

Introduction au **Design Thinking**

HACKATHON
CAMEROUN
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Anahide Nahhal

- Franco-marocaine
- Innovation urbaine & Design strategique
- Design Lead at Datawheel
- Harvard Master in Design Engineering
- Master et licence en Architecture et Urbanisme

Mail: anahidenahhal@gmail.com

Linkedin: <https://www.linkedin.com/in/anahidenahhal/>

Tel: +33665140925



Objectifs

- **Introduction au Design Thinking, origines et definitions**
- **Processus**
- **Outils**

Qu'est ce que le Design Thinking?

- **Née à la d.school de Stanford**
- **Definition**
 - *“Le Design thinking est une **approche** à l’innovation centrée sur l’humain qui utilise la boîte à outils du designer pour intégrer les besoins des **gens**, les possibilités de la **technologie**, et les et les critères pour un succès **commercial**”*
—Tim Brown, Executive Chair of IDEO
- **Pourquoi ?**
 - Resoudre des “problemes complexes”
 - Nouvelles idées pour des projets et business
 - Un changement de comportement pour un large groupe
 - Vérifier que la solution resound un réel probleme
- **Utilisé en Computer Science: HCI**

Qu'est ce que le Design Thinking?

Processus
Iteratif



Interdisciplinaire



Resultats
inconnus



Problèmes
complexes



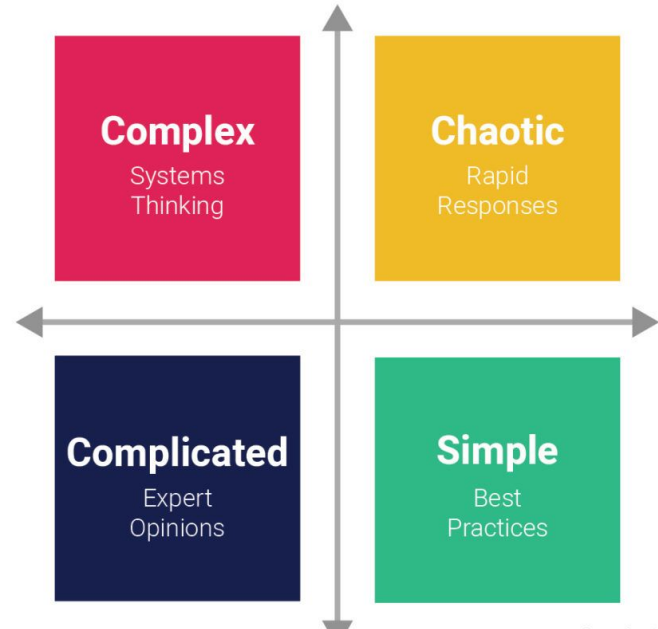
Qu'est ce qu'un Problème complexe?

Un problème complexe est un problème social et **systemique** non formulé correctement.

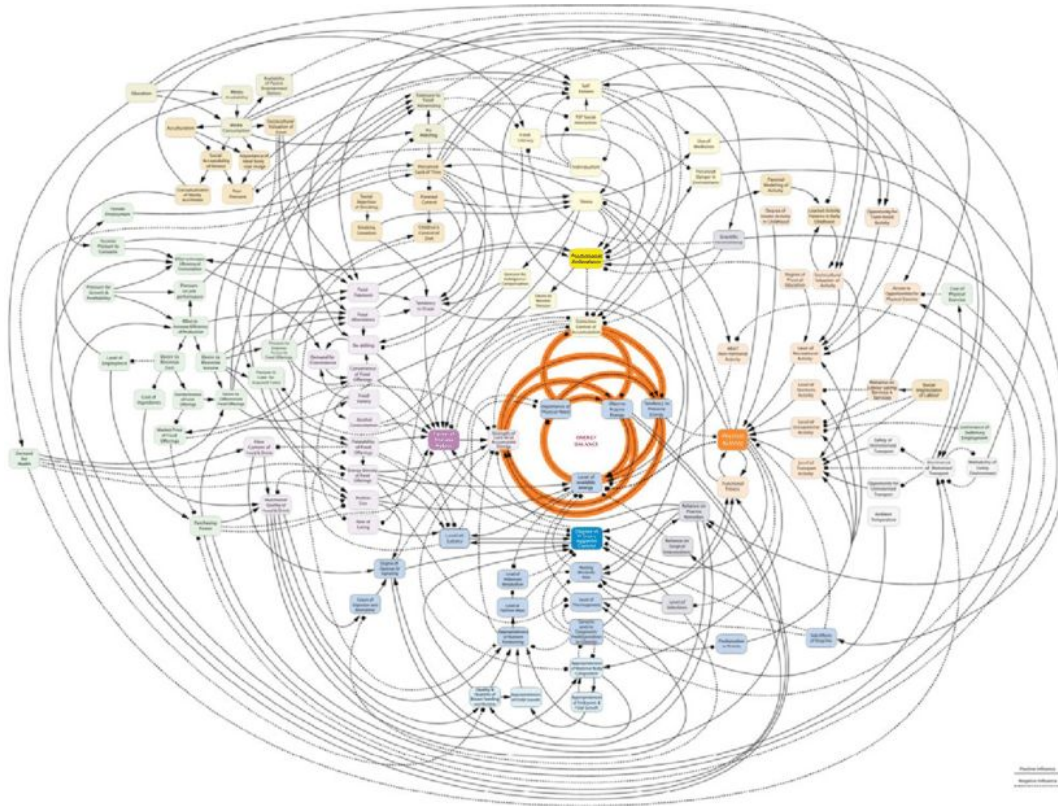
Il y a des raisons **diverses** pour un problème complexes et les informations peuvent être confuses.

Un problème est complexe lorsqu'il y a de **nombreux acteurs** et preneurs de décisions avec des **conflits d'intérêts** et de valeurs.

The Cynefin Framework by David Snowden and Mary E. Boone



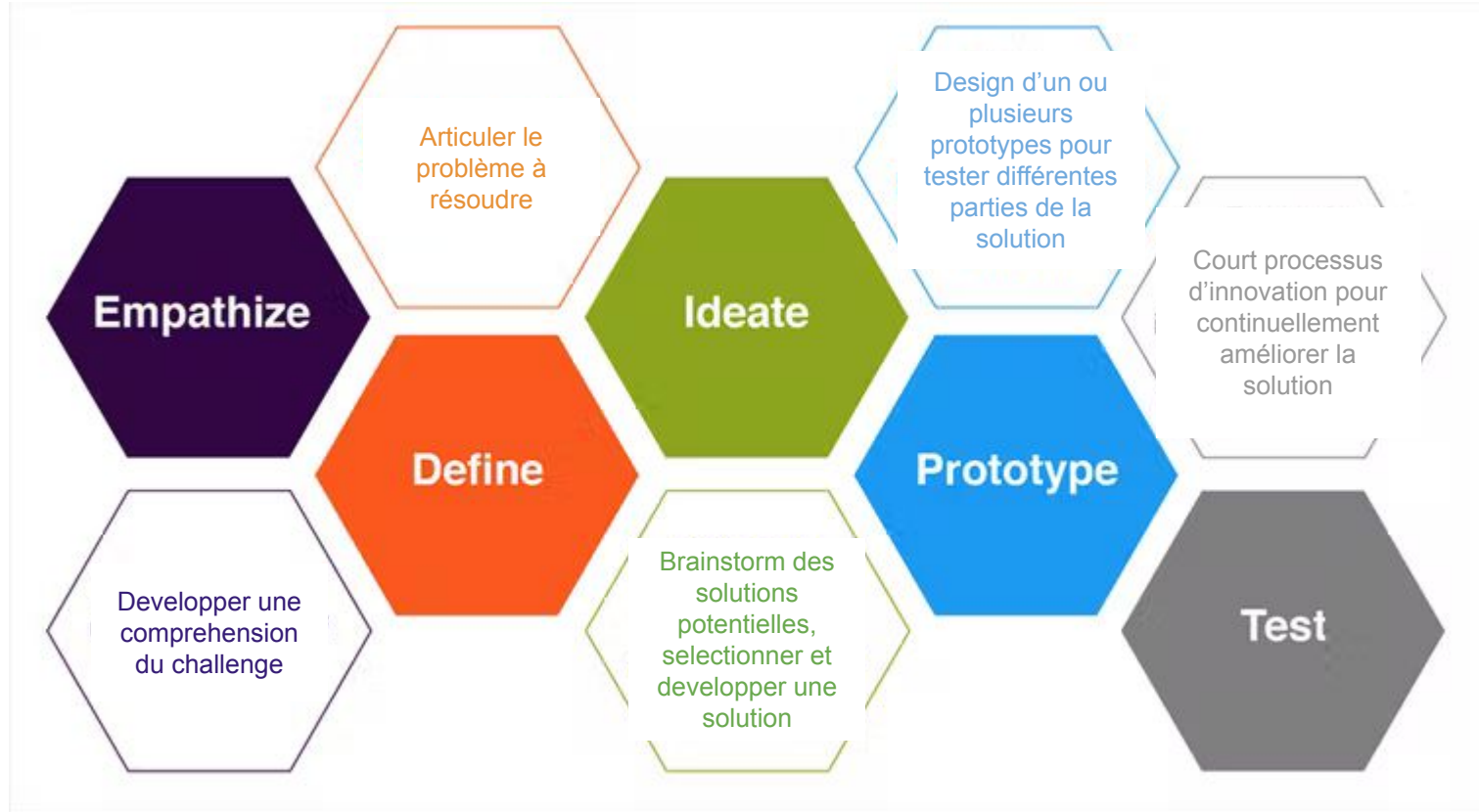
Qu'est ce qu'un Problème complexe?



