

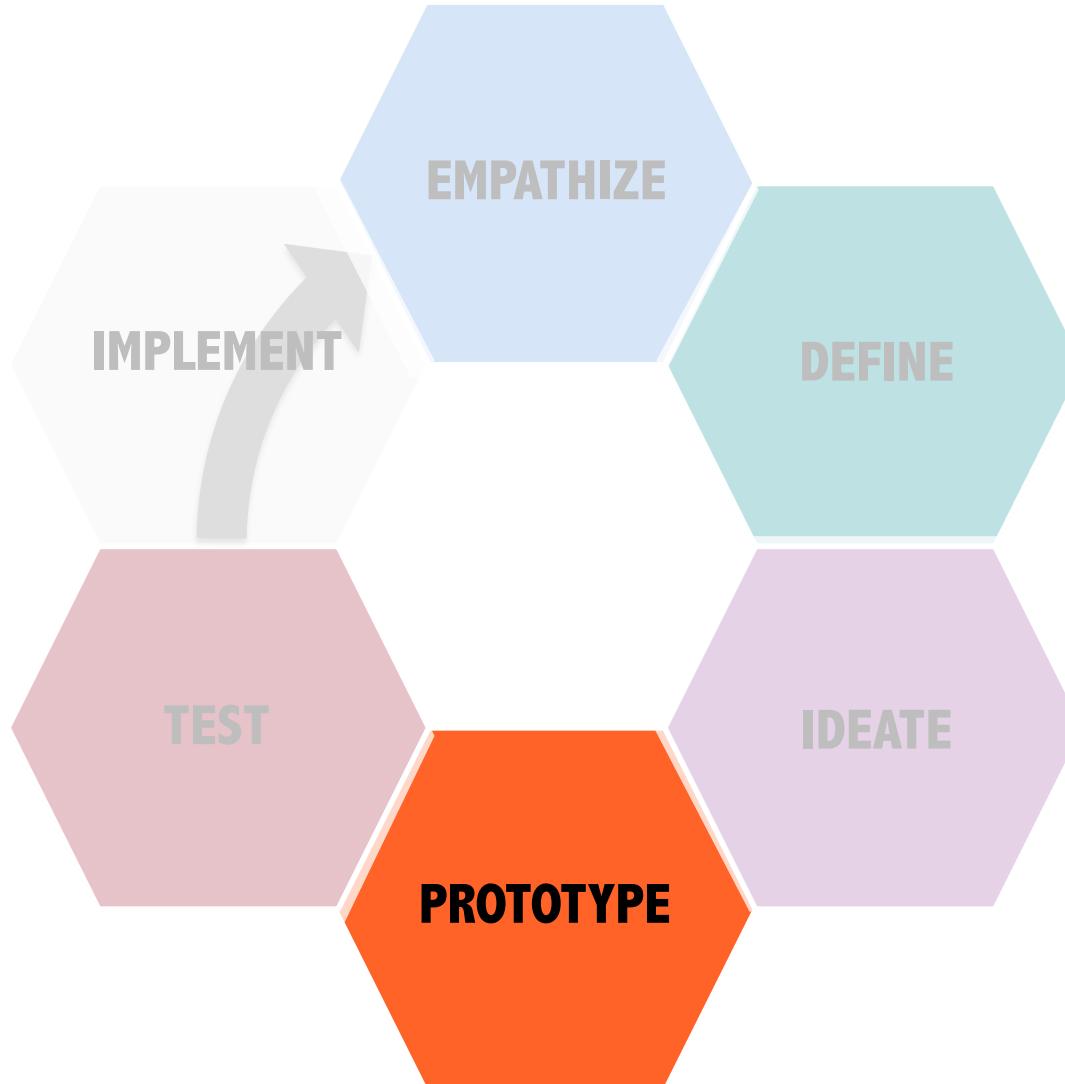
# Prototyping



**Design Thinking for Marketing Innovation**  
**Stephen Walls, Ph.D.**

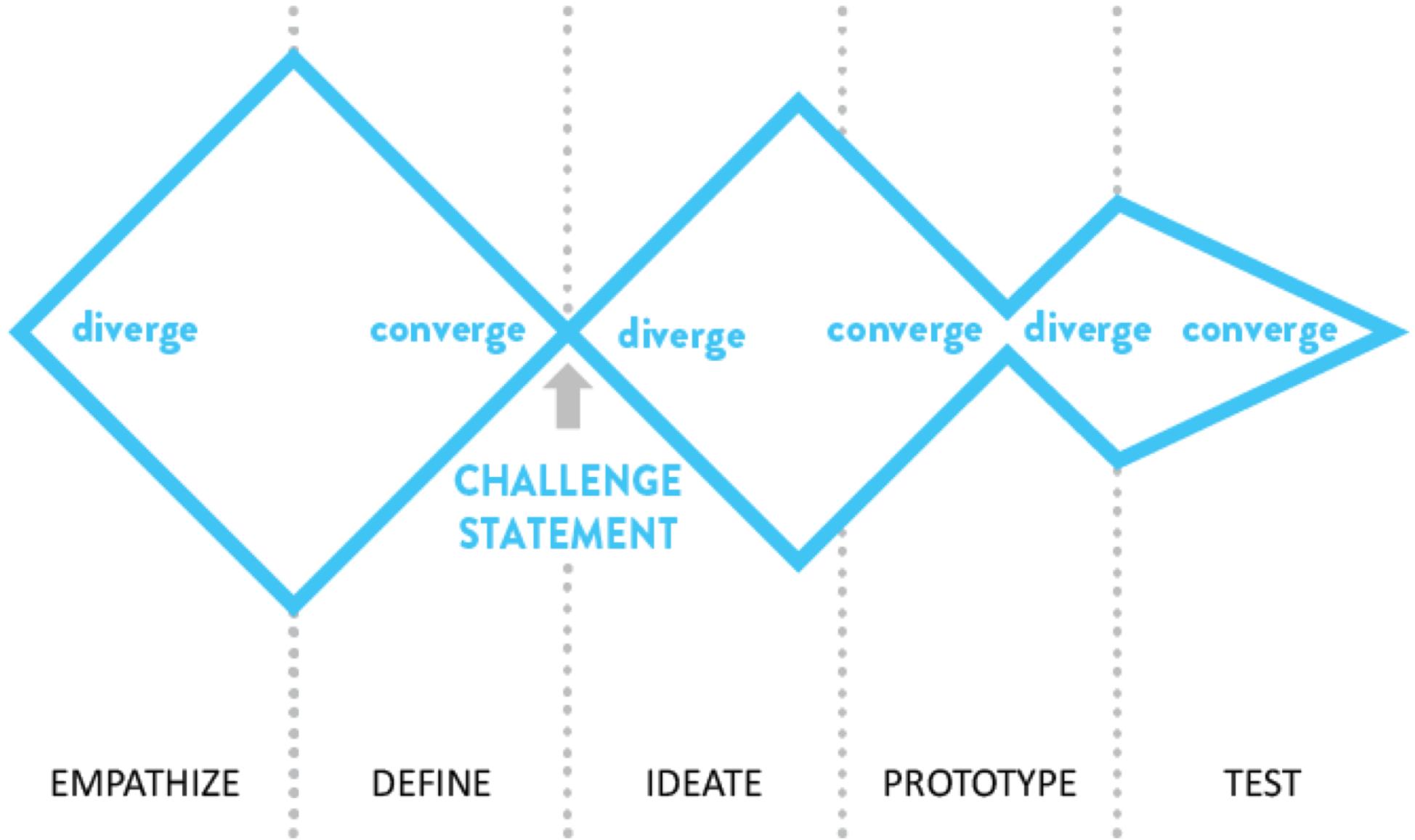


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Ideas & Prototypes

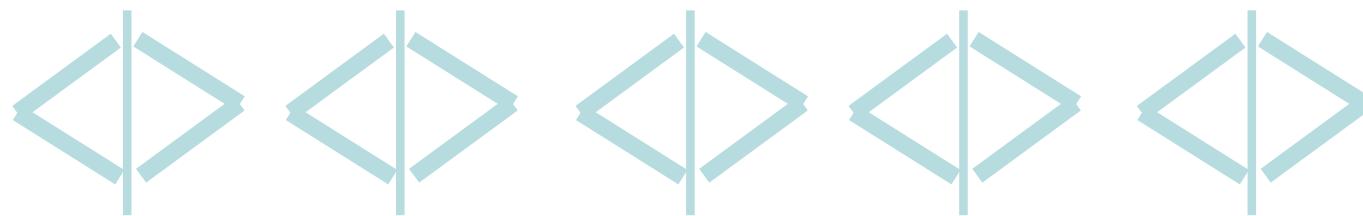
## Where are we in the process?



