Design: Prototyping

No screens

Prof. Lydia Chilton

COMS 6998

26 October 2018

Say your name
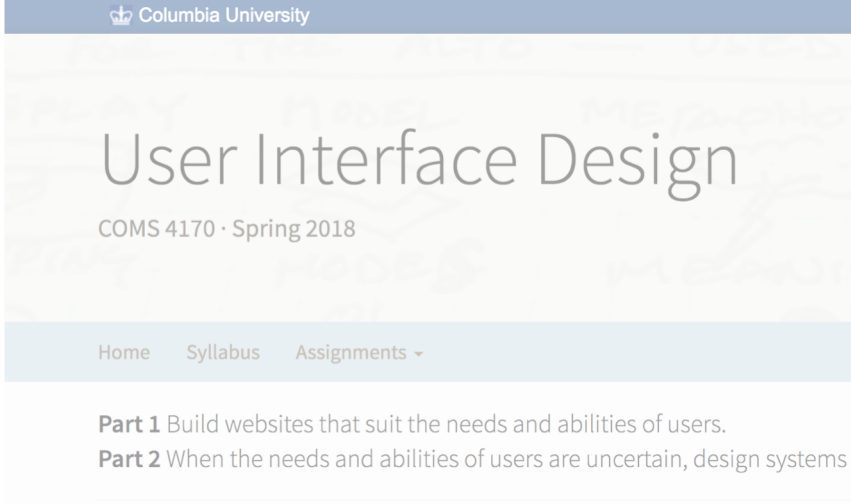
User Interface Design

COMS 4170 · Spring 2018

Home   Syllabus   Assignments ▾

Part 1 Build websites that suit the needs and abilities of users.
Part 2 When the needs and abilities of users are uncertain, design systems

Advanced Web Design Studio

COMS 6998 · Fall 2018

Home   Syllabus

Goals
1. Master front-end and back-end technologies for making interactive websites.
2. Discover specific user needs by developing a low-level, mechanical model of human behavior.
3. Practice iterative design to meet specific user needs.

INSTRUCTOR
Prof. Lydia Chilton
OH: Tuesdays 4-5, CEPSR 612

Please contact staff through Piazza only

TAS
Katy Gero
OH: TBA, CS OH room

Savvas Petridis
OH: TBA, CS OH room

You already know <u>front-end</u> web dev:
HTML, JavaScript, Bootstrap, jQuery

And design:
Iterative design, critique
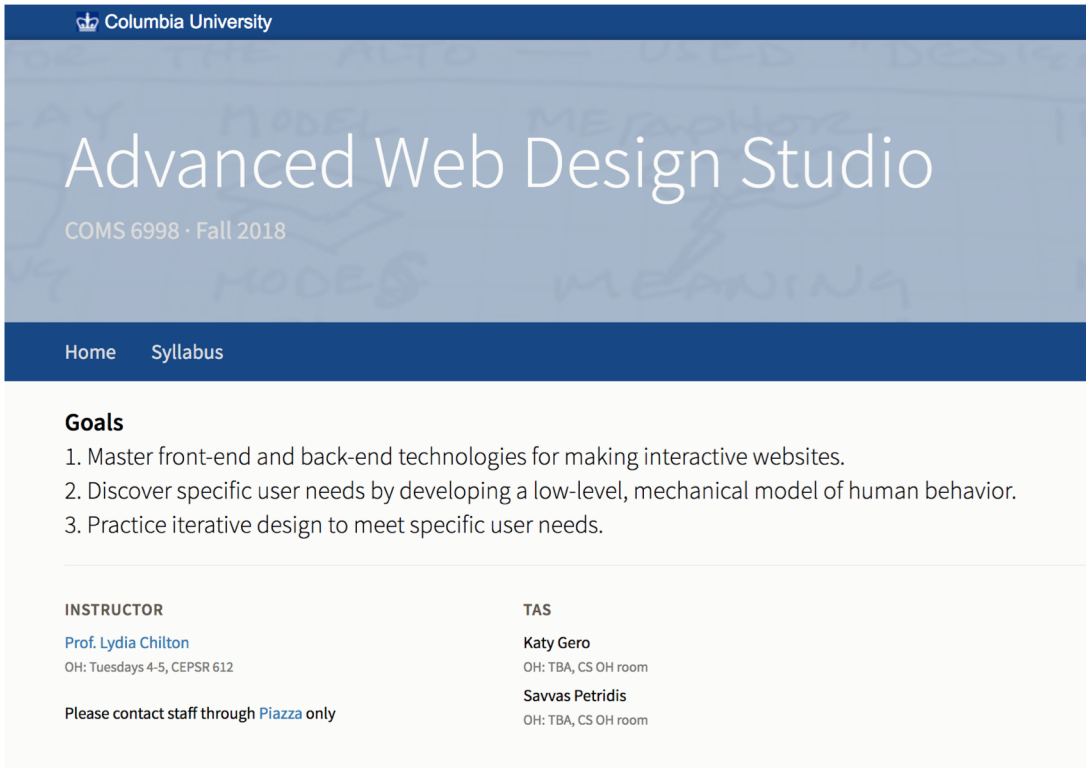
You will learn back-end web dev:
- Server-side programming (Flask),
- Databases (Sqlite, SQLAlchemy)
- **Real-time Communication (Socket.IO)**

And practice web design by:
- Rebuilding IMDB.com
- **Rebuilding twitter**
- Pursuing your own project

By separating observations from interpretations you can get past simplistic interpretations and see the more about the world.

Art - More realistic drawing

Science – Understanding how nature really works

Engineering – Making better products

There is always more to discover

Finding Problems you can fix with communication

Observe your life over the next week.
- **Find problems**: what were communication
  - When are times that a communication caused frustration, confusion, annoyance, or other problem.
- **Find positive example**: when did something randomly go well. How could we repeat that awesomeness everyday?

Observe what really happened
Interpret why it worked or failed.
Is this a thing we could repeat and facilitate with technology?

Last week

- Identify a **domain** of communication where we can
  - fix a problem or (allow students to ask/answer each others questions)
  - enhance an existing practice (add emoji to texting)

- Try observing your communication issues in your life
  - Separate observations from interpretation

My app

- Observation of communication issue:
  - **A random thing that went well**:
    - Chris Wiggins (Stats prof) emailed me out of the blue saying "I'm free now. Wanna go over that grant?"
    - I saw the email within 10 minutes and ran down to his office.
    - I used that 30 minutes of my life much better than I would have otherwise.
  - **Observe what went well**:
    - He sent me an email telling me he's free. That's weird! Nobody ever does that.
    - It meant I didn't have to look at my calendar and do that stupid back-and-forth of scheduling.
    - Could I do that in my life?
      - Yes. Around around lunch time.
  - **App idea**: build an app where I can randomly broadcast where I am going to lunch to other faculty. If they want to join, they can.

