Design Thinking
Engineered esreveR

Wicked problems…

- Lack definitive form; unstructured
- Are unique
- Often resultant from existing, interrelated or nested problems.

Solutions to wicked problems…

- Have no rules for determining when a solution is found
- Have no right or wrong solutions
- Can be explained in multiple ways
- Often have multiple possible answers…

(Rittel & Webber 1973)

Non-conventional divergent
thinking approaches…

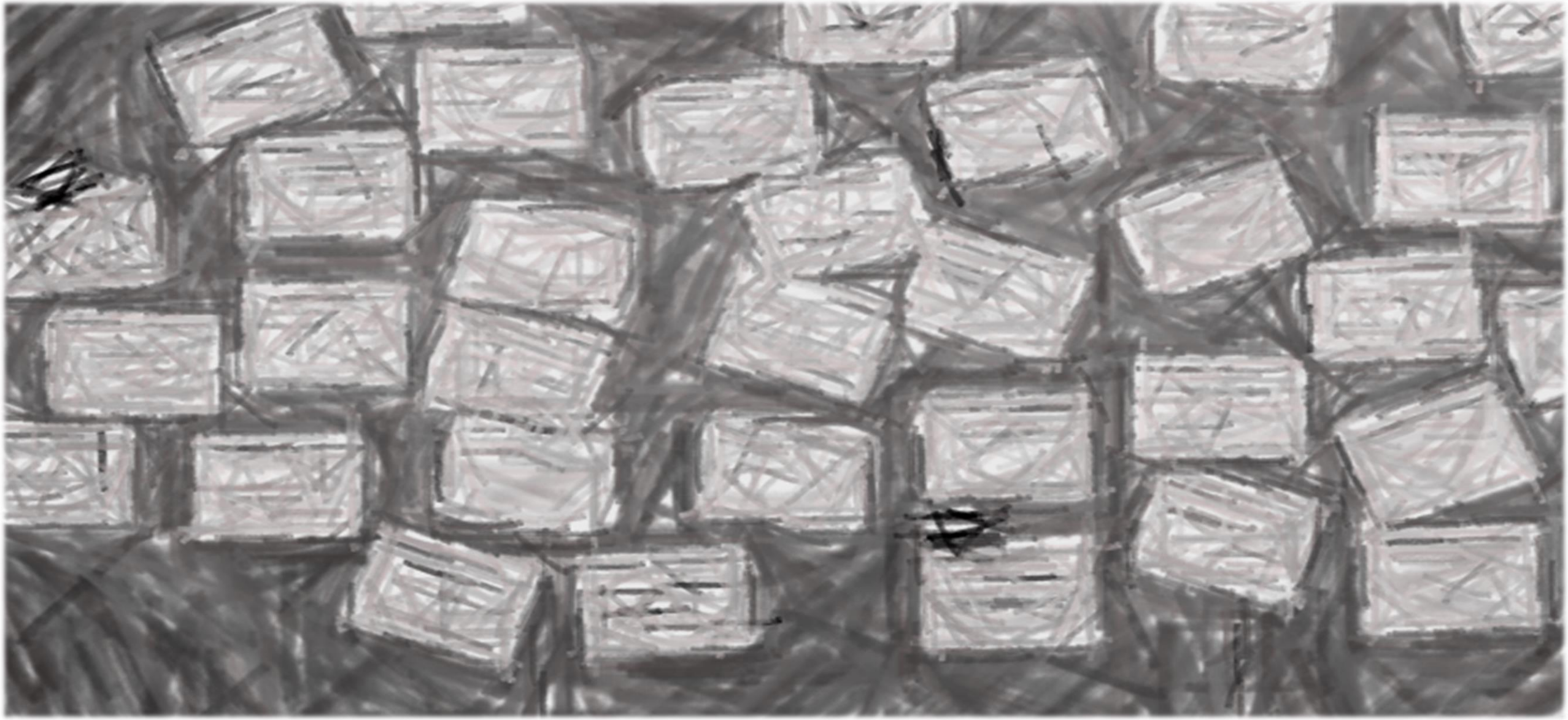
Think and feel - what do they feel?
See - what do they see?
Hear - what do they hear?
Say and do - what do they say and do?
PAIN
GAIN

