# Prototyping

# Plan for today

- A quick pass through takeaways from the reading
- Dig in on this week's prototyping + design critique activity!

# Prototyping

"…users can't tell you what they want, but when they see something and get to use it, they soon know what they don't want."

Interaction Design: Beyond Human - Computer Interaction by Yvonne Rogers et al.
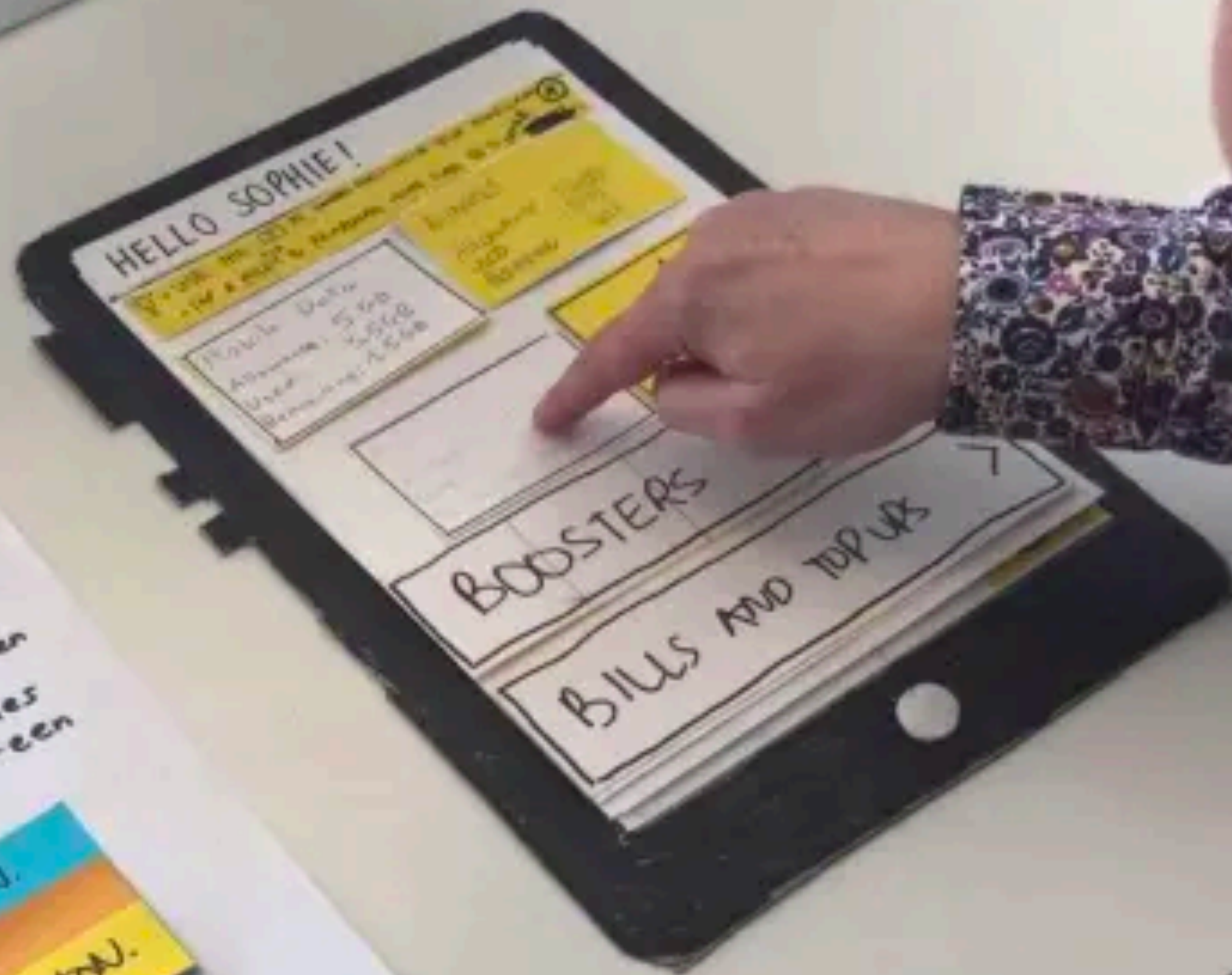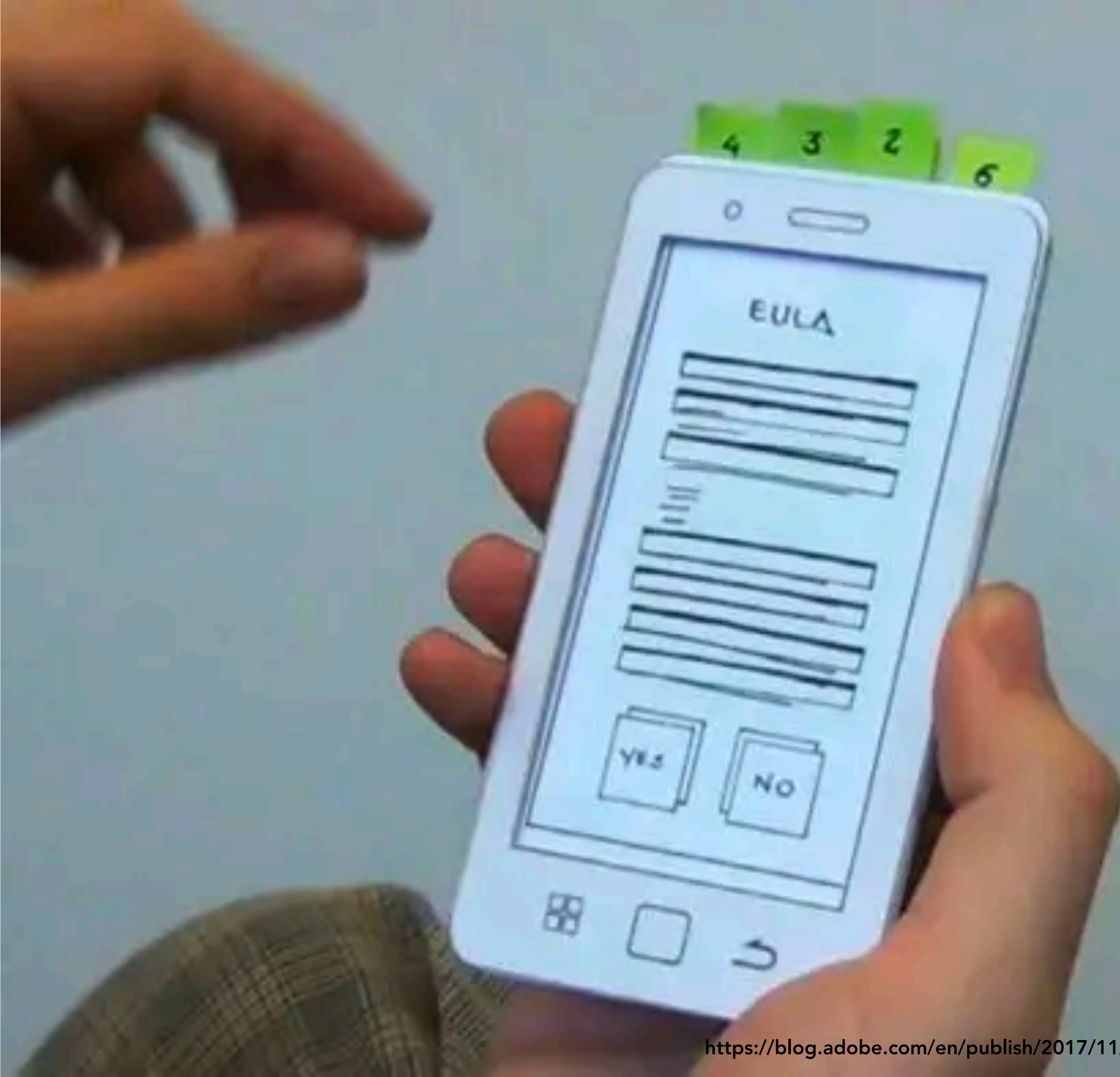
# Prototype Roles

