

Design: Prototyping

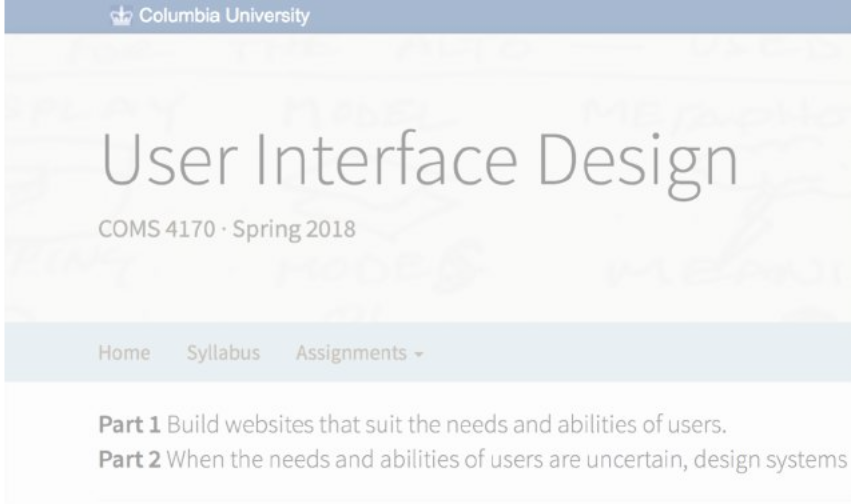
No screens



Prof. Lydia Chilton
COMS 6998
26 October 2018

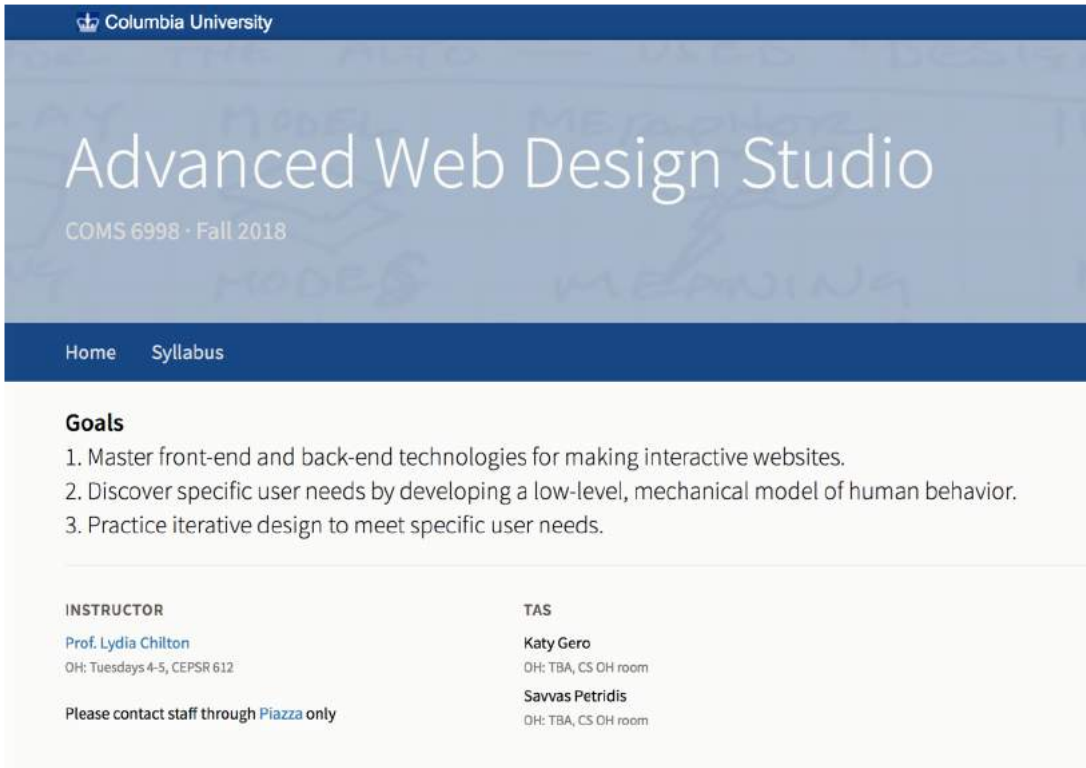
Say your name





You already know front-end 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

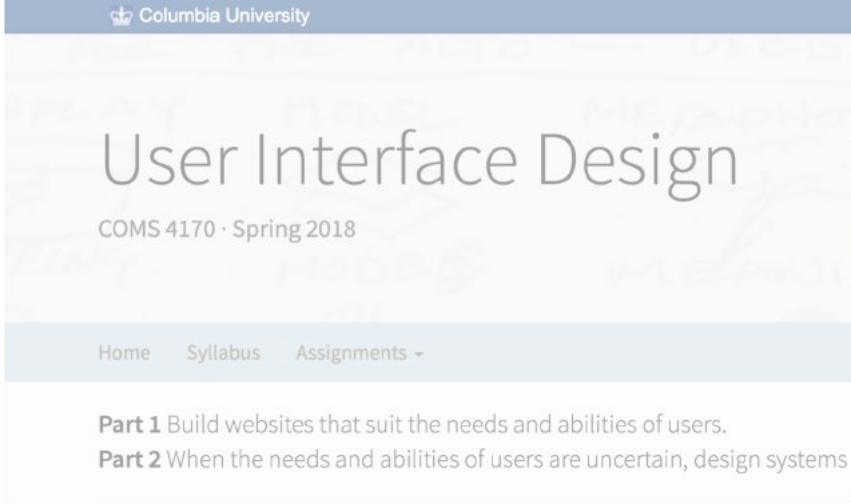
First everyone says:

