



# Design Thinking

## Phase 1: Understand

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# Learning Objectives.



**By the end of this module, you will:**

- 1. Be familiar with the objectives of the “Understand” design phase**
- 2. Be familiar with some methods/tools used in this phase**
- 3. Have practiced using some methods/tools related to Understanding**
- 4. Have practiced thinking through problem statements and developing design briefs**

# Phase 1: Understand.



**In the Understand phase,  
we work to frame the  
overall design challenge  
and research and reflect on  
overall context for our work.**

**In this phase,  
we also review our  
assumptions about the  
design challenge topic.**

# Mindsets for the Understand phase.



## **Mindsets for the Understand Phase:**

- 1. Seeing system overviews**
- 2. Foreseeing trends**
- 3. Reframing problems**
- 4. Forming an intent**



# Methods for the Understand phase.



## Methods for the Understand Phase

- 1. Defining problem statements**
- 2. Reviewing context**
  - *Desk research*
  - *Expert interviews*
  - *Using a plant metaphor to explore a topic*
  - *Convergence maps*
  - *From–To Matrix*
- 3. Writing a design brief**

# Framing the design challenge.



## Framing the design challenge.

- **Create an initial definition of the problem you are trying to solve**
  - *Write it as a short, simple question (for example, "How might we...?")*
  - *Summarize intended impact*
- **Review context and assumptions**
- **Revise the problem statement**



# Types of problems.

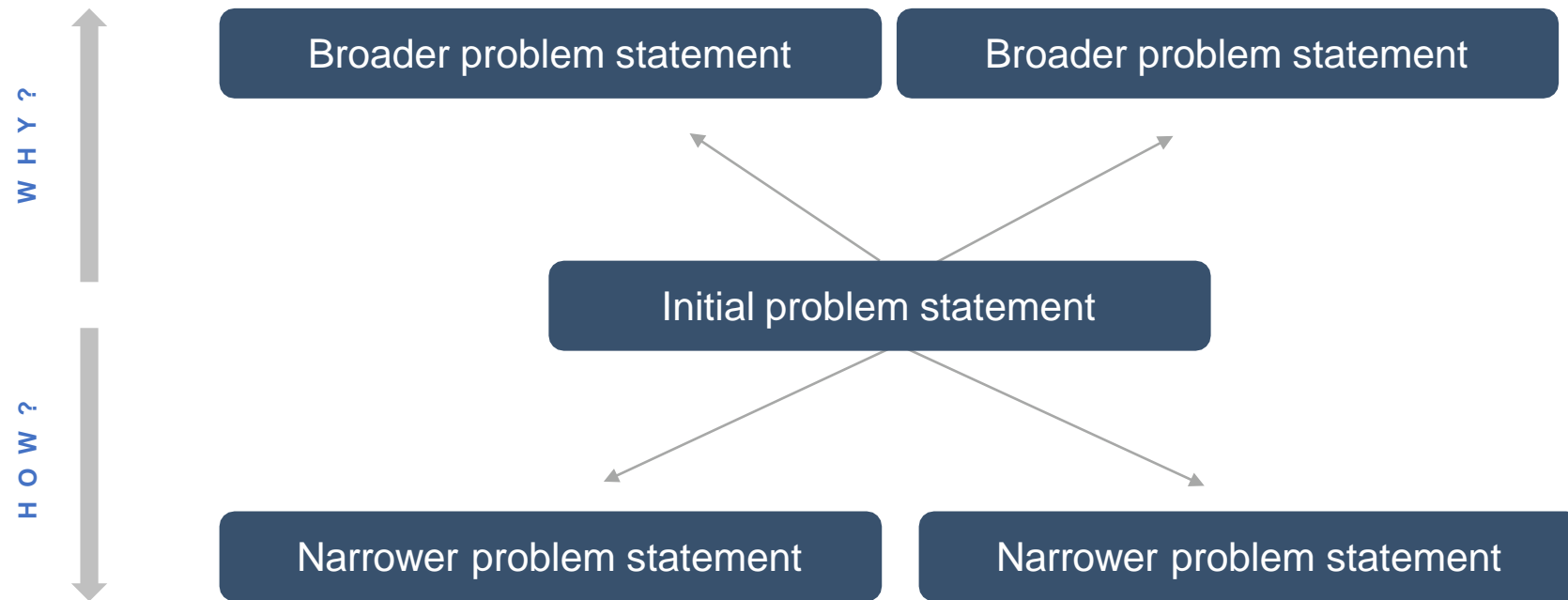
## Types of Problems

- **Well-defined**
- **Ill-defined**
- **“Wicked problems”**
  - *These are the biggest design challenges and can lead to the greatest impact!*

Exploring levels of problem  
statements.



