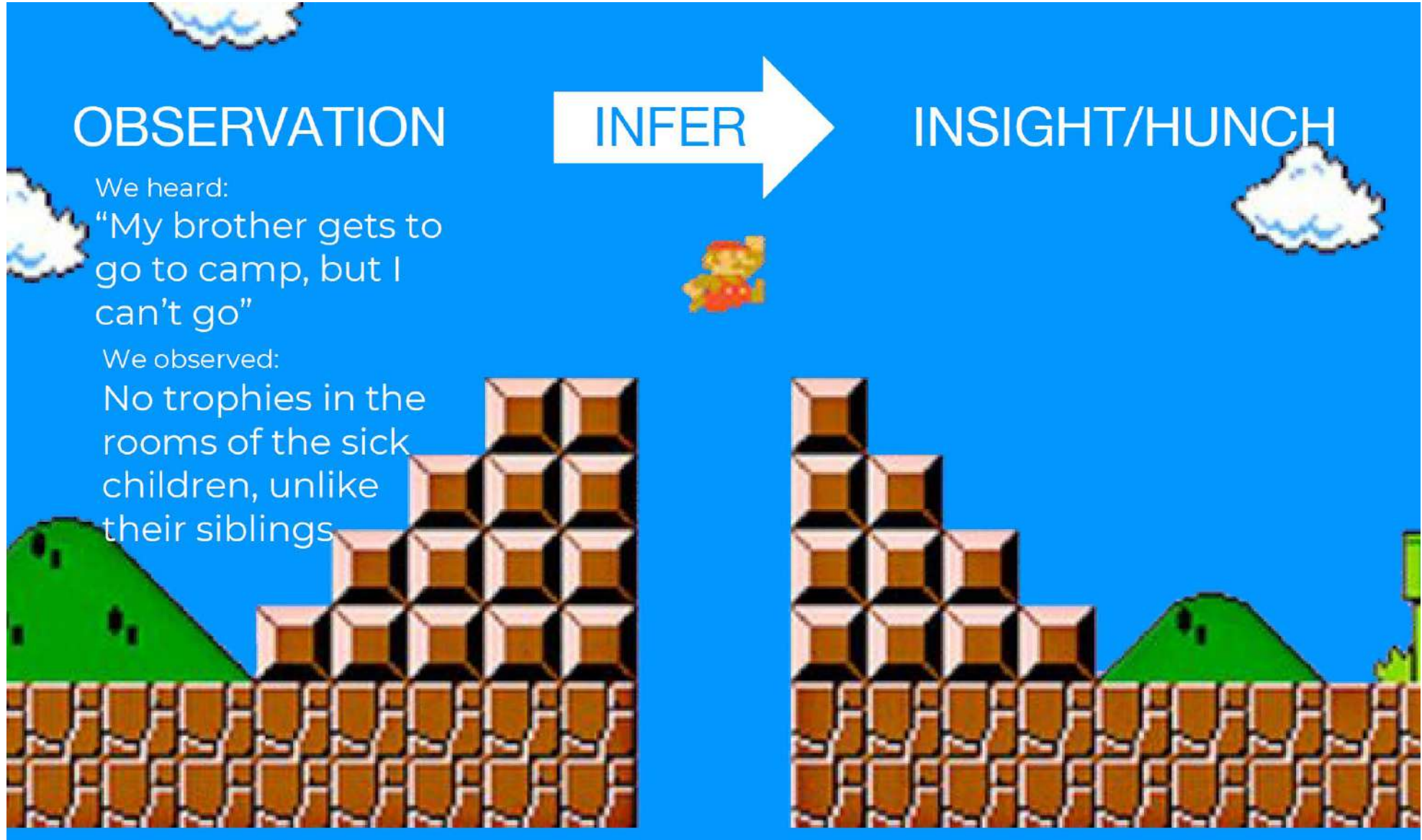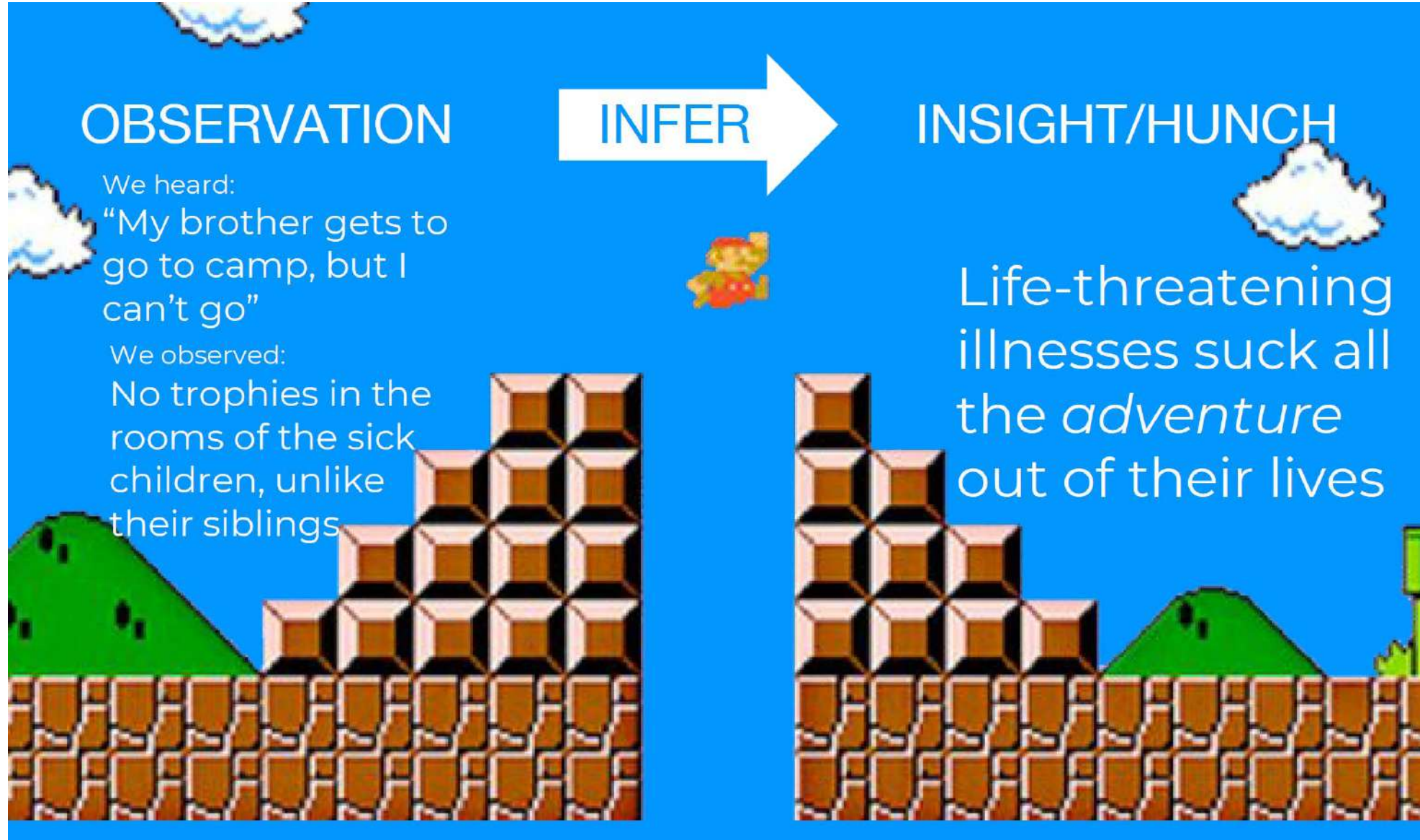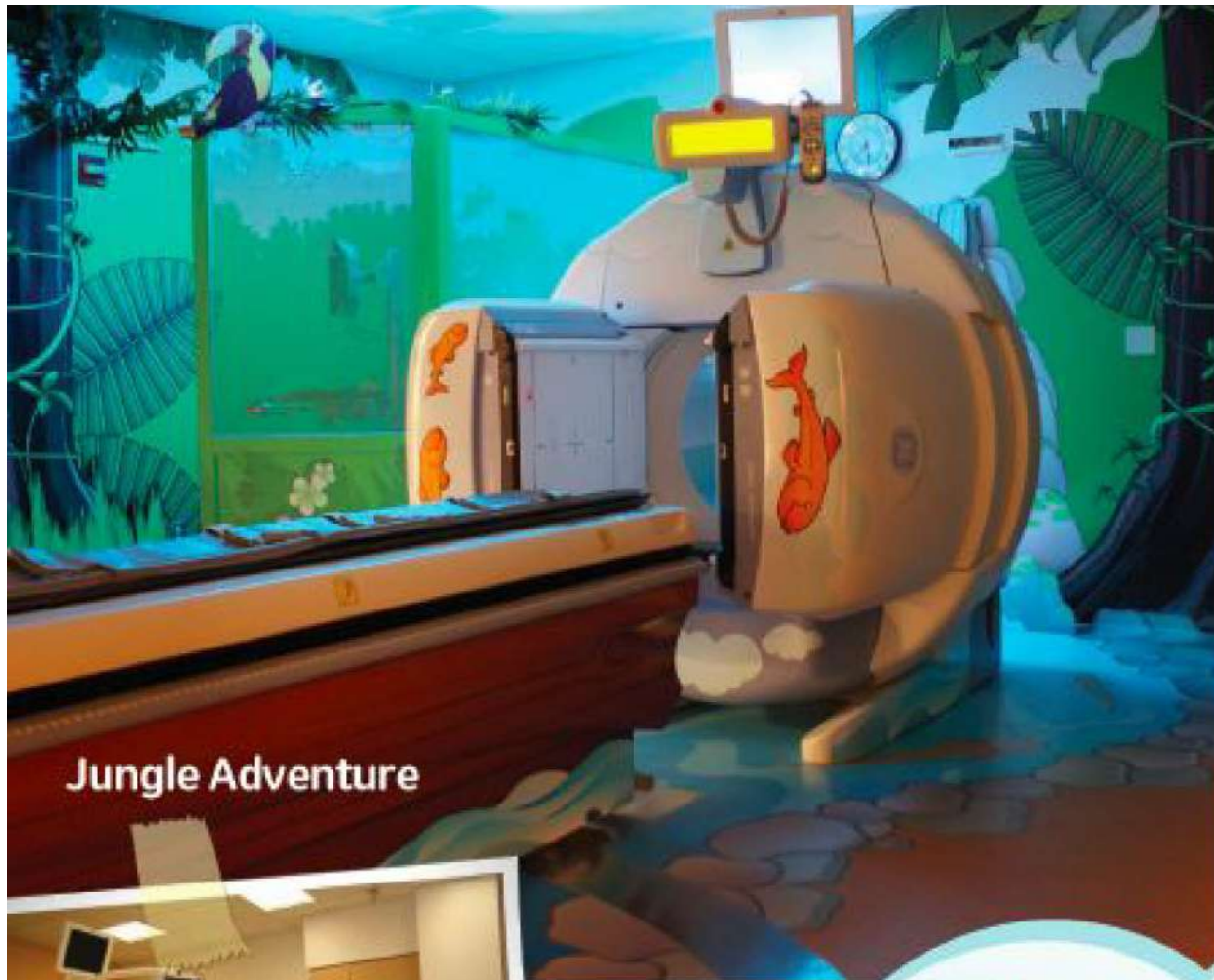
Jungle Adventure

(Before)

"The Nuclear Medicine room that was designed by GE is absolutely fantastic. That room is **exactly what a children's hospital should look like**. It is the epitome of what a pediatric imaging room should be, with all of the **lights**, **sounds**, **smells**, and **amazing decorations** on the walls, floor, and scanner. We are so excited and proud of this room in our department. In fact, the staff from several nursing units has expressed how jealous they are of what a **wonderful experience** this room will create for our patients and families."

Dana Etzel-Hardman, MSN, MBA, RN, CPN, Training and Education Specialist

Source: Stanford d.School
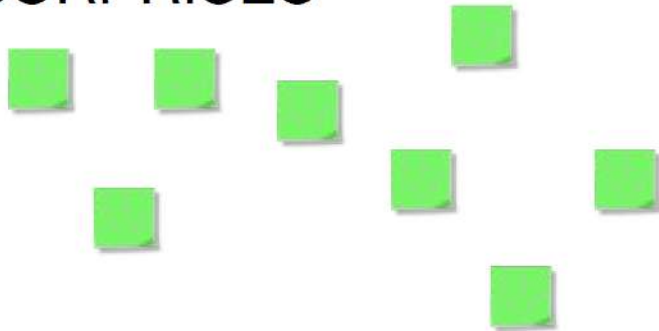
Pirate Island

"Can we come back tomorrow?"
Actual patient, age 6

Source: Stanford d.School

Source: Stanford d.School

FRAME A DESIGN OPPORTUNITY

I. Unpacking your interviews

Choose two interviews and unpack them using the following framework.
Work on the whiteboard and use Post-its for each descriptor, observation, and inference.

We met x... (where "x" is the person you interviewed!)

Include descriptors that illuminate who this person is.

We were surprised to notice...

What stood out about this person? What are interesting things they said or that you observed?

We wonder if this means....

Make inferences for each of your observations.
Multiple inferences per observation are encouraged!

Source: Stanford d.School

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Include descriptors that illuminate who this person is.

We were surprised to notice...

What stood out about this person? What are interesting things they said or that you observed? Your inferences, here!

We wonder if this means....

Make inferences for each of your observations.
Multiple inferences per observation are encouraged!
As a team, decide on the most interesting inferences.

II. Create a Point-of-View Statement (POV)

We'd like to explore ways to help _____ [x, brief description of x] _____

to _____ [verb statement of what it is x needs] _____

in spite of that fact that...
  so they can achieve...
in a way that makes them feel...   [insight(s) inspired by your empathy work]
  because surprisingly...

Source: Stanford d.School

OBSERVATION → **INFER** → **INSIGHT**

"I rarely wash my jeans, I want them to look great longer" They are on the back of the chair.

I wonder if this means...

Millennials care about their clothes, and **that means not cleaning them**

Source: Stanford d.School

Examples of Insights

(User) ….. needs to…………because…………………

Point of View

Meh…Kind of vague

Why are they NOT educated or motivated??

Consumers
DESCRIPTION OF YOUR USER

needs a way to ___ be educated/motivated to learn ___
PROBLEM OR OPPORTUNITY

about how much "ugly" produce is wasted at farms

because (or "… but" or " … surprisingly") most consumers
don't know this is a problem.
INSIGHT (THE INTERESTING / SURPRISING THING YOU LEARNED)

POINT OF VIEW STATEMENT

_____needs a way to _____
(User name)   (Verb)

because _____.
              (Surprising Insight)

