

Design Research Seminar

Identification and Prototyping of tools for design

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Declaration

I declare that this written document represents my ideas in my own words and where others' ideas or words have been included. I have adequately cited and referenced the original sources. I also declare that I have adhered to all the principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission.

Acknowledgements

I thank my guide Prof. Ravi Poovaiah for his valuable guidance and support throughout the project. I would like to thank my classmates for their help, support and encouragement and their participation in the studies.

A handwritten signature in black ink, appearing to read 'Annu', with a stylized flourish extending from the end.

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1. Abstract

The Report presents a detailed study and identifications of tools and toolkits available online to facilitate documentation, process tracking and structured outline for design community to use for their design process. There are various tools available on D'Source tools which help a designer with resources and outputs to be used in their projects. In this report, the focus has been on the overall design thinking and how one can use the methods and resources in step by step guided manner in order to achieve their desired design intervention. The aim is to create one stop source and information library rather than having multiple such platforms so that crucial amount of time can be managed.

Along with the research, the report also presents the creation of downloadable items which can be used for checklists, guidelines and prototyping using the learnings I have received during my stay at IDC School of Design, IIT Bombay.

This is an attempt to make the whole process of design thinking an entertaining and engaging experience. The submission here includes this report and link to the webpage which is a design toolkit library with items which can be downloaded.

2. Introduction

Although I believe that best tools available to us are pen and paper , we could create masterpieces just by using these two tools. However , presenting and keeping track of all these creations could be cumbersome especially during design process as it is an iterative process. While they aid in making the design journey easy , there are other tools as well which can make the process much more efficient.

Design Thinking

Is the process to provide innovative solutions for complex problems by helping a designer understand their customers and answer their requirements while using designers sensibilities. The focus is on human - centered design and it is all about empathy.

Why Design Thinking ?

It helps lower the risk associated with launching a new product, everything you end up developing goes through multiple phases and iterations to generate solutions which are innovative. It also helps keep track of all the progress one has made throughout their design journey.

There are multiple process of design thinking which are popular. The number of steps in these processes vary but the iterative behaviour in these processes remain the same. For this report and study I will be considering three step design thinking process from IDEO and five step design thinking from Stanford D. School.

IDEO Design thinking aspects [\[1\]](#)

1. Empathy - Design has to be human centered.
2. Ideation - Lot of idea generation.
3. Experimentation

Stanford D. School Design thinking aspects [\[2\]](#)

1. Empathize
2. Define
3. Ideate
4. Prototype
5. Test

These two design aspects were then considered while proceeding with different stages of this design journey.

3. Available Resources

For my literature review I considered the following sites which provides certain toolkits for different processes to one needs to follow during their design thinking journey.

- [IDEO design Kit\[3\]](#) - IDEO talks about human centred design rather than just user centered design.
- [Hyper Island Toolbox\[4\]](#) - A business school which offers design programs and courses , their toolbox lets users work more creatively and by increasing collaborations amongst the team mates involved.
- [Austin center for design library\[5\]](#) - Founded by well known designer Jon Kolko , who is the director of the institute currently. Centre provides a design library detailing lots of useful design principles and methods.
- [Usability.gov\[6\]](#) - What and why of usability , How to and tools from US department of health and human services.
- [18F Method Cards\[7\]](#) - Digital services agency based within the US Government

- [Microsoft Inclusive Design\[8\]](#) - Concept of design for people with disability that is inclusive design which can in turn benefit people universally.

From the literature review I collected and learnt the ways by which the tools were classified and organised. But there were certain challenges of having plenty of toolkits at your hand. Most of the times you are not sure which tool will be best suitable for your research or design process. Also these tools lack a clear distinction in classifying their resources on the basis of “Purpose” they serve during the whole design thinking journey. And what is the time-period and timeline required to do one particular process if it is to be done along with other process. At times the prototypes required may differ for different approaches of design one has taken for example, it would be completely different for a web design project to a service design project.

