



Design Thinking

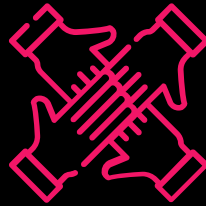
Presented by Stephanie Yong

My goals For us today



Exciting

To really challenge you
and to make you think
outside of the box



Engaging

To have you focused and
interactive



Effective

To help you understand
what the principles of
design thinking are and
how to apply it

Goals and Outcomes

Transformative Approach To Solutioning



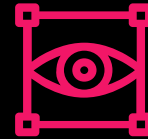
Team Development

To come together as team to find common issues and insight



Cohesion

To be on the same page for prioritizing issues and how to create solutions



Creativity

To inspire creative thinking to enhance creativity and innovation performance

We'll use **these kinds of questions** to help us attain our goals...

What's the main problem we are trying to solve?



Is this the right problem to solve?



What will be the impact if we don't redesign/change this issue?



01

WHAT IS DESIGN THINKING?

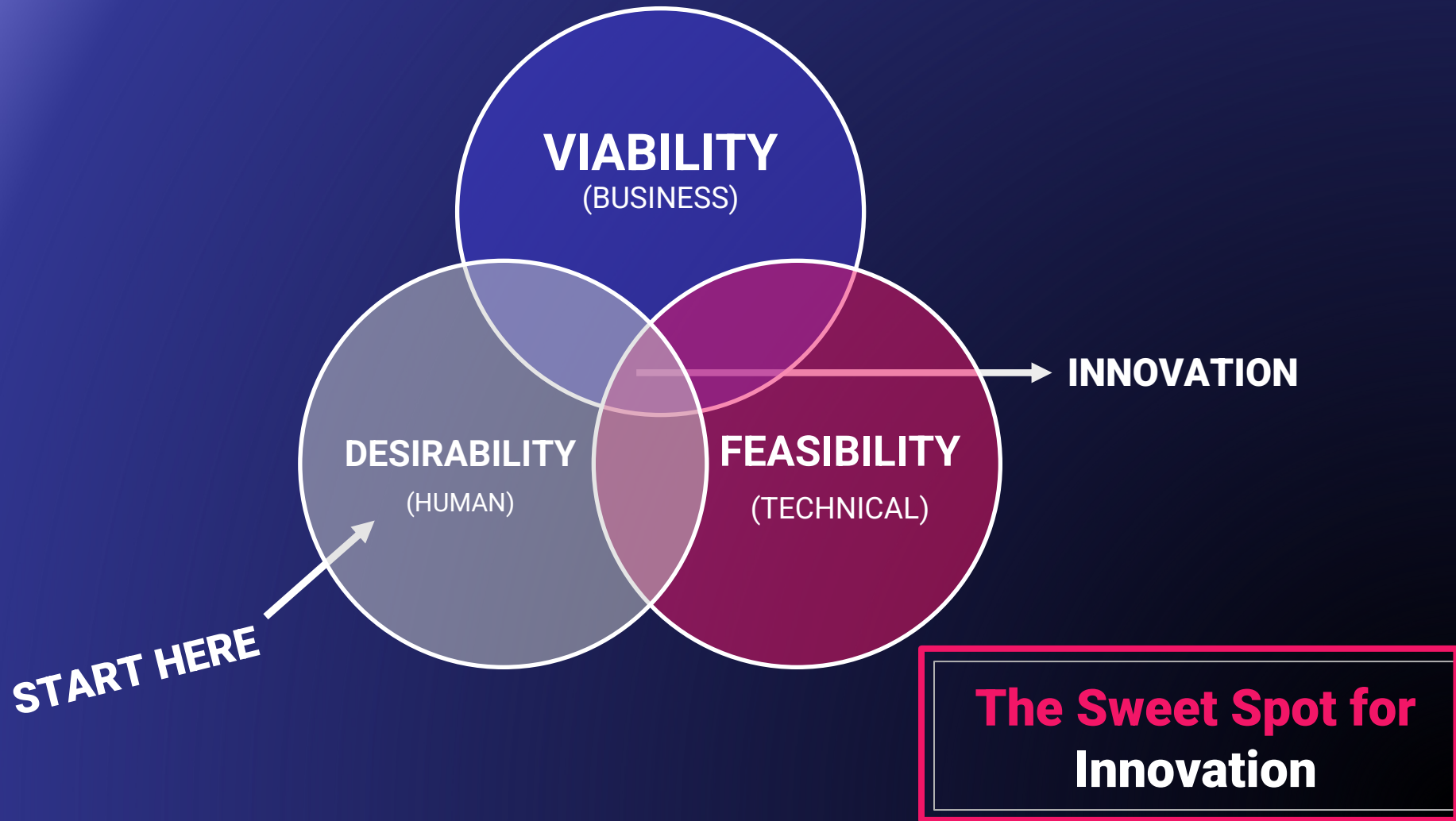
A people centered-approach to finding
solutions to complex problems.

But what does that mean?

Instead of focusing on whether or not the idea is technically possible or if its economically viable...

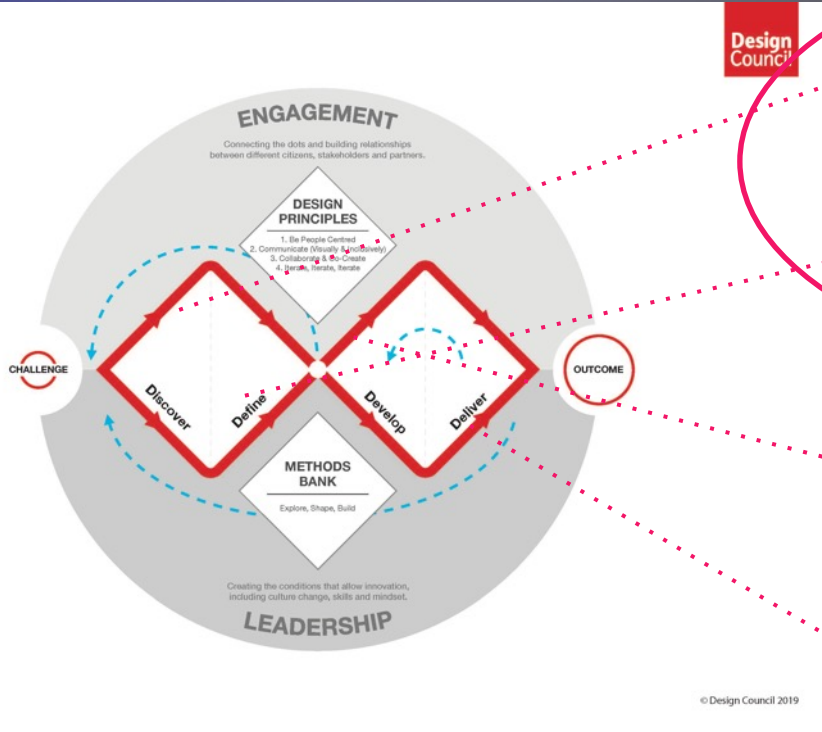
...We start by finding out what the user really wants and what they really need.