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

Next:

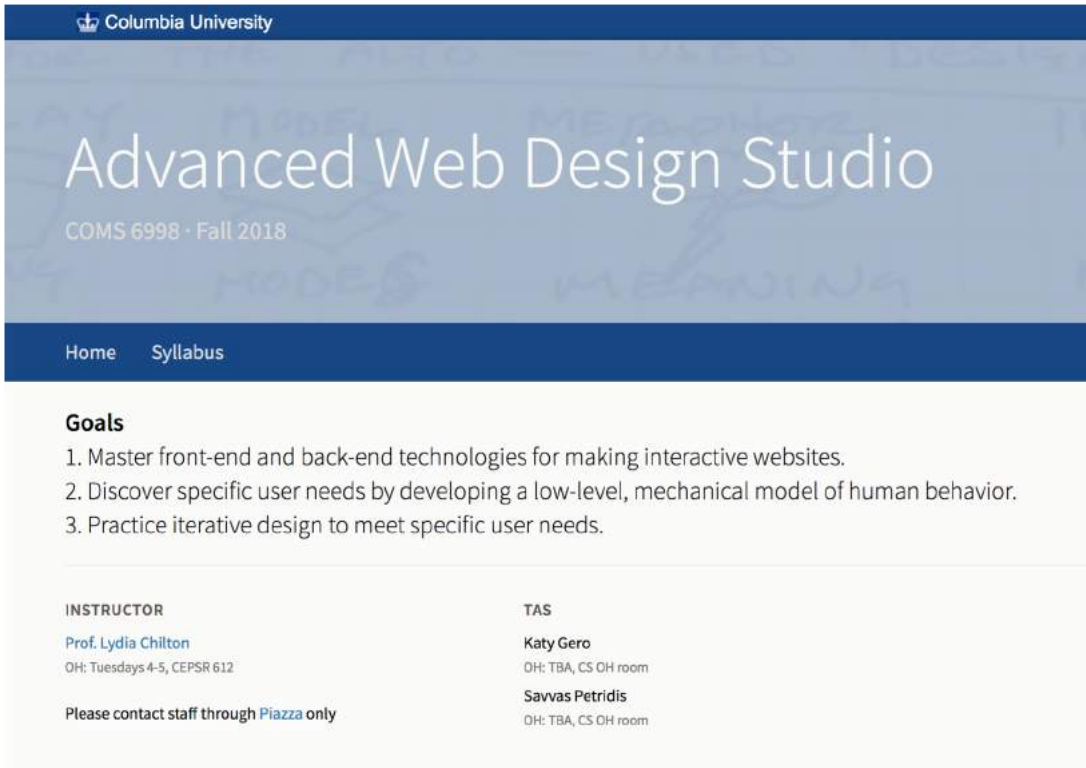
- Go around the circle again. Remind people of your domain/idea
- Drill into that domain to find more observations.
 - **Bad things**: what's something annoying, frustrating, or confusing
 - **Good thing**: random thing that went well (which might be repeated)

