PRODUCT ENGINEERING MINDSET - WORKSHOP

Balaji Thiruvengadam

DAY 2 - AGENDA

Recap of day1
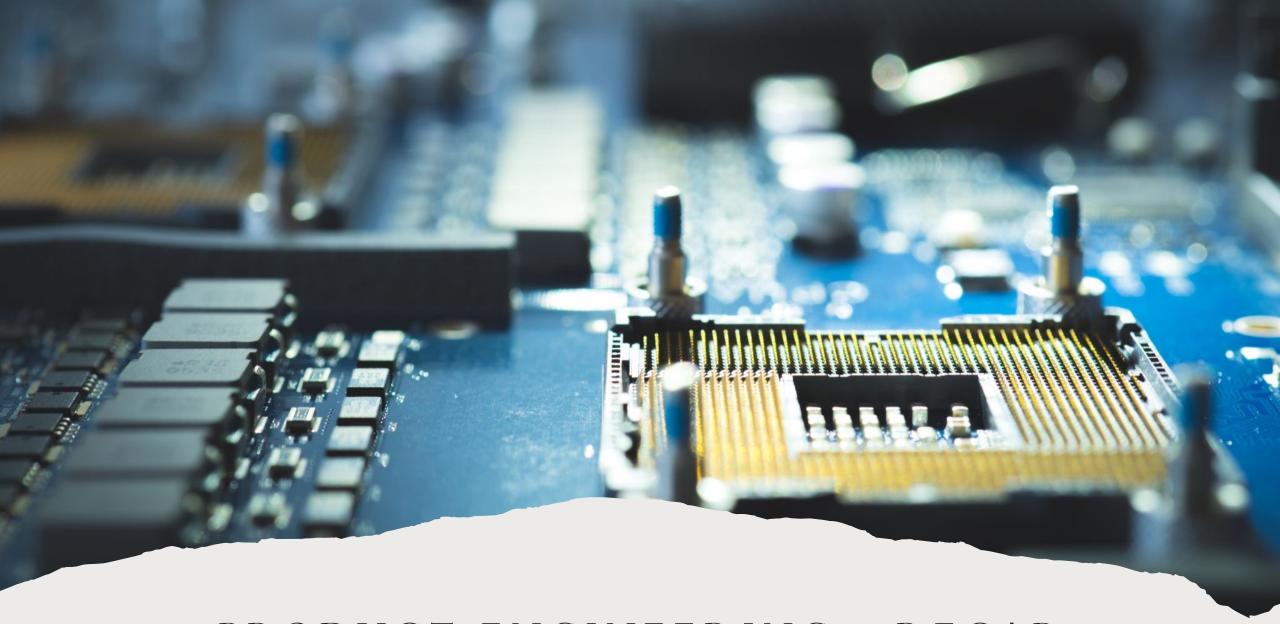
Swiggy problem Exercise: Understanding persona