Ideas & Prototypes

## Where are we in the process?

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"[T]he most significant change happens when you bring into a room a model. A lot of people can't understand drawings completely. But you go through this dramatic shift where you go from something that was fairly exclusive to suddenly you have something which is inclusive, which can suddenly galvanize people—[though] at least they're looking at the same thing, rather than just looking around and wondering, "when it gonna be done?"

- Jony Ive – Apple's Chief Design Officer (something like that)  
(Future of Design Interview @ Smithsonian's Hirshhorn Museum and Sculpture Garden)



# Rapid Prototyping

Creation

Process



# Prototype

A physical representation of an idea.

Human element

Context



A picture is worth a thousand words.

A prototype is worth a thousand pictures.



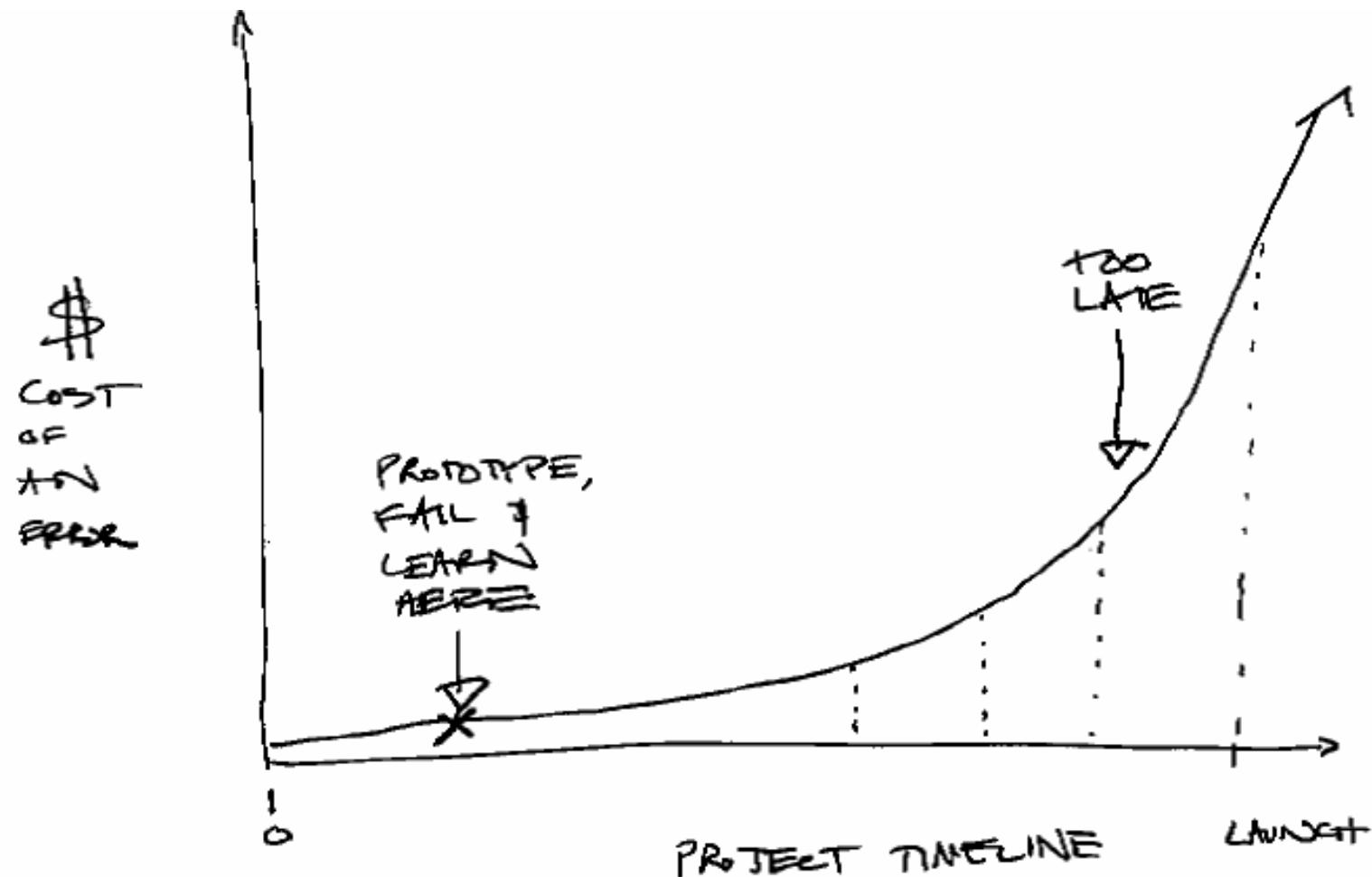
# Big Idea

Prototypes as tool for generating ideas.

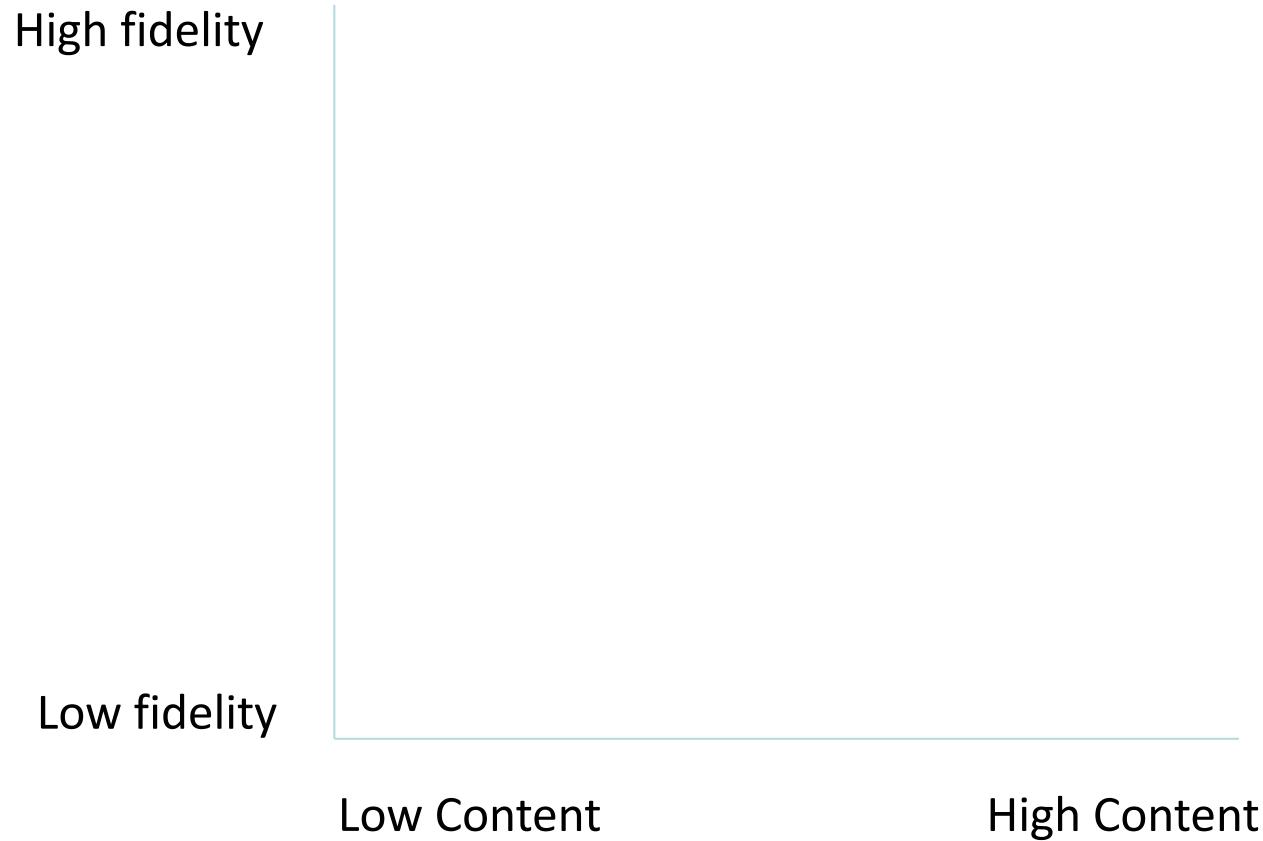
NOT, just the end result of the process.