Studio: User testing & Brainstorming chat apps in new domains

3 Groups

First everyone says:

- What observation did you have?
- What's your new domain for chat?
- Have someone use your system.

Next:

- Go around the circle again. Remind people of your domain/idea
- Drill into that domain to find more observations.
  - **Bad things**: what's something annoying, frustrating, or confusing
  - **Good thing**: random thing that went well (which might be repeated)

Due today by 9pm on Piazza – three ideas for specific user needs within a domain.
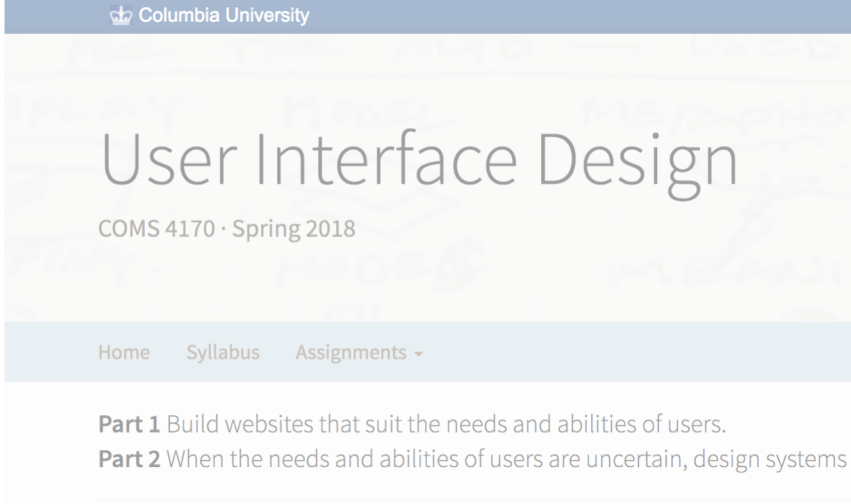
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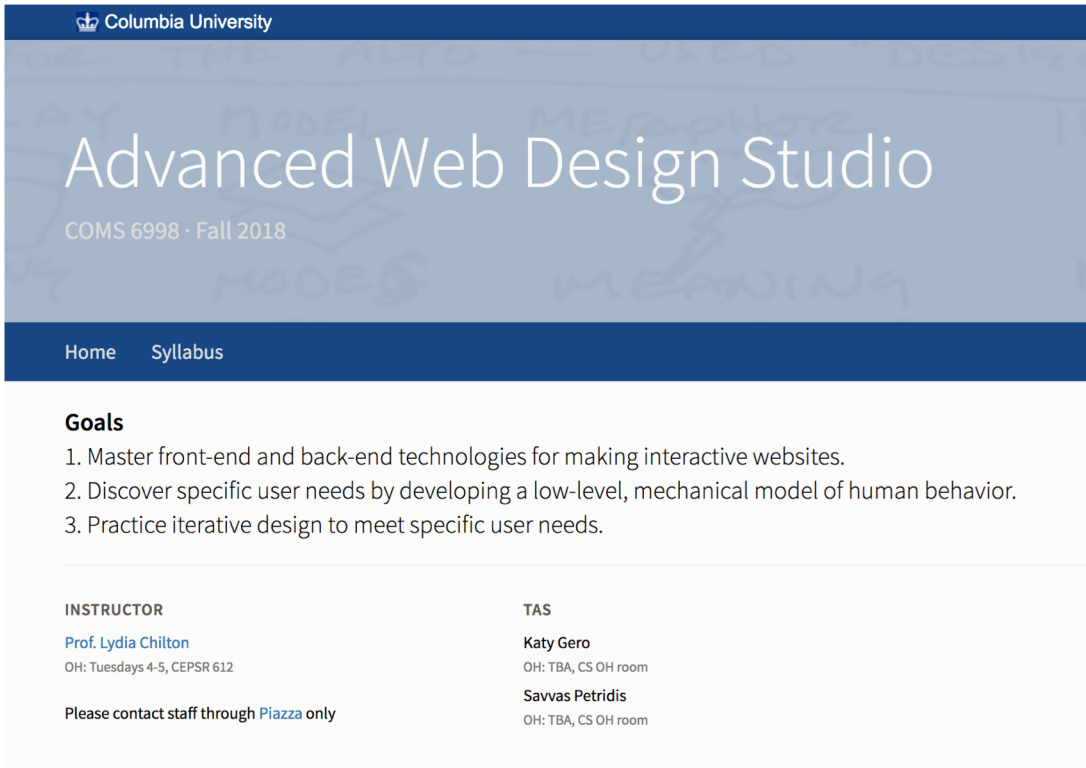
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• **Pursuing your own project**

Pursuing your own project

- This week
  - 3 Prototypes of possible projects

- Next week
  - Project proposals:
    - What domain are you interested in.
    - What specific user goal will you meet
    - How you will know whether or not the user goal is achieved.
    - A plan for how you will *iterate* on it.

Review:

