DUB
DESIGN
USE
BUILD

W PAUL G. ALLEN SCHOOL
OF COMPUTER SCIENCE & ENGINEERING

CSE 440: Introduction to HCI

User Interface Design, Prototyping, and Evaluation!

Lecture 09: Sketching

Instructor: Amy Zhang, 2/2/2021

Today's Topics

- UI Hall of Fame and Shame

- Where are we now?

- Anonymous survey

- Sketching

- Rapid Prototyping

- Paired presentations and feedback on preliminary 2d

- Any leftover time: team work time to iterate on 2d and work on 2e

UI Hall of Fame and Shame
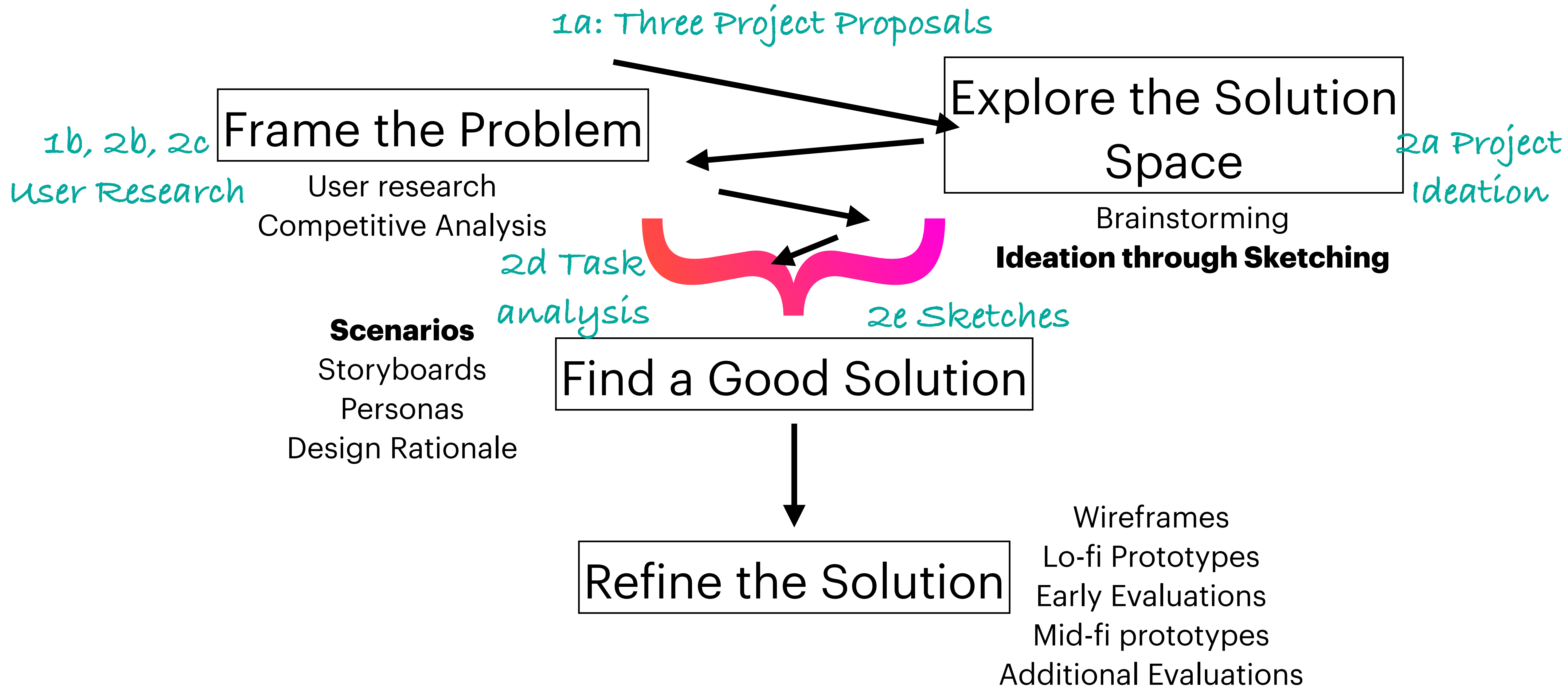
UI Fail or Dark Pattern?

Where are we now?

Looking back…

- Lectures finished:

  - Design Process: design diamond, iteration, ideation, critique

  - Design Principles: learnability, safety, efficiency

  - User Research: methods, best practices and tips, task analysis

- Now:

  - **Prototyping and User Testing**: the bulk of the class (6 lectures)!

Looking ahead...

- 2c: User Research - you should have received staff feedback by now!
- 2d: Task Analysis
  - Preliminary presentation and feedback today in lecture
  - Final due ~~tonight~~ **Wednesday** at 8PM PT
  - staff feedback before class Thursday
- 2e: Design Check-In (3x4)
  - Work time in class on Thursday
  - Preliminary presentation and feedback in section on Friday
  - Final due Friday 8PM PT
- 2f: Design Review (1x2) is the focus of next week
- By end of next week, you'll have narrowed down on a single design! The rest of the project will be about iteratively refining that design and then presenting it.

Where are we now?

1a: Three Project Proposals

Frame the Problem

1b, 2b, 2c
User Research

User research
Competitive Analysis

Explore the Solution Space

2a Project Ideation

Brainstorming
Ideation through Sketching

2d Task analysis

Scenarios
Storyboards
Personas
Design Rationale

2e Sketches

Find a Good Solution

Refine the Solution

Wireframes
Lo-fi Prototypes
Early Evaluations
Mid-fi prototypes
Additional Evaluations

Anonymous Survey

- We're halfway through the quarter! :O

- http://www.yellkey.com/surface

- Let's take ~3 min to fill out the survey above

- It's totally anonymous (unless you tell us your name in free response)

- All suggestions and feedback welcome. Help us improve the course!

- Tell us how your group is doing (specify group number so that we can follow up with the group if need be)
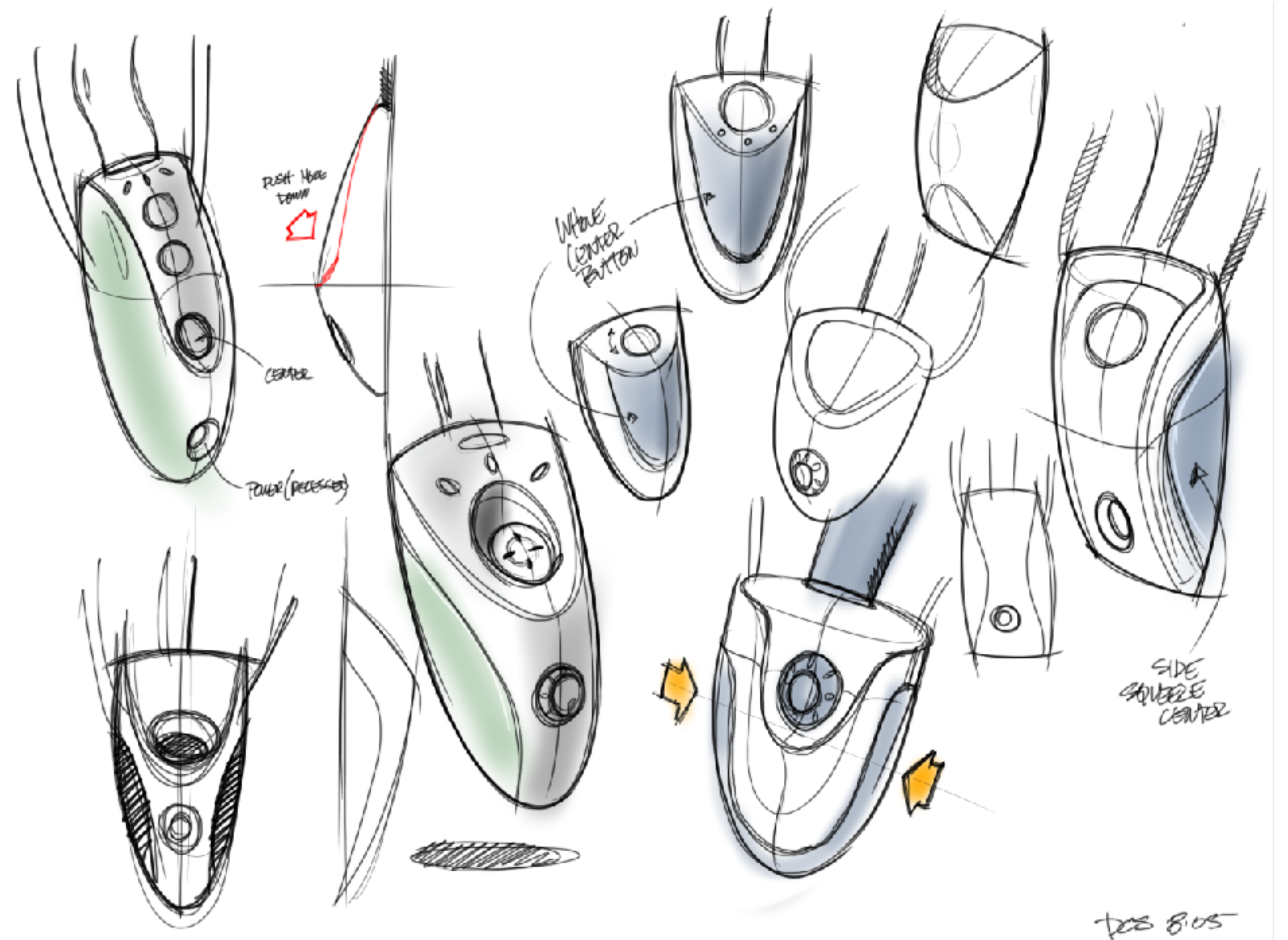
Sketching

