Design Thinking-Personal Learning Essay

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The design Thinking course has been very extensive in terms of work that each individual had to put in starting from idea generation to prototyping and testing. I will detail what I learned from the course by discussing topics that were highly learning for me.
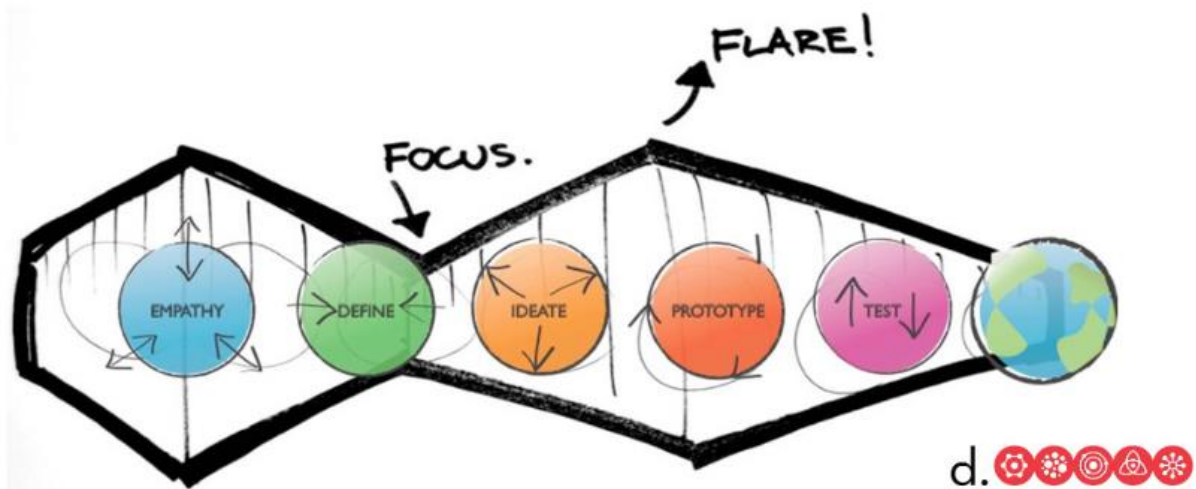

Fig.1 suggests the thinking process in design thinking

(Source: Slides of Design Thinking course)

Understanding the Problem:

This is very simple yet the toughest nut to crack. My understanding of the problem was very wrong before this due to which our idea of business was too vague. But thanks to the methodologies/tools we used, it helped it to finetune more and be more specific with it.

Now if we dive into my learnings in this specific topic that is:

Problems are of various types:

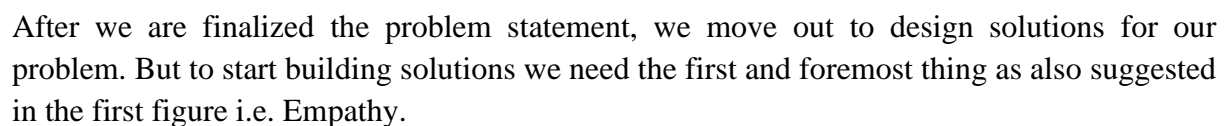- Well-defined problems
- Ill-Defined problems
- Wicked Problems

To understand the problem, we use a problem network. And to traverse the network, we use the approach to either 'Move Up' or else 'Move Down'. This Problem traversing is done by the tools of '5X Why','5WH Questions and then finally combining both to build the problem statement.

Fig 2 is '5x Why'

(Source: Slides of Design Thinking course)

Fig 3 is '5WH Questions'

(Source: Slides of Design Thinking course)

Fig 4 is Develop Problem statement

(Source: Slides of Design Thinking course)

After we are finalized the problem statement, we move out to design solutions for our problem. But to start building solutions we need the first and foremost thing as also suggested in the first figure i.e. Empathy.

Empathy:

This was my first of its kind of learning where I understood how important it is to understand the users and their needs, desires, etc. And our solution to the problem identified should revolve around that. And to empathize we can use certain tools/methodologies. First, the three methods that we use to empathize are:

- Immerse
- Engage
- Observe

Fig 5

(Source: Slides of Design Thinking course)

Now if we discuss each method in depth,

In Immerse, we will try to experience first-hand the problems being faced by customers/users.