Double Diamond Framework

Explores an issue more widely or deeply (divergent thinking) then taking focused action (convergent thinking)



Discover. Helps people understand, rather than assume, what the problem is.

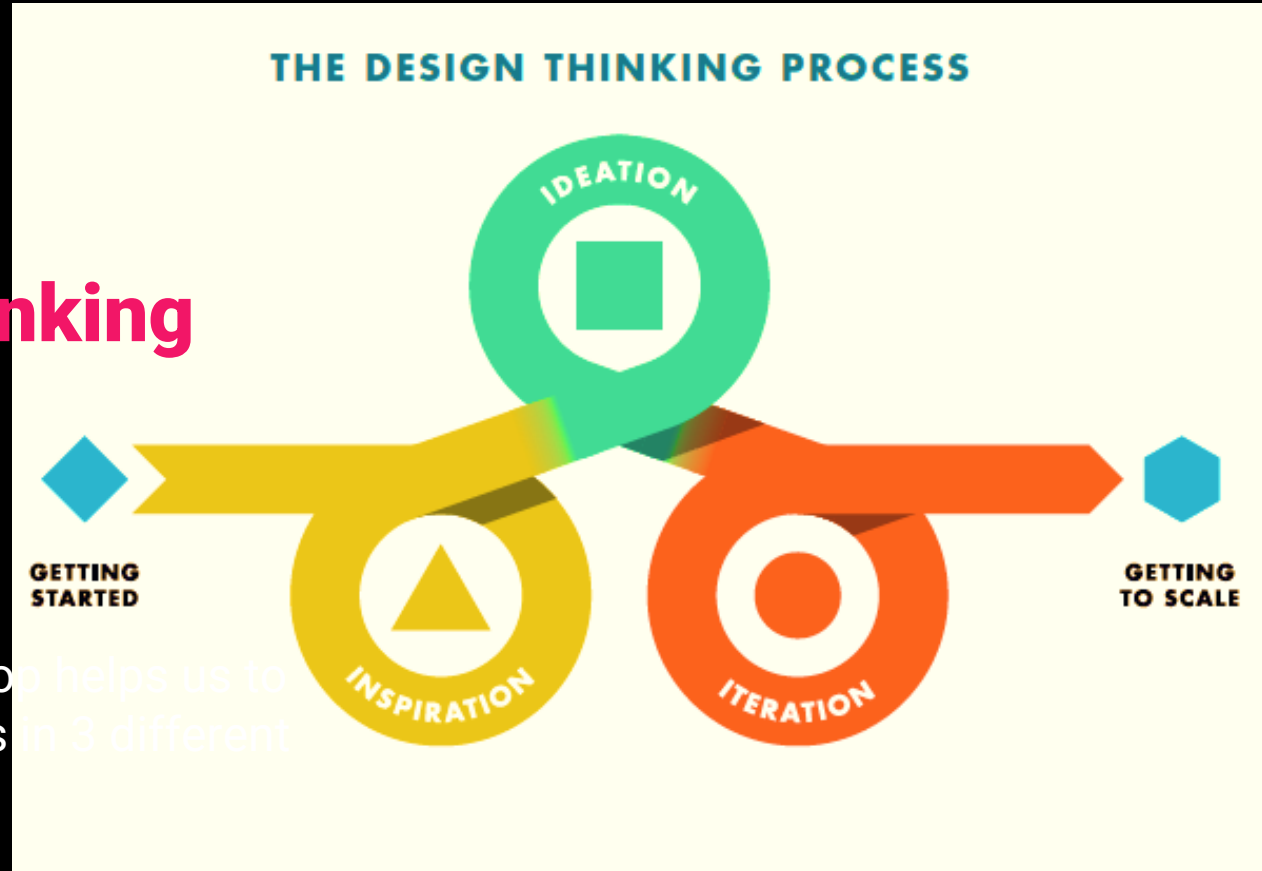
Define. Gathered insights help you define the challenge in a different way.

Develop. Encourages different answers to the clearly defined problem

Deliver. Testing out different solutions, rejecting those that won't work, improving ones that will.

