What is User Experience?

"The experience the user feels while interacting with any product like phone, digital content like website and mobile apps or interacting with any company services or visiting a coffee shop/restaurant and placing a order or driving a bike/car, is it easy to use and the intended goal is accomplished by the user without any obstacles"

Disciplines of User Experience Design

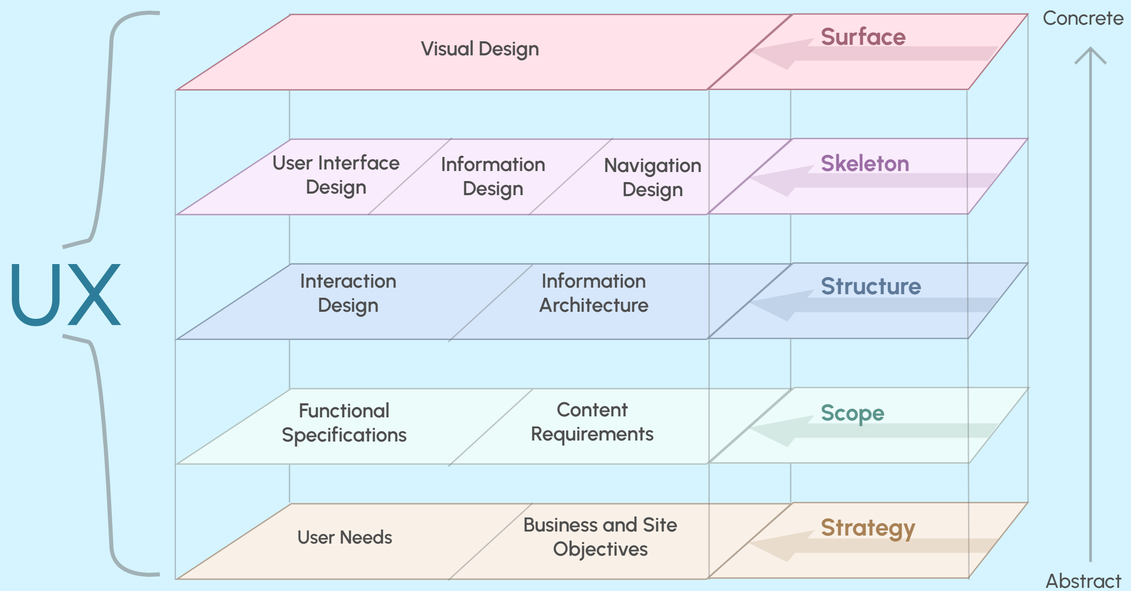
https://visual.ly/community/Infographics/computers/disciplines-user-experience-design

https://uxdesignmasterclass.com/wp-content/uploads/2017/12/UX-Disciplines-Chart.pdf

Difference between UX and UI

Elements of User Experience

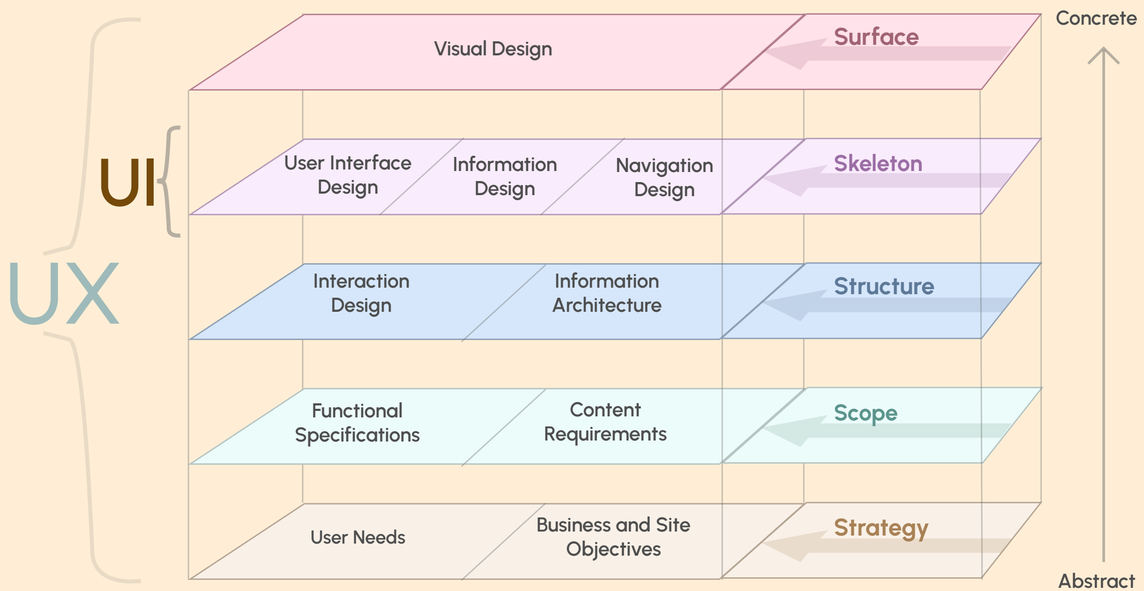
The Strategy(User Needs, Business and Site Objectives), Scope(Functional and Content Requirements), Structure(Interaction Design and Information Architecture), Skeleton(User Interface Design and Navigation Design) and Surface(Visual Design) all combined is UX in a nutshell.



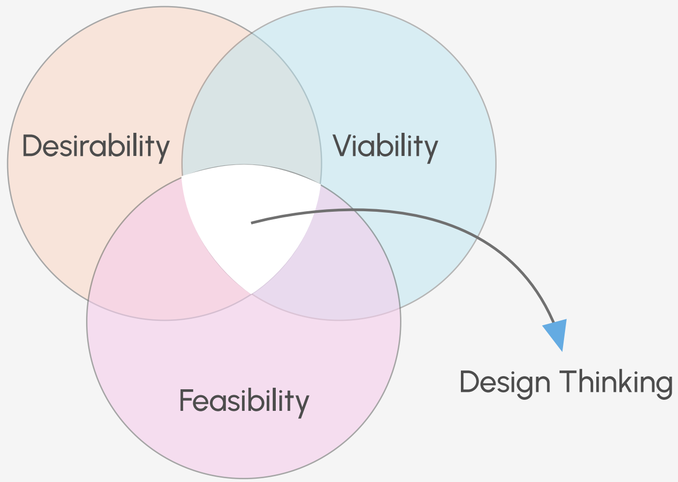
Elements of User Interface

The Skeleton(User Interface Design, Information Design and Navigation Design) is part of User Interface in a nutshell.

In all the products, its the user interface what the user sees and interacts to complete a task/goal. To complete a task/goal, interaction design principles(perceive, predict, interact, feedback and learn) and visual design(aesthetic) principles is used which guides the user to complete the task.



UX, Design Thinking - IDEO



Empathize > Define > Ideate > Prototype > Test

UX, Design Thinking Definition.

"Design Thinking is empathizing(user-centric) with users in optimistic and creative way to find solutions for their problems and needs"

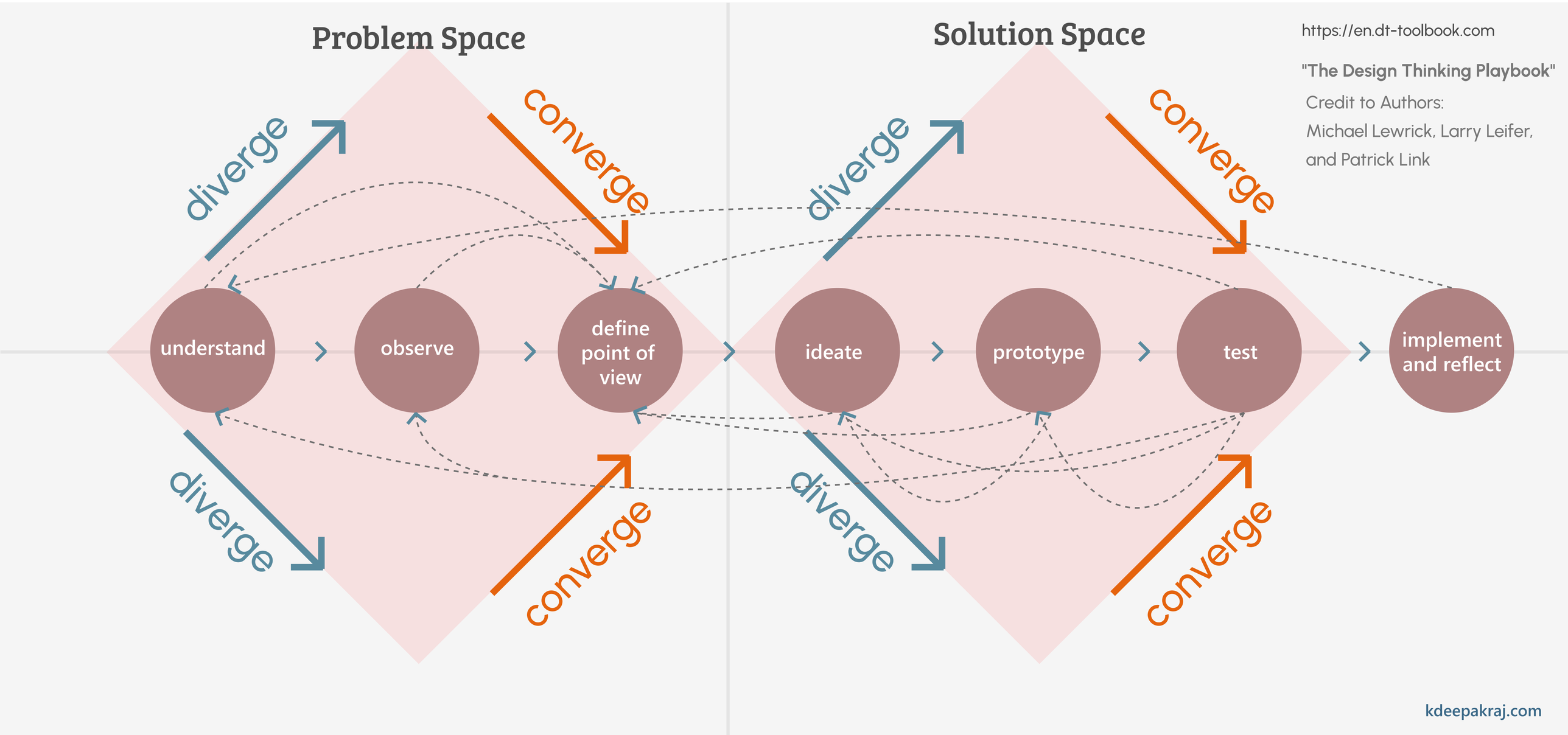
"Design Thinking is an empathetic, optimistic and creative way of working to shape the future"