# Fail & Learn Early...



## How to Prototype: Simply a question of what's appropriate...



## Ideas & Prototypes

## Approach

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Ideas & Prototypes

## Approach

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## Ideas & Prototypes

### Approach

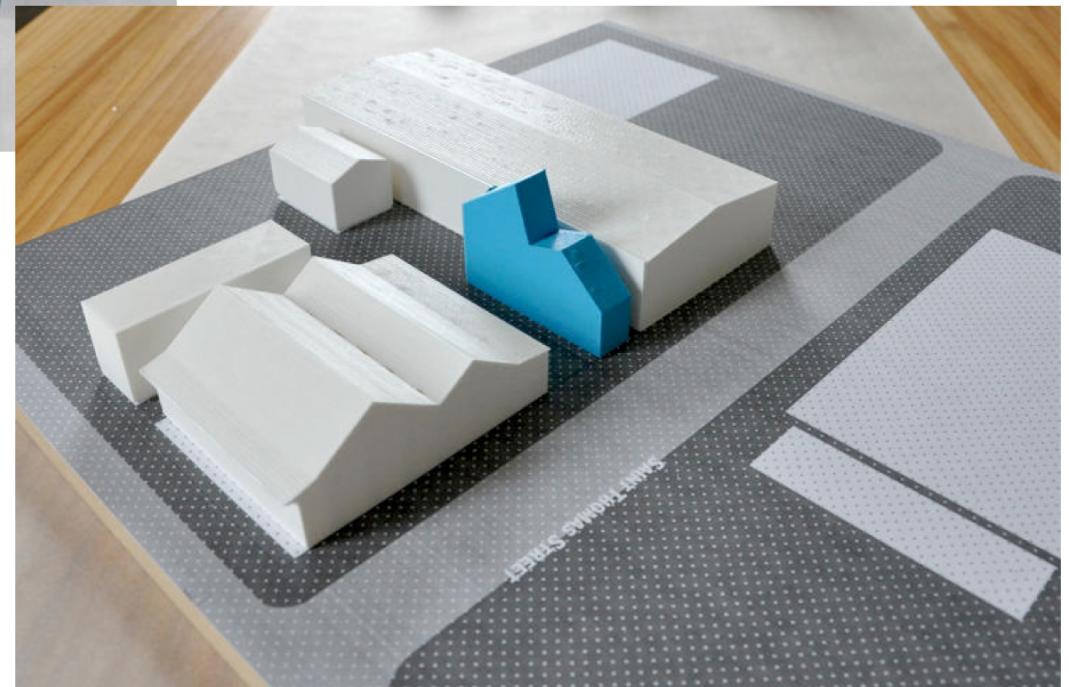
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## Ideas & Prototypes

### Approach

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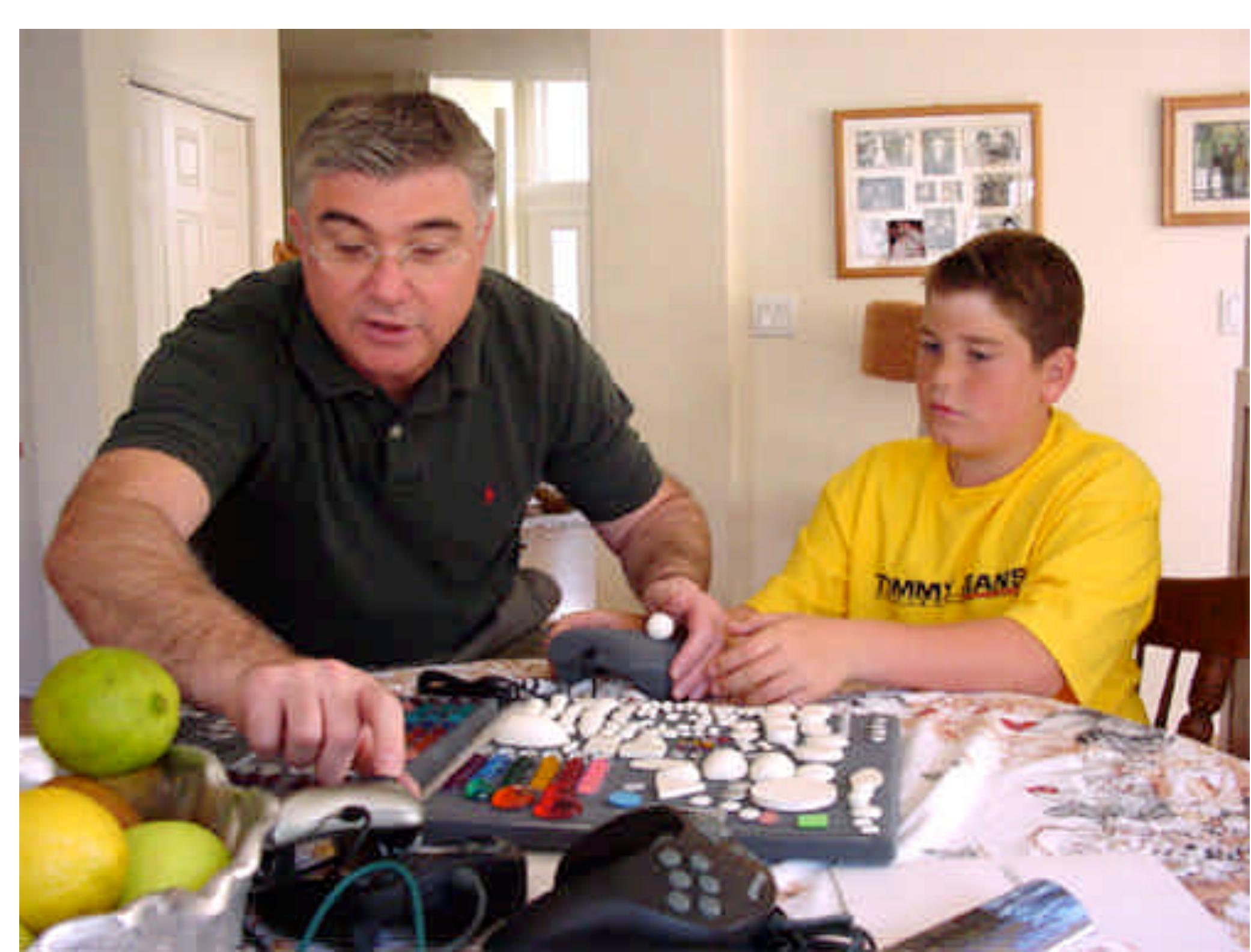
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# Prototyping as a generative research tool



# Velcro-Modeling





## Ideas & Prototypes

### Techniques



Figure 4: Bodystorming layouts for an airplane interior.



