

What Security can learn from Design

(An Intro to Design Thinking)

Douglas Wilson

Security Person,
Formerly at Uptycs, Mandiant
@dallendoug

Nguyet Vuong

Design Person,
VP of Design at Civil Media Company
@nguyetv

We are Nguyet & Doug

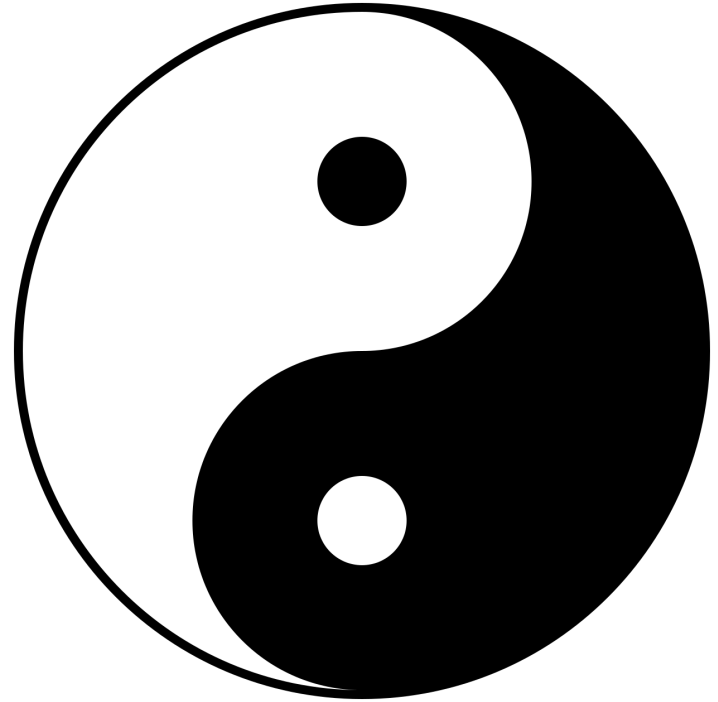
Collectively, we have lived in and analyzed the worlds of Design and Security for a combined *36 years*.

Let us know if this sounds familiar:

- You must **challenge the status quo** to succeed
- You spend a lot of time **examining unusual and unintended behaviors**
- Despite amazing technology, success is often dependent on **a few skilled humans**
- Your area of expertise is often an **afterthought** at a lot of companies
- You are much more **effective** if included at the beginning of the process

Hypothesis

Security is the Yin to
Design's Yang



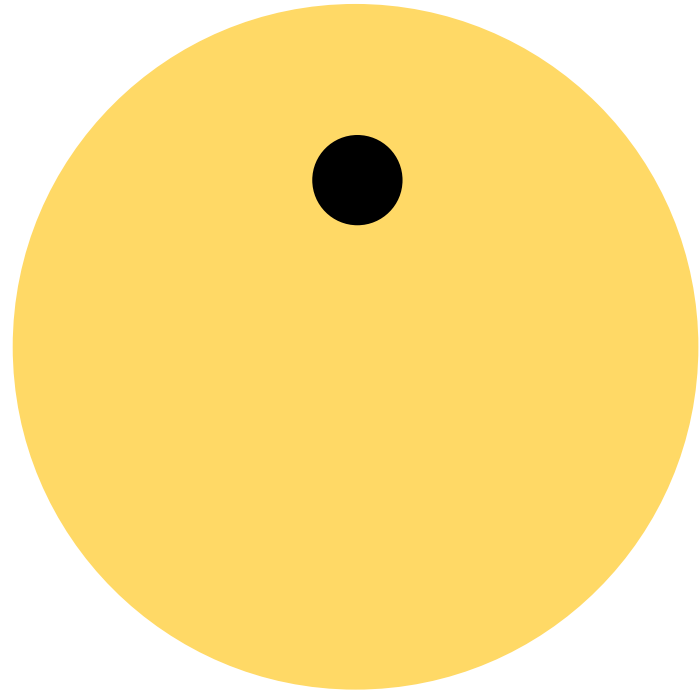
Reframing

Security is a design problem

“**Reframe problems** - there are a number of very well known cognitive biases that can limit our thinking and restrict our choices. Indeed, [studies](#) have even shown that the way we frame things can play a significant part in whether we get started or procrastinate. By reframing our problems we can often look at situations in a new light and come up with much better solutions to them.”

Adi Gaskell - *5 Steps To Help You To Design Your Life*

<https://www.forbes.com/sites/adigaskell/2016/09/16/5-steps-to-help-you-to-design-your-life/>



Reframing

If you solve security problems for *people*,

You are a designer



But wait.

I can't draw. I don't do graphics.

How am I a designer?

Design isn't just UX or UI, or about colors, fonts, and images.