"Design Thinking mindset is free of prejudices(preconceived opinion/idea), free of expectations(about what will happen), filled with curiosity(strengthen to understand facts and problem in depth), open to a world of possibilities, fail and try new things early on and learn from it, and ask simple and important questions for the problems to find solutions"

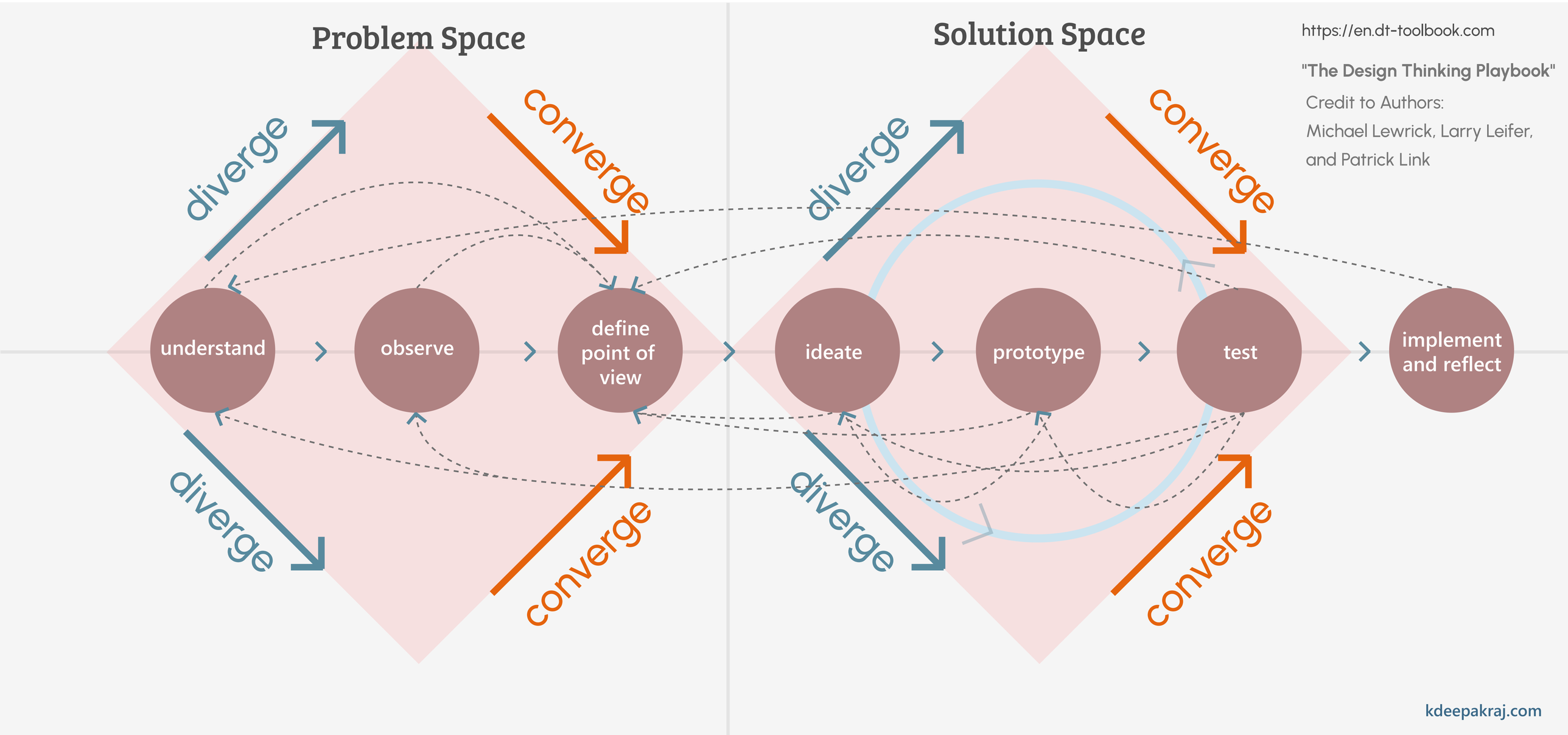
https://en.dt-toolbook.com

"**The Design Thinking Playbook**" Credit to Authors: Michael Lewrick, Larry Leifer, and Patrick Link

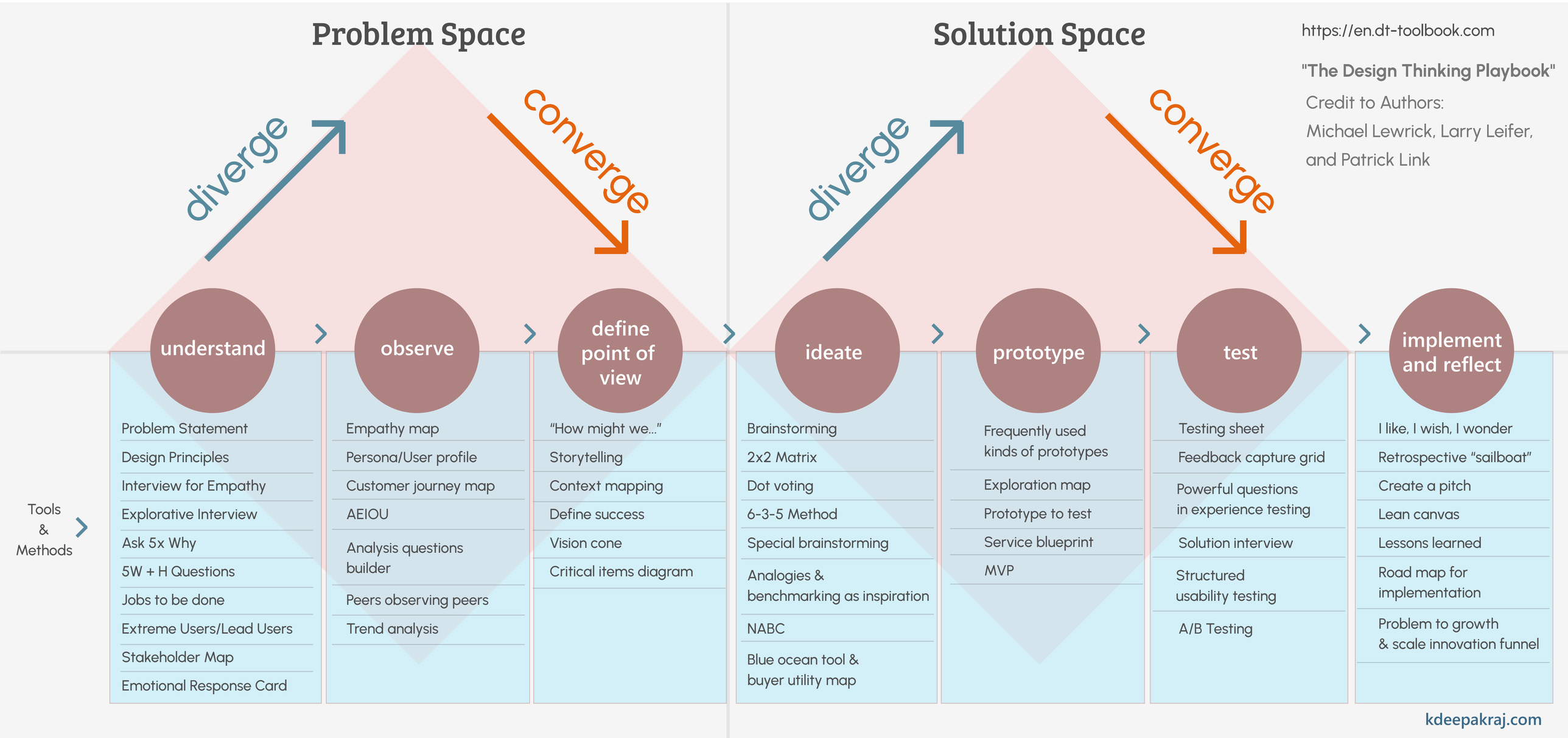
UX - Design Thinking Process (Adaptable and Flexible)



UX - Design Thinking Process (Adaptable and Flexible)