Due today by 9pm on Piazza – three ideas for specific user needs within a domain.



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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.

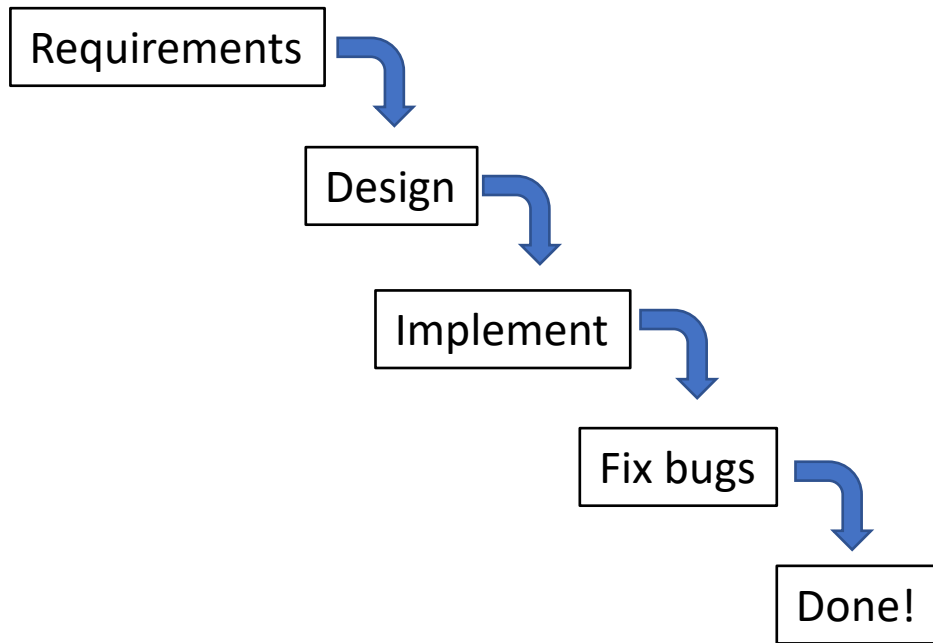
Syllabus

Week 1: September 7	Web Services and CRUD (Flask, HTML, JavaScript, Bootstrap)
Week 2: September 14	Databases, Queries, and Joins (SQLite, SQLAlchemy)
Week 3: September 21	Brainstorming Specific User Needs
Week 4: September 28	Critique and Graphic Design
Week 5: October 5	User Accounts
Week 6: October 12	Real-Time communication (Socket.IO)
Week 7: October 19	Design: Observation
Week 8: October 26	Design: Prototyping
Week 9: November 2	Project Proposals
Week 10: November 9	Project Updates 1
Week 11: November 16	Project Updates 2
Week 12: November 30	Project Updates 3
Week 13: December 7	Final Project Updates 4

