Unit 3

IDEATION

Challenges that can arise in the idea generation

Lack of Creativity: This can be due to various factors such as fear of failure, lack of inspiration, or a rigid mindset.
Groupthink: When team members prioritize consensus over individual ideas, it can stifle creativity and lead to less innovative solutions.
Dominant Personalities: Individuals with strong personalities can dominate discussions, hindering the contributions of quieter or less assertive team members.
Premature Judgment: Rushing to evaluate ideas before fully exploring their potential can lead to missed opportunities.
Fear of Failure: A fear of failure can prevent team members from taking risks and sharing unconventional ideas.

Lack of Clarity: If the problem statement or design challenge is not clearly defined, it can be difficult to generate relevant and focused ideas.

Time Constraints: Limited time for ideation can restrict the number and quality of ideas generated.

Lack of Diverse Perspectives: A homogeneous team may struggle to generate diverse and innovative ideas.

Difficulty in Shifting Mindsets: Moving from a critical mindset to a creative one can be challenging, especially for those accustomed to traditional problem-solving approaches.

Strategy to overcome these challenges

- **Encourage Brainstorming:** Create a safe and supportive environment where team members feel comfortable sharing ideas without fear of judgment.
- **Use Ideation Techniques:** Employ techniques like mind mapping, SCAMPER, or design thinking exercises to stimulate creativity.
- **Foster Collaboration:** Encourage cross-functional collaboration to bring diverse perspectives to the table.
- **Challenge Assumptions:** Question existing assumptions and explore unconventional solutions.
- **Embrace Failure:** View failure as an opportunity to learn and iterate.
- **Set Clear Goals:** Define the problem statement and desired outcomes to guide the ideation process.
- **Allocate Sufficient Time:** Give the team adequate time to generate and explore ideas.
- **Diversify the Team:** Include individuals with diverse backgrounds and experiences to foster creativity.
- **Practice Mindfulness:** Engage in mindfulness techniques to clear the mind and enhance focus.

"Visualize, Empathize, and Ideate" method

Creative problem-solving approach that encourages you to:

1. Visualize: Start by creating a clear mental image of the problem or challenge you want to solve. This can be done through sketches, diagrams, or even just imagining the situation in your mind.

2. Empathize: Put yourself in the shoes of the people affected by the problem. Understand their needs, wants, and frustrations. This will help you generate solutions that truly address their needs.

3. Ideate: Brainstorm a wide range of ideas for solving the problem. Don't worry about judging the ideas at this stage; just focus on generating as many as possible.

This method can be applied to a variety of challenges, from personal to professional.

Why do we visualize and empathize before Ideation

Visualization Grounds Ideas in Reality

- **Clarifies the Problem**: Visualization helps in concretizing abstract ideas. By sketching, mapping, or prototyping, you make intangible concepts more tangible, which allows you to better understand and communicate the problem you're addressing.
- **Reveals Connections and Patterns**: Through visual tools like mind maps, flowcharts, or user journey maps, you can identify patterns and relationships within the problem space that may not be immediately obvious. This can guide you toward more holistic solutions.
- **Fosters Creativity**: Seeing things visually opens up new possibilities and ways of thinking. It can spark creativity by showing what's already been tried, what might work, or even uncovering things that haven't been considered yet.

Empathy Ensures the Solution Is Relevant

- **User-Centered Focus**: Empathy involves understanding the needs, emotions, challenges, and desires of the people you're designing for. By connecting with the target audience on an emotional level, you ensure that your ideas are not only practical but also relevant and meaningful to them.
- **Deepens Insight into Problems**: Empathizing allows you to step into the shoes of the user and truly see the world through their perspective. This enables you to uncover pain points or opportunities that you might not have noticed otherwise. A deeper understanding of the user's context leads to more effective and innovative solutions.
- **Builds Emotional Connection**: Solutions that are designed with empathy tend to resonate more with users, creating stronger emotional connections and higher user satisfaction. When people feel understood, they are more likely to engage with or adopt a product or service.

