



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

Coimbatore – 35.



DEPARTMENT OF BIOMEDICAL ENGINEERING

UNIT – 1

Purpose of Design Thinking- Design Thinking Framework

Design Thinking

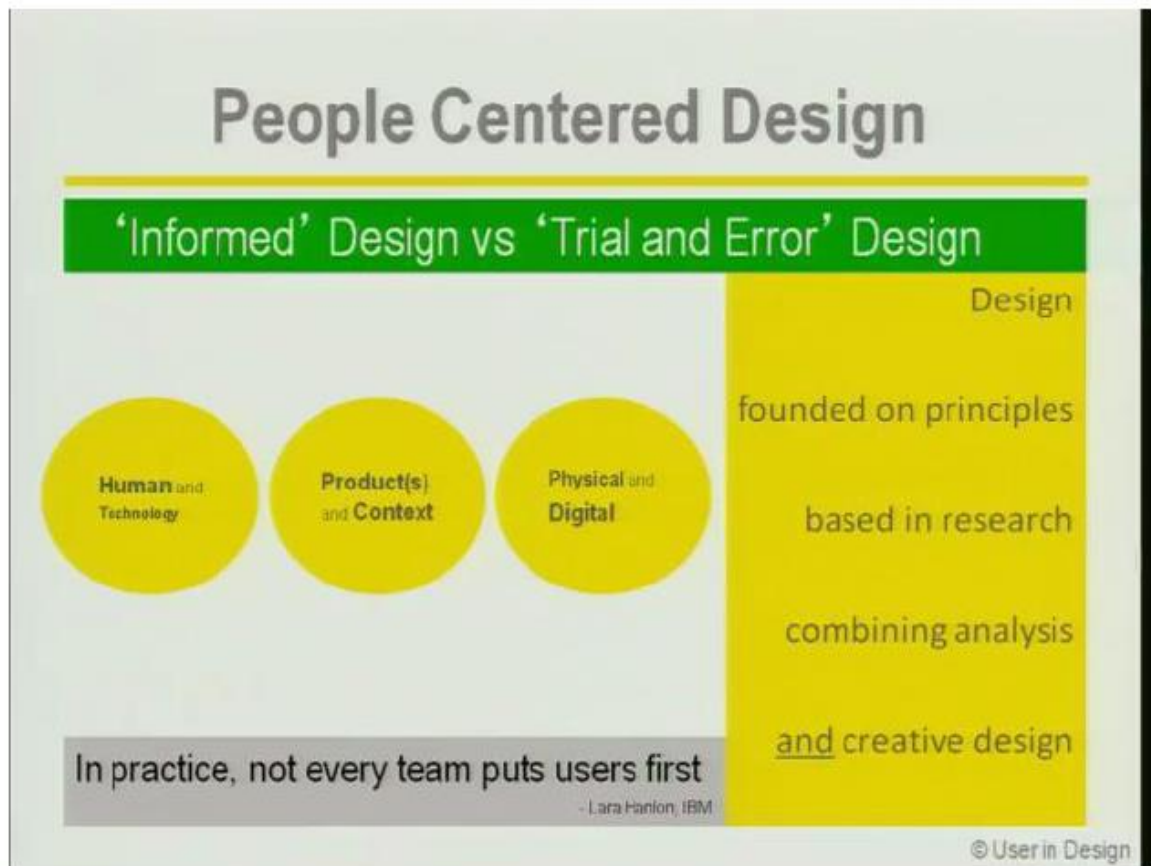
Thinking for creative problem solving
using tools and techniques of innovation

- 1. Empathize** and understand what the user needs
- 2. Think out of the box** to ideate and then arrive at a solution to meet that need
- 3. Make**, refine, make, refine....
- 4. Collaborate** in a **diverse** team

© User in Design

So, what is design thinking? Design Thinking is thinking for creative problem solving, using tools and techniques of innovation. Creative problem solving: so, there are these tools and techniques that designers use, that we use, in the process of practicing design thinking. What does it cover: Design thinking requires for us to be empathetic, to empathize and understand what the user needs, it needs for us to be able to step into the user's shoes, it needs for us to think out of the box; not the first obvious solution that comes to our heads, but to think beyond that and ideate more and more and arrive at a solution in order to meet that need. Then it needs for us to make that design, refine it,

make it, refine it, and so on and so forth until it meets the user's needs. And it also needs for us to collaborate in a diverse team, ...