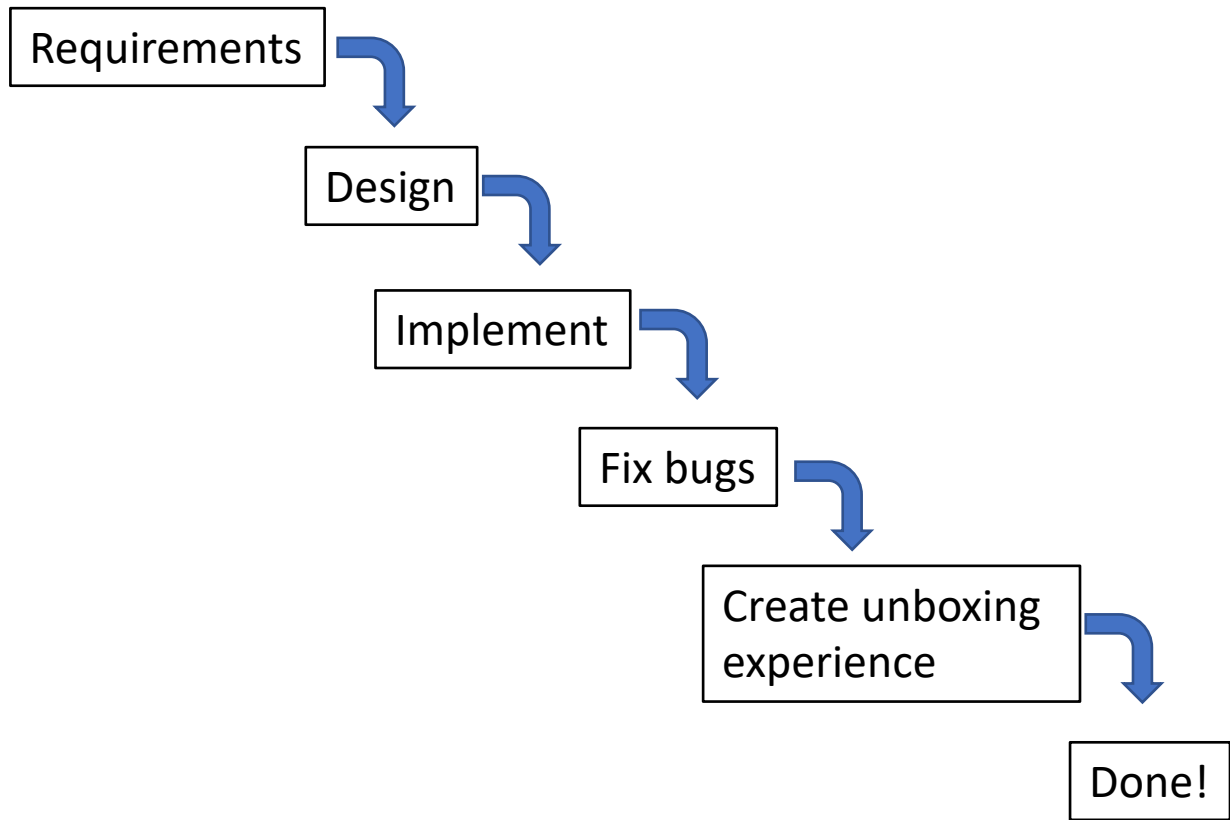
Review:

Why is design iterative?

