GENERAL ASSEMBLY

PROTOTYPING

The one and only Dom Propati

AGENDA

- What is a prototype?
- Why do we prototype?
- How are prototypes made?
- Exercise

WHAT IS A PROTOTYPE?

"A prototype is an early sample, model or release of a product built to test a concept or process or to act as a thing to be replicated or learned from."

HTTP://EN.WIKIPEDIA.ORG/WIKI/PROTOTYPE

WHERE ARE THEY USED?

- Industrial design
- Product design
- Automotive design
- Software design

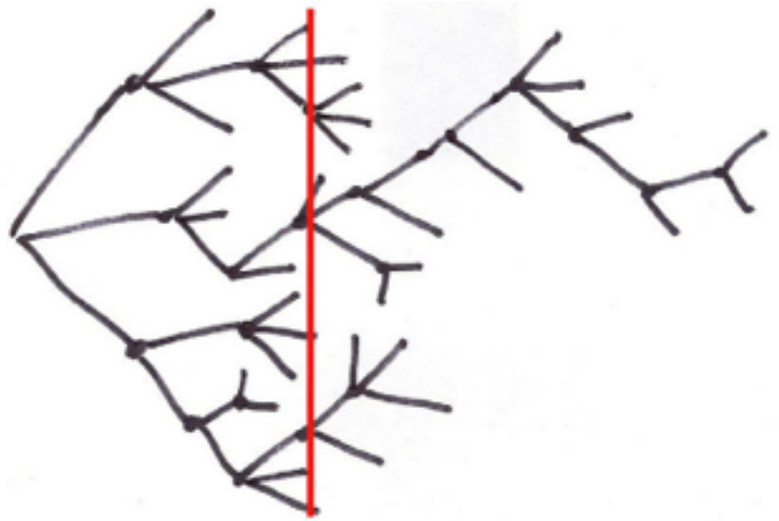
HOW IS IT DIFFERENT FROM PRODUCTION?

- Typically lower fidelity
- Typically just a portion of the system
- If coded, it’s allowed to be bad, unreliable code
- Much less investment to build

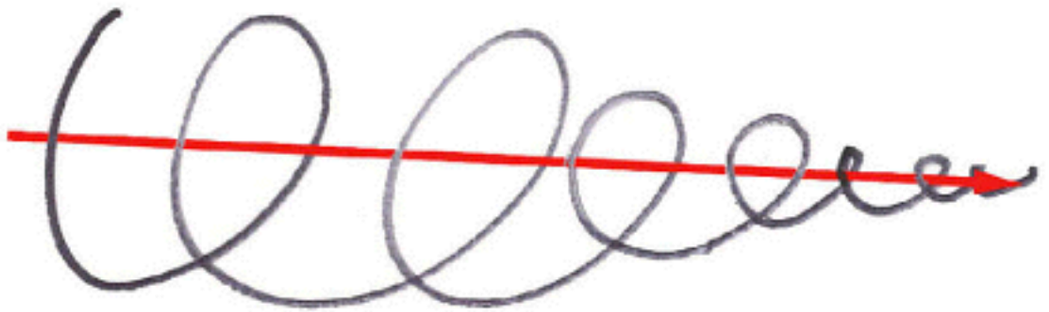
PROTOTYPING AT IDEO

WHY DO WE PROTOTYPE?

TO EXPLORE



TO REFINE



TO COMMUNICATE AND TEST

- Functionality
- Flow
- Interaction
- Animations
- Usability

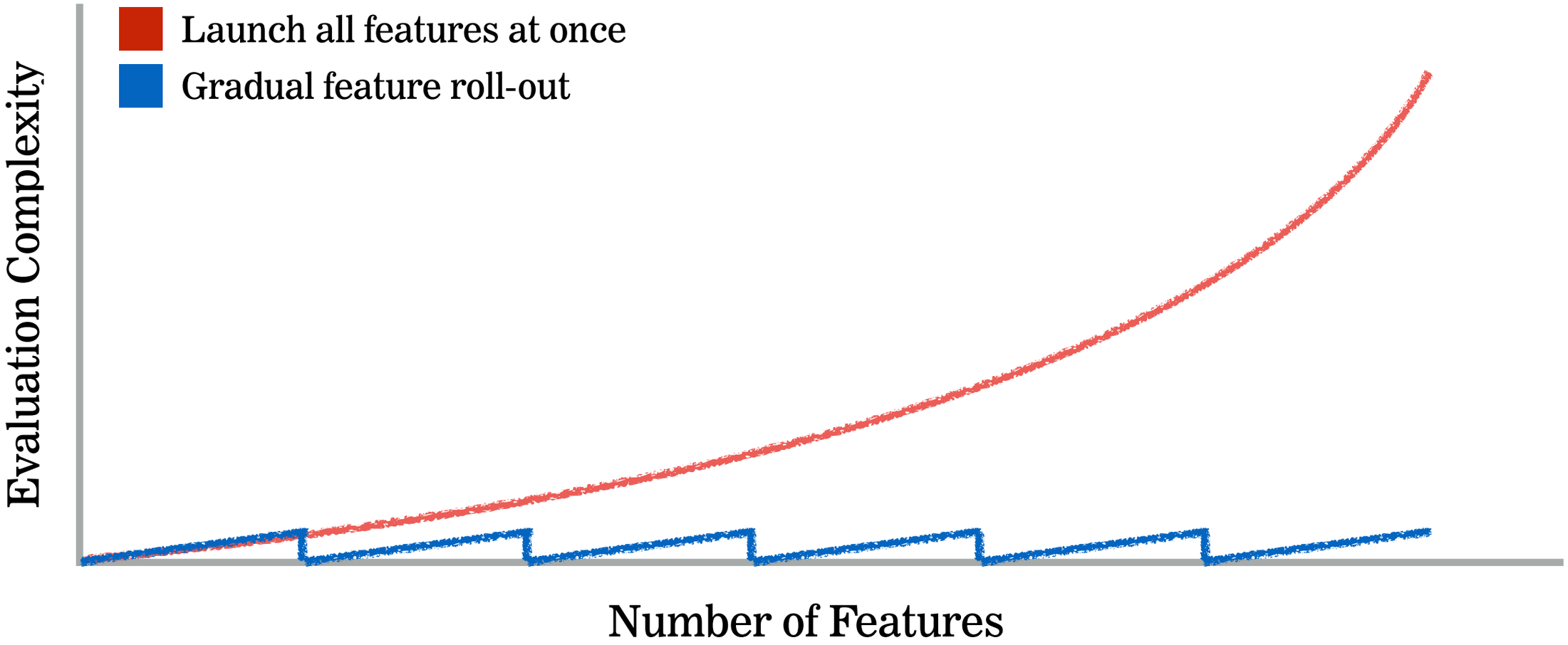
KEEP IT USER-CENTERED

- Prototypes are all about the user
- Production development can get messy:
  - database issues
  - integration points
  - code maintainability
  - quality assurance and deployment
  - …and other things that don’t concern the user