Causal system
mapping on Obesity



5 steps



Empathie

- Apprendre de l'**observation**. Comprendre les expériences, les émotions, et le contexte dans lequel l'utilisateur va utiliser le produit ou le service.
 - **Observer**: comportements, habitudes des utilisateurs dans un contexte donné
 - **Engage**: discussion avec les utilisateurs et demander les bonnes questions, comprendre les motivations et les frustrations
 - **Analyser**: les réactions, les besoins de l'utilisateur quand il accomplit une tâche, analyses les résultats des données qualitatives

Empathy Map Canvas

Designed for:

Designed by:

Date:

Version:

The Empathy Map Canvas is a tool for understanding a user's experience. It features a central face with seven numbered sections for research:

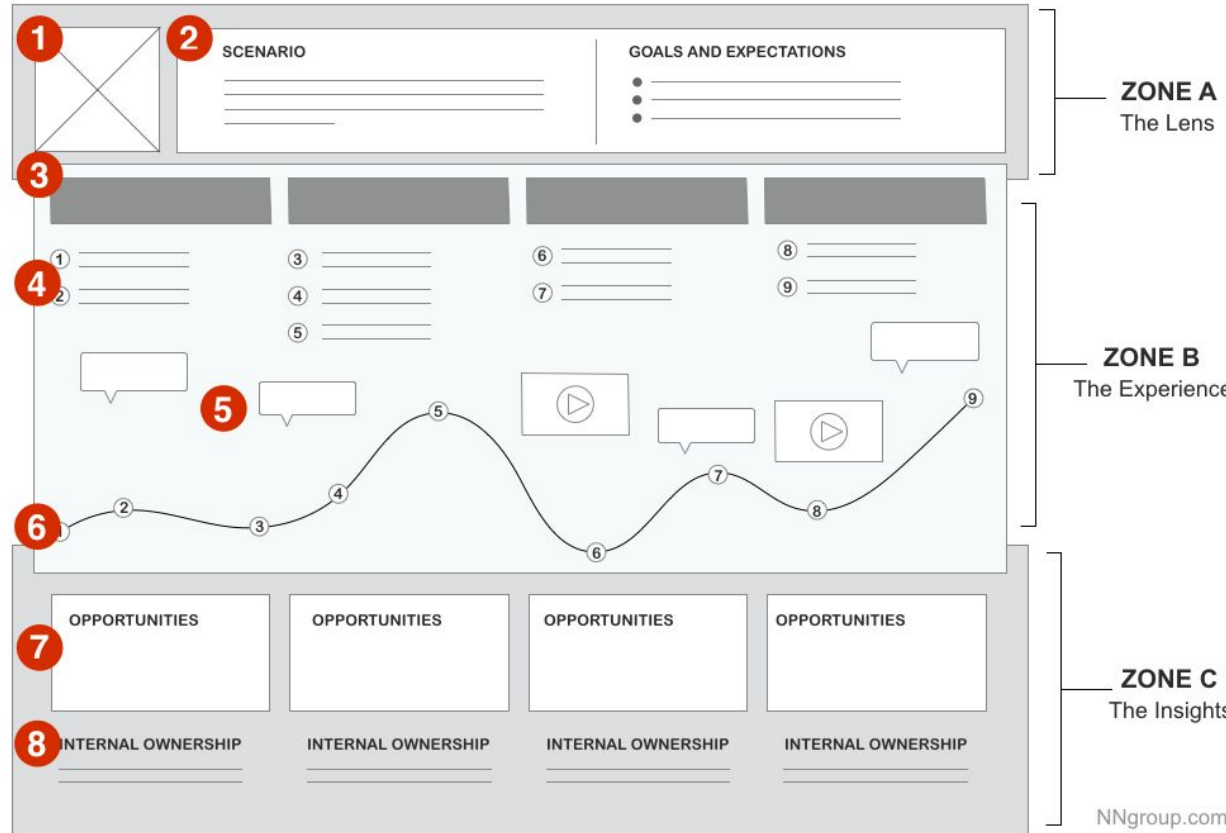
- 1 WHO are we empathizing with?**
Who is the person we want to understand?
What is the situation they are in?
What is their role in the situation?
- 2 What do they need to DO?**
What do they need to do differently?
What job(s) do they want or need to get done?
What decision(s) do they need to make?
How will we know they were successful?
- 3 What do they SEE?**
What do they see in the marketplace?
What do they see in their immediate environment?
What do they see others saying and doing?
What are they watching and reading?
- 4 What do they SAY?**
What have we heard them say?
What can we imagine them saying?
- 5 What do they DO?**
What do they do today?
What behavior have we observed?
What can we imagine them doing?
- 6 What do they HEAR?**
What are they hearing others say?
What are they hearing from friends?
What are they hearing from colleagues?
What are they hearing second-hand?
- 7 What do they THINK and FEEL?**
PAINS
What are their fears, frustrations, and anxieties?
GAINS
What are their wants, needs, hopes and dreams?
What other thoughts and feelings might motivate their behavior?

GOAL

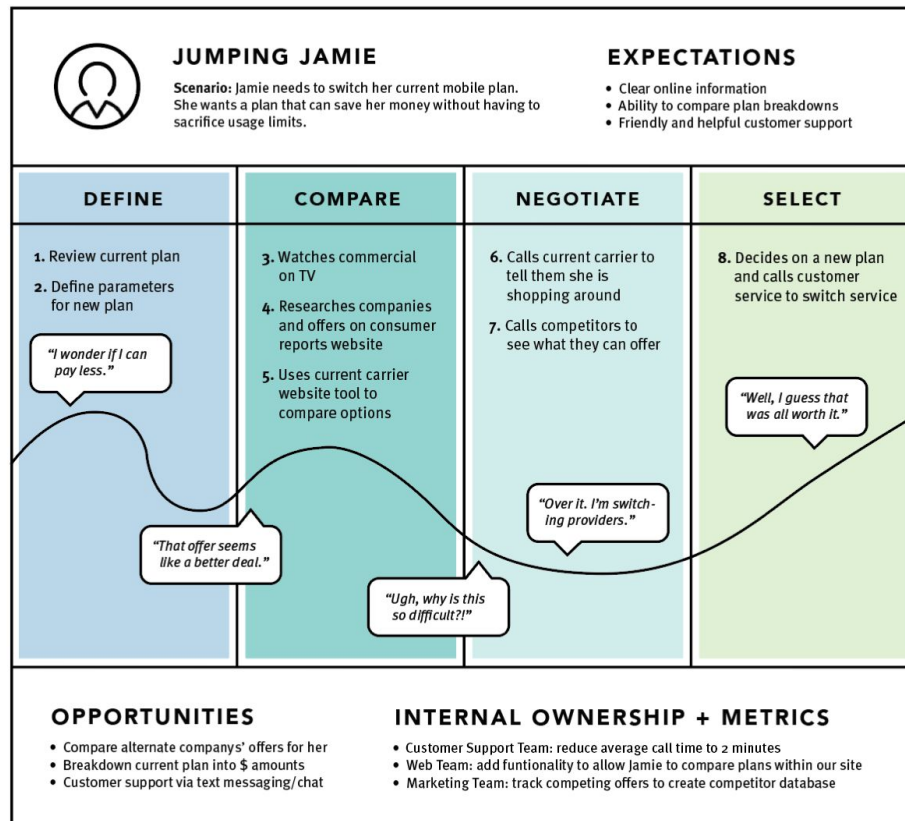
User Journey map

Une User Journey map est une représentation visuelle de l'expérience client.

Cette map identifie les interactions clés et les painpoints et décrit en détail le but du client, ses motivations, et emotions.



CUSTOMER JOURNEY MAP *Example (Switching Mobile Plans)*



Recherche ethnographique

Ethnographie est une branche de l'anthropologie tenant de comprendre comment les personnes vivent. Le but est de **voire le monde avec la perspective d'une autre personne.**

- **Observation** (actions, activités, événements)
- Entretiens contextuels (entretiens non structurés, questions ouvertes “où, quand, comment, pourquoi”)
- **Analyse** (correlation, patterns)
- **Synthese**

Recherche ethnographique

- Comment interviewer?

- Soyez **Humain**
- Cherchez des **histoires**
- Parlez **d'émotions**

- **Qu'est ce que vous voulez apprendre?**

- Quelle **expérience, comportements, dynamiques et croyances** vous voulez mieux comprendre?

- **Comment demander?**

- Quelle question poser pour explorer ces sujets?

Ex: How does a traveller navigate an airport for the first time? Is it a singular focus on getting to the gate, or some other exploration?

Ex: How do travellers think about the time in the airport?
What are their goals/desires other than boarding the plane?

...



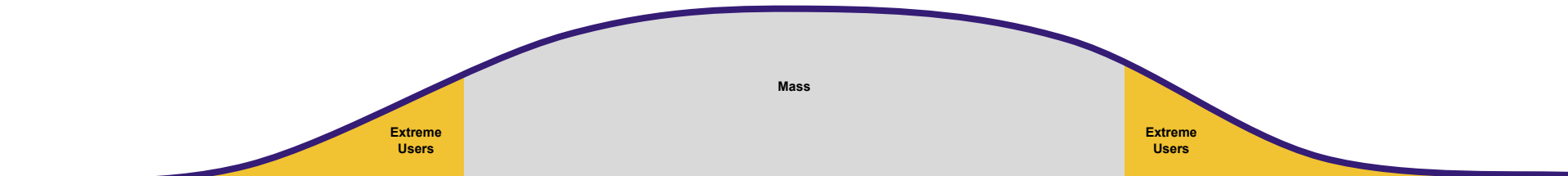
"Tell me about how your journey from when arrived at the airport until now?" [...]"What were you thinking when that happened?"]

"What was a memorable experience you've had at an airport?"

"Is there an experience that surprised you or struck you the first time you were in a particular airport?"

Empathie: les utilisateurs extrêmes

- Extreme: **fortes opinions**
- Les opinions des personnes dans la “mass” qu’ils ont souvent du mal à formuler



Exercice: Persona



MARK, 22

DEMOGRAPHICS

- Rents a 2 bedroom apartment in uptown Charlotte, NC with old teammates from lacrosse.
- Currently an intern for a large sports management company and a bar tender at a high end cocktail bar on the weekends.
- Recently single and using dating apps. An only child and rescued a puppy 4 months ago.
- Graduated with a 3.8 in Health Sciences from UNCW. Owns \$55,000 in private loans.