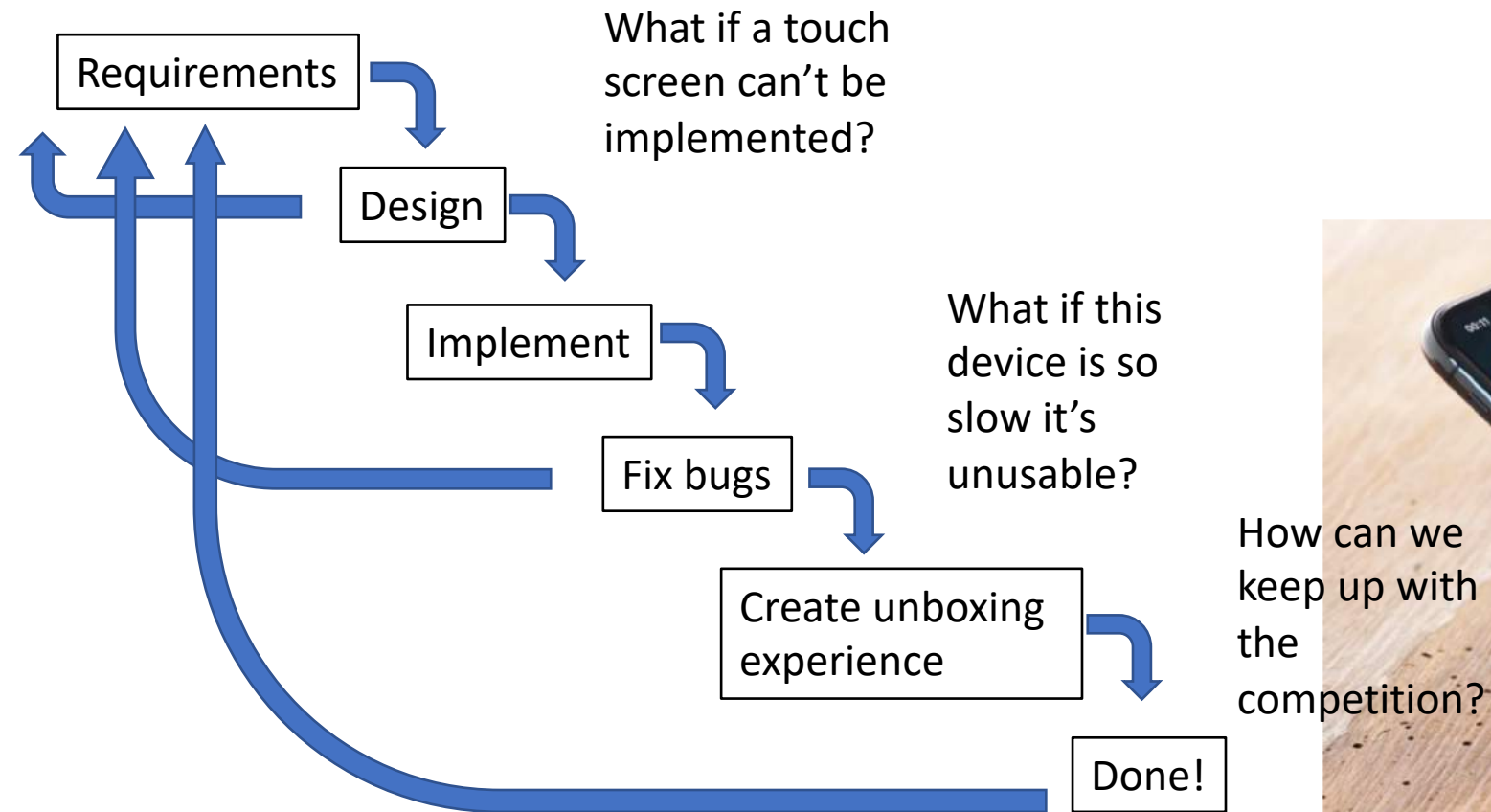
What's wrong with the waterfall model?



What's wrong with the waterfall model?