MINDMAPPING

© Paul Foreman http://www.mindmapinspiration.com
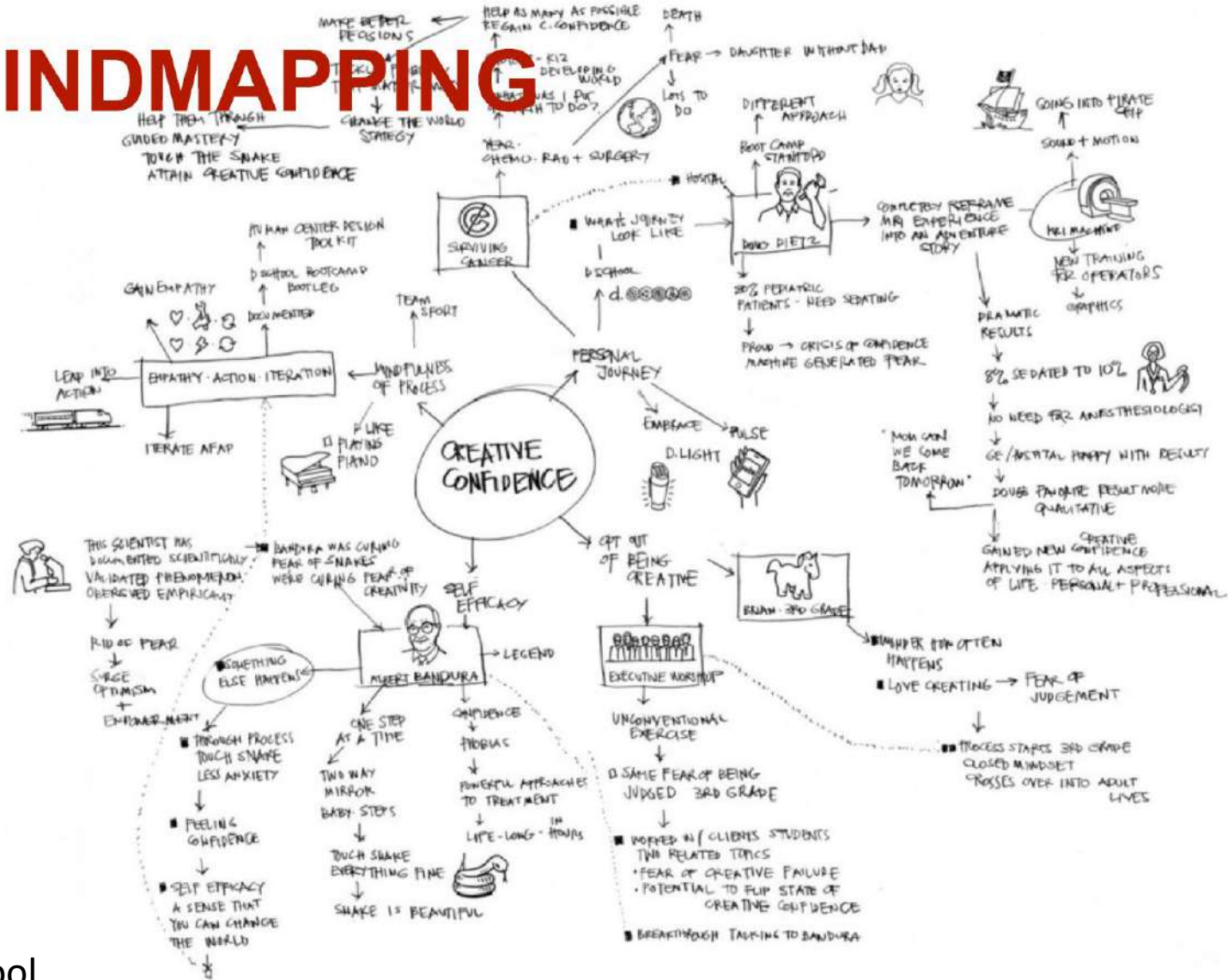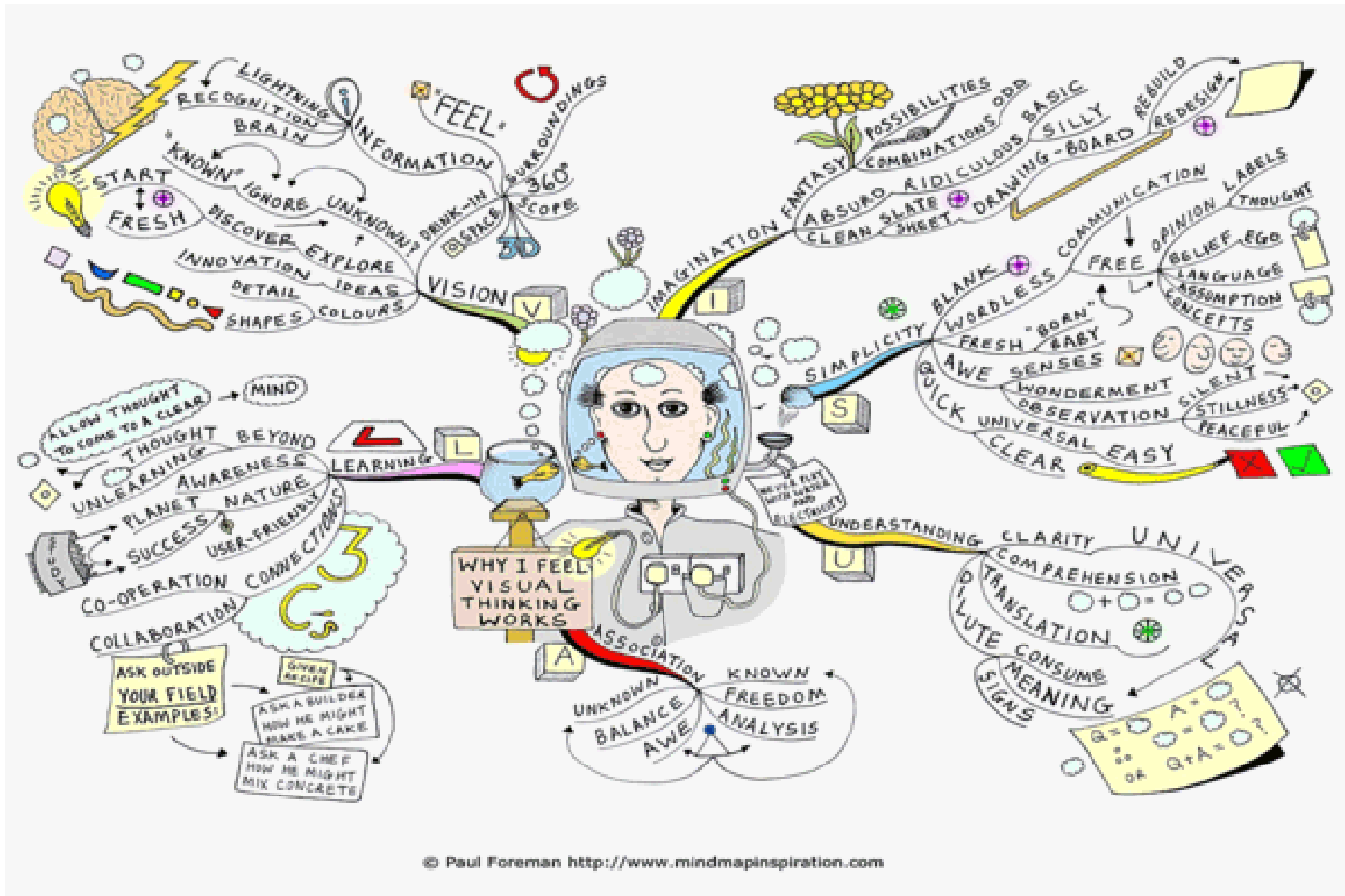
Ideate

- Turn up generative thinking to brainstorm creative solutions

- Encourage ideas

- Yes, and…. Mindset

- "Bad" idea has the potential to inspire an out of the box idea to follow.

- Take POV statement, then turn into a **"How Might We" (HMW)** questions. How might we redesign the classroom to be more fun.

Source: Stanford d.School

Why ideate?

- Broad search for solution
- To go beyond rational thinking

30 Circles Activity
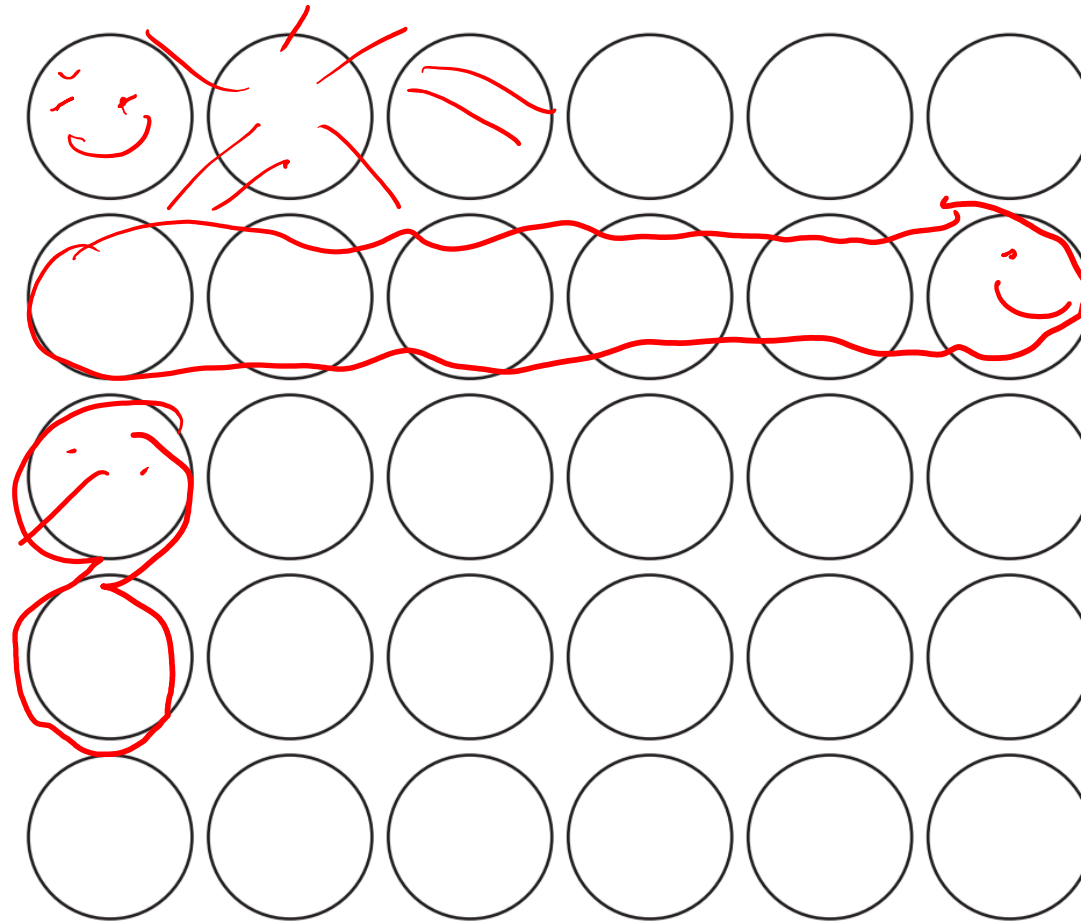
Ideation Methods

- Brainstorm

- Mash-Up

- Other People's Shoes-Storm

- E-Storming

Source: IdeoU.com

Source: IdeoU.com

Source: IdeoU.com

Source: Stanford d.School

Source: Stanford d.School

Source: Stanford d.School

YES, BUT

YES, AND
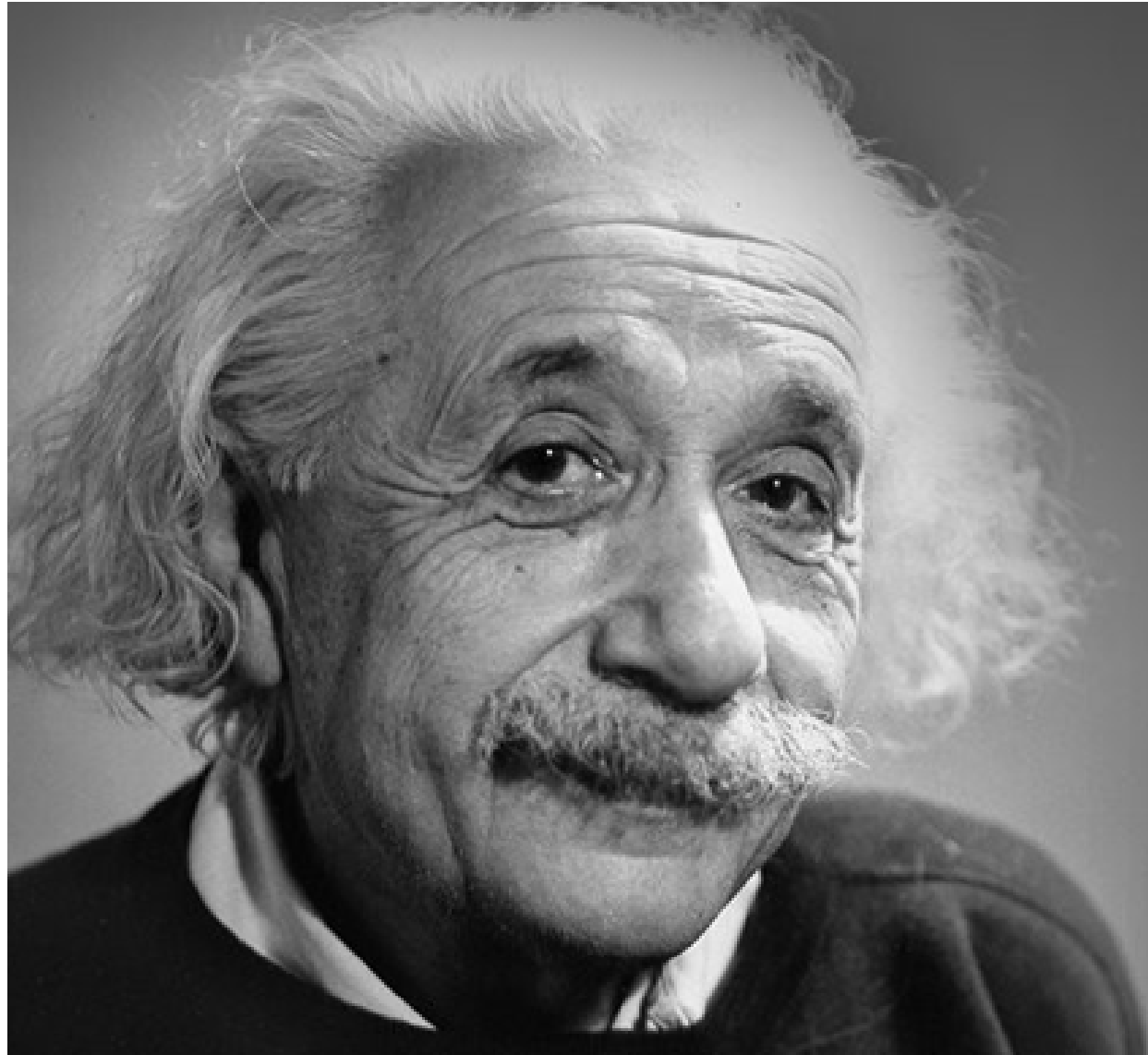
"If at first the idea is not absurd, then there is no hope for it."

BUILD ON THE IDEAS OF OTHERS

DEFER JUDGEMENT

STAY FOCUSED ON TOPIC

FAIL EARLY AND OFTEN

BE VISUAL
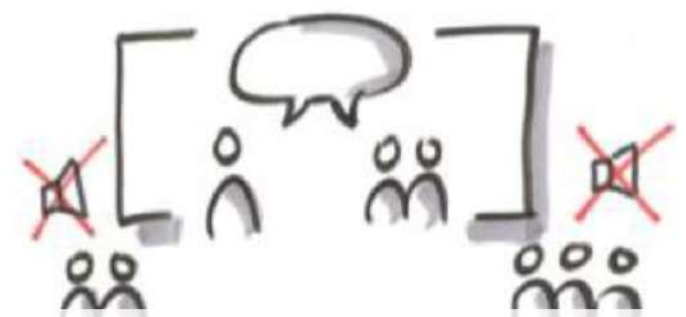
ONE CONVERSATION AT A TIME

THINK USER-CENTRIC
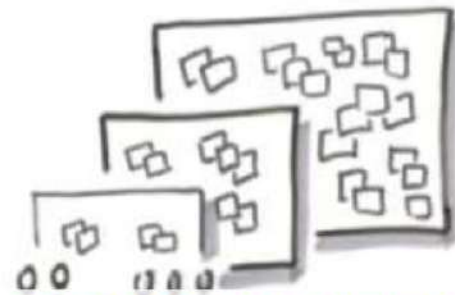
GO FOR QUANTITY

GO FOR WILD IDEAS

BRAINSTORMING
(behaviors)

Encourage wild ideas
Defer judgement
Build on ideas of others

Source: Stanford d.School

Source: Stanford d.School

Convergent Thinking

Steps to Converge

Vote → Cluster → Discuss → Decide

Source: IdeoU.com
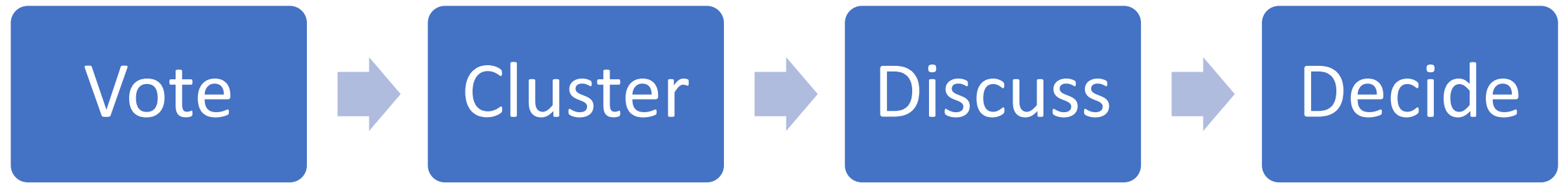
Idea Clustering and Selection

01   Post any new ideas you conjured up overnight + briefly discuss
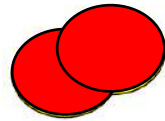
02   Cluster similar ideas into groups

Source: Stanford d.School

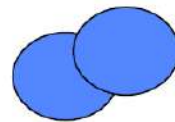**03** Individually vote twice within each category using dots

Vote using these three selection criteria:
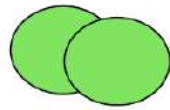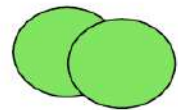
Most likely to delight the stakeholder
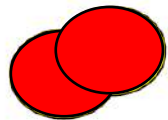
Most groundbreaking

Most valuable post-it (MVP)