Fundamentals of Human centric design approaches

5 stages : Ideate to Validate

Convergent and Divergent Thinking

How Human computer interactions are essential
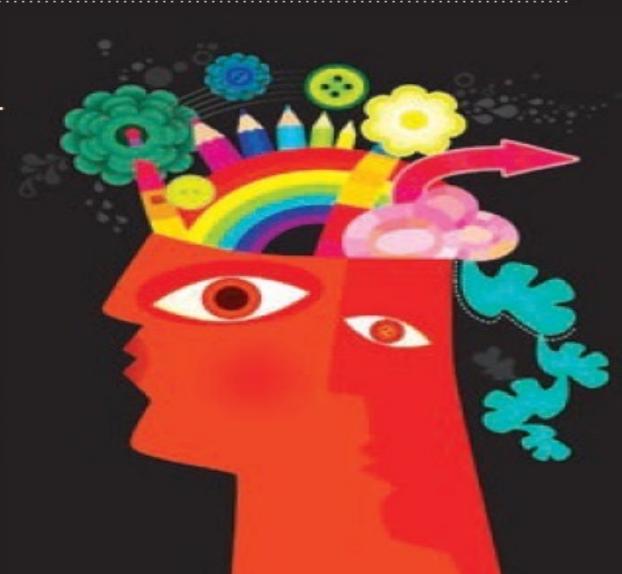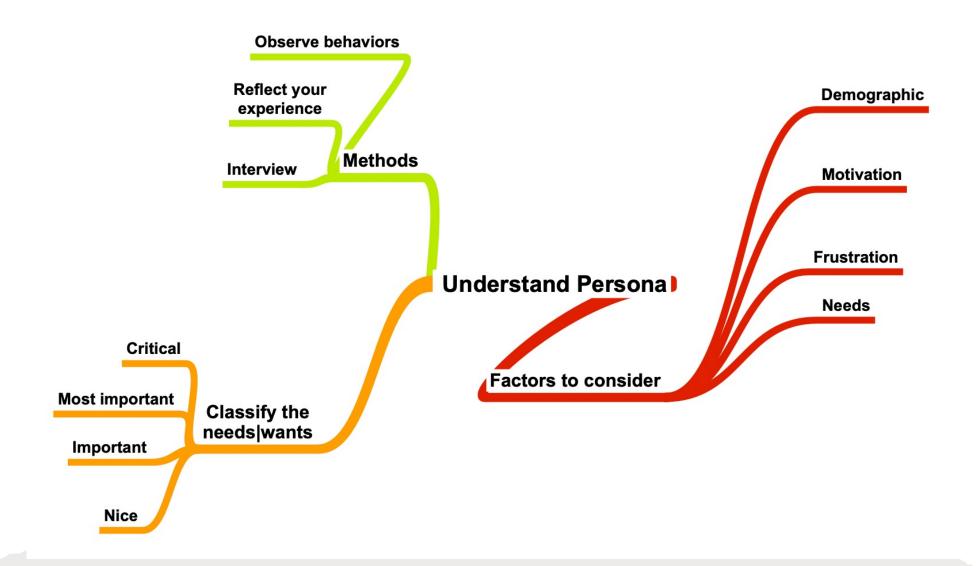
Building device agnostic experience
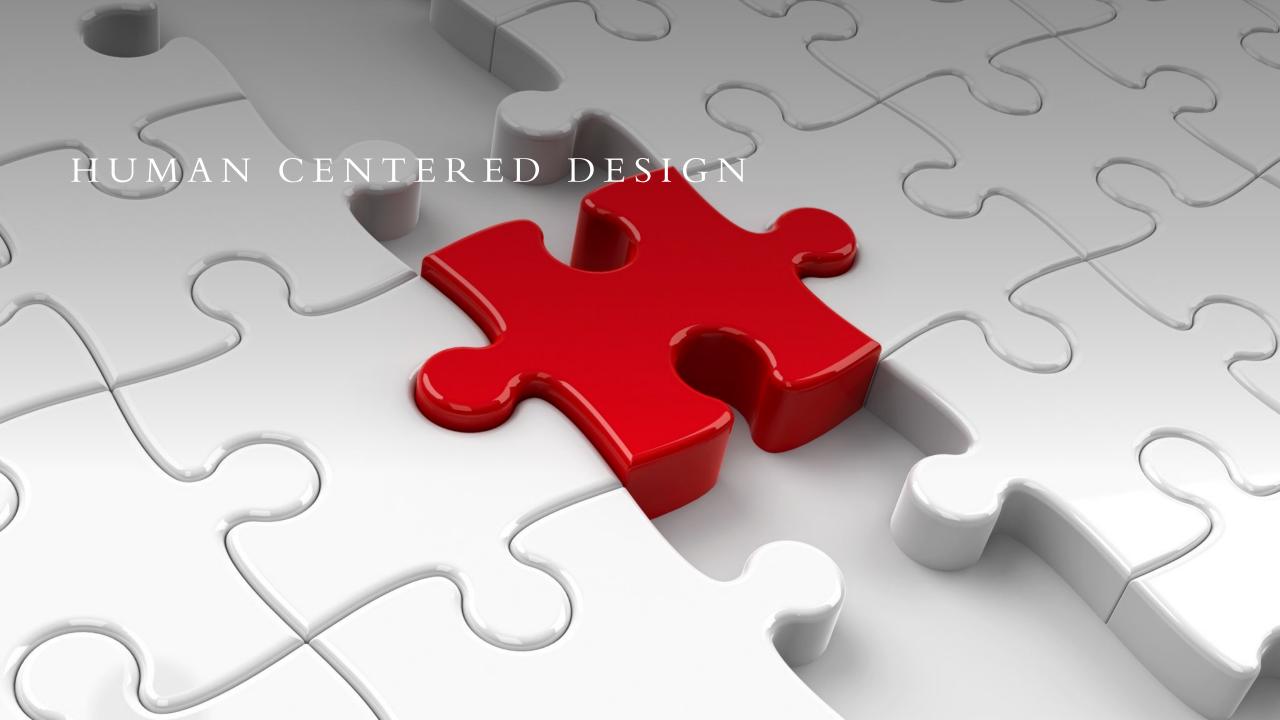
PRODUCT ENGINEERING - RECAP

What is Design Thinking? Why is it important?