2a Sketching
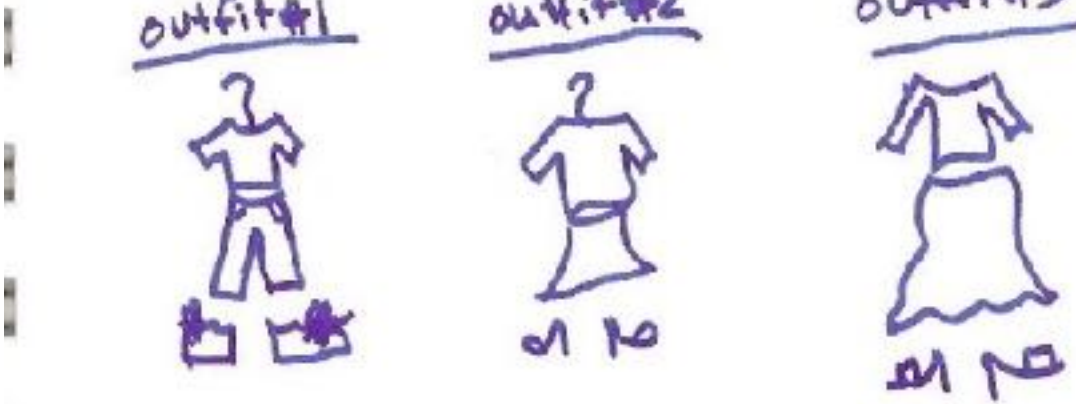
2e Sketching

Why Sketch?

- Sketching is the fastest instance of design iteration (an entire design-implement-evaluate cycle in as little as a few minutes!)

- We are still in the tightest part of the spiral in the **spiral model**

- Because it's so cheap, we can also **parallel prototype** (which you've learned is better for design)

- All these things help us **boost creativity**!

- As our ideas get more in-depth (moving towards higher fidelity prototypes), we narrow and switch to **serial prototyping**
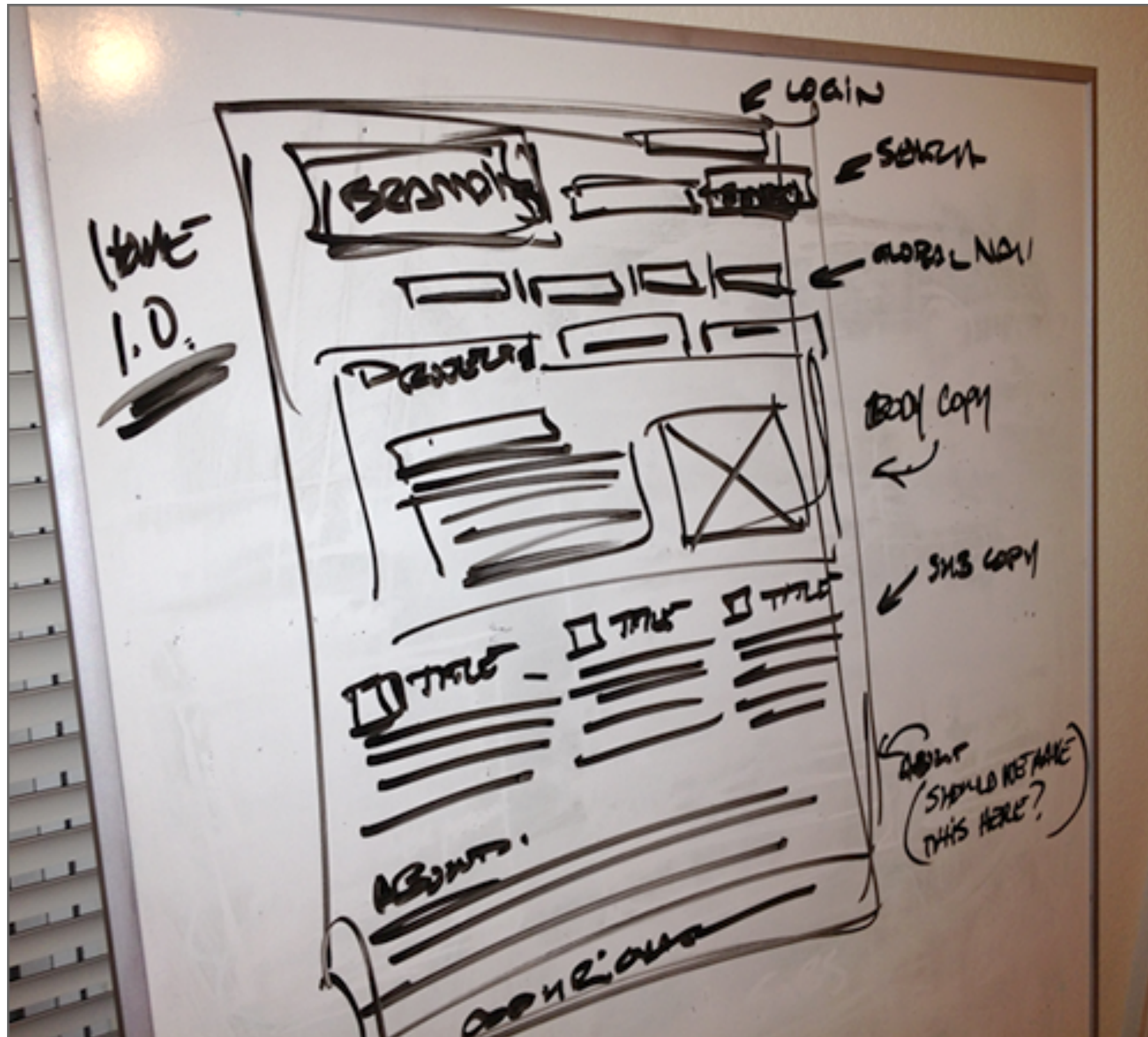
Sketching is…
A **process** that enables you to think through ideas and convey design ideas to others very early in the design phase
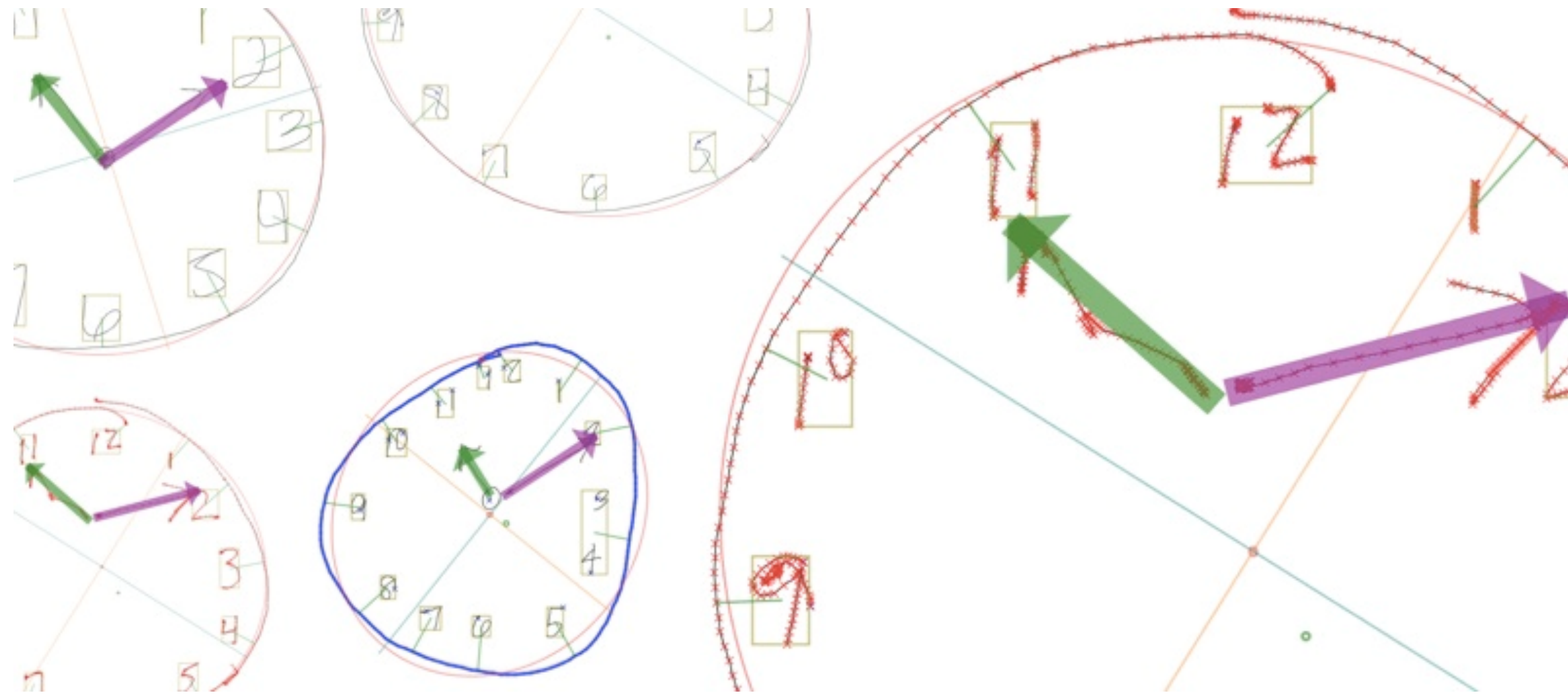
Properties of Sketches