04   As a team, **decide on one idea to move forward with**

05   On a large post-it, describe your idea in **7 words or less!**
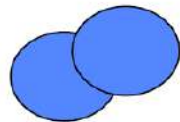
Here's the idea selection criteria once more:
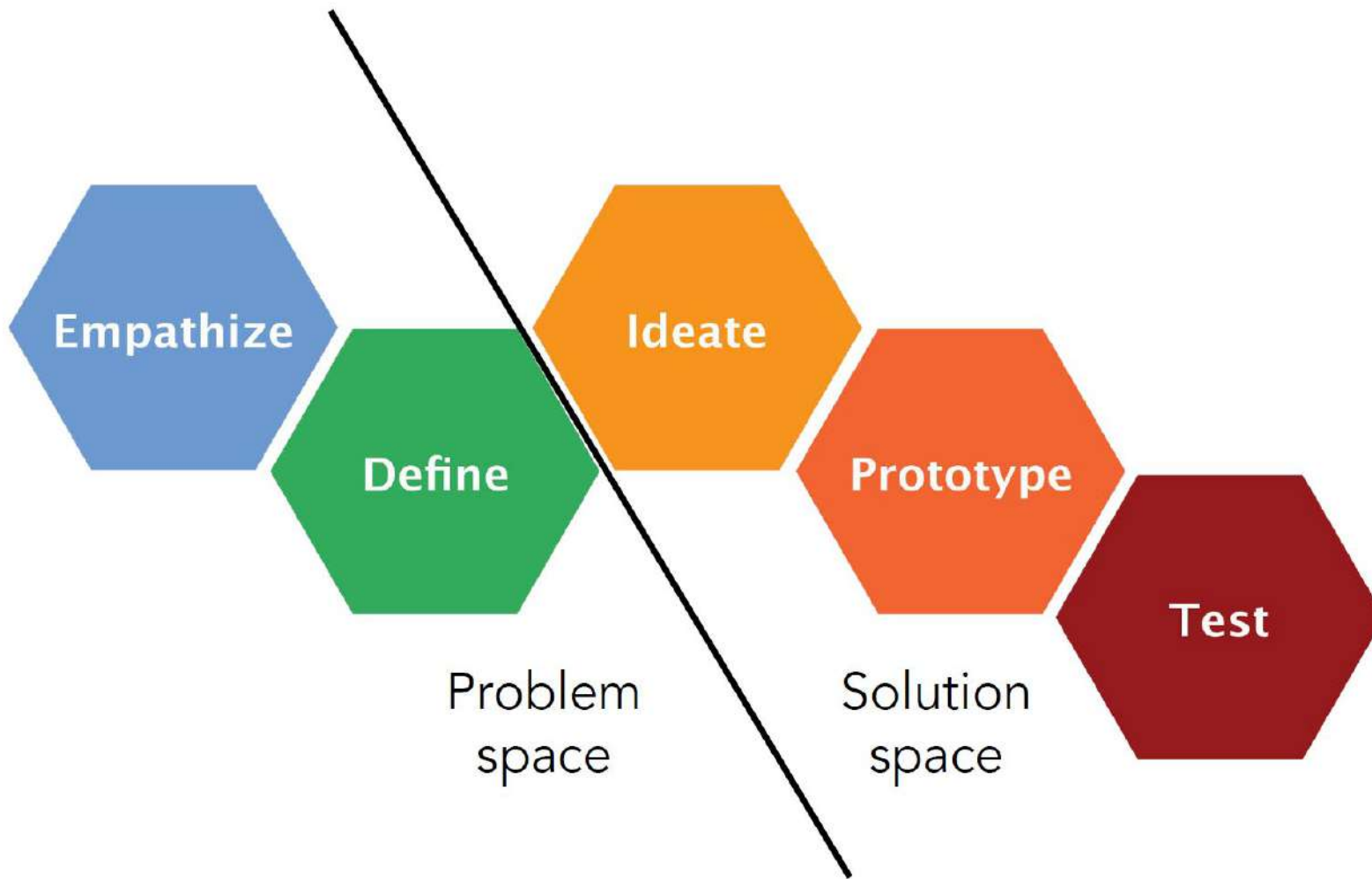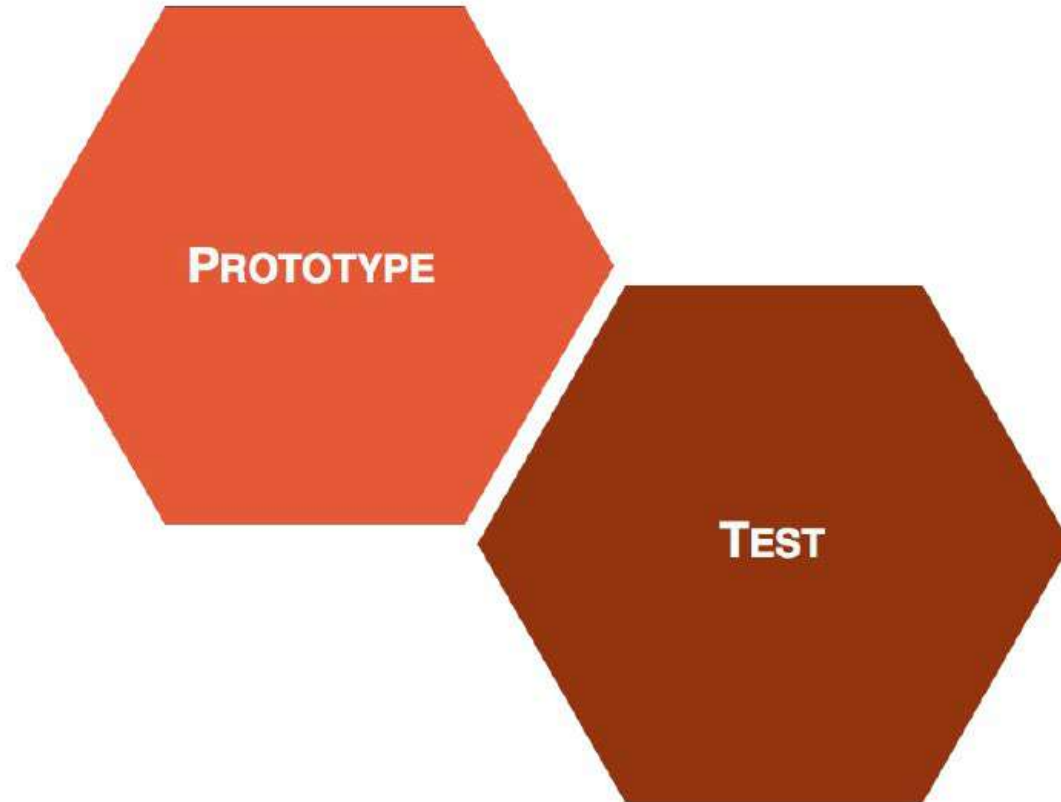
Most likely to delight the stakeholder

Most groundbreaking

Most valuable post-it (MVP)

Source: Stanford d.School

Why Prototype

Making your ideas tangible allows you to gather feedback and improve them. Consider the following when making the jump to rapid prototyping.

Paper Tower Challenge

Prototype

- Create a physical representation of an idea to gain user insight and test the functionality.

- Prototype can be "mock advertisements, brochures, wireframes, storyboards, user-flows, and role-playing."

We prototype to

Build in order to Think

Gather Feedback from Stakeholders and End Users

Fail Early To Succeed Sooner

REMEMBER The longer you wait, the harder it is to begin.
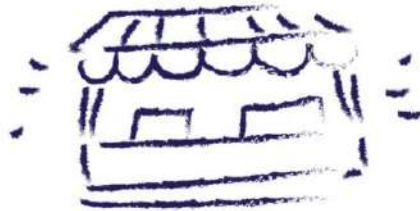
What is a prototype?

SKETCHES AND STORYBOARDS

PAPER PRODUCTS OR SCREEN MOCK-UPS

VIDEO STORIES

PACKAGING OR ADS

POP-UP SPACES AND ROLE-PLAY SCENARIOS

Source: Ideo

Low-Resolution Prototypes

Low-resolution prototypes provide direction on early ideas. These can happen fast (sometimes just minutes to produce!). Think sketching or slightly altering an existing product to convey your new idea.

High-Resolution Prototypes

High-resolution prototypes help you choose among options you may be considering, or help you fine-tune the features of your offer. These take more time and resources to design and create. Think a pop-up retail kiosk or a beta-version website.
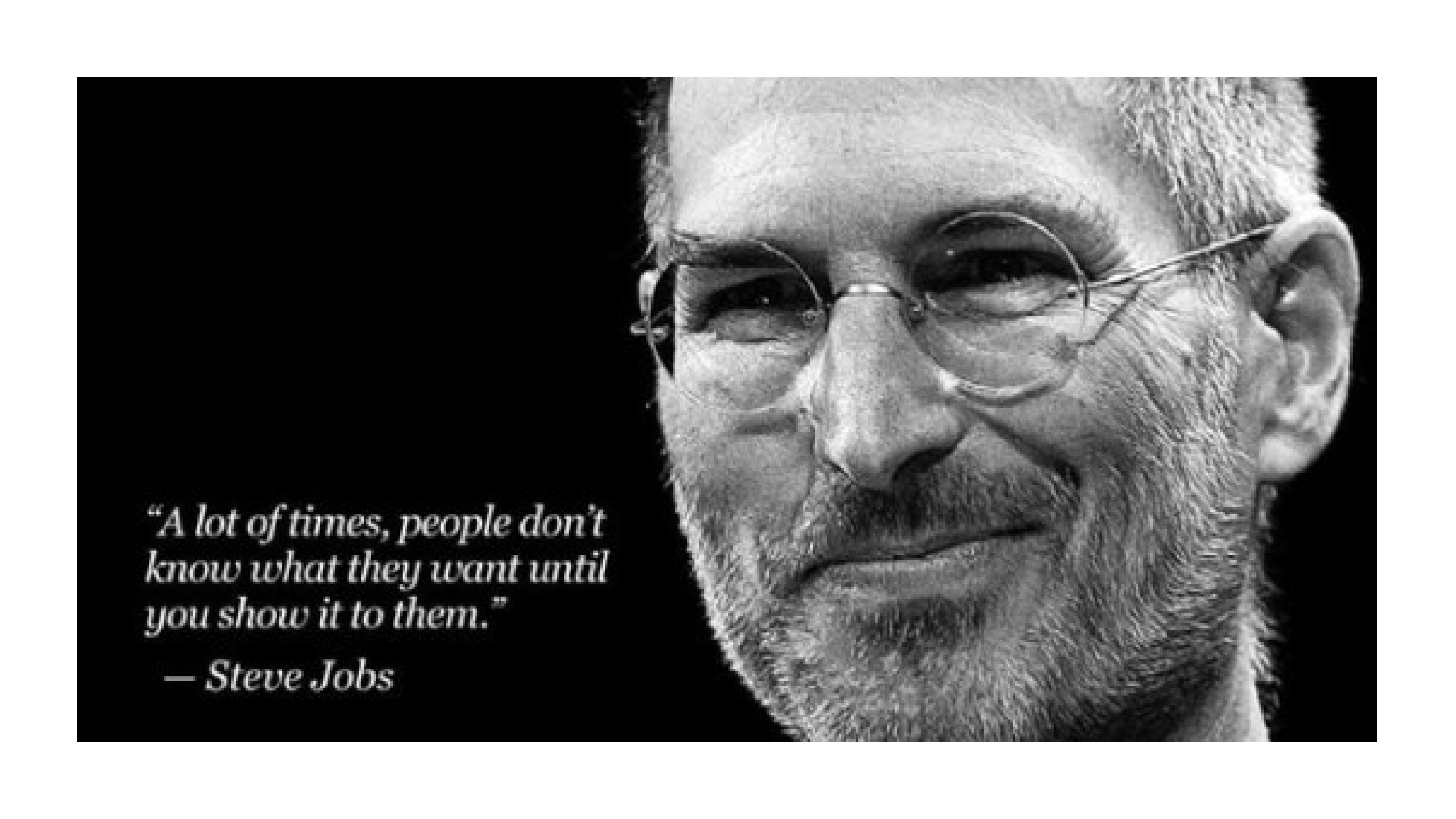

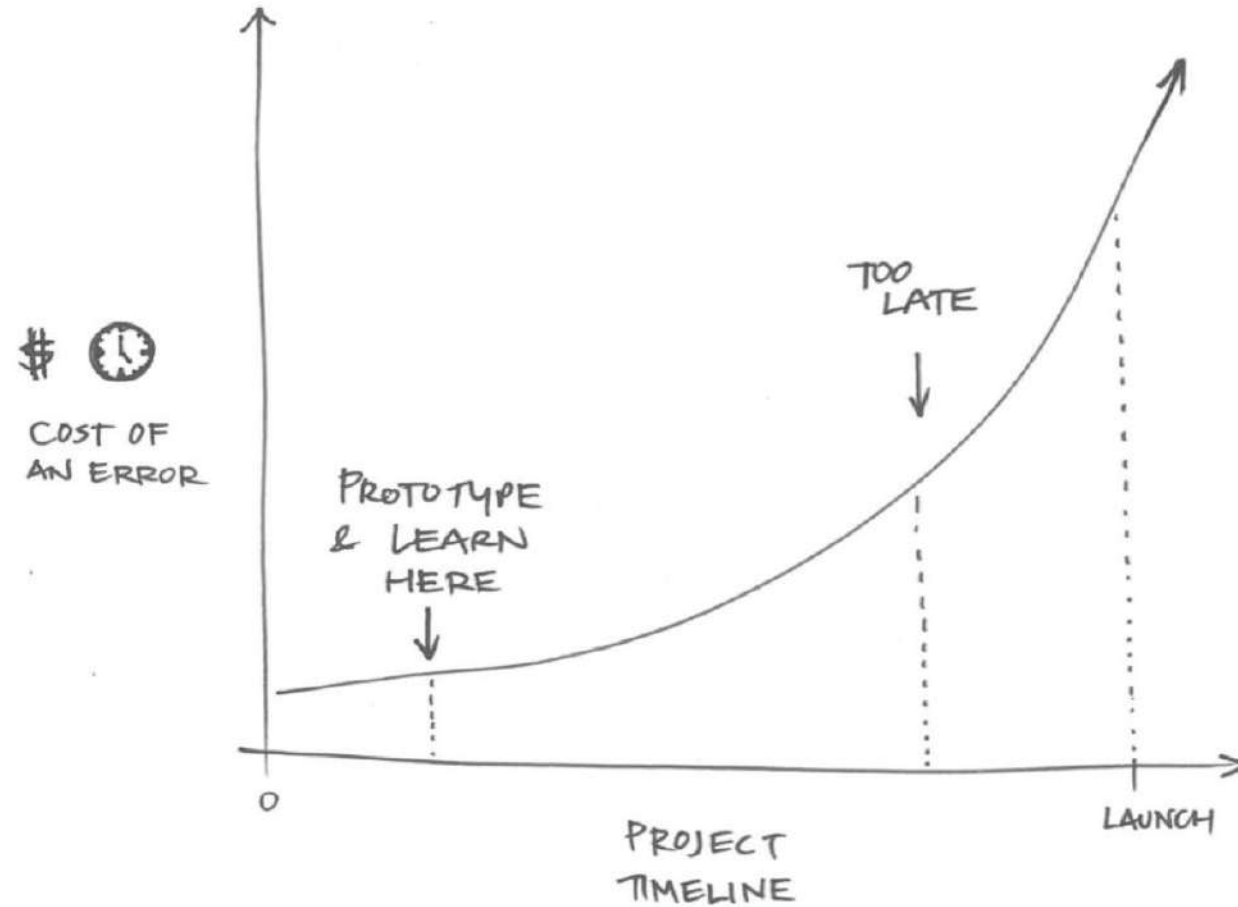Source: Ideo

Types of Prototypes

Physical

Digital

Experience

"A lot of times, people don't know what they want until you show it to them."

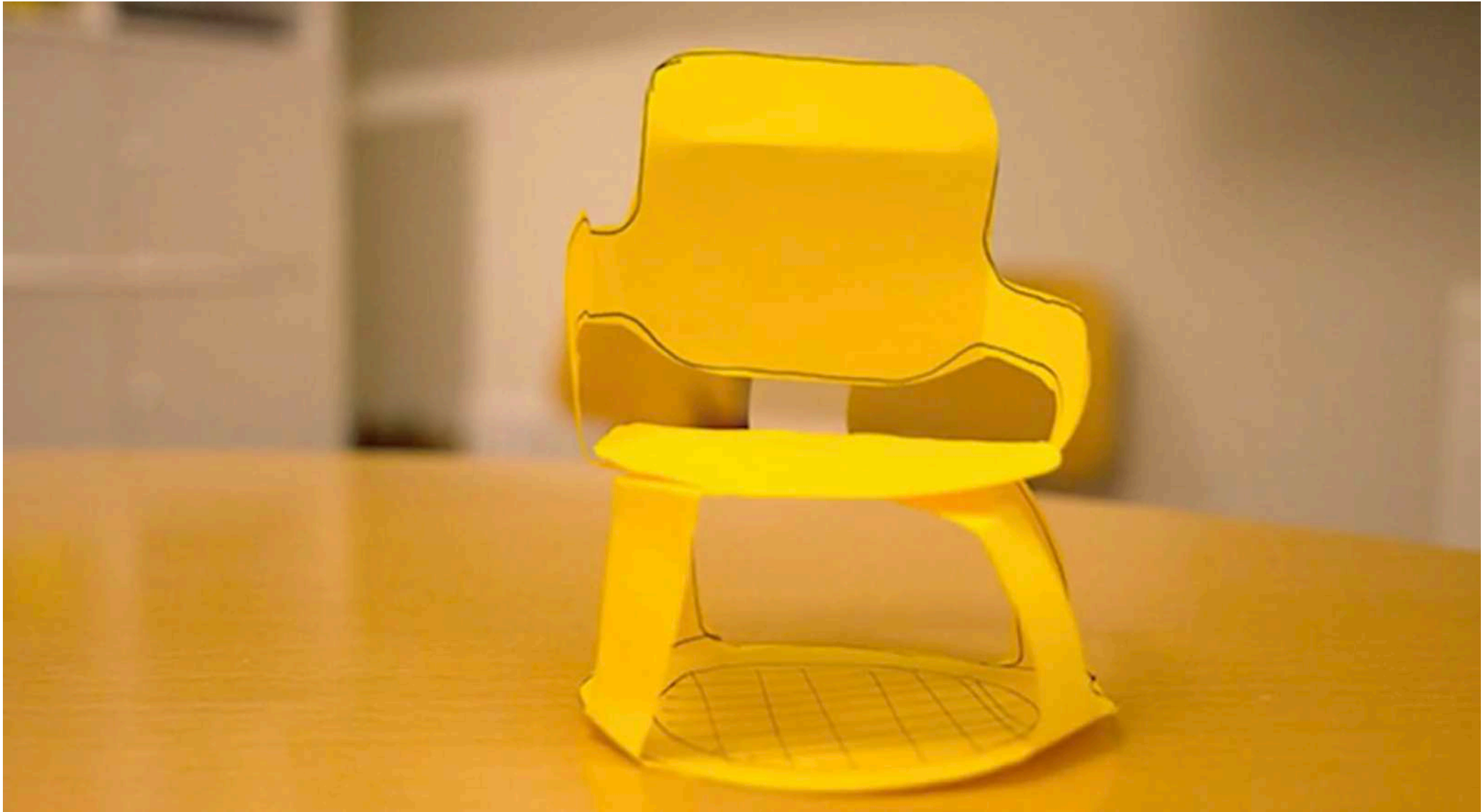— Steve Jobs

WHY WE PROTOTYPE AND TEST

Source: Stanford d.School

Why prototype?