TO ENGAGE THE TEAM

- Not everyone can code, but most can help with prototyping
- It’s fun

DESIGN DEBT

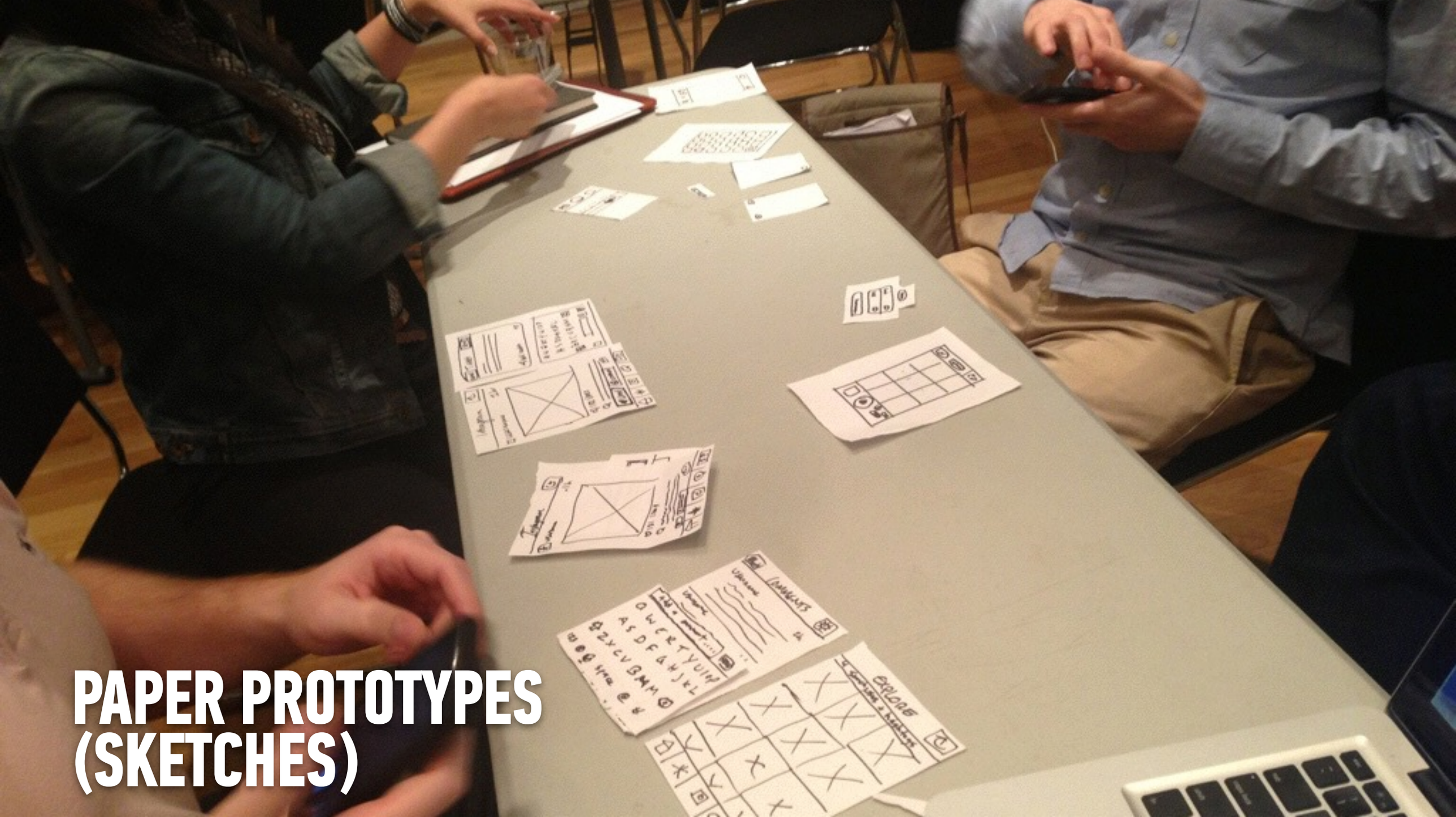

Launch all features at once
Gradual feature roll-out
Evaluation Complexity
Number of Features


TO MOVE FAST!