Why is design **iterative***?*

What's wrong with the waterfall model?
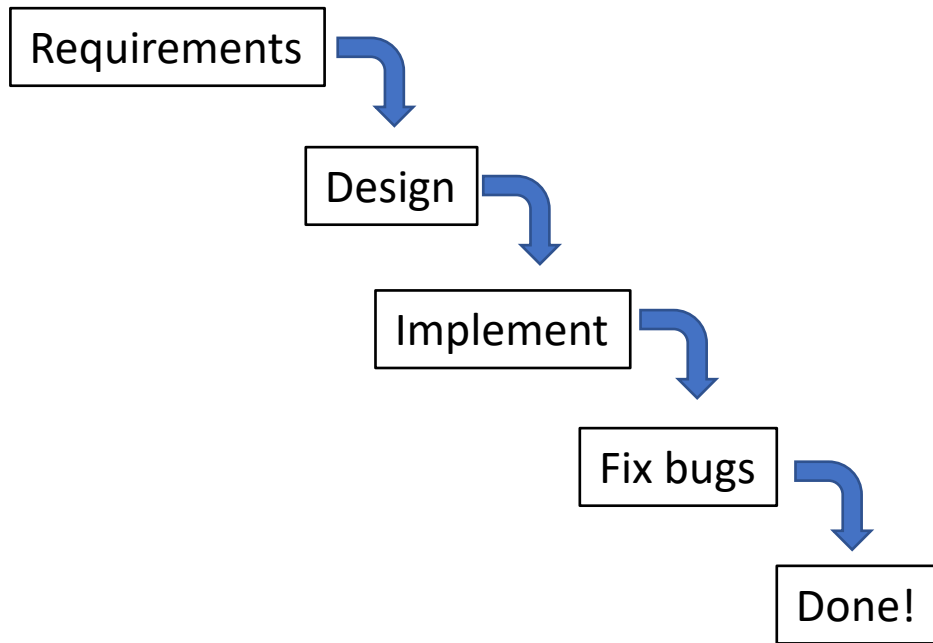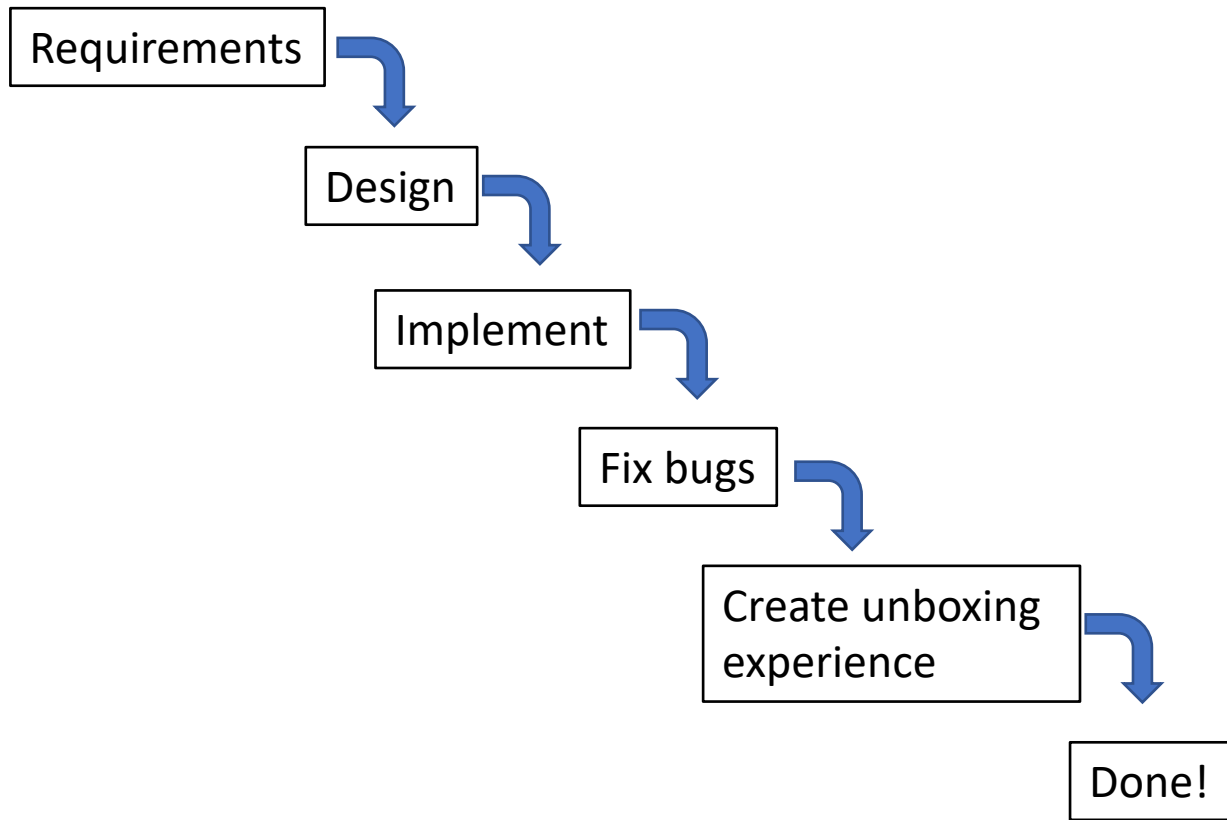
Requirements → Design → Implement → Fix bugs → Done!

What's wrong with the waterfall model?

Requirements

Design

Implement

Fix bugs

Create unboxing experience

Done!

Design involves **risks**

Requirements

Design

What if a touch screen can't be implemented?

Implement

Fix bugs

What if this device is so slow it's unusable?

Create unboxing experience

How can we keep up with the competition?

Done!
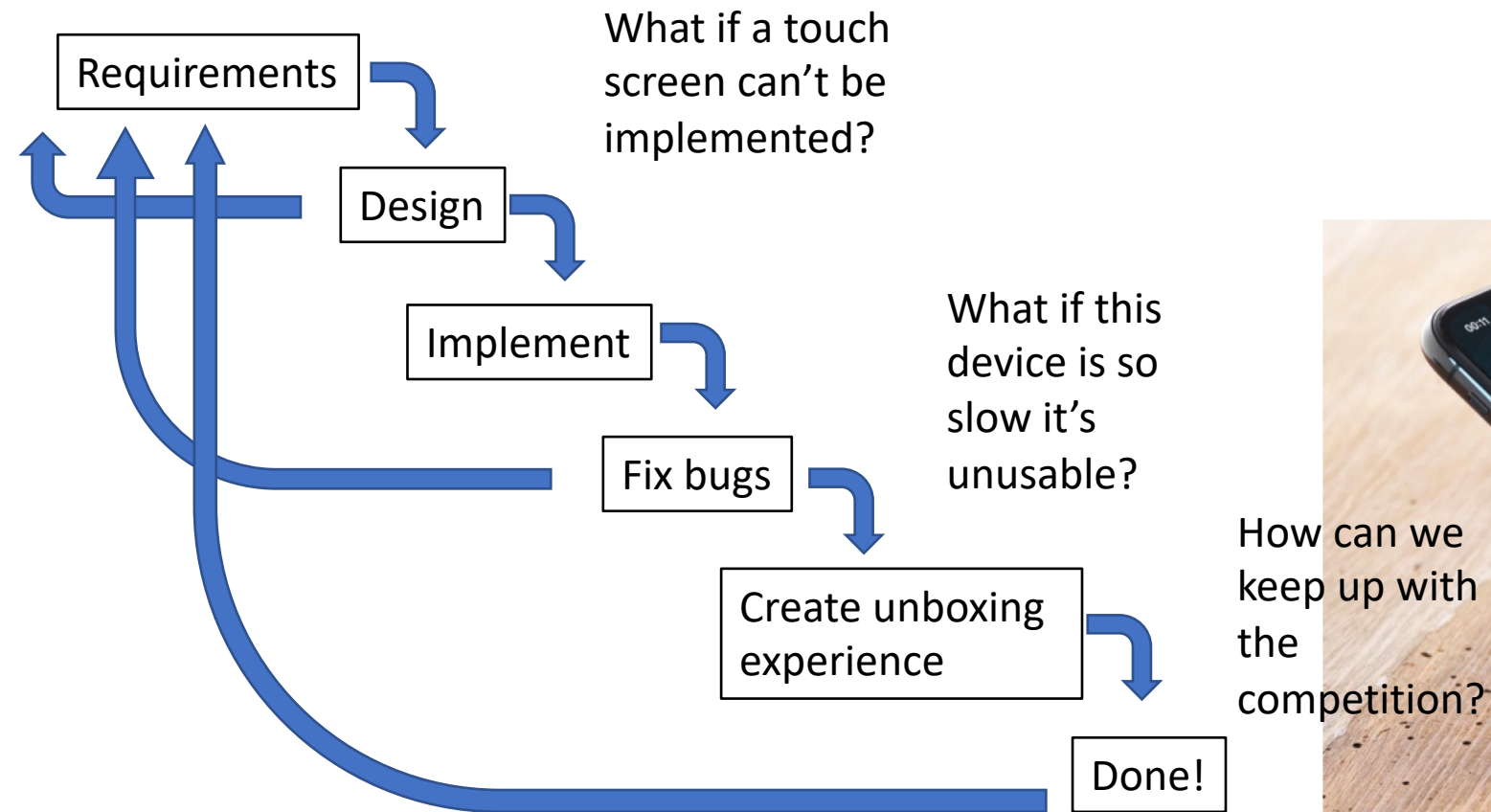
Iterative Design Process

- Requirements analysis
- Preliminary and detailed design
- Implementation
- Evaluation

Mitigate risk by iteratively **prototyping** the riskiest elements

Requirements

What if a touch screen can't be implemented?

