# Prototyping Interactive Systems DES 206

**Lecture 2**

**11-01-2024**

**Richa Gupta**

INDRAPRASTHA INSTITUTE *of*
INFORMATION TECHNOLOGY
**DELHI**

# Google Classroom code

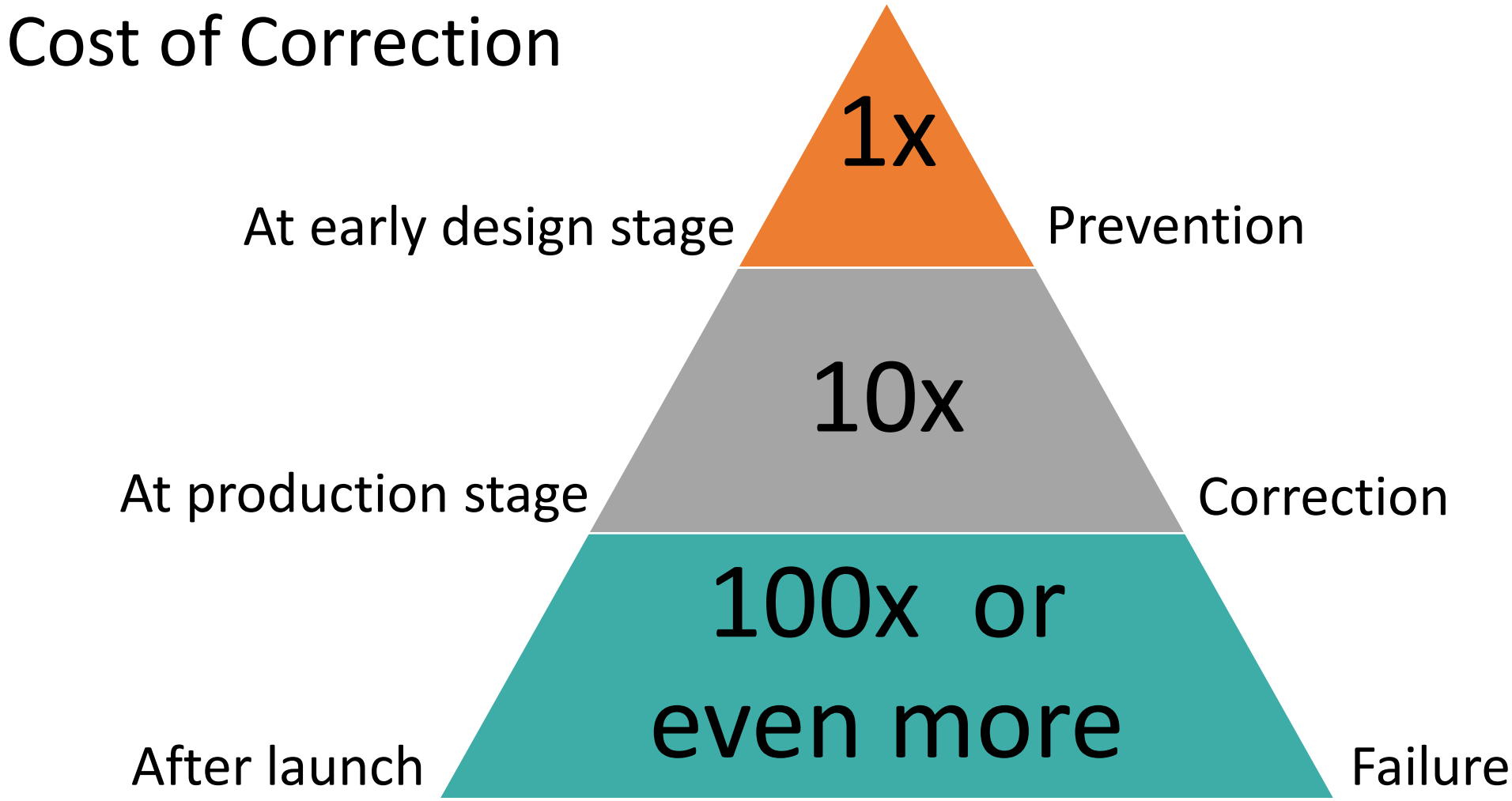
66pj2y2

# What is a Prototype?

A prototype is ….

An artefact that someone can touch, hold, see, or interact with in some way so that they can offer feedback