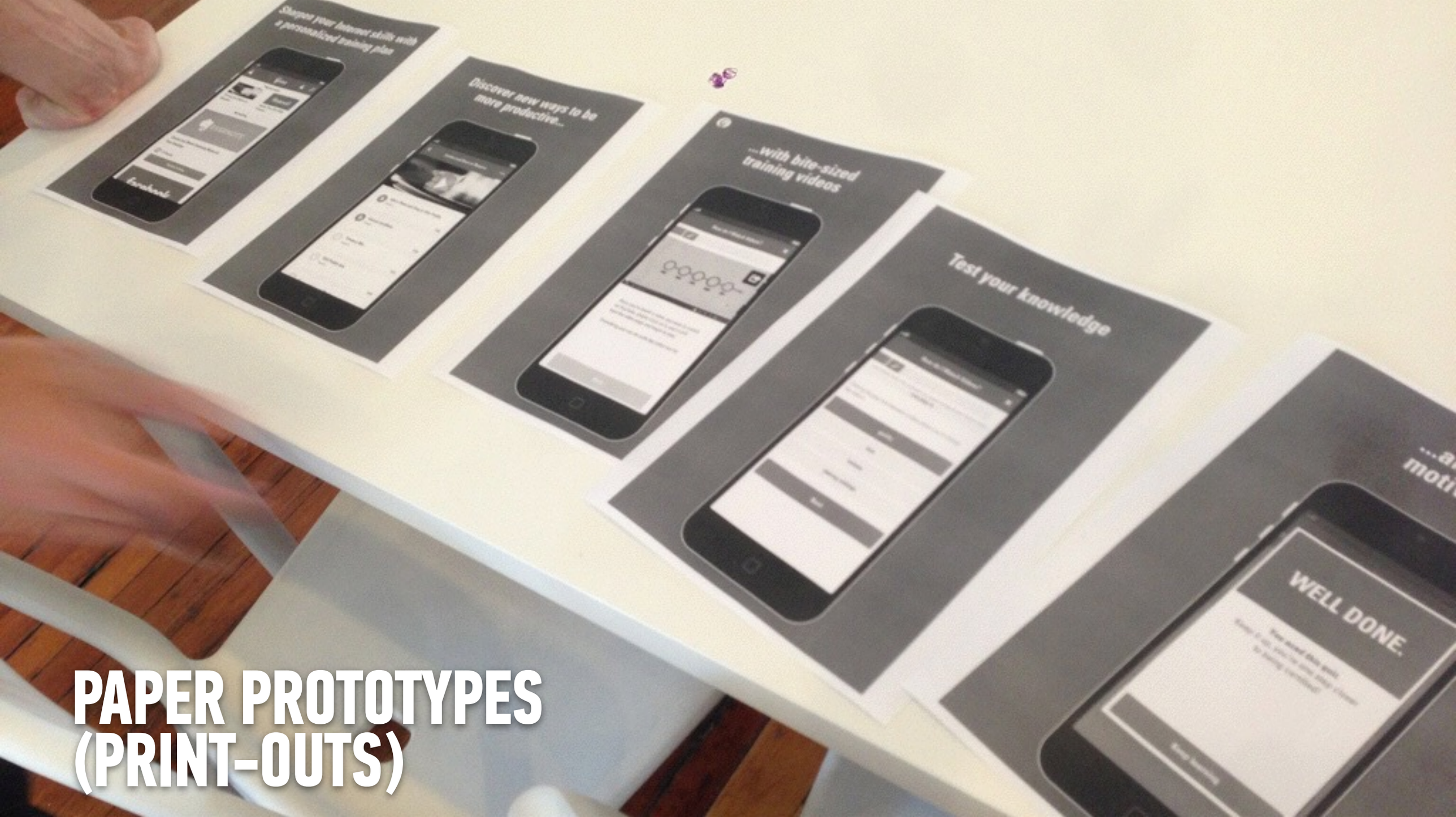
TYPES OF PROTOTYPES

OVERVIEW

- Paper (sketched)
- Paper (print-outs)
- Photo gallery
- Clickable/tappable
- Concierge
- Static HTML
- Functional

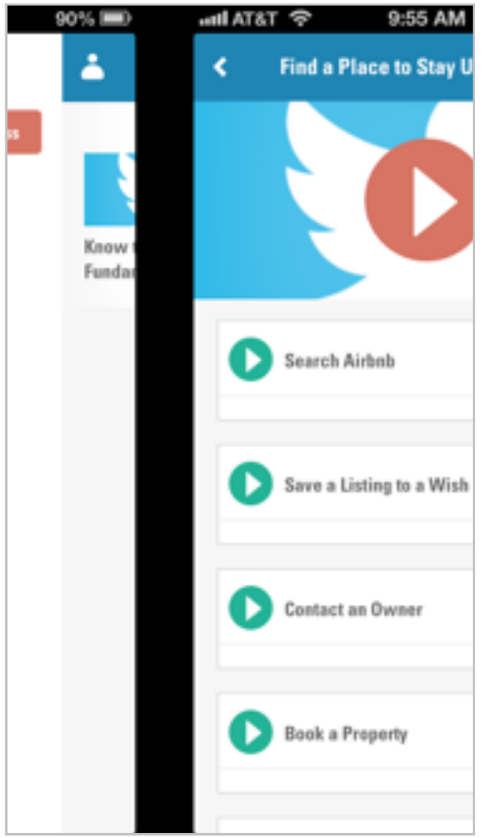


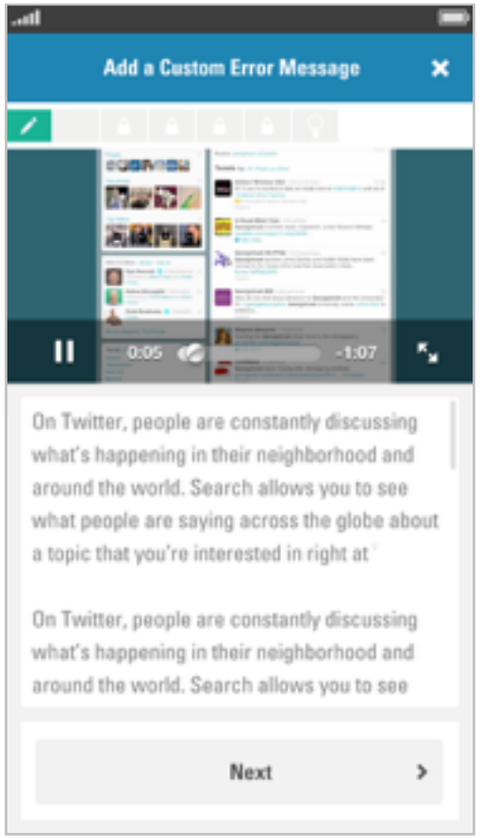
PAPER PROTOTYPES (SKETCHES)

