



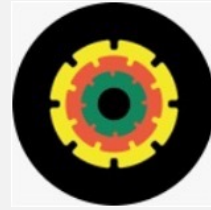
D'source Project



Open Design School



MoE's Innovation Cell



**Prototype Part 1**  
**Rough Sketches,**  
**Paper Prototype,**  
**Mock-Ups,**  
**Scenarios, Story-boarding**  
**Design Thinking & Innovation**  
**Tools**

Section: T11, Week 11



**THINK!  
DESIGN**

# **Design Thinking & Innovation (DT&I)**

Section: T11

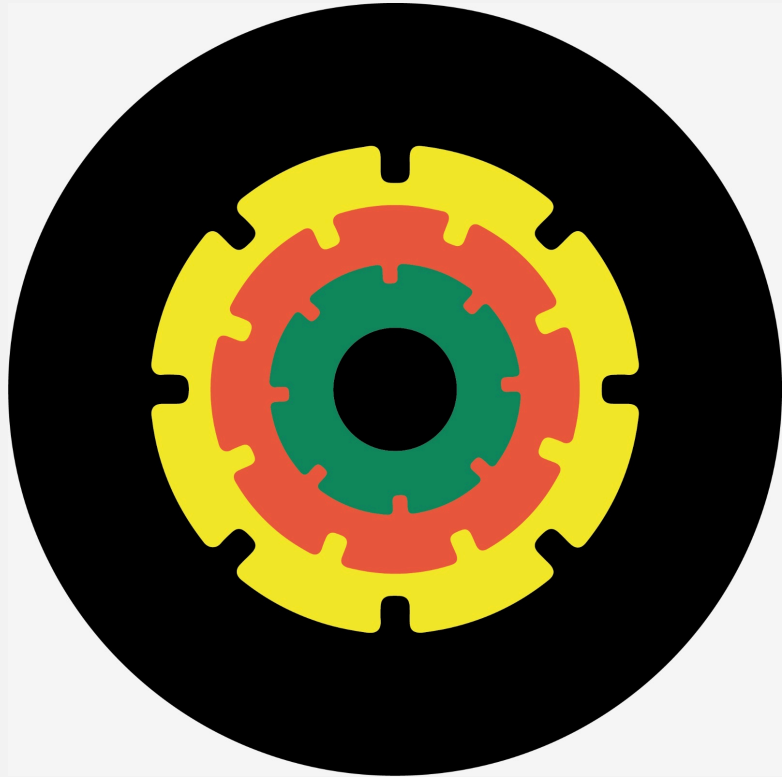
Week 11



**THINK!  
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# **Design Thinking & Innovation (DT&I)**

**Prof. Ravi Poovaiah**  
IDC School of Design, IIT Bombay



## DT&I Tools

T11 Module T11:  
**Rough Sketches,  
Paper Prototype,  
Mock-Ups,  
Scenarios, Story-boarding  
Scenario Play Acting**

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T11.1

# Rough Sketches, Wireframes & Draft Layouts:



**Rough Sketches are preliminary, rough, quick and enables being iterative.**

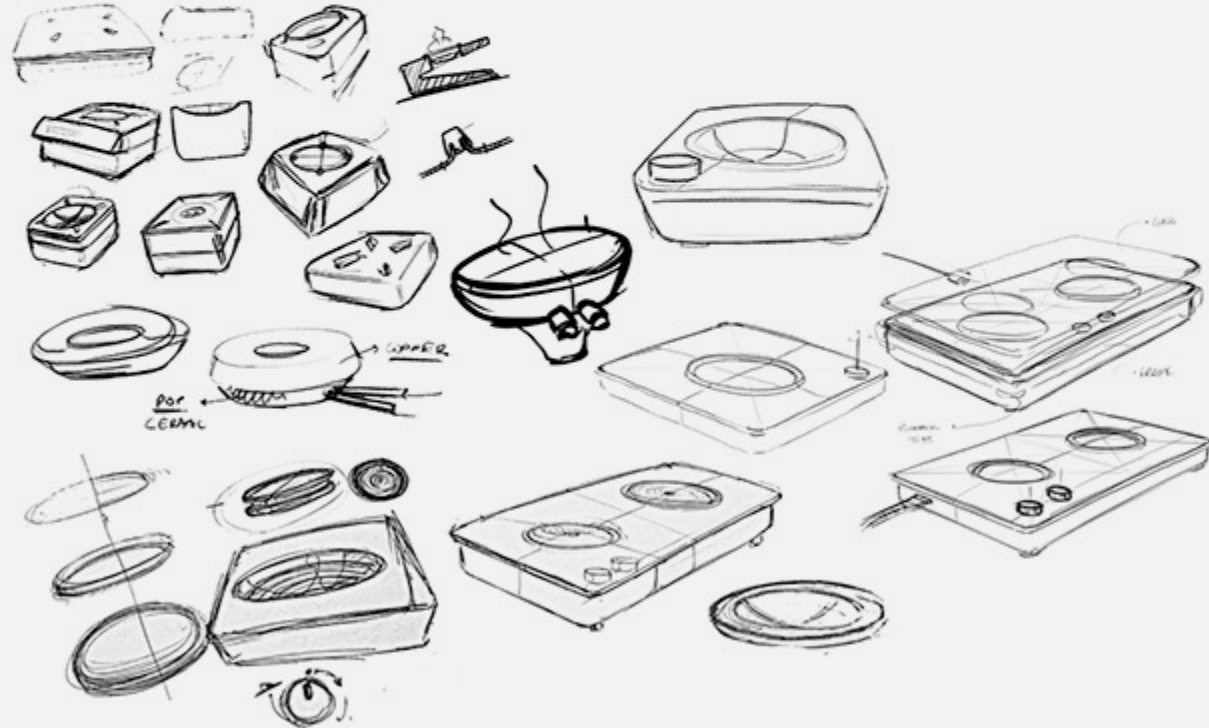
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T11.1-004



# Rough Sketches . . .

Here are shown  
are some rough,  
quick sketches.