# The 1–10–100 Rule



# Prototyping - Types and Fidelity

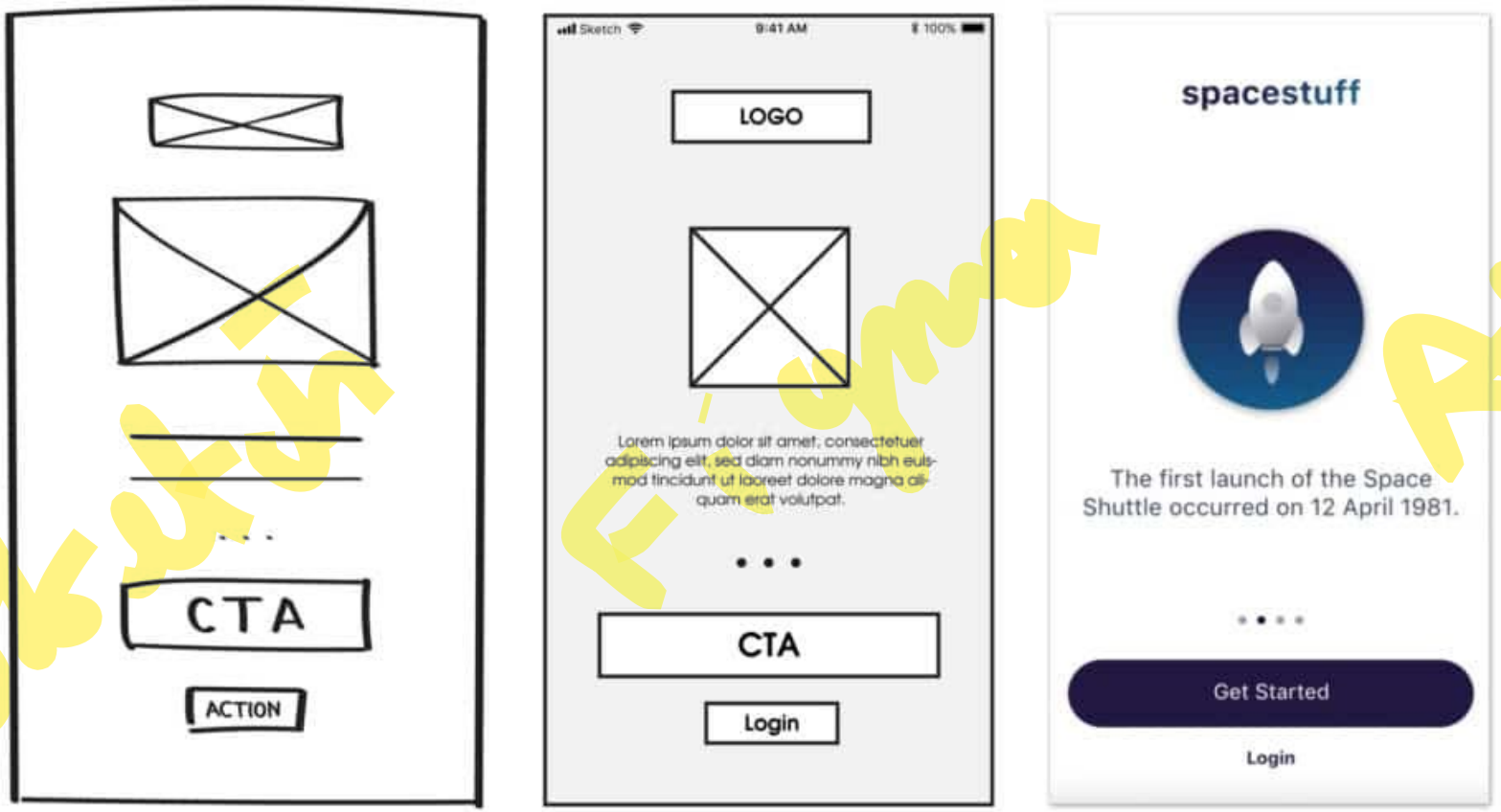
# Types of Prototypes

- Types of prototypes
  - Throwaway – cheap, fast, low fidelity to test initial ideas
  - Evolutionary/Incremental – similar to final product; features are added as per feedback to refine the design
  - Extreme – high fidelity for analysis driven testing
- Forms of prototypes
  - Physical (hard)
  - Physical (soft)
  - Digital (different system)
  - Digital (same system)
  - Interactive/Electronic

# Fidelity of Prototype

- Fidelity refers to how close a prototype is to the final product.
- There is no single right way of choosing fidelity level
- It is based on the goal of the project, the current stage of the project, available resources, etc.
- Types of Prototype:
  - Low-Fidelity (Lo-Fi)
  - High - Fidelity (Hi-Fi)
- Eg: A sketched prototype is a low-fidelity prototype, while a coded, HTML/CSS prototype has very high fidelity.