BEHAVIORAL IDENTIFIERS

- Hobbies include eating out, lifting weights, playing club lacrosse, drinking craft beer, tailgating for UNC, and watching live music.
- Prefers chat systems for customer service and support. Values quick responses and 24 hour availability.
- Wants fast shipping. Values a low price. Prefers online marketing, light colors, and simple websites.
- Shops online between 7pm-9pm. Buys during pay periods at the end of the month and often uses promo codes.
- Owns an Android and shops on mobile with referrals from social media such as Instagram and Facebook.
- Studied abroad in Chile. Can speak Spanish and some Italian. Travels on a budget and prefers hostels to hotels.
- Personal goals to be out of debt by 2024, to be engaged in 4 years, and to work in a university sports medicine department.
- Very fit and active but has a bad diet due to eating on a budget and drinking often. Seeks out health information daily.




JUSTIN, 31

DEMOGRAPHICS

- Rents a 1 bedroom apartment in uptown Atlanta with his partner. Saving to buy a home next year.
- Works 40 hours a week in a 5 star hotel as a superintendent with a net income of \$120,000.
- Recently engaged to his girlfriend of 5 years with plans to marry in NYC in the winter.
- Graduated with a community college with honors and held office in 3 on-campus clubs.

BEHAVIORAL IDENTIFIERS

- Hobbies include vegan cooking, yoga, monthly massages, playing the drums, volunteering, drinking cocktails and watching local plays.
- Prefers to call for customer service and support. Values follow up summary emails and easy to read directions.
- Wants free shipping on large orders. Values quality and privacy. Extremely brand loyal. Prefers email marketing.
- Shops online between 8am-10pm and makes multiple returns. Uses Paypal at checkout.
- Owns an iPhone and tablet. Shops on this tablet with referrals from email marketing and promotions.
- Travels in the USA twice a year to visit family in Maine and California. Prefers long road trips and holiday travel.
- Personal goals to become a general manager within 4 years and to purchase a suburban home after his wedding and honeymoon.
- Cooks very healthy and with local products. Has great self care and is very active.



MAGGIE, 52

DEMOGRAPHICS

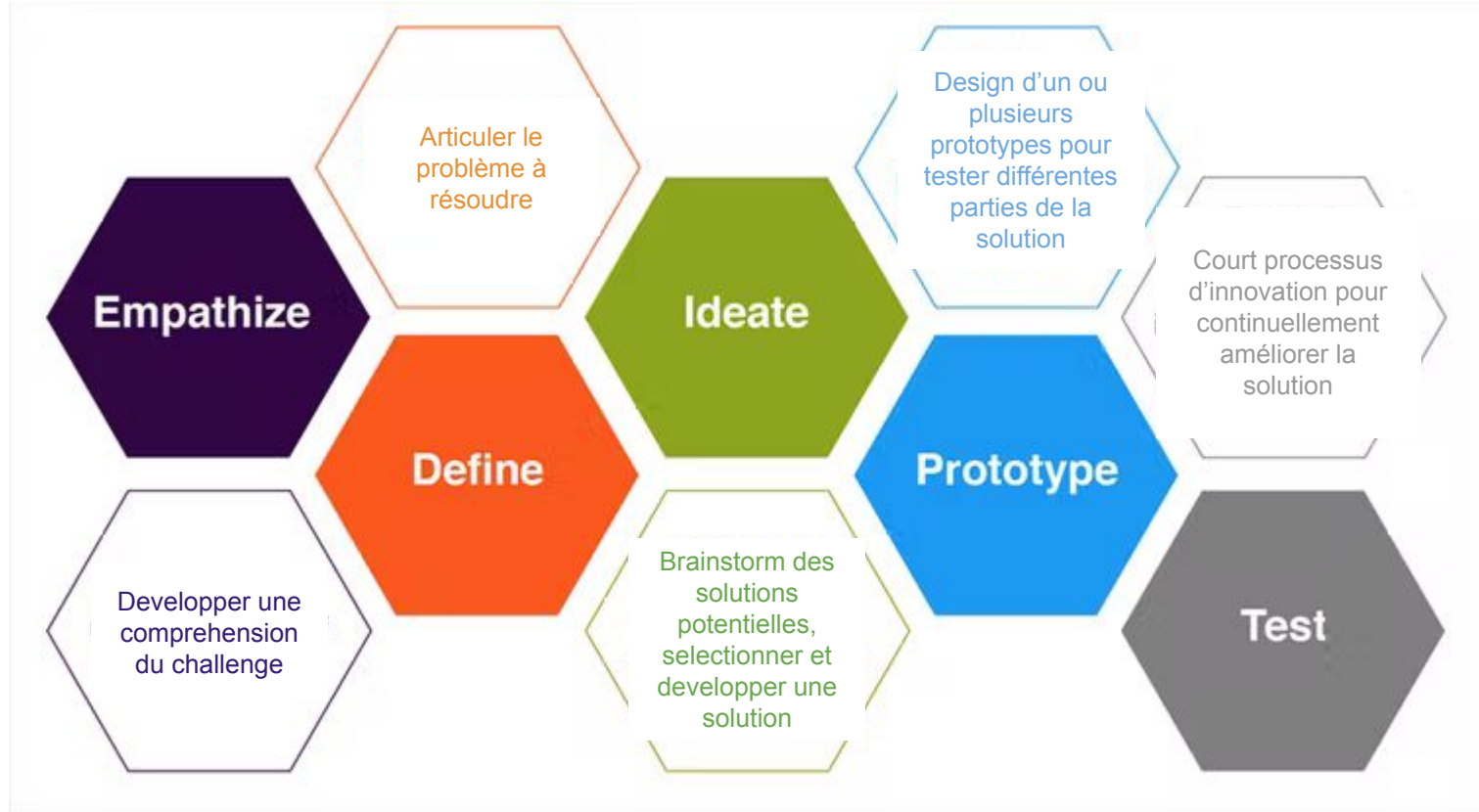
- Owns a 4 bedroom home in coastal NC and 2 high end cars. Lives in a suburban gated neighborhood.
- Human Resource Director of a small media company for 5 years with a \$58,000 salary.
- Happily married for 12 years with 2 sons and a house hold income of above \$120,000.
- Well educated with an MS degree from a state university. Graduated without debt.

BEHAVIORAL IDENTIFIERS

- Hobbies include reading, playing tennis, networking at the country club, being involved in youth groups and visiting the beach.
- Strong need for customer service and support. Values face to face communication and rewards systems.
- Wants a simple product. Values quantity and brand image. Prefers print marketing and build graphics.
- Shops in department stores after 5pm. Buys in bulk on sale items. Refers by a previous client.
- Owns an iPhone but makes purchases online with a desktop Mac computer. Needs a simple check out system.
- Well traveled in Europe. Prefers traveling in off peak times in chain hotels and loves pre-planned travel the cruises.
- Personal goals to retire by age 65, to own a vacation home on the Spanish Riviera and for her sons to attend an ivy league university.
- In very good health but very busy and often stressed. Visits group exercise programs.

- Quels sont les personnes que vous aidez avec votre solution?
- Ou habitent-ils? Quel age ont ils? Quels sont leurs motivations et leurs frustrations aujourd'hui?

5 steps



Definir

Il est temps de définir le processus et l'approche qui permettra de designer l'expérience du point de vue de l'utilisateur.

Formuler un **problem statement (énoncé de problème)**

- Design principles (durable, inclusif, participatif etc.)
- How might we?

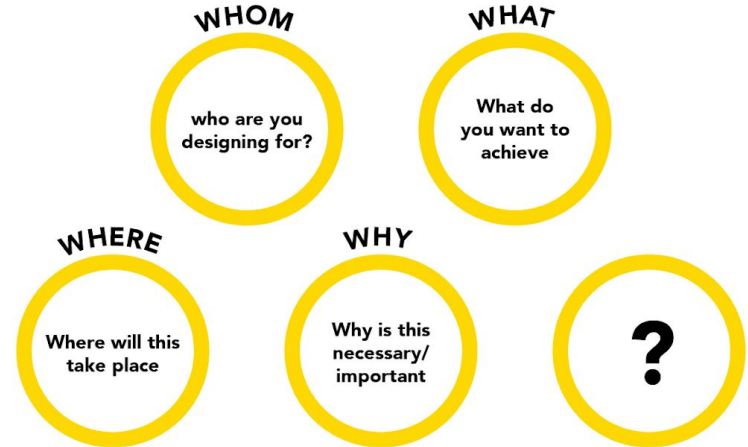
How might we?

La question How might we (HMW) peut générer beaucoup d'idées créatives. Voici quelques exemples:

- **Comment pourrait-on** s'assurer que plus de personnes payent leurs taxes avant la deadline?
- **Comment pourrait-on** permettre aux employés d'être plus productifs en télétravail?
- **Comment pourrait-on** faire sentir au client que leurs informations et données sont en sécurité lorsqu'ils créent un compte?