UX - Design Thinking Process, Tools and Methods

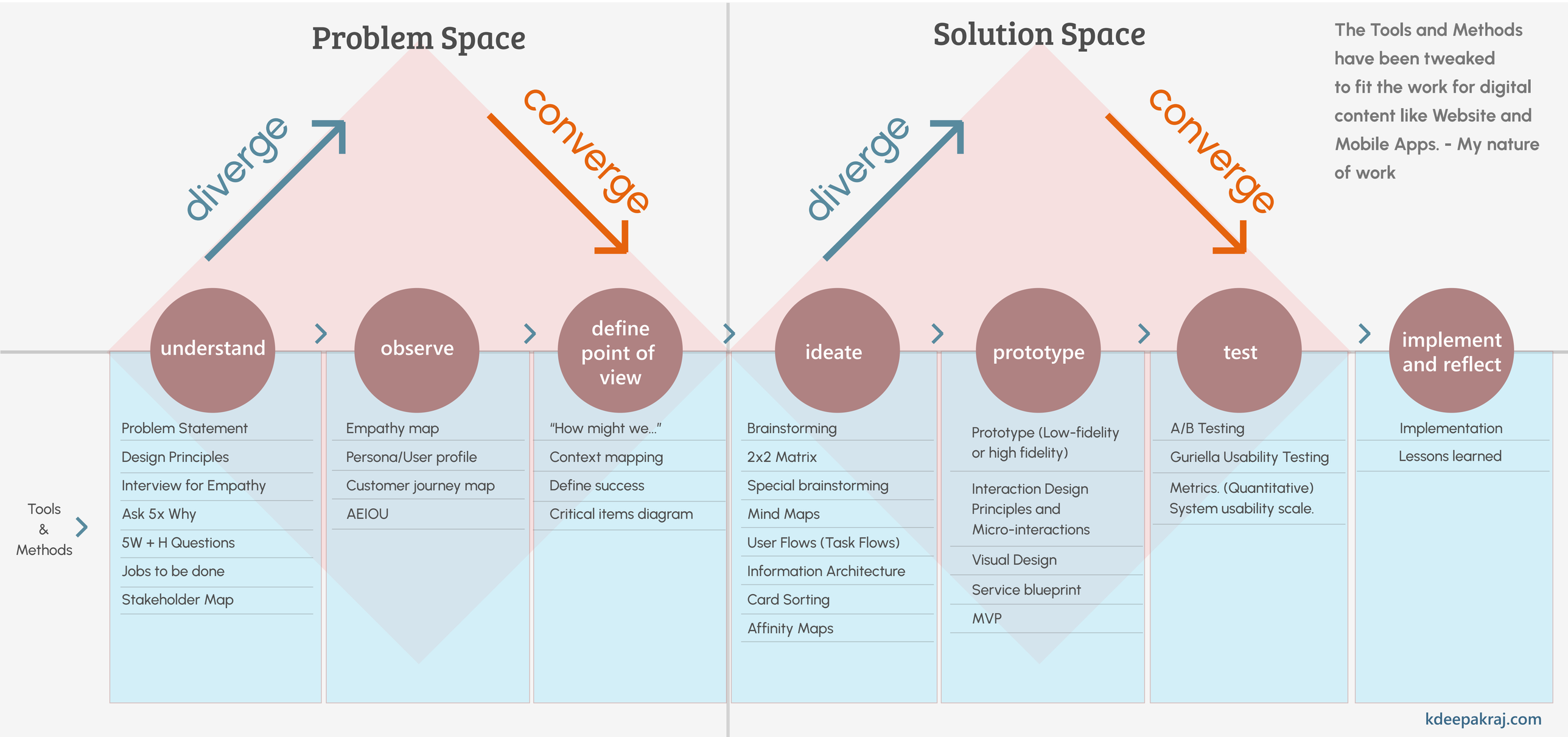


https://en.dt-toolbook.com

"The Design Thinking Playbook"

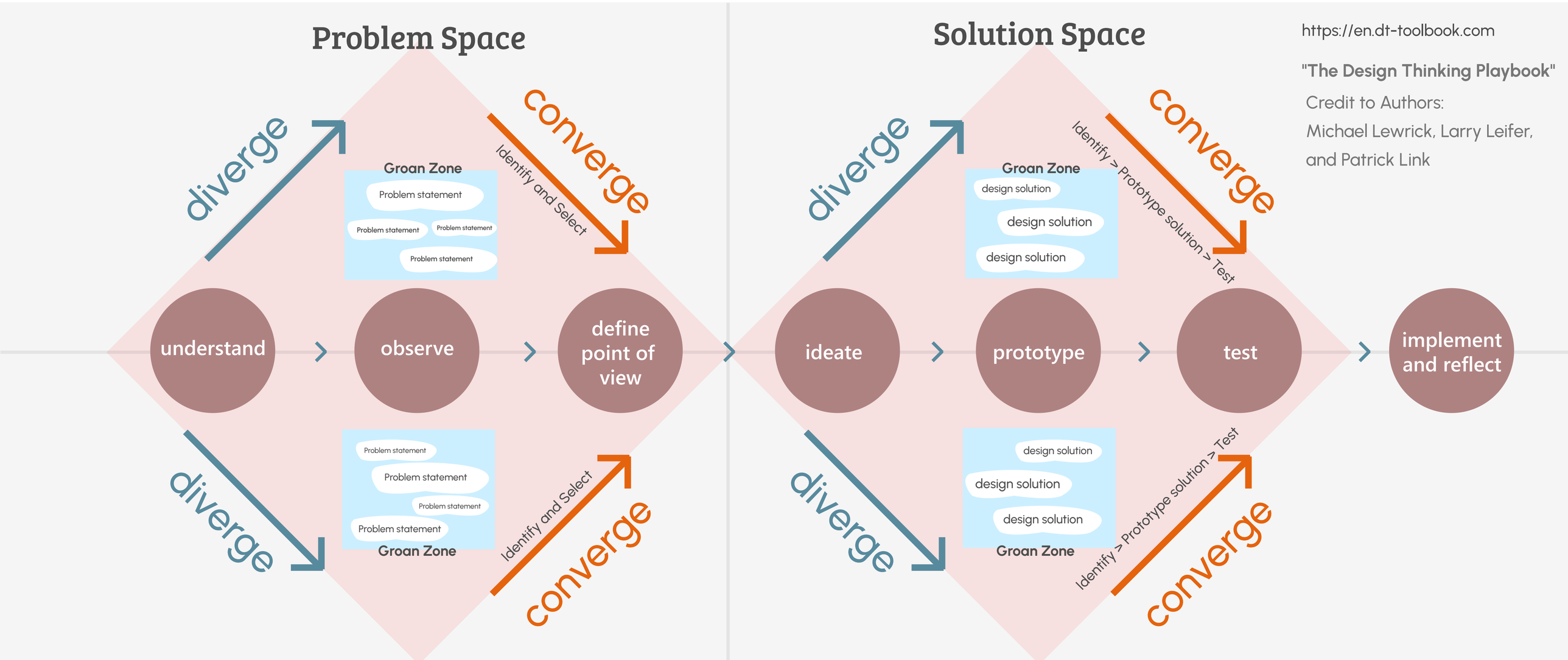
Credit to Authors:
Michael Lewrick, Larry Leifer, and Patrick Link

UX - Design Thinking Process, Tools and Methods I am familiar and use for my work



kdeepakraj.com

UX - Design Thinking Process, Groan Zone(messy zone).



UX - Design Thinking Process, Understand Phase
Problem Statement

Problem Statement

Design Principles

Ask 5x Why

5W + H Questions

Jobs to be done

Stakeholder Map

Problem Statement

Problem Statement is the starting point of Design Thinking. Its better to start with the problem, never with a solution.

We need to understand the Problem Statement correctly before solving a problem. The more focus on the problem statement will create a relevant problem space and transition to solution phase.

We need to develop a common understanding of the problem with the Client and outline a direction to ideation.

UX - Design Thinking Process, Understand Phase
Design Principles

understand

- Problem Statement
- **Design Principles**
- Ask 5x Why
- 5W + H Questions
- Jobs to be done
- Stakeholder Map

Design Principles

Design Principles guide the entire team to create a specific mindset or requirement for the product/ service early at the beginning of the project.

To make decisions faster and constitute the framework for guidelines during a design project.

A common understanding of the task so that everyone is on the same level during project.

UX - Design Thinking Process, Understand Phase
Ask 5x Why

- Problem Statement
- Design Principles
- **Ask 5x Why**
- 5W + H Questions
- Jobs to be done
- Stakeholder Map

Ask 5x Why

To get to the root cause of the problem and understand the problem in depth.

Explore the symptoms that are seen during the process.

Dig deeper to gain new insights.

Identify hidden problems only when user is probed with Why Questions that user would not mention if only asked.