# Fidelity of Prototype

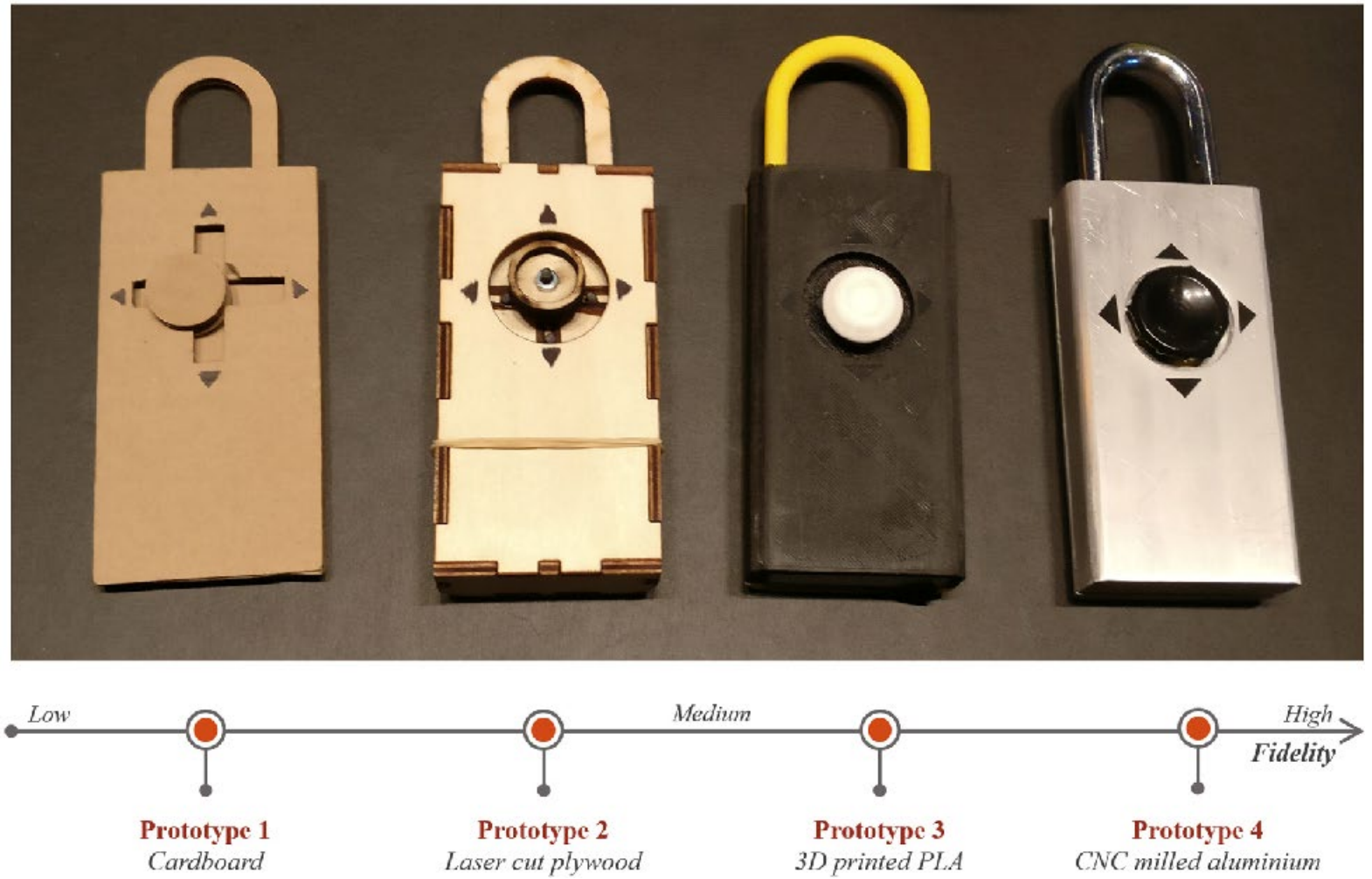



Increasing fidelity →

# Fidelity of Prototype

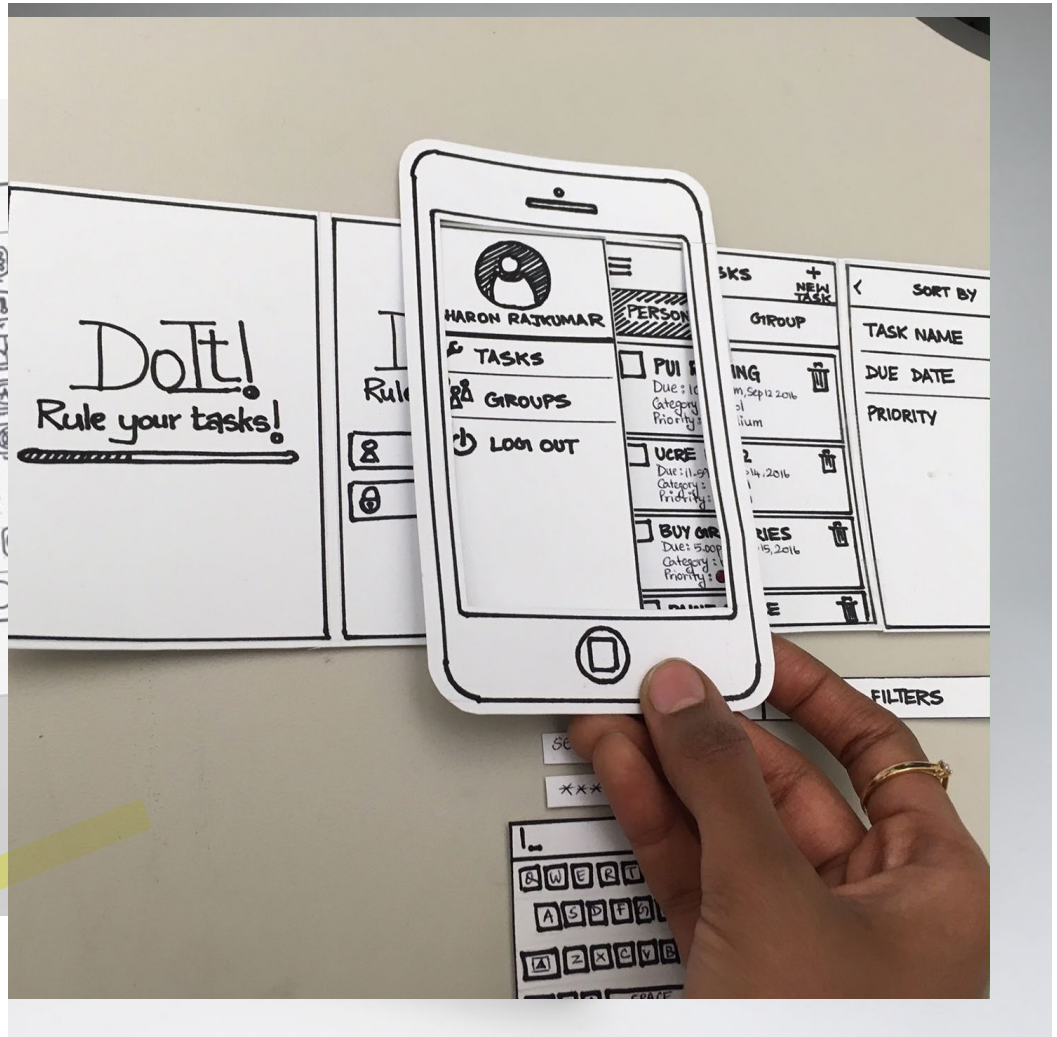
Increasing fidelity →

# Fidelity of Prototype



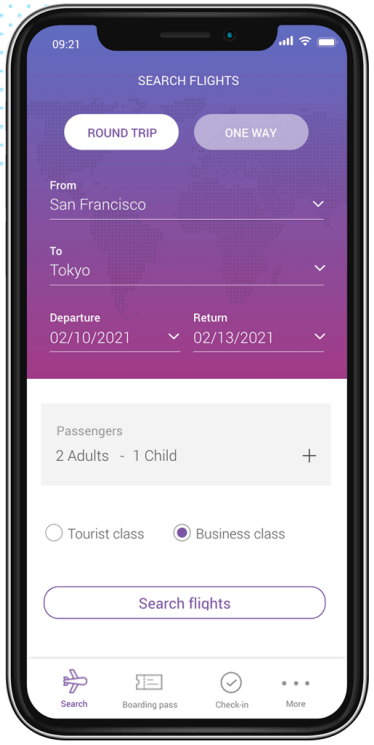
# Low – Fidelity Prototypes

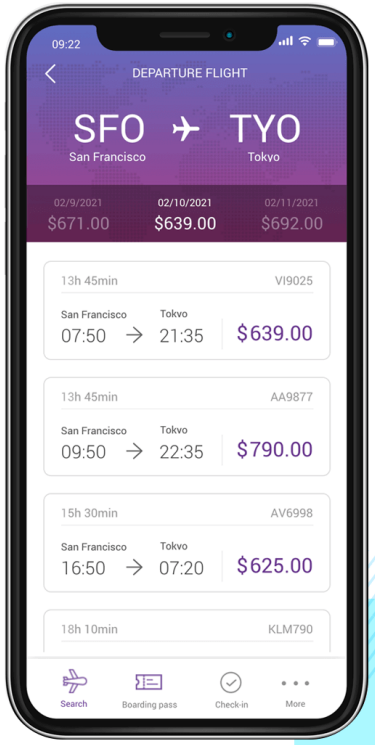
- It provides a more tangible representation of the final product
- The main goal of this is to outline the flow of the product and test the usefulness and usability of the functions
- It can be useful in exploring various forms and aesthetics
- Methods
  - Sketches
  - Paper/ Cardboard Prototypes
  - Click-through Prototypes