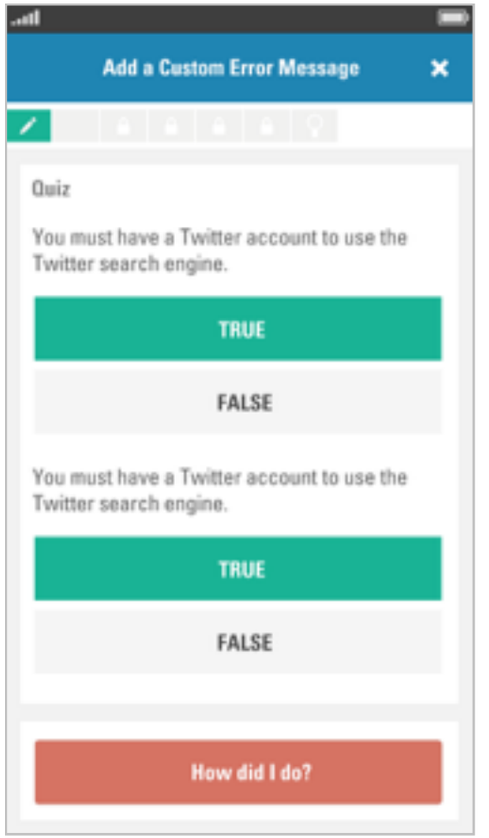


PAPER PROTOTYPES (PRINT-OUTS)