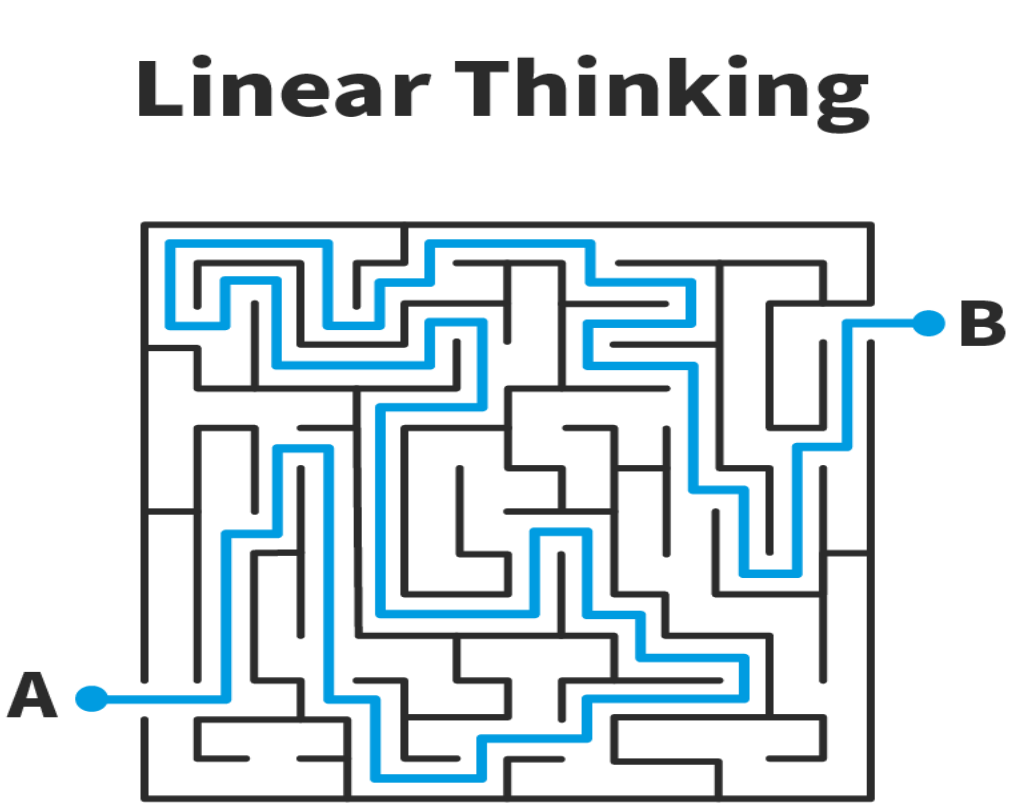
Key Elements of Creating Thinking in Design Thinking