- Quick

- Timely

- Inexpensive

- Disposable

- Plentiful

- Clear Vocabulary

- Distinct Gesture

- Minimal Detail

- Appropriate Refinement

- Suggest and Explore

- Ambiguous

Quick

A sketch is quick to make,
or at least gives that impression

Timely

A sketch can be provided when needed

Inexpensive

Cost must not inhibit the ability to explore a concept, especially early in design

Disposable

If you cannot afford to throw it away,
then it is not a sketch
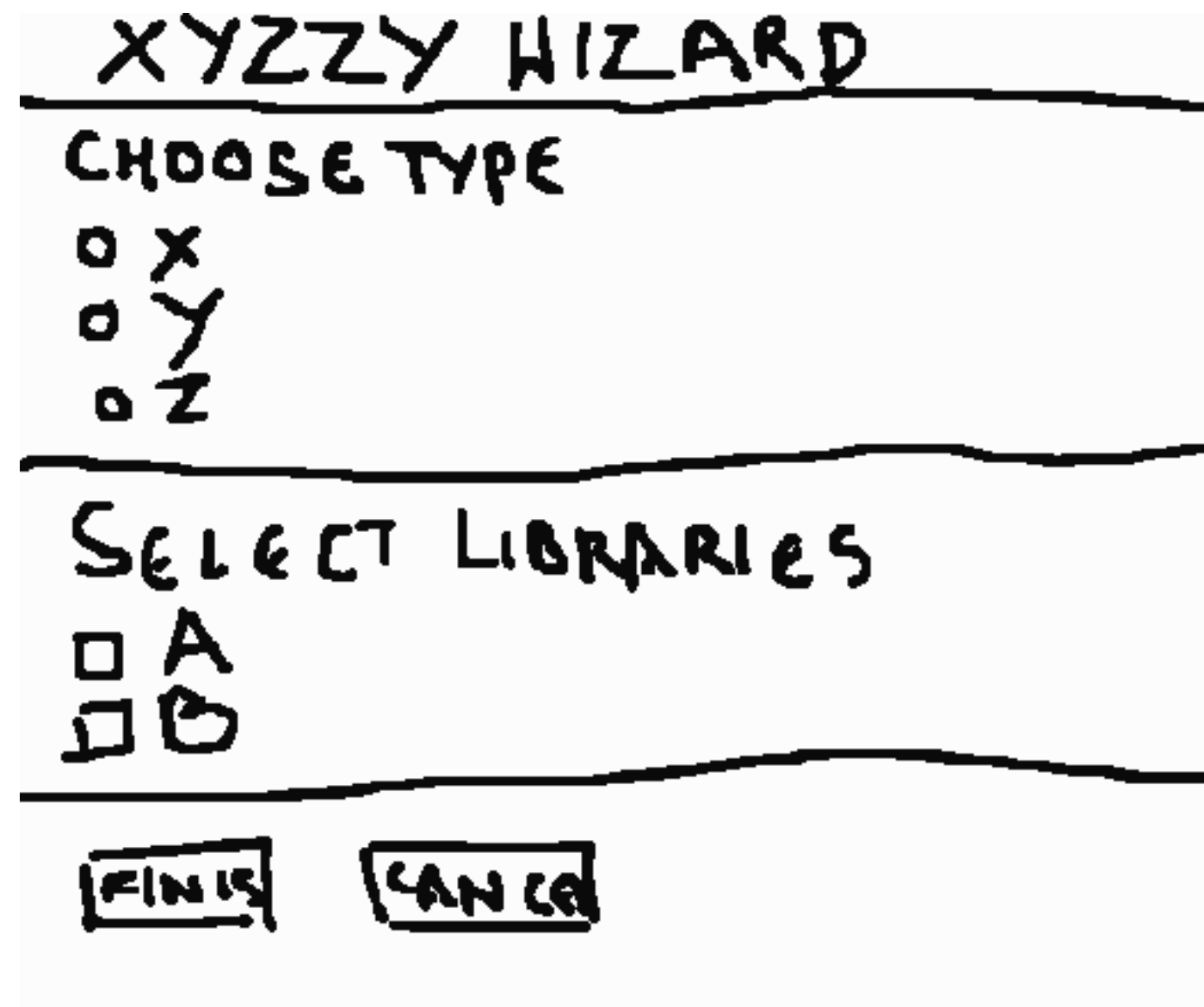
But they are not "worthless"