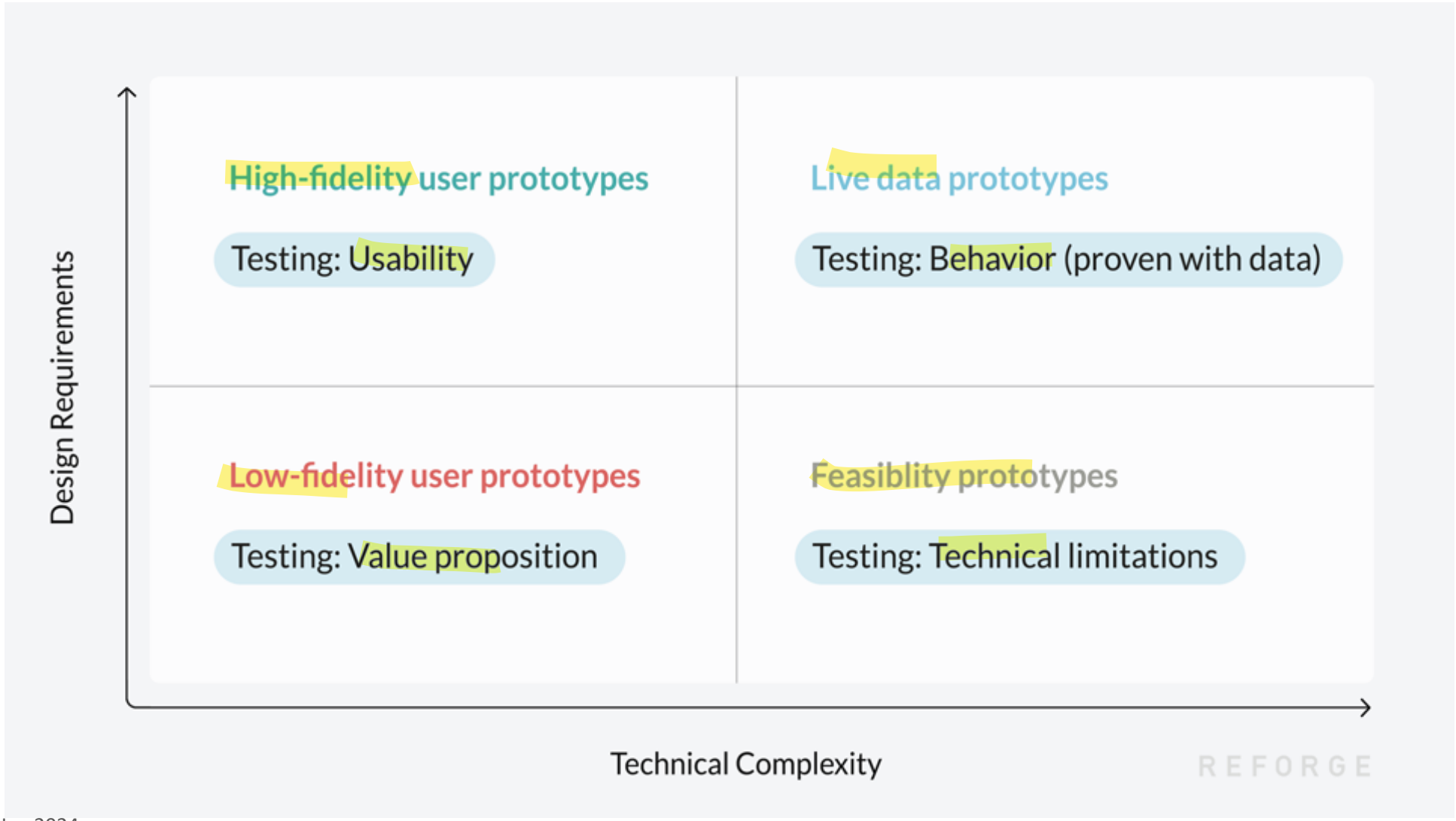
# High – Fidelity Prototypes

- More technically complex and aesthetically pleasing
- Closer to final product
- Final stages of design for structured usability testing or analysis
- Methods
  - Interactive
  - Digital
  - Coded