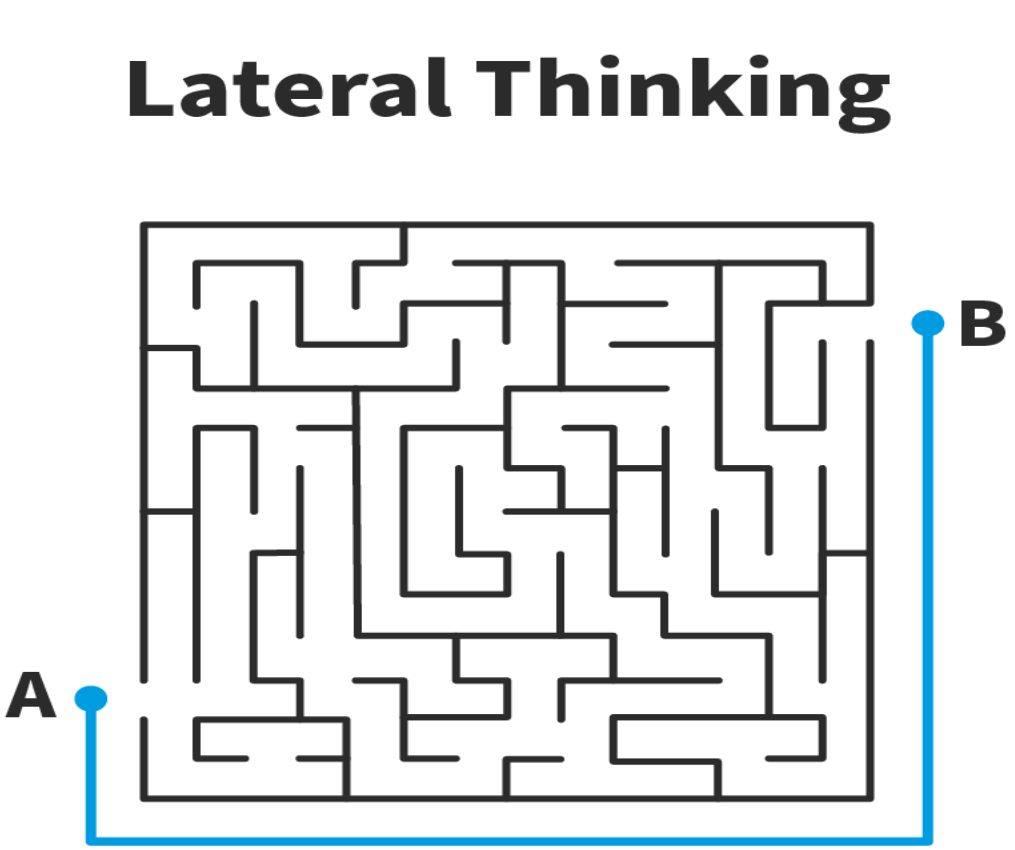
- **Divergent Thinking**: In the early phases, it is crucial to think **broadly**, generating a wide variety of ideas without constraints. Divergence allows you to explore multiple possibilities, fostering innovation and creativity.
- **Convergent Thinking**: As the process progresses, it's important to narrow down the ideas, focus on the most promising ones, and begin refining them. This convergence ensures that you can identify practical and effective solutions.
- **Collaboration and Co-Creation**: Design Thinking thrives on collaboration. **Creating thinking** encourages designers to work together, drawing on diverse perspectives and skills. Co-creation with users, stakeholders, and experts enriches the design process, leading to more inclusive and innovative solutions.

- **Fail Fast, Learn Fast**: The iterative nature of Design Thinking emphasizes that failure is an essential part of the creative process. Instead of fearing failure, **creating thinking** encourages designers to experiment quickly, learn from mistakes, and adjust based on insights. This mindset helps eliminate potential dead ends early, accelerating progress.

Lateral Thinking

- Solves problems which are difficult using Linear Thinking





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Rather than be trapped by logic and assumptions, you learn to stand back and use your imagination to see the *big picture* when you:

- **Focus on overlooked aspects of a situation/problem**.
- **Challenge assumptions** – to break free from traditional ways of understanding a problem/concept/solution.
- **Seek alternatives** – not just alternative potential solutions, but alternative ways of *thinking about problems*.
- When you do this, you tap into **disruptive thinking** and can turn an existing paradigm on its head.

Notable examples of Lateral Thinking

- The mobile defibrillator and mobile coronary care – Instead of trying to resuscitate heart-attack victims once they're in hospital, *treat them at the scene*.
- Uber – Instead of investing in a fleet of taxicabs, *have drivers use their own cars*.

When to use

Use lateral thinking early in the divergent stages of ideation. You want to **reframe the problem** and:

- **Understand what's constraining you** and **why**.
- **Find new strategies to solutions** and **places/angles to start exploring**.
- **Find the apparent edges of your design space** and **push beyond them** – to reveal the bigger picture.

PROVOCATIONS

- M**ake deliberately false statements about an aspect of the problem/situation**.
- This could be to **question the norms through contradiction, distortion, reversal** (i.e., of assumptions), **wishful thinking** or **escapism.**

Problem:

Educating kids is expensive, labor-intensive, time-consuming and hard to forecast a good curriculum for in a volatile job market.

Provocations:

- Just let them read textbooks at home and evaluate/grade/mark their own work.
- Invent computer biochips that contain everything they'll need to know and surgically implant these in their heads.
- Ask them what career they want when they're 5-year-olds and guide their studies so they can start (e.r.) technical college as 10-year-olds.

The Bad Ideas

- You think up as many bad or crazy ideas as possible, but these might have potentially *good* aspects (e.g., helping children specialize in desired subjects earlier).
- You also establish *why* bad aspects are bad (e.g., inserting biochips would be a gross violation of human rights).