Exploring levels of problem statements.





Introducing–Team design challenges.

## Team design challenge topics

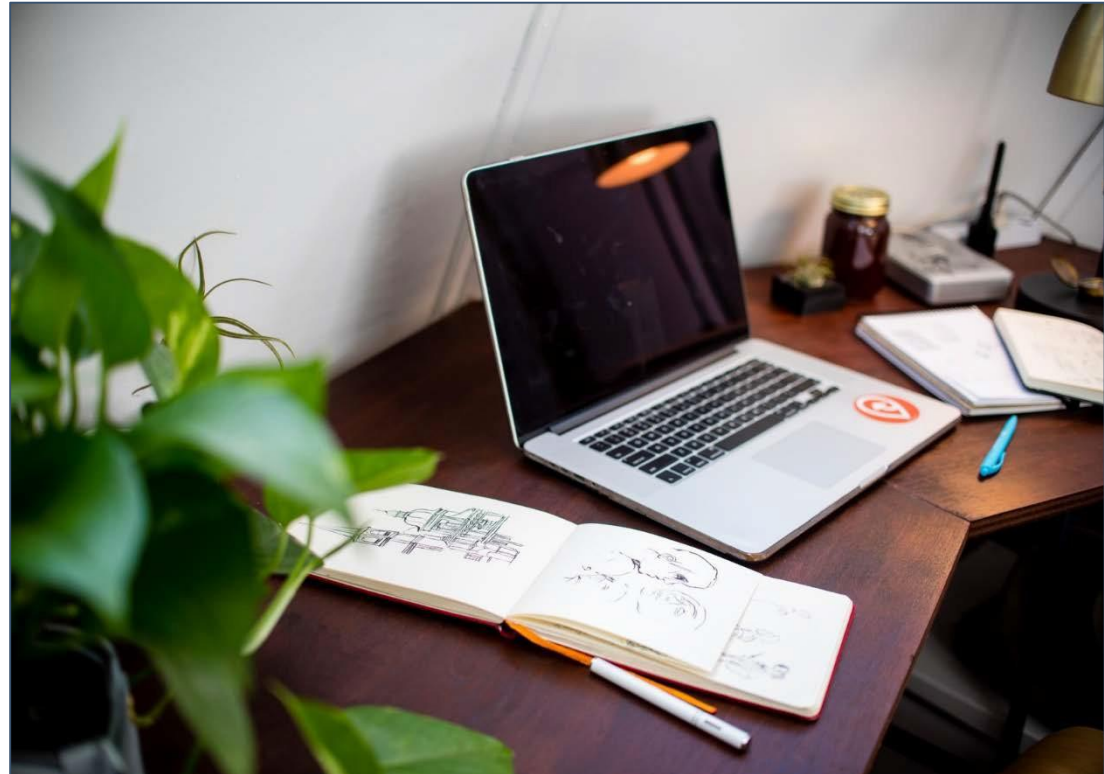
Team #	Design challenge topic
1	How might we improve waste management in Nigeria?
2	How might we expand access to clean water in Lagos?
3	How might we encourage tourism in Lagos?
4	How might we expand affordable housing in Lagos?
5	How might we improve access to nutrition in Nigeria?
6	How might we prepare Nigerians for the future world of work?
7	How might we make the average Nigerian safer?
8	How might we make Nigeria more environmentally friendly?

# Methods: Review Context.

# Desk research

Can include activities such as:

- Internet searches
- Literature reviews - reading relevant books/journal articles (focusing on evidence)
- Popular media searches



# Expert interviews

**Can deepen our understanding of context for a design challenge and help us understand trends**

**Process:**

- Identify topics to research
- Identify experts in that field (e.g., professors, authors, industry leaders)
- Prepare interview questions
- Conduct the interview
- Listen and document findings



# Conducting research using a plant metaphor

One approach to conducting research and preparing interview questions about industry trends is using a plant metaphor:

- **Seeds** - what are the early, emerging trends?
- **Soil** - how are the fundamentals affecting growth?
- **Atmosphere** - how are surrounding conditions affecting growth?
- **Plant** - how do innovations grow to become robust?
- **Water** - what catalysts affect growth, and how?