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# Ideas & Prototypes

# Techniques





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Chesapeake

color and finish

- Etched Coleman logo on the cross brace

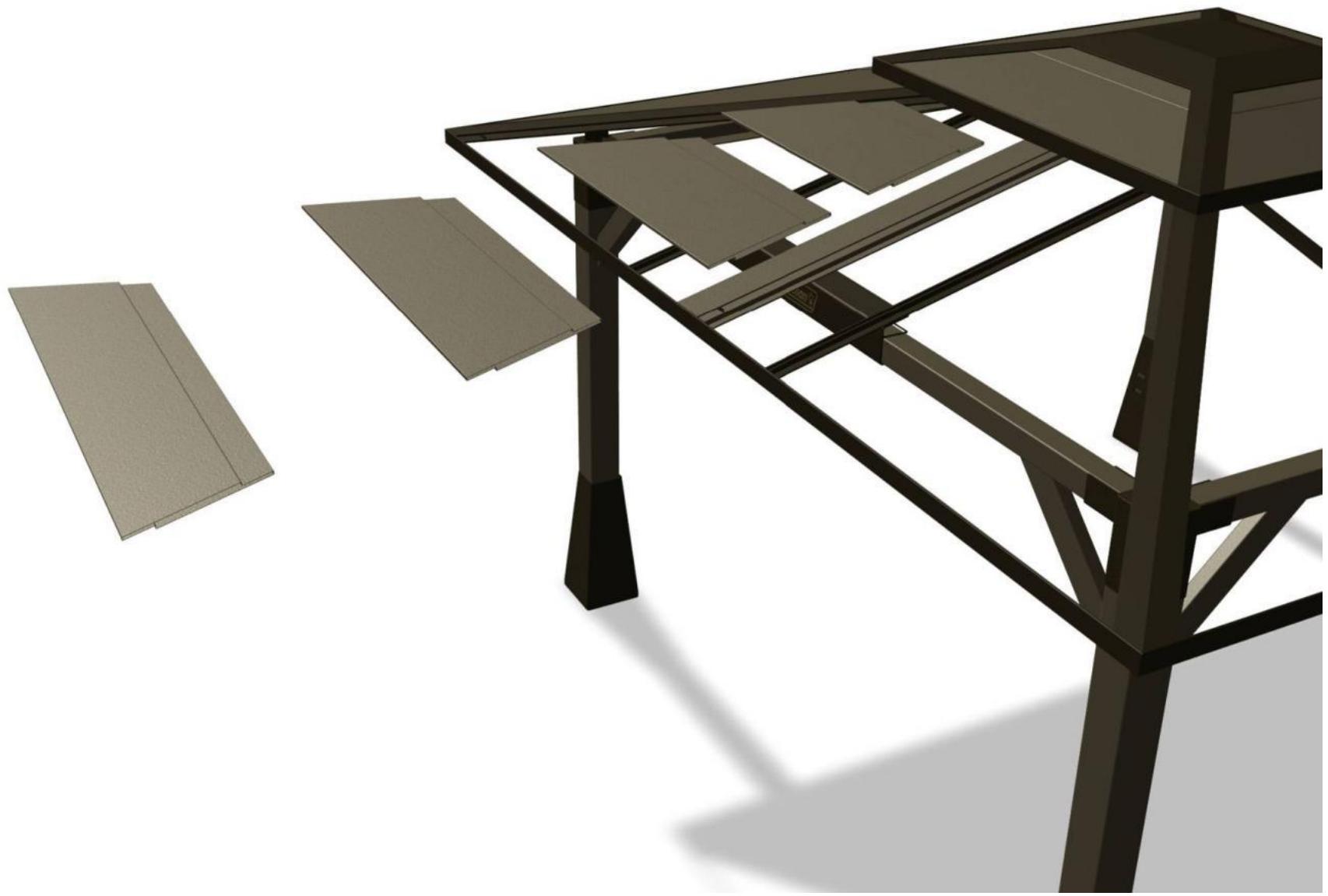


- Powder-coated, dark brown, heavy texture connecting bracket

- Powder-coated, medium brown, light texture support and post

- Powder-coated, dark brown, heavy texture base





# Ideas & Prototypes

## Techniques

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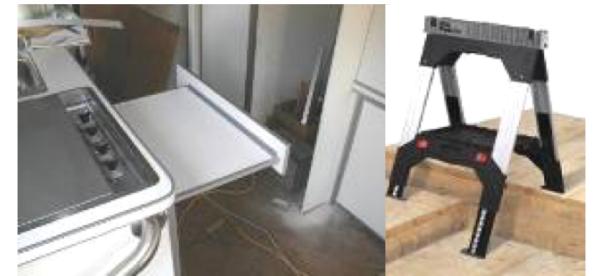
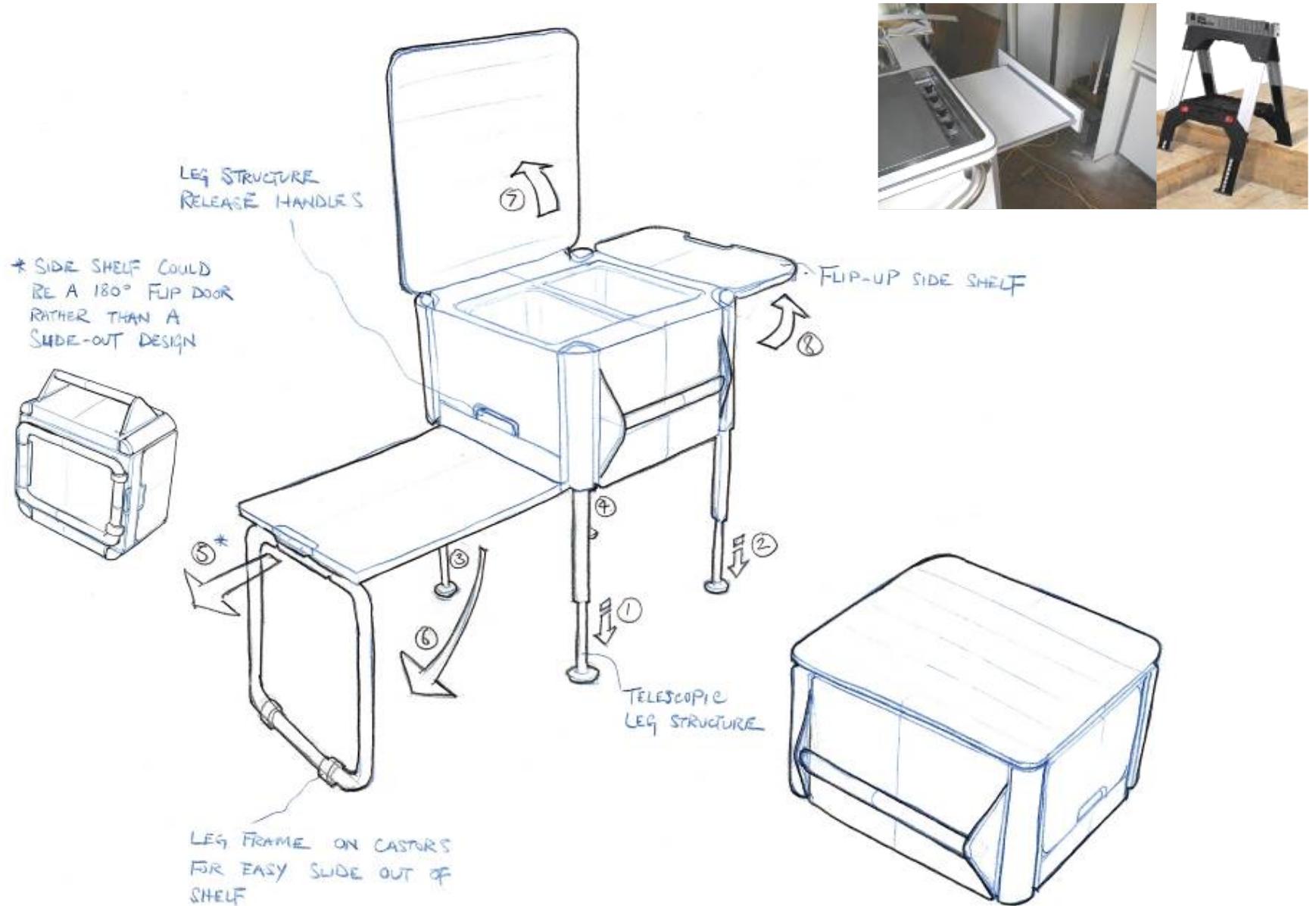