Craft your How Might We using the method shown to scope your design challenge

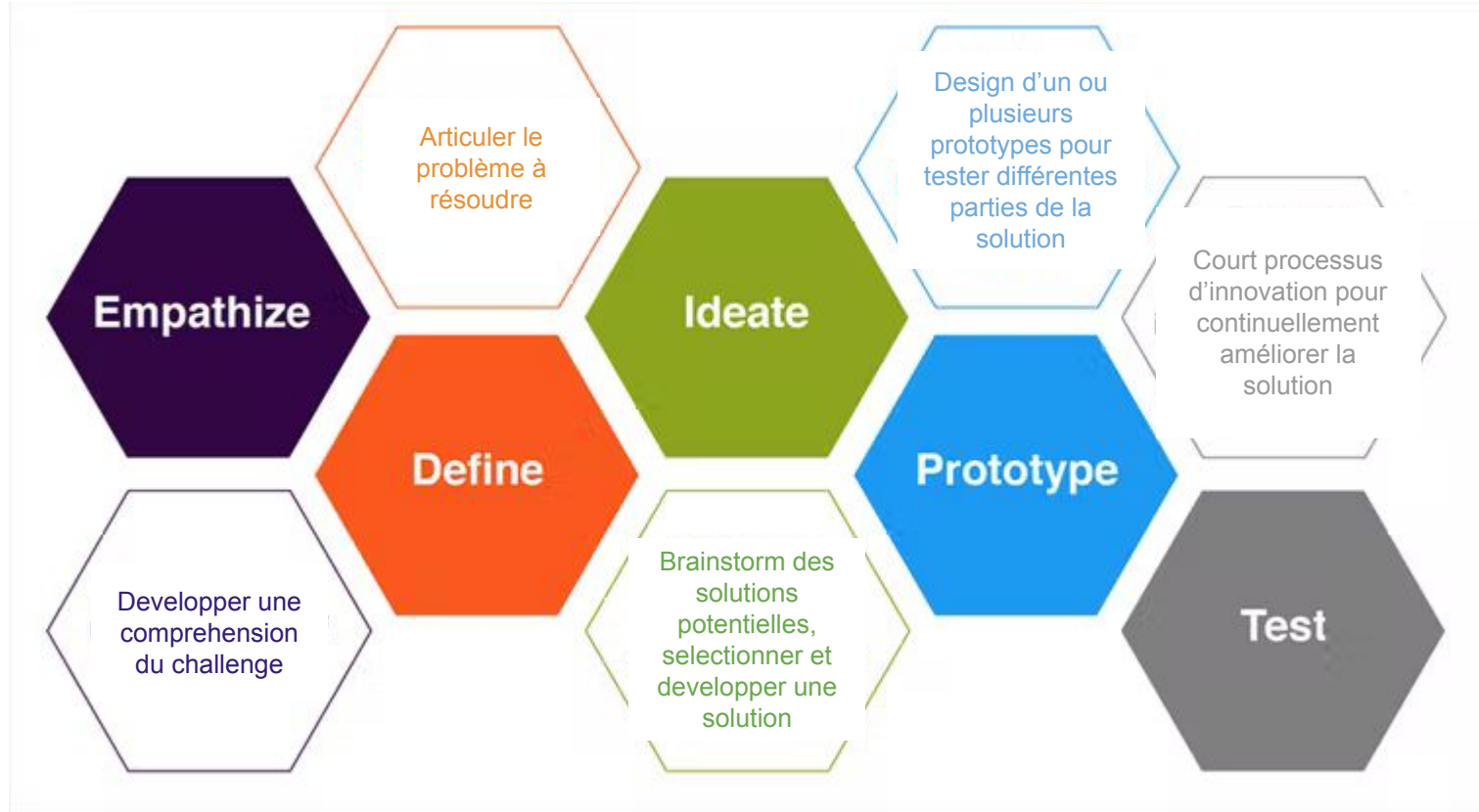
HOW MIGHT WE



Exercice: **Comment pourrait-on ?**

- Pour qui?
- Dans quel contexte? Où et quand?

5 steps



Ideation

- “Le quoi”

Transformer un probleme en solution. Explorer une large quantité de solution variées pour éviter les idées existantes ou évidentes.

- **Safe space**
- **Créativité:** combiné rationalité avec émotion et imagination
- **Synergie:** Partager les idées pour ouvrir les possibilités
- **Liberté** pas de mauvaises solution à cette étape



Ideation

Comment sélectionner?

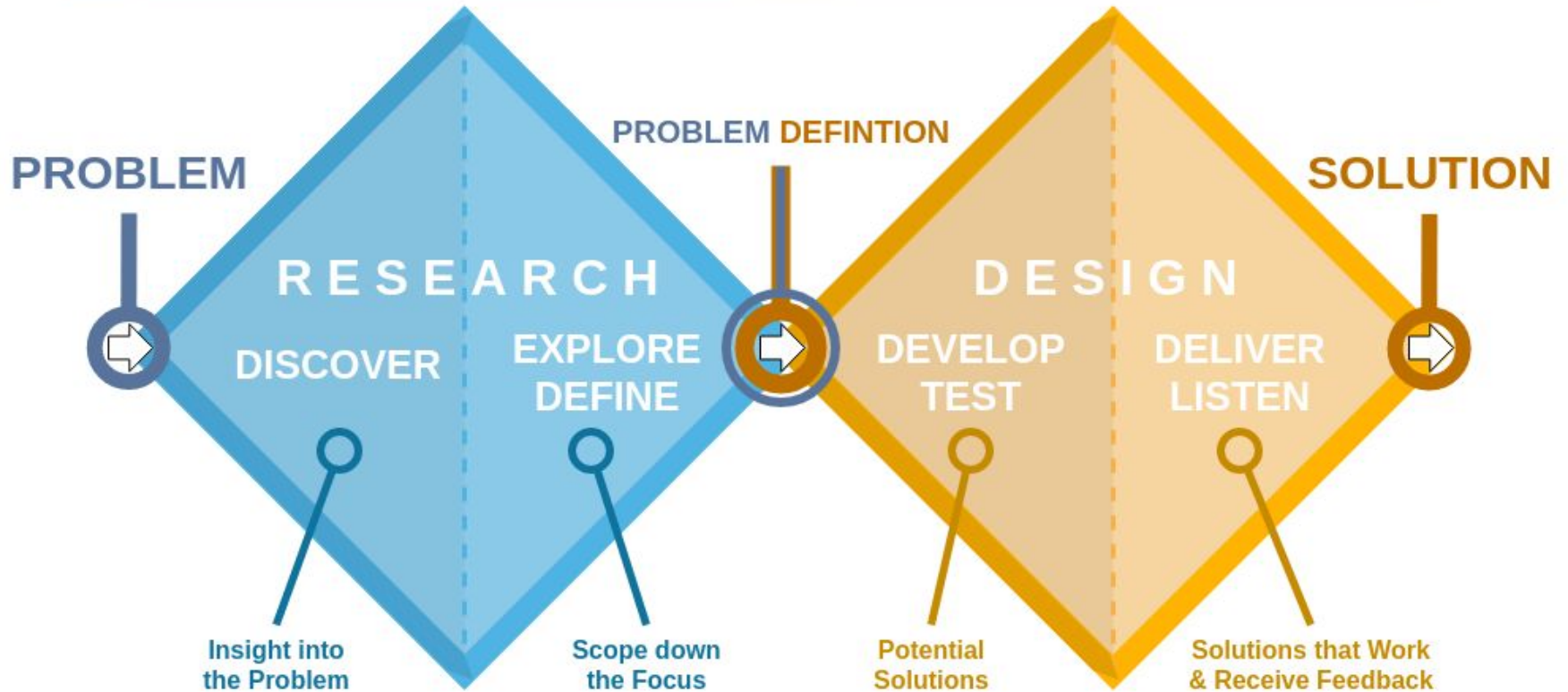
- Générer des idées
- Grouper (theme, technologies)
- Critère de sélections (prix, acces, faisabilité, testatbilité)
- Selection
- Montrer aux utilisateurs (mentors ou teammates) et ecouter les avis



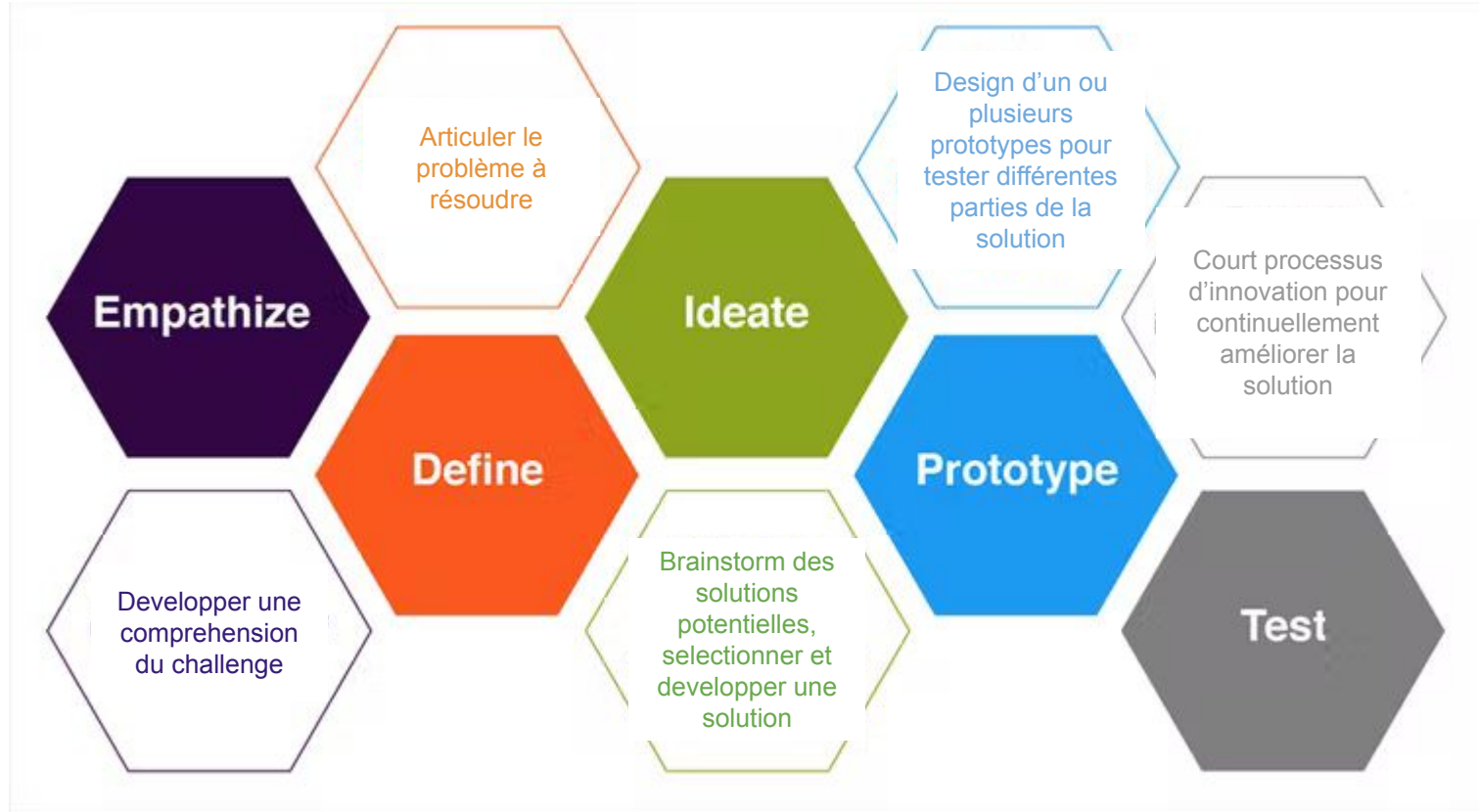
Exercice: Ideation

- Générer 5 idées per personnes qui répondent à votre question
“Comment pourrait-on..?”
- En sélectionner 2 ou 3 à partager avec le groupe
- Ecouter l’avis du groupe et en sélectionner 2 ou 3 par groupe