- Make you think harder, plan more thoroughly about what you want to build
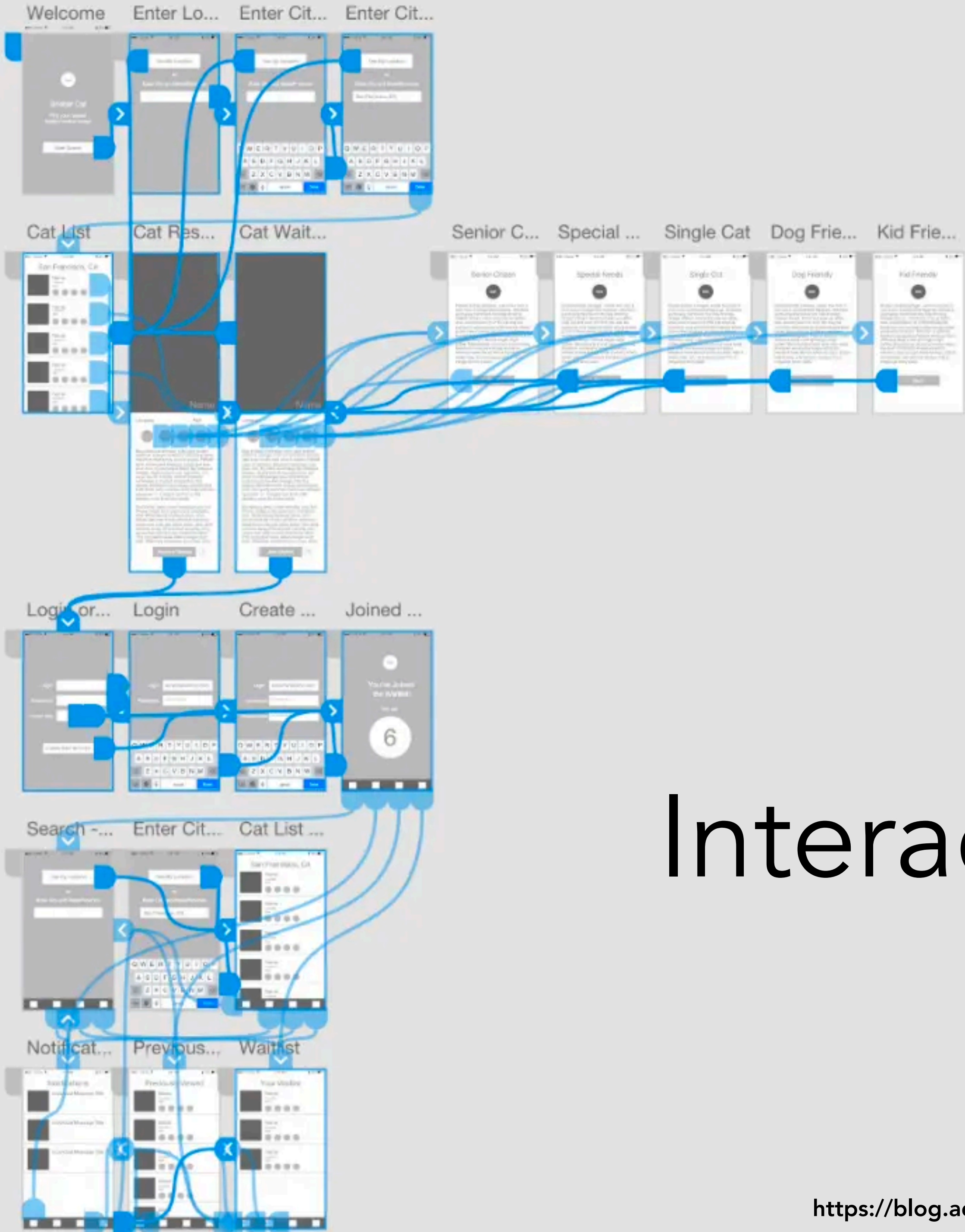- Help you solicit feedback on the thing you plan to build