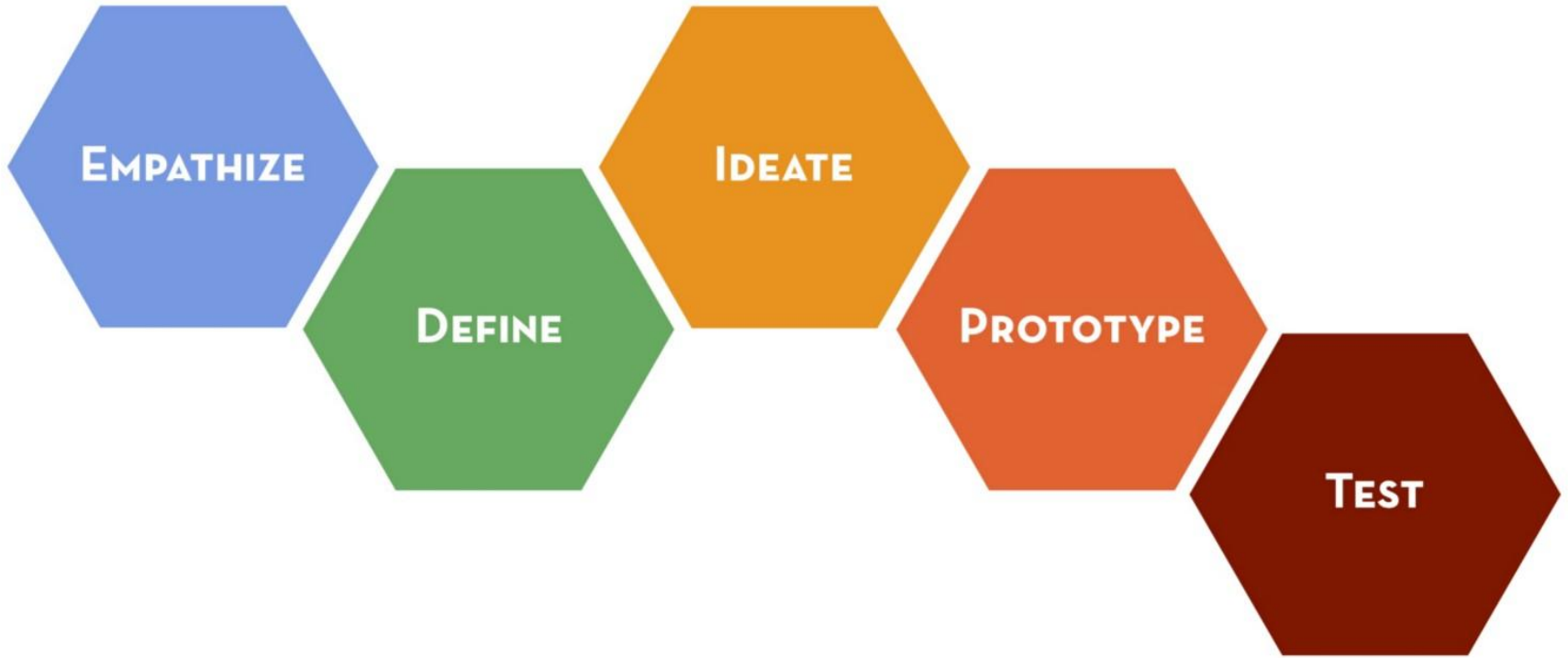
It's about problem solving.

*“Everyone is a designer.
Not everyone is a good designer.
Everyone can become a better designer.”*

-Jared Spool

How might we improve security solutions by applying insights from the design industry?

What are the tools and techniques that
Security can Learn from Design?



Phases of Design Thinking according to Stanford Design School

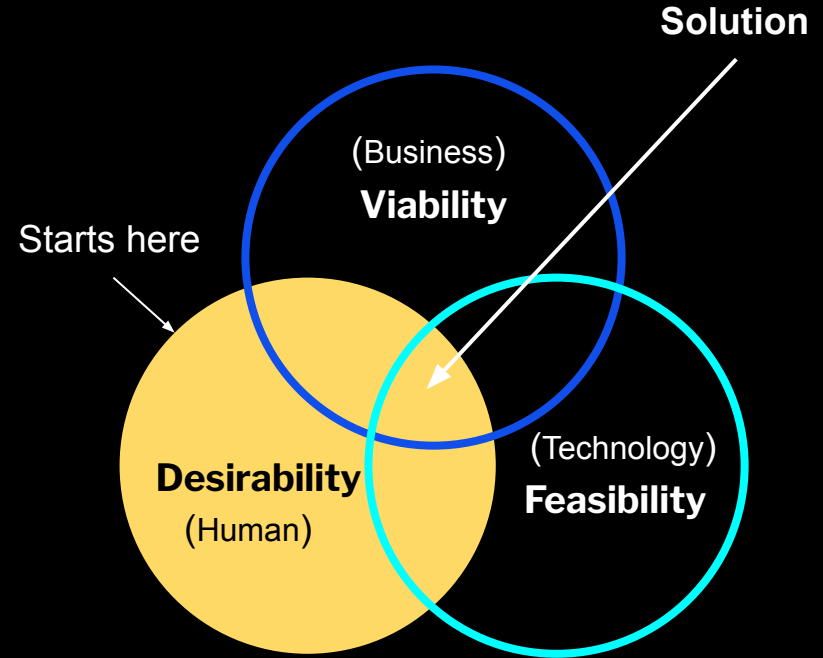
What is Design Thinking?

WHAT IS DESIGN THINKING?

Human-Centered Design

Successful solutions start with human desires.

The best solutions emerge at the intersection of these three lenses.