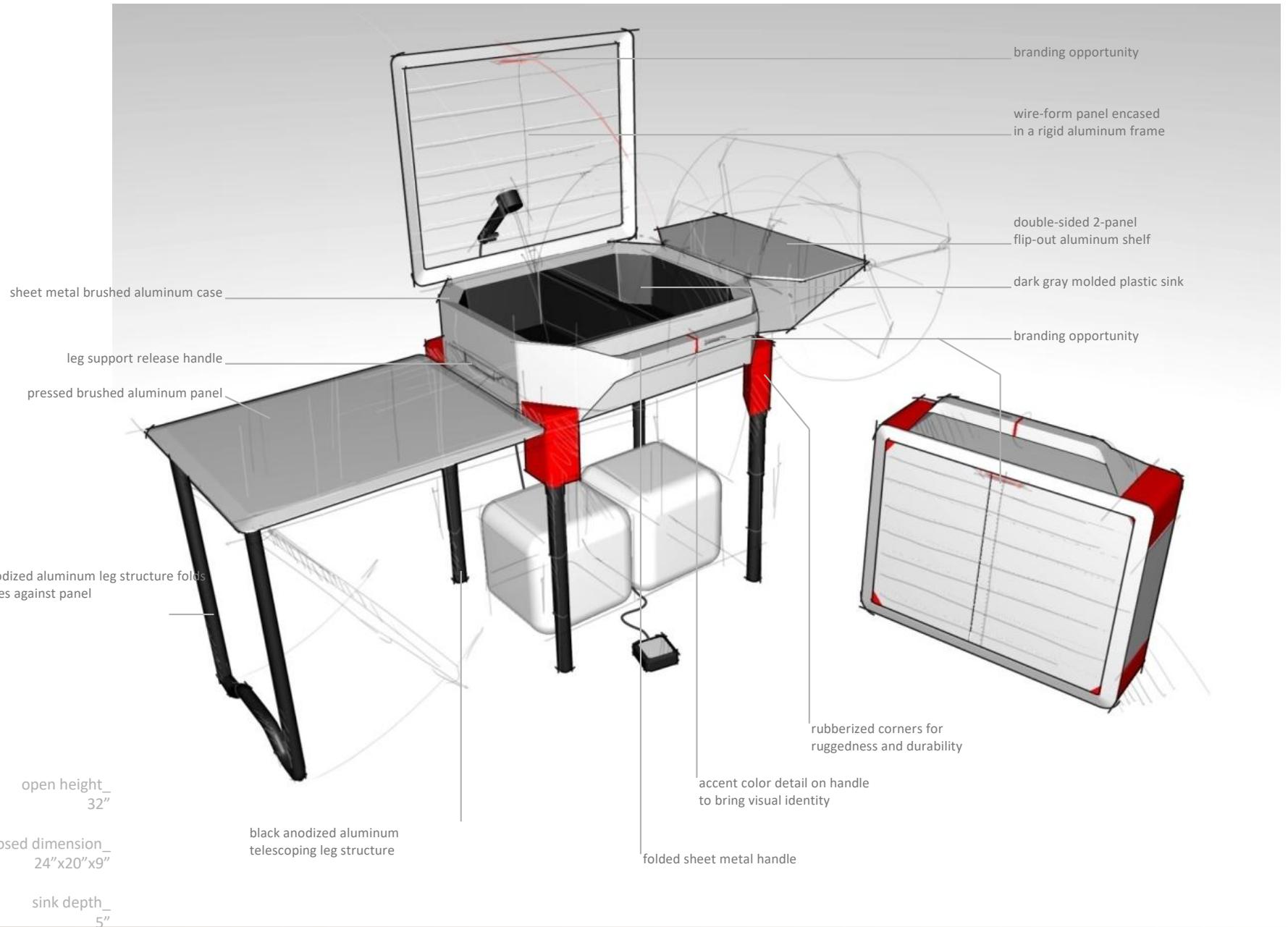
At 36 inches high



At 32 inches high



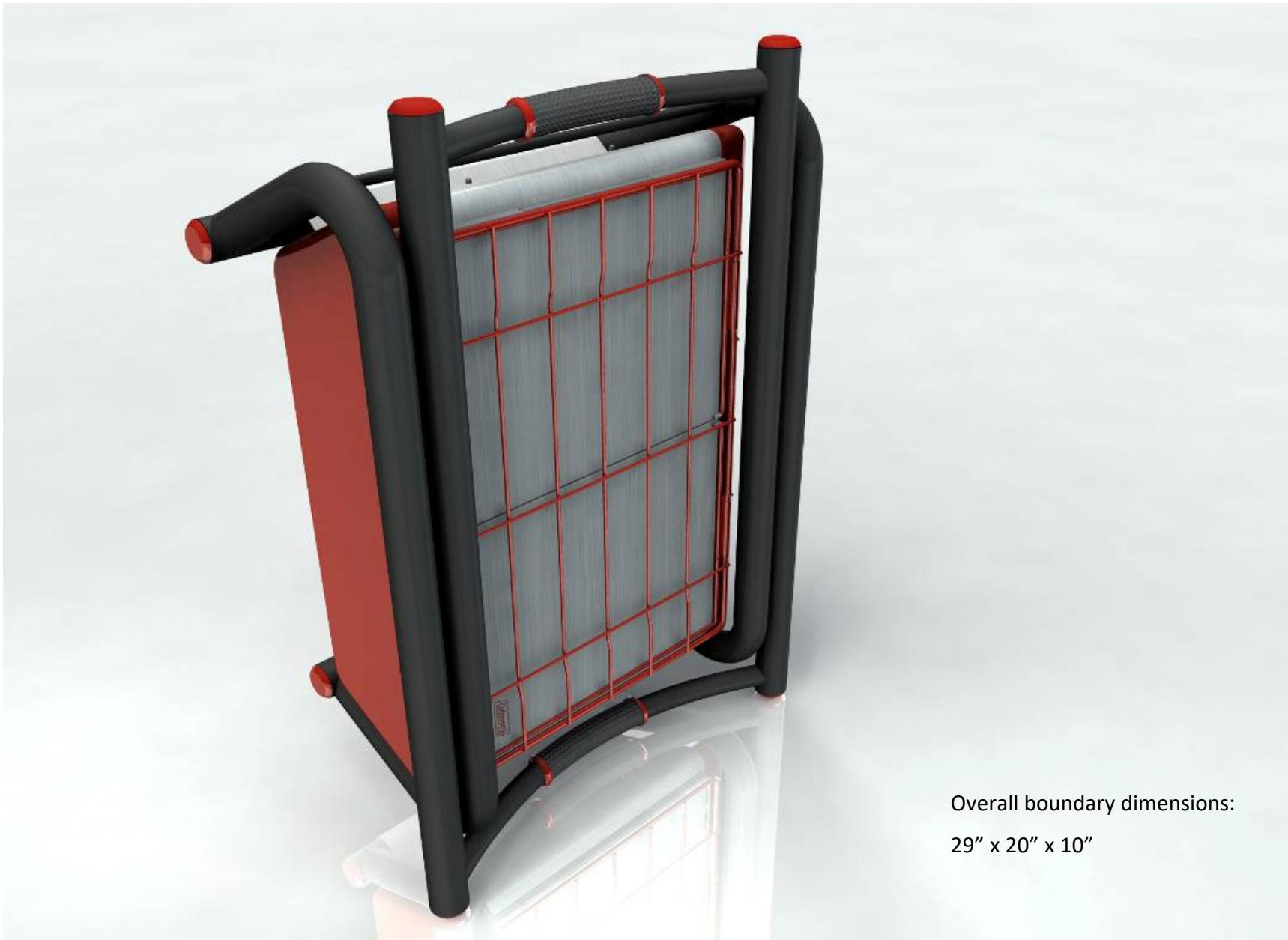




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Overall boundary dimensions:  
29" x 20" x 10"



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# Materials



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# Inexpensive & Fast Materials



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# Blue Foam - Insulation



# Foam Core / Gator Board

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# Cardboard

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“wiggle chair” Frank Gehry - 1972

\$985



# Frank Gehry – Disney Concert Hall

*(Sketches of Frank Gehry – Sydney Pollack)*



# Spray Adhesive

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“Super 77”



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# Clay



Sculpey



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# Fabric

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# How do you prototype a service??

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“A day in the life...”