PHOTO GALLERY

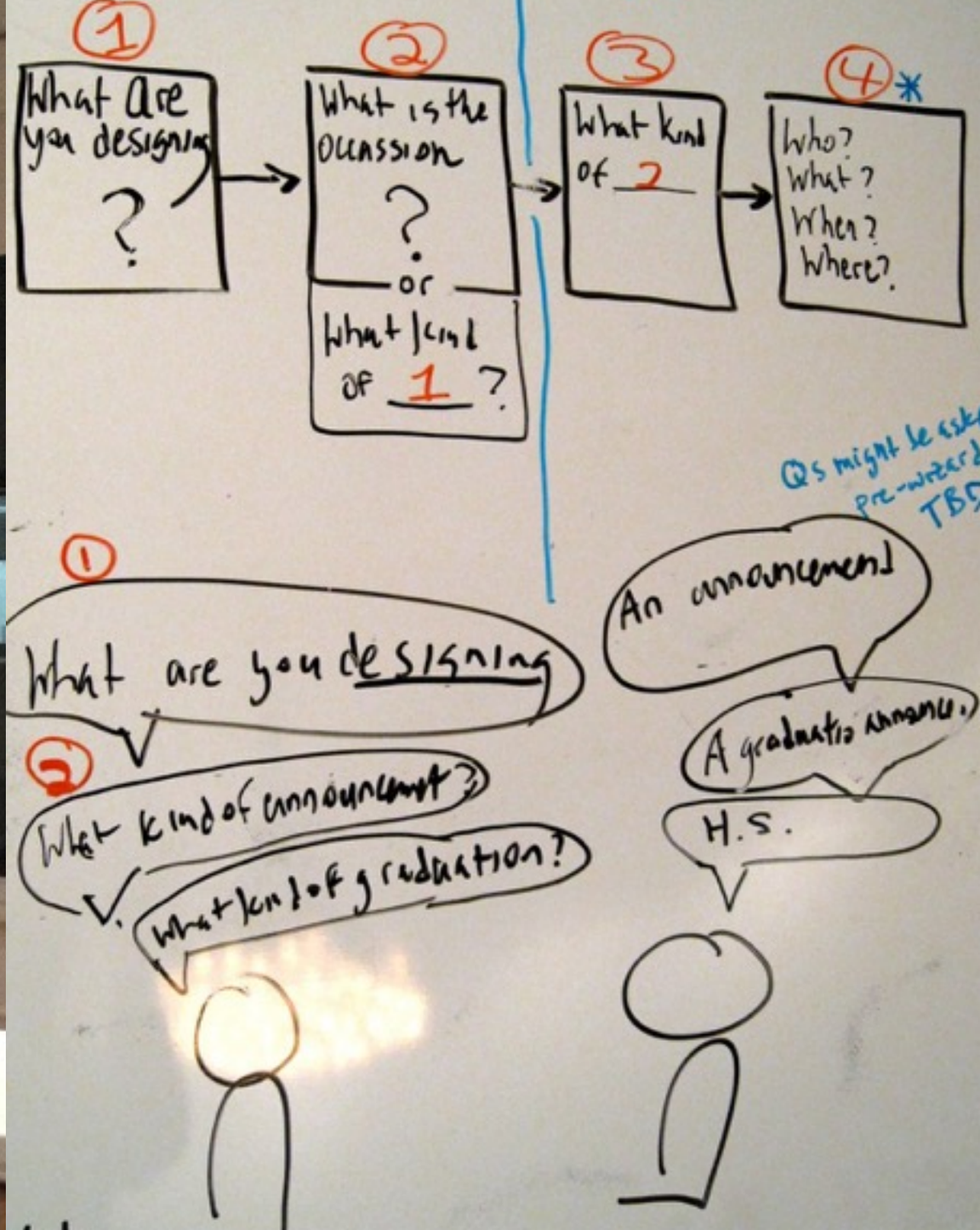


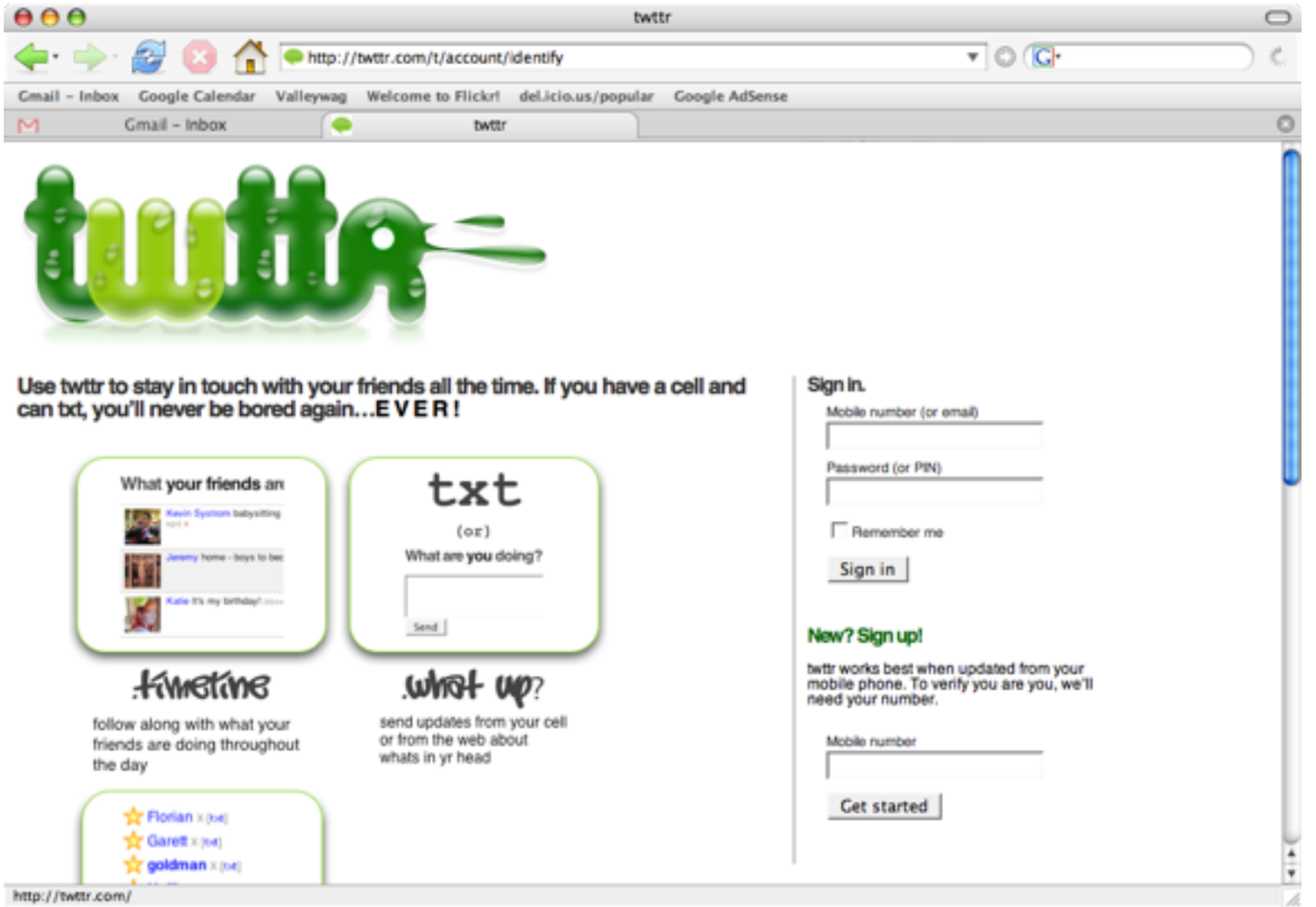




CLICKABLE/TAPPABLE PROTOTYPE

CONCIERGE MVP





FUNCTIONAL PROTOTYPE

DISCUSSION

- What kind(s) of prototype(s) could we use to:
  - explore how a customer could interact with an ATM machine?
  - figure out whether the new navigation system on my website makes sense to users?
  - communicate how screen transitions are meant to work in my mobile app to the developers?

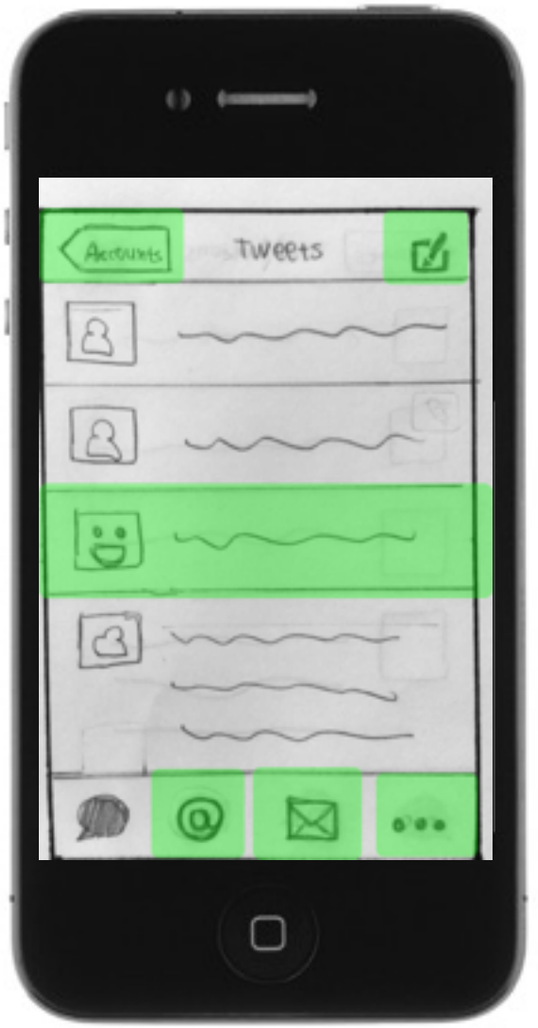
PROTOTYPING TOOLS

KEYNOTE/POWERPOINT

- You probably already know how to use it
- Can be high or low fidelity
- Limited built-in prototyping features
- Doesn’t work on mobile devices