Empathy Map

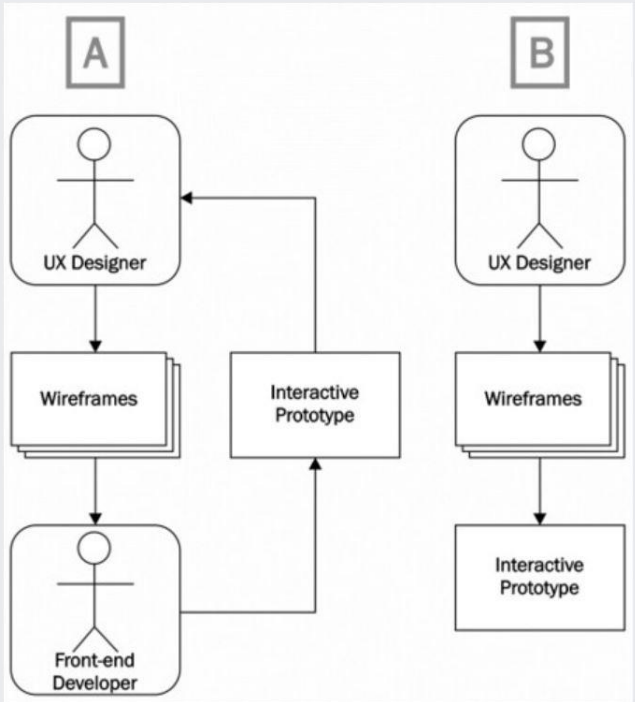
Linear Model

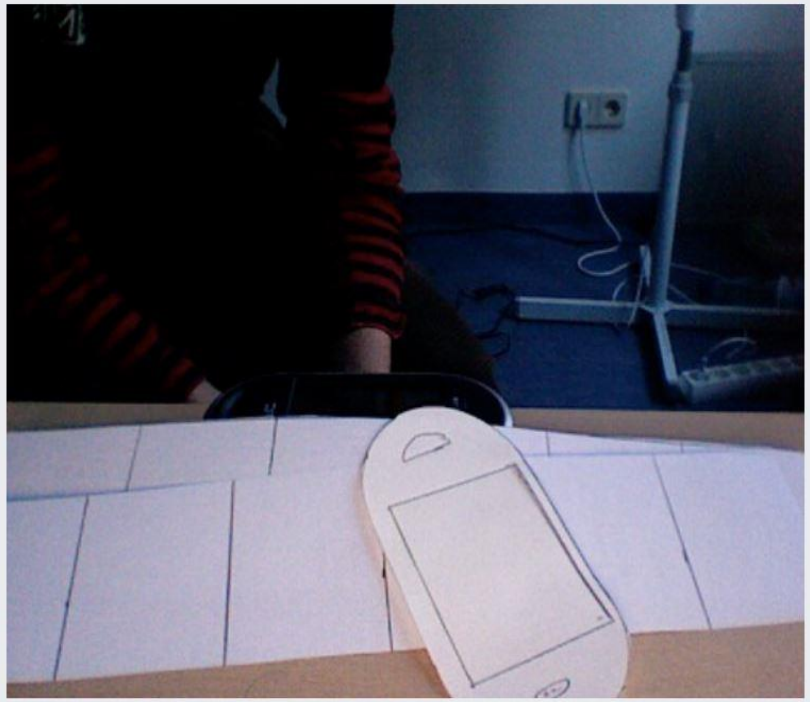
EMPATHY	RESEARCH	IDEATION	POINT OF VIEW	PROTOTYPE	TEST	ITERATION
• Understand • Discover • Deconstruct • Values • Principles • Human-centred • Analogies • Journeys • Stakeholder Map • System Map • Empathy Map	• Observe • Interview • Gather data • Triangulate • 5 Whys • Scale • Amplitude	• Divergence • Collaborate • Brainstorm • Explore	• Convergence • Define • Vote	• Model • Concept	• Experiment • Learn	• Retest
What is it for?	**What could it be?**	**What if?**	**What is best?**	**What is it?**	**Does it work?**	**Implement**