4. Desk Research

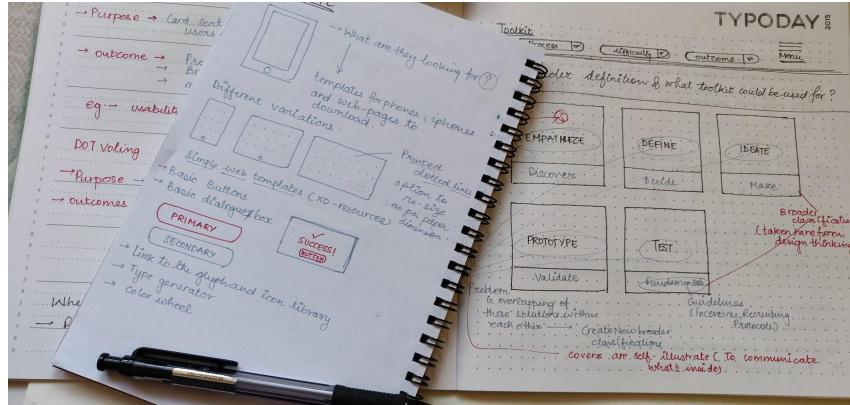
Through this method I had informal discussions with 4 users (2 first year designers and 2 second year designers) where the discussion was focused on the 4 questions below.

1. How do they proceed with their design process
2. What strategy they use in order to progress
3. Where do they look for resources when they start designing
4. How do these resources help them achieve their goals.

Findings and opportunities

- For a newbie designer the process becomes tough as they struggle to follow a certain guideline. However for an experienced designer (someone who has completed at least one design project successfully) they had a linear guided approach to their solution.
- Many a times when a designer is starting a design project he/she tends to get lost in the plethora of information and toolkits available online, it would be easier if they could get a structured information and a layout to follow then being bombarded with lot of tools at once.
- Once they have finished with the testing of product, people are often lost as to how should they document it as most of the ideations were on rough sheets. And what could be the better way to present the idea and get a feedback on the same.
- There should be a checklist which could tell what is the next step as I am done with mind mapping or prototyping or any of the process.
- The major problem occurs when one has to divide their timeline, it is not sure as to how much time one should devote to one of the process, most of the time, it is unnecessary time wastage.
- When the research or design is not solution based it is little tricky to identify what domain the problem lies in or can there be similar process for all sorts of design process which bifurcate at the later stages.

5. Ideation



After the insights that were obtained from the researches, I went ahead and started mapping the ideas onto sheets. Because the resources are unlimited and various methods are available, so I decided to sketch the limitations of the toolkit to be designed. Most of the resources developed are through the problem statements identified and are resolved through the learnings I have had at IDC and the online resources curated at one single place.

I used **Adobe Illustrator** to create self- drawn illustrations And **bootstrap** to create the web-page

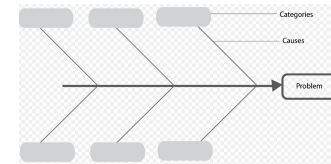
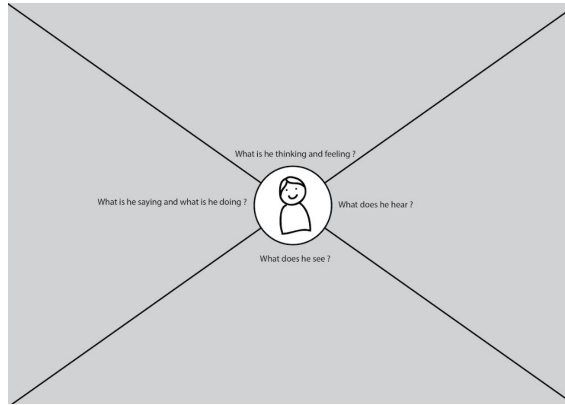
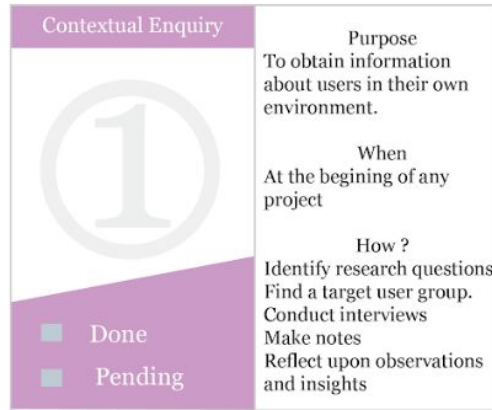
Where there are plenty of resources available, it is not known what to use when. The order of usage of these resources become important. We might be very much aware of the 5 step design thinking process but what goes into the process is of concern and deserves proper planning and thinking. The intended solution should be able to not only order these steps but also help keep a track of them. In case one has to come back for an iterative process then they can do so by visiting those steps.