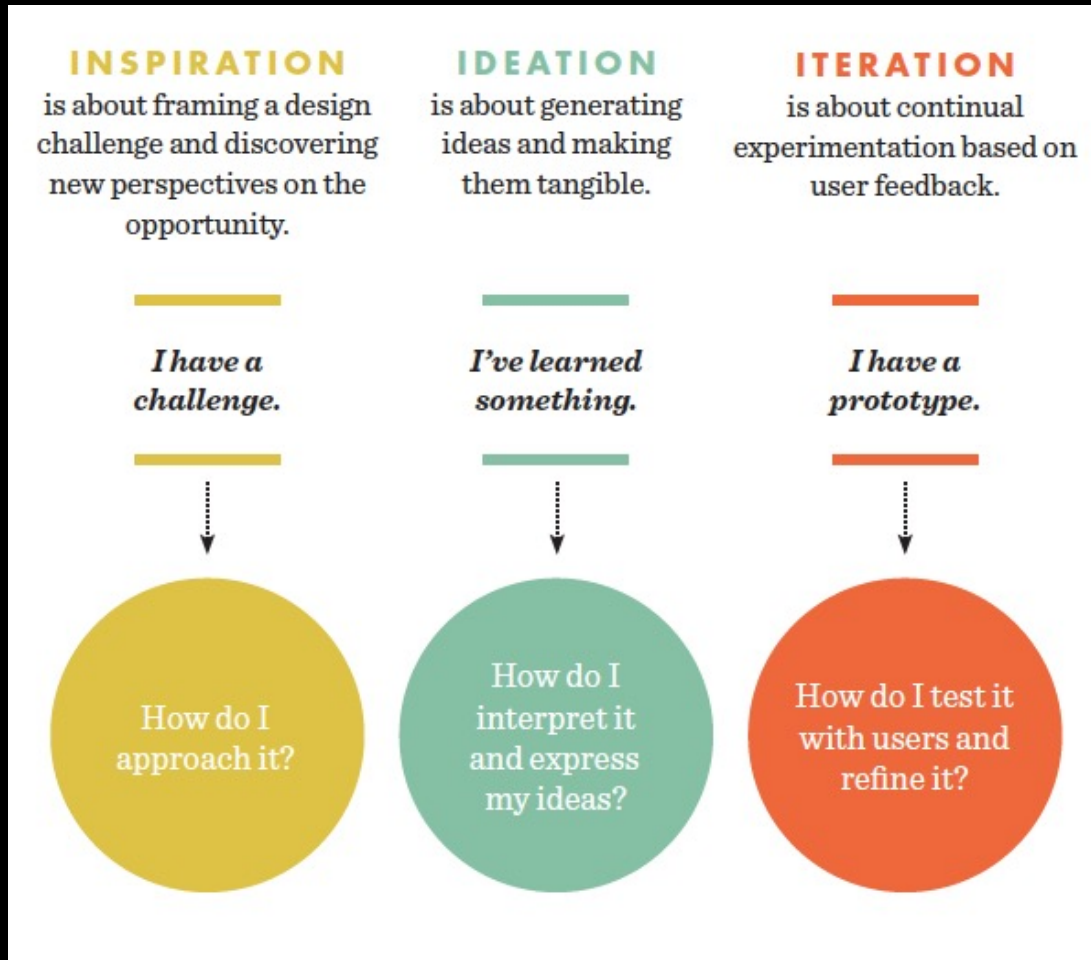
The Design Thinking Process

The design thinking loop helps us to categorize our process in 3 different areas



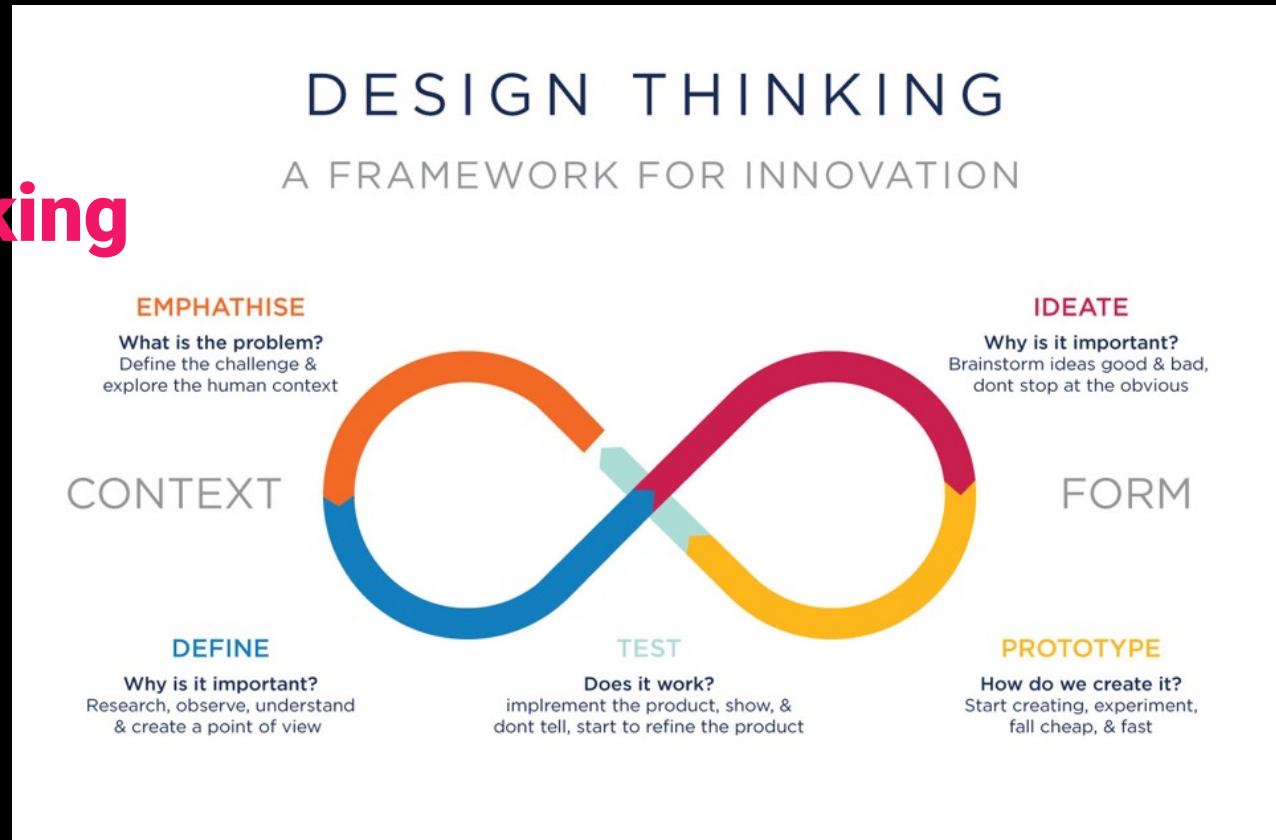
The Design Thinking Phases

Presented in a linear way, we can understand the questions and approach of utilizing the design thinking process



The Design Thinking Infinity Loop

To ensure this is an ongoing process, the phases of design thinking can also be represented as a loop





Put People First

Start with the understanding of the people using the service, their needs, strengths and aspirations



Collaborate and co-create

Work together and get inspired by what others are doing.



Communicate visually and inclusively

Help people gain a shared understanding of the problem and ideas.



Iterate, iterate, iterate

Do this to spot errors early, avoid risk and build confidence in your ideas.

Core Design Principles

Methodology used To explore, shape or build



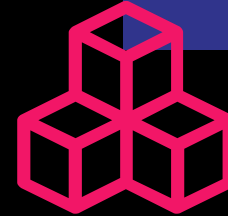
Explore

Challenges, needs and opportunities



Shape

Prototypes, insights and visions



Build

Ideas, plans and expertise

CASE STUDY: CONNECTYXE



Case Study: Connect YXE

Frame Your Challenge:

<p>What's the problem you are trying to solve?</p>	<ul style="list-style-type: none"> • Community Safety & Well-Being • Long Term • Society Infrastructure
<p>Let's reframe it as a How Might We question</p>	<ul style="list-style-type: none"> ▪ HMW Foster innovation towards connection? ▪ HMW foster innovation & entrepreneurship to ensure access to public information technology to a transparent system that supports all residents to safely access their needed goods & services to thrive in their lives? <ul style="list-style-type: none"> • HMW establish an environmentally friendly & accessible transportation system? • HMW create a transportation system that Saskatoon wants to see? • HMW have a free public transportation system that is sustainable? • HMW create a transportation that meets the people's needs (financial, physical, geo, etc.)
<p>What's the impact you are trying to have?</p>	<ul style="list-style-type: none"> • Access to health & services, education, jobs, social connection • Safety • Affordability/tax base shift • Move from personal vehicles • Walkable, Wheelable • All modes of transportation working harmoniously – Diversity • Instant help • Instant connection • Conscious & strategic steps
<p>What are some of the contexts & constraints you are working in?</p>	<ul style="list-style-type: none"> • Current reality: • Are we behind the times? • Current plans (PYG , Growth to 500K) • \$\$ • Population • Change resistant mentality • Cars are way to inconvenient? • Age, demographic, culture, ability

OUR MISSION:

To be the city that breaks the cycle of Indigenous youth incarceration by creating a new cycle focused on building purpose, belonging, security and identity.