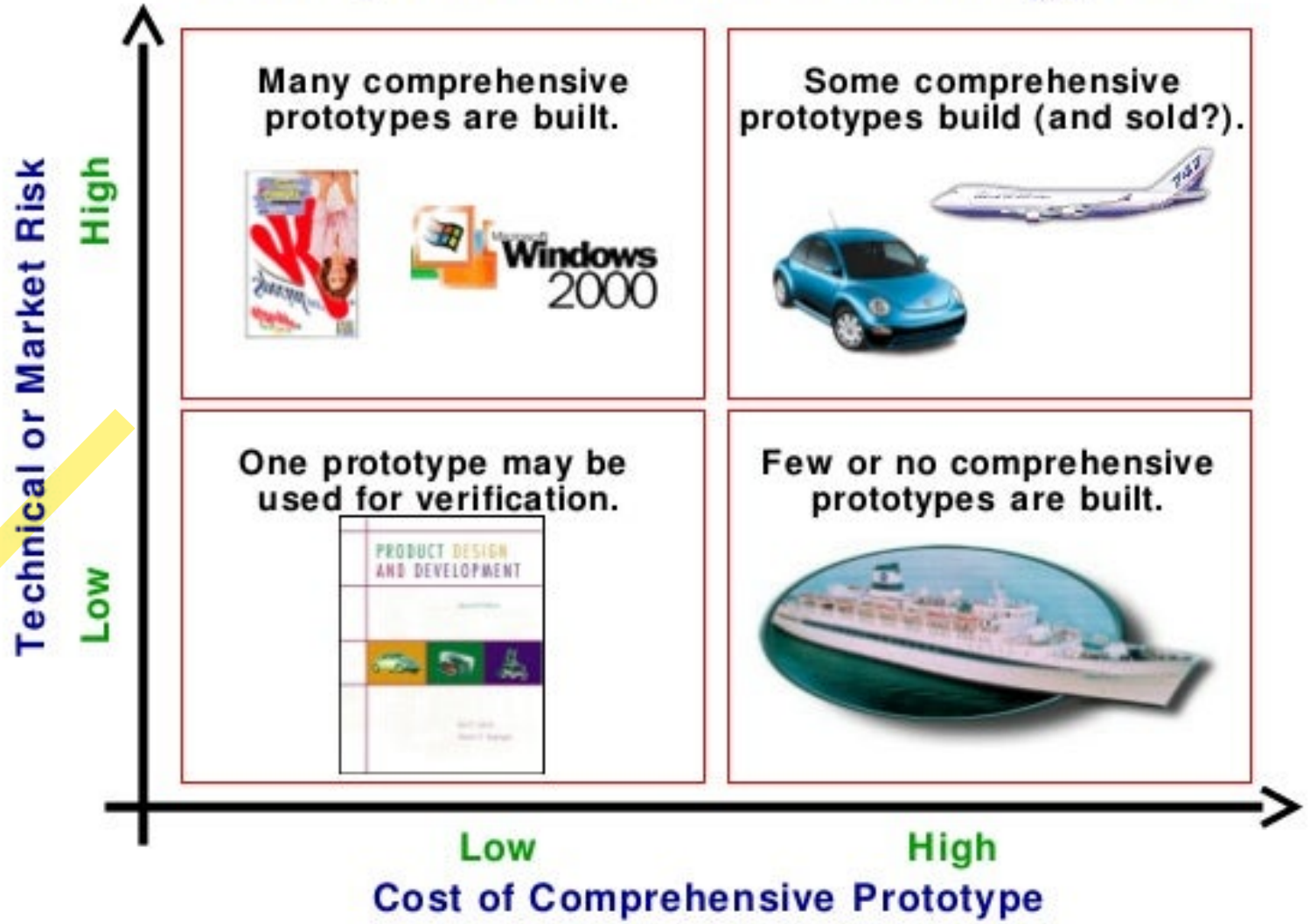


# Prototyping for testing



# Cost vs Risk Assessment (Industry)



# Purpose of Prototyping

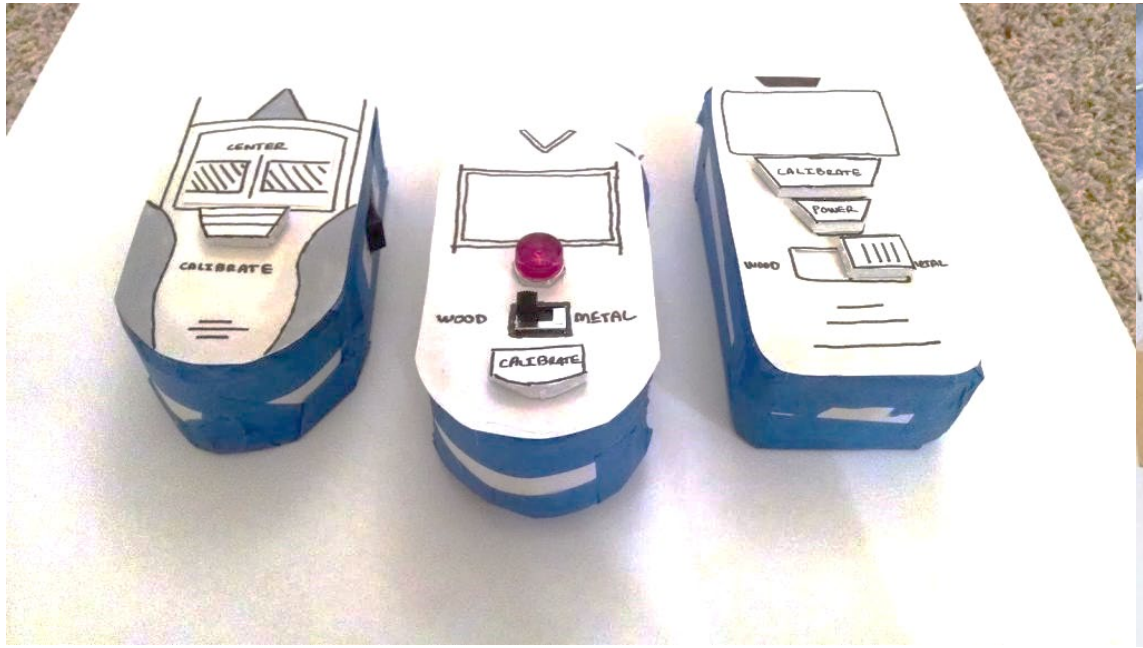
- The main of prototyping is to involve the users in testing design ideas and get their feedback in the early stage of development to reduce time and cost
- It provides an efficient and effective way to refine and optimize interactions through discussion, exploration, testing and iterative revision
- Early evaluation can be based on faster and cheaper prototypes before the start of a full-scale implementation

# Prototyping Methods

# Cardboard Prototyping

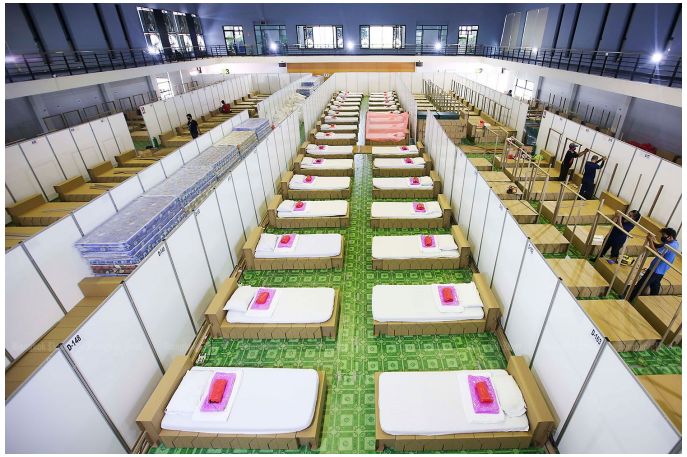
- Most common Lo-fi prototyping method
- It can be done using easily available and cheap materials
- It gives tangible form to an idea where functionalities can be tested
- Exploring tangible form