UX - Design Thinking Process, Understand Phase
5W + H Questions

understand

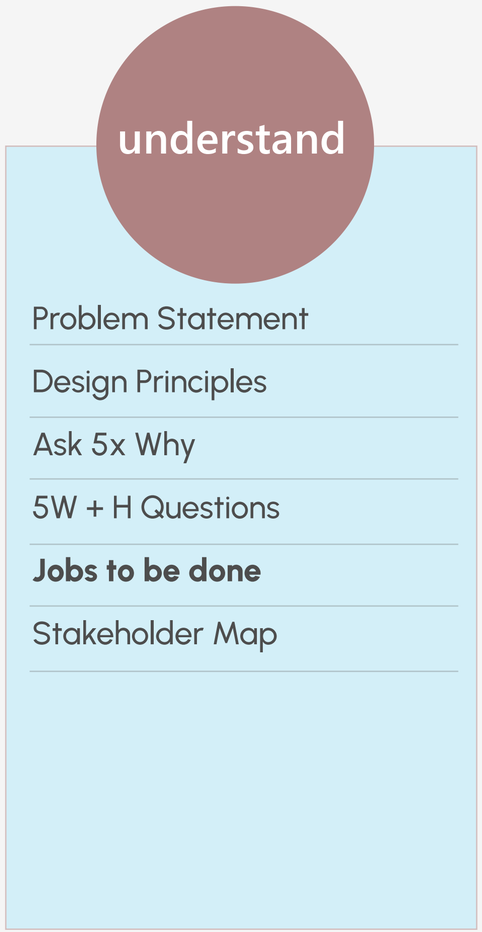
- Problem Statement
- Design Principles
- Ask 5x Why
- **5W + H Questions**
- Jobs to be done
- Stakeholder Map

5W + H Questions

To gain in-depth insights as well as new findings and information in order to grasp the problem or situation holistically or simply to find relevant questions for an interview.

To gain new insights, thus capture the problem or situation in a structured manner.

UX - Design Thinking Process, Understand Phase
Jobs to be done



Jobs to be done

To focus the problem solution on things that are an added value for the customer and help him accomplish his tasks.

To capture the task of customer in a structured way.

Optimize the entire customer experience, e.g give a service a unique purpose

UX - Design Thinking Process, Understand Phase
Stakeholder Map

understand

- Problem Statement
- Design Principles
- Ask 5x Why
- 5W + H Questions
- Jobs to be done
- **Stakeholder Map**

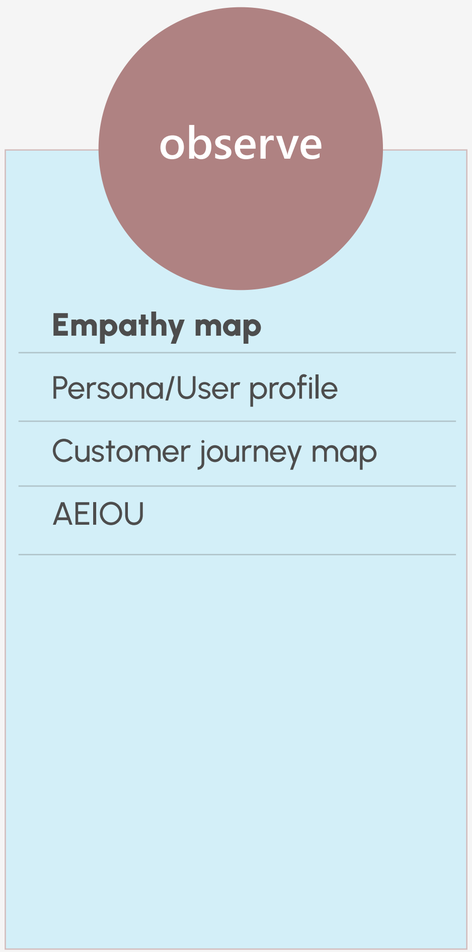
Stakeholder Map

To get an overview of all stakeholders, that is, organizations and people who have a claim or interest in the problem and a potential solution.

Knowledge of Stakeholders are vital for the success of the project.

Understanding the stakeholder groups and building relationship with them is essential for success of the product.

UX - Design Thinking Process, Observe Phase

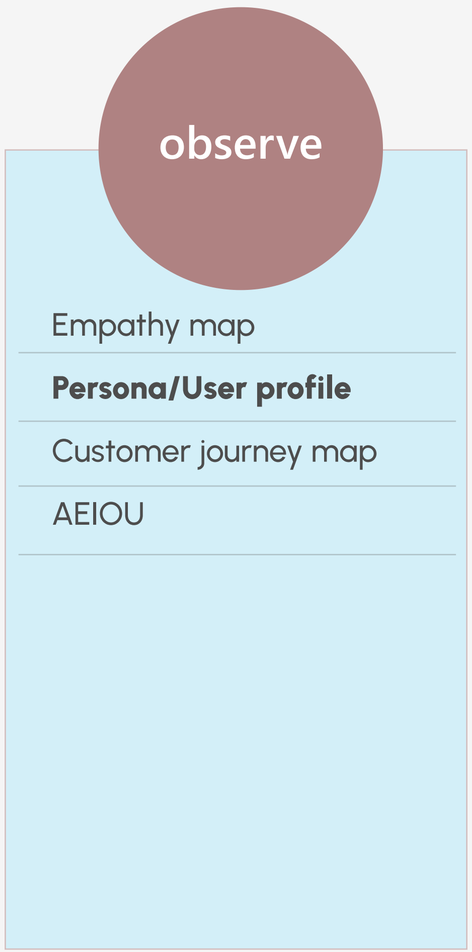


Empathy Map

An empathy map is a collaborative visualization used to articulate what we know about a articular type of user. It externalizes knowledge about users in order to create a shared understanding of user needs, and aid in decision making.

Decide who the person for the map is. Think about and discuss his or her situation, needs and role. This is the user who you want to understand and empathize with.

UX - Design Thinking Process, Observe Phase



Persona

Persona is fictious character created to represent a user or customer type and to learn more about the user/customer and a possible solution.

The persona puts a potential new solution (e.g. a website, a brand, a product, or a service) into the context of the respective needs and the jobs to be done.

Persona should have name, gender, and the basic demographic data (e.g. age, profession, hobbies). Information on the personality and characteristics of the persona are also recorded. Goals, needs, and fears are inferred from it.

UX - Design Thinking Process, Observe Phase

observe

- Empathy map
- Persona/User profile
- **Customer journey map**
- AEIOU

Customer Journey Map (CJM)

To walk in the shoes of my customers to understand in great detail what they experience when they interact with company products and services provided by the company.

THe CJM tells a customer Kourney within one product or service. CJM are quite specific as they show the buying journey of one target customer(one single buyer persona) for one product.

Establish a common understanding on the team about the experiences of customers with a company, product, or service.

Identify "moments of misery" that negatively affect the customer experience.

Achieve a solid understanding of all the customer's touch points.

Close problematic points and gaps in the customer interaction and realize a unique experience.

Design a new and improved customer experience.

Develop new products and services continuously on a customer-oriented basis.

UX - Design Thinking Process, Observe Phase

observe

- Empathy map
- Persona/User profile
- Customer journey map
- **AEIOU**

AEIOU (Activity, Environment, Interaction, Objects and User)

Learn more about the problem, the user/customer, and his environment.

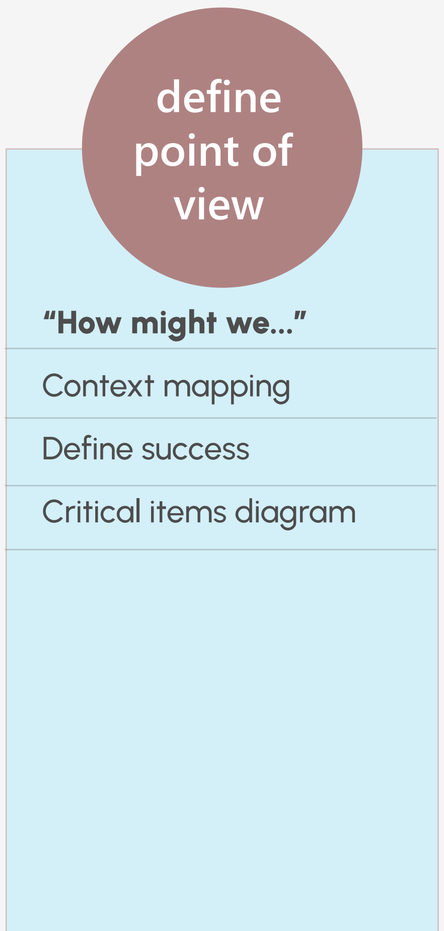
Bring structure to an observation and ask the right W+H questions that are decisive for gaining knowledge.

Facilitate the evaluation of many findings by larger design teams performing parallel observations.

Relate the user to the activity, the space, and to an object.

Collect insights that are not out in the public.

UX - Design Thinking Process, Define Phase (POV)



How Might We ...

To formulate a question that makes it possible later, in the "ideate" phase, to work in a targeted manner.

"How" implies that there are more possible ways to solve the question. "Might" creates a safe space in which we know that a potential idea might work. "We" reminds us that we solve the problem as a team.

Transform the needs identified into a real design challenge.

Write down the goal of the later ideation and the goal of the design thinking team in a concrete sentence.

Define the extent and scope of the ideation process.

UX - Design Thinking Process, Define Phase (POV)

define point of view

"How might we..."