DESIGN CYCLE

ITERATIVE

Step 1: Engagement with a Youth Advisory Committee to create a solid foundation based on lived experience feedback

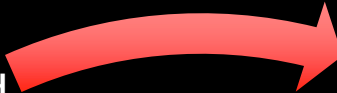
Step 2: Collaboration and advisement from community allies group & scope on current tech initiatives

Step 3: Build the tech tool

Step 4: Testing out the tool with incarcerated youth, youth advisory group, community allies group and general public

Step 5: Feedback forums with institutional partners, youth advisory committee and subject matter experts

Step 6: Rebuild the tool based on feedback



Four Pillars of CONNECTYXE



Security: The overall top priority for the youth. Within that, the main priorities are housing security and public safety. Security also includes food, financial, family security, and accessibility (transportation) to services.



Purpose: Helping individuals feel motivated and comfortable, and empowering those individuals to help themselves and others make life better.



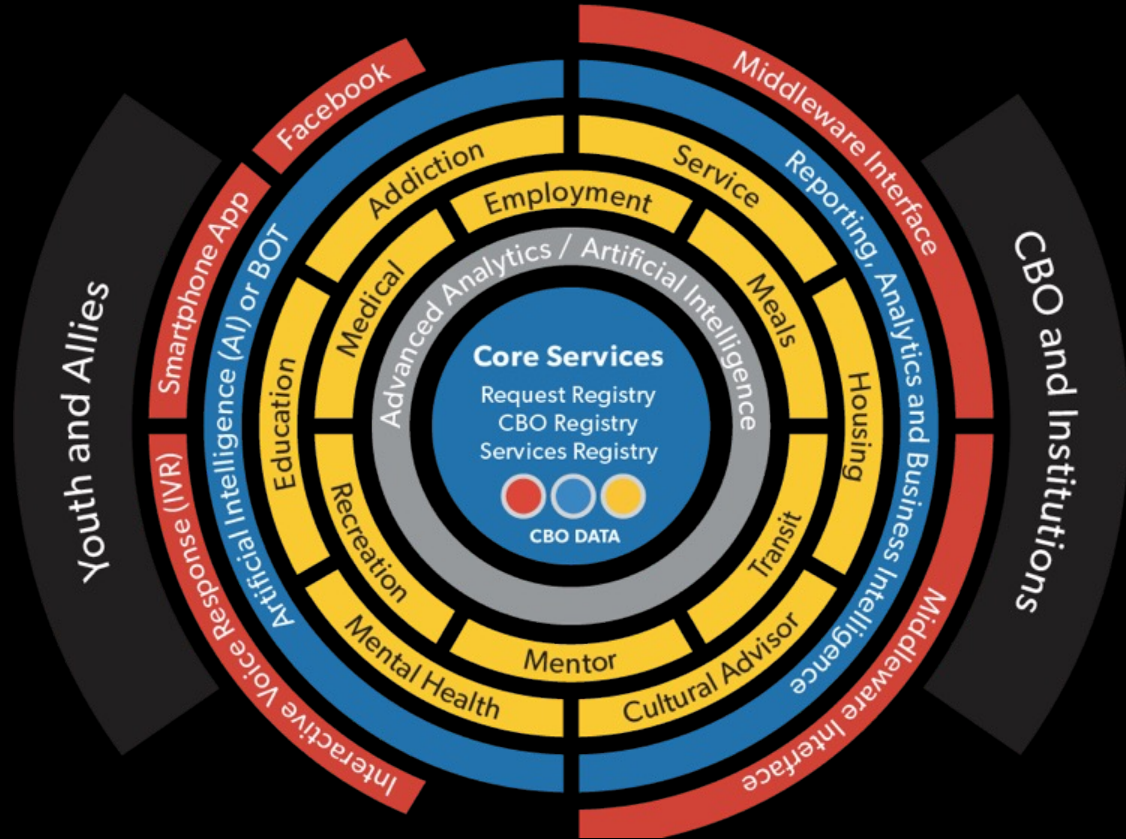
Belonging: A genuine sense of attachment to important elements of community and how it positively shapes their understanding of self and their place in society. Belonging can refer to any or all of the home, family, community, workplace, and other structures.



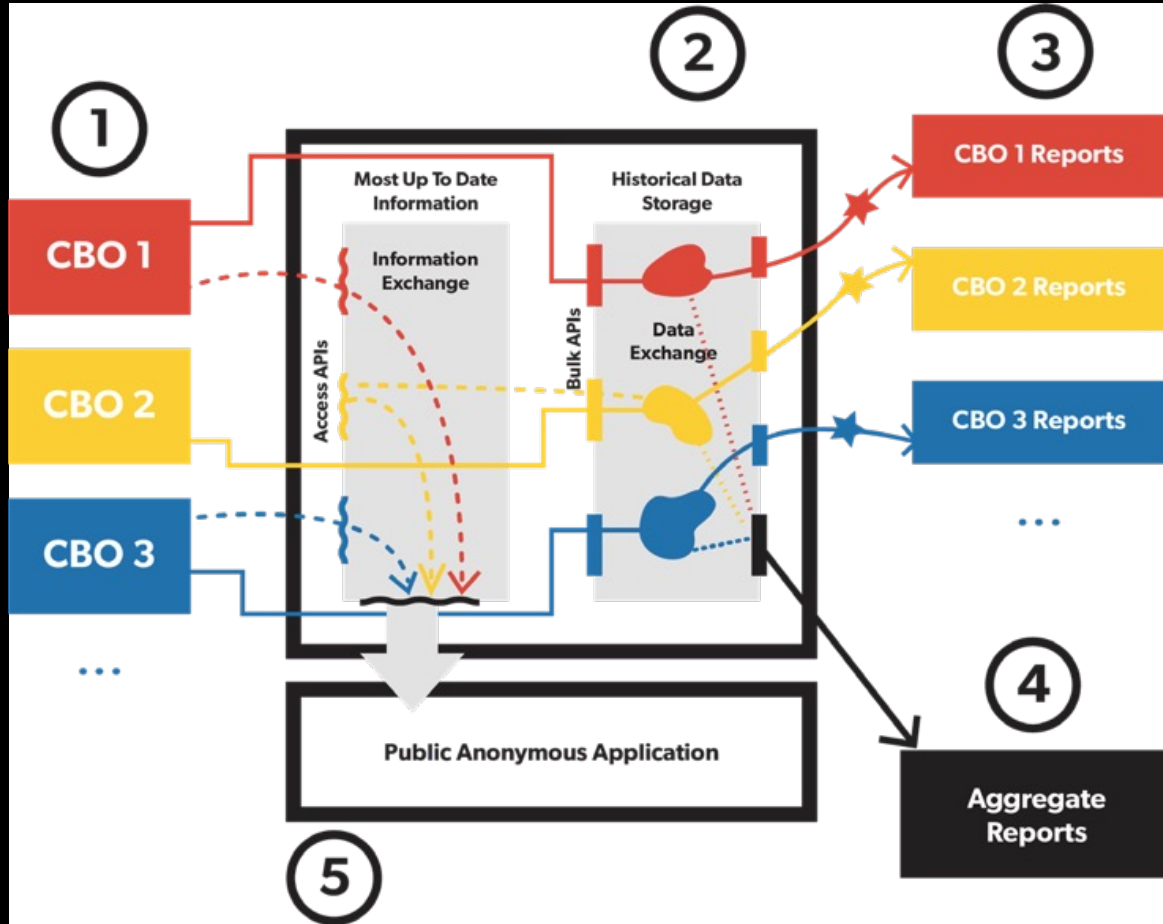
Identity: Knowing who they are, where they came from; a foundation for self-mastery and pride, expressed in values, personality, sense of autonomy; the product of historical culture, place, inherited and discovered elements; a source of inspiration and strength.