Plentiful

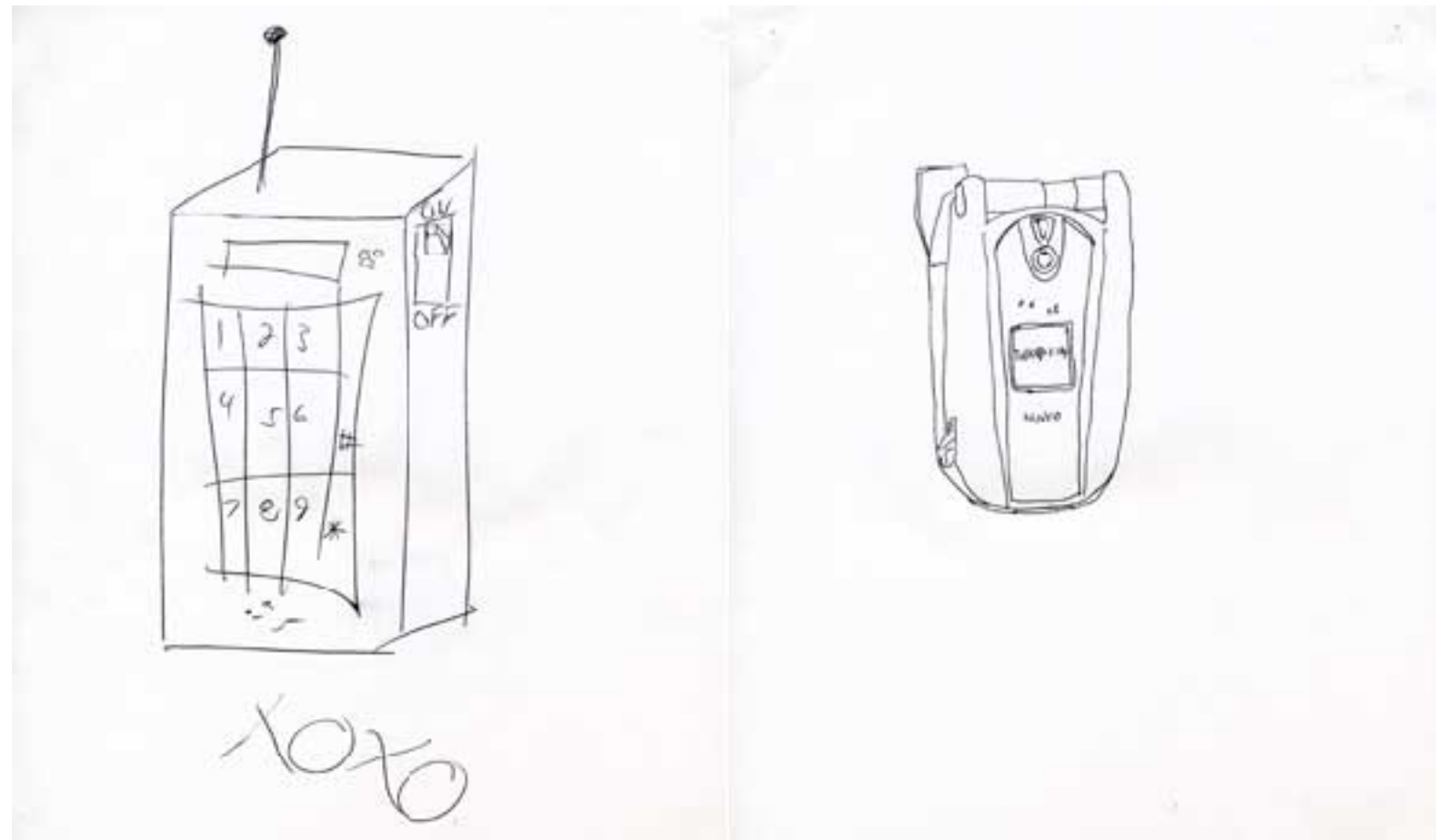Sketches do not exist in isolation

Sketches are made to be compared

Meaning and relevance
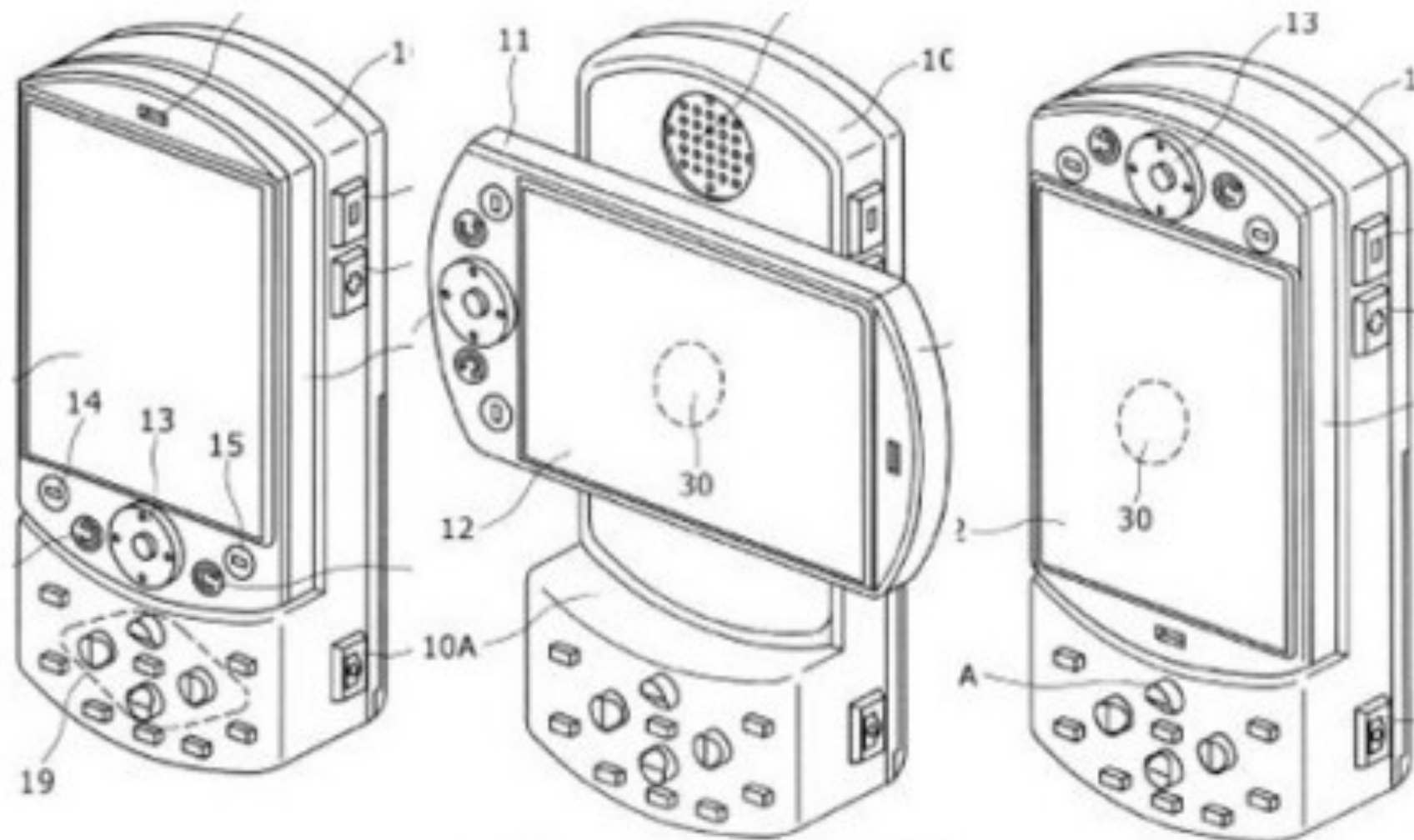is in the context of a
collection or series

Clear Vocabulary

XYZZY HIZARD

CHOOSE TYPE

o X
o Y
o Z

SELECT LIBRARIES

□ A
□ B

FINIS   CANCE

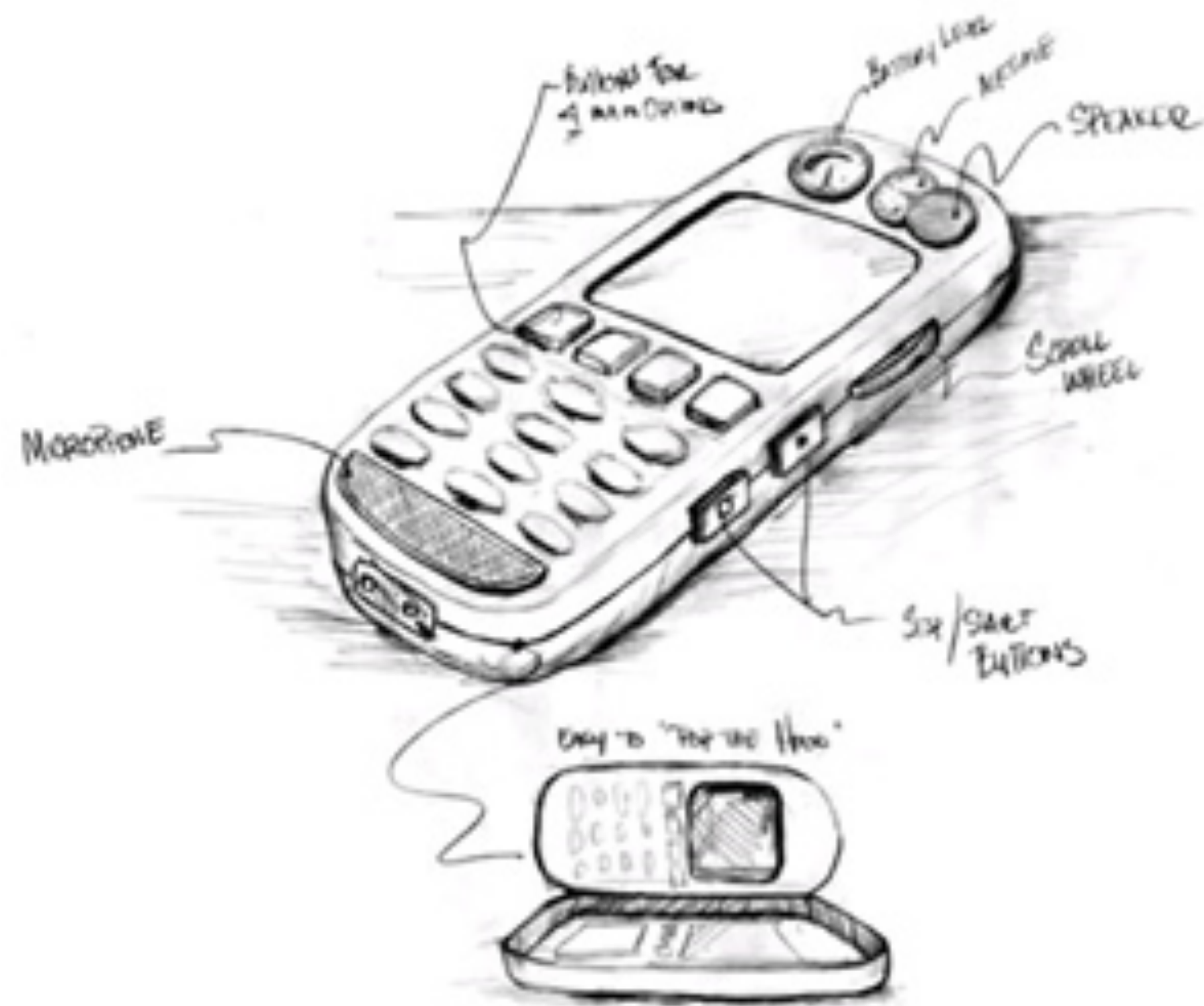The way it is rendered makes it distinctive that it is a sketch (e.g., style, form)