Context mapping

Define success

Critical items diagram

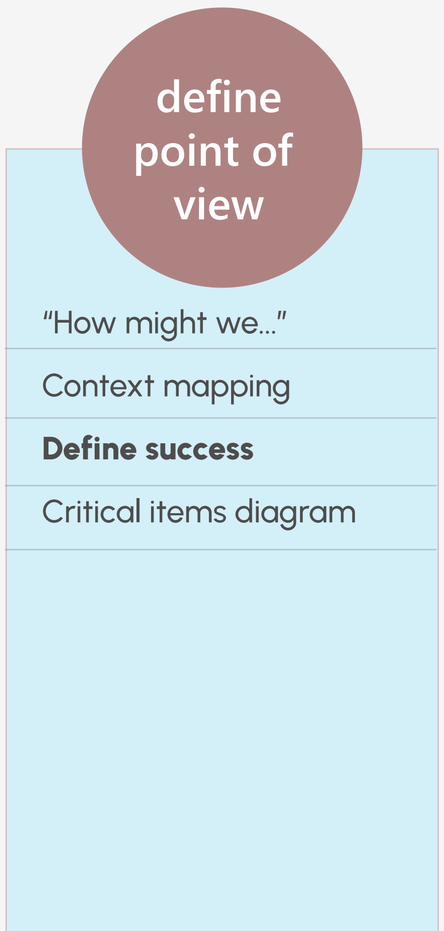
Context Mapping

To deal with the context of a problem we use context mapping

Get a better picture of a particular situation. What are these experiences like for others? When do they undergo this experience? With whom and in what context?

"Knowledge is information with additional context." To have true knowledge, the context must be known, and this tool helps to create this kind of awareness.

UX - Design Thinking Process, Define Phase (POV)



Define Success

To provide support to the team across the entire design cycle, especially in relation to the range of options.

Ensure that requirements of the organization/management/users and other stakeholders are understood; that makes it easier later to get a buy-in from the decision makers.

Create a basis for the measurement of KPIs if they are wanted for the project.

"Define success" determines milestones for the solution of the problem and its later implementation.

UX - Design Thinking Process, Define Phase (POV)

define point of view

"How might we..."

Storytelling

Context mapping

Critical items diagram

Critical items diagram

To structure the findings from the early phases and prepare for ideating and experimenting.

The critical items diagram helps the team to agree on the critical success elements for the target group based on the initial findings, the definition of a POV, or building a persona. These elements are the ones that must be solved later with the final prototype.

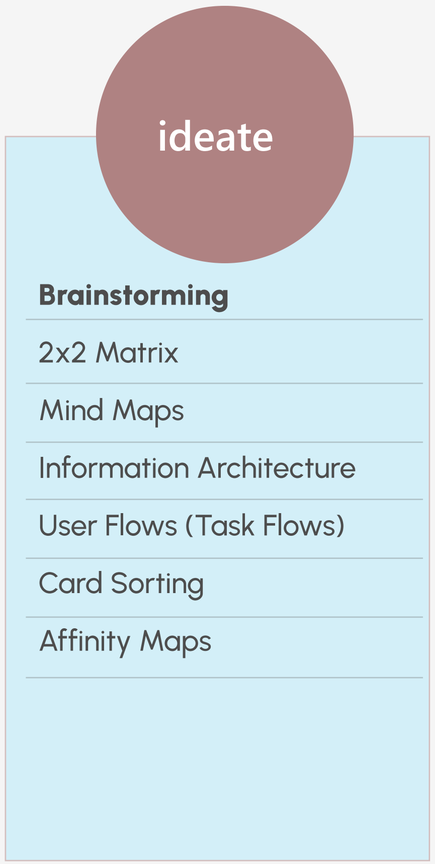
Appraise the results from the "understand" and "observe" phases and filter out the critical elements.

Prepare the "ideate" and "prototype" phases to establish a good starting position.

Help the team to figure out the things essential for the project and to agree on them.

Infer various "How might we" questions.

UX - Design Thinking Process, Ideate Phase



Brainstorming

To ideate quickly and to generate more ideas (quantity is more important than quality during brainstorming).

Have a high number of variants at hand in a short period of time.

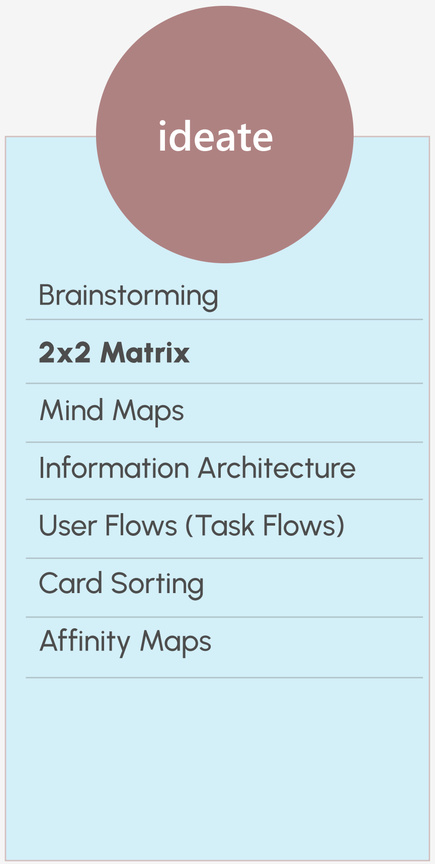
Obtain an interdisciplinary perspective on a problem that represents different skills and knowledge.

Collect ideas and viewpoints from a heterogeneous group.

Inspire enthusiasm and generate momentum.

Define the extent and scope of the ideation process.

UX - Design Thinking Process, Ideate Phase



2x2 Matrix

To categorize and prioritize ideas or identify strategic opportunities and patterns.

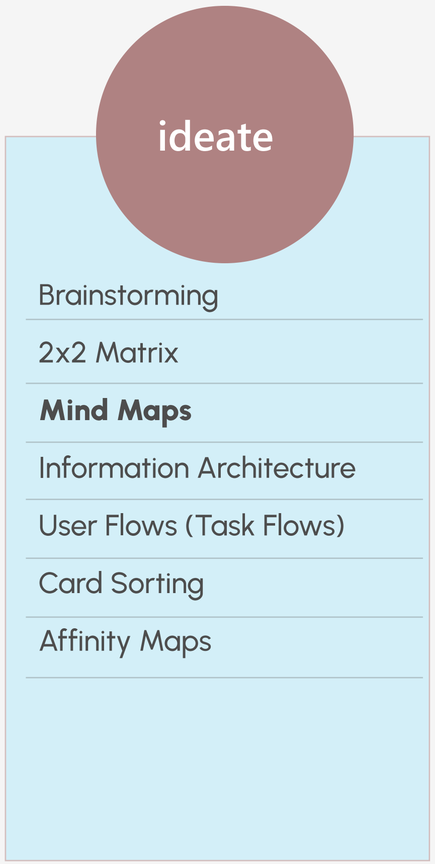
Determine quickly which ideas should be pursued and which ideas should be rejected.

Obtain a first overview of ideas that already have a certain maturity.

Carry out the prioritization of ideas according to strategic innovations, market opportunities, and many other categories.

Use it wherever decisions have to be made.

UX - Design Thinking Process, Ideate Phase



Mind Maps

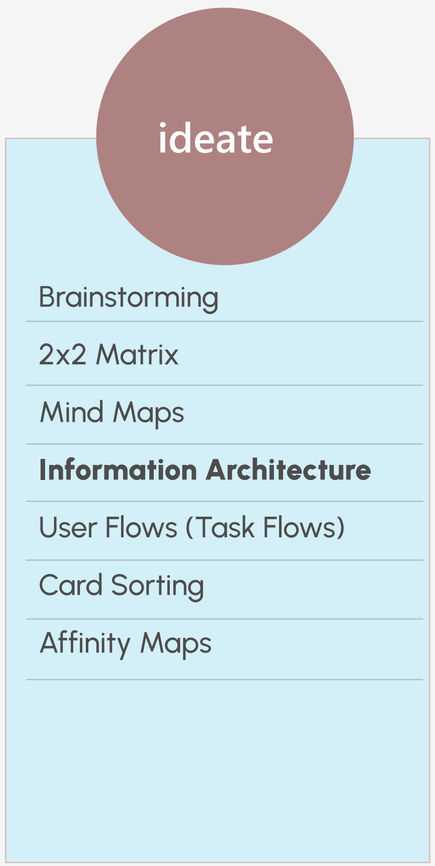
Mind Mapping replicates the way our brains think and the way we absorb information.

Mind Maps are a bit like a tree looked at from above, with its branches radiating out in all directions from the trunk.

Mind Map content is not presented in lines and rows as in continuous text but is actually visualised.

Mind Map is an individual, personalised map, which reveals the thoughts of its creator. This means that Mind Maps are not automatically self-explanatory, since no two people would create exactly the same thought structure. Mind Maps can also be understood by other people.

UX - Design Thinking Process, Ideate Phase



Information Architecture

Information architecture (IA) is a design discipline that is focused on making information findable and understandable

Information architecture is all about: Organising content or objects, Describing them clearly, Providing ways for people to get to them

IA is all about **Context of use, Users and Content.**

Before starting a project we need to understand,
Goals: What are the aims or goals of doing this work?
Technology: What are the technology opportunities and constraints?
Design: Are there design constraints you need to consider?
Culture· : What sort of culture are you working within, and how will that affect your project?
Stakeholders: Who is, and who should be, involved in the project?

The main thing we learn from user research is people look for information they need and people start with a task not looking for any documentation. We need to design the information around users expectation.

UX - Design Thinking Process, Ideate Phase

ideate

- Brainstorming
- 2x2 Matrix
- Mind Maps
- **Information Architecture**
- User Flows (Task Flows)
- Card Sorting
- Affinity Maps

Information Architecture [continued...]