Design involves risks

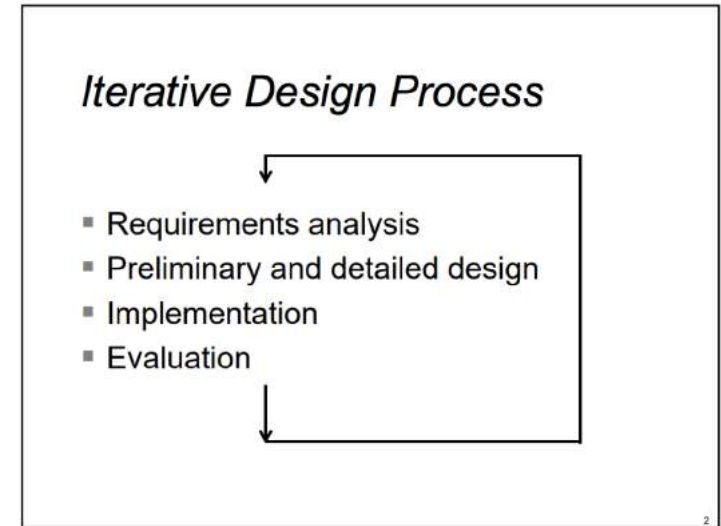
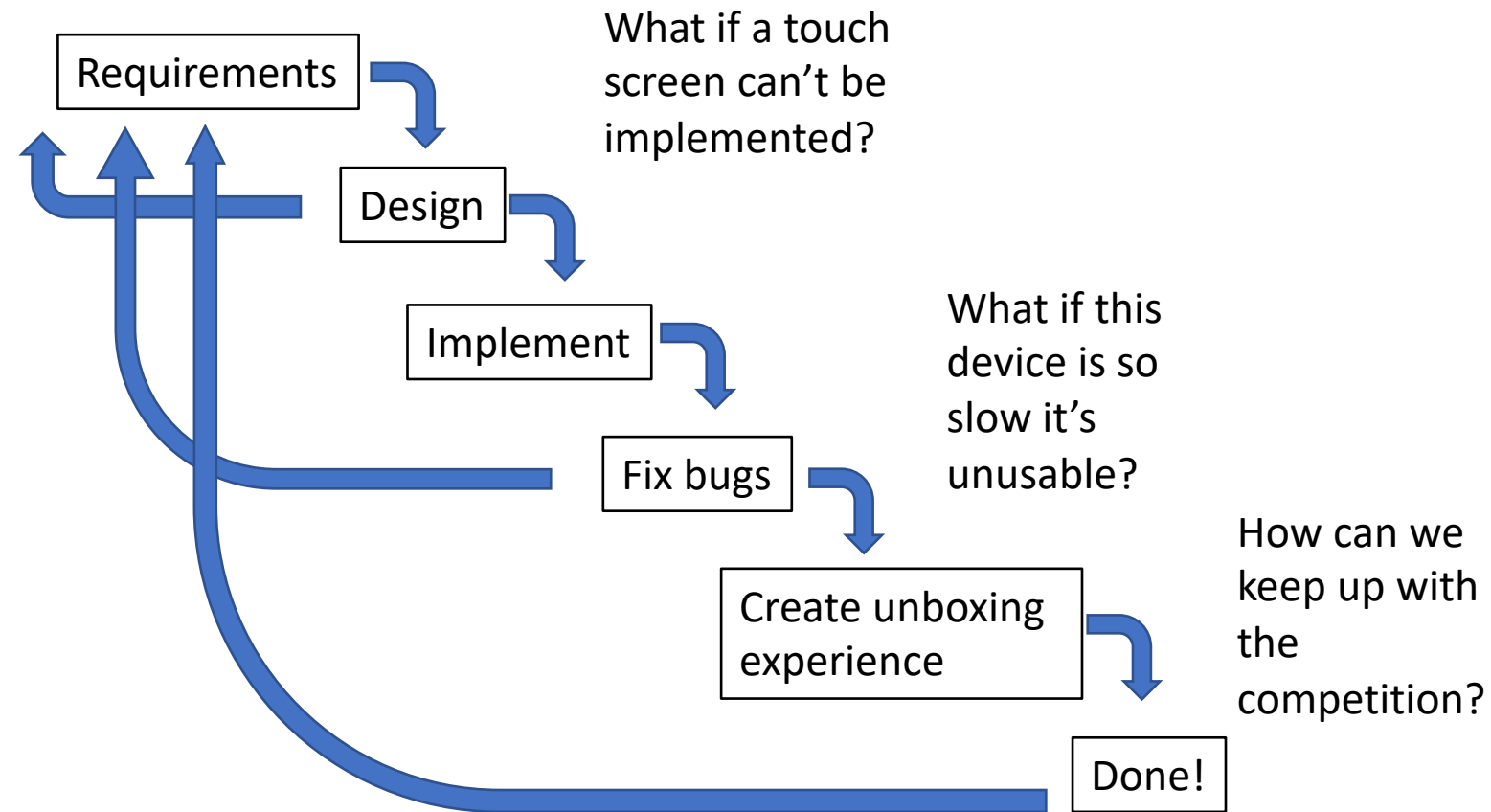