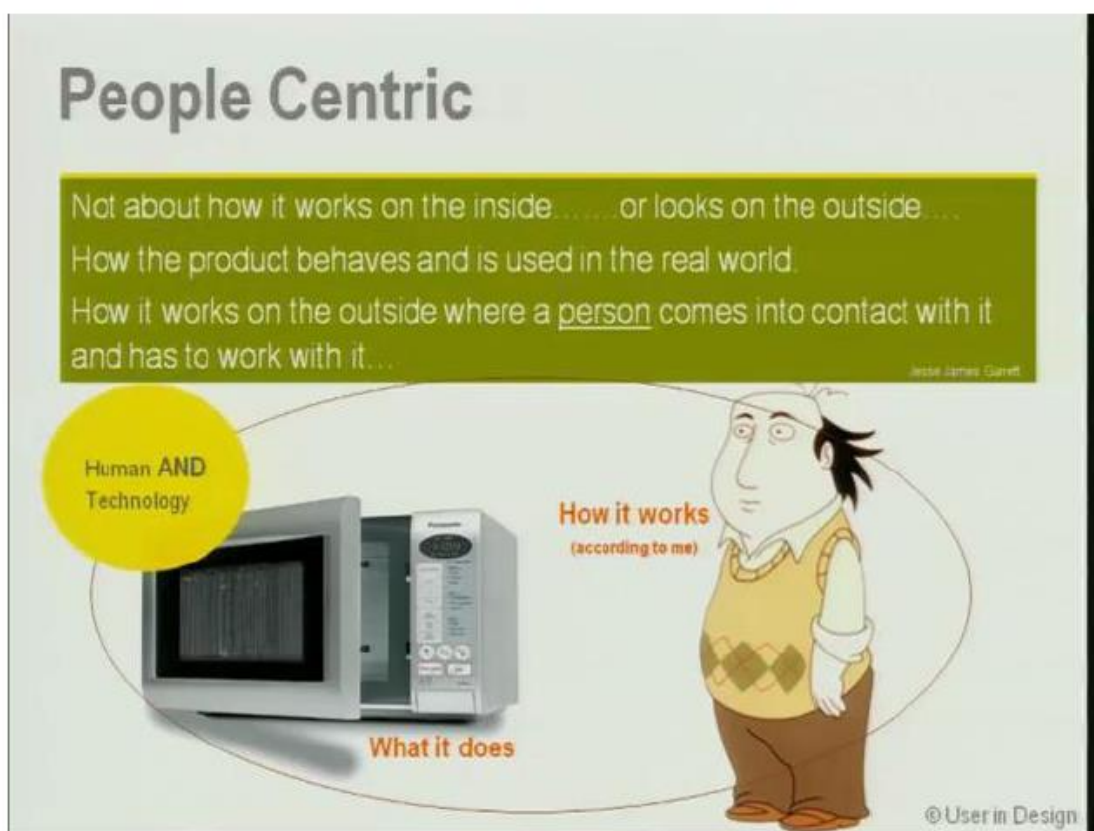
...work in a team, brings those different perspectives together that call for a much richer and more innovative product. So, this is the opposite of saying that you know, it is this one brilliant person who in the middle of the night may come up with this idea. In design thinking we believe in collaborating in a diverse team.

Let's now look at what is people centered design? It is not just about the technology, but it is the human and the technology. It is not just about the product, but it is about the product and it is overall context in which it lives. It is not about only a physical product or only a digital product because as we know today, lot of products are embedded with digital right, so it's about both. So, people centered design is design founded on principles based in research, combining analysis and creative design, based in research that exists. A lot of body, a huge body of research exists on how people interact with products and as well as the research that

we will do with our users once we embark on creating and trying to develop a people centric design.

So, it is this notion of informed design verses trial and error design. Trial and error design is where we would not have an idea; we create the design, but we really do not have any idea whether the people for whom we design are able to use it or not whether it works in their lives or not. Then why is it necessary to have this whole approach of

people centric design because, as you can see from this quote, in practice not every team puts users first. That is not the way many teams ideate.



So let's now at this everyday example of a microwave oven, which has become a fairly commonly feature in a lot of kitchens, right. So, there is the microwave and then there is this person, the person who is going to use the microwave, right. So, it is about what this does: it can bake, it can roast, it can heat food, it can grill, it can do all these different things. And it is about this person, you know, how it works according to me, how I think it would be reheating the food right, how I believe what is in my head as far as how this machine works.

So, it is not about how it works on the inside or looks on the outside, it is how the product behaves and is used in the real world. It is about how it works on the outside, where a person comes into contact with it. So, it is that contact point between the user and the product. So, where the person comes into contact with it and has to work with it.

Reference:

<https://www.tasq.ai/glossary/weights/>