Distinct Gesture

Fluidity of sketches gives them
a sense of openness and freedom

Opposite of engineering drawing,
which is tight and precise

Minimal Detail

Include only what is required to render the intended purpose or concept

Minimal Detail

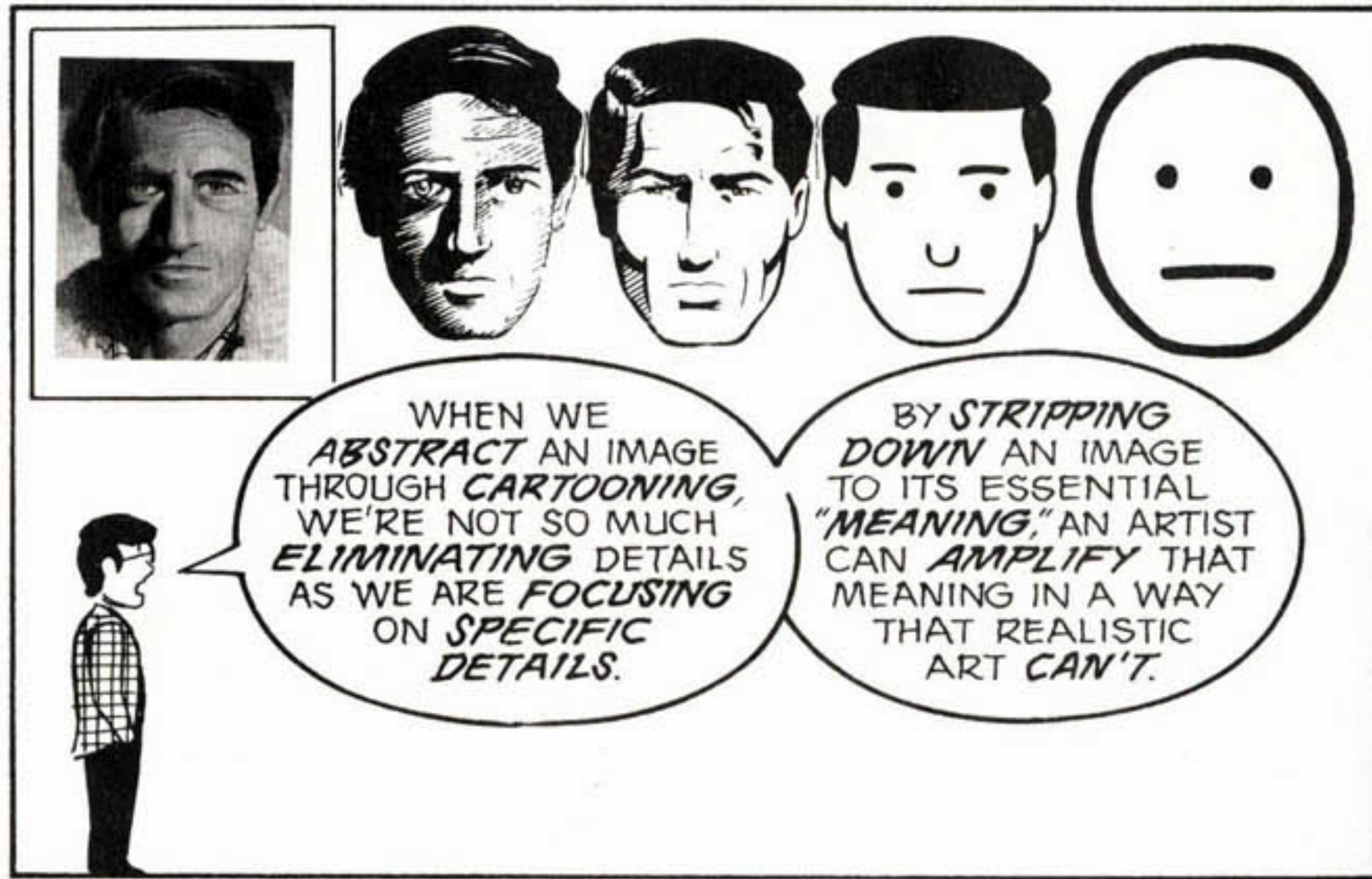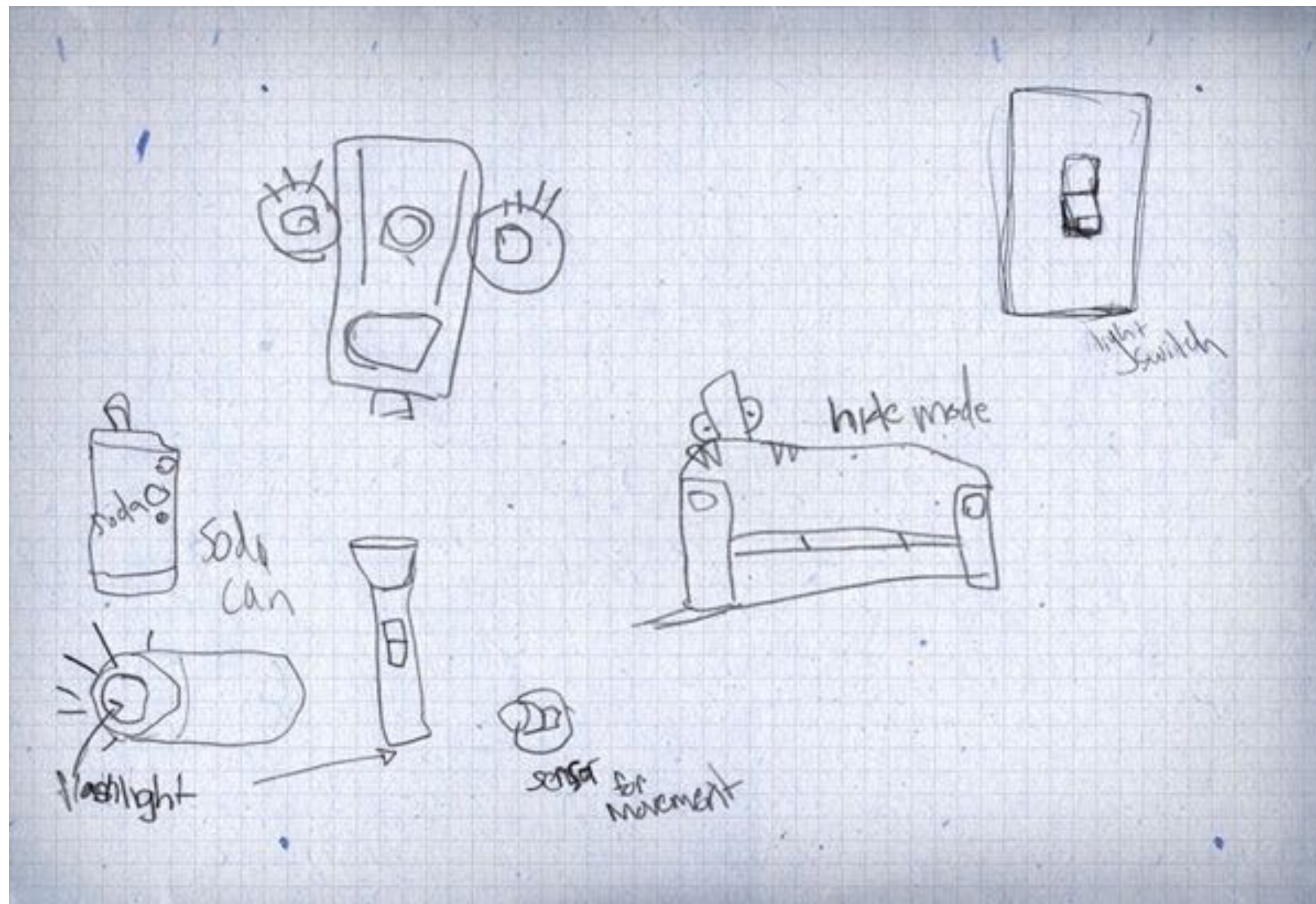# Appropriate Degree of Refinement

Make the sketch as refined as the idea

If you have a solid idea,
make the sketch look
more defined

If you have a hazy idea,
make the sketch look
rougher and less defined

Suggest and Explore Rather than Confirm

Sketch should act as a catalyst
to the desired and appropriate behaviors,
conversations, and interactions with others
(such as the people giving you feedback on
your sketch).