Storyboarding

Photo series

Short Video

Process mapping

Consider artifacts



## Mobile Office - Scenario I



1. While grabbing breakfast Ted logs on to his device via secure finger print scan, then checks and responds to morning emails via wireless keypad, and reviews the latest quarterly financial spreadsheet. His device is ergonomically placed in a **home interface console** which is linked to his HDTV now acting as a display. A speaker phone is also included in the console.



2. While commuting to the office Ted checks voice messages and responds utilizing an ear bud. For time sensitive communication Ted uses the PTT feature. He keeps his device in a front pocket or a **mobility console** containing its own battery to charge the device and an integrated, breakaway blue tooth ear piece. The **console snaps off his belt and on to his vehicle's dash** where GPS technology guides his way. [accessory could incorporate laser projection, accessories, etc]



3. Once in office, Ted docks his device into a **desktop interface console** leveraging the VoWLAN capability of the device to convey corded handset and great speakerphone capability. The desktop interface console provides added value usability for key interface features. [desktop phone replacement]



4. Ted sets up an impromptu meeting in a conference room to discuss next steps with his core team and key partners who are in Taiwan. Ted docks his device into a **conference interface console** leveraging the VoWLAN capability of the device to convey great speakerphone capability and added value dialing capability. The console has video out to run media or video conferences to the rooms projector as well.



5. Ted visits a key local customer to show their latest training video to a small audience. Setting his device vertically on a desk, **Symbol's laser projection technology** allows him to project the video on a nearby wall. Audio on the handset provides a rich sound experience.



6. The customer brings up several difficult technical questions so Ted patches in engineers on the other coast via video conference in landscape mode using the device's Network service. Engineers see the issue via the **integrated rotating camera**. They then demonstrate the technology fix on display - this could be done via laser projection as well.

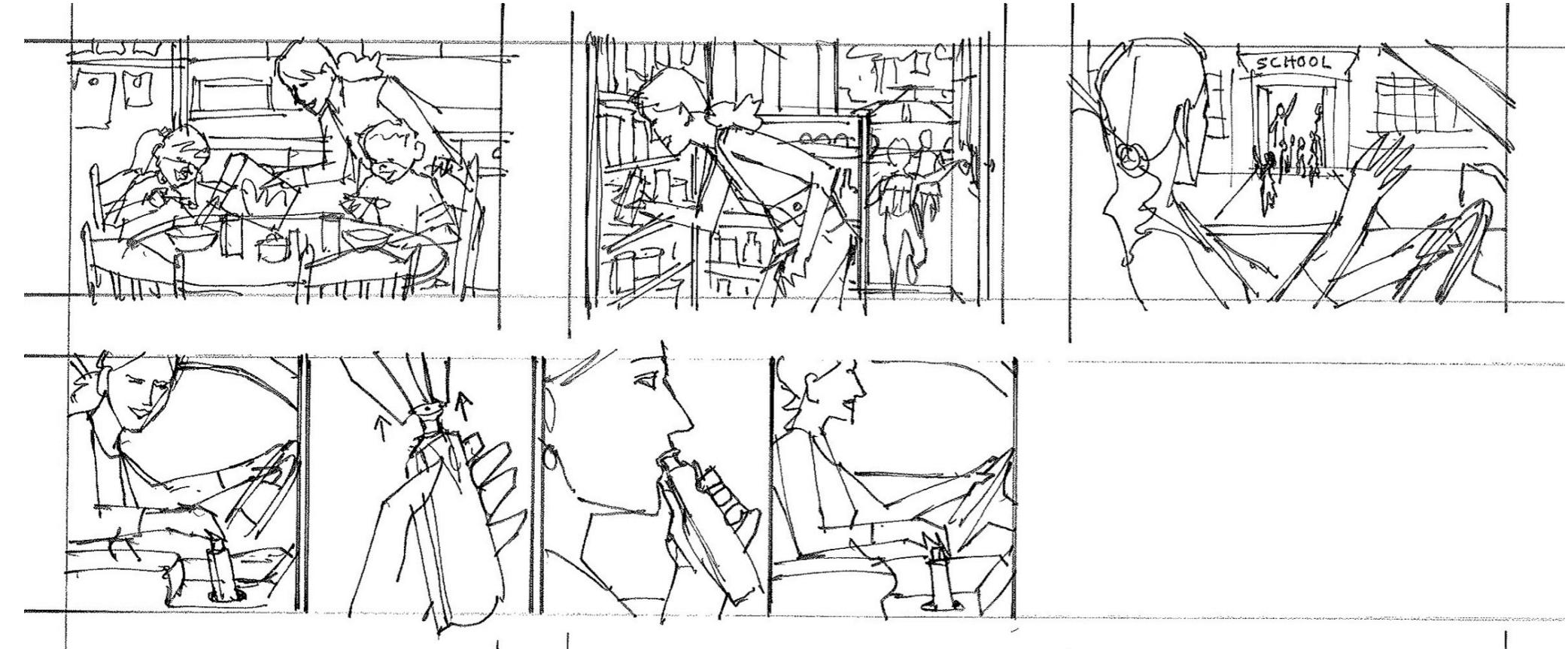


7. On his way home Ted accesses his intranet and updates his quarterly numbers on his company's internal application reflecting the sale he just made. Concurrently he receives a call from home. Using a split interface and an ear piece, he lets his wife know he will be home in time for dinner.



8. After dinner Ted needs to hold a quick staff meeting with his Singapore team. The HDTV is being used by family so he finds a private area to hold a video conference call. Using the device's laser projection system and its Network capability he holds the call and calls it a night.





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# How do you prototype website?