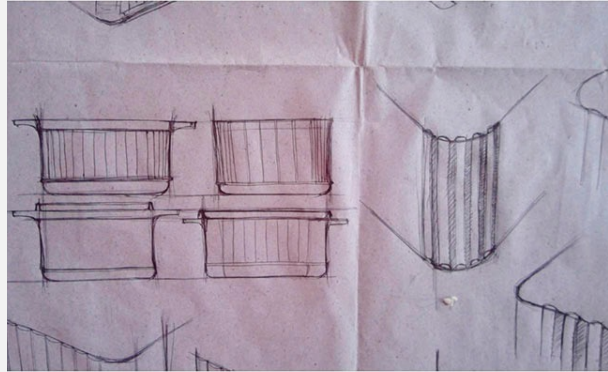
Reference: from  
dsource.in (Solar  
Powered stove by  
Rohan Kumar)

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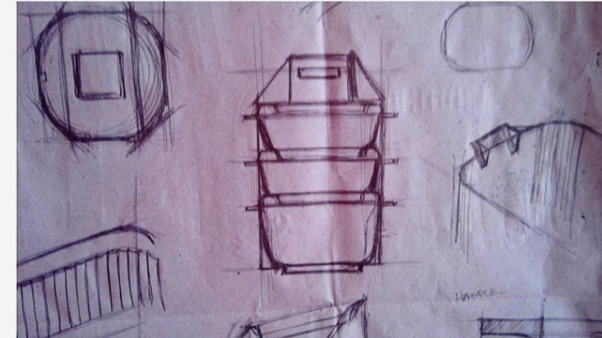
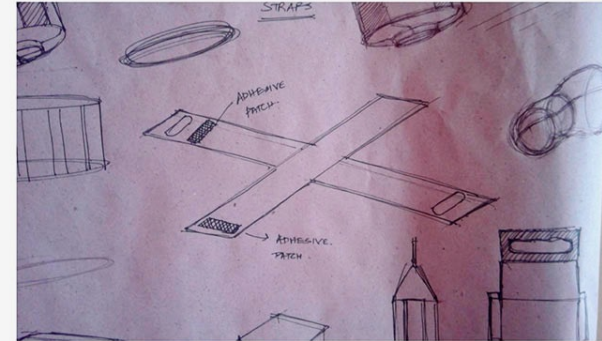


# Rough Sketches . . .

Here are shown  
are some rough,  
quick sketches  
of a 'Tiffin  
Container for  
Food Delivery  
System.



Reference: from  
dsource.in (Food  
Delivery sytem)



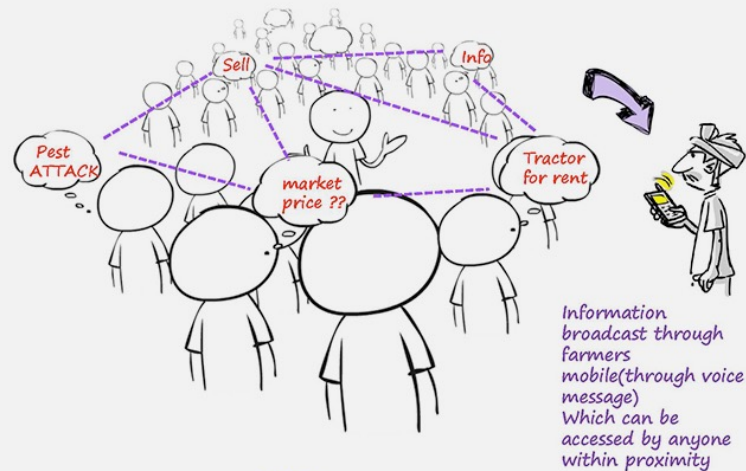


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# Rough Sketches . . .

Here are shown some rough, quick sketches of a mobile device use for marketing for Agriculture

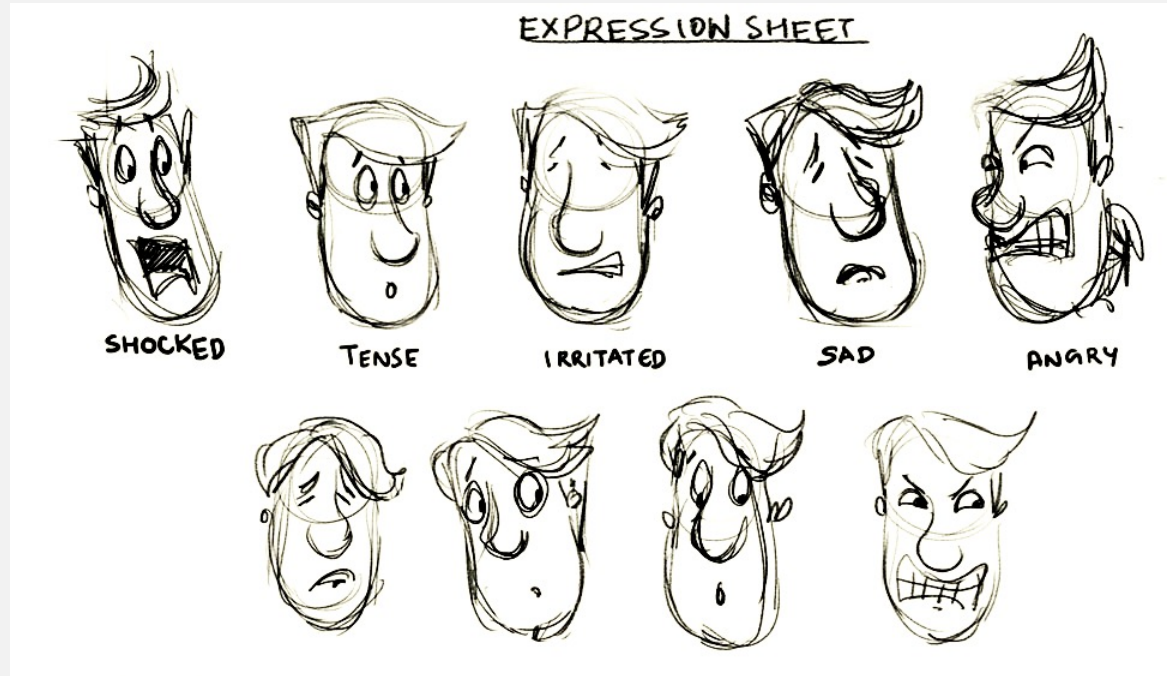


Reference: from dsource.in (by  
Deepak Singh, Prof. Ravi  
Poovaiah and Dr. Ajanta Sen)



# Rough Sketches . . .

Here are shown some rough, quick sketches of a character for animation.