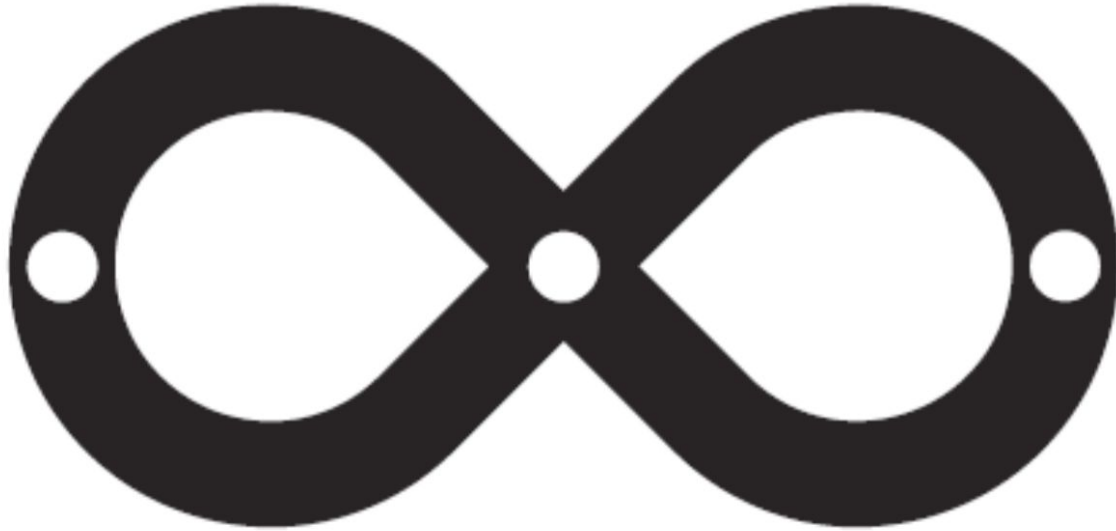
WHAT IS DESIGN THINKING?

IBM The Loop

OBSERVE

REFLECT

MAKE



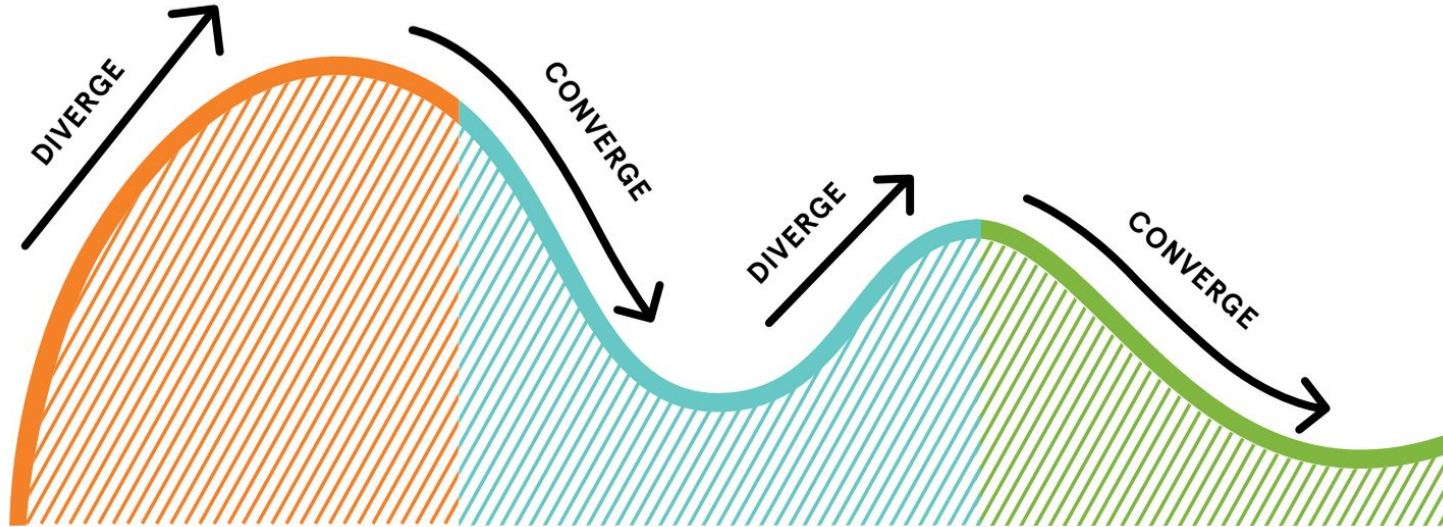
WHAT IS DESIGN THINKING?