- Physical form of your solution
- Base for gaining opinitions
- Should be interactive
- Cheap failure

Source: IdeoU.com

Source: IdeoU.com

Source: IdeoU.com

Source: IdeoU.com

Source: IdeoU.com

Use improv to figure out the details

Use improv to figure out the details

1. **Set the scene.**
Imagine yourself in a specific location.
("Okay, we're at the _____.")

2. **Define roles.**
Go ahead and jump in to whatever makes sense.
("I'm the ___ person, and you are ___ . . .")

3. **Improvise to discover.**
Build on each other's ideas and keep the scene alive. Try out ideas by playing through them.

Source: Stanford d.School

SCENE-PROPS-ROLES TOOL

SCENE
of the experience

how do you make where
you are feel like the
"real" setting/context?
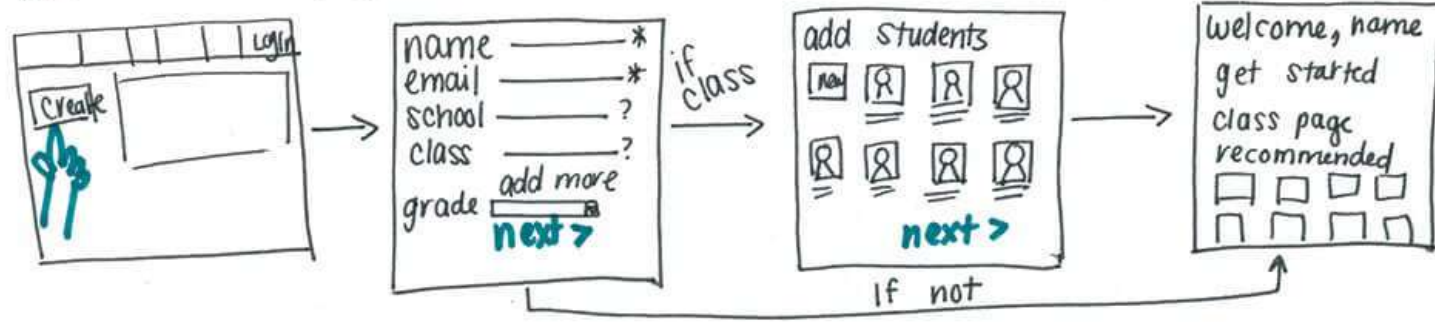
PROPS
in the experience

what are the rough
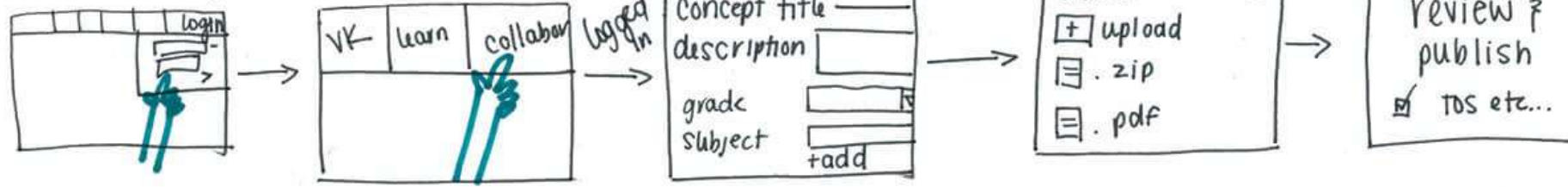versions of the physical
things?

ROLES
involved in experience

what are the roles of those
"creating" the experience?

who are "receiving"
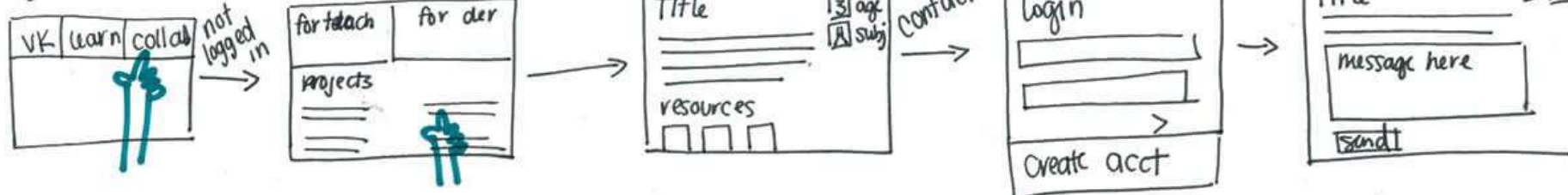the experience?
(save these roles for testers)

Source: Stanford d.School

teacher visits voyagekids, creates an account

Screen 1: Create | Login

Screen 2 (form):
- name — *
- email — *
- school — ?
- class — ?
- grade | add more
- next >

if class →

Screen 3: add students — New [figures] — next >

if not →

Screen 4: welcome, name / get started / class page recommended

teacher logs in, looks to collab

Screen 1: Login

Screen 2: VK | learn | collabor — logged in

Screen 3: Concept title — / description / grade / subject / +add

Screen 4: addition resources / [+] upload / [≡] .zip / [≡] .pdf

Screen 5: review & publish / ☑ TOS etc...

game dev looks to collab

Screen 1: VK | learn | collab — not logged in

Screen 2: for teach | for dev / projects

Screen 3: Title / [3] age [A] subj / resources — contact

Screen 4: login / > / create acct

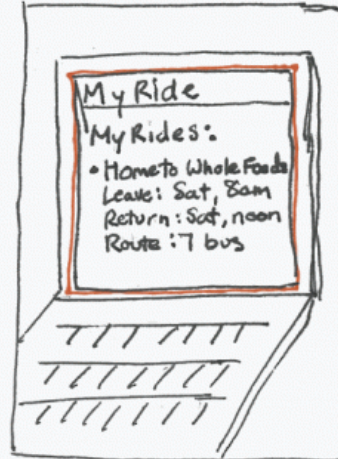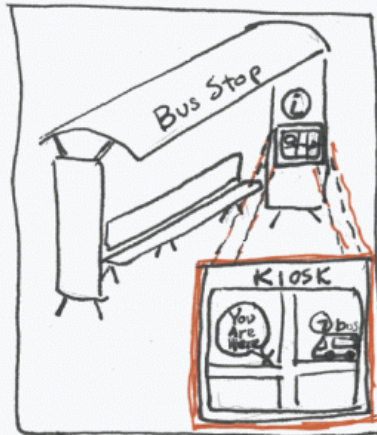**Screen 5:** Title □□ / message here / [send]

CREATE MY RIDE PROFILE
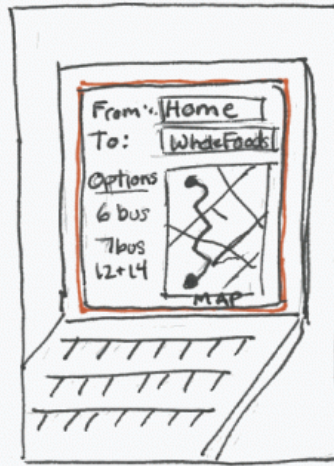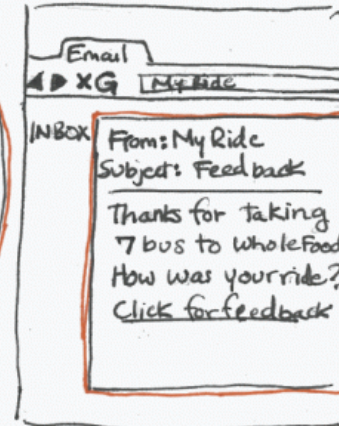
RESEARCH ROUTE

SAVE ROUTE TO MY RIDE

RECEIVE UPDATE

ARRIVE AT STOP

ON BUS
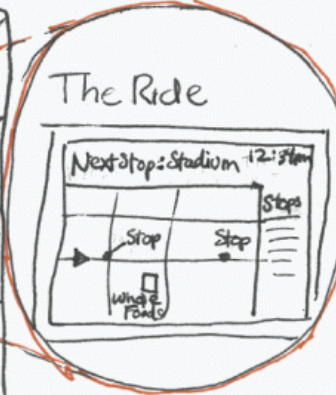
BUS DISPLAY

PROVIDE FEEDBACK

3 Steps for Prototyping

Build → Share → Reflect

Tinfoil Hats Activity

Guidelines for Prototyping

Just start building

Don't spend too much time

Remember what you're testing for

Build with the user in mind

Source: https://www.interaction-design.org

Test

- This is a trial-and-error period.
- Test and observe how user engage with a prototype.
- During testing, new problems often arise, which can be used to guide the next iteration of prototype (or revise the other modes).

Source: Stanford d.School

Why test?

- Prototype presentation
- Don't defend your prototypes
- If users don't understand your prototype = something goes wrong

Testing in 3 steps:
1. Let them experience your prototype
2. Ask them about that experience
3. Ask them about **themselves**

Source: Stanford d.School
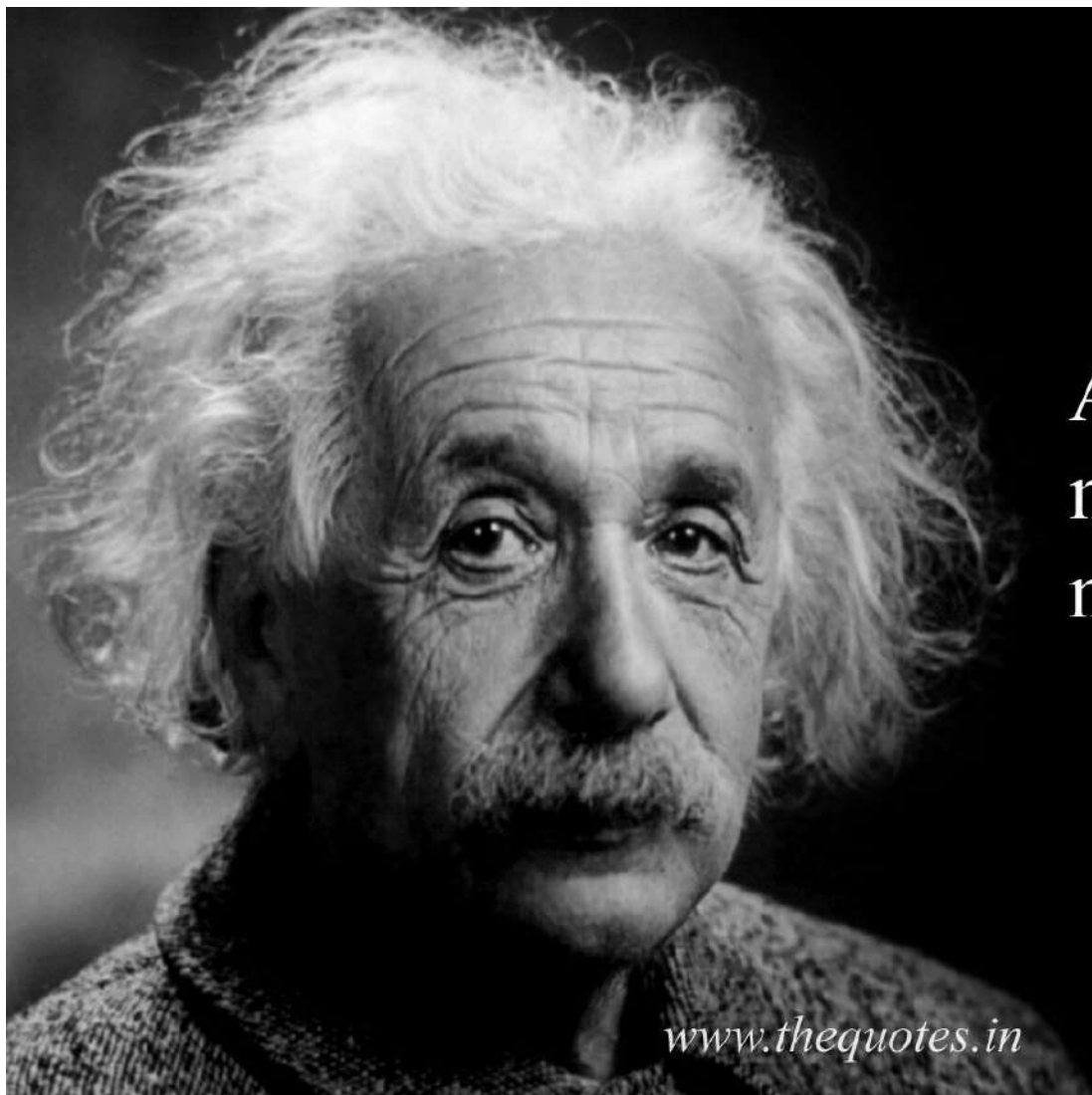
Anyone who has never made a mistake has never tried anything new.
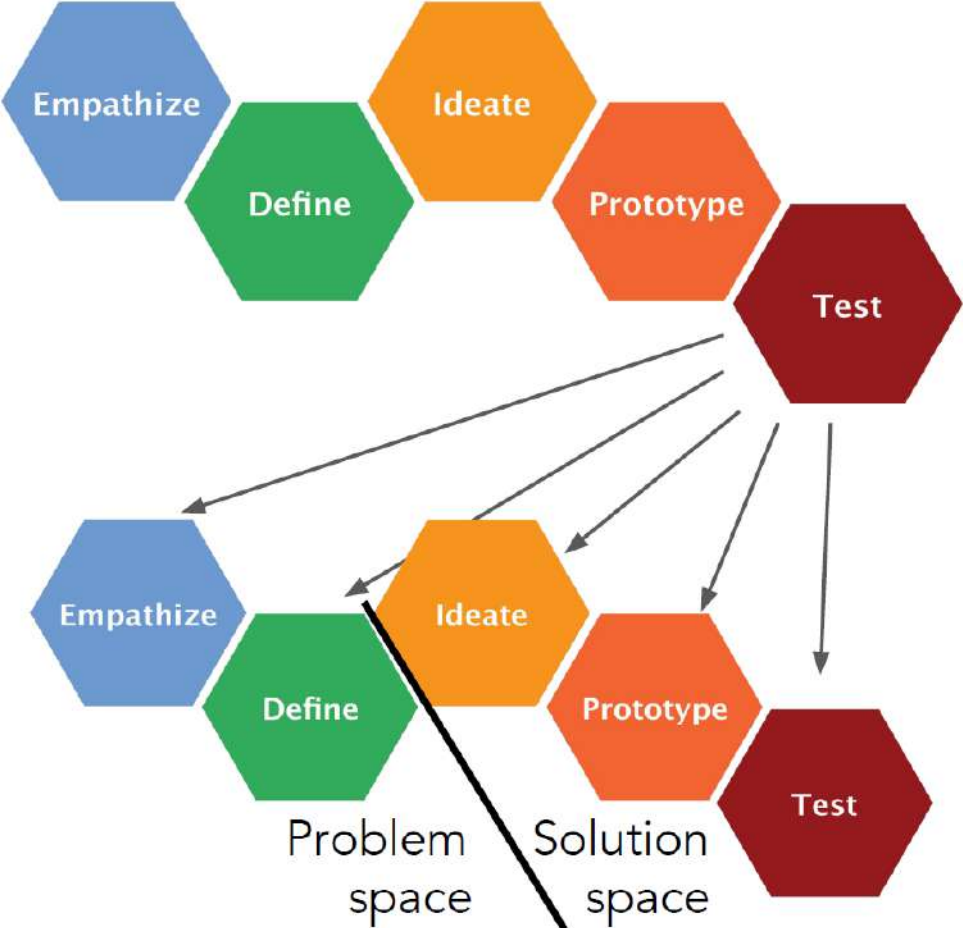
Albert Einstein