Start with **context of use**: Factors that influence how people interact with you content, navigation and information structures

5 states that affect context are, **Physical**(using mobile, using left or right hand, performing another task), **Environment**(Is it noisy, loud or crowded. Are they standing, sitting or walking in the crowd) **Preferential**(how do they access the content, mobile, table or desktop. Prefer text or audio or video), **Emotional**(How is the person feeling, Is he stressed, Is he motivated) and **Cognitive** (assumptions they make based on what they read and interact with?, ability to learn, skill levels)

The anatomy of IA can be structured as, **Organization systems**(Alphabetical, Chronological, Geographical, Most Popular, Process Order and etc), **Labelling systems**(describe categories, options, and links in language that is meaningful to users), **Navigational systems**(help users move through the content, such as with the custom organization)and **Search systems**(allow users to search the content; when the user starts typing in the site's search bar, a list of suggestions is shown with possible matches for the user's search term.) .

UX - Design Thinking Process, Ideate Phase

- Brainstorming
- 2x2 Matrix
- Mind Maps
- Information Architecture
- **User Flows (Task Flows)**
- Card Sorting
- Affinity Maps

User Flows (Task Flows)

User Flows visualize a process, usually centered around a specific task or function. For web-based processes, User Flows often represent a series of screens that collect and display information to the users. Also known as, flowcharts, flows, Task Flows, process charts.

User Flows at the beginning of your process helps to understand:

The kinds of tasks you need to support through the web site

How different people work together to accomplish a task

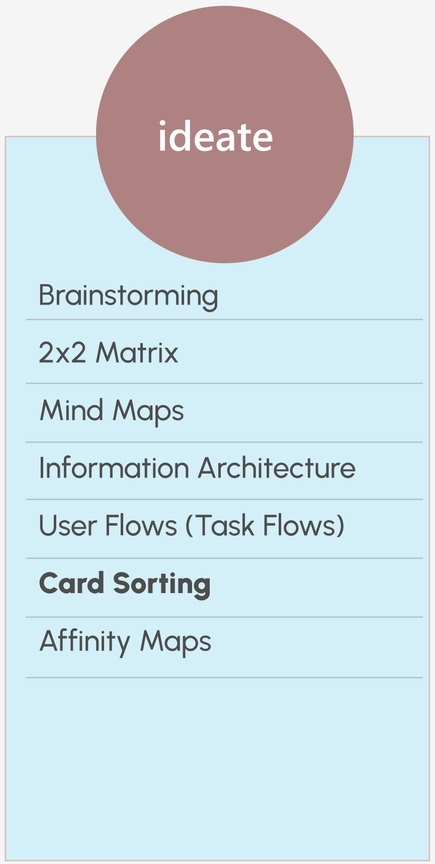
What happens to information after it has been entered into the site

User Flows during the design process helps to:

Describe the series of screens people see to complete a task.

Show an overall application framework—the collection of screens that defines the range of functionality in a web-based application

UX - Design Thinking Process, Ideate Phase



Card Sorting

Card Sorting as a tool used to determine the way information is grouped, labeled, and organized within a site or app by allowing users to sort topics into categories that make sense to them.

Open card sorting means that the participant can create categories of her own, or add concepts that are missing. This approach works well for exploratory work and can allow for new terms to make their way into the project.

Closed card sorting means that the participant is limited to using only the cards provided to her. This method is better for a more evaluative approach, where the terminology or concepts have been well established.

UX - Design Thinking Process, Ideate Phase

ideate

- Brainstorming
- 2x2 Matrix
- Mind Maps
- Information Architecture
- User Flows (Task Flows)
- Card Sorting
- **Affinity Maps**

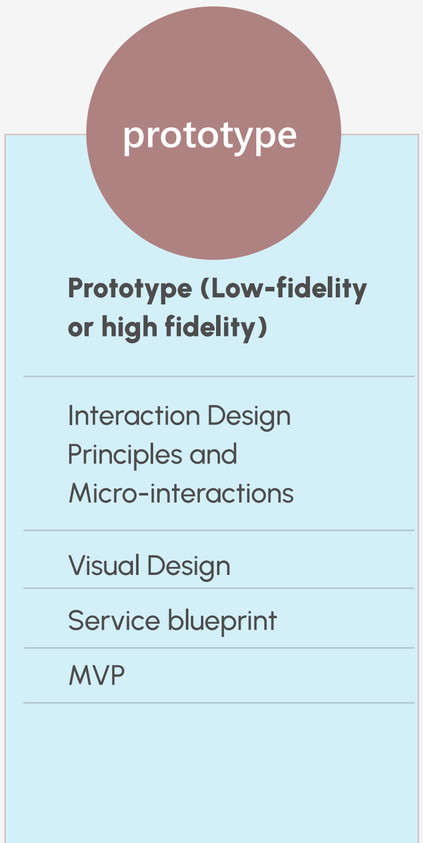
Affinity Maps

An affinity diagram is a method used to organize many ideas into groups with common themes or relationships. Affinity diagrams are tools for analyzing large amounts of data and discovering relationships which allow a design direction to be established based on the associations

Go for volume, suspend judgment, build on each other's ideas and set a strict time limit

Voting: Give each participant dots and ask them to place the dots next to the header of the groups that they think are most important in relation to the design goals. Then tally the number of votes for each group to decide the importance of the themes.

UX - Design Thinking Process, Prototype Phase



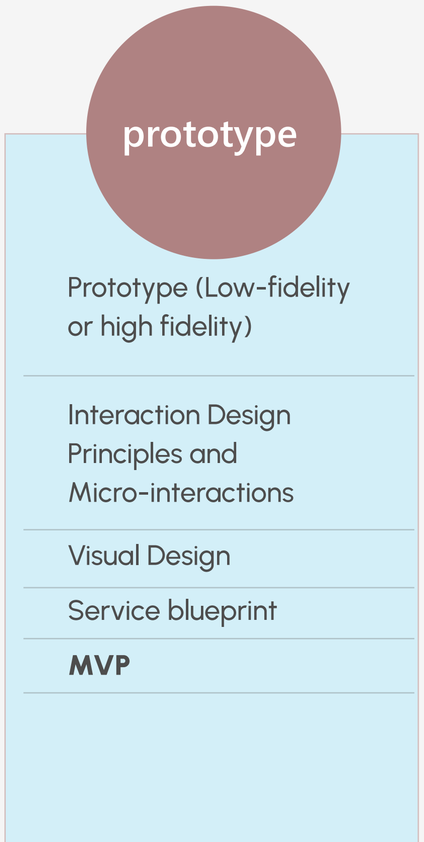
Prototype (Low-fidelity or high fidelity)

Low-fidelity prototype usually includes layout details and other tangible aspects. The intent of a low-fidelity prototype is to quickly and dynamically create a way to iterate and make quick changes to the most basic aspects of the product. It may be considered a higher version of a wireframe; the difference here is that it must be interactive and have basic functions that are possible to test.

High-fidelity prototype is created when the entire visual identity of the product has already been defined, and the time has come to create something as faithful as possible. This mockup will be used not only for usability testing, but also as a guide for developers to get started with the product. The high-fidelity prototype should be mostly similar to the final product and should be navigable and interactive, thus facilitating the work of developers and testers.

Other prototypes are **Conceptual Prototypes and Medium-fidelity (mid-fi) prototypes**

UX - Design Thinking Process, Prototype Phase



Minimum Viable Product

To translate user needs into a simple, functional product and test whether the offer will be successful on the market.

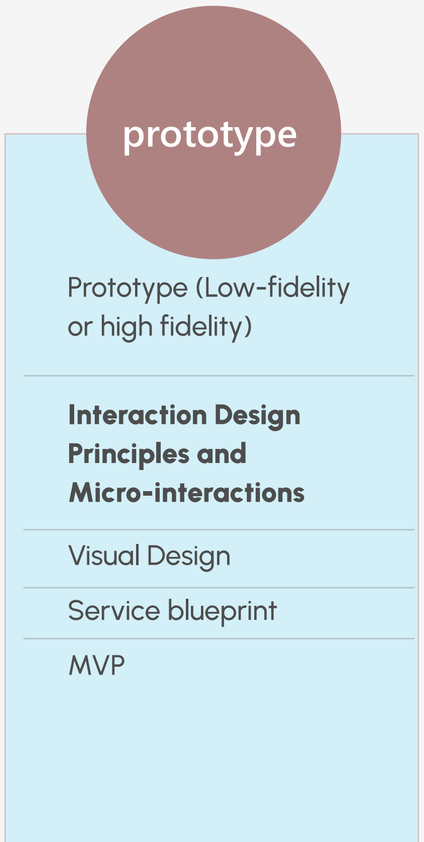
Find out at an early stage whether the basic need is satisfied and the product attracts interest on the market.

Find out through iterative testing whether the user need is met with a minimally functional product and how the product should be enhanced.

Find out through user feedback how much demand there is for the product before developing further details and features.

Minimize the risk of investing in a solution for which there is little demand on the market, thus saving time, money, and energy.

UX - Design Thinking Process, Prototype Phase



Interaction Design Principles and Micro-interactions

The process of designing interactive products while considering how the user will interact with them.

Designers need to:
. Envision how real-life users will interact with their UIs
. Create models to plan interactions in advance
. Revise designs based on user feedback.
. The goal is to create interactions that are maximally user-friendly

5 Pillars of Interaction Design

1.) **Goal-driven Design**, the goals of interaction design becomes very people-centric, especially the target user. We need to use fundamental tactics like **Personas**, **User Scenarios** and **Experience Map**
Note: Experience Map is Different from Customer Journey Map(CJM). Experience Map shows the journey every customer goes through when interacting with brand at multiple channels. CJM focuses on the experience the customer gets when interacting with one specific product/service.