Design Thinking is the ability to think like a designer. It is an open-minded, problem-solving approach, incorporating

- **A Human-centered approach:** Putting human beings at the center of any creation, with the ability to empathize with the people.
- **A questioning mind:** The ability to question and rethink basic fundamentals is critical to Design Thinking.
- **Multisensory observation:** A design thinker uses observation as a powerful tool to go deeper into unmet and unsaid needs of the people around.
- **Cross-domain application:** A designer looks for inspirations across domains and applies them in the relevant context.
- **Prototyping:** "Fail early to succeed sooner" is the mantra of a design thinker. It keeps you constantly in touch with the consumer. Rapid prototyping is especially valuable in times of dynamic changes in business environment.
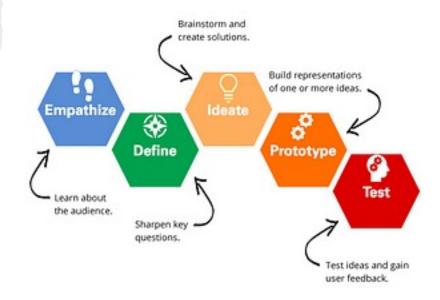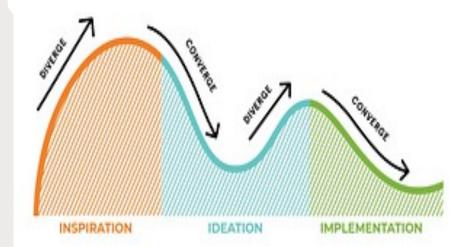
UNDERSTANDING PERSONA

HUMAN CENTERED DESIGN

DESIGN THINKING VS HUMAN CENTERED DESIGN

Design Thinking, popularized by Stanford's d.school, is a **process** that you go through to create solutions that will actually be adopted by people (Note, we use "solutions" to mean a product, process, or service that will be used by a person or group of people).

Human-Centered Design, popularized by IDEO.org, is a **mindset** that overlays design thinking to ensure that the products are actually relevant and beneficial— in the long run — for the people they are intended to serve.
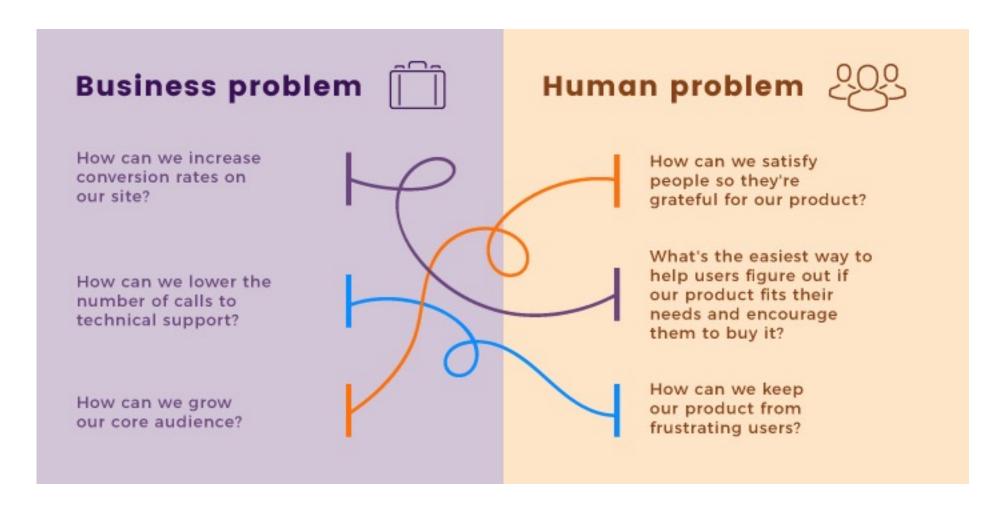
THREE PRINCIPLES OF HUMAN-CENTERED DESIGN

Human-centered design does not simply force you to consider the needs and wants of product users first. The question is *how* you can satisfy those needs in both functional and emotionally meaningful ways. There are three general principles of human-centered design:

- *Collaboration.* Great minds create great ideas when they work together.