IDEO

Inspiration

Ideation

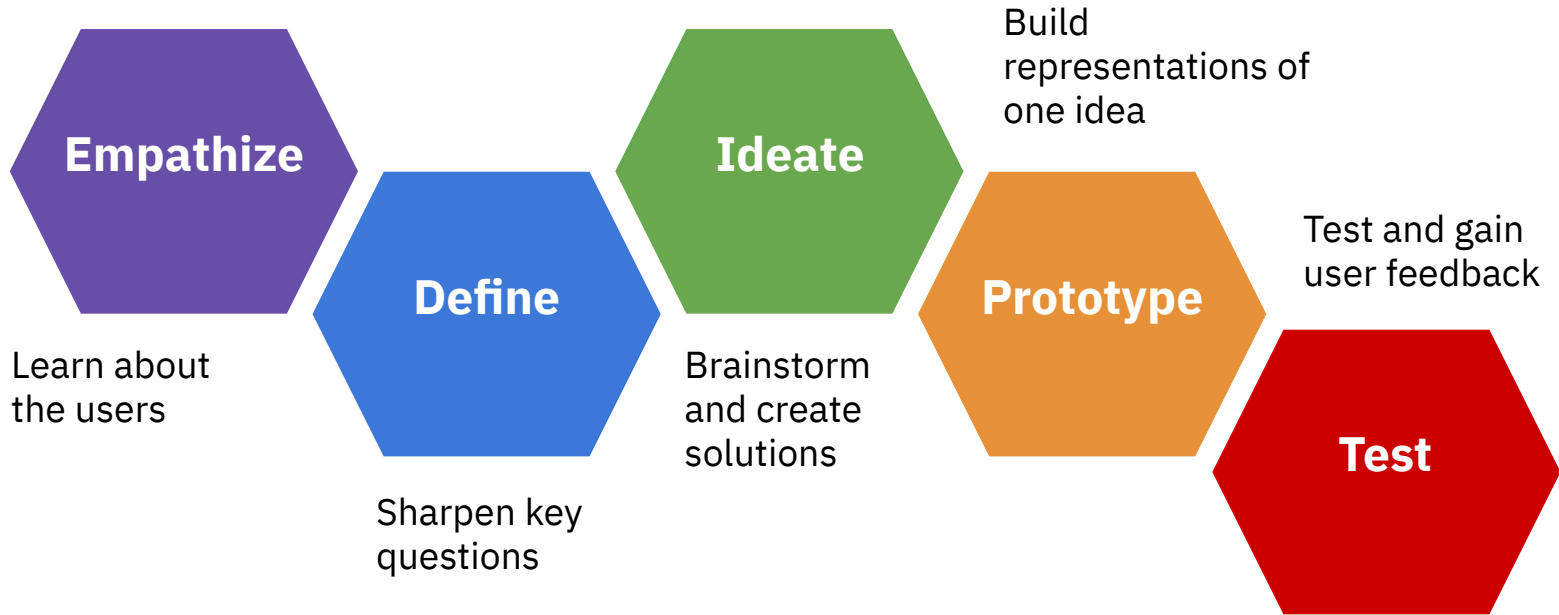
Implementation



Credit: IDEO

WHAT IS DESIGN THINKING?

Stanford School of Design



The Methodology



UNDERSTAND



DEFINE



IDEATE

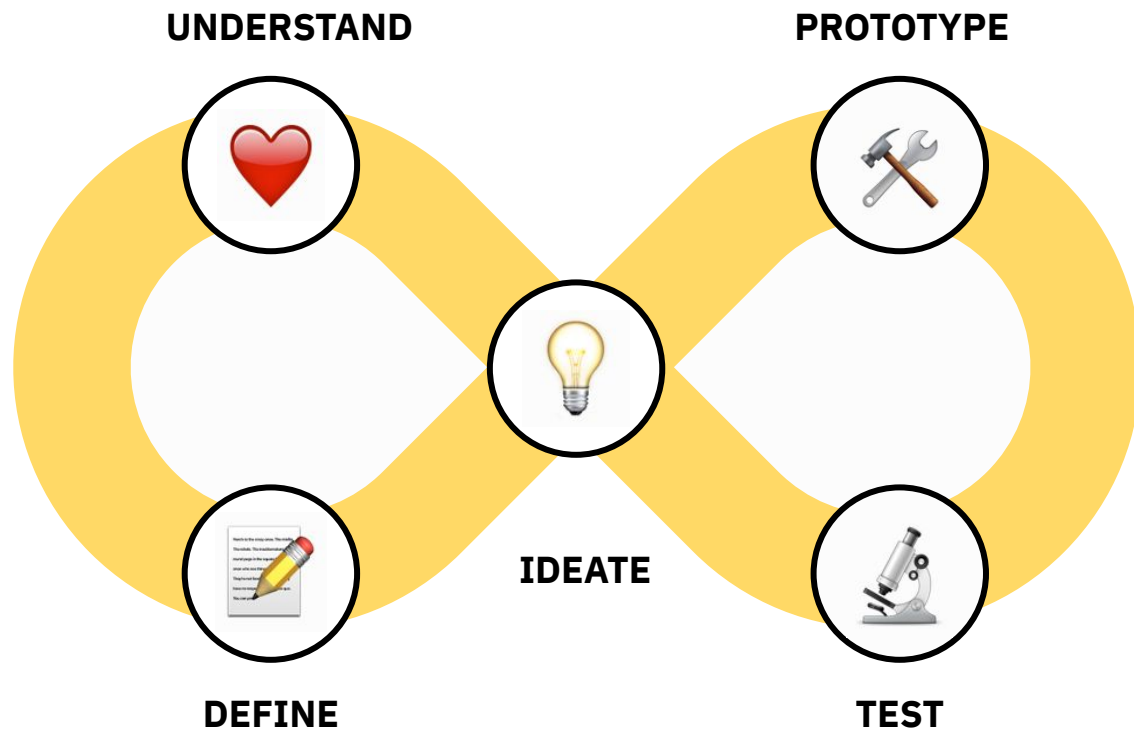


PROTOTYPE



TEST

This is not a linear process



WHAT IS DESIGN THINKING?

A set of activities

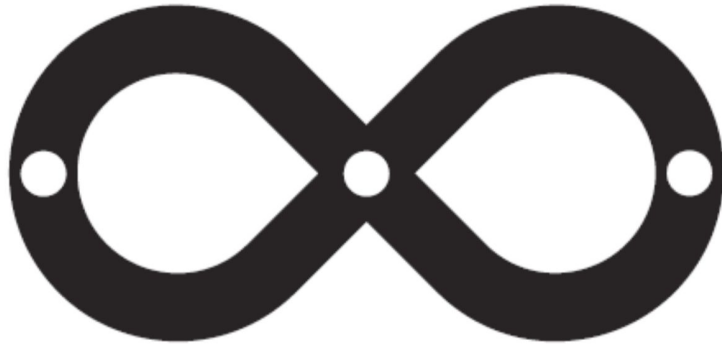
All of these methods suggest sets of activities that a team can work through to define problems, brainstorm, and build consensus on a solution.