2) **Usability,** A system's usability should be effortless. The less attention the user pays to figuring out how to use the system, the more they can accomplish the task at hand.

UX - Design Thinking Process, Prototype Phase

prototype

Prototype (Low-fidelity or high fidelity)

Interaction Design Principles and Micro-interactions

Visual Design

Service blueprint

MVP

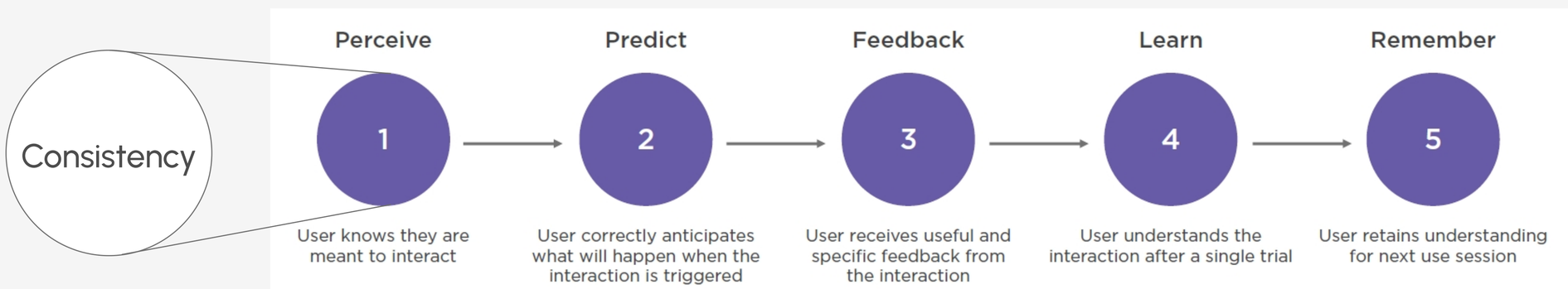
Interaction Design Principles and Micro-interactions [Continued..]

3. Affordances & Signifiers, the concept of affordances is that a function should speak for itself, and suggest its own use (i.e., a road affords walking). Signifiers are what hint at the affordance (i.e., the road's flat surface signals you to walk with your feet).

Without signifiers, users won't be able to perceive the affordance. The play button on a video invites you to watch it, whereas a video with no play button might be mistaken for a static photograph.

4. Learnability, In an ideal world, a user would remember every function after only a single use, but we do not live in idealism. The reality is that familiarity and intuition must be consciously designed into the interface. Successful interaction design boils down this complexity into the most comprehensible manner through consistency and predictability. Learnability encourages people to use products.

5. Feedback & Response Time,



UX - Design Thinking Process, Prototype Phase

prototype

Prototype (Low-fidelity or high fidelity)

Interaction Design Principles and Micro-interactions

Visual Design

Service blueprint

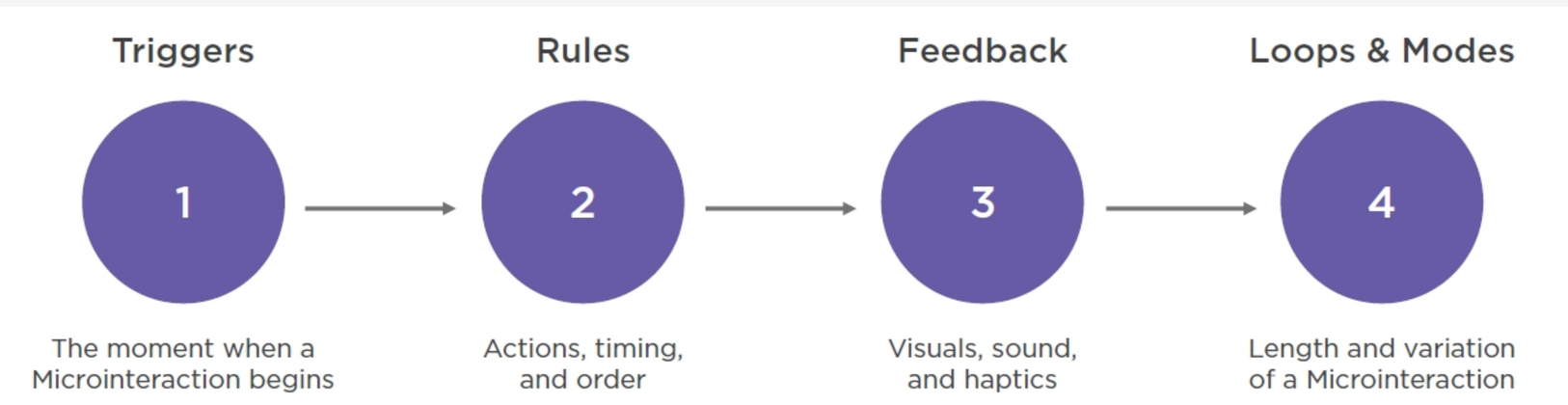
MVP

Interaction Design Principles and Micro-interactions [Continued..]

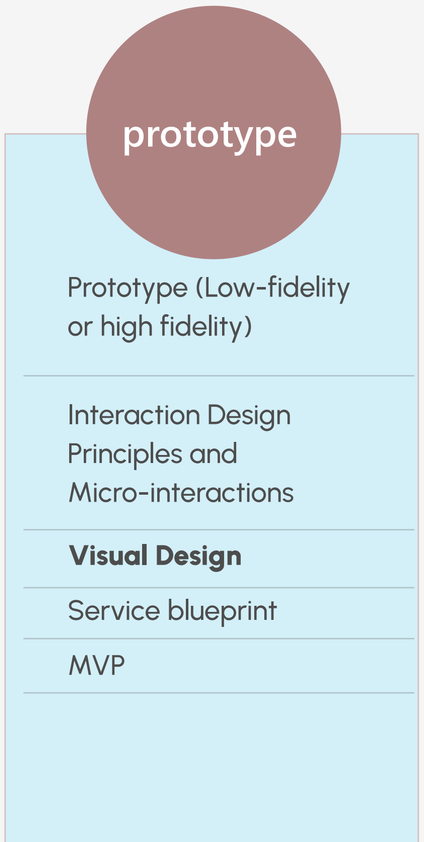
User Flow
The navigation and interaction experiences users will encounter when they are using an interactive product

User Journey
The entire experience users have with a product, from initial impression, all the way to using the product and achieving their goals within it

Micro Interactions, A single, contained interaction with a specific, focused purpose



UX - Design Thinking Process, Prototype Phase



Visual Design

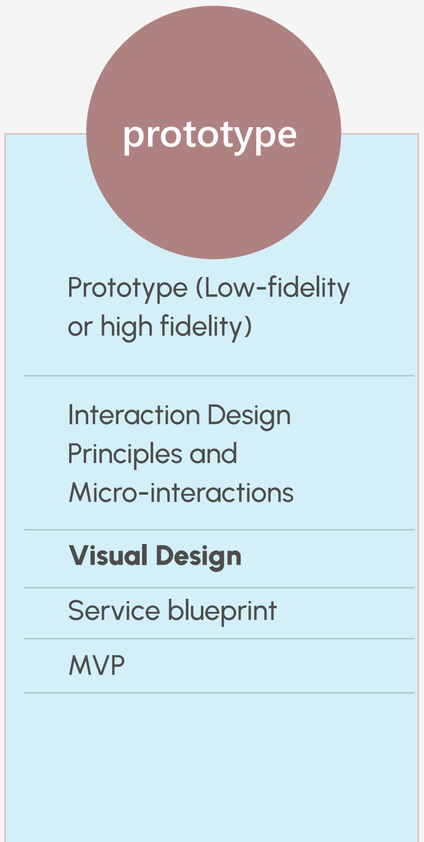
Research. Instead of Jumping straight into a design tool and start designing. We need to do research so we encounter fewer headaches encounter later on. When we are prepared, you can focus on the design tasks in front of you.

Concept. A concept is an idea or style that you build your website around. Concepts are valuable because they turn website into a story. And, people love stories. It makes the content on your site more accessible. It commands every element on the page. Typography, color, style, and copy – they're all attracted to the magnet and do what they're told. This is a good thing because it creates order. All of the elements work together.

Brand. Branding is the way a company talks to you, what it looks like, and how it makes you feel. Brands exist because marketers want us to have a relationship with their business. They want to connect emotionally because emotion-based decisions lead people to spend more money on products.\

Composition. Composition is the placement of visual elements on a page. A good composition will create visual interest. It will present information in a way that doesn't overwhelm the user.

UX - Design Thinking Process, Prototype Phase



Visual Design [Continued]

Alignment. Alignment is stacking elements on top one another, either along the edges or down the center. When elements on a page are aligned, it creates order. If you have several dissimilar elements on a page, aligning them can make them feel related. It helps your design communicate quickly and clearly.