Reference: from  
dsource.in (by Prof.  
Phani Tetali And Vajra  
Pancharia)

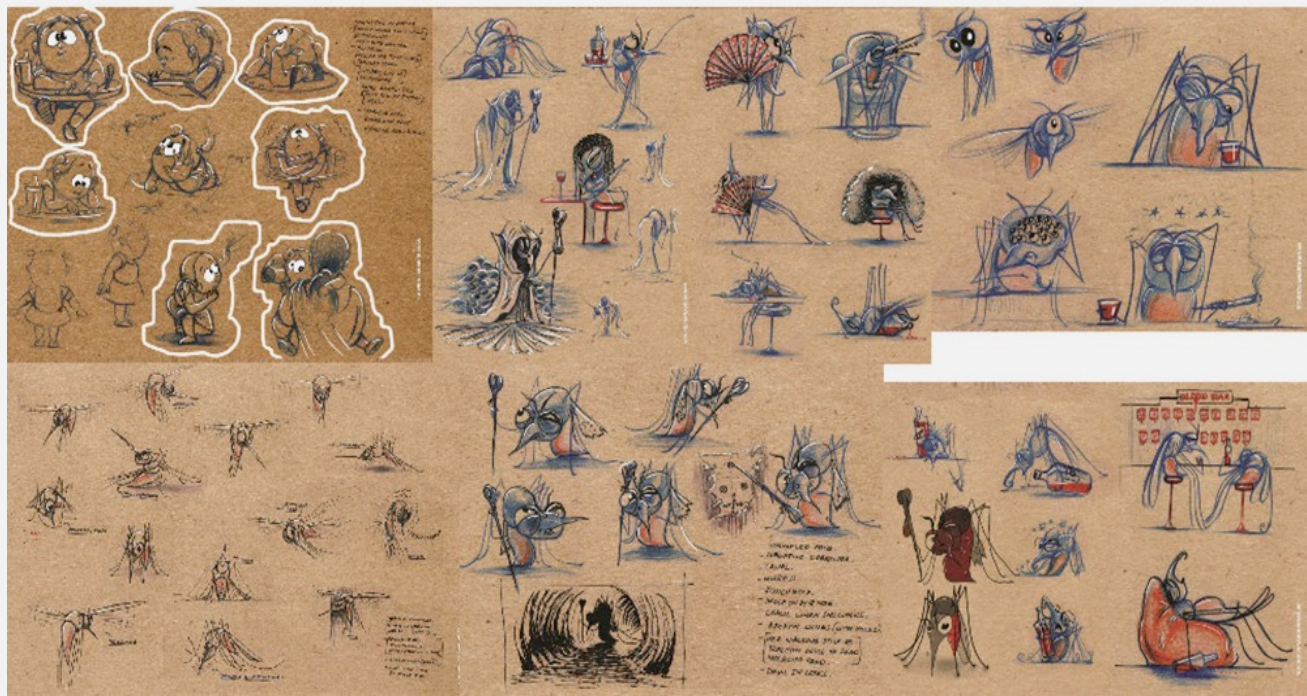
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# Rough Sketches . . .

Here are shown some rough, quick sketches of a character for animation.

## CHARACTER DESIGN EXPLORATIONS



Reference: from  
dsource.in (by Prof.  
Phani Tetali and  
Govind Janardhanan)

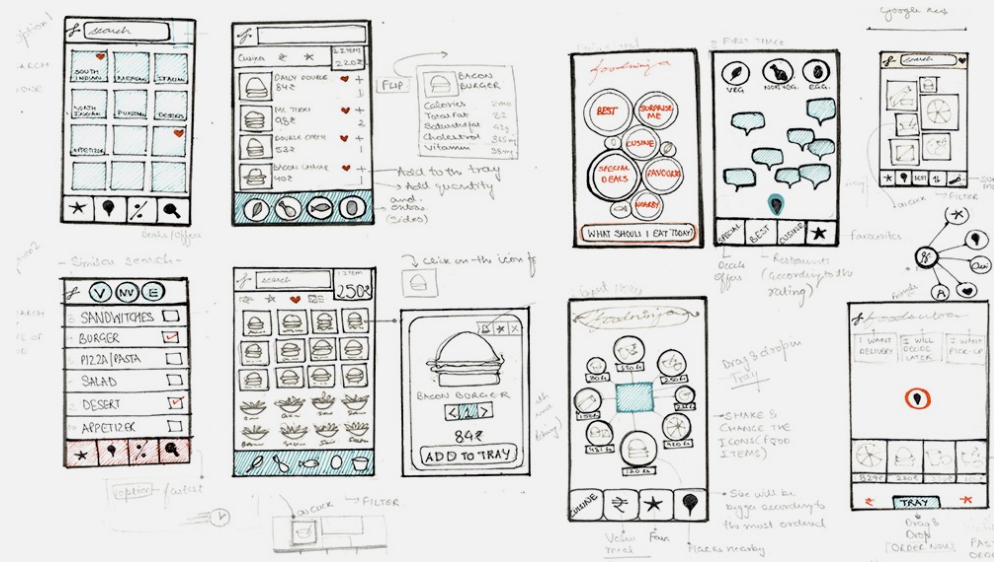
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# Wireframes:

Wireframe Sketches are simple, quickly drawn outlines of the interface elements that are part of the digital environment especially for screen based interfaces.

These wireframes help one to quickly visualize the layout, composition, test, get feedback and change/iterate before the design is finalized.



Reference: from  
dsource.in (Food  
menu interface by  
Astha Kabra)



# Wireframes:

Here are shown wireframes for 'Task Management for Students' application. You can show these one after another in the logical sequence and get feedback from the user.

## Early prototyping

### Home

Home screen wireframe showing a greeting 'Hello, Anjali!', a 'Greeting form' with a 'Chemistry lab work' button, a 'This week' section with a '10 hours of productivity this week' bar and a 'Keep track of your work' button, and a 'Upcoming tasks' section with a 'Chemistry lab work' button.

### Questionnaire

Questionnaire screen wireframe with sections: 'Let's get you all set up', 'Tell us about your sleep schedule' (with 'Do you have a regular sleep schedule?' and 'How many hours of sleep do you get in a day on average?'), 'When do you prefer to work?' (with radio buttons for 'Early morning', 'During the day', 'In the evening', and 'Late night'), and a permission request for phone data.

Questionnaire screen wireframe (continued) showing 'Timing 1' with a time range of 08:00 AM to 12:00 PM, a weekly schedule (M-F), and a date range from 12/04/2020 to 12/13/2020.

Questionnaire screen wireframe (continued) showing 'Let's get you all set up', 'Tell us how you spend your time', and a section for 'How many hours do you spend on doing your work and personal tasks/hobbies'.

Questionnaire screen wireframe (continued) showing 'Let's get you all set up', 'Tell us about the other events in your life', and a 'Football' event with a time range of 08:00 AM to 12:00 PM.

Questionnaire screen wireframe (continued) showing 'Let's get you all set up', 'Tell us about the habits you would like to inculcate?', and an 'Exercise' section with a weekly schedule (M-F).