5 steps



Prototype

- Une solution est une combinaison d'idée et de solution existante
- Dessiner et construire un prototype
- Qu'est ce qui fait un bon MVP?
(Minimum viable product)
 - Juste assez bien pour être testé: tester les emotions, comment il résout le problème

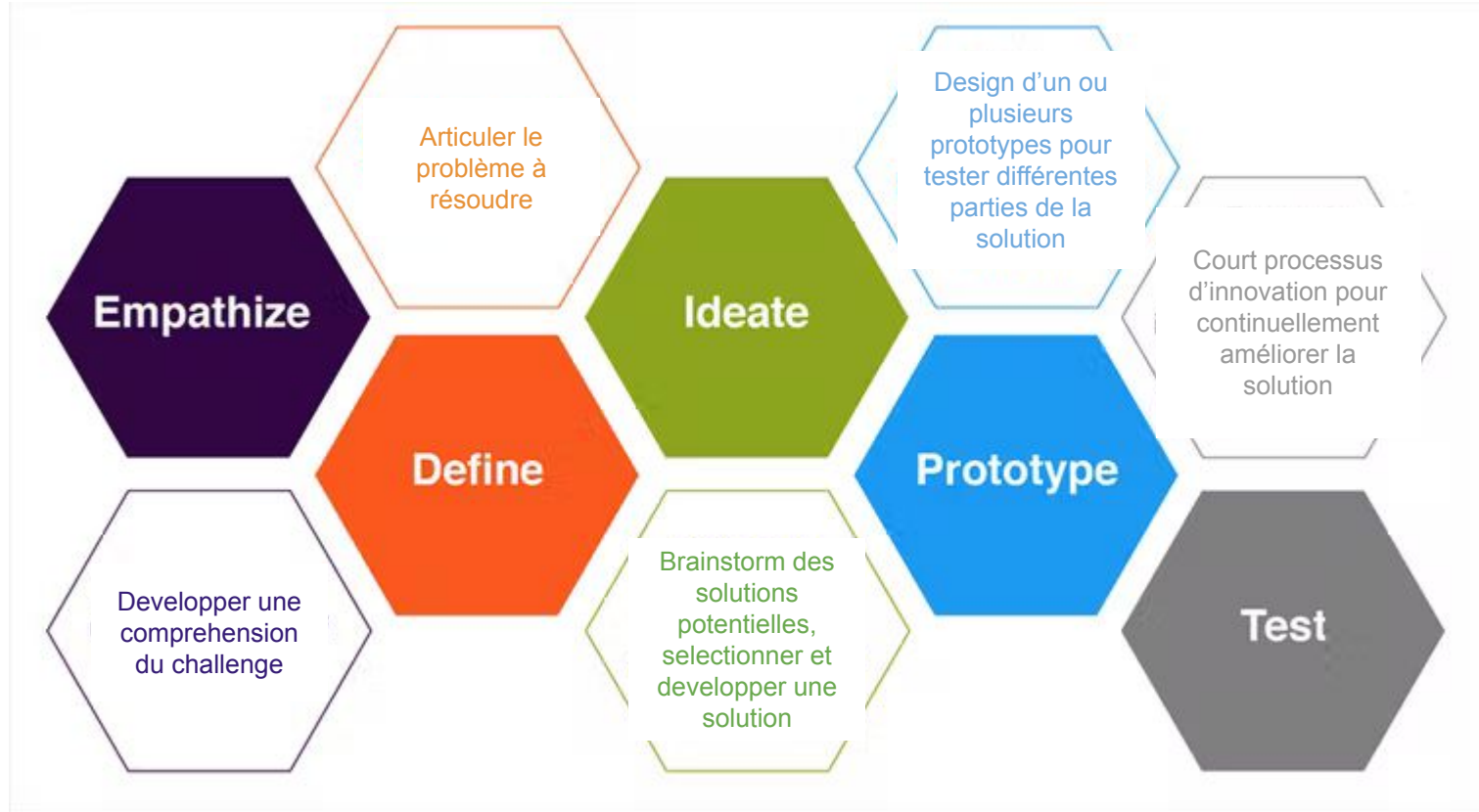
Not like this...



...instead like this!



5 steps

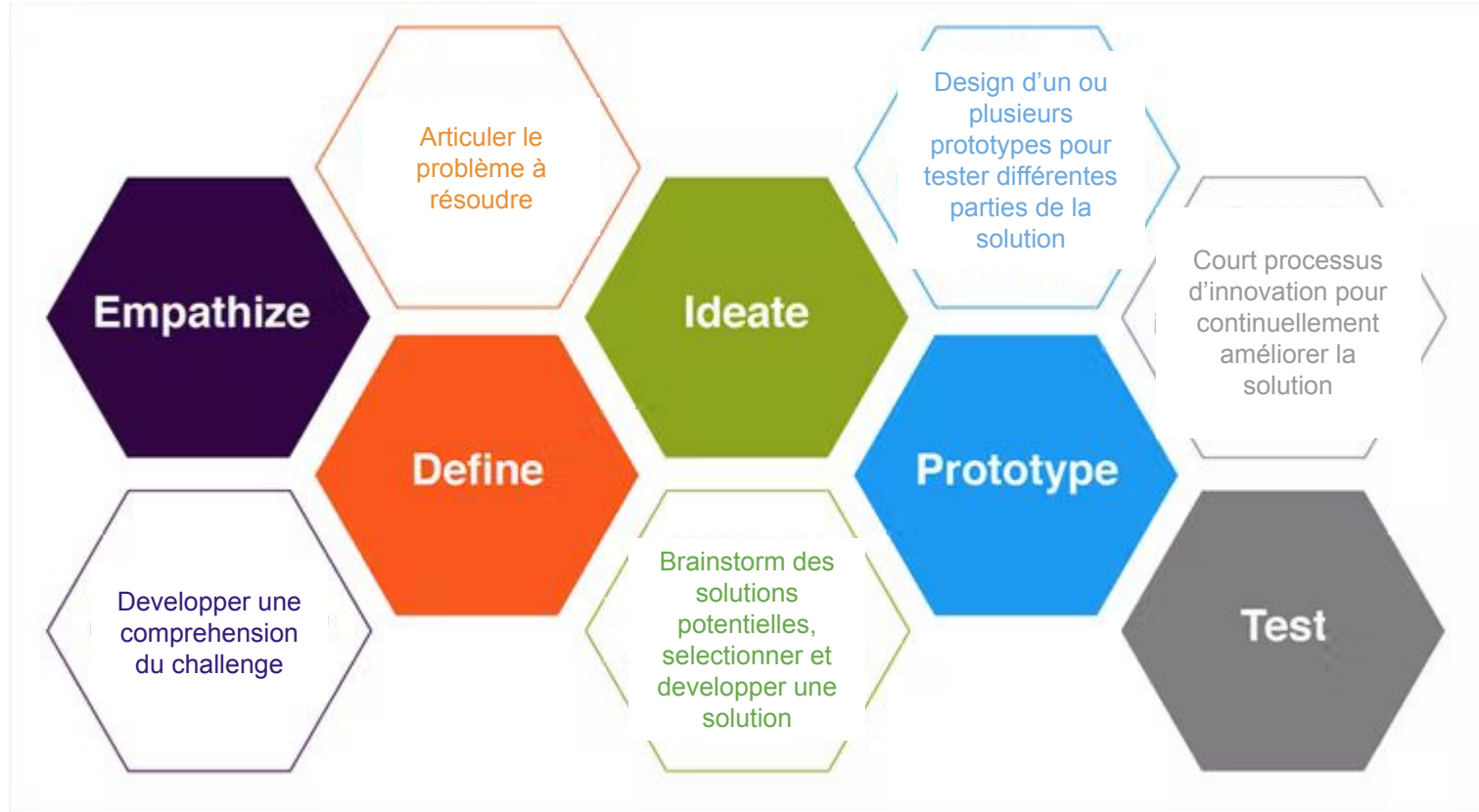


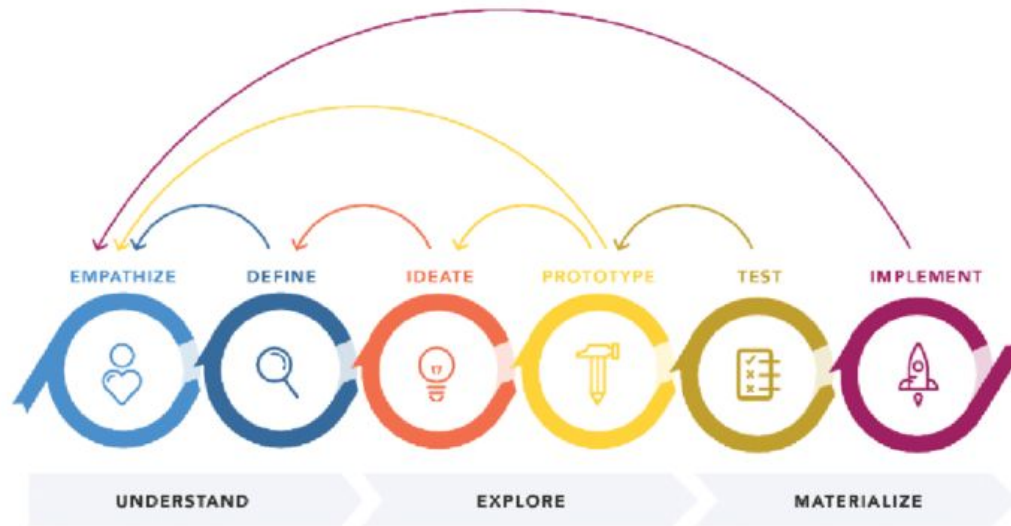
Test

- **Valider ou refuser une hypothese**
- **Comment tester?**
 - Contexte similaire, ou environnement neutre
 - Utilisateurs variés (extreme users)
 - Permettre aux utilisateurs de comparer: plusieurs prototypes ou A/B test
 - Ce n'est pas une demo, il faut donner le moins d'explication possible
- **Quoi tester?**
 - Performance
 - Fonctionnalité
 - Emotions
 - Variables isolées (A/B)
 - Ce qu'ils ont aimé et pas aimé
 - Il n'y a pas de mauvais test, quelles informations ce test vous a apporté?
 - Observez, entretiens> **Empathie** encore