# Cardboard Prototyping

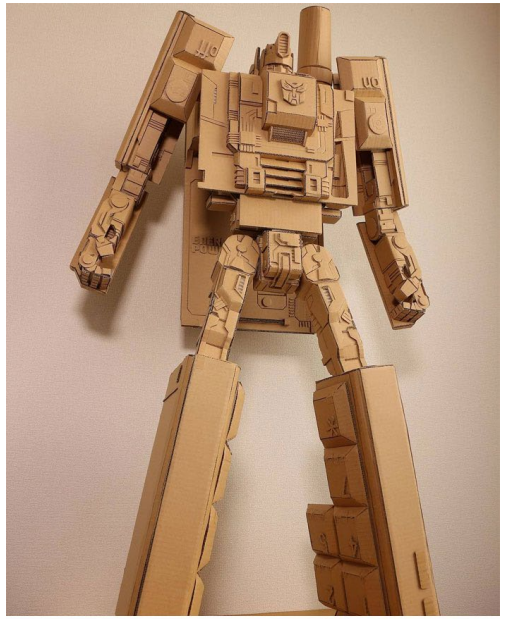



# Cardboard Beds

- During the first wave of Covid, a healthcare center with nearly 2000 cardboard beds was set up in Thailand to treat patients

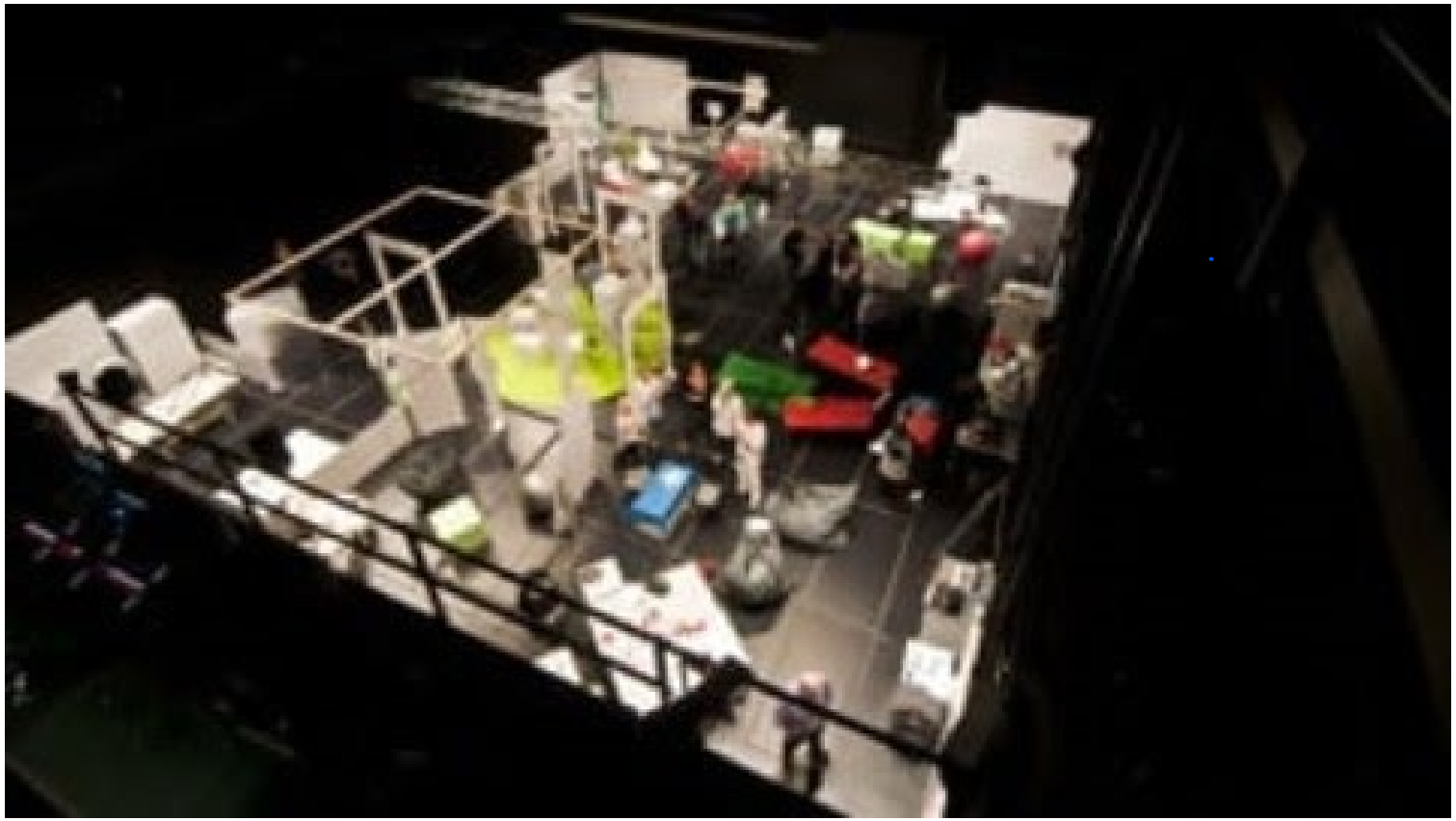


# Cardboard Art



# Cardboard Hospital

Check out an entire Life-size Cardboard prototype hospital built in Finland https://vimeo.com/468812964