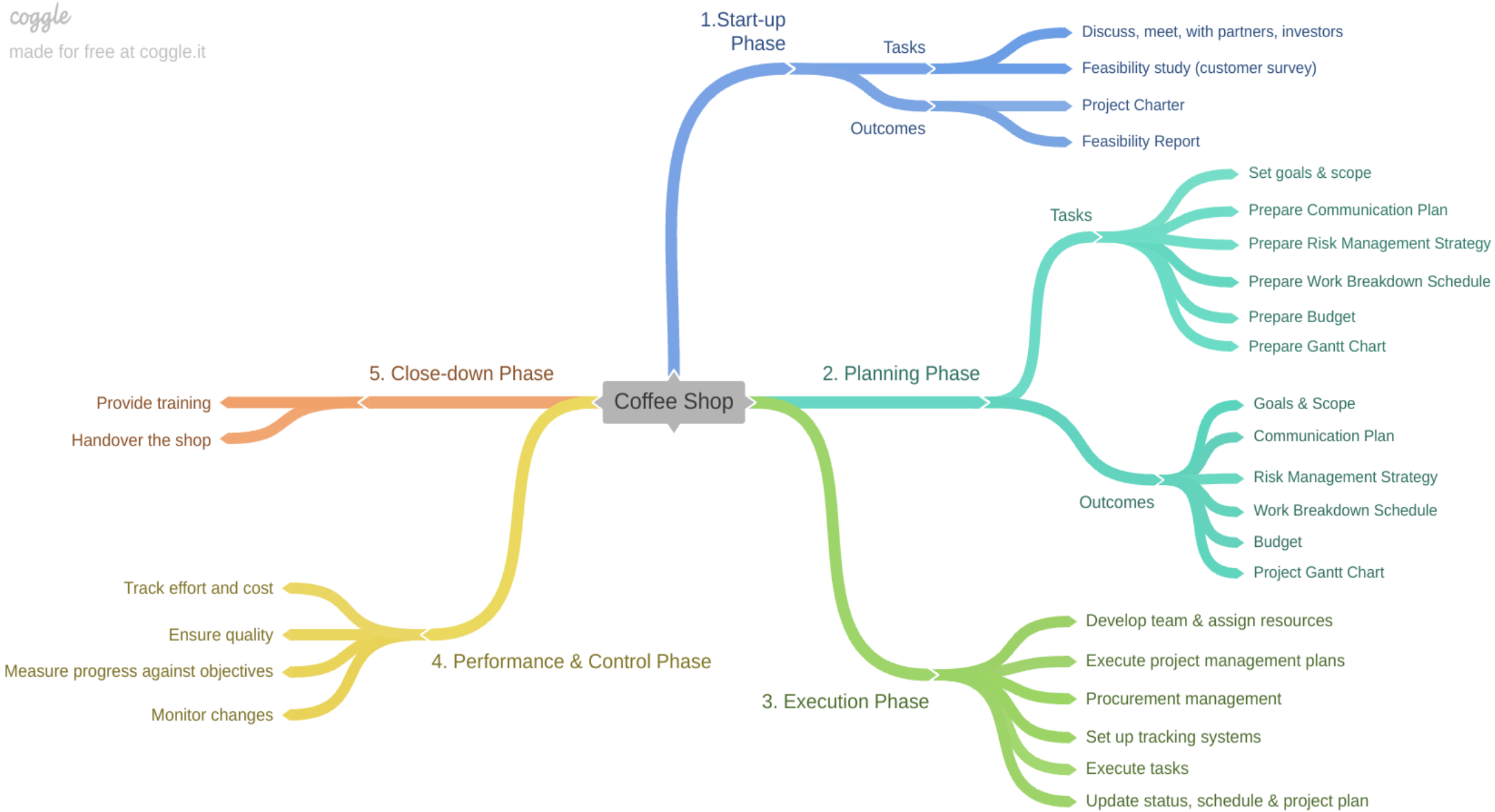
Mindmaps

- Every notion that might flow in the humanitarian brain could be viewed as a part of the mind-mapping anatomy.
- The concept of mind mapping begins with a clear idea and develops into subcomponents.
- You are likely to come across hierarchical lines or the main branches as well as relationship lines that appear as dotted lines on a mind map.
- A mind map can also have images or icons.
- Most importantly, there is no rigid structure to mind maps. They are free-flowing as a person’s thought process.