Design

Implement

Fix bugs

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Create unboxing experience

How can we keep up with the competition?

Done!

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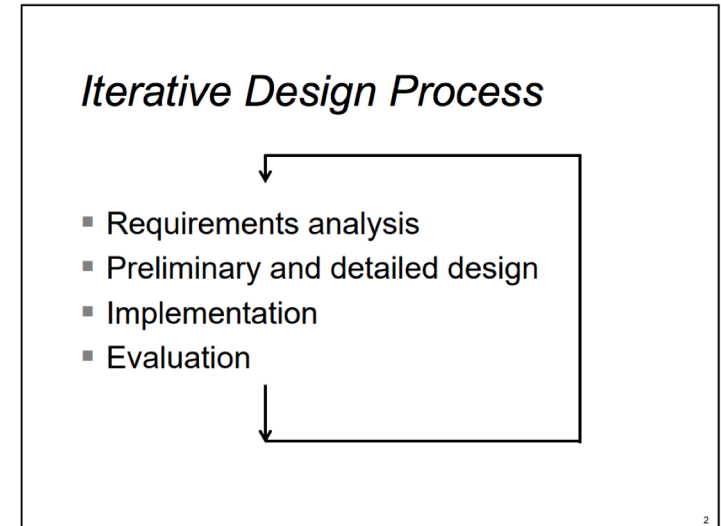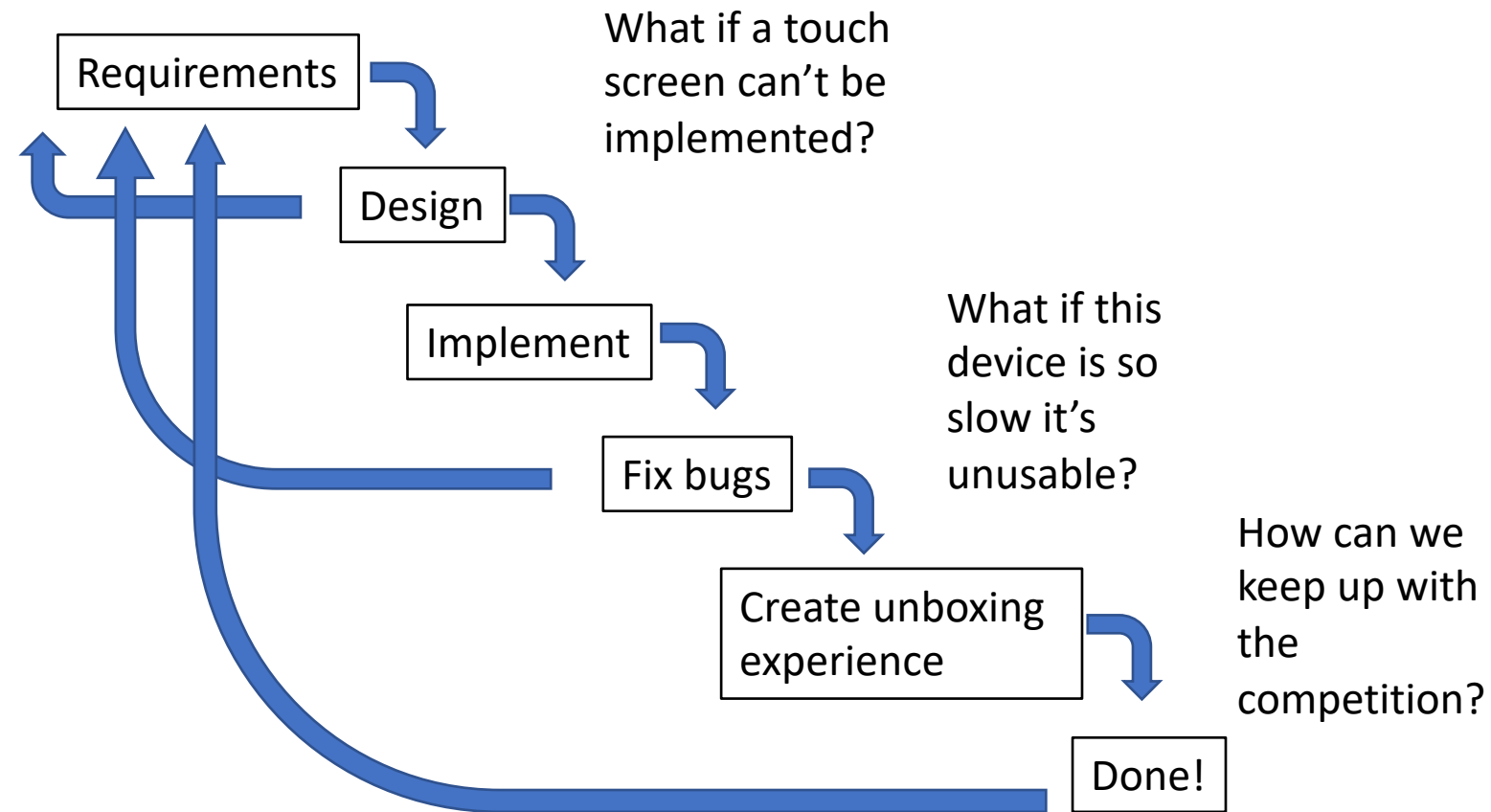
Does touch work?

How to get perfect gradients?

At the idea stage,
what's the most important thing
to prototype?

Prototype **feasibility** first

Problem:

People seem to like having ideas,
But they resist actually working on them.

Why????