Source: Stanford d.School
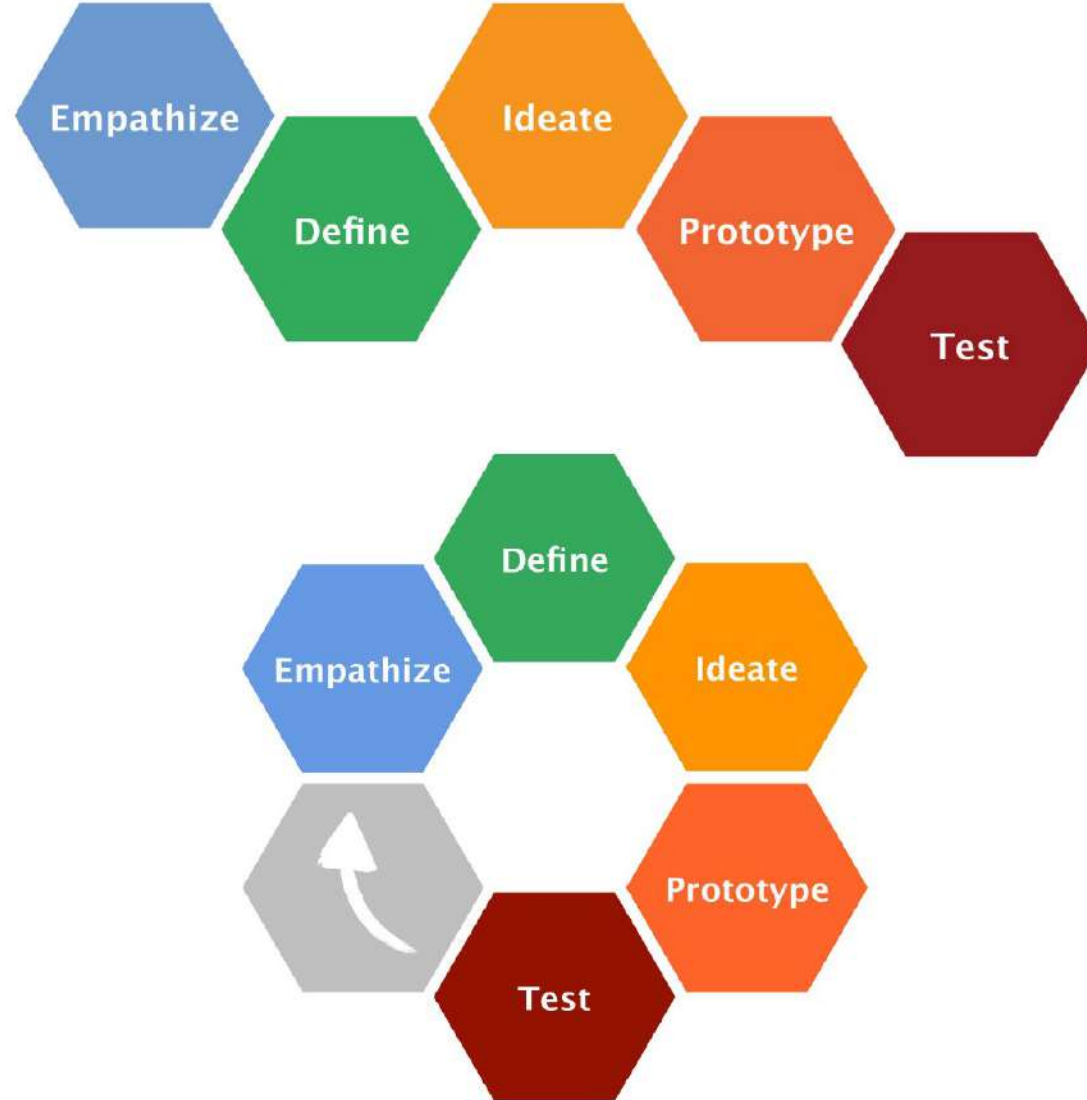
Source: Stanford d.School

Testing helps you decide what to do next.

Source: Stanford d.School

ITERATION

Individually, use voting dots to indicate which scenario sounds most like your team after testing. Then, have a group discussion on how you each voted!

Bull's eye!

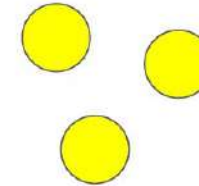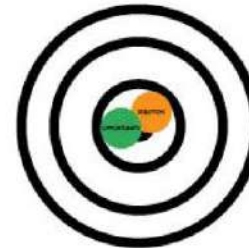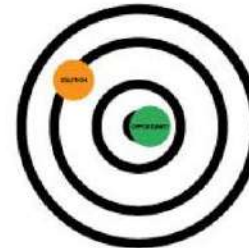| DURING TESTING, YOUR TEAM MIGHT HAVE HEARD:	FROM THIS, YOU MIGHT ASSUME THAT:	ON A TARGET, YOUR TEAM'S PROJECT MIGHT LOOK LIKE:	PLACE A VOTING DOT HERE IF THIS SOUNDS LIKE YOU!
SCENARIO 1 "I totally need this!" OR "How do I get one?" OR "So, is this available somewhere?"	Your team is *almost* there!		
SCENARIO 2 "You know what would be a great idea...?" OR "This is definitely an issue for me, but..."	Your team found an interesting problem, but hasn't solved it... ...just yet!		
SCENARIO 3 "Interesting... Can I go now?" OR "I've never found myself in that situation"	Your team hasn't quite found the right problem to solve.		

Source: Stanford d.School
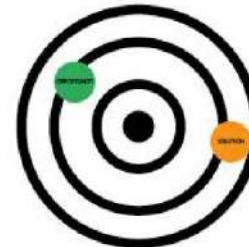
Two other scenarios

1 - The way this concept was manifested in the world was **not the right form**, but the idea still has merits.

2- Our prototype and idea might still be good, but we **didn't execute our test properly**.

Source: Stanford d.School

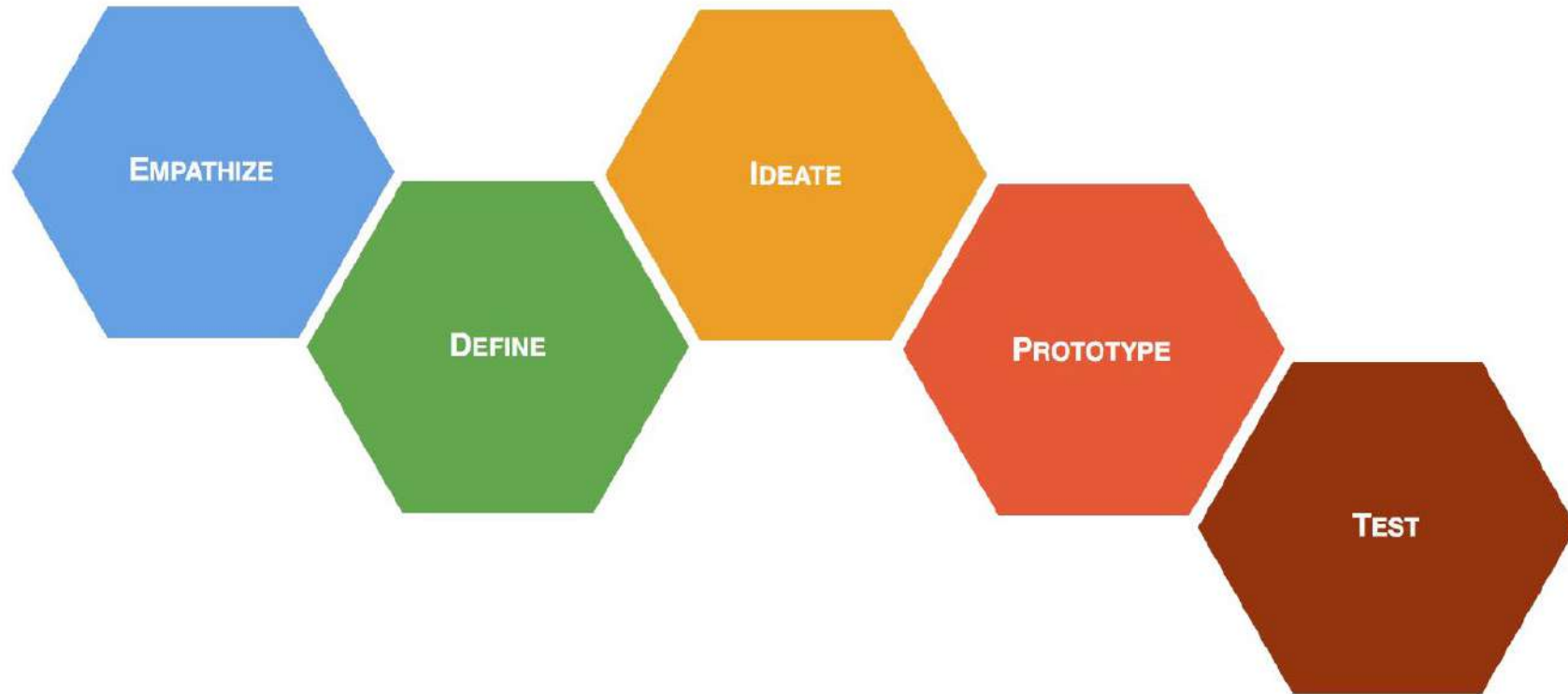| Eliminate	Raise
Which factors that the industry has long competed on should be eliminated ?	Which factors should be raised well above the industry's standard?

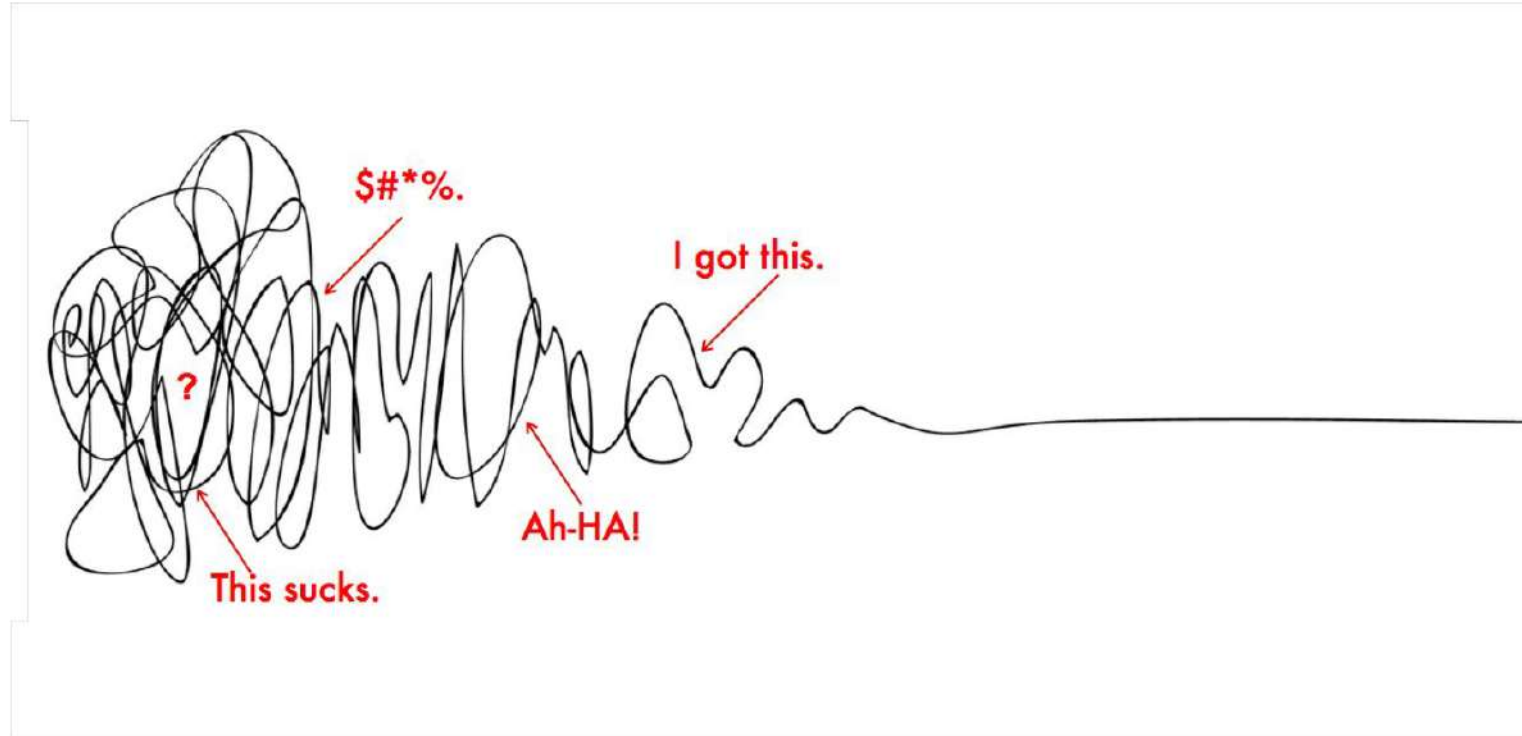| Reduce	Create
Which factors should be reduced well below the industry's standard?	Which factors should be created that the industry has never offered?

IT LOOKS LIKE

Source: Stanford d.School

IT FEELS LIKE

$#*%.

I got this.

?

Ah-HA!

This sucks.

Adapted from the "Design Squiggle" by Damien Newman
http://cargocollective.com/central/The-Design-Squiggle
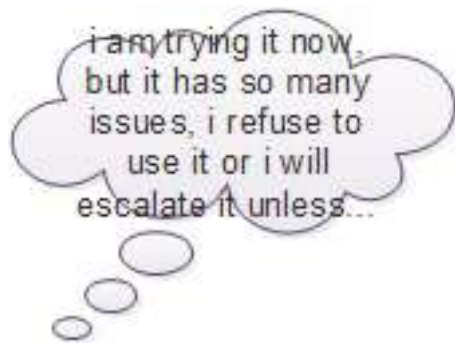
Iterating Your Way Forward

ITERATE
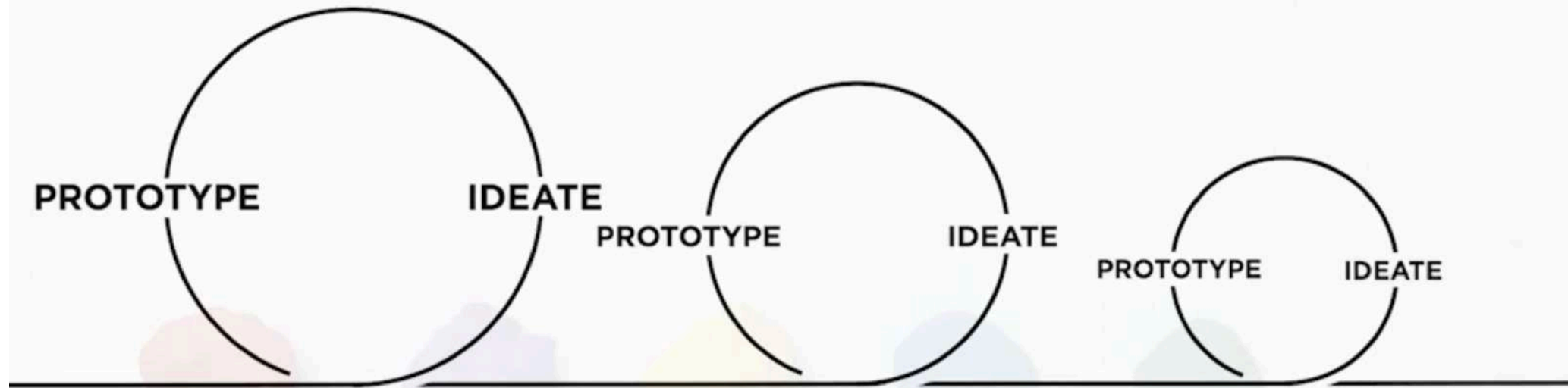
Source: IdeoU.com

Why We Iterate

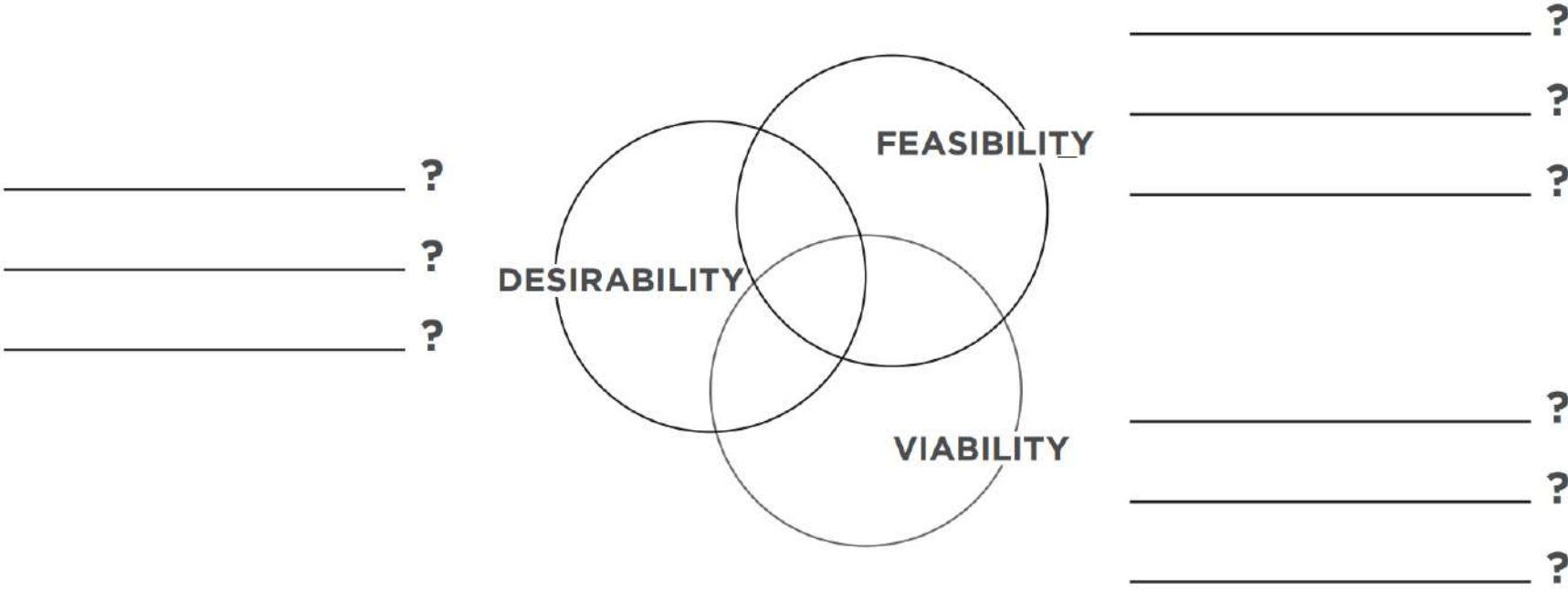|	
Learn Through Trial and Errors	Experiment Our Way Forward
Save Time in The Long Run	Fail Early to Succeed Sonner

Source: IdeoU.com

"I haven't failed. I've just found ten thousand ways that do not work."