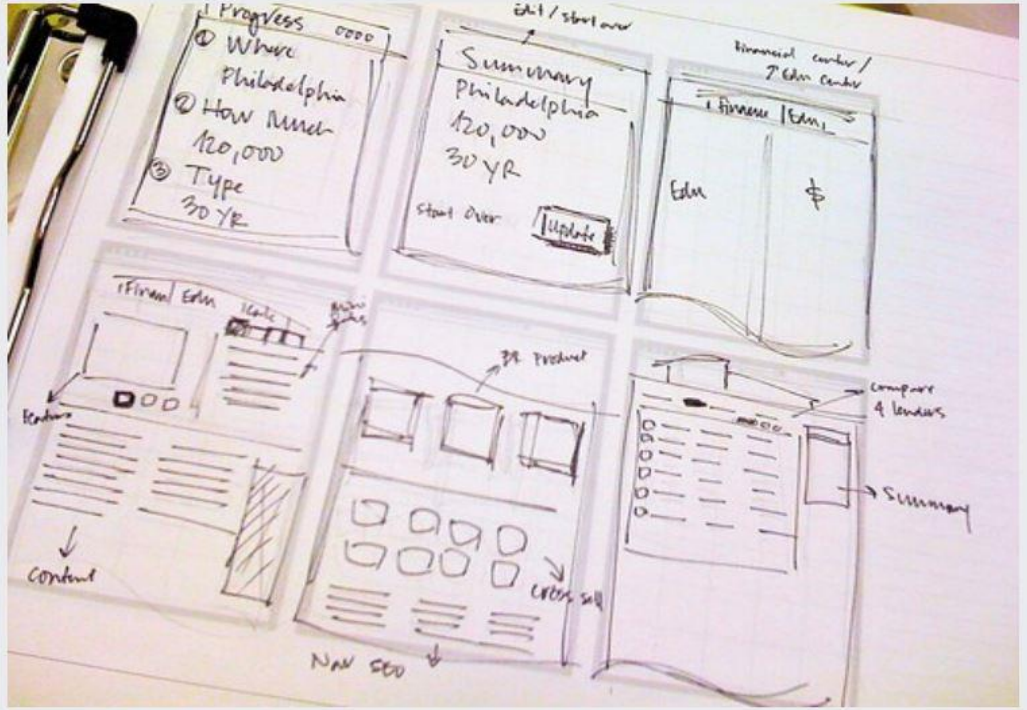
Ideation

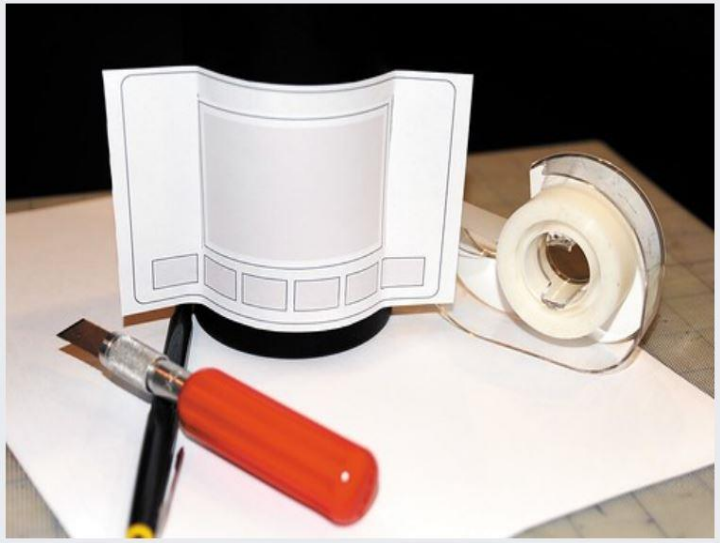


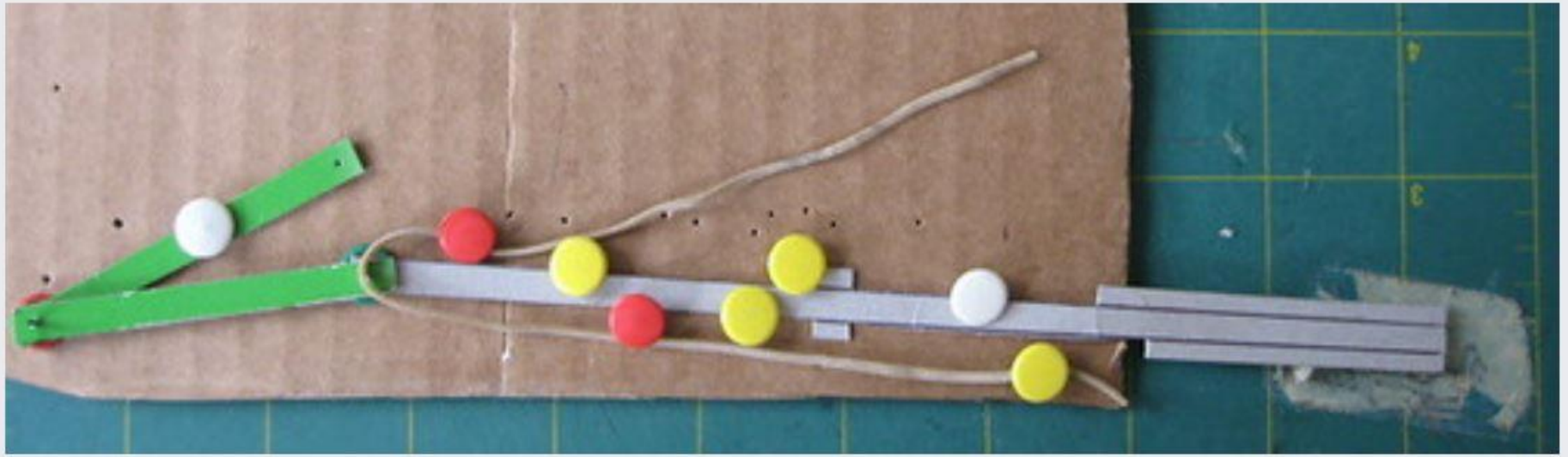
1
2
3


A
B
UX Designer
UX Designer
Wireframes
Interactive Prototype
Wireframes
Interactive Prototype
Front-end Developer