The shortest date I went on in Silicon Valley
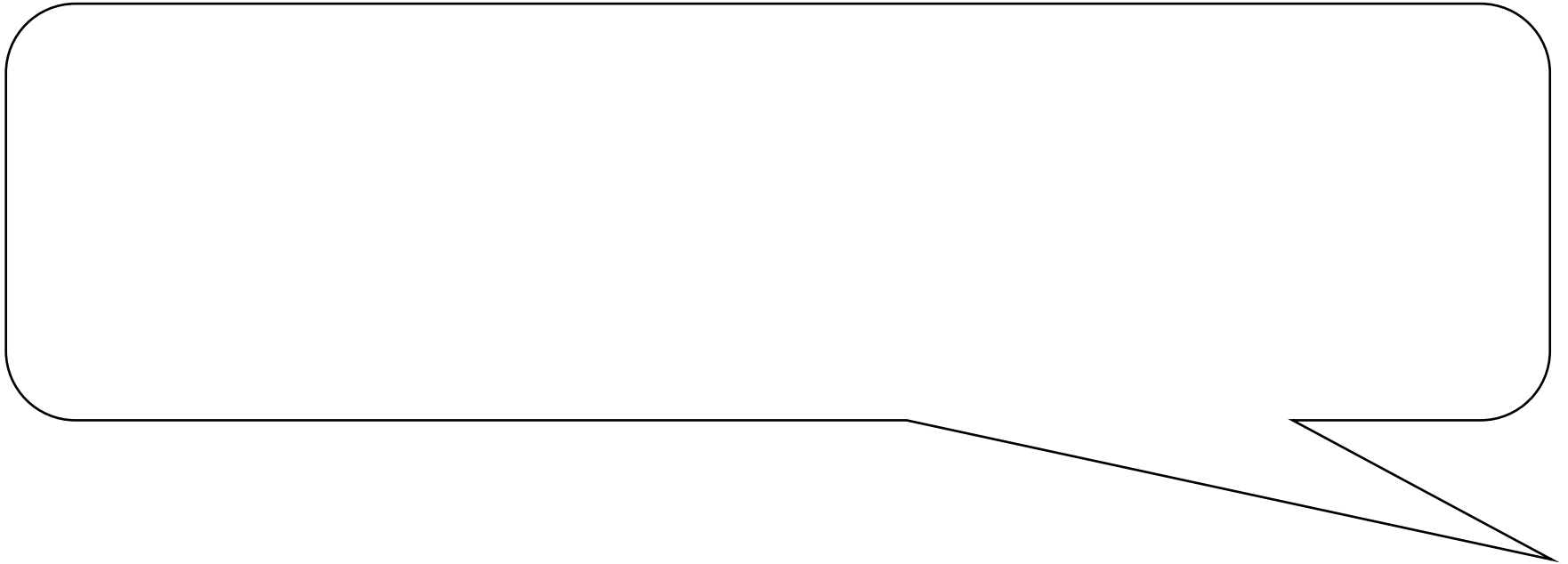
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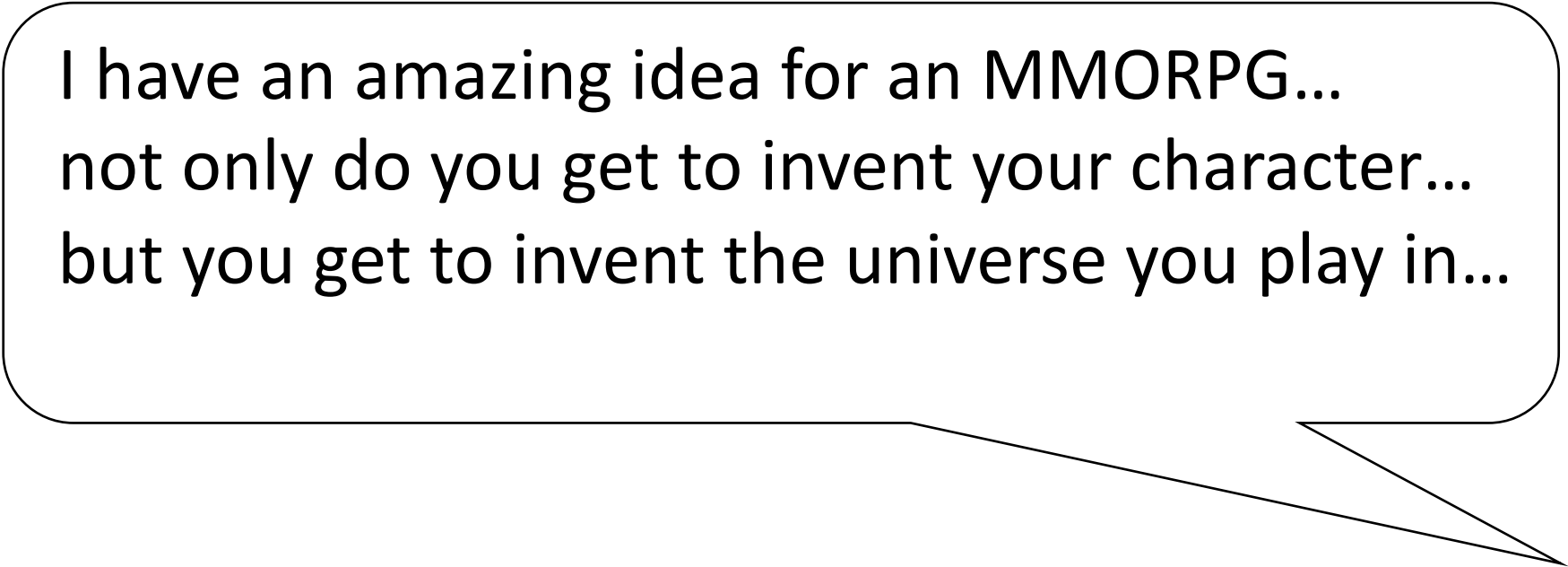
I have an amazing idea for an MMORPG…

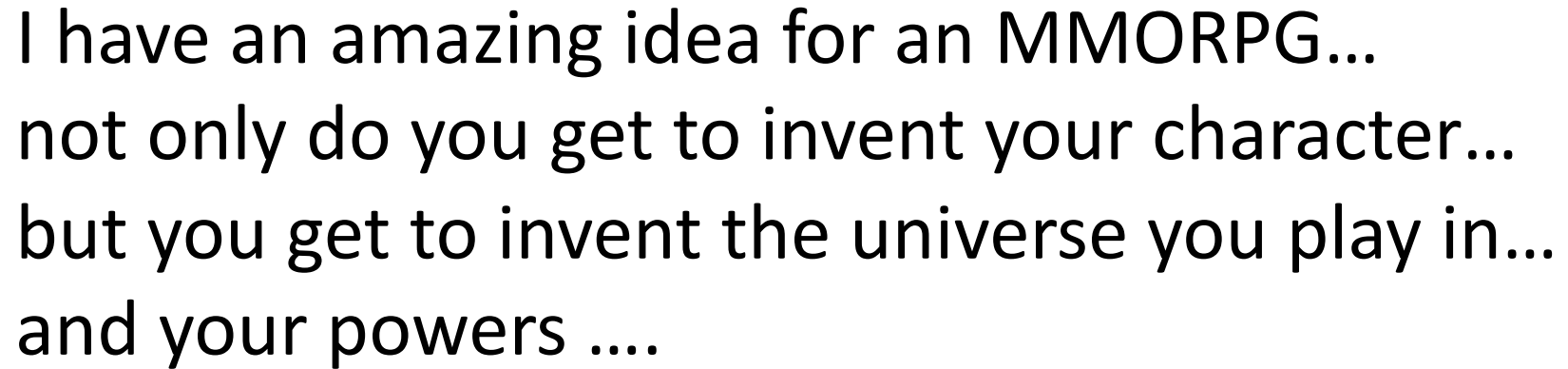# The shortest date I went on in Silicon Valley

I have an amazing idea for an MMORPG...
not only do you get to invent your character...