Thomas Edison

4 Steps to Iterate

1. List Your Questions
2. Prioritize Top Questions
3. Ideate to Explore Options
4. Prototype To Build, Share, and Learn
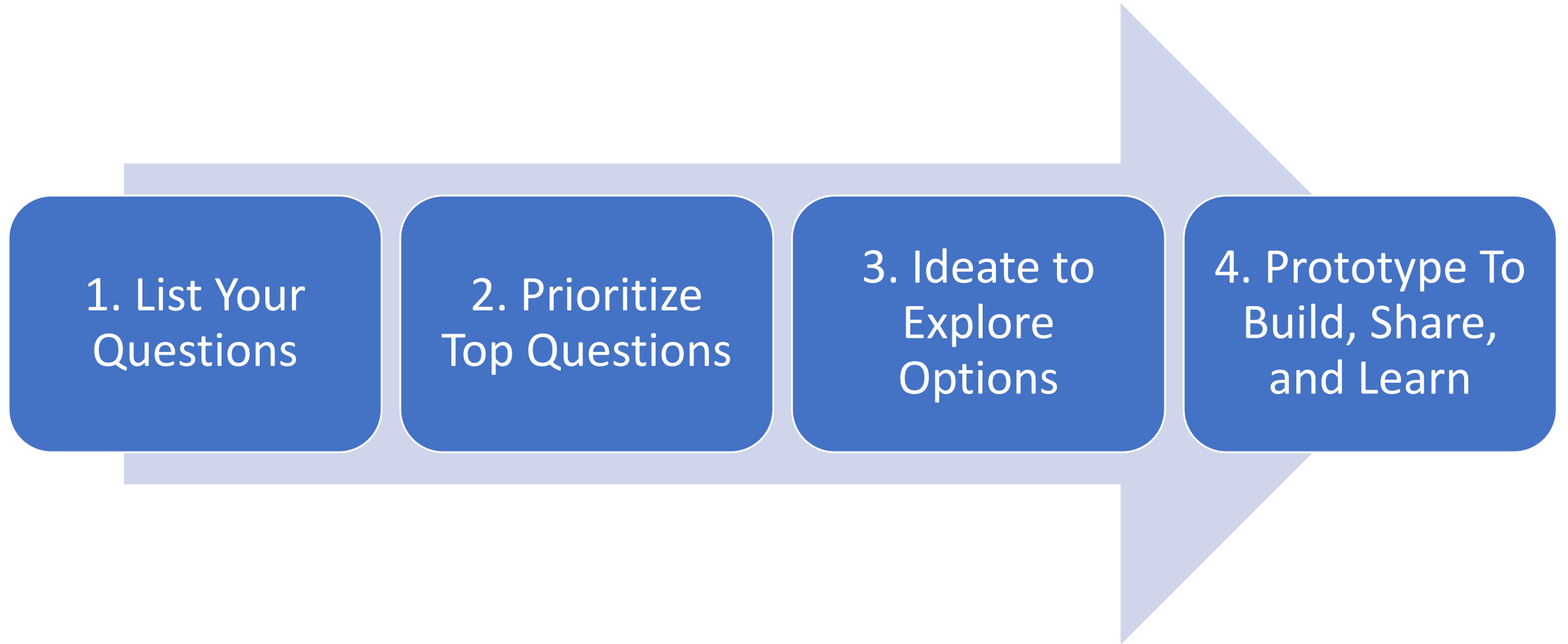
STEP 1–LIST YOUR QUESTIONS

Source: IdeoU.com

FEASIBILITY

DESIRABILITY

VIABILITY
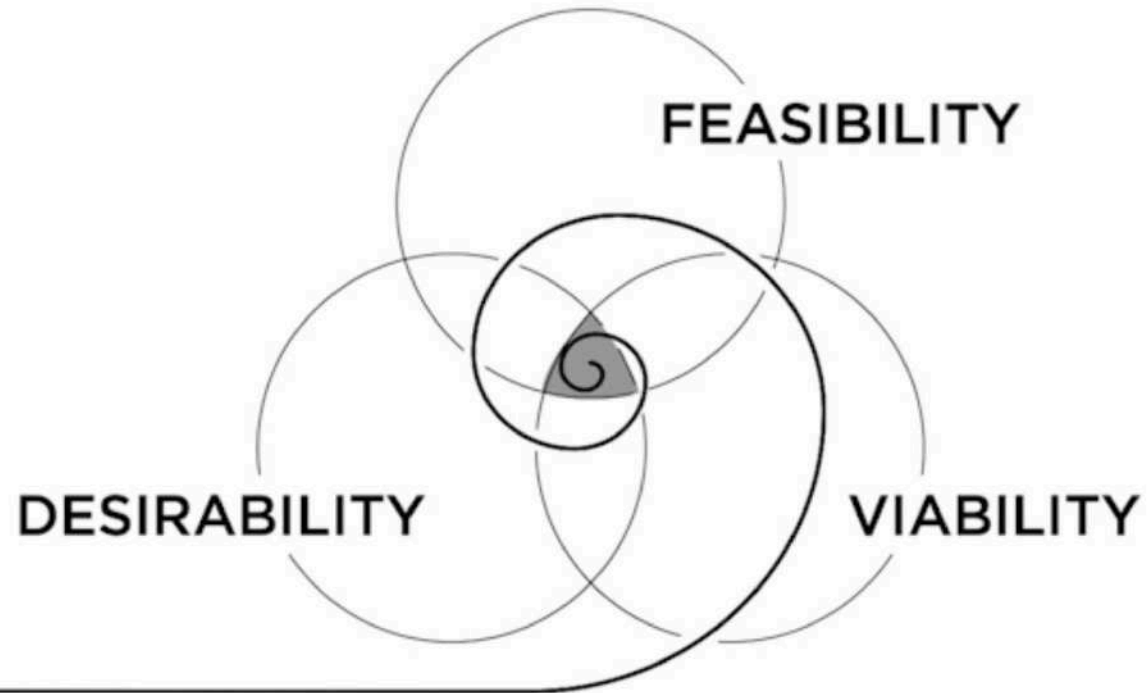
Source: IdeoU.com

STEP 2—PRIORITIZE TOP QUESTIONS

- Rank your six to nine questions in order of most to least important. How would you rank your questions and why?

- Consider the following questions to help guide your decisionmaking:
    + Which do you need to tackle earlier?
    + Are some more critical than others?
    + How might the answer to some depend on the answer to others?

Source: IdeoU.com

STEP 3–IDEATE TO EXPLORE OPTION

- Return to your ideation methods and pick another one to try. If possible, grab a handful of people (we suggest two to five) and facilitate another ideation session around your top questions.

- REMEMBER You're diverging again to explore ideas that might provide answers to your top questions.
    + Which question did you ideate around and why?
    + What were some highlights from the session?

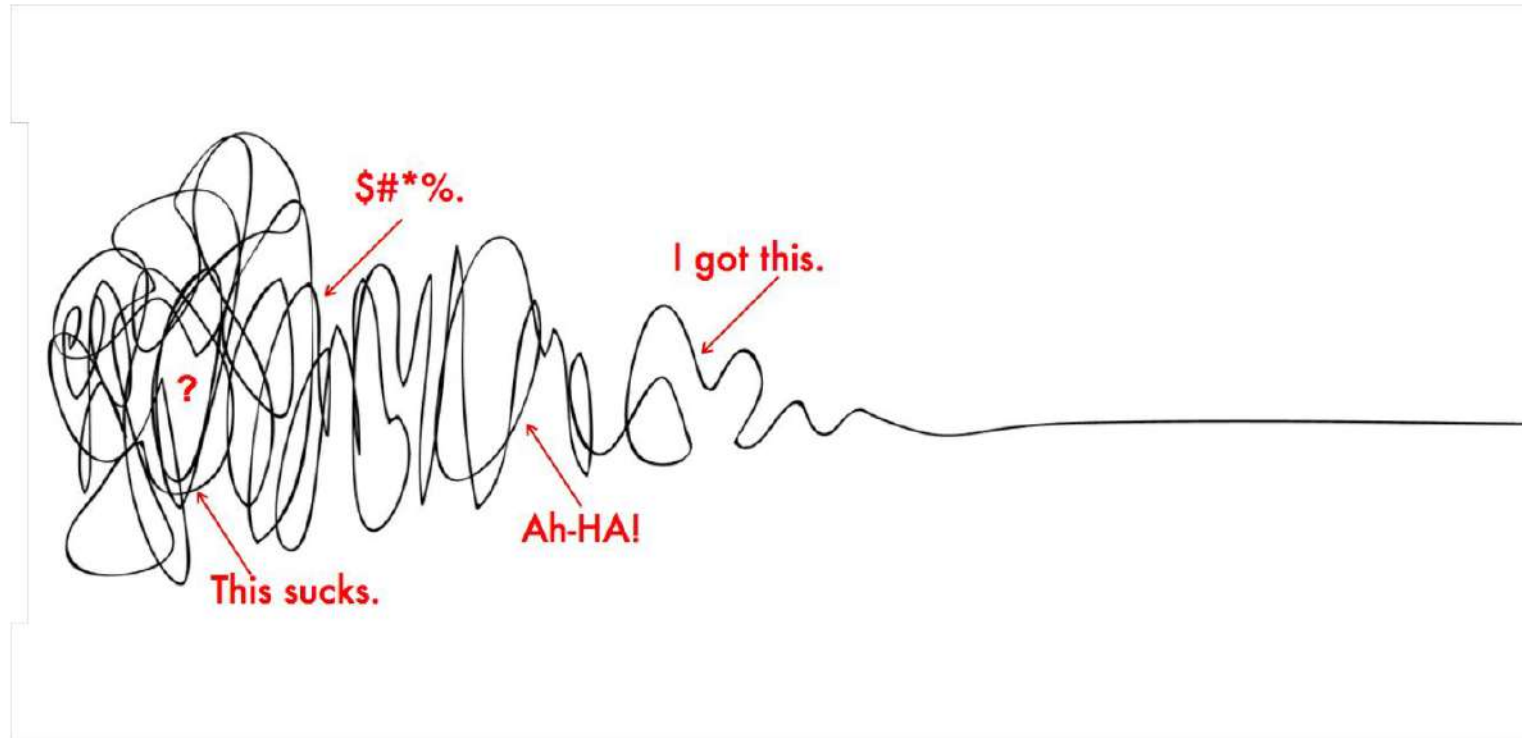Source: IdeoU.com

STEP 4—PREPARE A PLAN TO PROTOTYPE

• Make a plan for what you would prototype next.

• Consider the following questions to inform future iterations:

    + What could you prototype to help you learn?

    + Who would you involve and why?

    + What resources would you need in order to make it happen?