Talk prototype with CapSec DC members

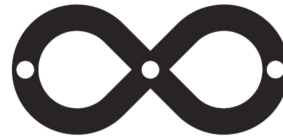


Design Thinking Activities

More constructed according to the needs of the workshop. This framework is flexible, and can be done in 1 week, 1 or 2 days or half day according to your needs.



One week



1 day



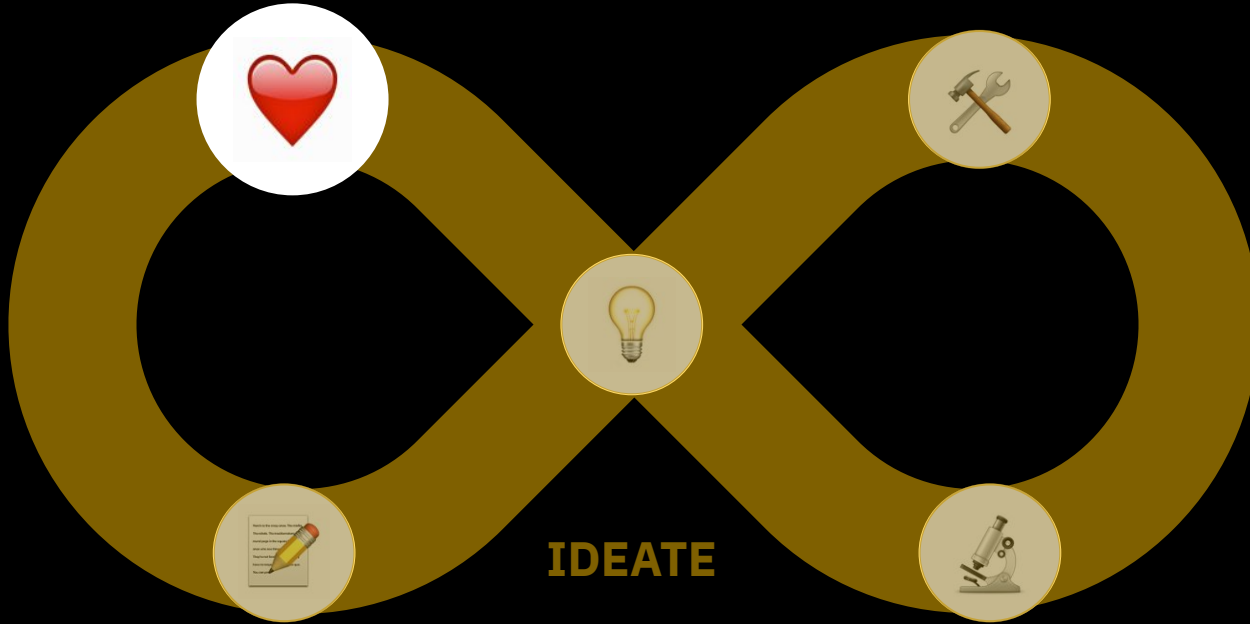
Half day



2 hour

UNDERSTAND

PROTOTYPE



DEFINE

TEST

IDEATE

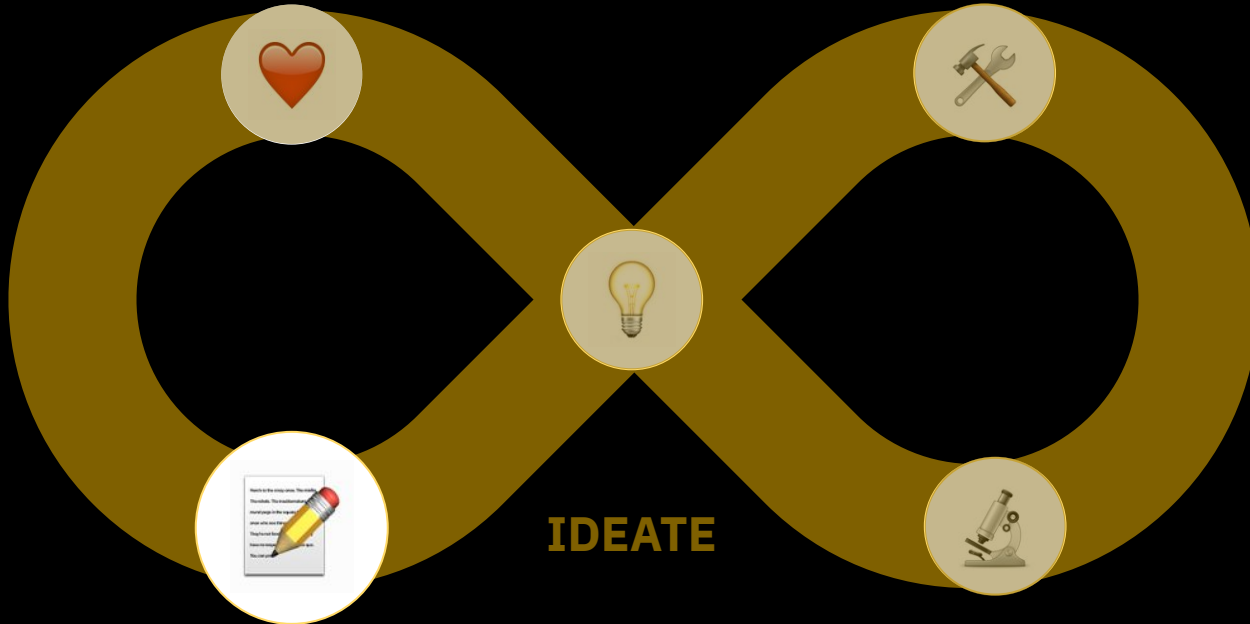


Understand

Understanding is gaining an empathic insight into the people you're designing for and the challenges they are experiencing.