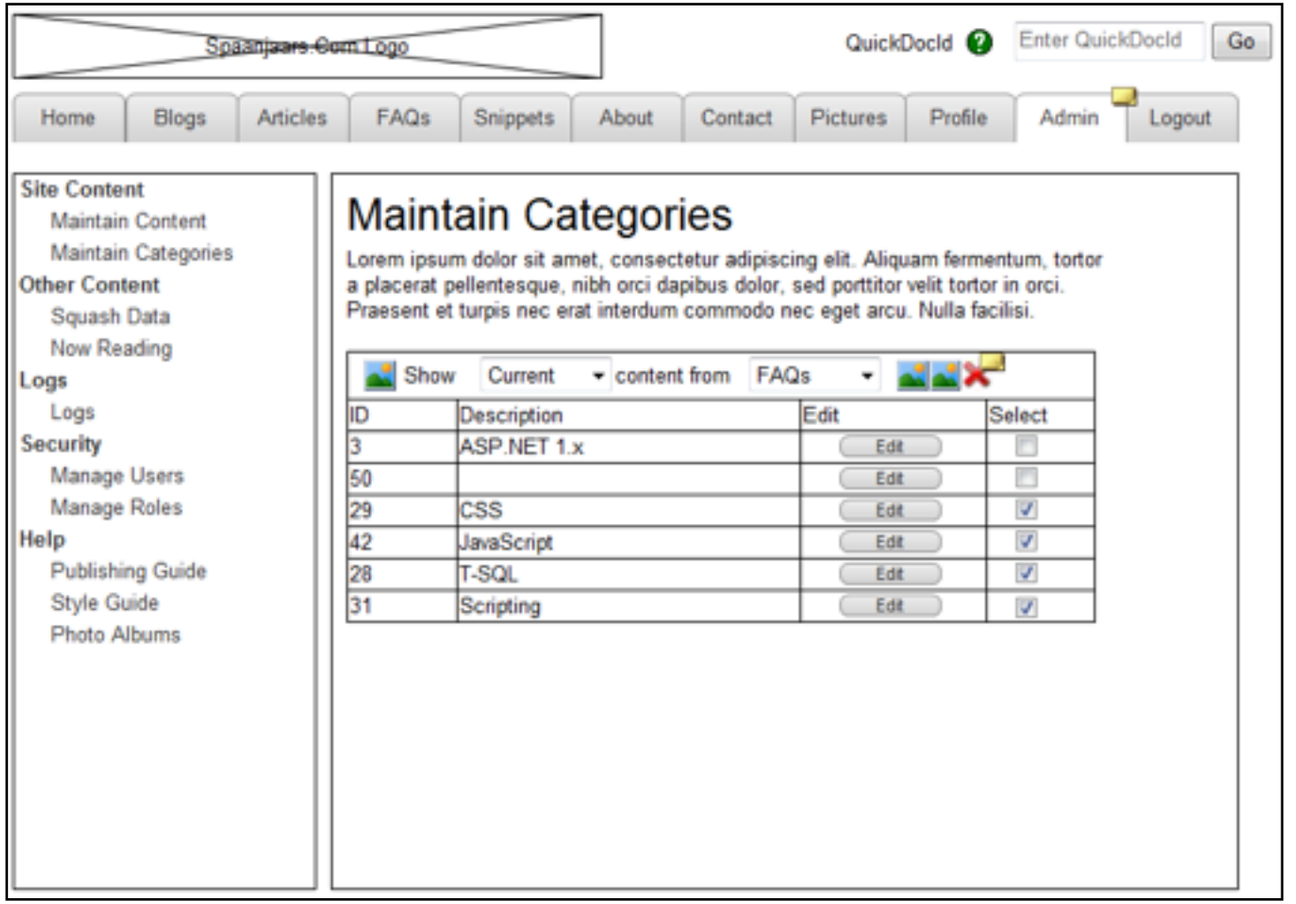
PROTOTYPE ON PAPER (POP)

- Snap shots of your sketches with your iPhone
- Build hotspots and link them to other screens
- Put in “play” mode
- Send to remote users for testing



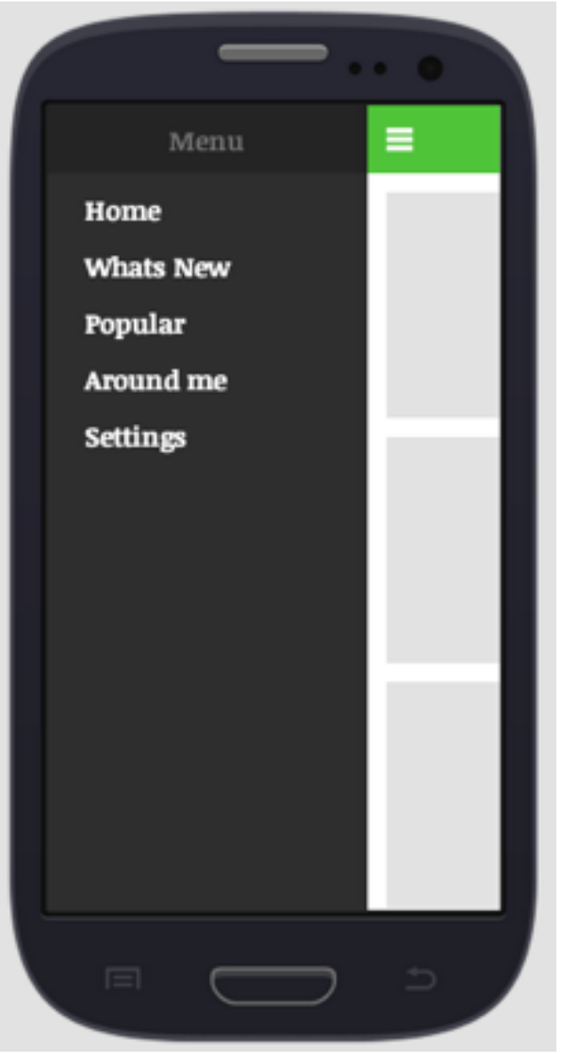
AXURE

- Popular wireframing tool
- Very robust design and prototyping features
- Easily export to HTML as a prototype