CONNECTYXE Interface Layers



CONNECTYXE Data Flow



CONNECTYXE Use Case



YOUTH
finds access point to connect to the internet

YOUTH
connects to ConnectYXE

CONNECTYXE
asks how it can help

YOUTH
asks if there is a place to spend the night

CONNECTYXE
locates accommodation available and recommends an option



YOUTH

accepts recommendation of a meal and conversation

CONNECTYXE

references history of requests and determines services frequently bundled with a request for a bed. System offers a meal, and a meeting with an elder

CBO

advised to expect a youth for the evening

CONNECTYXE

communicates to CBO that a youth has requested a bed for that night. System may put "hold" on a bed. List of available beds is updated

YOUTH

accepts recommendation

CONNECTYXE

locates meal for the youth

CBO

A meal-provider is advised that a youth has requested a meal for that evening. A cultural CBO receives a request that an elder join a youth for a meal

CONNECTYXE

asks if the youth would like transportation arranged to the location of the meal, and/or to the location of the overnight housing

YOUTH

the youth accepts the offer of transportation



YOUTH
Takes transit to the location of the meal. He or she meets and shares a meal with an elder, then travels to the location for overnight housing

CBO
Saskatoon Transit issues a free ride or rides. This is communicated as a token to the youth's phone, or to the bus

CONNECTYXE
arranges for bus pass with Saskatoon Transit

YOUTH
accepts transportation offered

CONNECTYXE
connects to Saskatoon Transit and determines transportation alternatives. The BOT offers these to the youth

To achieve our long term vision:

To break the cycle of Indigenous youth incarceration by creating new cycles through purpose, belonging, security and identity

Will require:

Empowerment

- Empower individuals with necessary tools to enhance opportunities
- Highlights the voices of Indigenous youth, and their communities

Collaboration

- Strong collective partnerships and collaborations
- Good governance and accountability

Harnessing Technology

- Utilize innovative data and technology to bridge gaps and leverage opportunities

Which results in:

Outcomes

- Youth, families, and allies will be connected in real time to services and opportunities
- CBOs will have better access to coordinate accurate information and programs and will be able to rely on data for trends and metrics for their own spending

Which requires:

Shared Data

Aligned & Effective Strategies

Continuous Communication

Clear understanding of roles & interactions
• A connector of services, not a replacement to humans

Systemic Leadership
Cross sector leadership

In-depth user experience research to ensure the solution is collaborative

Aligned infrastructure at all levels with all systems

Aggregated and shared data

Accurate and easy data delivery

CONNECTYXE Theory of Change Flow



02

Let's Get Learning!

Stage 1: Building Empathy



Building Empathy and Why It's Important

Empathy is defined as the 'action of understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts and experience of another without having feelings thoughts, experience fully communicated in an objectively explicit manner.'

Empathy and Design Thinking

- **Opportunity to get to know the user and understanding their needs, wants and objectives**
- **Observing and engaging with people in order to understand them on a psychological and emotional level**
- **Caters to real users needs, rather than supposed 'averages'**
- **Objectives:**
 - **Identify the user needs and behaviours that are latent or unarticulated**
 - **Distinguish between what people say they would do in a certain situation and what they actually do**

User Interviews

To understand the user, interviews can be used to capture the needs, values, and beliefs. community.

Use this when:

You need a basic understanding of the user's needs, values, and beliefs. It is ideal to do these interviews at the beginning of your project.

Expert Interviews

Expert interviews are a great way to learn a lot of information about your problem very quickly.

Use this when:

You would like to quickly get a better understanding of the problem you working on. These interviews are ideal at the very beginning of the project.

Empathy Methods

Core Research Methods



Immersive Experience

This method, which enables you to empathize with your user, is also known as participant observation. By immersing yourself in a new experience, you can better understand the motivations, thoughts, and feelings of the user in the moment.

Use this when:

You want to gain deep empathy for your user.

Analogous Settings

Experiencing analogous settings can help you see your challenge in a new light: consider the activities, emotions, and behaviors that make up the experience of your challenge.

Use this when:

You want to explore your problem from a different point of view.

Observation

People often say and do very different things. Observations can reveal actual behaviors. When observing, take note of a person's facial expressions, body language, walking style, and how he/she interacts with others and the world.

Use this when:

You want to better understand the user's actual needs and behaviors.

Empathy Methods

Additional Research Methods



Personal Diaries

Ask users to write reflections at the end of the day on certain moments or themes. This gives them time for personal and uninterrupted thinking, and gives you an interviewee's thoughts captured in their own words.

Use this when:

You want to learn about a user's experience over an extended amount of time.

Card Sorting

Create a series of cards with a single word or image on it and ask users to prioritize what's most/least important, interesting, or relevant to them.

Use this when:

You want multiple users to narrow down a set of ideas, or when you want to understand patterns in value judgment across users.

Concept Provocations

These are a series of concept drawings with accompanying explanations. Concepts could be outliers meant to illicit a strong reaction, or early ideas you might want to build into prototypes.

Use this when:

You want early feedback on why users like or don't like certain features.

Photo Essays

Give users a disposable camera and a list of objects and/or experiences to photograph throughout their day. This gives you a firsthand, visual perspective on your participants by seeing what's important to them and part of their everyday life. You'll receive a visual "day in the life" of the user.

Use this when:

You want to compare and contrast the different daily experiences and realities of a set of users.



FINDING THEMES AND EXTRACTING INSIGHTS

Storytelling an interview/observation outline:

- Personal Details – who did you meet?
- Interesting stories – what was the most memorable and/or surprising story this person told you?
- B.V.B – talk about the Behaviours, Values and Beliefs
- Motivations/Barriers – What motivates this person?
- Context – what was in her context?
- Remaining questions – what questions would you explore if you were have another conversation with this participant?

Finding Themes & Extracting Insights

This phase is meant to transform your research into actionable insights.