5 steps





Introduction au **Design Thinking**

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Ressources

Empathy map: <https://gamestorming.com/update-to-the-empathy-map/>

Value proposition canvas:

<https://www.ashtonmcgill.com/business-model-canvas-series-introducing-value-proposition-canvas/>

User flow, persona, site maps: <https://www.flowmapp.com/>

User journey tool:

https://www.smapply.com/tools/journey-maps?gclid=Cj0KCQjwt-6LBhDIARIsAIPRQcJk1DqF6m4WylINlstAt_SwYI8861QN5O2-P6S2obmXIJ6em2zLYr4aAkEfEALw_wcB

Sources

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 - <https://www.interaction-design.org/literature/article/7-simple-ways-to-get-better-results-from-ethnographic-research>
- Dictionary of ethnography field guide
- Design thinking
 - <https://designthinking.ideo.com/>
 - <https://hbr.org/2018/09/why-design-thinking-works>
 - https://en.wikipedia.org/wiki/Design_thinking
- Wicked problem:
 - <https://medium.com/@anneseoyounglee/wicked-problem-design-thinking-2126dc147170>
- How might we:
 - <https://www.nngroup.com/articles/how-might-we-questions/>
 - <https://c-academy.org/course/how-might-we-toolkit/>
- <https://clevertap.com/blog/user-personas/>
- <https://uxplanet.org/a-beginners-guide-to-user-journey-mapping-bd914f4c517c>
- <https://careerfoundry.com/en/blog/ux-design/how-to-create-a-user-flow/>
- <https://www.accenture.com/us-en/blogs/software-engineering-blog/what-is-an-empathy-map>
- <https://uxplanet.org/sketch-wireframe-mockup-and-prototype-why-when-and-how-29a25b3157c4>
- <https://www.nngroup.com/articles/usability-testing-101/>
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- <https://uxdesign.cc/how-to-create-a-ux-sitemap-a-simple-guideline-8786c16f85c1>
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Pour aller plus loin

UX (User Experience)

Human-First approach to product Design

Application

Physical and digital products

Focus:

The full experience from a user's first contact to the last

Creates

Structural design solution for pain points that users encounter anywhere asking their journey with the product

Results in

Products that delight users with their effectiveness

UI (User Interface)

Human-First approach to designing the aesthetic experience of a product

Application

Digital products

Focus

Visual touchpoints that allow users to interact with a product

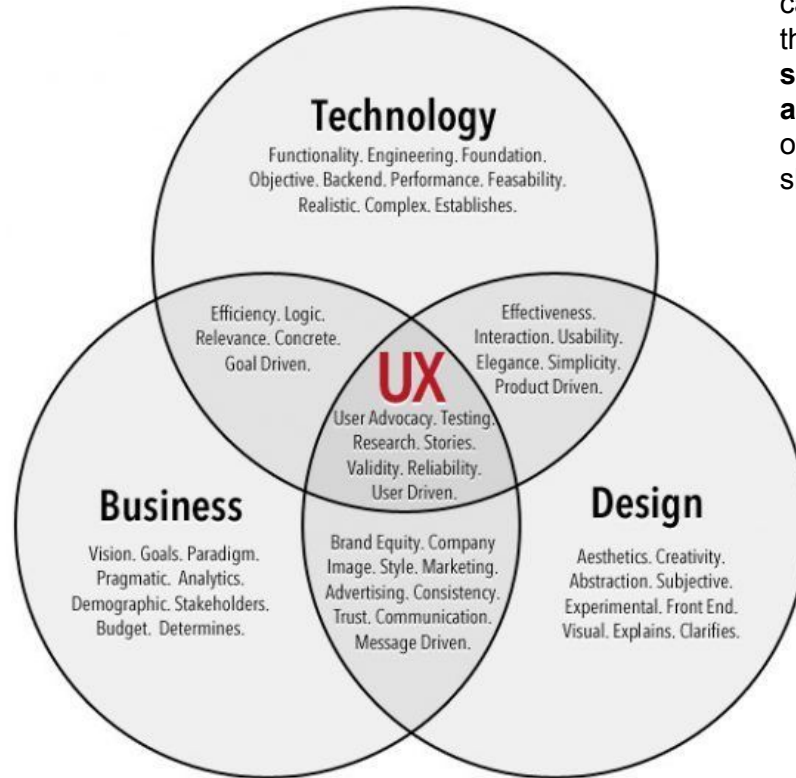
Creates

Combinations of typography, color palettes, buttons, animations, and imagery

Results in

Products that delight users aesthetically

What is User Experience Design?



The *experience* part of UX design can mean many different things—**products, tools, systems, services, websites, apps, or events**—and each type of experience can require specific skills.

Empathy map

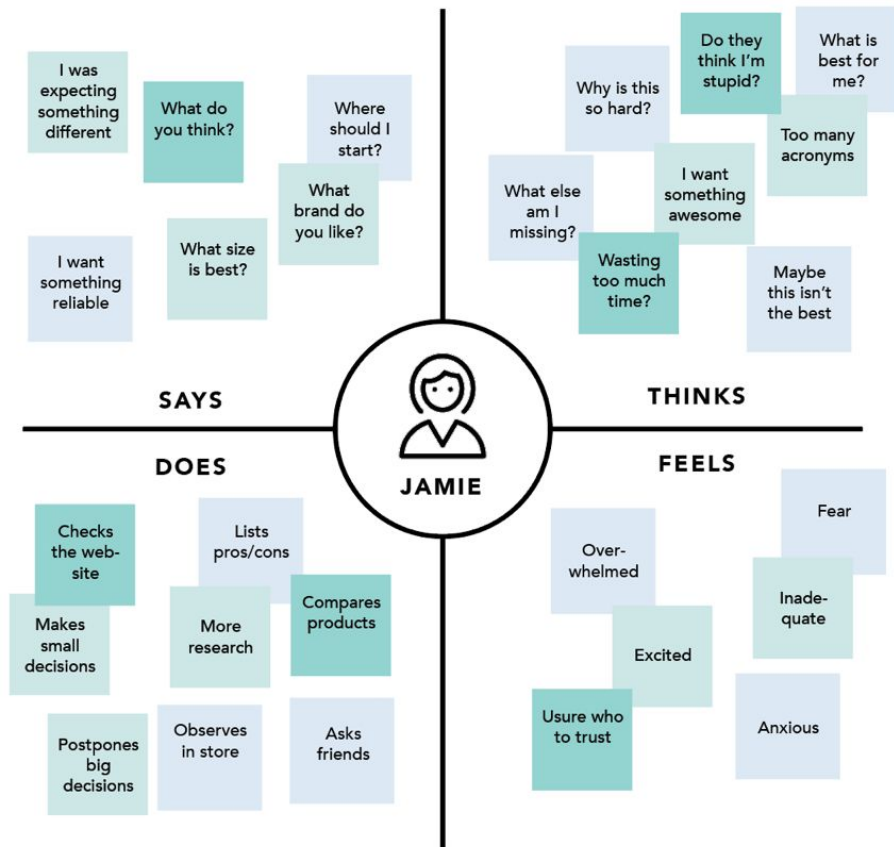
What would the user be **thinking** and/or **feeling**? What are some of their worries and aspirations?

What might the user be **saying** and/or **doing** while using our product? How would that change in a public or private setting?

What are some of the **user's pain points or fears** when using our product?

What **gains** might the user experience when using our product?

EMPATHY MAP *Example (Buying a TV)*



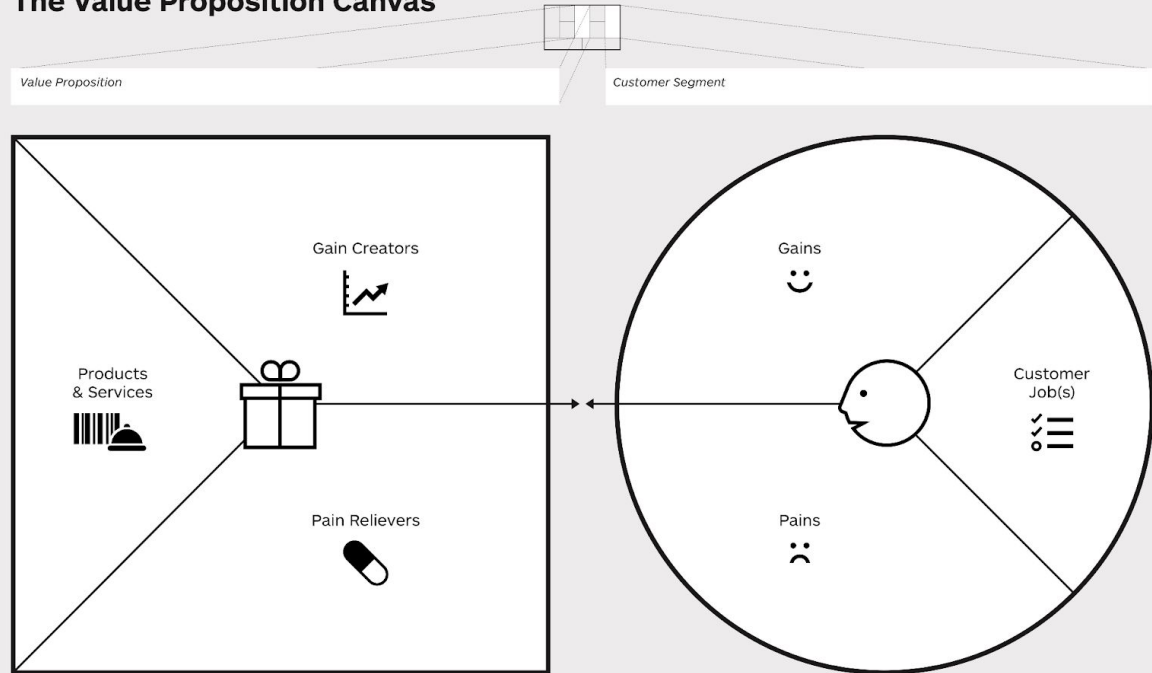
Value proposition

Gain creators – how the product or service creates customer gains and how it offers **added value** to the customer.