# Low- vs. High-Fidelity Prototypes

Interactable, higher-fidelity

# Low-Fidelity Prototypes

- Claims you may hear about low-fi prototypes:
  - People love to give you feedback on font size and if your icons make sense to them
  - If you don't want that kind of feedback, if you want feedback on elements deeper than aesthetics, consider low-fidelity prototypes
  - Also if it looks like you drew it in crayon and didn't sink a lot of time into it, people are more willing to criticize, which is what you want

- Personally haven't found research-backed evidence of the above
  - (Send me your references!)
- **But**…lots of evidence that you get just as much/just as good feedback from low-fi, and they're faster and cheaper to make, faster to tweak and change

# Low-Fidelity Prototypes

- **But**…lots of evidence that you get just as much/just as good feedback from low-fi, and they're faster and cheaper to make
- …with the result that maybe **you're** more willing to criticize yourself and to throw things away when you realize they're not right
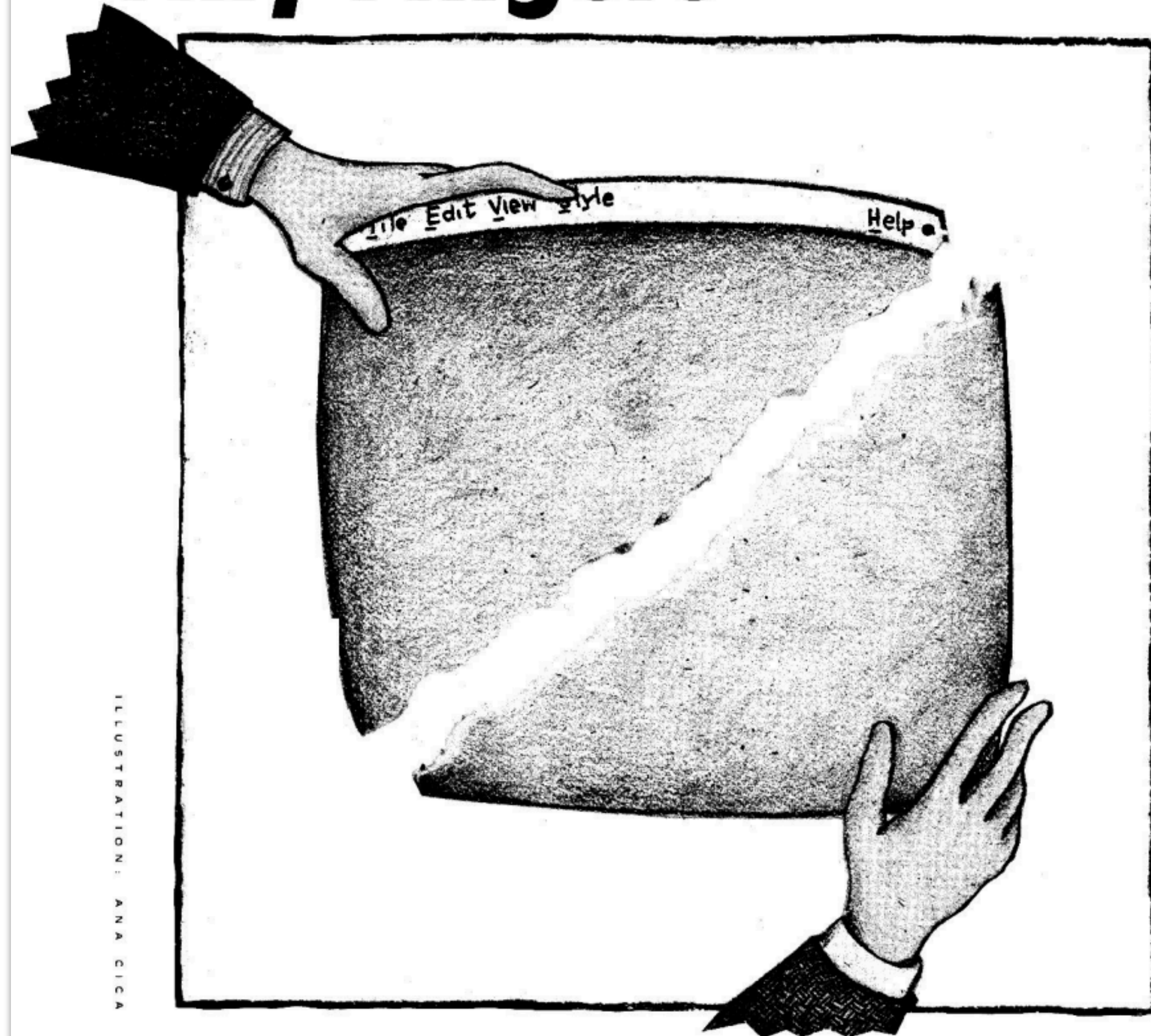
**Practical Programmer**