IDENTIFYING PATTERNS AND THEMES

Cluster Information

- What did many people mention?
- Which issues were obvious?

Recognize Relationships

- How are they related?
- What's the common thread?
- Don't be afraid to group and regroup your categories

Look Beyond The Surface

- What takeaways spark more questions and invite you to build on thoughts?

Find Actionable Headlines

- Name the clusters you've just defined with an actionable headline—a short phrase that summarizes the information below,

FINDING THEMES & EXTRACTING INSIGHTS

Identifying Patterns/Themes



03

Keep Going...

Stage 2: Identifying A Problem



THE DEFINE **PHASE**

The define phase is where you will establish a clear idea of exactly which problem you are trying to solve for the user. You will be able to shape this into a problem statement which will act as your guide throughout the design process.

Design Phase and Design Thinking

- **Dedicated to defining the problem: What user problem will you be trying to solve?**
- **This stage ensures you fully understand the goal of your project**
- **Relationship between empathize and define can be described as analysis and synthesis:**
- **Objectives:**
 - Empathy – we use analysis to break down everything we observe and discover about your users into smaller, more manageable components
 - Define – we piece these components back together, synthesizing our findings to create a detailed overall picture

What is a Problem Statement?

- **Identifies the gap between the current state (i.e. the problem) and the desired state (i.e. the goal) of a process or product.**
- **A problem statement or point of view (POV) statement, frame the problem (or need) in a way that is actionable.**
- **The goal is to guide you towards a feasible solution**
- **Here are some ways you might be able to frame the problem:**
 - **From the user's perspective:** "I am a young working professional trying to eat healthily, but I'm struggling because I work long hours and don't always have time to go grocery shopping and prepare my meals. This makes me feel frustrated and bad about myself."
 - **From a user research perspective:** "Busy working professionals need an easy, time-efficient way to eat healthily because they often work long hours and don't have time to shop and meal prep."
 - **Based on the four Ws—who, what, where, and why:** "Our young working professional struggles to eat healthily during the week because she is working long hours. Our solution should deliver a quick and easy way for her to procure ingredients and prepare healthy meals that she can take to work."

➤ **A good problem statement is human-centered and user-focused. Based on the insights you gathered in the empathize phase, it focuses on the users and their needs—not on product specifications or business outcomes. Here are some pointers that will help you create a meaningful problem statement:**

- **Focus on the user:** The user and their needs should be front and center of your problem statement.
- **Keep it broad:** A good problem statement leaves room for innovation and creative freedom.
- **Make it manageable:** At the same time, your problem statement should guide you and provide direction.”

What makes a Good Problem Statement?

The Challenge Framework

Before we even think about what the solution is,
we begin by **framing** what the **problem** is?

Frame Your Challenge

What's the problem you are trying to solve?

What's the impact you are trying to have?

What are some of the context and constraints you are working in?



The Challenge Framework Sample

Here is a **sample...**

Frame Your Challenge

What's the problem you are trying to solve?

- Making downtown more safe
- Creating more options in downtown Saskatoon

What's the impact you are trying to have?

- Have more people come downtown

What are some of the context and constraints you are working in?

- Budget
- Nobody knows about events happening in downtown Saskatoon



Step 2: Point of View Framework

From these **insights**, we begin to **understand** what the **pain points** are to formulate a great **point of view**

Using the problems/impact/context and constraints you identified in your challenge framework, define your Point of View (POV):

USER	NEED	INSIGHT
Who are the users?	What did you identify as needs?	What's the insight s you took away from your challenge framework?

Step 2: Point of View Framework Sample

Point of View Example

USER	NEED	INSIGHT
Downtown businesses People of Saskatoon City Planners	More energy in downtown Saskatoon	People feel unsafe in Saskatoon No one feels comfortable at night Businesses want more people to stay in downtown

Step 2: Point of View Framework Sample-

**Drawing on our framework,
let's do this POV together**

USER	NEED	INSIGHT

Step 3: Point of View Mad Lib

We can **articulate** our **POV** by
combining **user, need & insight**

To articulate your POV, you can insert your information about your user, the needs and your insights in the following sentence:

_____ needs to _____ because _____ .
(user) (user's need) (insight)
Descriptive Verb Compelling

Step 3: Point of View Mad Lib Sample

Point of View MadLib Example

Downtown businesses need to create more incentives in order to

(user)
Descriptive

(user's need)
Verb

to make people feel like they're in a safe environment.

(insight)
Compelling

Step 3: Point of View Mad Lib

Sample

Point of View MadLib

Example

_____ needs _____ in order to

(user)
Descriptive

(user's need)
Verb

(insight)
Compelling

_____.

Step 4: How Might We?

HMW questions FRAME
and OPEN your challenge

The **How Might We** method is constructed in such a way that it opens the field for new ideas, admits that we do not currently know the answer and encourages a collaborative & innovative approach.

From POV to HMW (Example):

- **POV:**
 - Downtown businesses need to create more incentives to make people feel like they're in a safe environment
- **HMW may be:**
 - How Might We find a way to support the vulnerable sector in downtown?
 - How Might We inspire create safety measurements on our downtown streets? ?



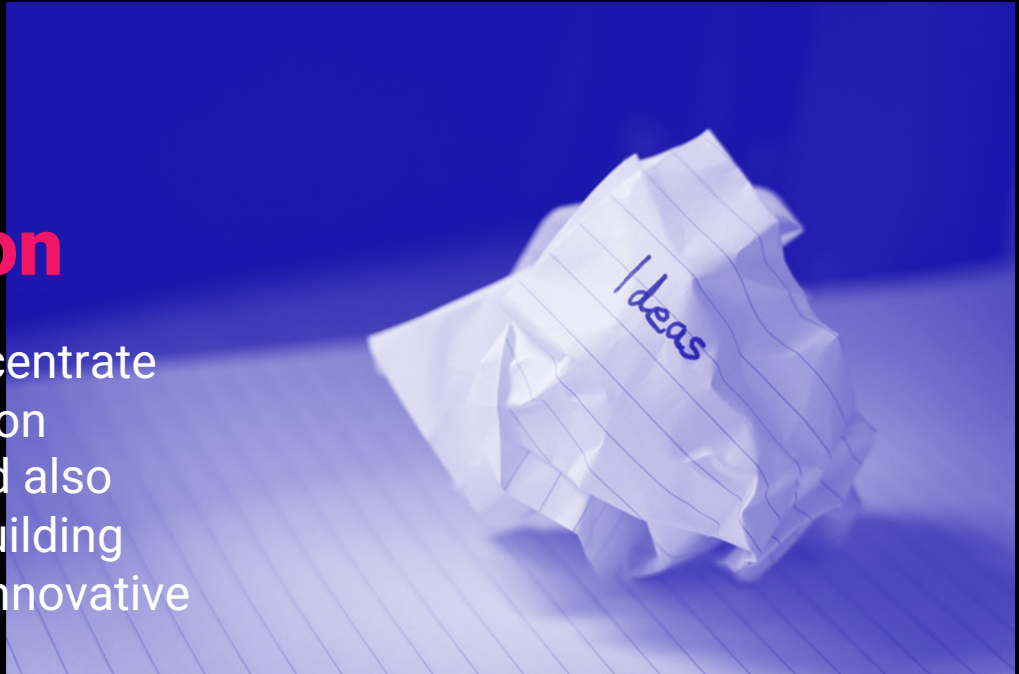
04

Time to power through...