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I have an amazing idea for an MMORPG...
not only do you get to invent your character...
but you get to invent the universe you play in...

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I have an amazing idea for an MMORPG…
not only do you get to invent your character…
but you get to invent the universe you play in…
and your powers ….

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Have you tested your idea yet?

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I have an amazing idea for an MMORPG…
not only do you get to invent your character…
but you get to invent the universe you play in…
and your powers ….

Have you tested your idea yet?

No. The idea isn't done yet.

Dante's "Divine Love" for Beatrice

You can't patent an idea. Why not?

"Although you don't have to have a working prototype to apply for a patent,
you do have to be able to **describe the invention in detail**
and **show how it will work**

Ideas are too vague
They contain too many untested assumptions

You can't patent an idea. Why not?

I have an amazing idea for an MMORPG...
not only do you get to invent your character...

DENIED!

To be a designer rather than just an ideater,
You have to want to find the problems.

The idea is nothing.

Implementation is everything.

the social network

Build a prototype to test your assumptions

Instacart – order groceries
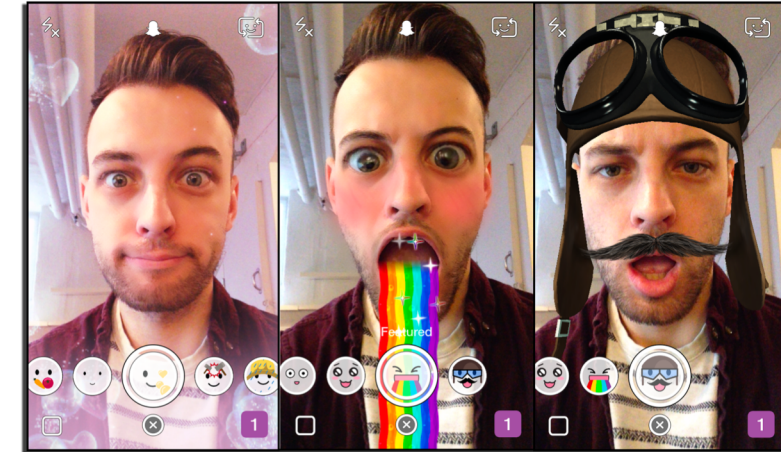**What to test** - are people willing to order groceries
Prototype – the founders went to Safeway and delivered the groceries themselves.

Snapchat – social media…it disappears, it has stories, with funky images
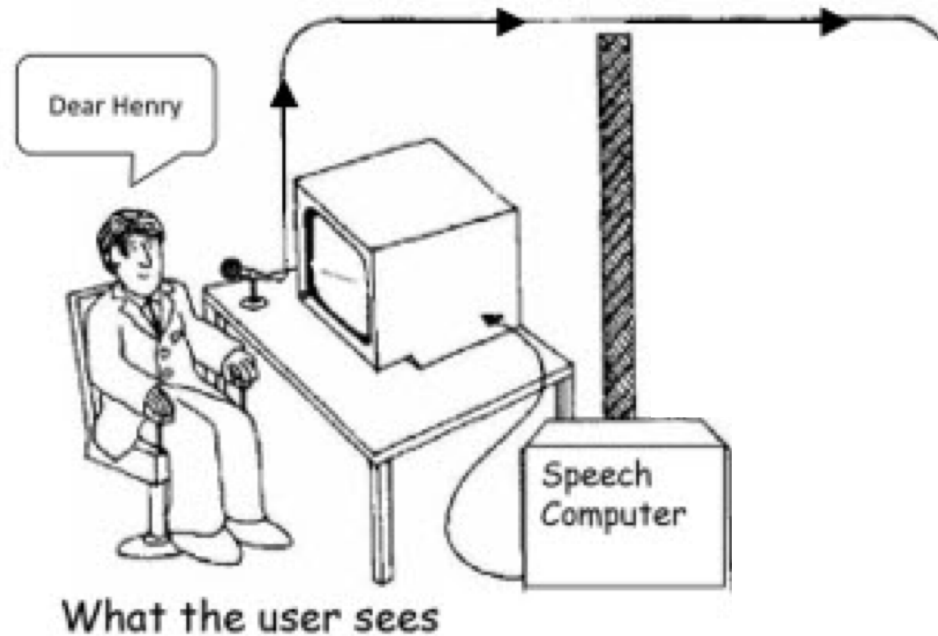**What to test -** Messages disappearing – does that drive people to use it more?
Prototype - just built that.
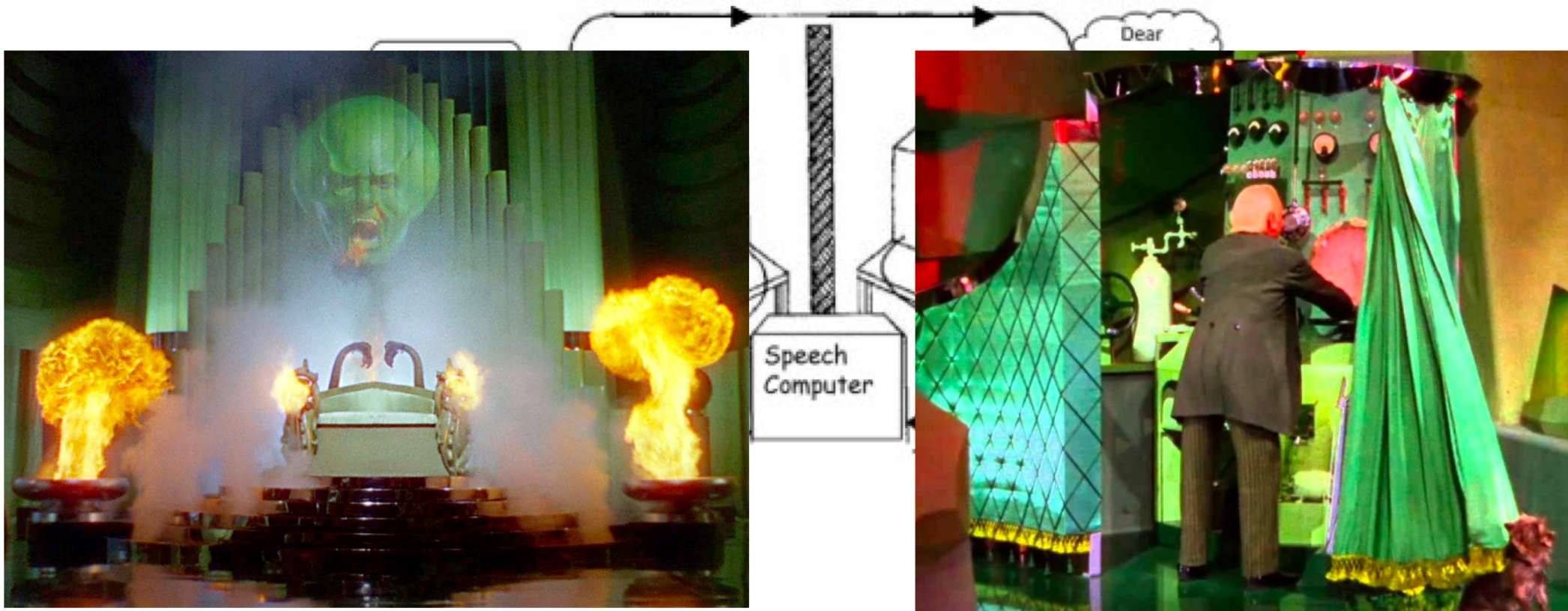
Types of Prototypes