# Prototyping for Tiny Fingers

by Marc Rettig

Consider this familiar situation: a development team spends weeks designing an interface. They draw sketches on the board, discuss each point in detail, and finally specify a design. The design is either coded into the application language or simulated with a software prototyping tool. The result is finally shown to users for approval, in a session that generates scores of comments on subjects ranging from the basic metaphor to the choice of background color. The team just barely has time to incorporate these comments into a revised design before committing their work to production.

Now consider a different situation, one I have witnessed first-hand over the past few months: a development team spends weeks designing an interface. During the first few days, they construct a paper prototype of their initial thinking about all aspects of the design, and test it with typical representatives of the user commu-

## A nice resource on the case for low-fi prototypes

- With good arguments for the claims mentioned on prior slides

# Wizard-of-Oz Prototyping

- Like what we did the very first day of class!
- Lets us get around engineering effort by having a human do the work that our tool will eventually automate
  - Human can be:
    - Compiler, interpreter
    - Program synthesizer
    - Programming environment
    - Program transformation tool
    - …

# We've talked about lo-fi…

- …because for today's purposes, we're mostly interested in early-stage formative studies

- But of course we want to be getting feedback from users at all points!

- Calling it low-fidelity naturally suggests the existence of high-fidelity…

| Type | Advantages | Disadvantages |
|------|-----------|---------------|
| Low-fidelity prototype | Lower development cost<br>Evaluates multiple design concepts<br>Useful communication device<br>Addresses screen layout issues<br>Useful for identifying market requirements<br>Proof of concept | Limited error checking<br>Poor detailed specification to code to<br>Facilitator-driven<br>Limited utility after requirements established<br>Limited usefulness for usability tests<br>Navigational and flow limitations |
| High-fidelity prototype | Complete functionality<br>Fully interactive<br>User-driven<br>Clearly defines navigational scheme<br>Use for exploration and test<br>Look and feel of final product<br>Serves as a living specification<br>Marketing and sales tool | More resource-intensive to develop<br>Time-consuming to create<br>Inefficient for proof-of-concept designs<br>Not effective for requirements gathering |

Interaction Design: Beyond Human - Computer Interaction by Yvonne Rogers et al.

# Let's do some prototyping!

- In-class prototyping and design critique activity:

  - Listed in Thursday's class slot on the calendar, but this is a **two day** activity.

  - Complete with the group for your final project.