### Task Management

Task Management screen wireframe showing 'All Planned' tasks, including 'Chemistry lab work' with a time range of 18:00-22:00 and a deadline of 18th Dec, 2020.

Task Management screen wireframe (continued) showing 'Chemistry Lab Work' details, including 'Scheduled on' (15th Dec, 18:00-22:00), 'Subtasks' (Part 1, Part 2), and a section for 'Start and end buttons-record work done on it' with an 'estimated time to complete' field.

Task Management screen wireframe (continued) showing 'Routine' tasks, including 'Chemistry lab work' with a time range of 18:00-22:00 and a deadline of 18th Dec, 2020.

Reference: from  
dsource.in

(Collaborative Design  
Enterprise Project)



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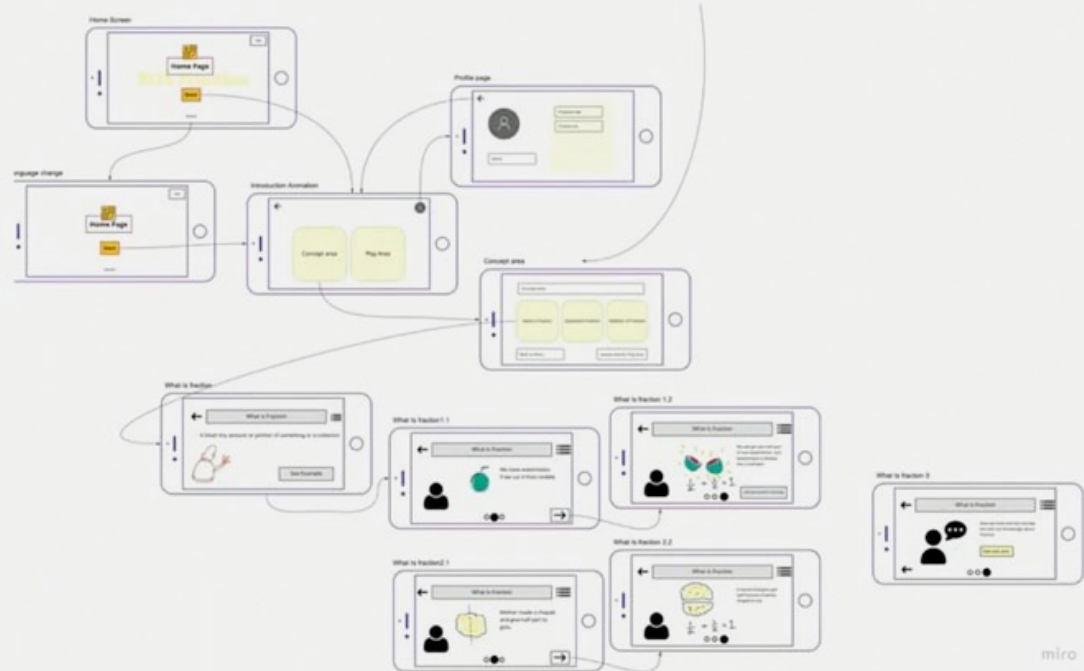
# Wireframes:

Here are shown wireframes for 'Let's Learn Fraction' application. You can show these one after another in the logical sequence and get feedback from the user.

Reference: from  
dsourse.in (Let's Learn  
Fraction - A Toolkit  
by Akshay Patil)

Lets Learn Fraction- a final toolkit

## Wireframes





# 'Draft Layouts':

Draft layouts are rough, quickly drawn outline of the elements of a page showing different elements of the composition like text, images, interface elements, grids, etc.

Layouts ideation are useful for both the digital as well as the physical layouts.  
- a web page, Mobile interface or that of a poster, magazine or a storybook.

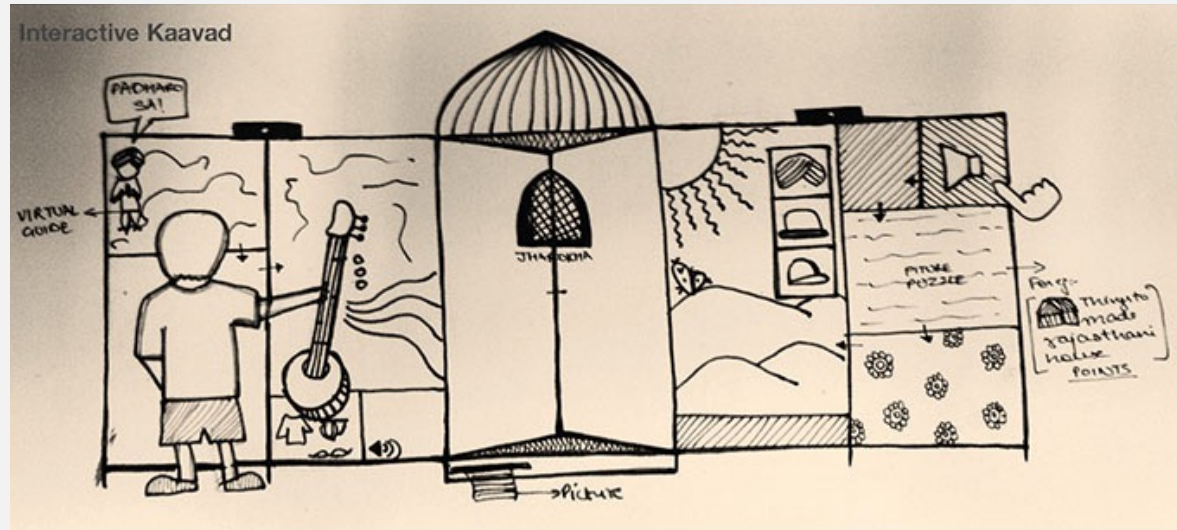
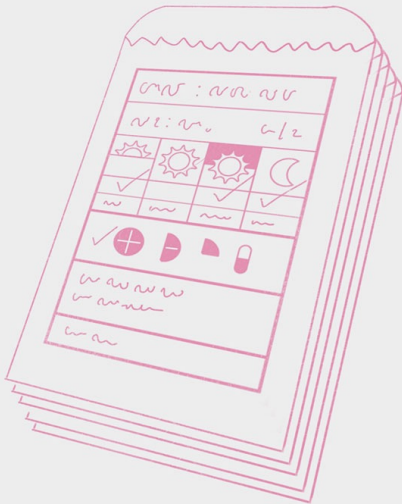
**These Draft Layouts help one to quickly visualize the layout, test, get feedback and change/iterate before the design is finalized.**

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# Draft Layouts . . .