UNDERSTAND

PROTOTYPE



IDEATE

DEFINE

TEST



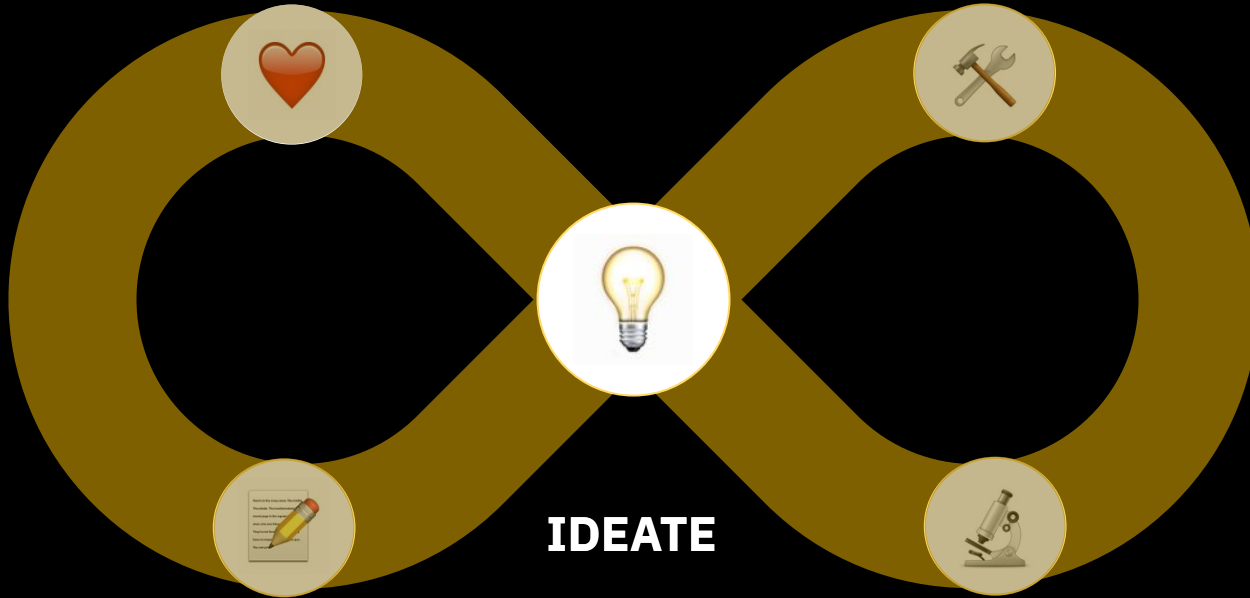
Define

Defining is unpacking the findings from your Understand phase into needs and insights.

And then turning those needs into problem statements.

UNDERSTAND

PROTOTYPE



IDEATE

DEFINE

TEST



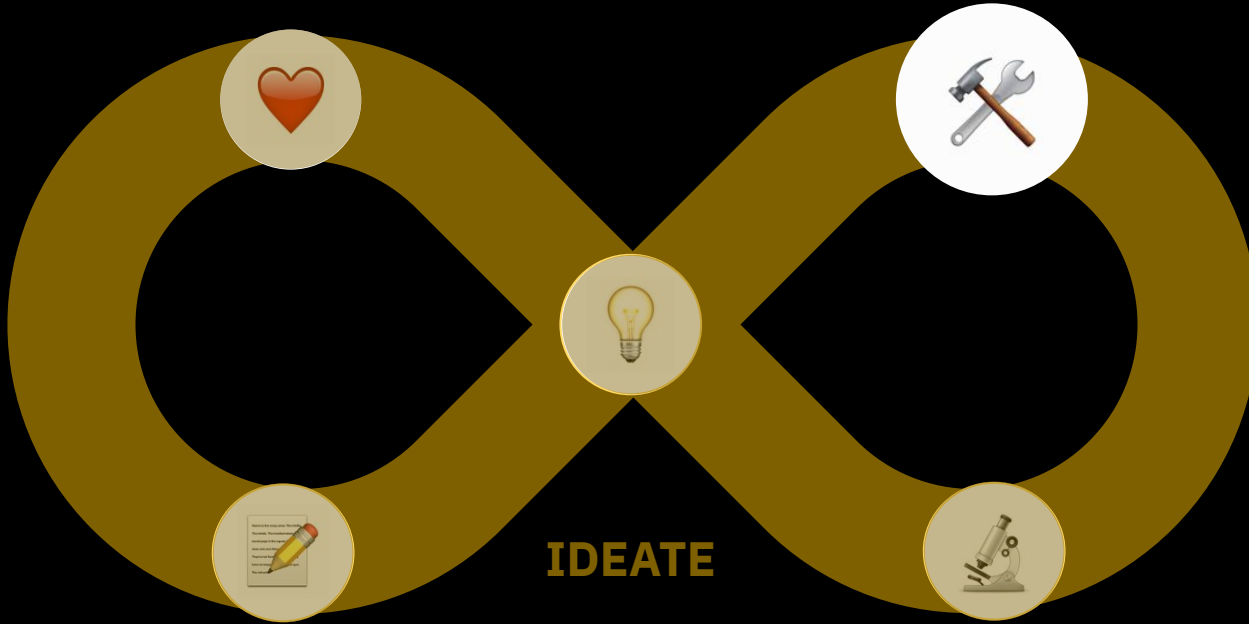
Ideate

Ideating is generating a large number of ideas. Not perfect ideas, but lots of potential answers and solutions. **No judgement.** No evaluation.