Ambiguity

Intentionally ambiguous

Value comes from being
able to be interpreted
in different ways, even by
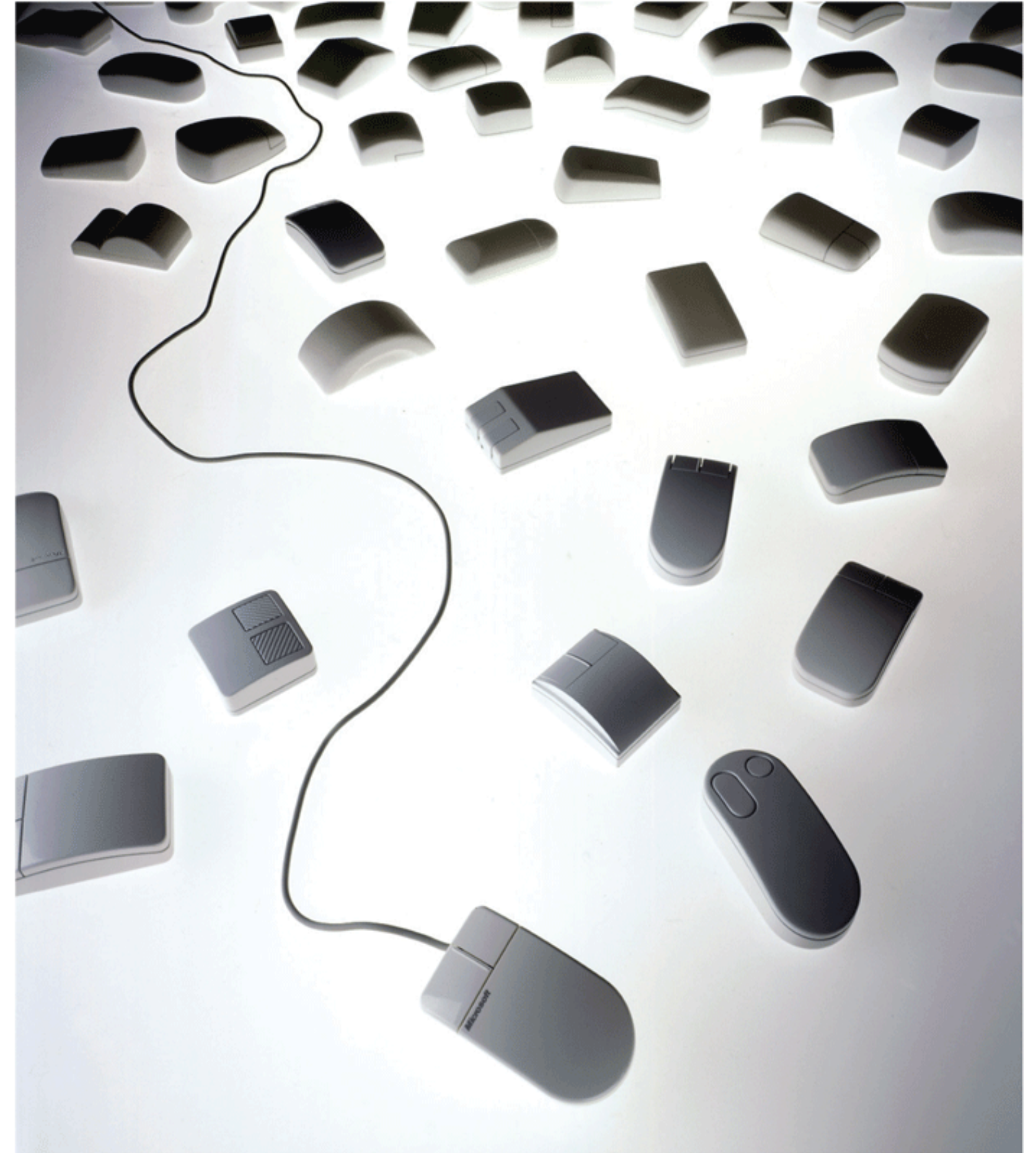the person who created them
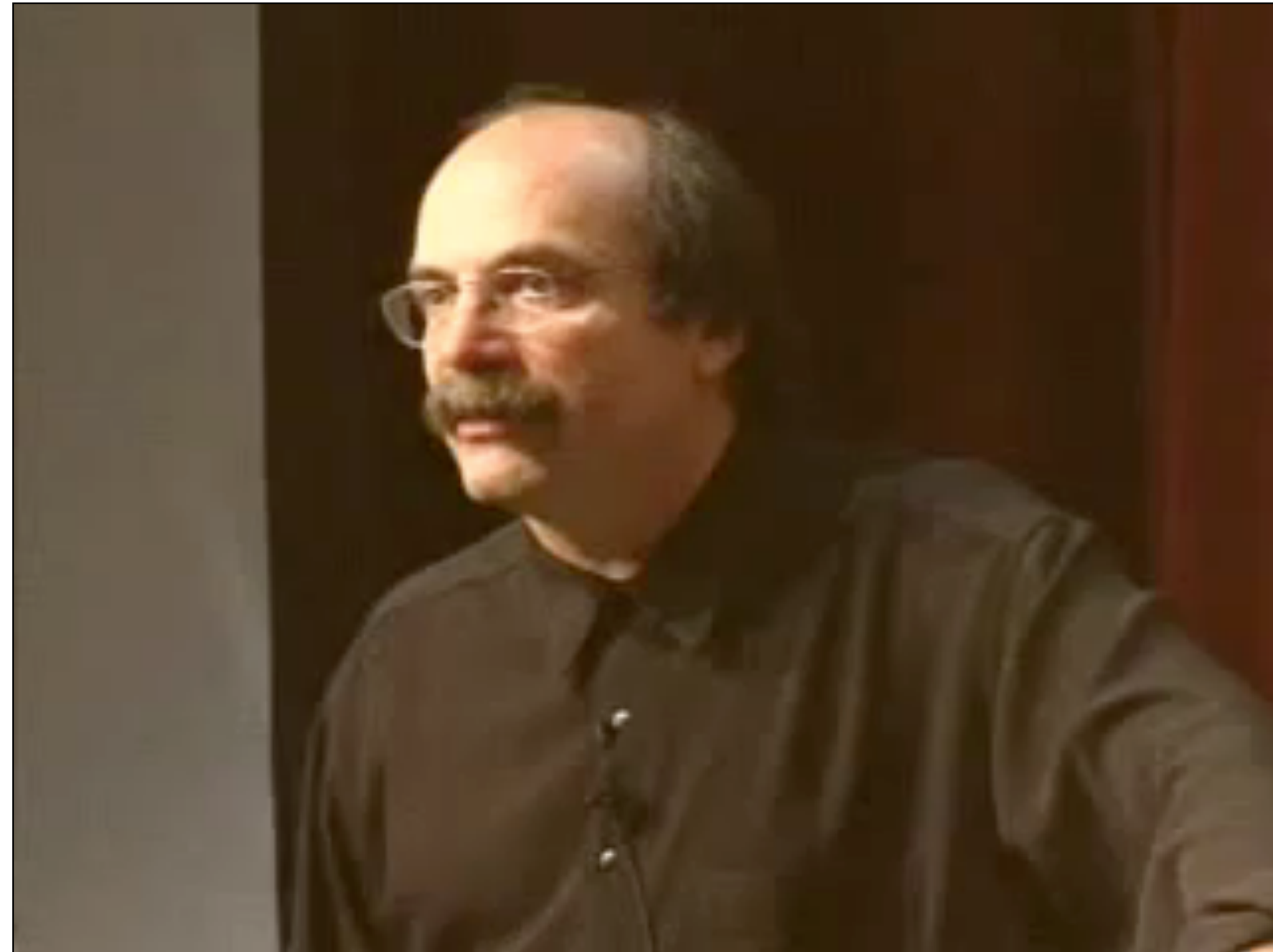
Sketches have holes

Rapid Prototyping

Moving from Sketches to Prototypes

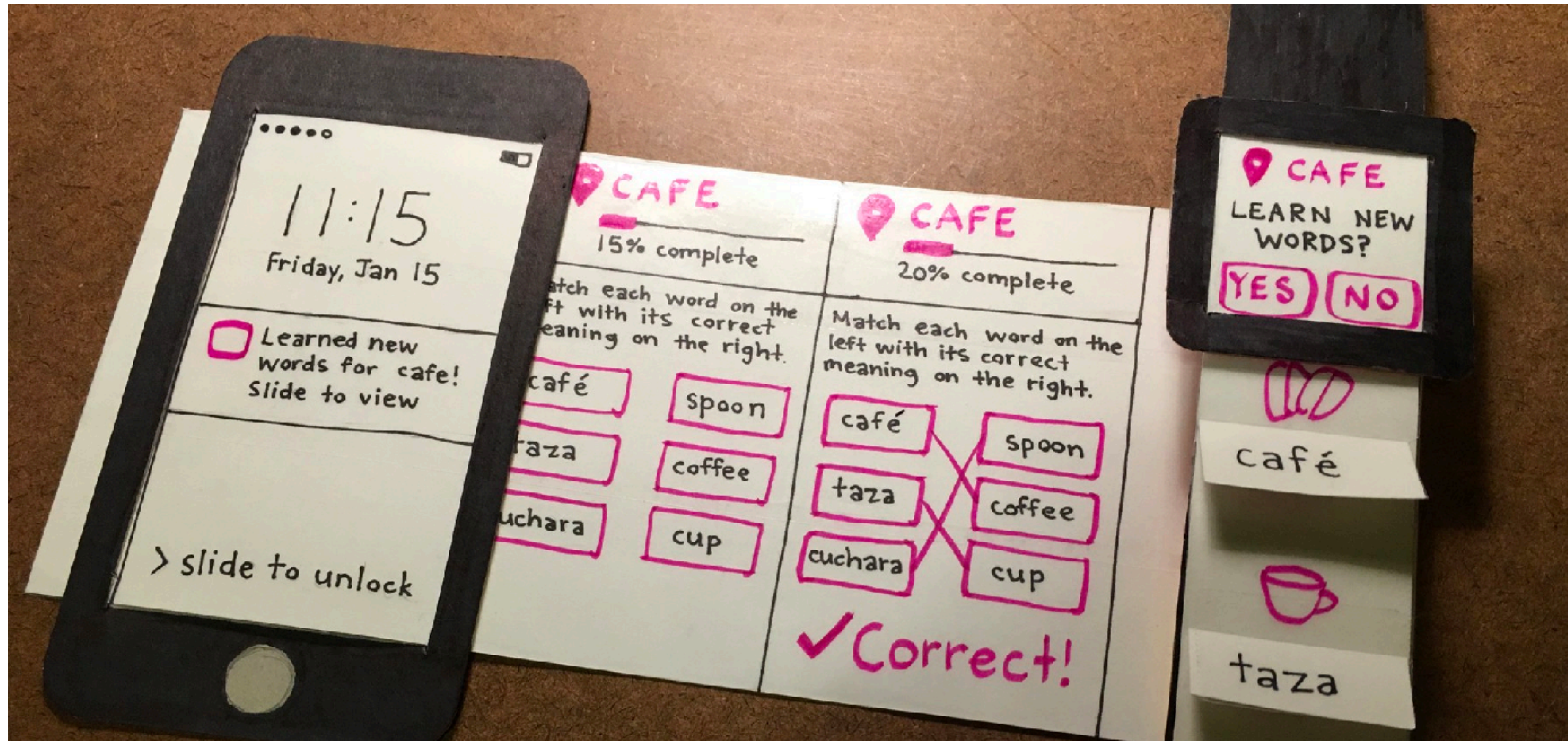| Sketch	Prototype
Invite	Attend
Suggest	Describe
Explore	Refine
Question	Answer
Propose	Test
Provoke	Resolve
Tentative, non committal	Specific Depiction