The choice of step maintaining was to be made between digital and physical. As a designer, one should not feel limited in their thinking process due to the tools available to us. It would be best to make use of the best tools available to us since long i.e. paper and pen. A scribble on the paper which can be referred back as many times as you like or take inputs on, work collaboratively while not having to worry about the technicalities associated with softwares to draw or write.

Finally decided on creating a printable and downloadable deck of cards which people can use as a DIY kit to keep the track of the progress. A complete box which has a card deck , bookmarks , printable worksheets , Features of the cards is to let people understand the essence of one of the step that they are dealing with. These cards could then be used as a way of storing an individual designer's progress or the progress of the design team involved. All the cards belonging to the same method are color coded similar. Numbering those cards in order to know the steps one by one in case you shuffle the cards. The deck also contains the check lists one might need for their progress tracking.

Why cards ? Because they are easy to hold and one can read small but important information in a small span of time.

There were other printable worksheets were also developed to get comprehensive and collaborative output from the designers



Information Architecture

In order to place these downloadables at one single web source along with other identified and required information. A web page was developed. Here is the detailed information architecture of the same.

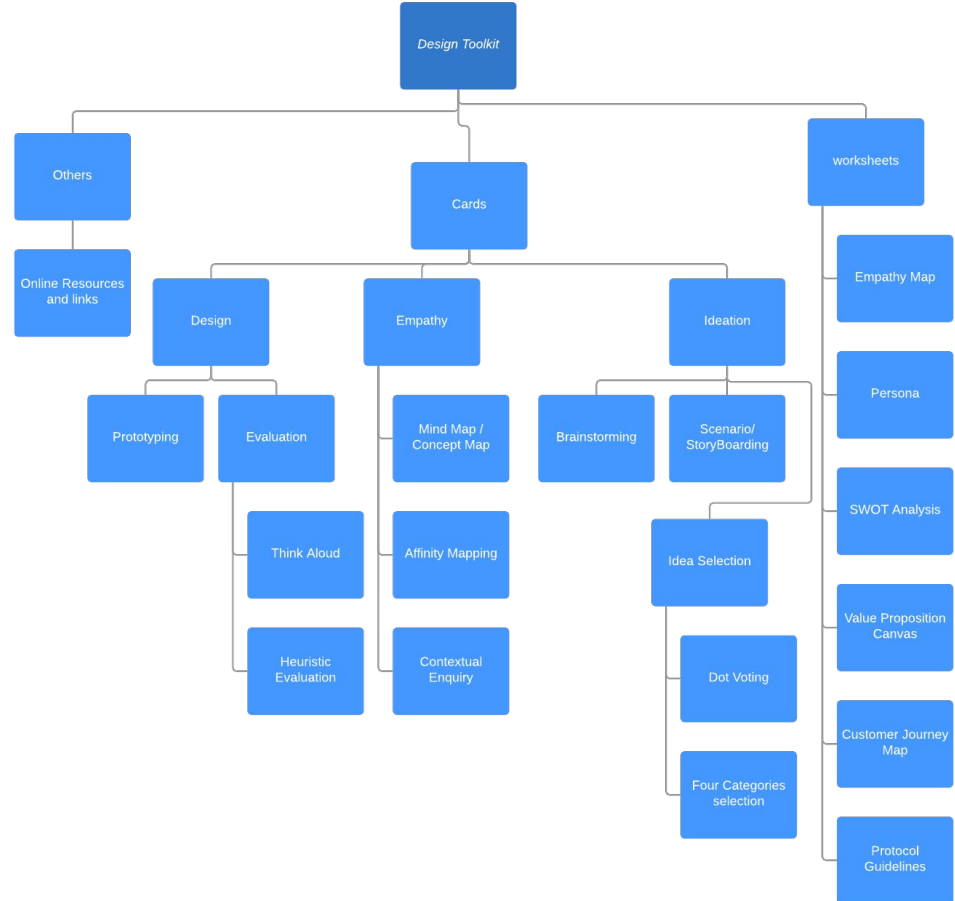
Although most of the resources are downloadable , they also create an informative streamlined structure which user can follow step by step.

Link to the dummy webpage[9] :-

<https://annu205v.github.io/>

The Resources developed and the webpage created for the following project is uploaded here.

<https://drive.google.com/open?id=1ATE9ksyh9s51nC7Nshr1NnO4yBUpXhXp>



6. References

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