Source: IdeoU.com

IT LOOKS LIKE
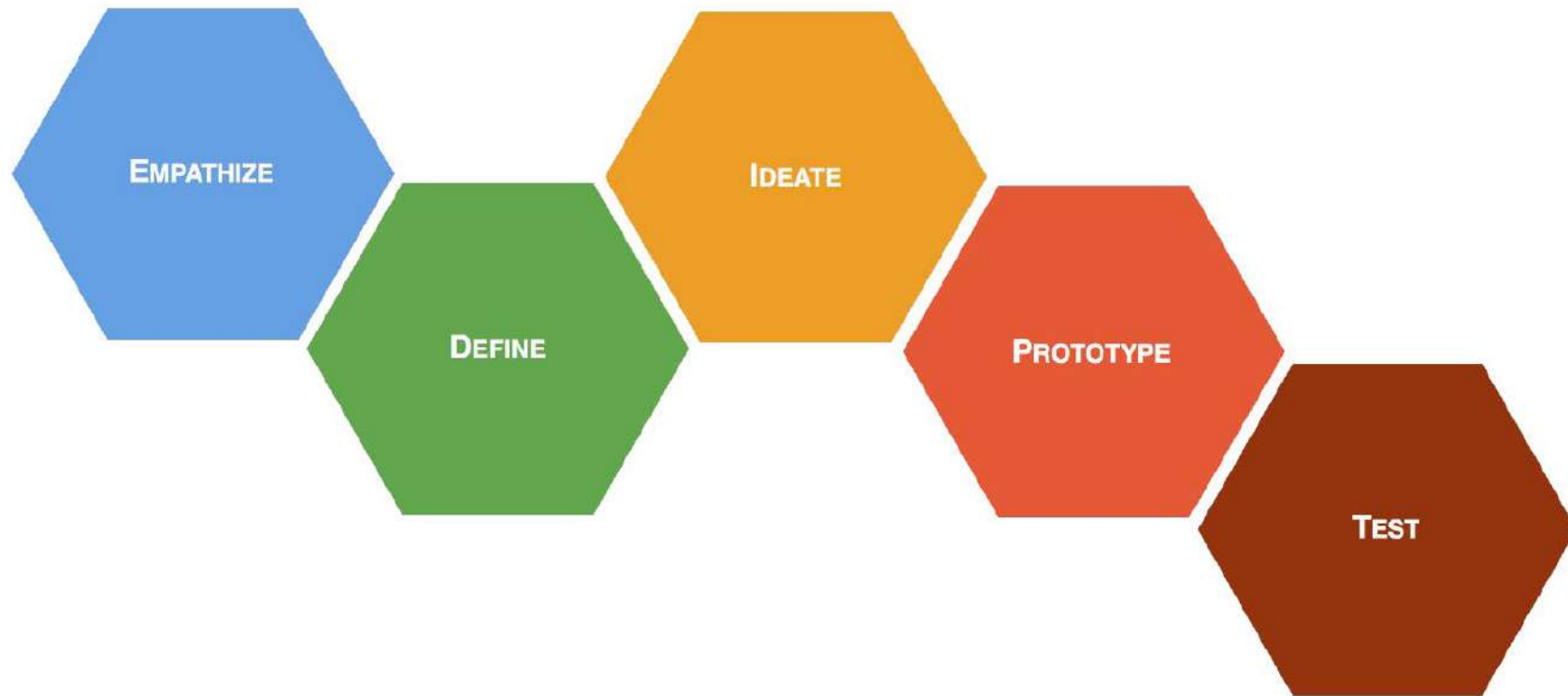
Source: Stanford d.School

IT FEELS LIKE

Adapted from the "Design Squiggle" by Damien Newman
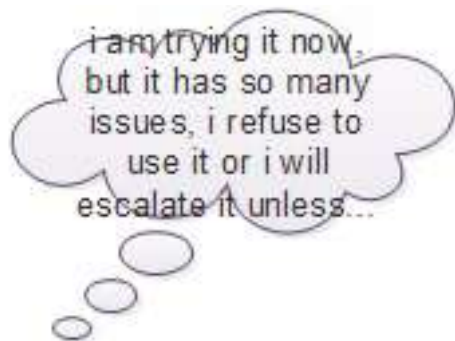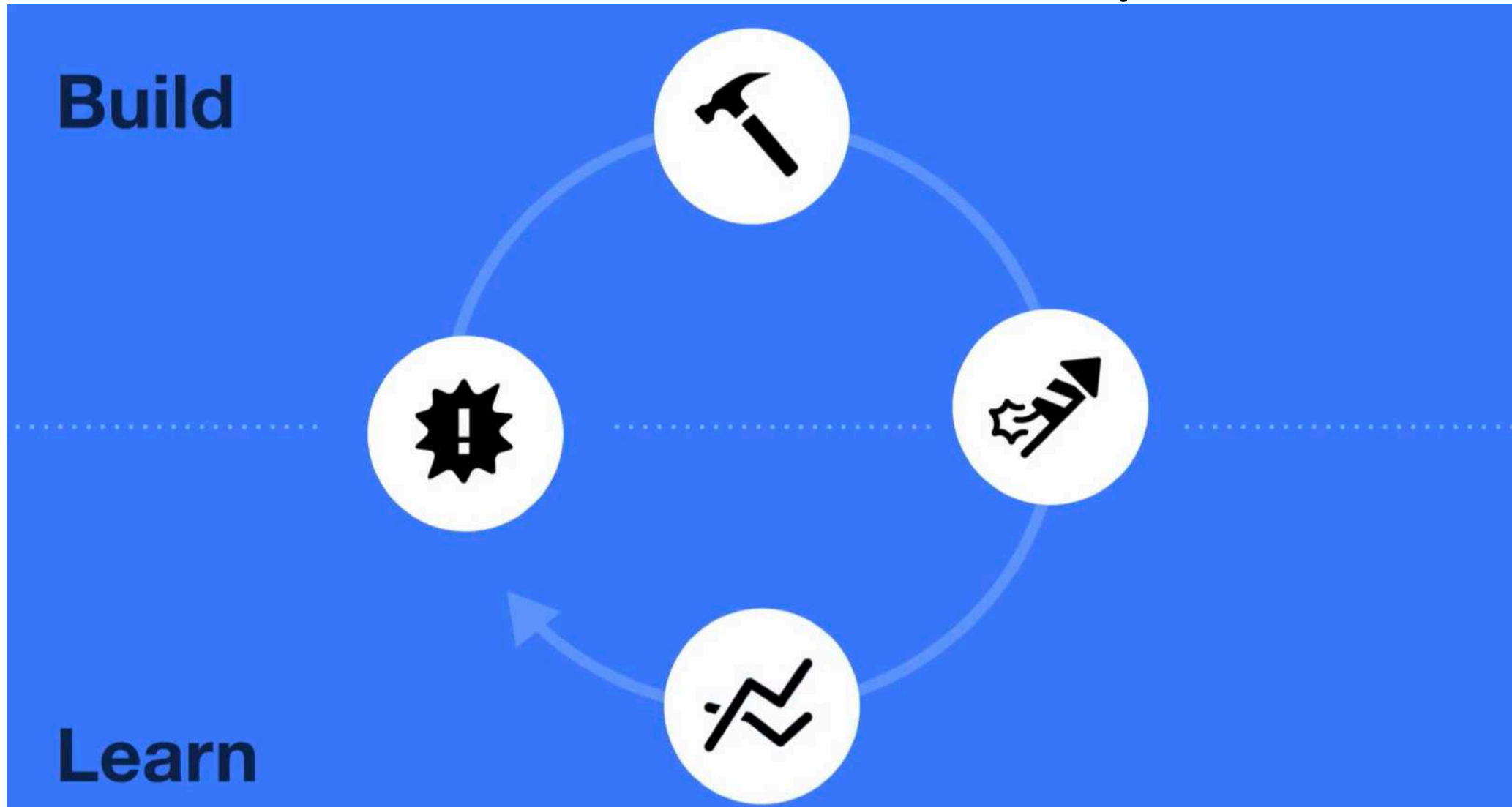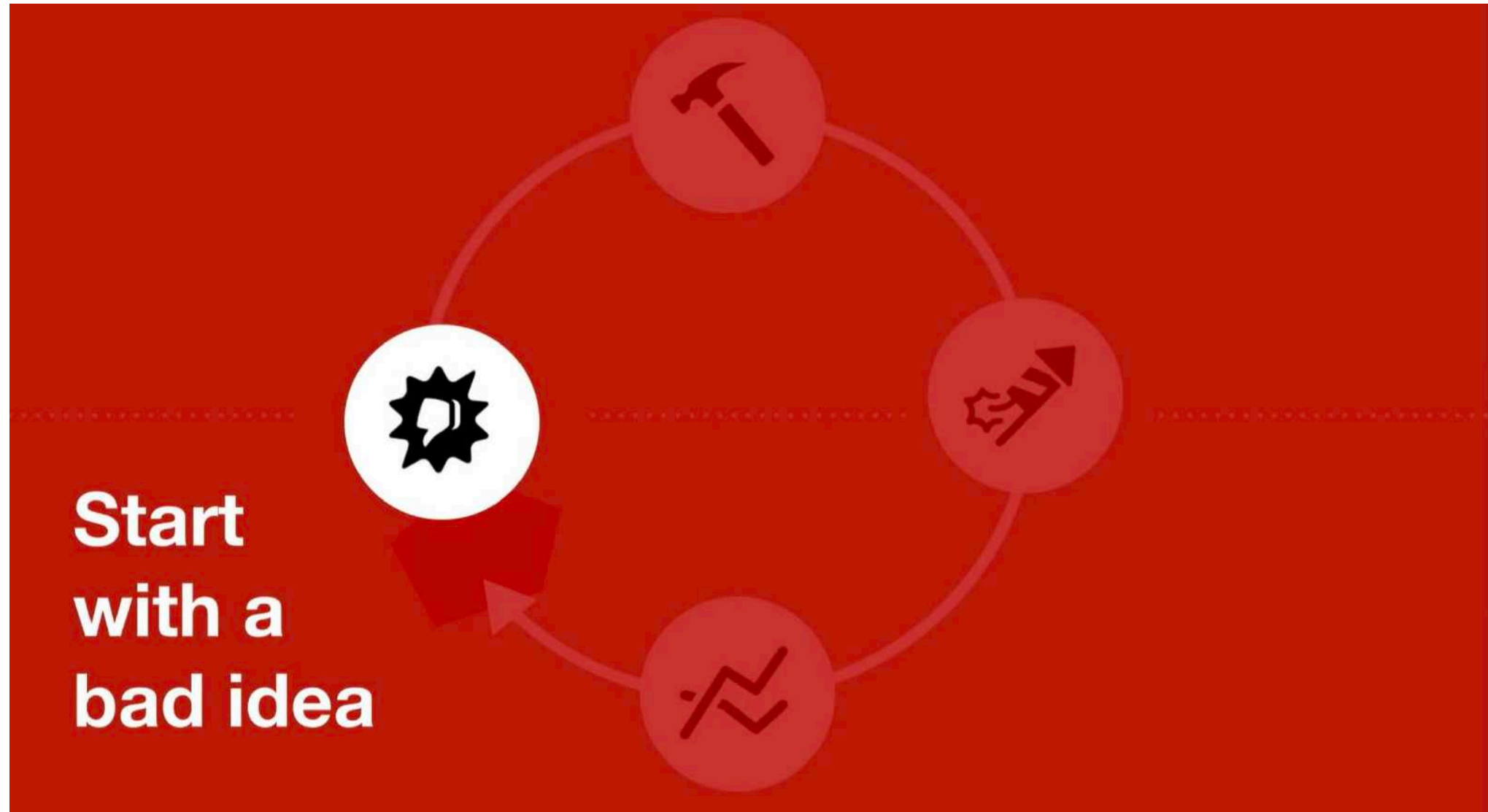http://cargocollective.com/central/The-Design-Squiggle

Traditional Product Development

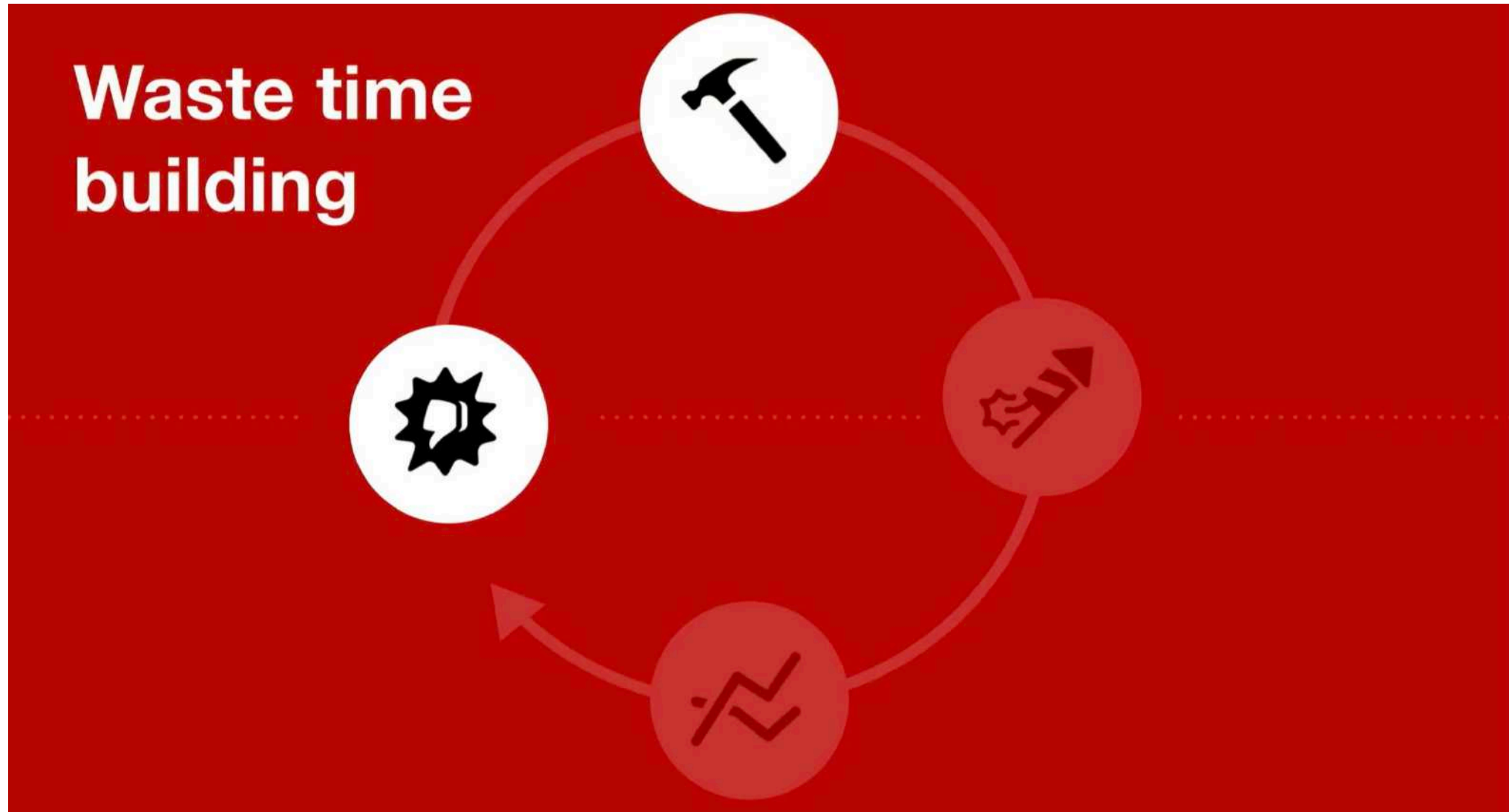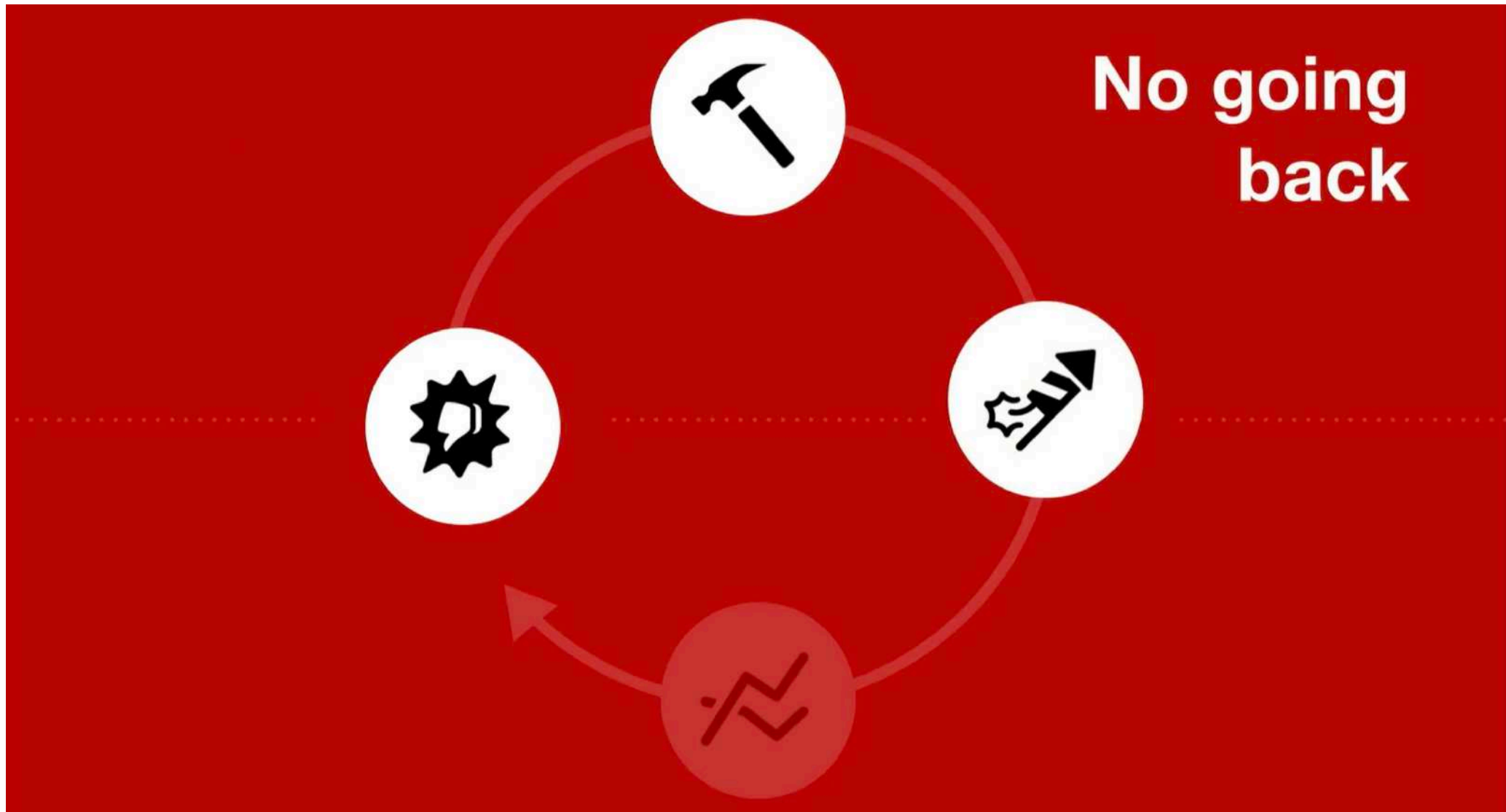Source: https://ajsmart.com/design-sprints/

What's Wrong?

Start with a bad idea

What's Wrong?

Source: https://ajsmart.com/design-sprints/

What's Wrong?

No going back

Source: https://ajsmart.com/design-sprints/

What's Wrong?