- *Empathy.* You can't create a product for people if you don't deeply understand their motivations.

- *Experimentation.* It's only through conversations, experiments (checking hypotheses), and learning that a great product is born.

These principles have changed the way we look at our business goals and have offered more creative ways to achieve them. If you're stuck on some problem, just look at it from the human perspective:

Business problem

How can we increase conversion rates on our site?

How can we lower the number of calls to technical support?

How can we grow our core audience?

Human problem

How can we satisfy people so they're grateful for our product?

What's the easiest way to help users figure out if our product fits their needs and encourage them to buy it?

How can we keep our product from frustrating users?

A THREE-STEP APPROACH TO HUMAN-CENTERED DESIGN

The general approach to human-centered design is the same for any context, and can be reduced to three basic steps:

1

Discover. If you have a challenge, first discover ways you can approach it and find people to talk to about the matter.
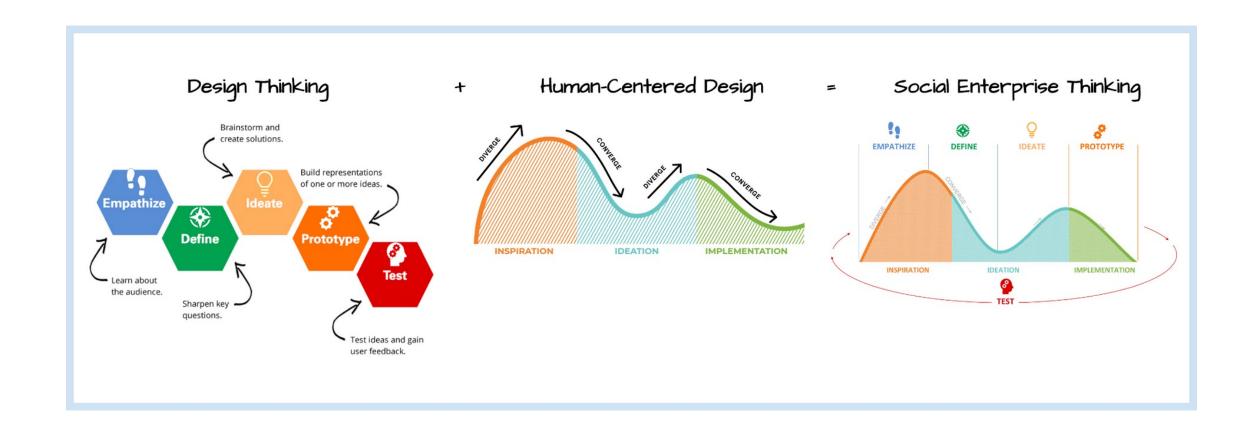
2

Ideate. Once you have enough information to solve the problem, use your creativity to think up solutions.
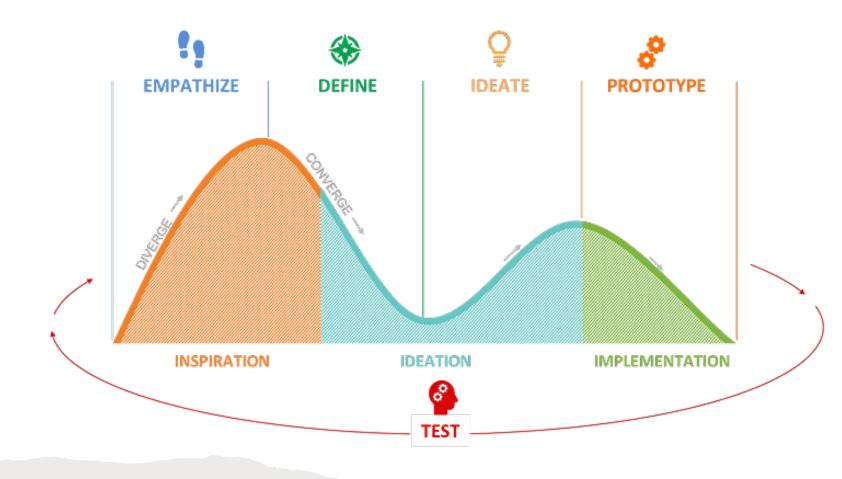
3

Prototype. Turn your ideas (based on real feedback!) into tangible designs.