Shown here are draft initial ideation layouts for a packaging for medicine by the Pharmacy and design of the layout for an interactive exhibition on culture.



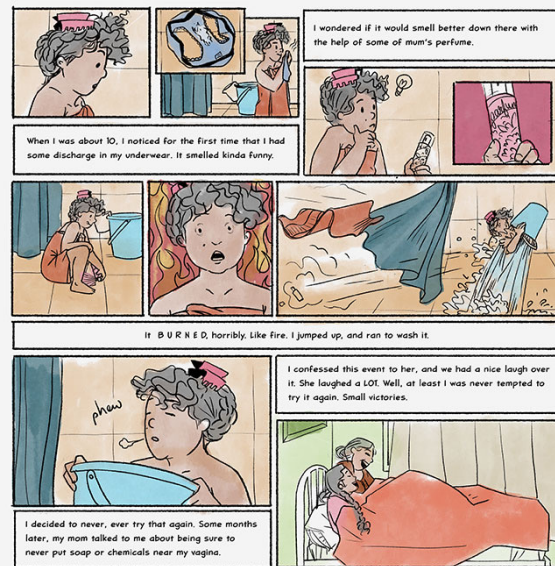


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# Draft Layouts . . .

Shown here are draft initial ideation layouts (3 versions) for an picture driven storybook. The 3 variations are done to get feedback and based on the feedback to chose one of them as the final template.



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# Draft Layouts . . .

Shown here are draft initial ideation layout along with the final version layout for an animation film.

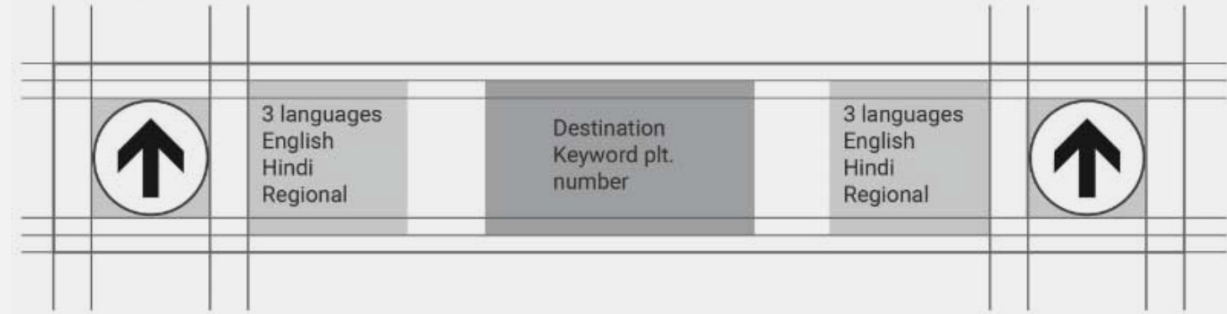




# Draft Layouts . . .

Shown here are draft initial ideation layout for a signage system for Mumbai Suburban Railways.

Sample Layout:



Layout Example with spacing:



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T11.2

# Paper Prototypes & Mock-ups:

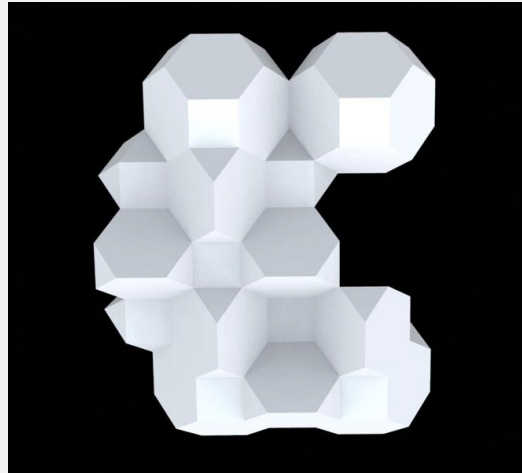
THINK!  
DESIGN



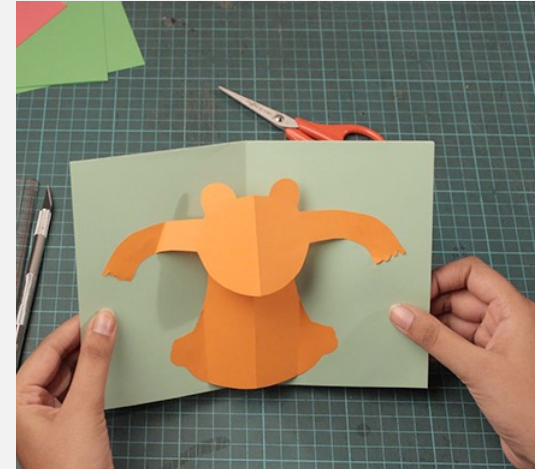
# What are Paper Prototypes?

**Paper Prototypes** are a rough, hand sketched layouts of the ideas suited for Digital interface layouts, Graphic Publications as well as 3D objects done using paper.

**Paper Prototypes** are simple, easy, draft versions of the ideas or concepts and helps one to quickly visualize, test, get feedback and change/iterate before the design is finalized.



*Reference: from dsource.in (Geometry in Design by Prof. Ravi Mokashi Punekar and Prof. Avinash Shinde)*



*Reference: from dsource.in (Pop Up design by Mugda Kale)*

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# Paper Prototypes . . .

Shown here are Paper versions of Muppets being designed for online interaction.



*Reference: from dsource.in  
(Bubby project by Chandni  
Kabra)*



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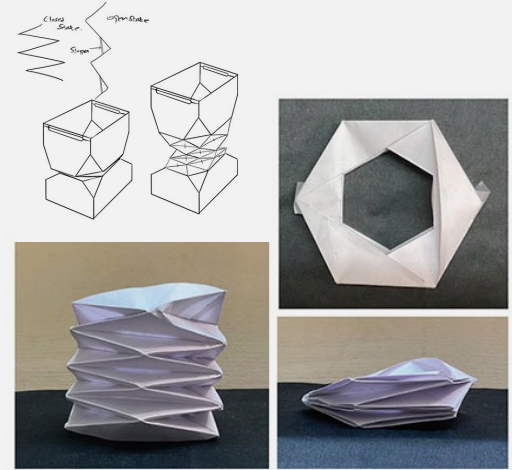
# Mock-ups with Card-board:

Card board Mockups of the idea can be made quick and iteratively to come out with several versions using a thick paper or cardboard.

**Card-Board Mockups** are **sample, draft versions** of the ideas or concepts and **helps one to quickly visualize, test, get feedback and change/iterate** before the design is finalized.