This is the time to let imaginations run wild!

UNDERSTAND

PROTOTYPE



DEFINE

TEST

IDEATE



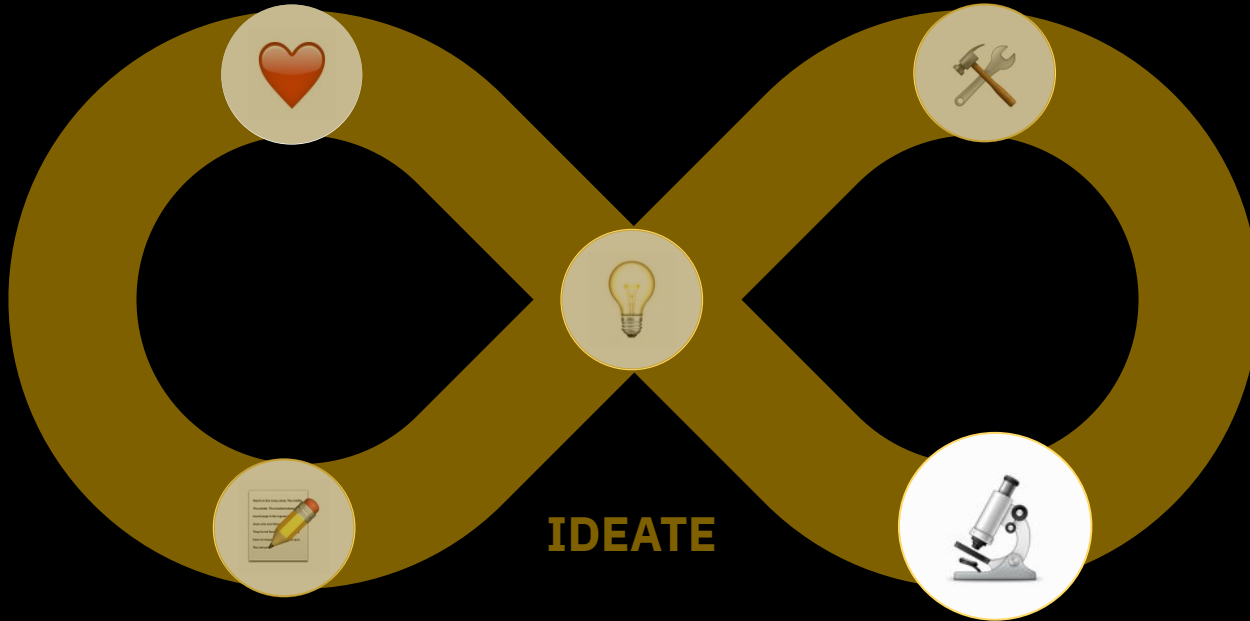
Prototype

Prototyping is making your ideas real so that you can communicate them. It pushes your understanding of what's possible.

This is about learning, not about getting it right the first time.

UNDERSTAND

PROTOTYPE



IDEATE

DEFINE

TEST



Test

Testing your prototype is putting it in the hands of the right people to gather feedback and maximize your learning.

UNDERSTAND



PROTOTYPE



IDEATE

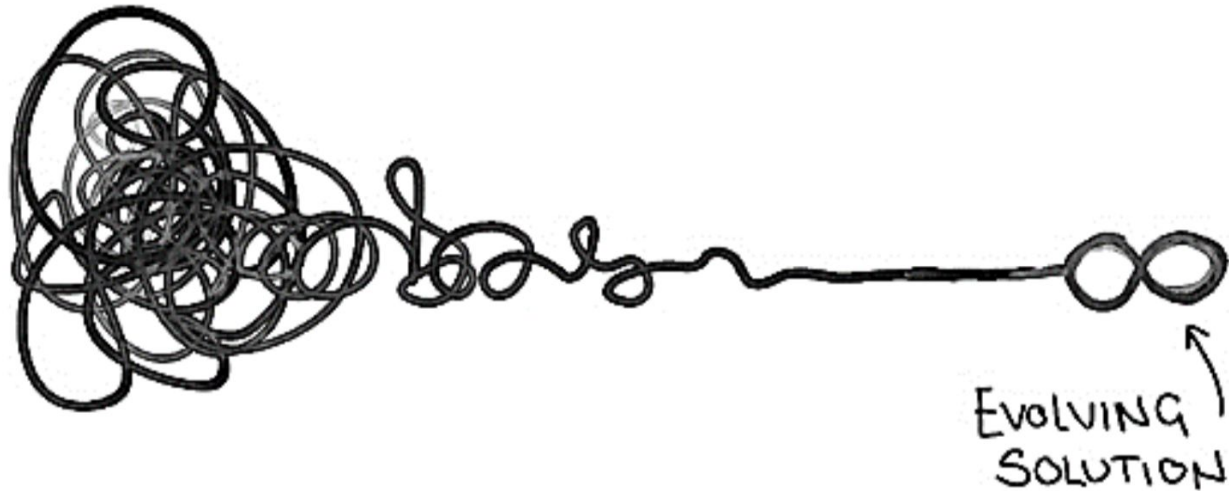


DEFINE



TEST

Real life feelings



**How can we apply this in
the security field?**



Does this sounds familiar, round 2

- You are told to implement a technology
- The “problem” is based on what’s affordable or available
- Implement dictated solution instead of exploring ideas
- End up with frustration and unhappy users