How to Use Mind Maps?

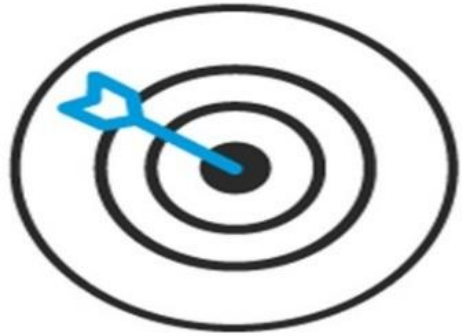
The designers and engineers must follow the reasons listed below to construct a mind map with goals:

- Choose the central keyword.
- Write the components related to the central keyword.
- Break the components into sub-components.
- Collect all relevant data surrounding the primary term for deeper product knowledge.



Brainstorming

Set a time limit



Target a problem/goal

No judgment or criticism

Encourage all ideas

Aim for quantity

Build on ideas

Stay visual

Allow one conversation at a time

How Might We??

- Allows designers to reframe and open up their **problem statements** for efficient, targeted and innovative ideation sessions to help solve design challenges.
- HMW is the bridge between the Define and Ideate stages of the design thinking process.

“How Might We” Formula

How Might We + **Intended Action** (as an action verb) + **For** + **Potential User** (as the subject) + **So That** + **Desired Outcome**

For example:

- How might we **provide healthier meals** for **teenagers** so that **they stay away from junk food**?

How to Create HMW Statements: Example

- **In the context of sustainable practices:** A rural community struggles with the environmental impact of single-use plastic, and there's a need to find sustainable alternatives.
- **Problem statement:** A village community needs to decrease their use of single-use plastics and find better alternatives because it negatively impacts their environment.
- **HMW questions:**
- How might we encourage community members to adopt reusable alternatives for everyday items like bags and containers?
- How might we collaborate with local businesses to reduce the use of single-use plastic in packaging?
- How might we make sustainable alternatives more accessible and affordable for a diverse range of community members?

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Storyboard Worksheet

Overview: Visualize the Customer's Experience (approx. 60 minutes)

Storyboarding is a creative method sourced from companies within the film industry, such as Pixar. Storyboarding is typically used by Design teams during the early prototyping stage. Storyboarding helps the team to tell the story of the customer's journey and experience that will be created by the solution they are proposing.

Instructions

Using the provided template, dry erase board, or flip chart paper complete the following activities.