*Reference: from dsource.in  
(Packaging Design Course by Prof  
Mandar Rane and Purba Joshi)*



*Reference: from dsource.in  
(Vegetable Storage unit by  
Arunprakash Ezhilarasan)*

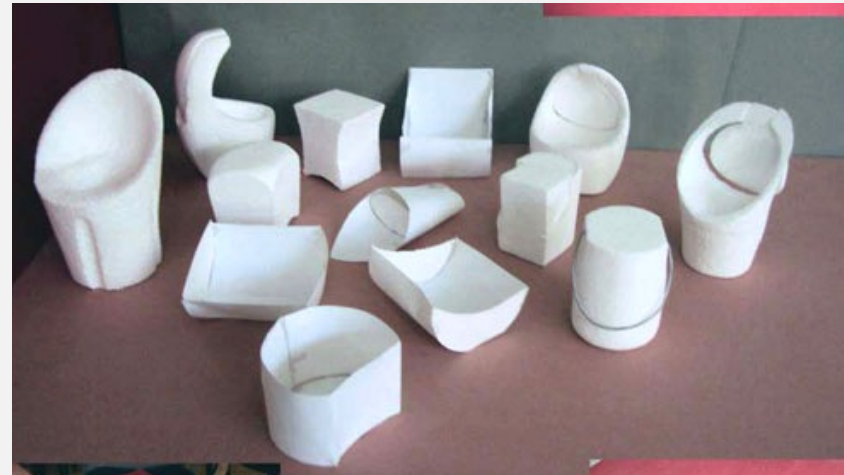


# Mock-ups with Clay:

Clay Mockups of the idea can be made quick and iteratively to come out with several versions. Clay is also suitable for organics shapes.

Instead of Clay, Plaster of Paris could also serve to make rapid 3D draft models to try out ideas.

Here are shown plaster and paper prototypes for redesign of a bucket.



*Reference: from dsource.in  
(Product Design Course by Prof  
Bapat and Purba Joshi)*



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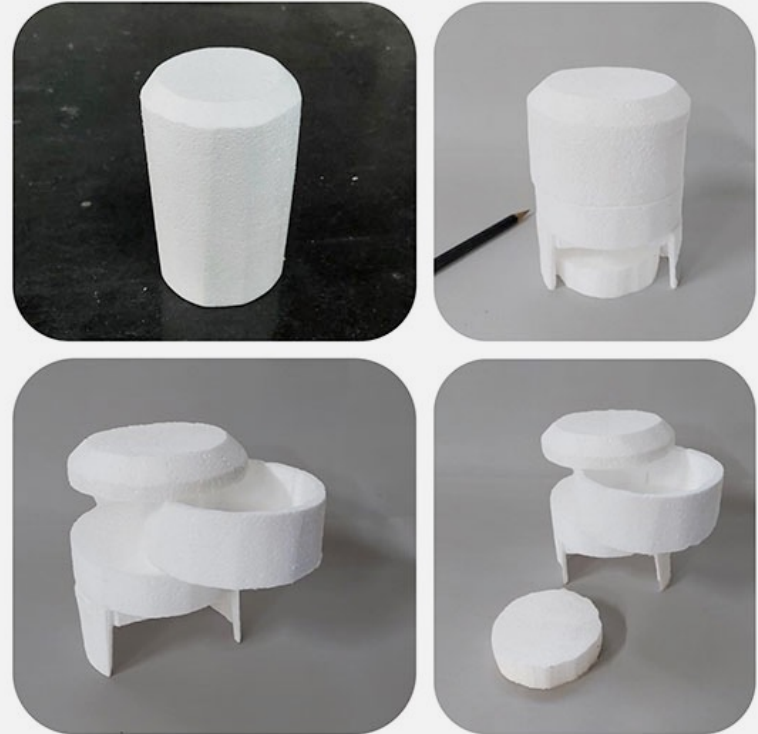


# Mock-ups with Foam:

Instead of Clay, Foam could also serve to make rapid 3D draft models to try out ideas.

Here are shown Foam rough Prototypes of a bedside table.

*Reference: from dsource.in  
(Smart Bedside Table Casestudy  
Aakash Chaturvedi and Prof.  
Kums P Kumaresan)*



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# Mock-ups with Clay:

Shown here are Clay Mock-ups of objects used for a game on Sustainability and Oceans.

*Reference: from dsource.in  
(Collaborative Design Cours)*



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# Mock-ups with Wood:

Wood Mockups of the idea can be made and are suitable for making a mock-up of organic shapes and including details.

The wooden mock-ups can be painted.

And, soft wood is easier to work with.

Wooden Mockups are sample, draft versions of the ideas or concepts and helps one to visualize, test, get feedback and change/iterate before the design is finalized.



Reference: from dsource.in  
(Case Study 'Smaran')

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T11.3

‘Scenarios’ &  
Story-boards’:



# 'Scenarios':

Scenarios are the sequence of events or actions the user takes in interacting with the designed idea. The scenario can be fictional demonstrating the use of the idea/concept. The scenario can make use of personas.

The different ways the scenario or storyboard can be narrated are:

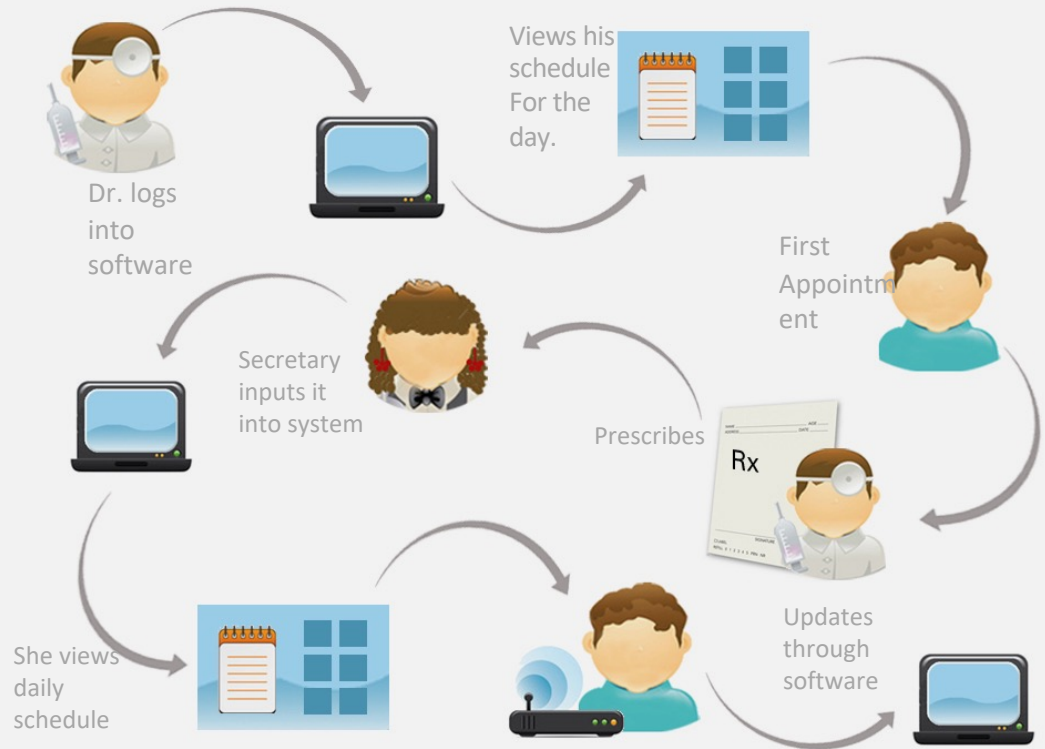
1. Written in text form
2. Illustrated with visuals
3. Storyboard with step by step visuals and text
4. As a video with narration