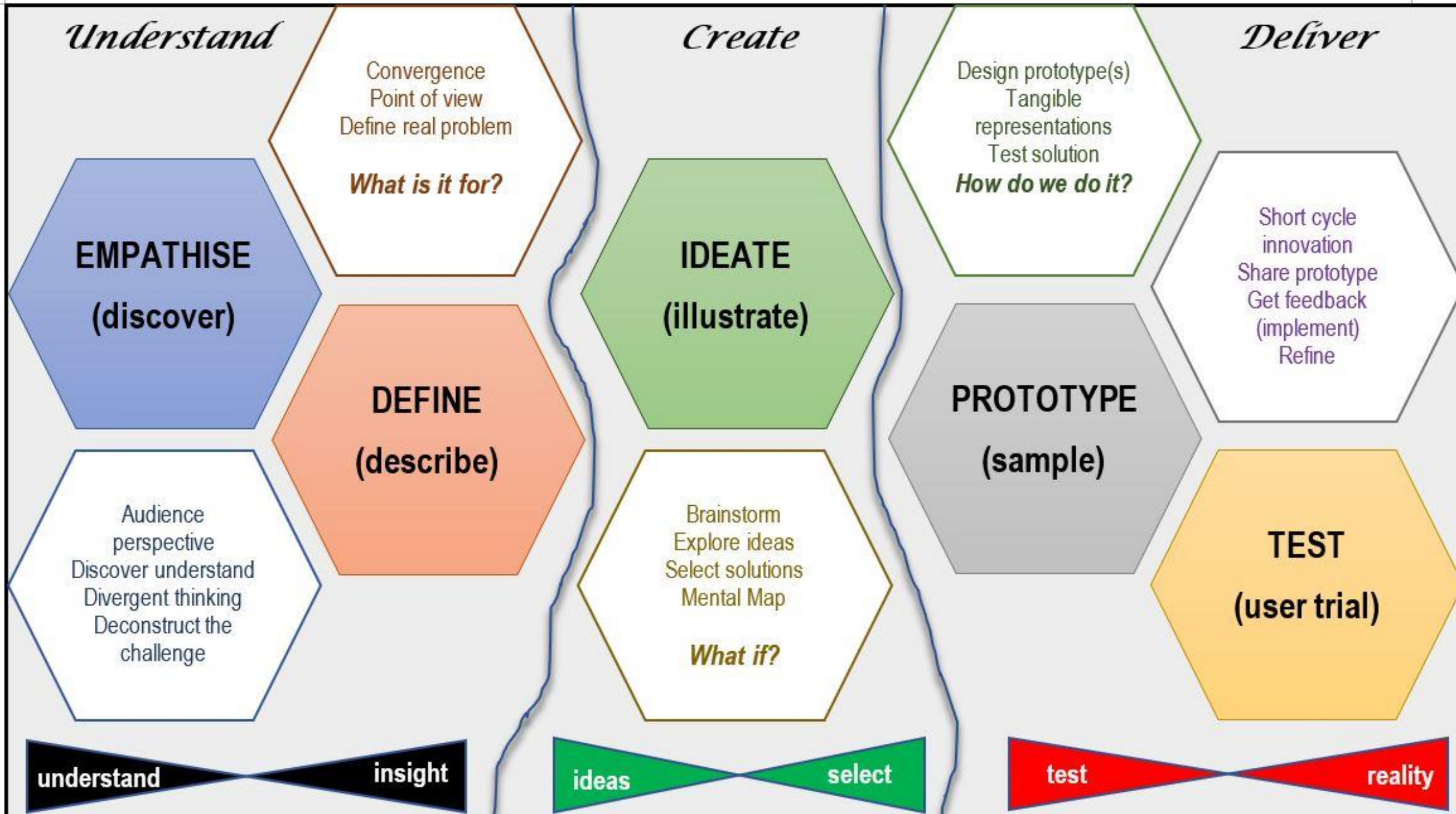



Progress
Where
Philadelphia
How Much
120,000
Type
30 YR
Summary
Philadelphia
120,000
30 YR
Start Over
Update
Edit
Content





Prototype


Understand
Create
Deliver
Convergence
Point of view
Define real problem
What is it for?
Design prototype(s)
Tangible representations
Test solution
How do we do it?
EMPATHISE (discover)
DEFINE (describe)
IDEATE (illustrate)
PROTOTYPE (sample)
Short cycle innovation
Share prototype
Get feedback
(implement)
Refine
Audience perspective
Discover understand
Divergent thinking
Deconstruct the challenge
Brainstorm
Explore ideas
Select solutions
Mental Map
What if?
TEST (user trial)
understand
insight
ideas
select
test
reality