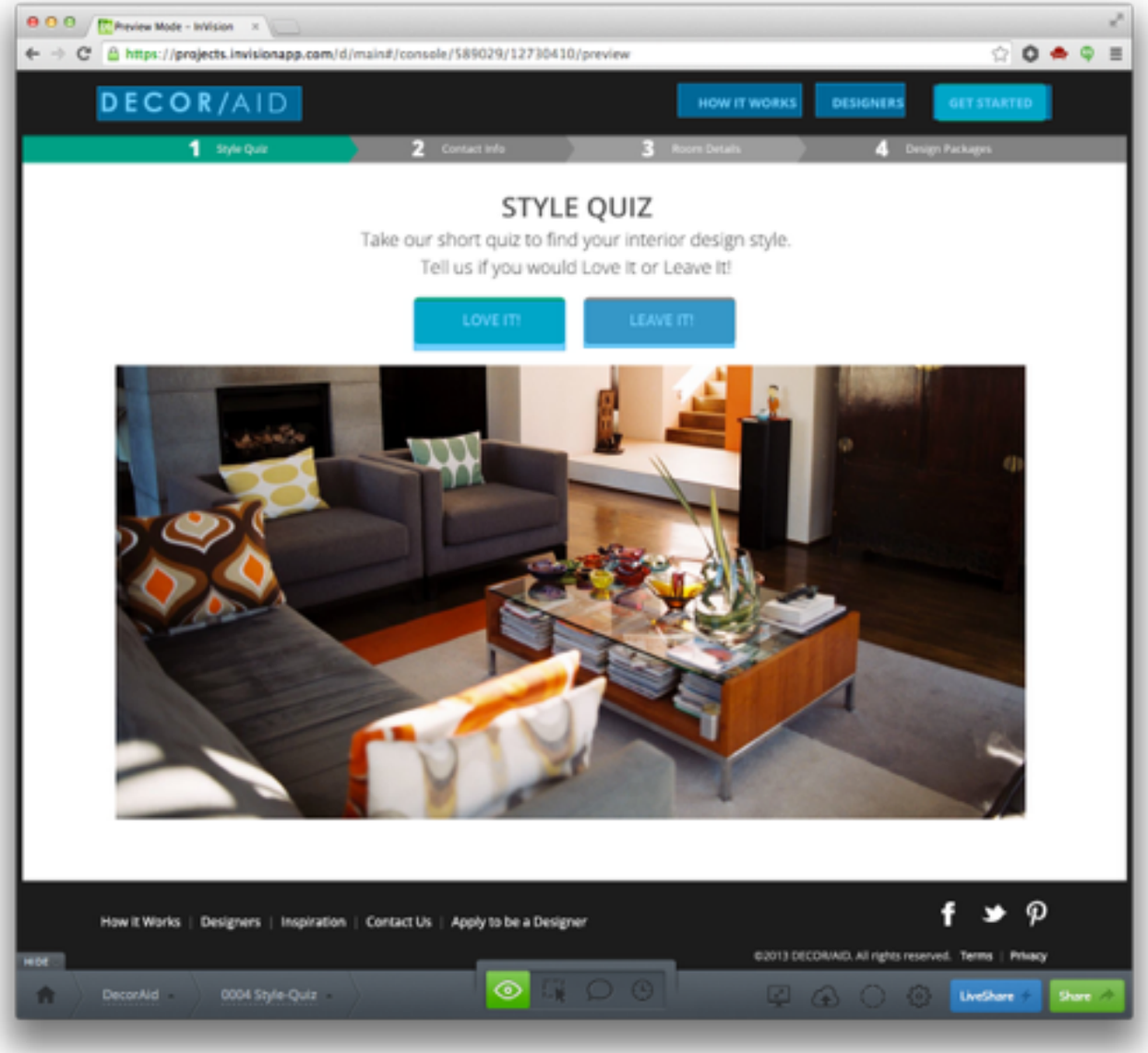
PROTO.IO

- Powerful in-browser prototyping tool for mobile devices
- Supports multiple gestures, screen transitions, and animations
- Supports variables to persist user input
- Create your own device templates



INVISION APP

- Upload design comps (mobile or desktop)
- Create hotspots and transitions
- Add comments
- Share for remote testing
- Very robust collaboration features



BOOTSTRAP

- A CSS component library that lets you build decent-looking interfaces very quickly
- Built-in tools for responsive design
- Great for coded prototypes
- Can be a little difficult to customize

RUBY ON RAILS

- Great when prototypes need to be fully-functional
- Has “scaffolding,” which helps developers stand-up an application quick and dirty

PAPER PROTOTYPING

WHY PAPER?

“It feels like you’re cheating”

JAKOB NIELSEN

IT'S EASY

- Anyone on the team is capable of creating a paper prototype
- Even advanced techniques are easy to pick up

IT NEVER CHANGES

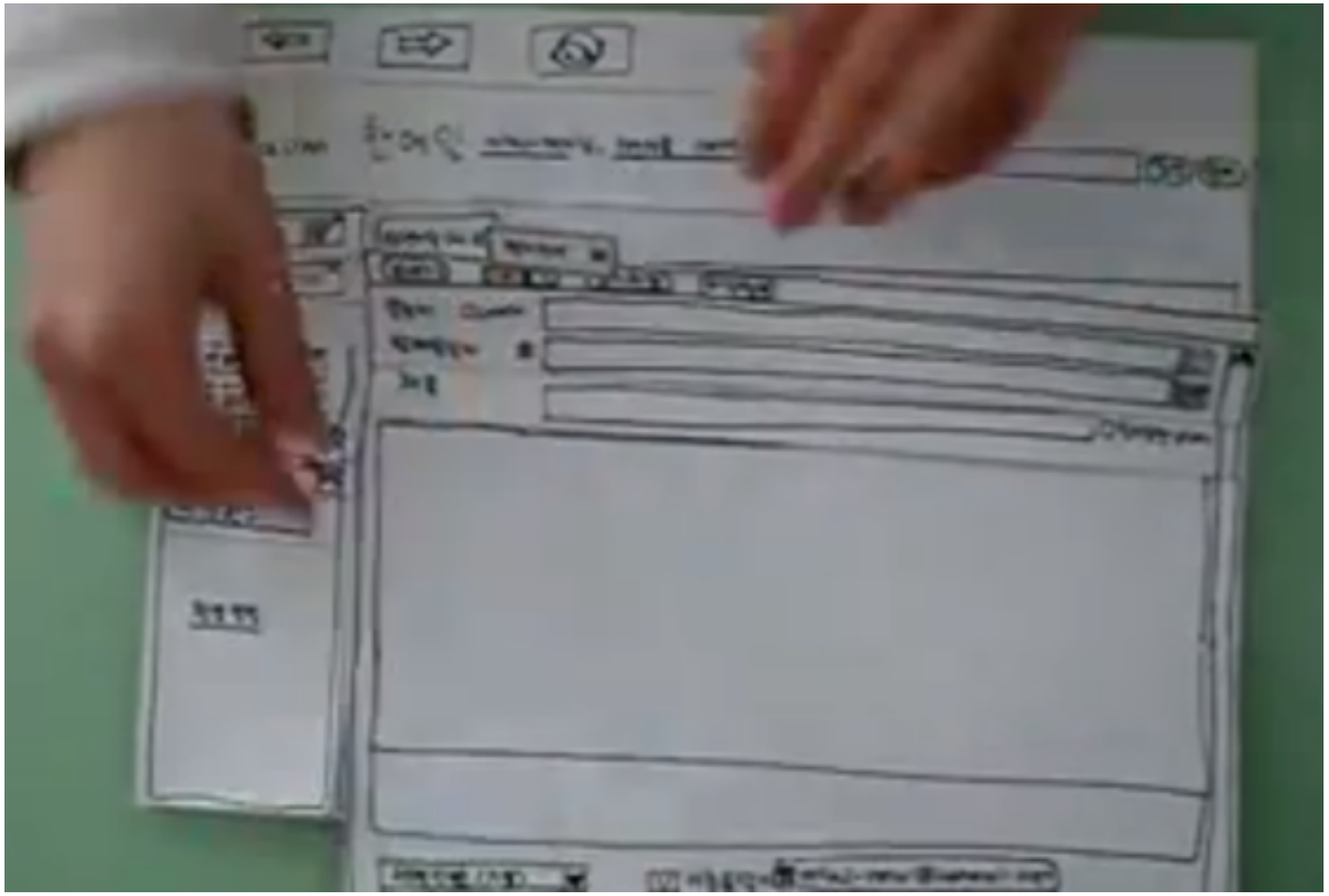
- Paper is readily available
- You don’t have to learn software
- It can be used throughout your career