# Material



Paper

Pencil

Cardboard Box


Glue

Cutter

Scissors

Tapes to Stick


Scale

Colours

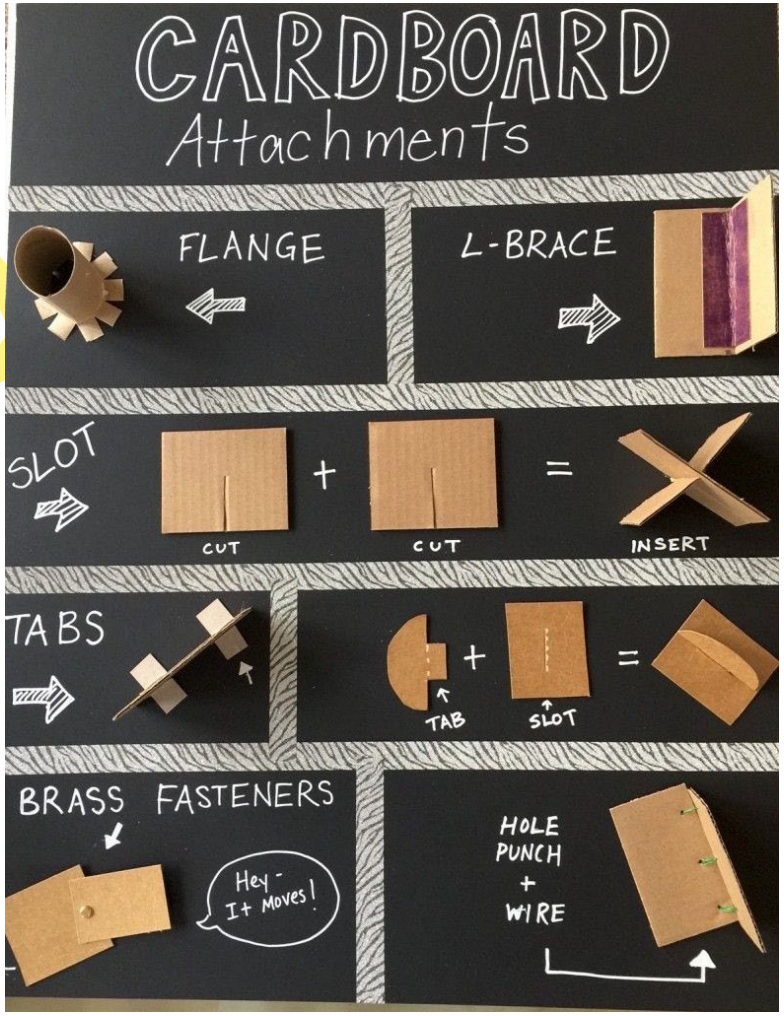
**And your creative hats**

# Techniques

- Some cut and fold techniques

- Check out this detailed video on how to do them
  - https://www.youtube.com/watch?v=D7nbexfrC8U

- Another Useful Video
  - https://www.youtube.com/watch?v=mlOabQ1_98I



# Assignment 1

- **Design and prototype an innovative egg packaging using cardboard**
  - **Should enable safe putting, carrying and dispensing of 4-6 eggs**
- Create preliminary sketches of ideas
  - Be creative, use pen/pencil on paper
- Create a detailed sketch mentioning the dimensions
- Pick out your cardboard and other tools  like glue, cutter, tape, etc.
- Use of other material like paper, sponge, polyethene, glitter, paints not allowed
- Enjoy prototyping!

# Assignment 1

- Constraints
  - You will get a 2ftx2ft corrugated sheet from DI for this assignment.
  - The final design should be limited usage of material to 2x2 ft
  - You can use you own amazon boxes for ‘rough work’
- Evaluation Criteria
  - Ideation and final concept sketches
  - Usage/Demo Video Includes - opening, putting eggs, closing/packing and carrying
  - Optimal material usage and technique
  - Usability and Aesthetic Quality
  - Originality of Ideas and uniqueness of final design

# Assignment 1 – Submission

- **Submission deadline – 21st January 11:59 pm**
- **Google slide file name – FirstName_Last three digits of roll number**
- **E.g. Richa_024**
- The Google slides file should include the following
  - Photos of Preliminary idea sketches
  - Photo of final concept detailed sketch
  - Photos of cardboard prototype from atleast 3 different angles
  - A small 1-2 min video showing the opening, egg putting, closing and carrying using the prototype
- Digital Submission on google classroom
- In class display on 23rd Jan – Hall of fame students to give demo to whole class

# Assignment 1 – Submission

Anything but this