UNDERSTAND



PROTOTYPE



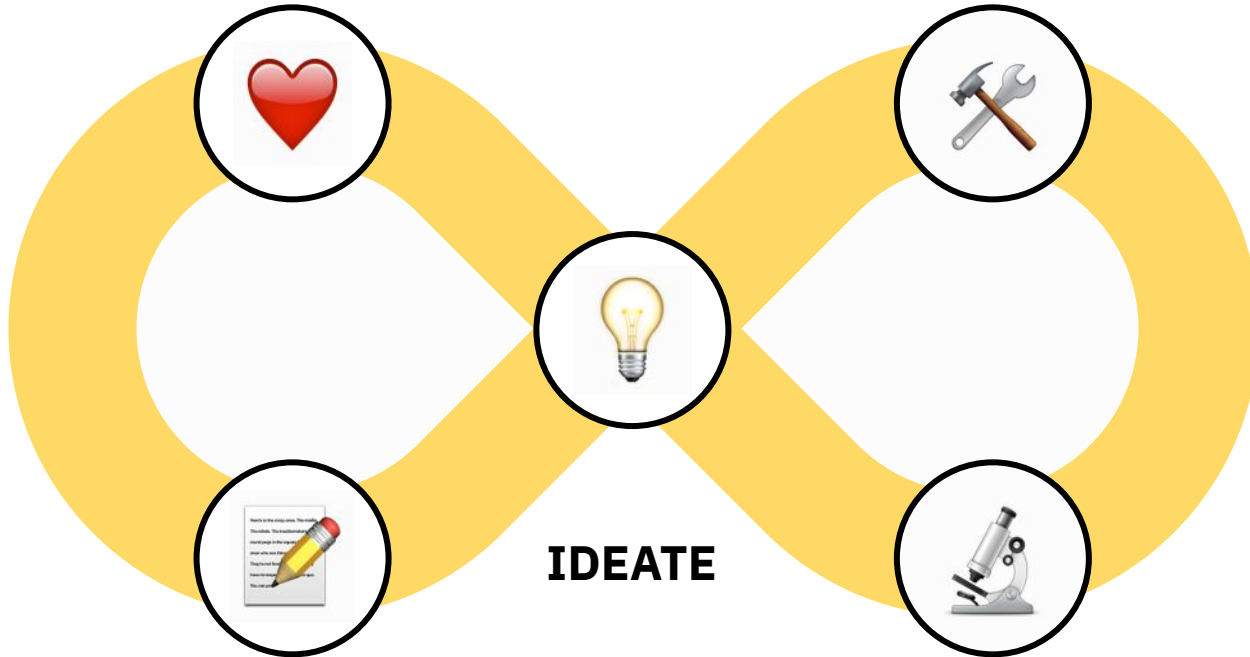
IDEATE



DEFINE



TEST





Understand

Are you identifying with people in your organization?
Did you get diverse input from different sources?



Define

Are you tackling solvable problems?
If not, can you reframe them?



Ideate

Don't just accept the first idea.
Conduct structured brainstorming.



Prototype

Are you trying out ideas small before you go big?
Are you getting feedback before committing to final solution?



Test

Are you testing with your users and listening to feedback?
Are you solving the right problem?

Red Teaming Design Thinking: Risks and Assumptions

- How can we use this on the problems we face?
- Design Thinking needs to work with other systems
- Design Thinking doesn't work for every challenge

Prototyping Design Thinking to Evolve

- You can point to leaders who are trying this
- You can start small (a prototype) and grow as you empower people
- You can ally with people trained in Design and work alongside them.

How to get started

- Talk to the people affected by the choices you make.
- Engage your team and embrace different points of view
- Seek out designers in your organization & include them
- Participate in Design Thinking workshops at your company
- Hire Design Facilitators
- Use the process on yourself!

Remember,
You are a designer.



This is just the beginning of our journey.

We thank you for taking it with us.



TEST

Design Thinking Workshop

Friday at 9:15 am - 10:45 am

Lowther Room

LIMITED CAPACITY

Thank you!

Douglas Wilson

Security Person,

Formerly at Uptics, Mandiant

@dallendoug

Nguyet Vuong

Design Person,

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@nguyetv

Resources for further learning

Stanford “D” School: <https://dschool.stanford.edu/resources>

IBM: <https://www.ibm.com/design/thinking/page/framework>

Ideo: <https://designthinking.ideo.com/> & <http://www.designkit.org/>

Google Ventures Design Sprint: <https://www.gv.com/sprint/>

[Design thinking origin story plus some of the people who made it all happen](#)

[How I stopped Worrying and Learned to Love Design Thinking](#) - Christina Wodtke

Resources for further learning

Books:

The Sprint Book by Jake Knapp - <https://www.thesprintbook.com/>

Designing Your Life by Bill Burnett & Dave Evans: <https://designingyour.life/>

Ruined by Design by Mike Monteiro: <https://www.ruinedby.design/>