Ideation Session

Ideation **Session**

Ideation is when you concentrate on idea generation. Ideation provides both the **fuel** and also the **source material** for building prototypes and creating innovative solutions.



Ideation will help you to....



Create Questions

Ask the right questions and innovate with a strong focus on users, needs & insights



Be innovative

Step beyond the obvious solutions and therefore increase the innovation potential of your solution.



Combine

Bring together perspectives and strengths of your team members.



Uncover

Uncover unexpected areas of innovation



Volume & Variety

Create volume and variety in your innovation options



Expand

Get obvious solutions out of your heads and drive beyond the obvious.

A pair of glasses with a large question mark on the lens, set against a blue background. The glasses are positioned behind the text.

We need to...

question the obvious, to reformulate our beliefs,
and to redefine existing solutions approaches
and beliefs. That is design thinking.

IDEA WALL

TEMA 1	CAPITALIZZAZIONE COMPETENZE	TEMA 10	TIGER
TEMA 2	AGOSPEED	TEMA 11	
TEMA 3	EDUTAINMENT	TEMA 12	
TEMA 4	Nuovo Peccato per Ristoranti	TEMA 13	
TEMA 5	LA LOCE DEL cliente	TEMA 14	
TEMA 6	Yobee	TEMA 15	

FORTYFIVE
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You Ideate...

...to transition from identifying problems to **creating solutions** for your users. Ideation is your chance to combine the **understanding of your problem** and who will be **impacted** by it.

Tips to help with ideation...



Adapting

Be able to switch how you see, understand and extend thinking as a new input gets generated



Flipping

Turn dead-ends or deadlocks into opportunities by flipping them over or rapidly changing direction towards greater viability.



Connecting

Be able to connect seemingly unrelated concepts, attributes or themes in order to create new possibilities.



Experimental

Be open and curious enough to explore possibilities and take risks.



Disrupting

Be able to overturn commonly held beliefs, assumptions or norms in order to re-think conventional approaches.



Recognize Patterns

Seek to spot common threads of meaning, and ways of seeing, doing and behaving. Be able to recognize attributes or shared values.

Ideation Methods

Analogies

An analogy provides a comparison between one thing and another, serving as a means of explanation or clarification. The analogy technique compares your situation to something you are familiar with, enabling you to look at the problem in a new light and consider possible solutions.

Bodystorming

The bodystorming technique gets you to physically experience a situation in order to spark new ideas. You set up a physical experience resembling the problem you are trying to solve, using people, props, or a digital prototype. Based on your own interactions with, and reactions to, this environment, it may be easier to come up with ideas.

Brainstorming

In a brainstorming session, you verbally bounce ideas off of each other in the hopes of finding a blended solution.

Brainwriting

An alternative to traditional brainstorming is brainwriting. Instead of verbally sharing ideas, participants write down their ideas before passing them on to someone else. The next person reads these ideas and adds their own, and so the process continues until each person's ideas have done a full rotation.

Brainwalking

This is the more dynamic, physical version of brainwriting. Instead of passing pieces of paper around the room, the designers themselves move between different "ideation stations". Just like brainwriting, they'll add their own ideas before moving on to the next station.

Challenging Assumptions

A popular ideation technique is to come up with a number of assumptions that are inherent to your design challenge. As a group, you'll then go through these assumptions and discuss whether they are really true, or if they're simply there because they've never been questioned. In putting these assumptions to the test, you can determine what characteristics are really necessary, or which solutions could be used instead.

Ideation Methods

Gamestorming

Gamestorming is the gamification of brainstorming, and a popular technique for both ideation and problem-solving. Gamifying classic ideation methods adds an extra element of engagement and interactivity—and helps to suspend some of the normal “rules” of everyday life.

Scamper

SCAMPER is a checklist that helps you to come up with new ideas. First you, substitute the topic with an equivalent or similar topic; to combine the original topic with additional information; to adjust the problem by coming up with alternative ways of constructing it; to creatively modify the topic; to put it to other uses by identifying possible scenarios where this topic can be used; to eliminate any ideas or characteristics that are not valuable; and to reverse and rearrange the problem in order to come up with a brand new concept.

Mindmapping

Mindmapping is a visual ideation technique that encourages you to draw connections between different sets of ideas or information. You'll start by writing a keyword in the middle of the page (normally related to your problem statement). On the same piece of paper, you then surround this word with any and all ideas that come to mind. Finally, you'll think about how these ideas are connected,

Storyboarding

Storyboarding is an excellent technique for bringing a design challenge to life and exploring different avenues in a visual way. Start by drawing out your user personas —as defined in the empathise and research stages—using images and quotes to paint a vivid picture. From there, you can draw out various storylines and outcomes, visualizing how the user feels throughout

Reverse Thinking

Reverse thinking can be a fun way to flip the problem on its head and come up with new ideas. The solutions you come up with for the reverse challenge can help you to envision what the opposite might be, leading you closer to the solution you really need.

Worst Possible Idea

A popular ideation technique is to come up with a number of assumptions that are inherent to your design challenge. As a group, you'll then go through these assumptions and discuss whether they are really true, or if they're simply there because they've never been questioned. In putting these assumptions to the test, you can determine what characteristics are really necessary, or which solutions could be used instead.

Remember....

It's not about coming up with the 'right' idea, it's about generating the broadest range of possibilities.

Step 1: The 'Anti Idea'

Using the '**worst possible idea**' technique, come up with '**anti-solutions**' to the problem you are trying to solve.

The Anti Solution		
HMW...	1.	
	2.	
	3.	
	4.	
	5.	

This is for **creativity** purposes!

Step 2: Ideation Session

Ideation is about **pushing** for the **widest possible range of ideas** from which you can select, not simply finding a single, best solution.

How Might We Questions

1.

2.

3.

4.

5.