SOCIAL ENTERPRISE THINKING

According to the principles of *Human-Centered Design*, before we start the 5-stage *Design Thinking* process we need to [adopt a mindset](#) which is optimistic that a solution is discoverable, and that the solution lies in the population we are trying to serve.

EMPATHIZE   DEFINE   IDEATE   PROTOTYPE

DIVERGE   CONVERGE

INSPIRATION   IDEATION   IMPLEMENTATION

TEST

5 STAGE DESIGN THINKING PROCESS

5 STAGE DESIGN PROCESS

Stage 1: Empathize.

- *Design Thinking* begins first with understanding people, and trying to focus on a definable problem that this group of people has. During this stage, *Human-Centered Design* reminds us that we are in the "Inspiration" phase, and that we should not rush to get to execution. This enables us to more fully first understand the people we are trying to serve, and HCD also provides ethical methods on how to do so.

Stage 2: Define.

- *Design Thinking* then recommends that you frame one problem that you can meaningfully design towards. On top of this, *Human-Centered Design* guides us to converge stakeholders to better understand their needs, assets, and opportunities to align around one common, shared problem.

Stage 3: Ideate.

- *Design Thinking* guides us to come up with as many ideas as possible — not just "right" ideas. To this, *Human-Centered Design* recommends creative processes in this "ideation" phase on how to generate more ideas in partnership with those we are serving.
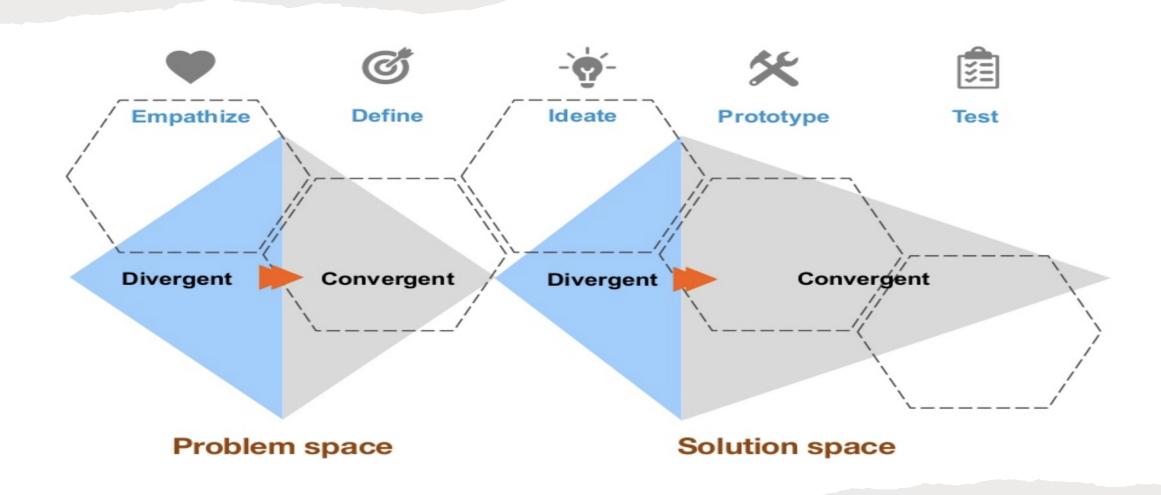
Stage 4: Prototype.

- *Design Thinking* tells us to develop a minimum viable prototype to see if the solution will actually be adopted by the market. *Human-Centered Design* provides tools in this "Implementation Phase" that recommend prototypes be built in partnership with key stakeholders and end-users in order to get their feedback and suggestions.

Stage 5: Test.

- *Design Thinking* tells us to test the prototypes in order to first identify if they will be adopted, and also as a format to learn more about the end-user. *Human-Centered Design* checks to make sure that not only will the population adopt the solution, but that it actually creates impact along the identified goals of making things better.

DIVERGENT AND CONVERGENT THINKING

HUMAN COMPUTER INTERACTION

Human-computer interaction (HCI) is a multidisciplinary field of study focusing on the design of computer technology and, in particular, the interaction between humans (the users) and computers. While initially concerned with computers, HCI has since expanded to cover almost all forms of information technology design.

The Multidisciplinary Field of HCI

Human-Computer Interaction

Computer science

Human factors engineering

Cognitive science