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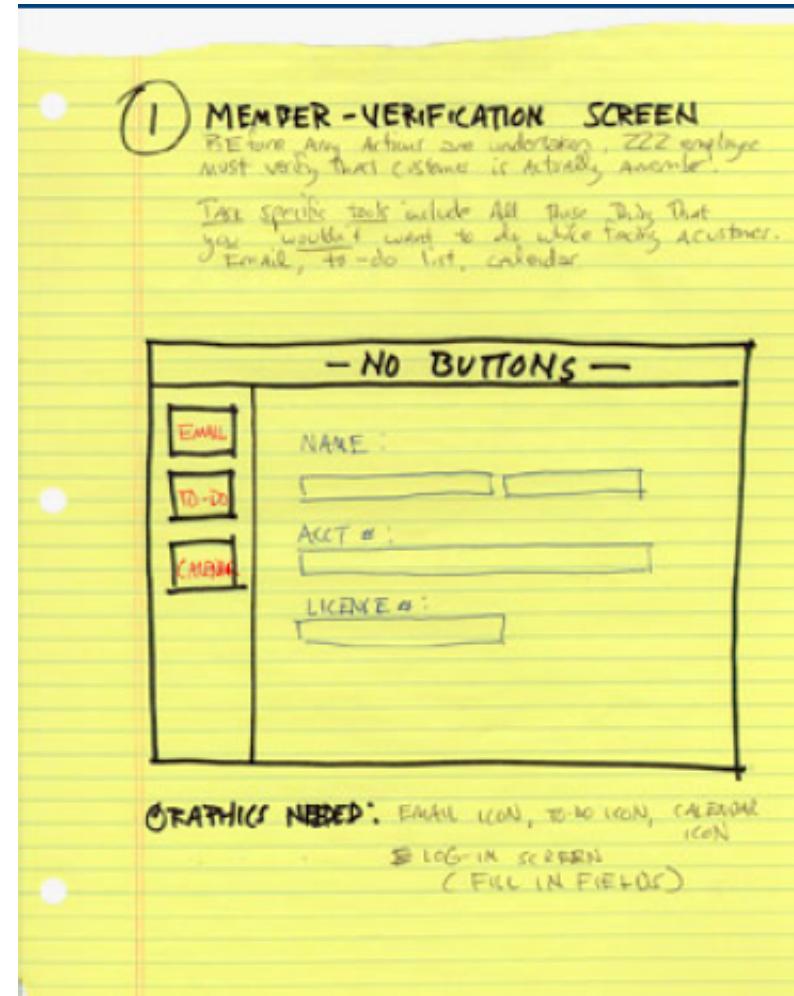
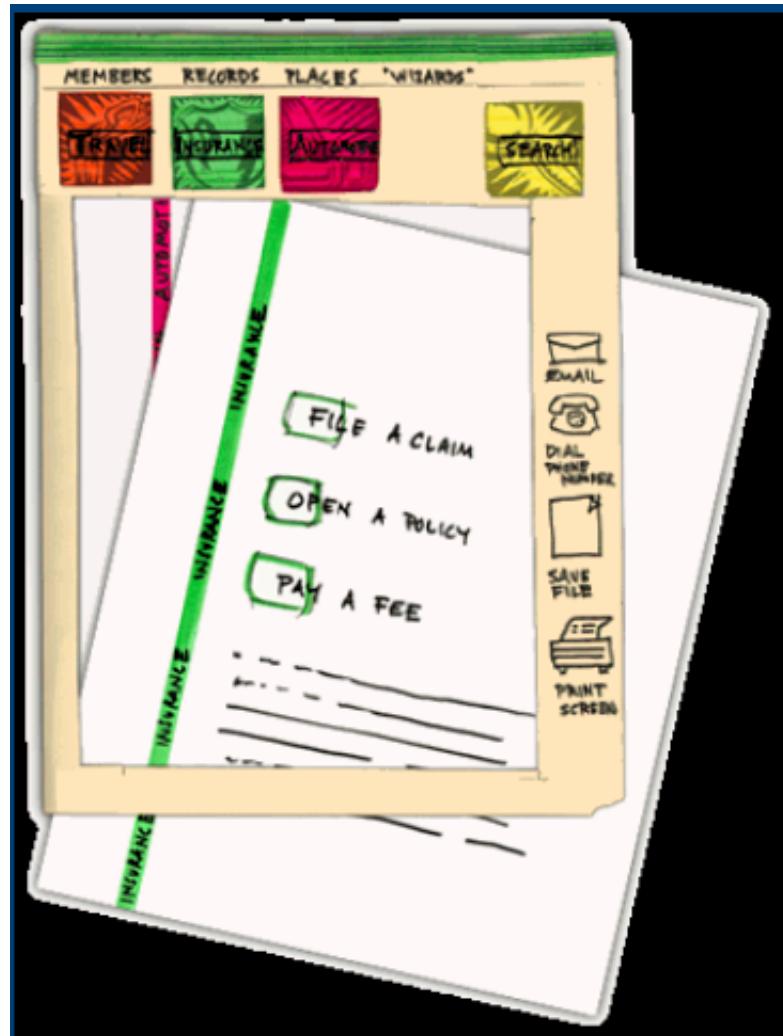
Pen & Paper