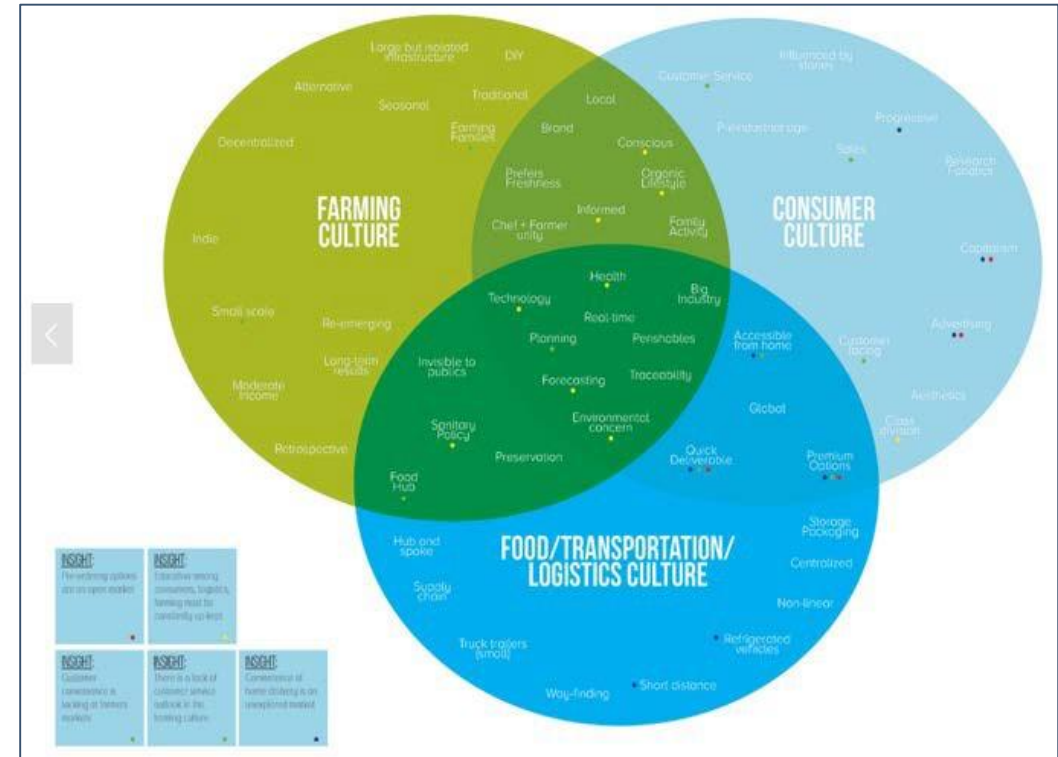


# Convergence maps

- Illustrates how industries or areas of daily life overlap.
- Useful when working with trends/changes, to identify new opportunities at the intersection of these topics.

## Process:

1. Identify topics
2. Identify and summarize trends
3. Build a Venn diagram showing overlapping regions
4. Identify opportunities




## Trends Matrix (From–To Matrix)

- Can deepen our understanding of context for a design challenge and help us understand trends.
- By category, map out what happened in the past, what is happening now, and emerging trends/anticipated future scenarios.

	Formerly	Currently	Emerging
Users			
Service			
Market			
Culture			
Technology			
What else?			



# Preparing Design Briefs.



## Preparing design briefs

- **Documenting the problem statement and some additional plans for the design process cements a common understanding within the team**
- **For design projects undertaken with certain constraints (for example, budgets or deadlines), the brief should also clearly define those parameters**

### Design Brief – Sample Outline

Why? - Problem

Who? - Target customer

What? - Goals

With what? - Available materials

Who else? - Competition, potential partners

How much? - Budget, other restrictions

When? - Schedules, deadlines

How? - Next steps

# Activity: Preparing Design Briefs.

## **Class Activity 8: 20 minutes (Time)**

### **Activity:**

**Prepare a design brief based on your team's design challenge and selected problem statement. Document the following at a minimum:**

- **Why? - Problem**
- **Who? - Target customer**
- **What? - Goals**

**Think about: what already exists? What is missing from existing solutions?**

## Key Learning Points

1. In the Understand phase, we think broadly about a design challenge, working to understand context and trends and identify opportunities for change.
2. In addition to conducting general desk research, using some structured methods such as a Trends Matrix can help teams think through context of a design challenge.
3. Starting with a clear problem statement (for example, in “How might we...” format) and a design brief can give design teams a good sense of direction.
4. Defining the problem may be challenging, particularly when tackling ambitious/complex problems. If teams are stuck debating the problem statement, have a “bias for action” and get started - the problem statement can be refined as work gets underway.



# QUESTIONS?

You have the floor...



# THANK YOU!

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