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# 'Scenarios':

Here is shown an interaction between the patient and the doctor along with the secretary as a scenario.

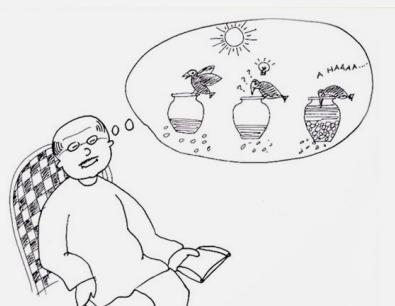
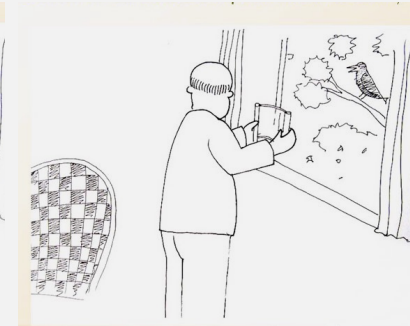
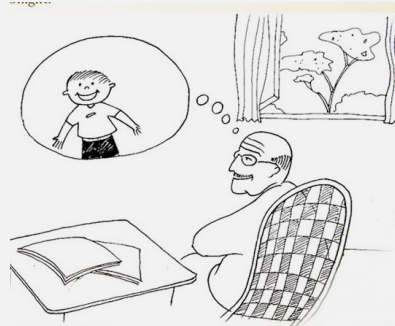


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# 'Scenario':

Here is shown a scenario 'wonder window' a device to narrate story by capturing real images and manipulating them. Here is the story of the crow and how it quenches its thirst.

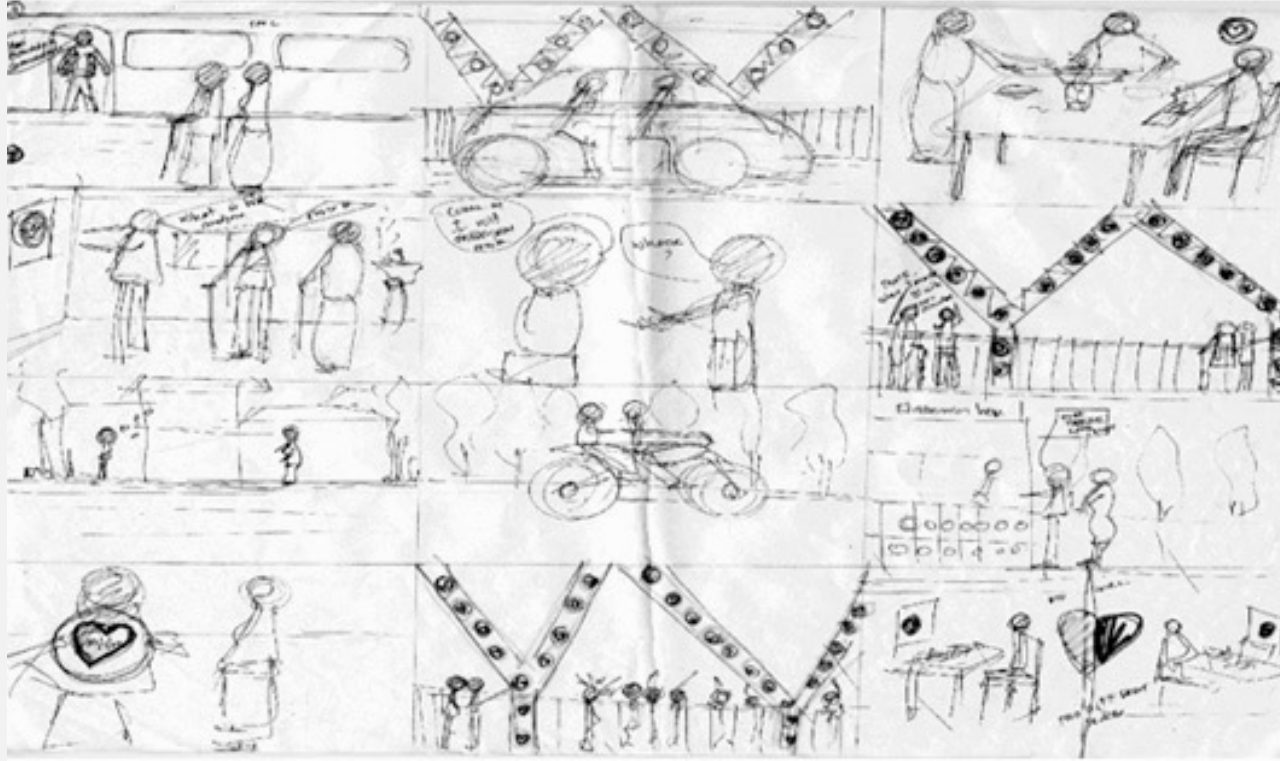


Reference: from  
dsourc.in (Case Study  
'Wonder window')

A circular logo with a dark background and the words "THINK! DESIGN" in bright yellow, bold, sans-serif capital letters.

## 'Scenario':

Here is shown a scenario of a boy who comes to see his grandparents and takes the experience from the bridge to his native place.