Pain relievers – a description of exactly how the product or service **alleviates customer pains**.

Products and services – the products and services which create gain and relieve pain, and which underpin the **creation of value** for the customer.

The Value Proposition Canvas



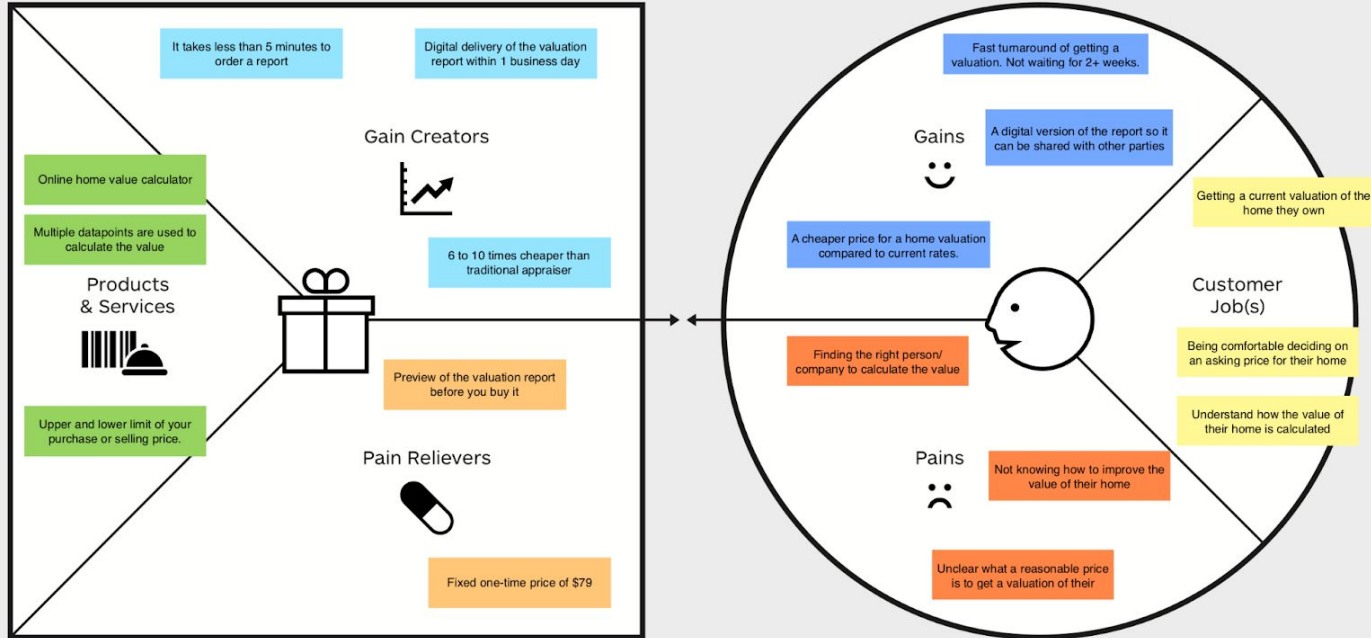
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The Value Proposition Canvas

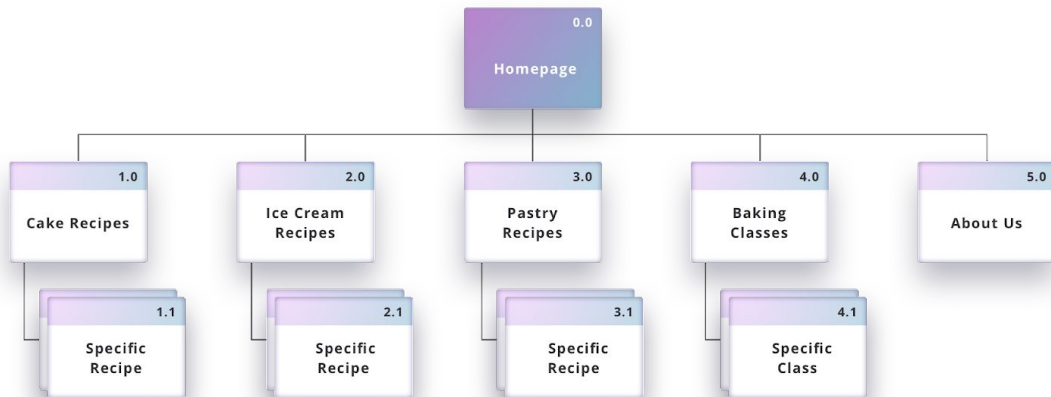
Value Proposition for "Homeworth Direct"

Customer Segment First time homeowners looking to sell their house



Site Map

Site map: A UX sitemap is a hierarchical diagram of a website or application, **that shows how pages are prioritized, linked, and labeled.** If a user flow is like the street view details, the sitemap is like the bird's eye view.



User's flow

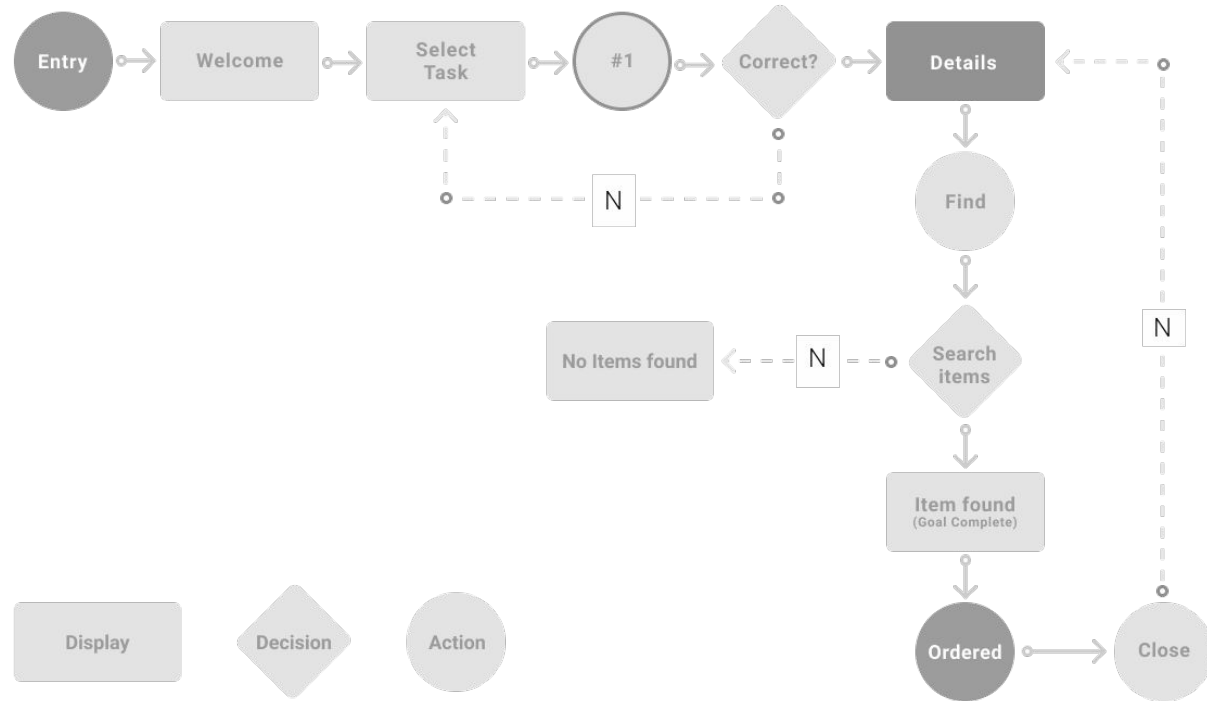
- 1) Entry point
- 2) Step to completion
- 3) Final interaction