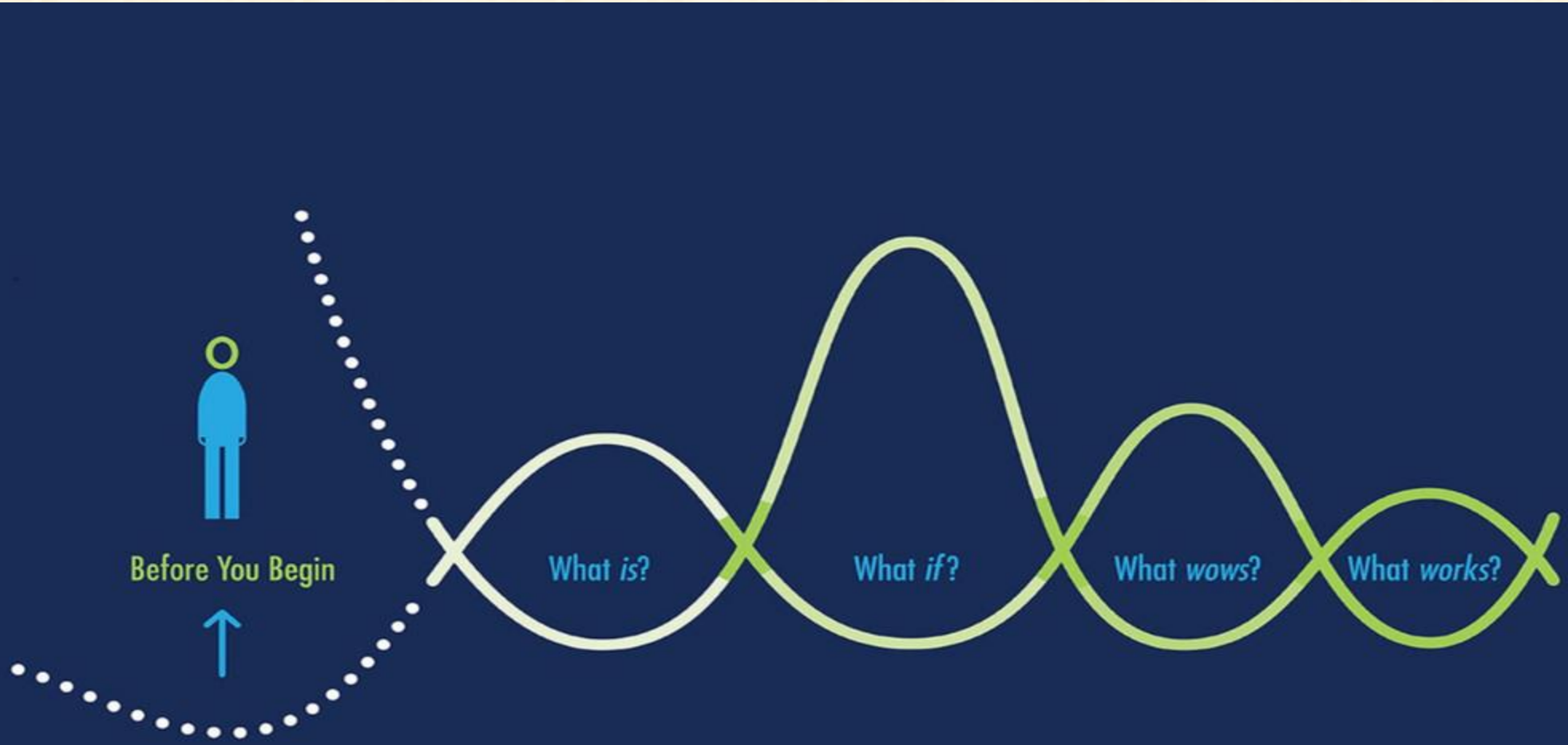
Draw sketches, diagrams, callouts, etc. to convey what is happening in each scene. Add notes to help explain in greater detail.

1. ***Start with the end in mind**. In other words, create your final scene first. This final scene clarifies what success looks like for the customer.*
2. ***Create your opening scene.** Clarify how the customer finds your company and how the customer's journey starts.*
3. ***Fill out the story.** Describe the steps and activities that the customer takes between the start and end of the journey. How does the customer interact with your solution?*
4. ***Share your story and ask for feedback.** After you have completed a draft of your storyboard, share it with other members of the Design team, or even the customer to collect feedback.*

Opening Scene:
How does the customer journey start?

Closing Scene:
How does the customer journey end?
What does success look like?

A mindset for innovation, and asking "What if?" asking "What wows?" and "What works?"



What is?

- The first of the questions is “What is?” which explores the status quo, the current reality.
- We need a precise assessment and empathic understanding of what is happening today before we can start designing for tomorrow.

What if?

- Now, we should be ready to ask the second question – “what if?” At this stage, we start to generate ideas and delve into possible opportunities/solutions.
- By now we would have reviewed the information/data we have gathered. The discovery we have conducted should have enabled us to identify both insights and patterns, which subsequently would have been translated into specific design criteria.

What wows?

- IF were successful in the first two stages of design thinking, we will soon discover that we have a plethora of compelling concepts.
- Whether we like it or not, it would be virtually impossible to move forward with all of them at once.
- While we dwindle the number of concepts to something we can actually manage, we should focus on the wow spot.

What works?

- We have now reached the fourth and final stage – “What works?” where the ideas that have made it through the previous three stages will now be turned into small-scale prototypes. The feedback we will gather from the users will enable us to iterate and improve our solution.