Wizard-of-Oz Prototype

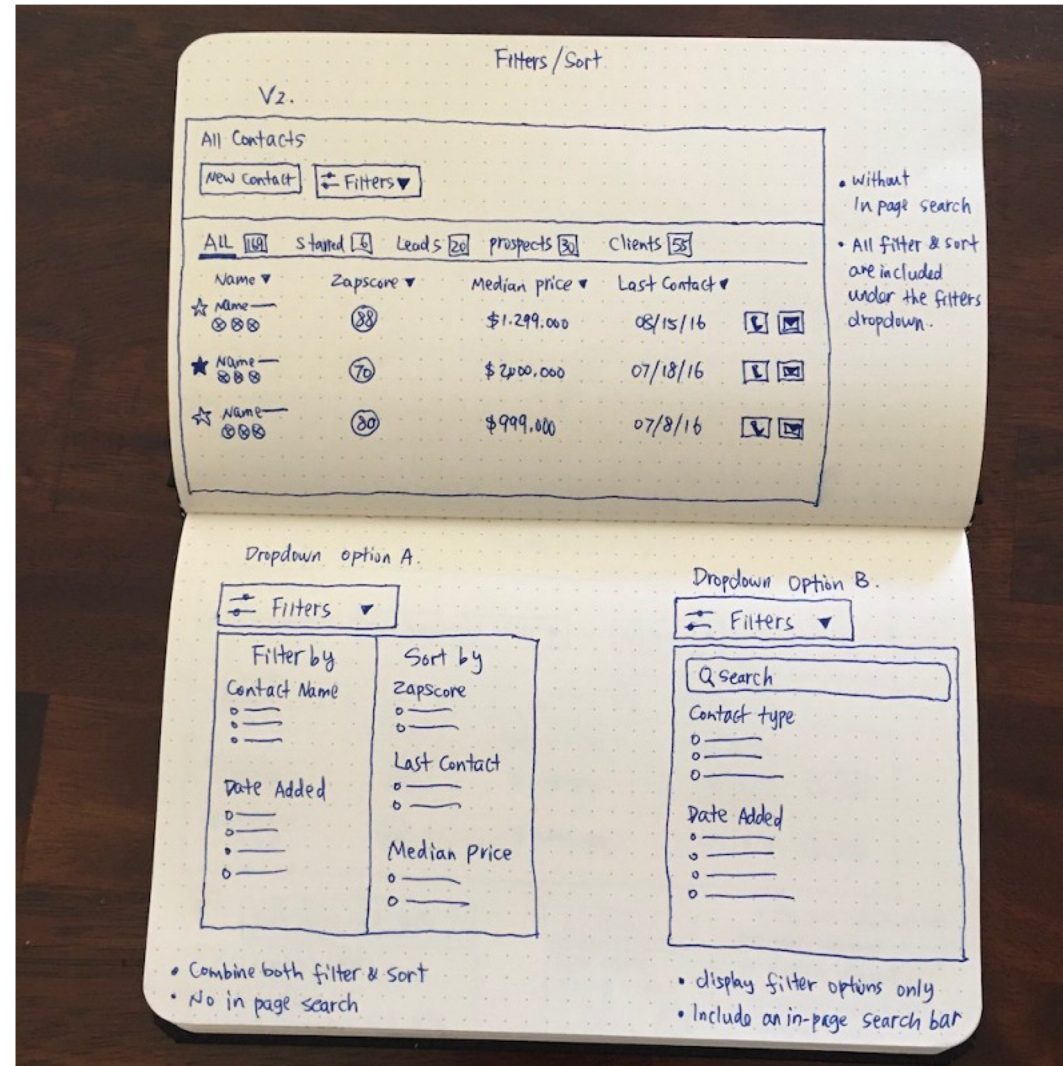Wizard of Oz testing – The listening type writer IBM 1984

Wizard-of-Oz Prototype

Wizard of Oz testing – The listening type writer IBM 1984

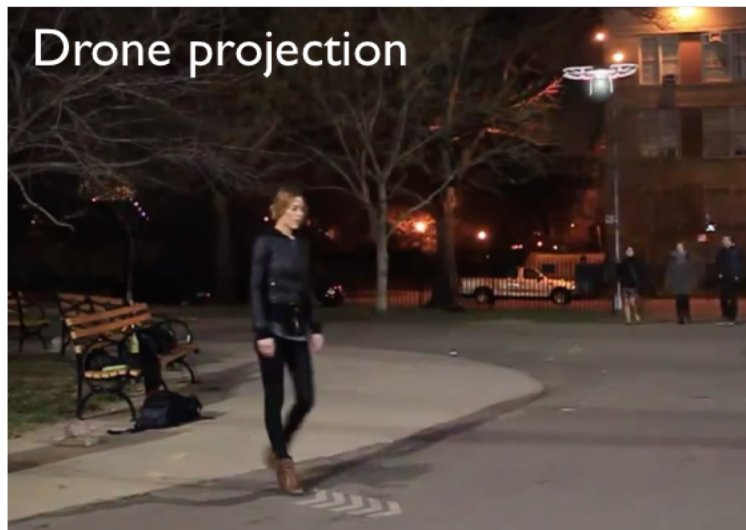Speech Computer

Dear

Physical prototype

Paper Prototype

In prototyping, you often discover problems you didn't even consider….

New concepts in Drone.IO

What new concepts did they prototype?

Drone projection

User interaction with projection

How did they prototype them?

Can the drone carry the stuff?