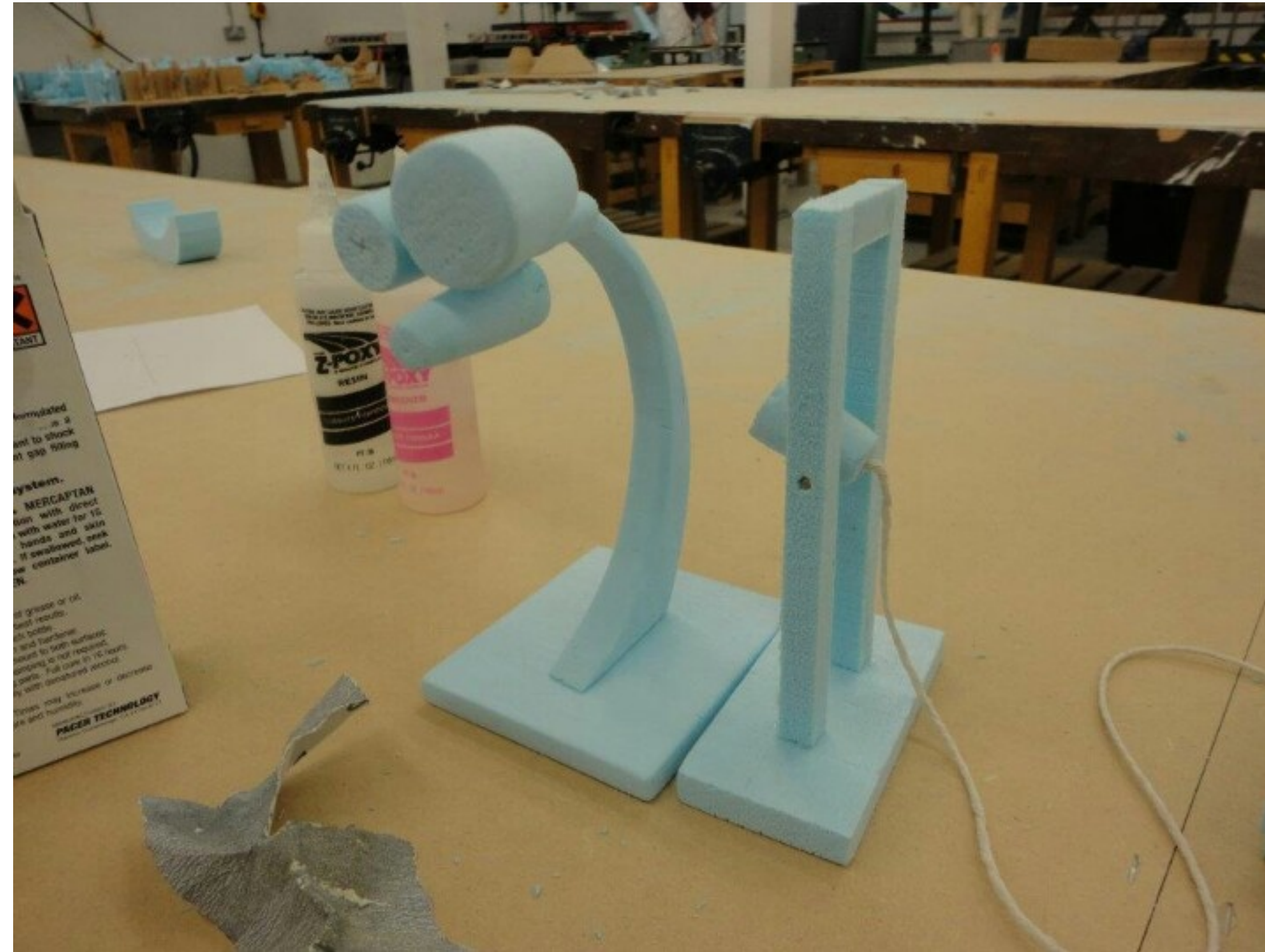# Example: Rapid prototyping the mouse
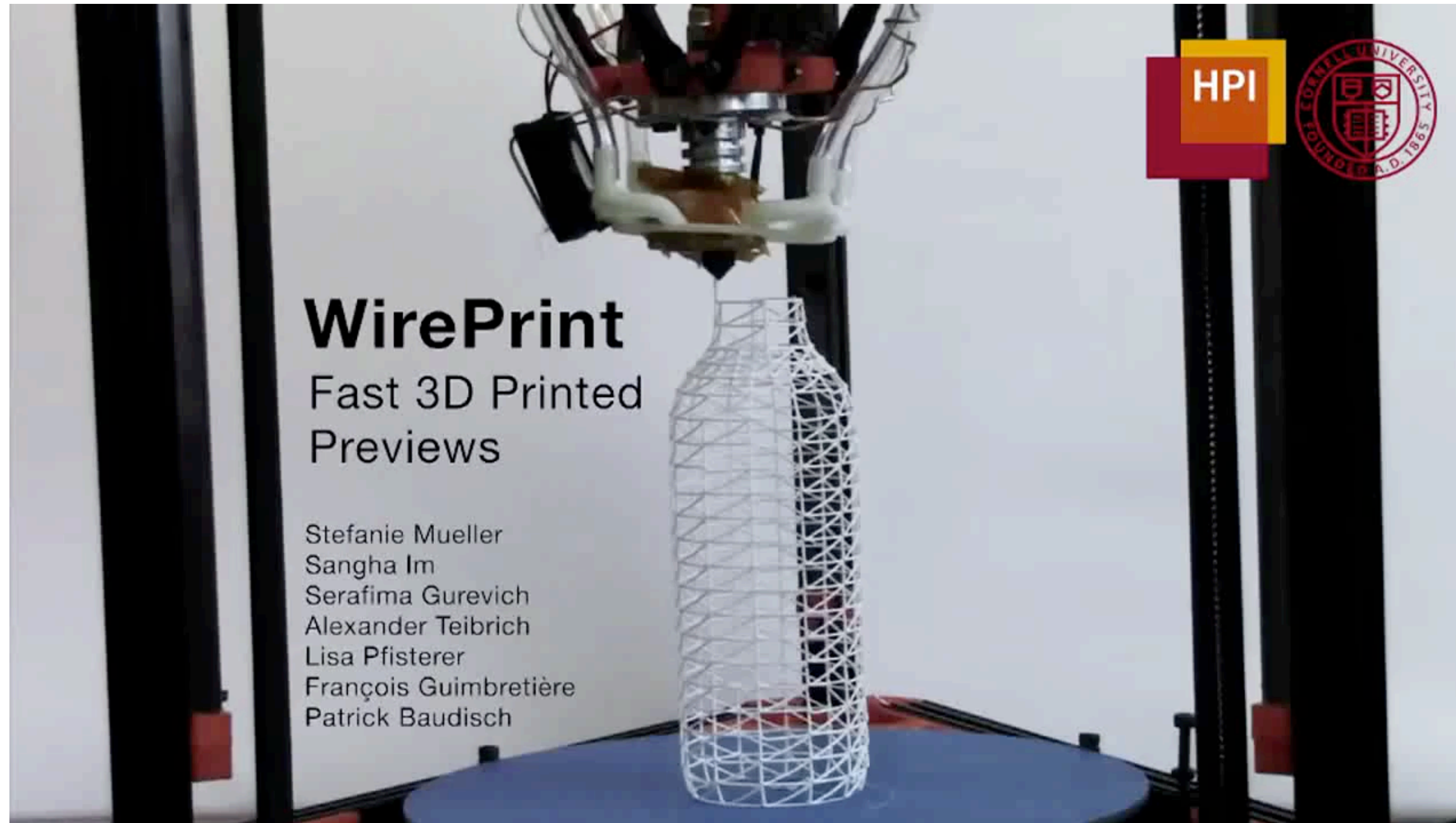
Example: Rapid prototyping the mouse
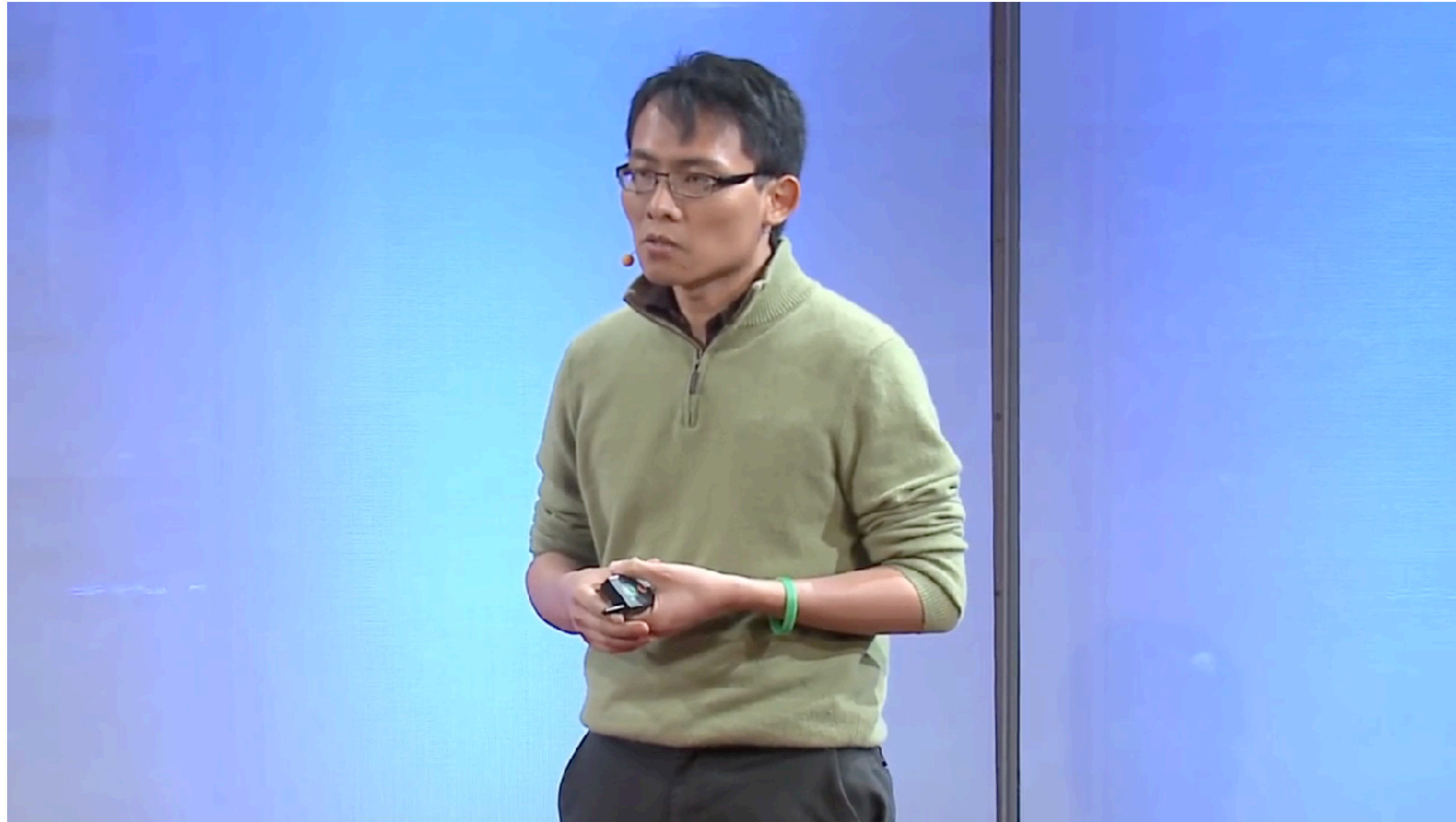
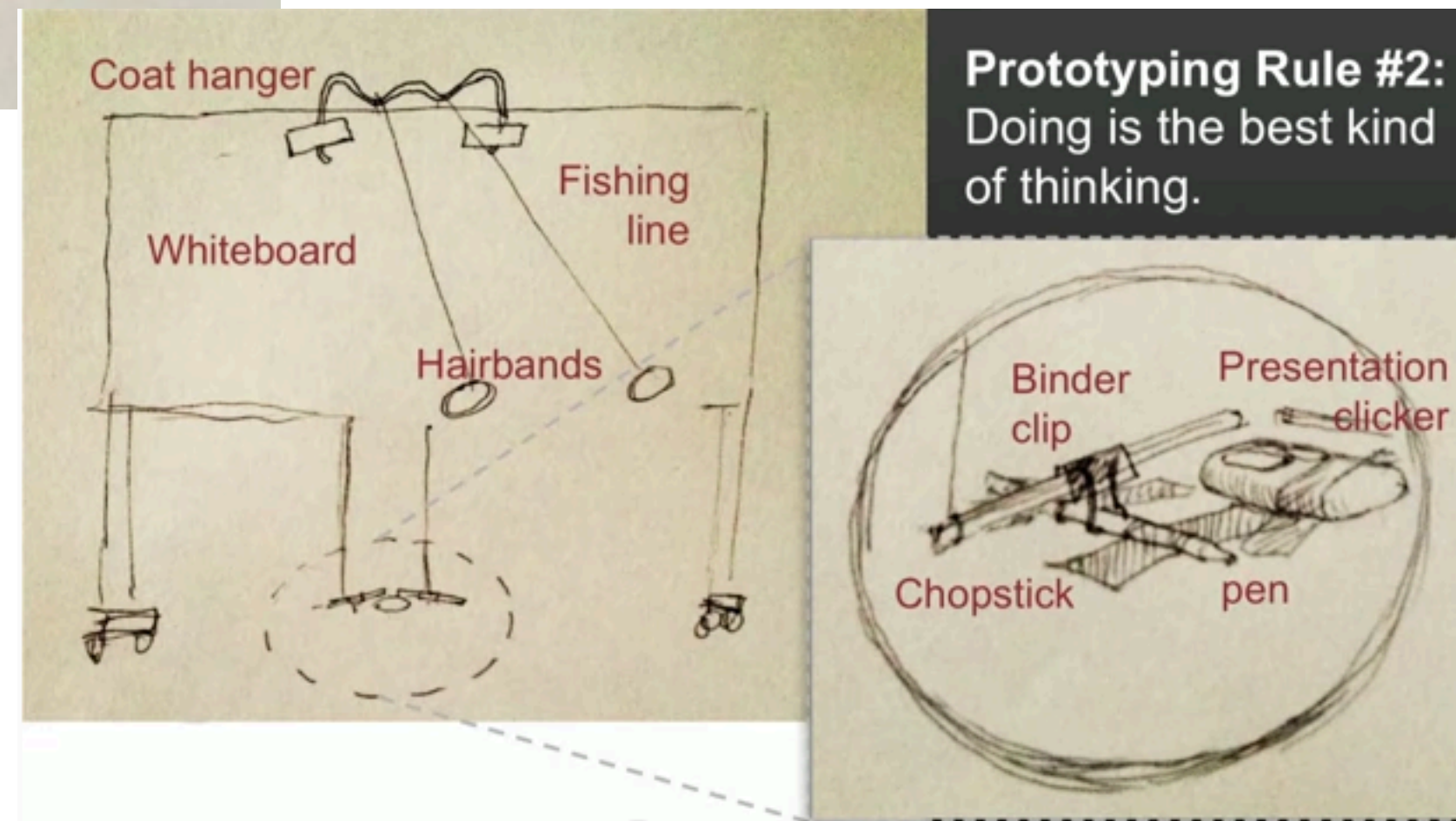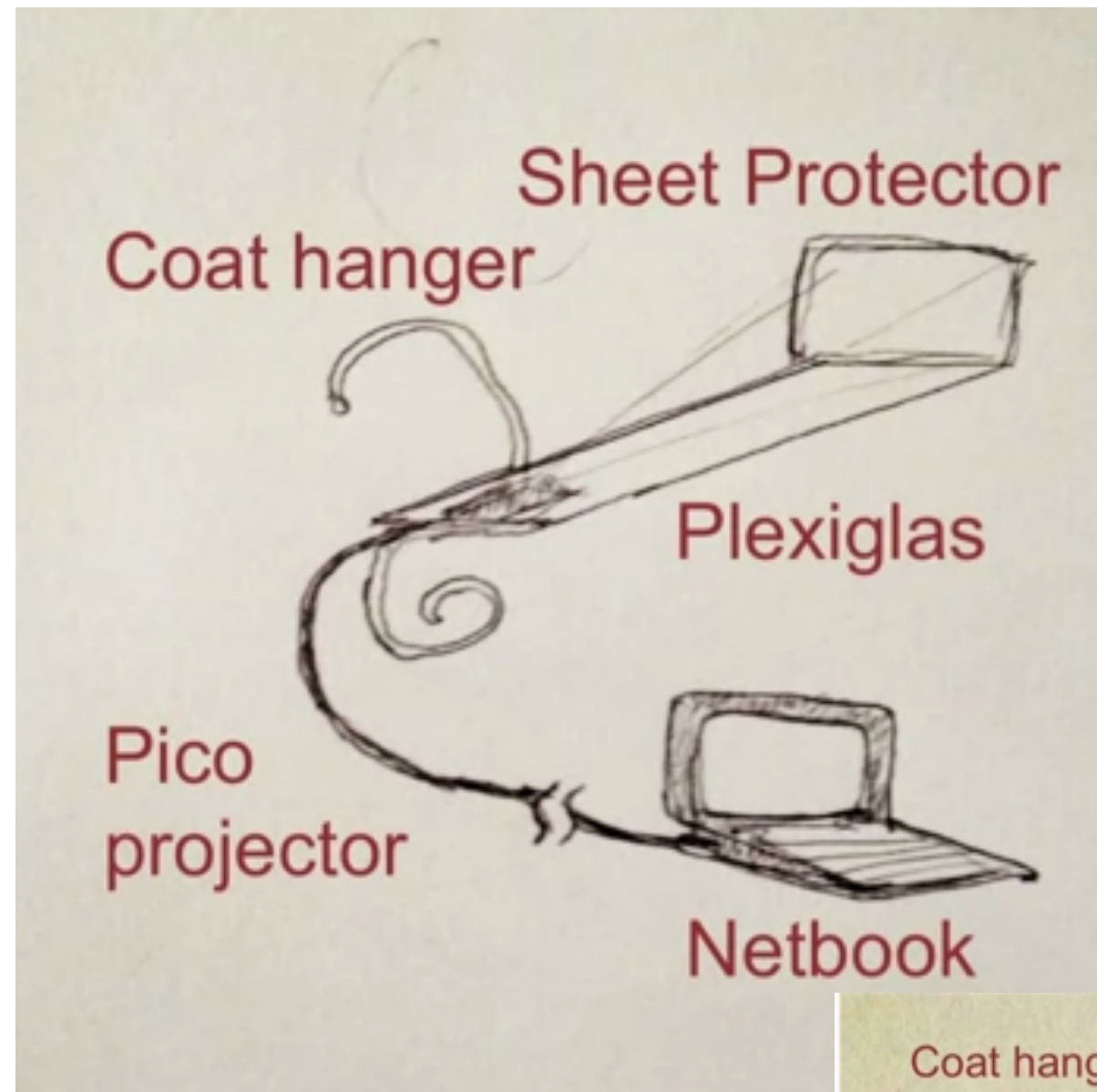# Paper Prototyping

Rapid Physical Prototyping

Rapid Physical Prototyping

Example: Rapid Prototyping Google Glass

Example: Rapid Prototyping Google Glass

Group Presentations of 2d

- Paired groups. Take turns presenting your preliminary 6 tasks and getting feedback.

- Things to think about when giving feedback/asking questions:

  - Are there any details omitted about any of the tasks that would be useful for context?

  - How did the user research inform the details of the different tasks?

  - Thinking ahead to design, which of these tasks seem most promising for a design that supports that task and involves technology?

  - Which of the tasks addresses a problem related to the theme of the course (reducing disparity)?

- If there's leftover time, let us know when you're done, and we can put you in a breakout group for you to do team work (iterate on 2d, start on 2e). There will be more time to work on 2e in class Thursday.