Inconclusive
results

Source: https://ajsmart.com/design-sprints/

Design Sprint

Source: https://ajsmart.com/design-sprints/
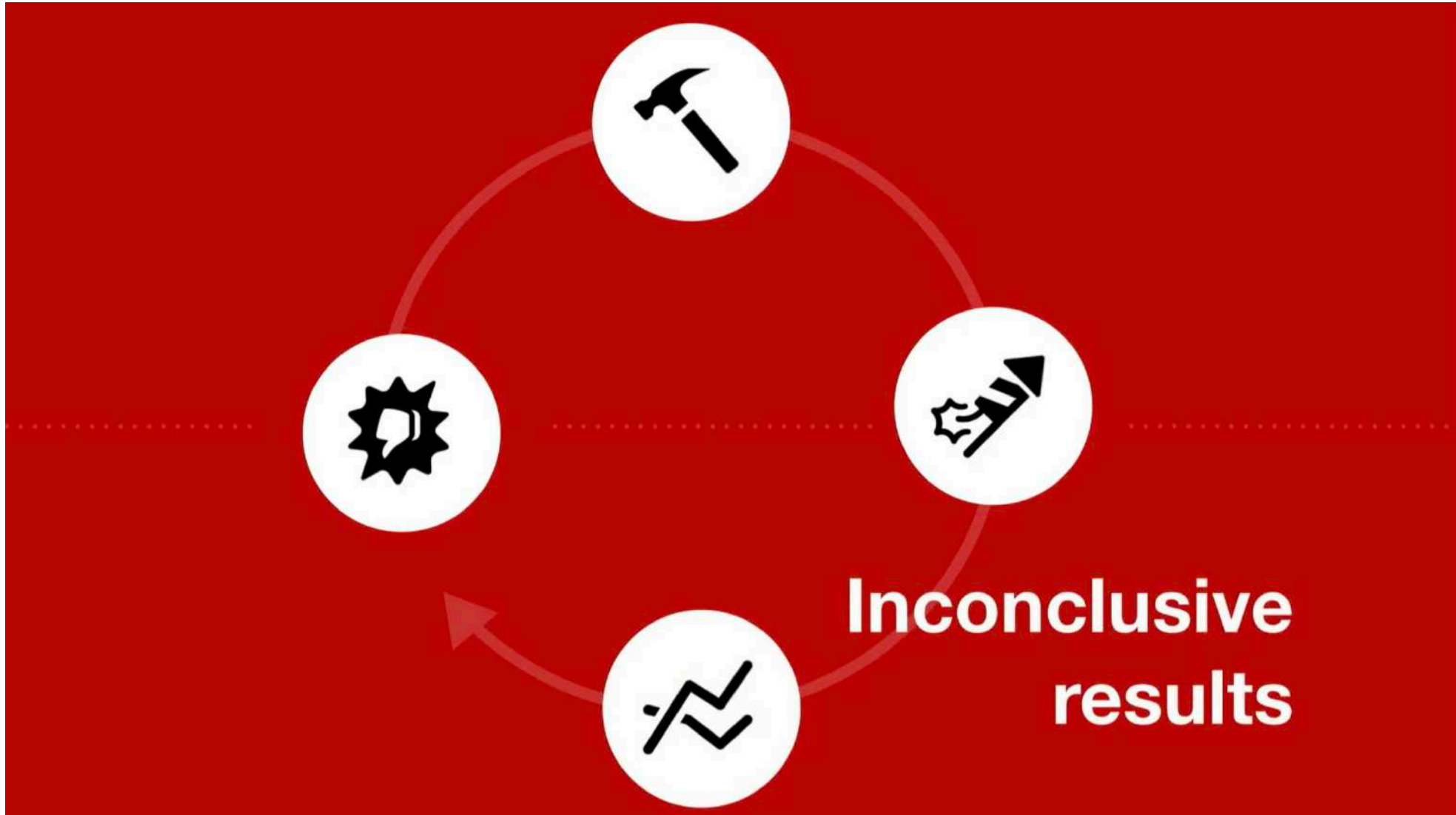
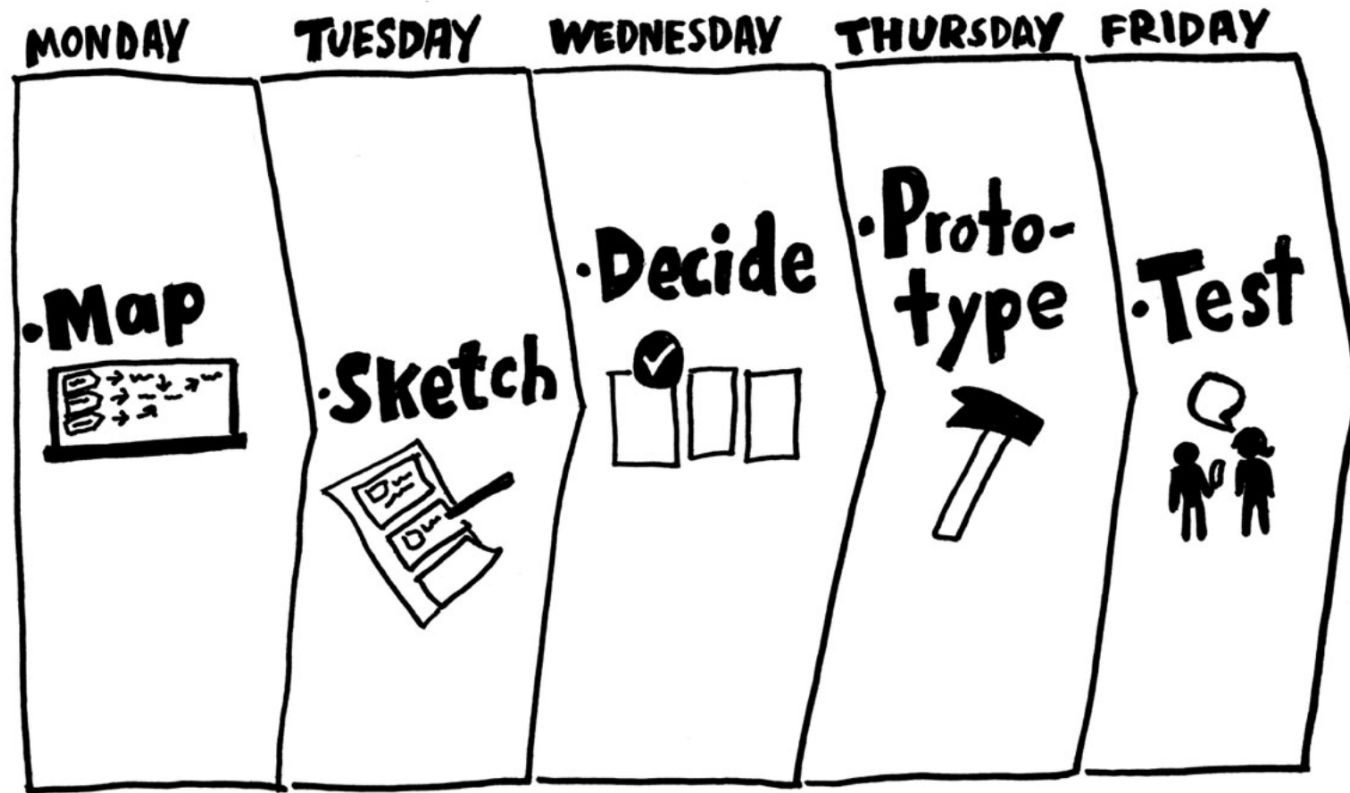# Google Venture Design Sprint
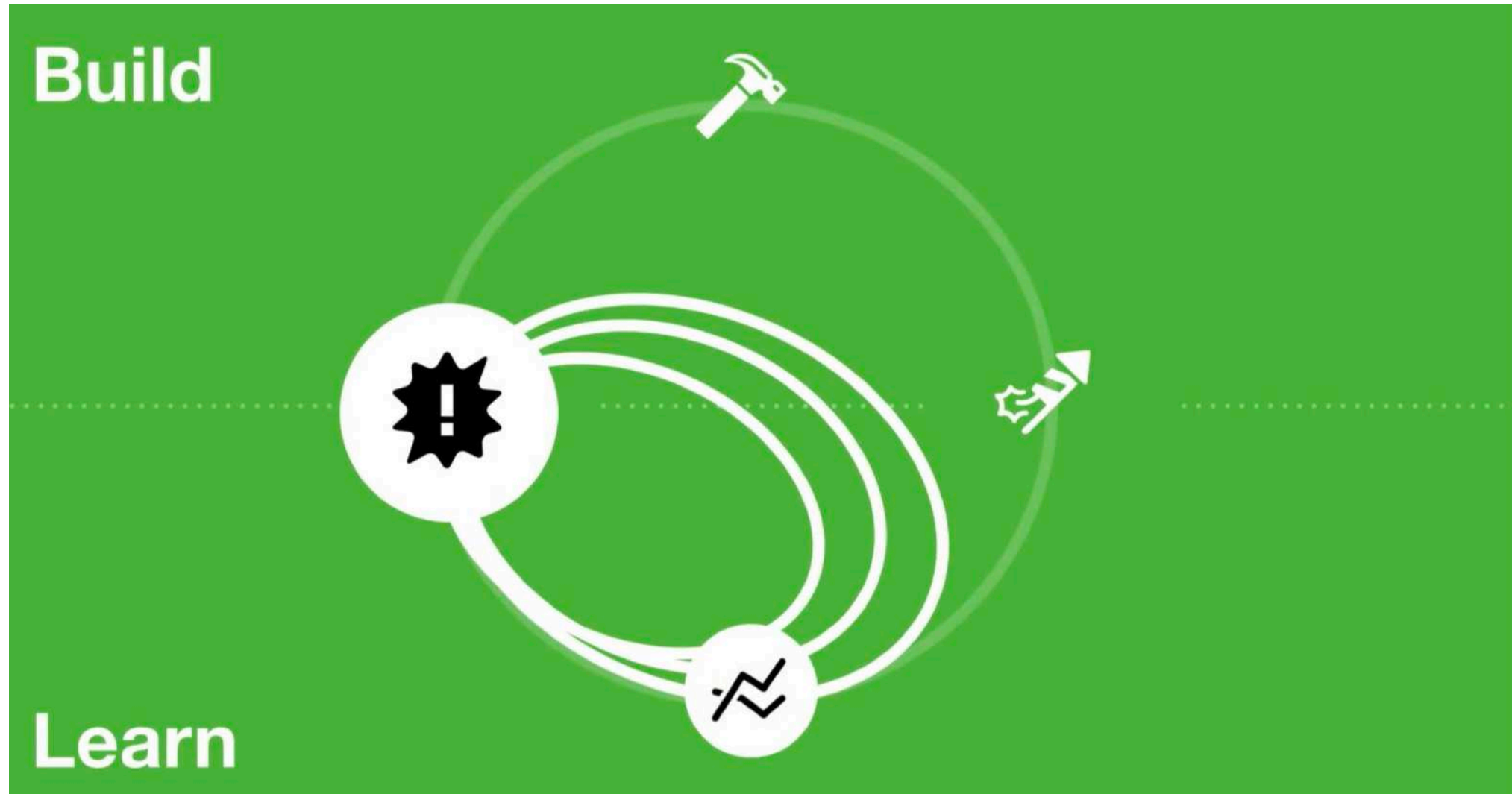
Source: Google Ventures

Important Mindset in Design Thinking

Low Tech, High Touch

"Yes, and…." Mindset

The best way to have a good idea
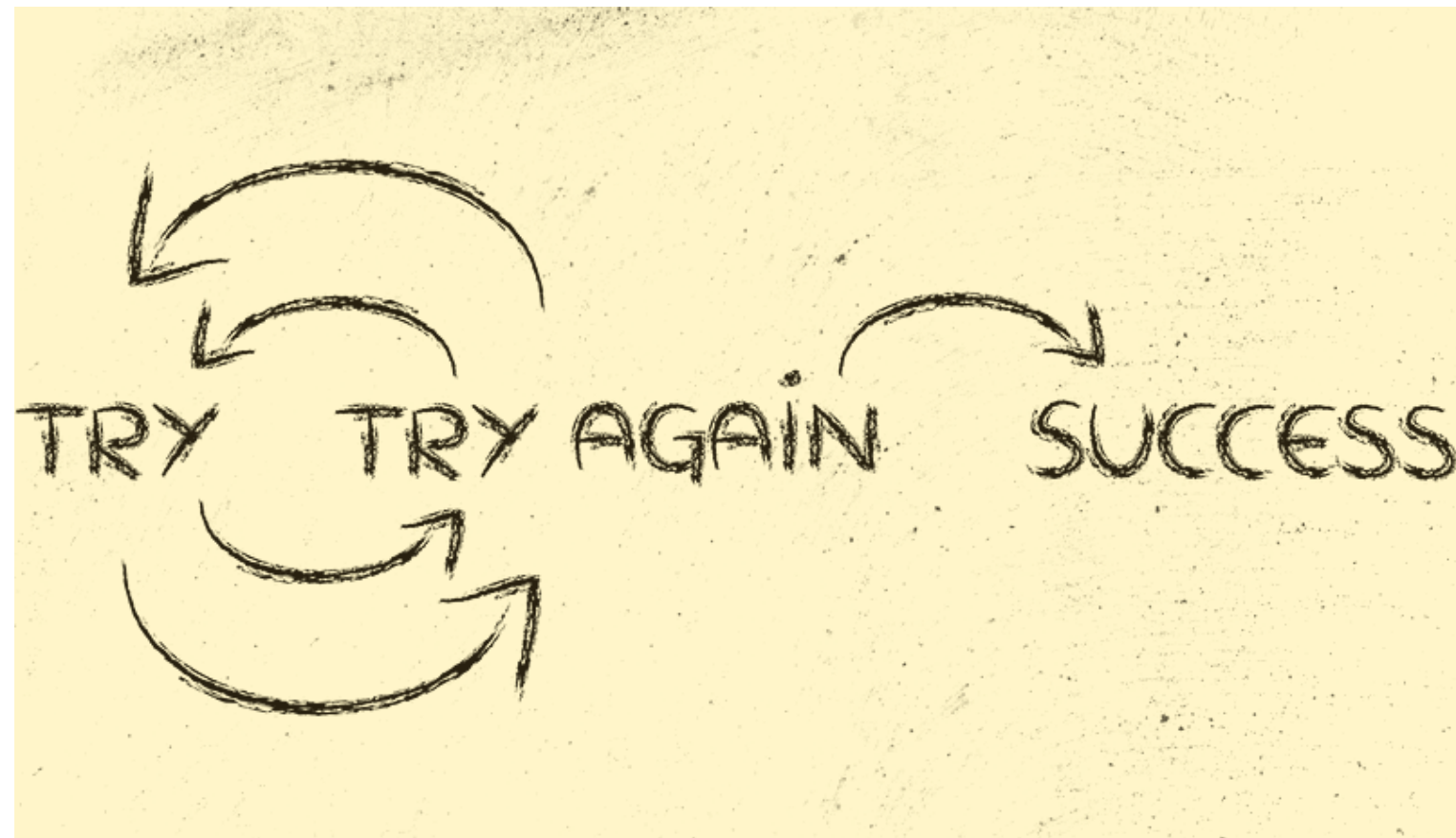is to have lots of ideas.

- Linus Pauling

"The biggest risk is not taking any risk.

Mark Zuckerberg

Fail Fast

Fast Failure

"The fastest way to succeed is to double your failure rate."

- Thomas J Watson Sr. , Founder of IBM

What are the Benefits of Fast Failure?

- Detect design flaws early
- Reduce cost of rework
- Limit loss of investment e.g. stop infeasible or unviable project early so that resources can be redirected to better/alternative opportunities

make space

How to Set the Stage for Creative Collaboration
Scott Doorley & Scott Witthoft

With a Foreword by David Kelley

Space and Artifacts Can Spark Creativity
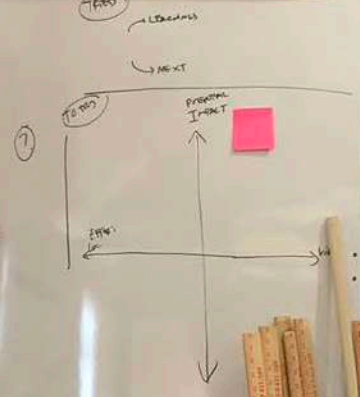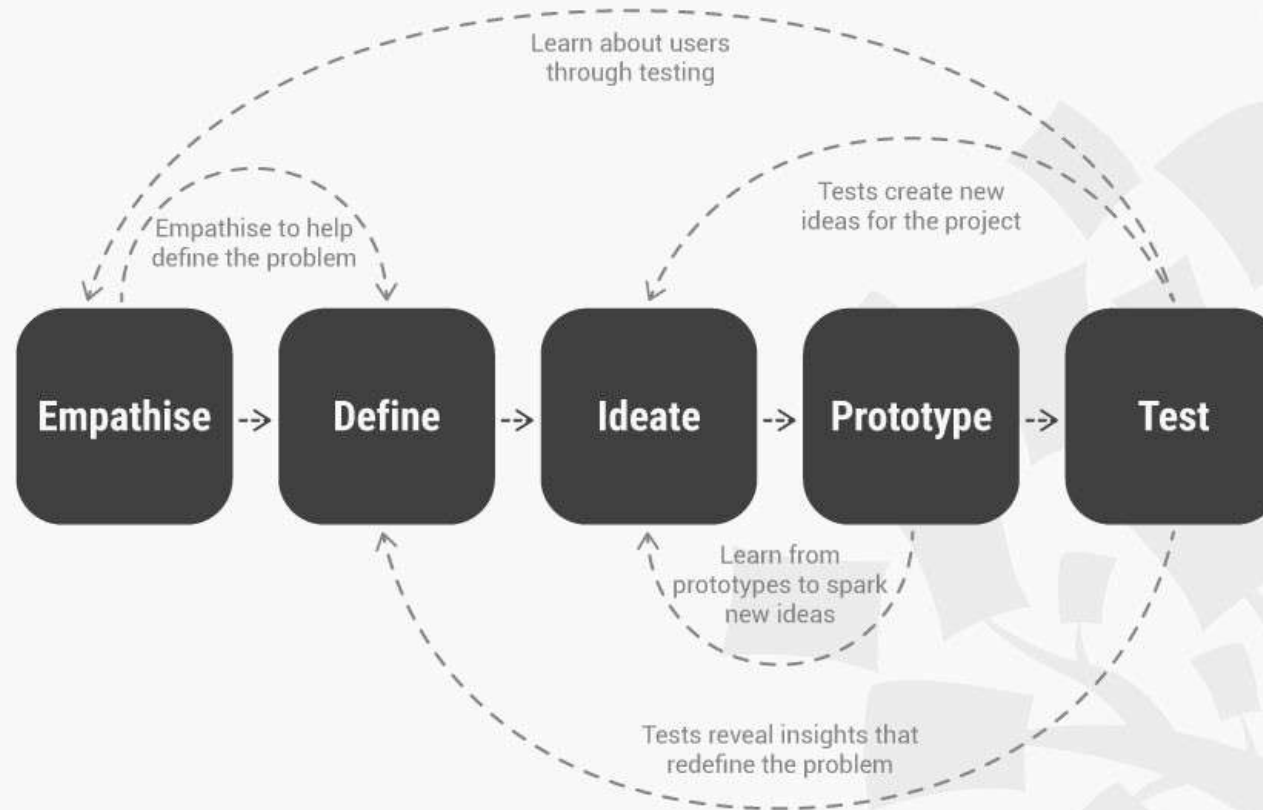
Stanford d.school Design Thinking Process

EMPATHIZE
- Interviews
- Shadowing
- Seek to understand
- Non-judgmental

DEFINE
- Personas
- Role objectives
- Decisions
- Challenges
- Pain Points

IDEATE
- Share ideas
- All ideas worthy
- Diverge/Converge
- "Yes and" thinking
- Prioritize

PROTOYPE
- Mockups
- Storyboards
- Keep it simple
- Fail fast
- Iterate quickly

TEST
- Understand impediments
- What works?
- Role play
- Iterate quickly

https://dschool.stanford.edu

Conclusions

- Design thinking can drive innovations and creativity.
- Be an observer.
- All of us is smarter than any of us.
- Necessity is the mother of invention.
- If you don't explore many options, you are not diverse enough. Don't settle down on the first idea.
- Five stage model is iterative and incremental.
- Be open for experimentations.
- Design Thinking → Design Doing. Result must be tangible.
- Idea without implementation and testing is just an idea.

thank you

danuvasin@gmail.com
Facebook.com/danuvasin