Can users select from menu?

Can users select symbols?
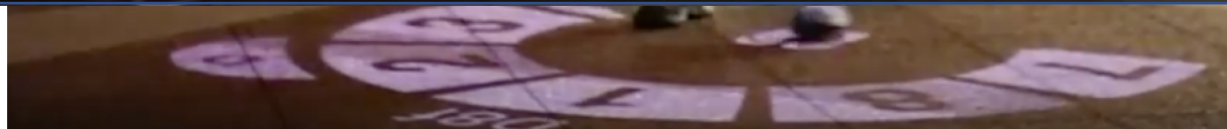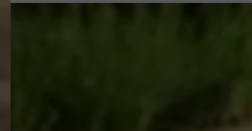
Can the drone detect hand position?

Hover
Angle: 58

HOLD STILL
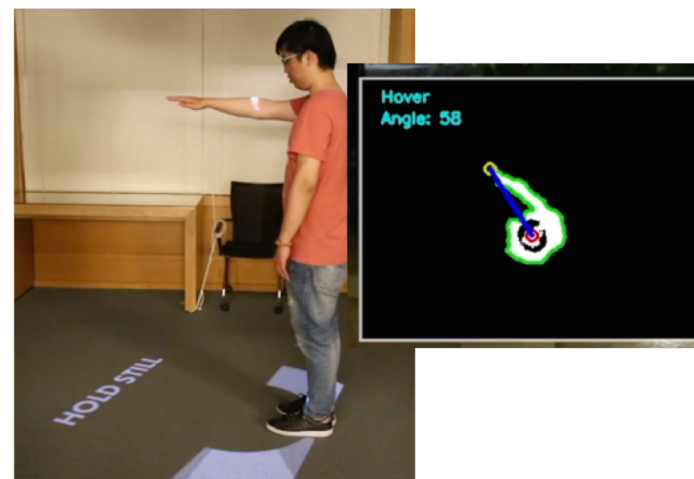
Can users select outdoors?

What was the biggest new risk they discovered during prototyping?

DRIFT

"Pound the Pavement" prototype

Rent the Runway – rents high-end women's clothing.

What to test - would women really rent clothes?

Prototype – tested it in person. Set up a "shop" in colleges. Let girls try on clothes. As them if they'd rent it.

(34% of girls walked away with dresses)

Let's prototype!
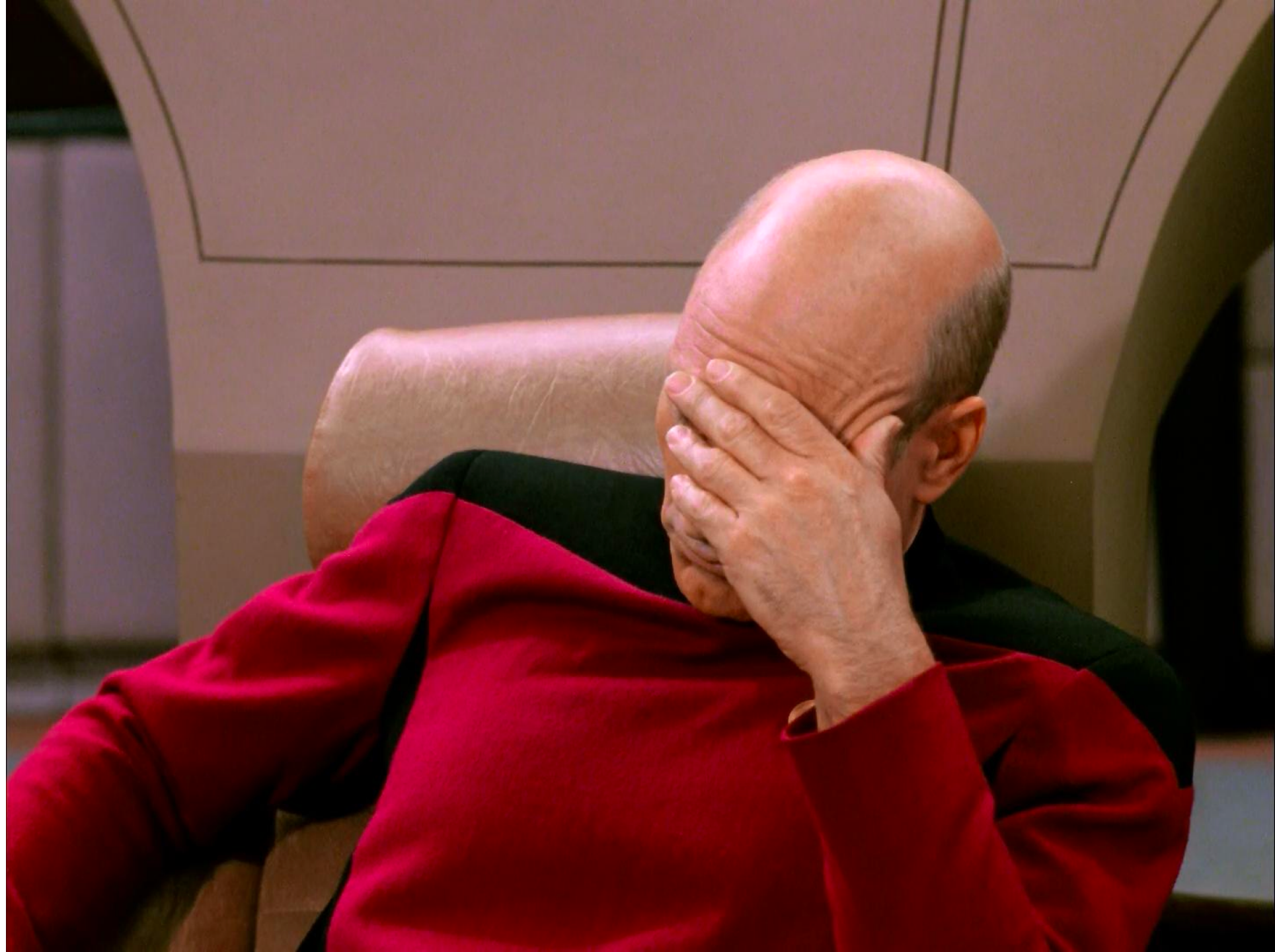
Image labeling game

Idea:

Millions of people will come to the site
They will get paired up
They both see an image
And they write tags for it ALONE for 30 sec
Whenever they get a tag match, they get a point.
We'll generate millions of tags for images on the internet.

What to test:
Do people come up with ok tags?
(Is it fun?)

Prototype: ????

Next week:

- Come up with more ideas (brainstorm, observation, "borrowing")
- Hi-level goal: build 3 low-fi prototype to test ideas.
- Report on stuff you learned from each of them.

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  - **Prototype**:
    - ?????

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  - **Prototype**:
    - Create a slack channel where we can at least message eachother in real time.
    - **Test**: if people message, do they really find connections?

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