IT'S JUST AS EFFECTIVE

- When it's a sketch, test participants know it's not the final design
- Participants still behave the same way

- Because it's so cheap, ROI can be "several thousand percent"

IT’S FLEXIBLE



CREATING PAPER PROTOTYPES

THESE ARE YOUR TOOLS

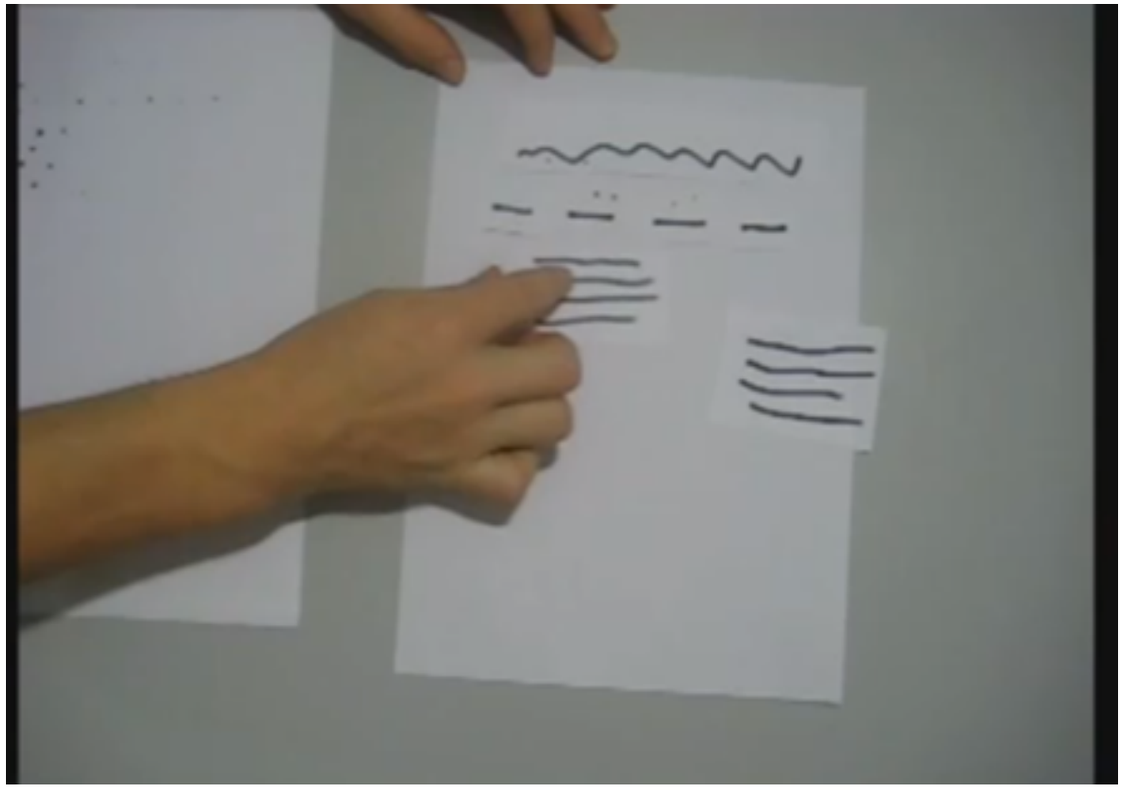
scissors

paper

tape

post-its

SKETCH, CUT, ASSEMBLE



THINK MODULARLY

- Good design is modular, even on paper
- Modular thinking will allow you to reuse your sketches

USE A PHOTOCOPIER

- Copy & Paste isn't only a computer thing
- If you need to reuse an item:
  - draw it once and photocopy several times
  - cut and paste each instance onto a master template
  - photocopy the master template for unlimited elements

GET CREATIVE

- Figuring out how to demonstrate complex interactions on paper can be a fun creative challenge
- Try:
  - Folding paper
  - Cutting out masks
  - Using tape

TESTING WITH PAPER

PREPARE

- Sketch or print basic templates that represent the medium and global elements
- Sketch and cut-out any interactive elements
- Organize templates and elements so you can manipulate them during a test

EXPLAIN

- When showing paper prototypes, remember to explain to the viewer that it is a prototype and doesn't represent what the final product will look like
- Instruct participants to "click" with their finger or a pen
- Provide the testing scenario(s) and task(s)

HUMAN COMPUTER

- The trick to testing with paper prototypes is that there needs to be a human acting as the computer
- The “computer” needs to behave according to pre-defined rules
- This person and technique is also known as the “Wizard of Oz”

FACILITATOR

- The facilitator:
  - provides test scenarios and tasks
  - asks the test participant clarification questions
  - debriefs the participant
- The facilitator can also be the computer, but it is easier with two separate people


EVEN A 5-YEAR OLD COULD DO IT

POP DEMO

- We will quickly demonstrate creating a paper prototype using paper sketches and POP App