Rectangle: screen/page

Line: flow

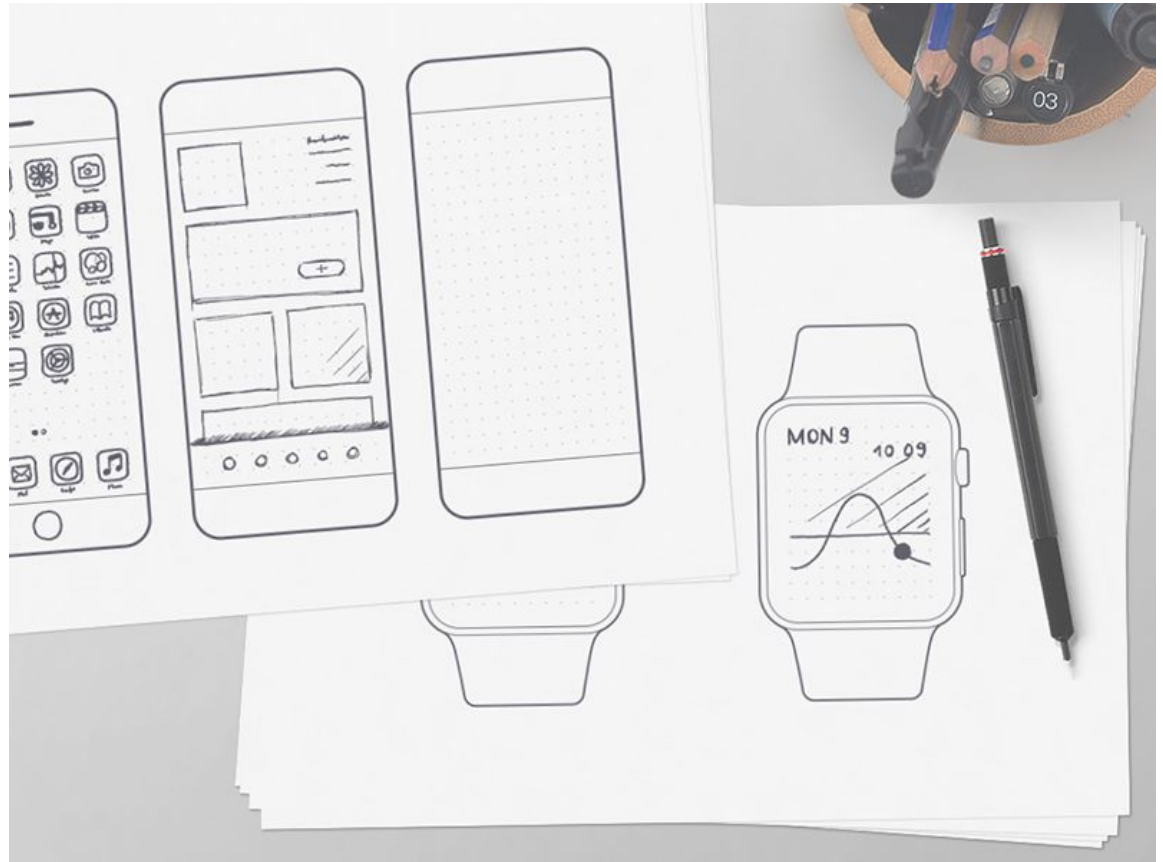
Circle: Action

Diamond: Choice



Sketches

Sketches: get ideas on paper; collaborate with your team (and, *ideally*, potential users) to identify product and user requirements

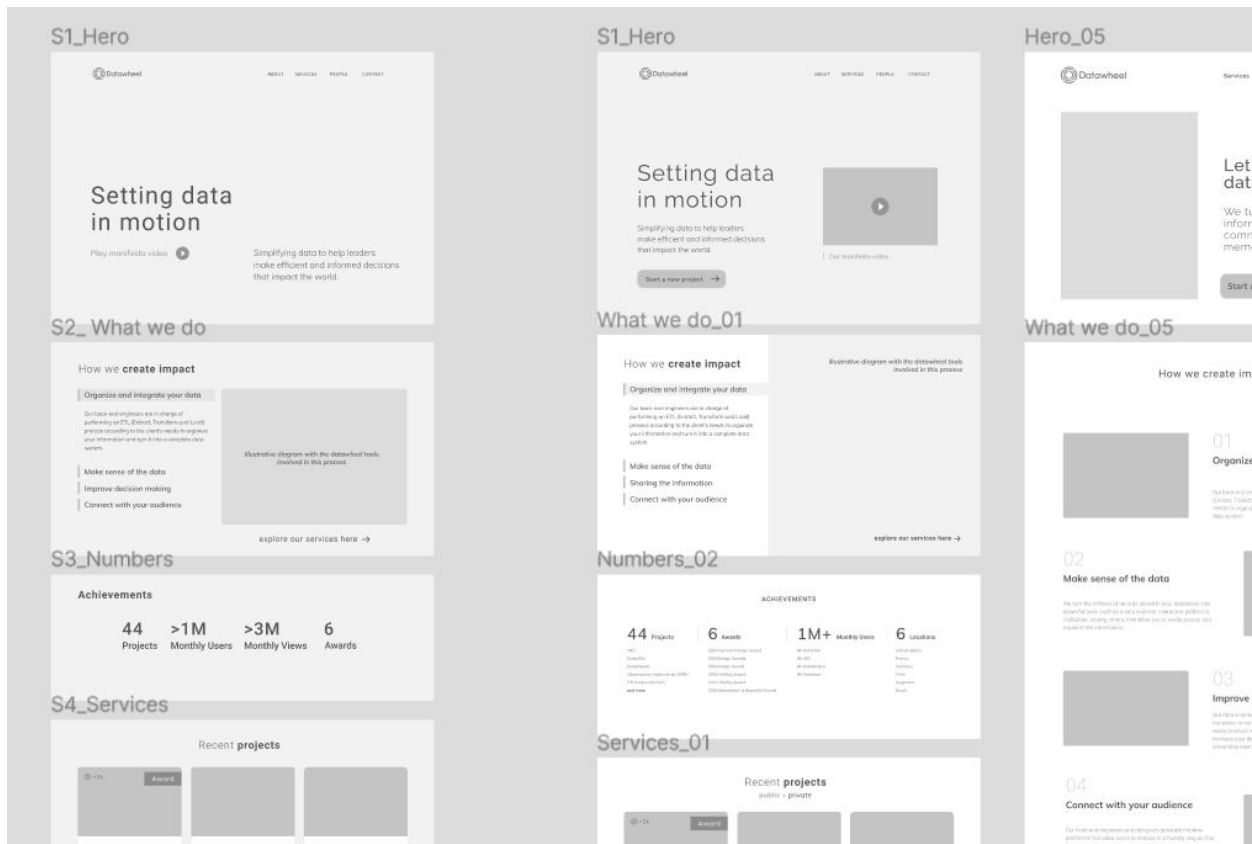


Wireframe

Wireframes:

Wireframes are **low-fidelity design** artifacts that represent only essential elements of UI

Create a **skeleton of how an interface will look**, without inputting real content or design elements; *ideally* test with users for high-level feedback



Source: @gabi

Mockups

Mockups are a mid- or high-fidelity visualization of your design. Mockups deliver the visual look of the product design, and they are great for evaluating the look and feel of your design.

Experiment with various styles.

Designers can try different color combinations and see what color scheme works best for users.

Evaluate the visual consistency of design. Ensure that all screens in your product look like parts of the whole product, rather than a collection of individual screens.

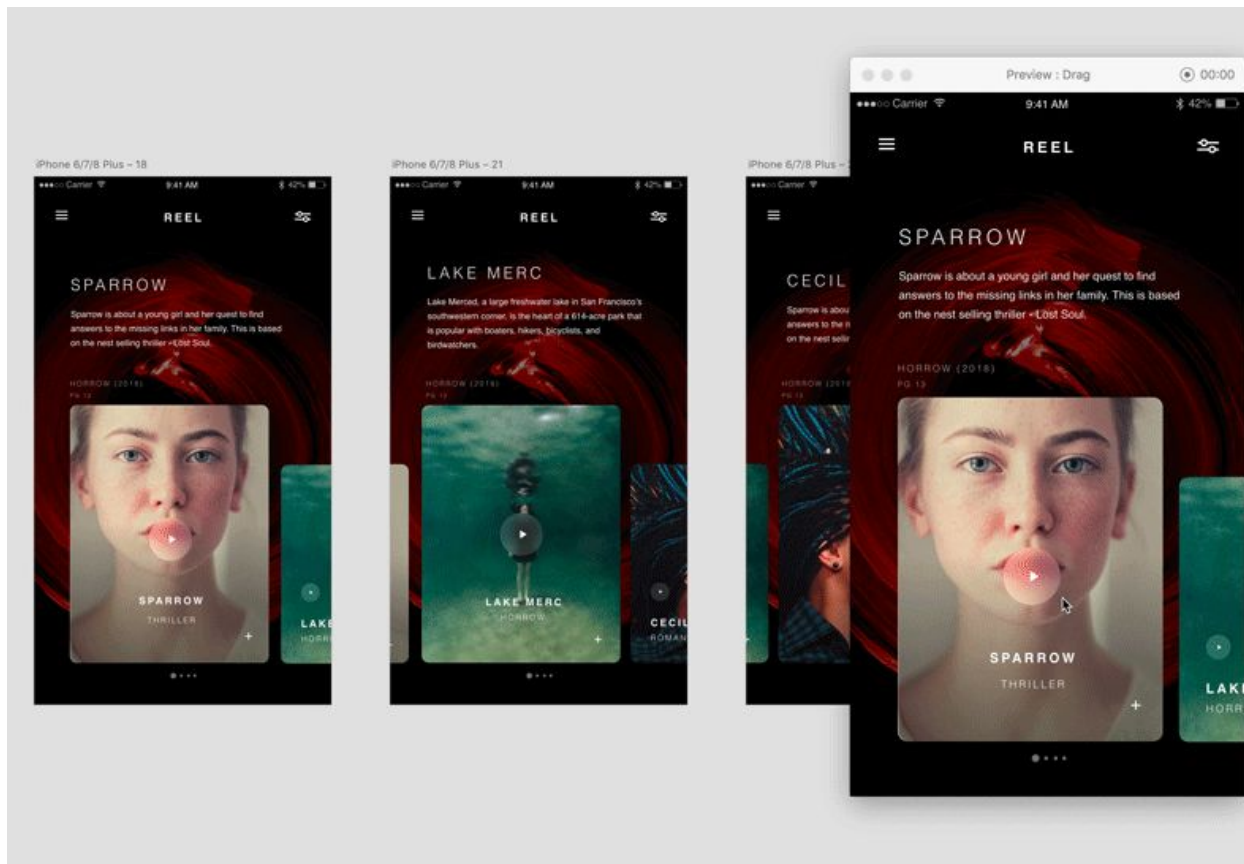


Source: @gabi

Prototype

Prototypes: create an interactive and higher-fidelity (i.e. more realistic) version of wireframes

A prototype is a working model of an app/webpage. Prototypes allow designers to simulate user interaction. Unlike all other artifacts that I've mentioned above, prototypes are always interactive. **The goal of a prototype is to simulate the interaction between the user and the interface.**



Testing

In a **usability-testing** session, a researcher (called a “facilitator” or a “moderator”) asks a participant to perform tasks, usually using one or more specific user interfaces. While the participant completes each task, the researcher **observes the participant’s behavior and listens for feedback**.