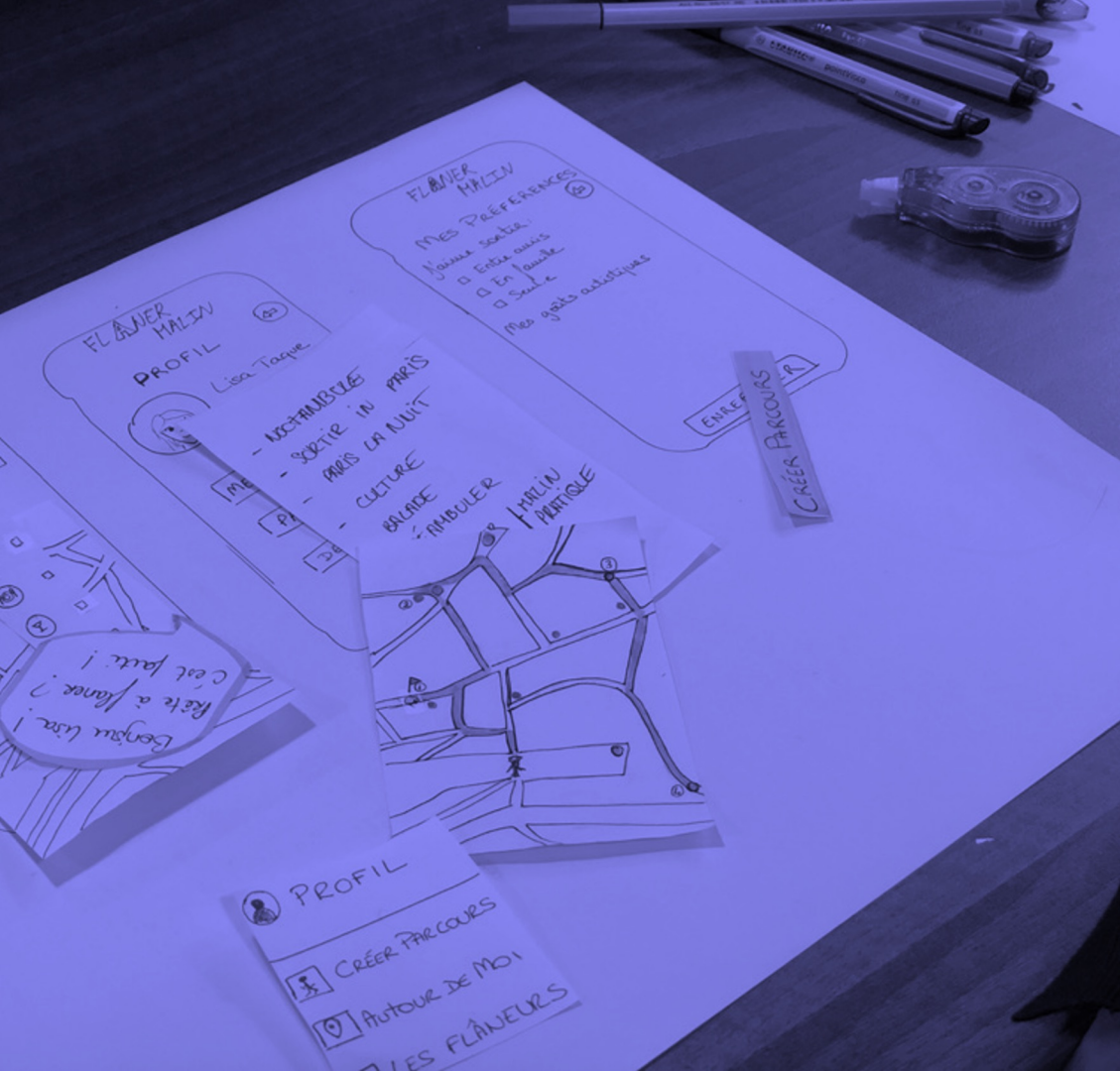
Create **5 ideas** for each HMW statement



05

Iterate

Prototyping & Testing



PROTOTYPING AND TESTING

**“Prototyping allows us to fail early
so we can succeed sooner.”** David Kelley
IDEO Founder



A prototype is anything that helps you communicate or test an experience with other people to get feedback

Prototyping allows you to put the user at the heart of the process and requires you to test the prototypes with real users.

Prototypes can help you to:

- Gain first-hand insights into how your users will interact with, and react to, the product you're designing.
- Identify any usability issues or design flaws before it's too late
- Prototypes enable you to fail early and cheaply.
- Make informed design decisions.
- Prototypes allow you to iterate, refine, rework and make improvements until you have a market-ready product.

Prototyping & Testing

This phase is meant to transform your research into actionable insights.

Prototyping Methods

FORM

Is it a hand-drawn prototype, or a digital one? Is it for mobile or desktop?

INTERACTIVITY

How functional is the prototype? Can the user click on it or interact with it, or is it view-only?

LIFECYCLE

Is the prototype a quick, disposable version that will be replaced with a new and improved version? Or is it a more enduring creation that can be built and improved upon, potentially ending up as the final product?

FIDELITY

How detailed and polished is the prototype? You'll often hear the terms high-fidelity and low-fidelity in relation to prototypes.

LOW FIDELITY

Low-fidelity prototypes keep content and visuals to a minimum, presenting only the key elements as basic shapes in order to convey visual hierarchy. Low Fidelity prototyping techniques include:

- Paper prototyping
- Clickable wireframes.

HIGH FIDELITY

High Fidelity prototypes are more detailed, realistic prototypes that look and operate much like the final product. You'll move onto hi-fi prototypes once you have a good idea of what you're going to build. High-fidelity prototypes tend to include all the visual components, interactive elements, and content that will be featured on the final product.



PROTOTYPING

HOW WE DO IT

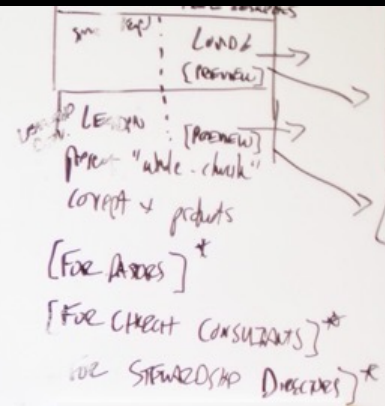
Build to Think.
Embrace Failure.
Just Good Enough.



DETERMINE WHAT TO PROTOTYPE

**Be clear about what you need
to learn & what will give you
the necessary answers.**

- ACCEPT INVITE?
- SUBSCRIPTION EXPIRATION?





DETERMINE WHAT TO PROTOTYPE

**Think practically about what
needs to be tested and write
down your primary questions
for each component.**



DETERMINE WHAT TO PROTOTYPE

**Think through what kind of
prototype makes the most sense
to answer these questions.**

A child is shown from the side, focused on building a LEGO model on a wooden table. The child is wearing a light blue button-down shirt. The background is slightly blurred, showing other LEGO pieces and a white object on the table. A large pink diamond shape is overlaid on the center of the image, containing text.

DETERMINE WHAT TO PROTOTYPE

**This process is about learning,
not getting it right the first time.
Better to test a miserable failure
and learn from it.**



THANK
YOU

And that's
Design Thinking

I hope you can take away
some great insights from
learning the basics of design
thinking and how to apply it to
your own ventures