PowerPoint or Keynote

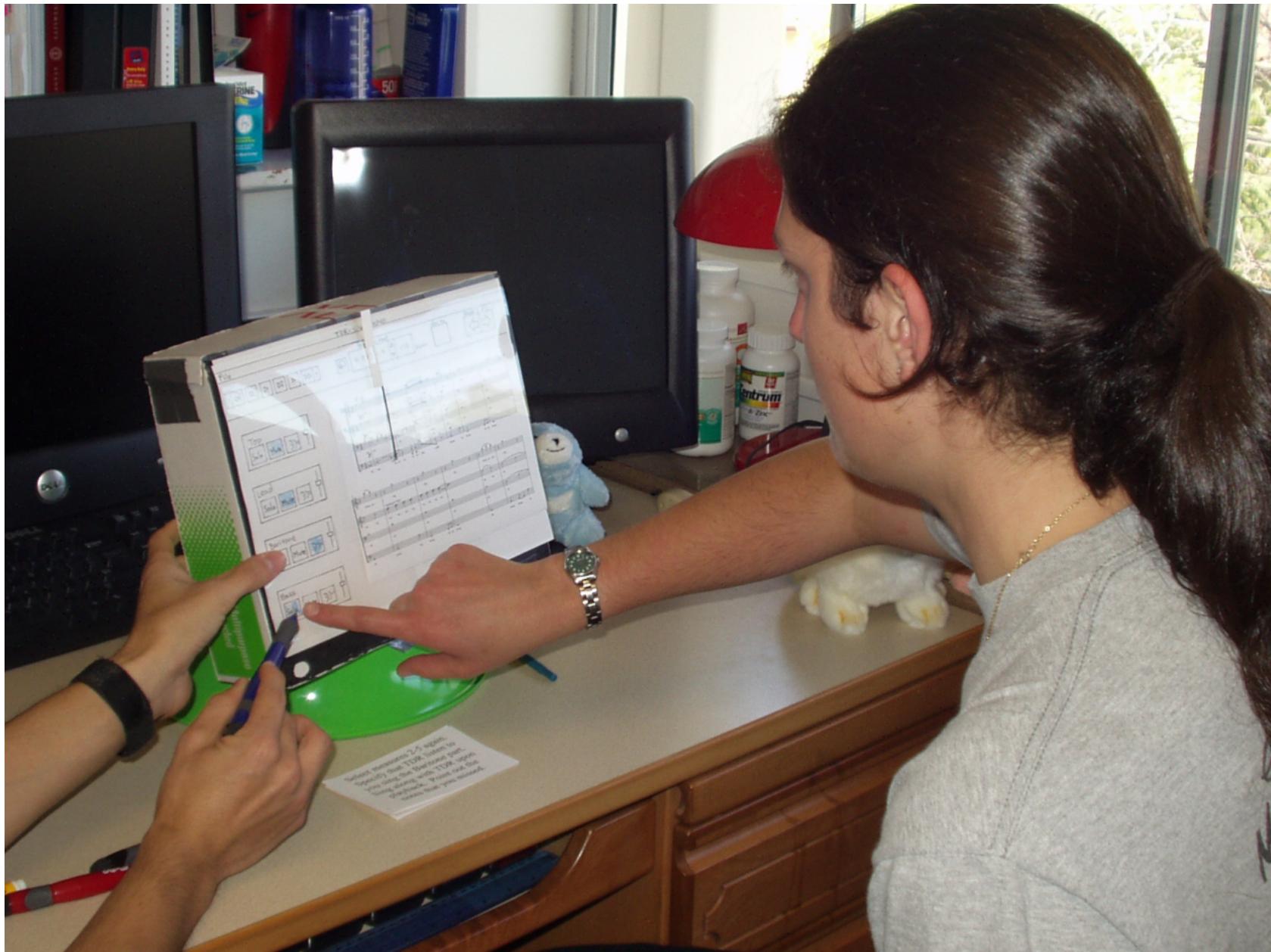
Wireframe Mockup Tools



# Paper Prototype

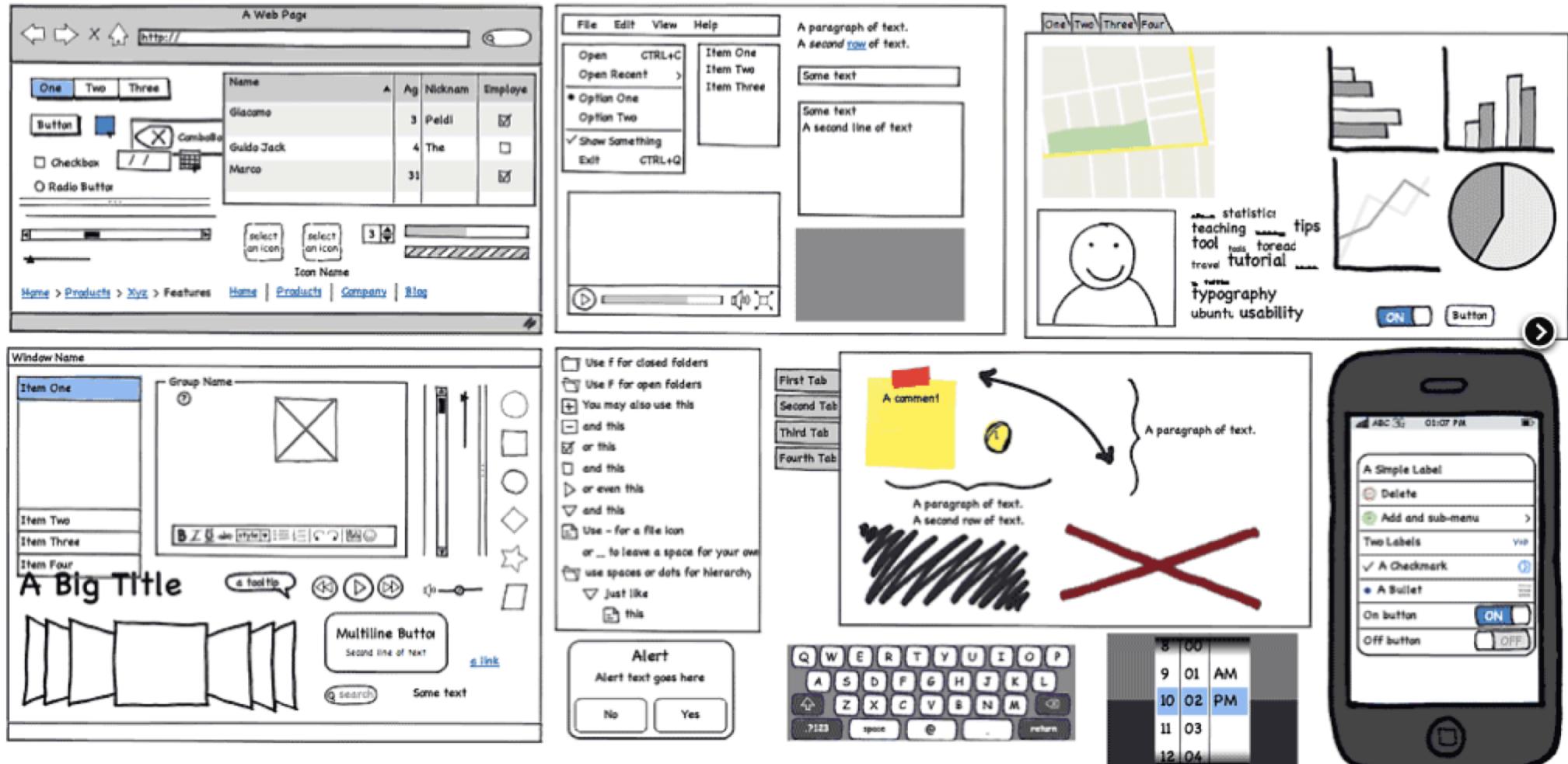


# Paper Prototype



# Wireframe Mockups

## Components for Web, Application, and Mobile Interface Design



[www.balsamiq.com](http://www.balsamiq.com)



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# Wireframe Mockups – Digital Prototype Tools

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- **Ionic Creator**
- **Mockingbot**
- **Marvel App**
- **Balsamiq**
- **App Cooker**
- **Moqups**
- **UXPin (helps manage development process)**



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# Famous Prototypes



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# Blue Ribbon Sports



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## Blue Ribbon Sports - 1972



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# Dyson Vacuum

# dyson



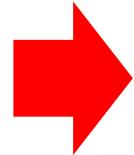
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# This is James Dyson



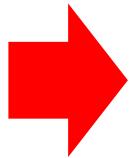
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How many prototypes did James Dyson make in 5 years to identify the right solution?



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5127



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# James Dyson is crazy ...rich

(Worldwide, his products have generated \$10 Billion in revenue)



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# Evolution

v.

# Revolution

(it's just about how you frame the challenge)



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Apple's 1983 Proto-iPhone



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# Advanced Aesthetic Prototypes

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Show the CEO

Photos for Pre-Marketing

Investor Meeting

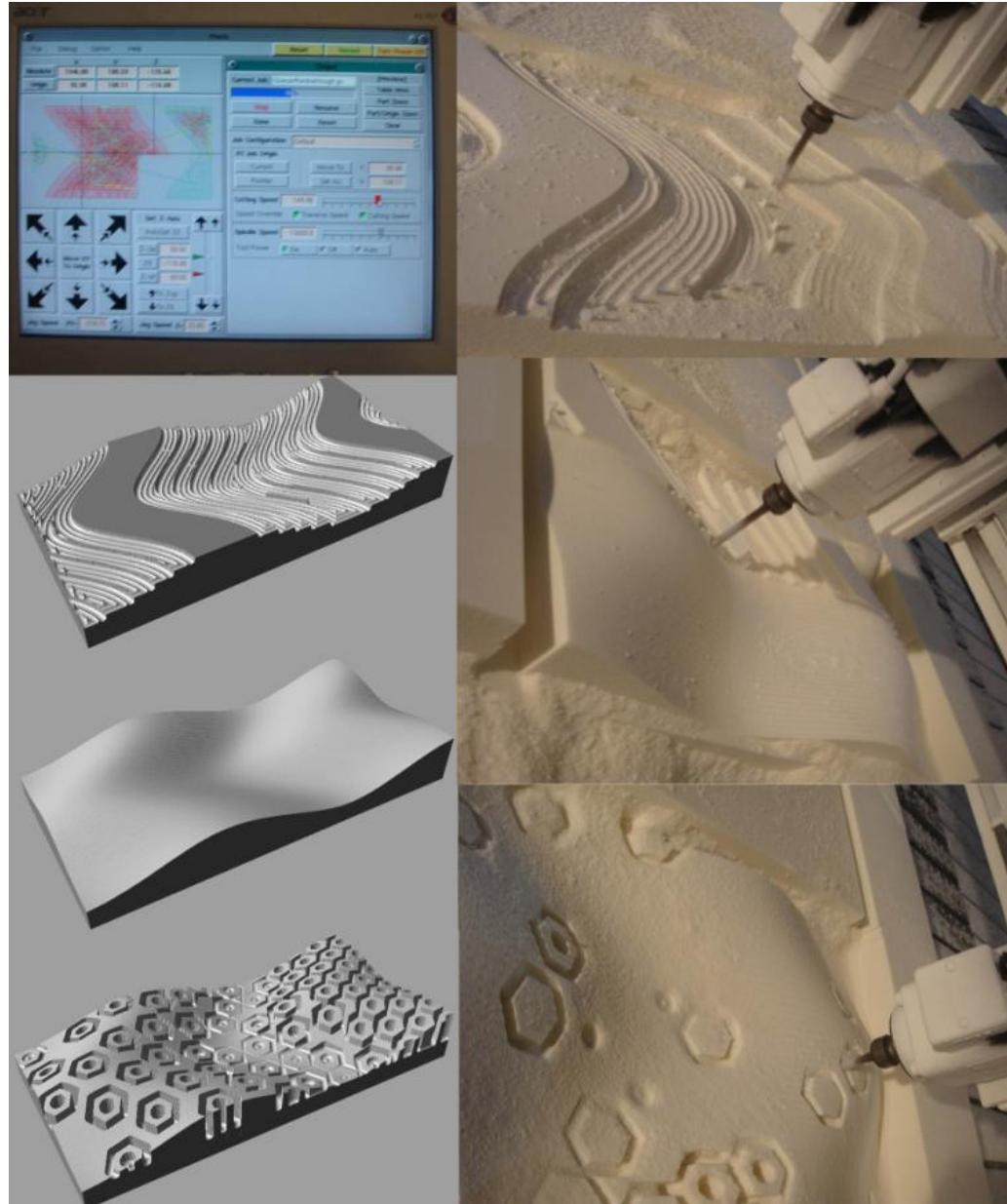
Large Scale Testing



# Advanced Aesthetic Prototypes



# Advanced Aesthetic Prototypes



# Advanced Aesthetic Prototypes

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# Tips for Prototyping

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- **Be clear on what you want to test**
  - What are you unsure about or where is there risk? Choose a prototyping method and scope accordingly. You can isolate certain parts of your solution to prototype.
- **Keep it rough!**
  - Keeping the fidelity of the prototype low will encourage input.
- **Make it editable**
  - Invite the participation of the testing participants by having them show you how they would improve your ideas and understand why.
- **Iterate**
  - The process of building something is a learning process and naturally will lead to refining your ideas while prototyping.
- **Create options**
  - This helps test participants know that your ideas are not fixed and invites feedback.