In Engage, we will engage with customers/users via interviews. Here I came to learn how to go around interviewing. Starting from the formulations of initial basic questions, then keep adapting depending on each user/customer. Also on how to decide on the no of interviews. While adapting the interview questions, how to adjust your question in terms of clarity, behaviors, understanding connections and relations, etc.

In observation, we try to see users in the problem context and explore answers to the questions like 'what is the user doing when facing the problem?' How is he doing it, etc?

There are multiple tools used for empathy which are:

- AEIOU
- Empathy Maps
- Personas
- Customer Journey Maps

After we empathized and had a general idea of where should our idea should revolve. We start generating Ideas.

Idea Generation:

This is where creativity and innovation come to play. It generally doesn't take more intelligent people to ideate rather it's more to do with certain factors like attitude, Emotion, Environment, etc.

There are many approaches to creative thinking and idea generation. Some of them are:

- Brainstorming
- SCAMPER Method
- Checklist
- Input/Output technique
- Synectics
- Morphological Thinking
- Attribute Listing

Each approach has its benefits and also consequences. It is on the requirement of the problem on which approach to go about. During the ideation phase using any approach, we need to use the six thinking hat approach which will help us to look at the problem in many different ways.

Six Thinking Hats (De Bono, 1985)

PROCESS — **Blue Hat** - Process
Thinking about thinking.
What thinking is needed?
Organizing the thinking.
Planning for action.

CREATIVITY — **Green Hat** - Creativity
Ideas, alternatives, possibilities.
Solutions to black hat problems.

FACTS — **White Hat** - Facts
Information and data.
Neutral and objective.
What do I know?
What do I need to find out?
How will I get the information I need?

BENEFITS — **Yellow Hat** - Benefits
Positives, plus points.
Why an idea is useful.
Logical reasons are given.

FEELINGS — **Red Hat** - Feelings
Intuition, hunches, gut instinct.
My feelings right now.
Feelings can change.
No reasons are given.

CAUTIONS — **Black Hat** - Cautions
Difficulties, weaknesses, dangers.
Spotting the risks.
Logical reasons are given.

After ideation, we need to structure the ideas and select the best out of them.

Structuring and Selecting Ideas:

There are many approaches to structure data like using affinity diagrams.
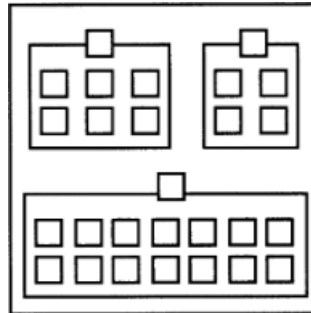

Fig 7 Affinity Diagram Structure

(Source: Slides of Design Thinking course)

Other clustering techniques are using a matrix with specific features.

After we cluster/structure the ideas, we need to decide on shortlisting. Here also, we use certain methodologies with measurements/metrics in certain methods to select the ideas.

- Heat Map
- Speed Critique
- Straw poll
- Super-Vote

In terms of metrics, we use normalization with scales, ranking, and sensitivity analysis to decide on the best solution as per the votes received by the peers.

After we decide on the idea, we need to build the prototype and do user testing.

Prototyping and User Testing:

The prototype is more of a visualization of an idea. It must be good enough to obtain quick, inexpensive targeted feedback from potential customers and users.

Certain principles need to be followed in prototyping:

- Always start the prototype with a question to be tested.
- Never fall in love with your prototype.
- The fidelity of the prototype should be a low resolution which in turn will help in getting more honest feedback.

- It's a never-ending story: Prototyping means to iterate, iterate, and iterate still again.

There are many ways the prototypes can be designed. Some of them are:

- Sketch
- Wireframe
- Mock-Up
- Paper Prototype
- Story-Boards

In the end, we need to design MVP (Minimum Viable Product) after multiple iterations of the prototype based on the user feedback on each prototype.

Then in User Testing, we need to test with 4-5 users from each persona. We don't need to explain how the idea works rather let the user explore and figure it out themselves. For the preparation of the test, let the user experience the model. Also, while conducting the test, assign some roles to specific people like a moderator, actor, and observer. In the end document the results. Then infer the results and improve the prototype. This process goes on till we are finalized on the MVP.