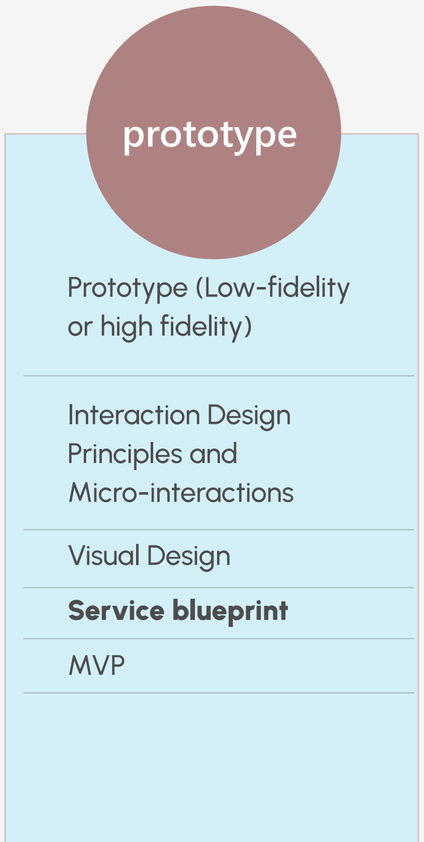
Typography. Good Typography enhance the reading of text in the website. Leading (space between two lines from baseline), Tracking(the space between multiple letters.) and Kerning(Kerning is the distance in between individual letters) have to be used appropriately so that reading is easy. Usage of Sans-Serif(people can read it easily) for body copy and Serif Fonts only for headings.

Hierarchy. Every website will have some elements that are more important than others. Often the first element a user sees is large, and the less important parts are smaller. The hierarchy and composition are closely related. A good composition often has nice hierarchy.

Color. Colors carry a variety of psychological messages that can be used to influence the verbal sense of typography. Selecting a color for specific words in a composition can influence the user in their actions. But this is true not only for typography colors can have a huge influence on communication, and can result in a good or bad user experience.

Gestalt's Principle

UX - Design Thinking Process, Prototype Phase



Service Blueprint

To acquire a common understanding of the interaction and the processes that have an impact on customer satisfaction, target achievement, and efficiency.

Expand the customer journey map by integrating supporting technologies, data, and customer interactions for each phase of the "journey."

Tackle key issues in the development of new products or services, for example, whether a service covers all customer needs or whether all pains have been eliminated.

Carry out a visualization of interactions with a customer at different levels (e.g. front stage, back stage, supporting processes).

Define key performance indicators (KPIs) in terms of quality and time of the interactions.

The service blueprint also takes into account back-office processes and supporting processes, as well as new regulations and technologies.

UX - Design Thinking Process, Test Phase

test

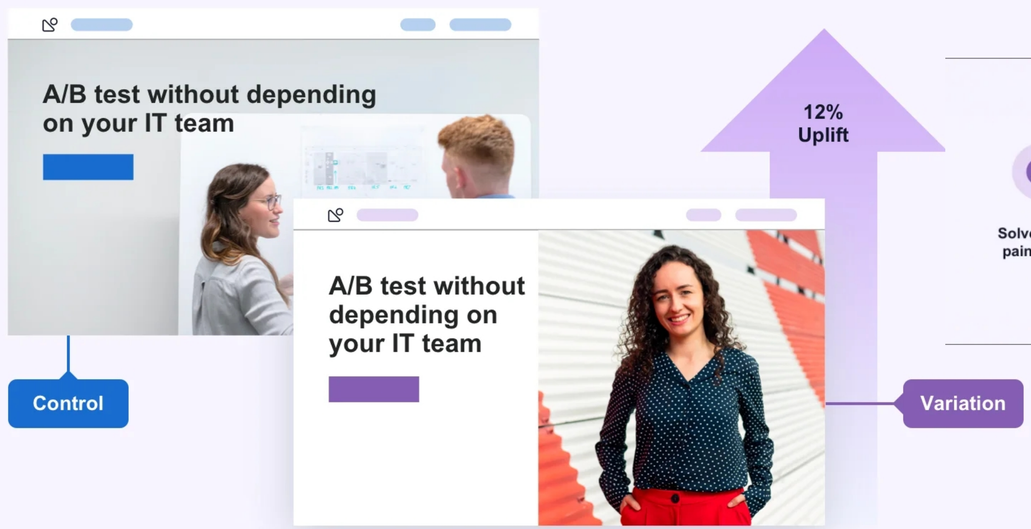
A/B Testing

Guriella Usability Testing

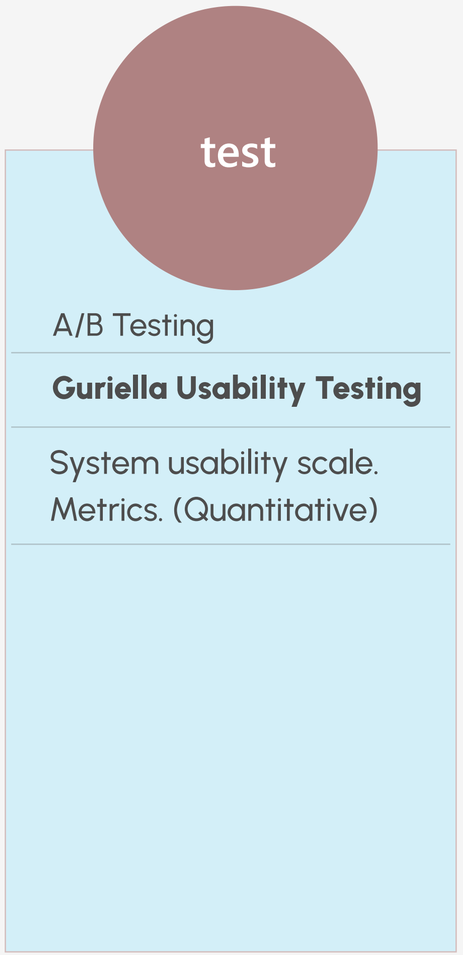
System usability scale.
Metrics. (Quantitative)

A/B Testing

A/B testing, also known as split testing, refers to a randomized experimentation process wherein two or more versions of a variable (web page, page element, etc.) are shown to different segments of website visitors at the same time to determine which version leaves the maximum impact and drive business metrics.



UX - Design Thinking Process, Test Phase



Guriella Usability Testing

Guerrilla testing (also known as hallway usability testing) is a relatively fast and informal way to test ideas, to get high-level feedback, and potentially uncover user experience problems. It can be done pretty much anywhere: a coffee shop, a shopping center, or on the street. Ideally, you'll test between 8–10 users as part of your hallway test, with each usually lasting for around 10 mins.

The good things about guerrilla testing

You can move fast.
If you have no research budget, it's better than no testing at all.
It's super cheap compared to more formal research.
It can be a great way to validate/invalidate early assumptions.
It can be an excellent way to identify areas to do deeper research on.
It can work well with small-iterations type work.

The not so good things about guerrilla testing

Guerrilla testing should not replace formal user testing.
Not a lot of time spent with participants, so you're restricted to a small part of the flow.
It may be more difficult to convince stakeholders about the insights you generate.
The people you chat with may not be the types of people that will use your product.

UX - Design Thinking Process, Test Phase

test

A/B Testing

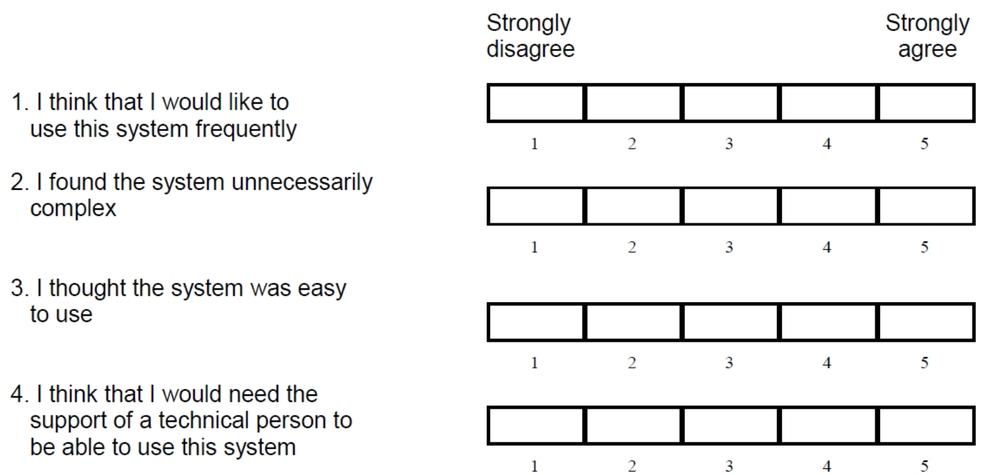
Guriella Usability Testing

System usability scale. Metrics. (Quantitative)

System usability scale.

System Usability Scale (SUS) is a questionnaire that is used to evaluate the usability of products and services. These survey questions are used as a quantitative method to evaluate and get actionable insights on the usability of a wide variety of new systems which may be either software or hardware.

The System Usability Scale consists of only 10 questions, which are answered using a Likert scale. The range goes from "I strongly agree" to "I strongly disagree". System Usability Scale is used extensively to evaluate the usability of software and websites. It is used as a tool that can be implemented easily and in less time. Many users also call this tool "quick and dirty usability scale"



To calculate the SUS score, first sum the score contributions from each item. Each item's score contribution will range from 0 to 4. For items 1,3,5,7,and 9 the score contribution is the scale position minus 1. For items 2,4,6,8 and 10, the contribution is 5 minus the scale position. **Multiply the sum of the scores by 2.5 to obtain the overall value of SU.**

For Question 1,3,5,7,9 = scale position - 1
For Question 2,4,6,8,10 = 5 - scale position

Sum of scores (Question 1 to 10) x 2.5 = System Usability

UX - Design Thinking Process, Implement Phase