Reference: from  
dsourse.in (Case Study  
'Bloody Vampires')



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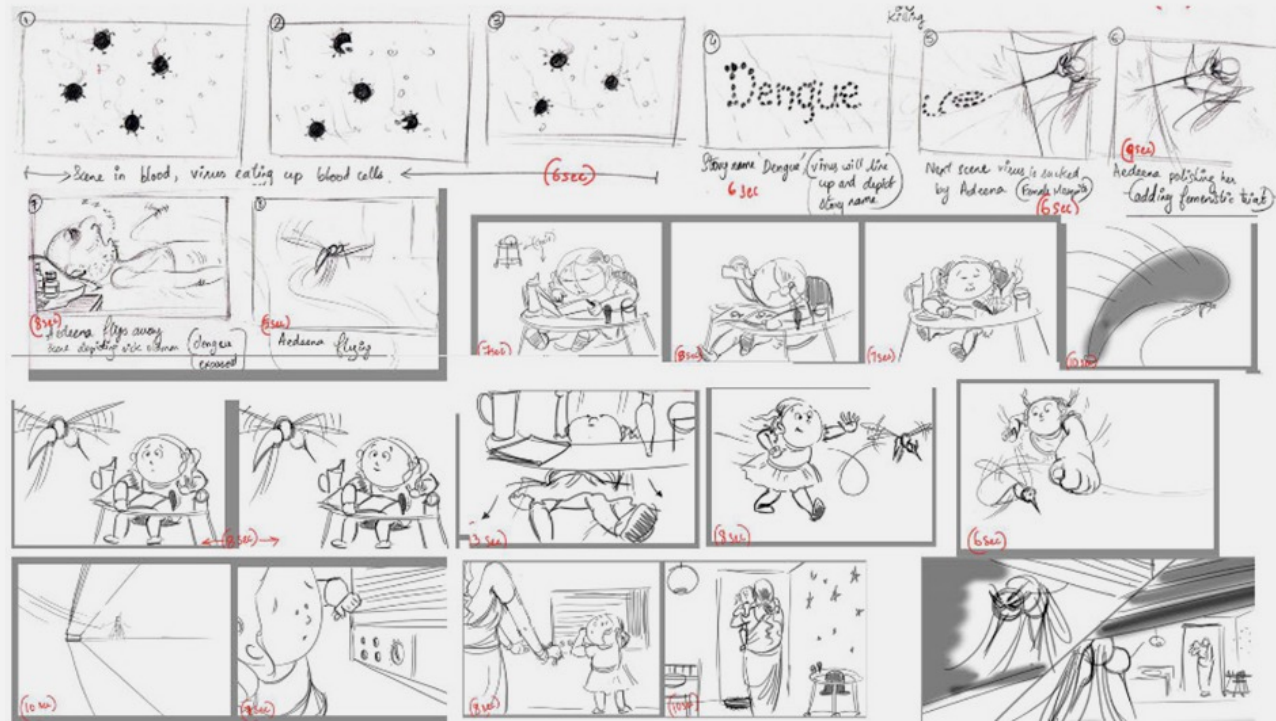
# 'Story board':

Here is shown a story of a cow in two styles.

Reference: from dsource.in  
(Course on Syntactics')



Here is shown a draft storyboard for an animation film on 'Dengue' prevention.



Reference: from  
dsource.in (Case Study  
'Bloody Vampires')

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# 'Story- board':

Here is shown a draft storyboard for an animation film as part of its script.

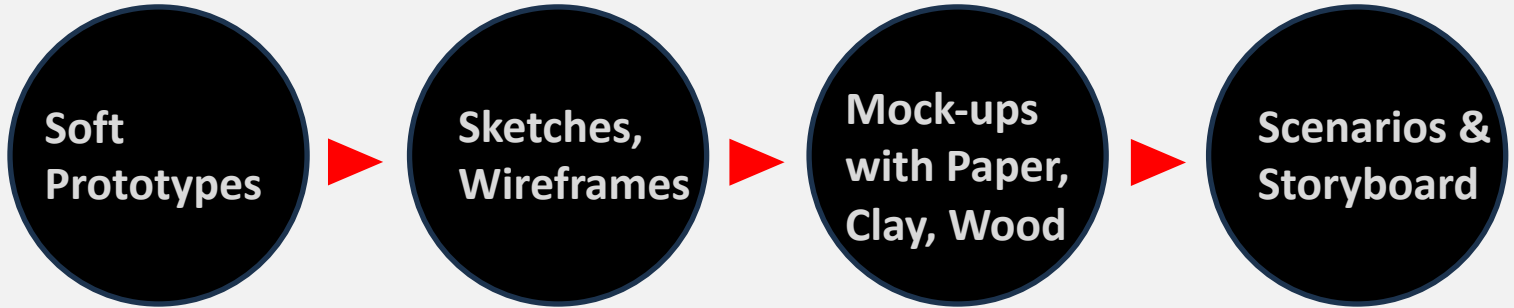


Reference: from  
dsourse.in (Course on  
Storyboard Animatics')



# Summary of Prototype part 1:

(Soft Prototypes > Ketches > Mock-ups > Scenarios and Storyboards)





**Thanks for  
Listening**

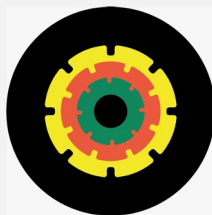
**DT&I Tools**  
Section: T10  
Week 10

# DT&I Course – Week 11:



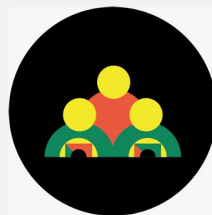
## DT&I Process (20%)

- > Prototyping Part 1
- > Soft Prototype
- > 'Rough Sketches',
- > Paper Prototype
- > Scenarios/ Story-boarding



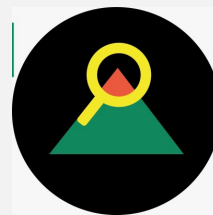
## DT&I Tools (20%)

- > 'Rough Sketches',
- > Paper Prototype
- > Mock-Ups
- > Scenarios
- > Story-boarding



## DT&I Project (50%)

- > Apply 'Rough Sketches', Paper Prototype, Mock-Ups, Scenarios and Story-boarding



## DT&I Cast Study (10%)

- > Case Study Project:  
**Marbo – sharable data units**



## Supporting Organizations:



D'source Project



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MoE's Innovation Cell



## Credits:

**Presented by:**  
Prof. Ravi Poovaiah



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## Credits:

**Camera & Editing:**  
Santosh Sonawane



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## Credits:

Think Design Animation:  
Rajiv Sarkar



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## Credits:

**Graphic Icons:**  
Shweta Pathare



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## Credits:

End Title Music:  
C P Narayan



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