Iterative Design Process

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



Mitigate risk by iteratively prototyping the riskiest elements



Does touch work?



How to get perfect gradients?



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

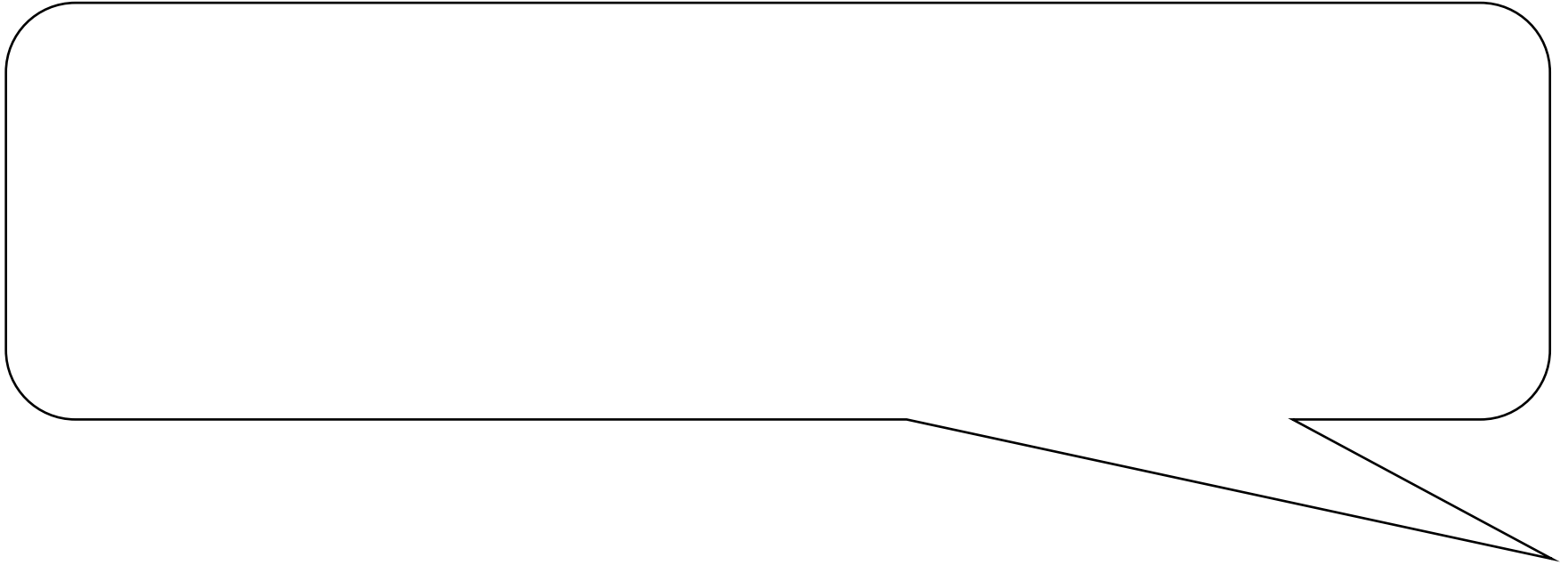
Prototype **feasibility** first

Problem:

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

Why????

The shortest date I went on in Silicon Valley



The shortest date I went on in Silicon Valley



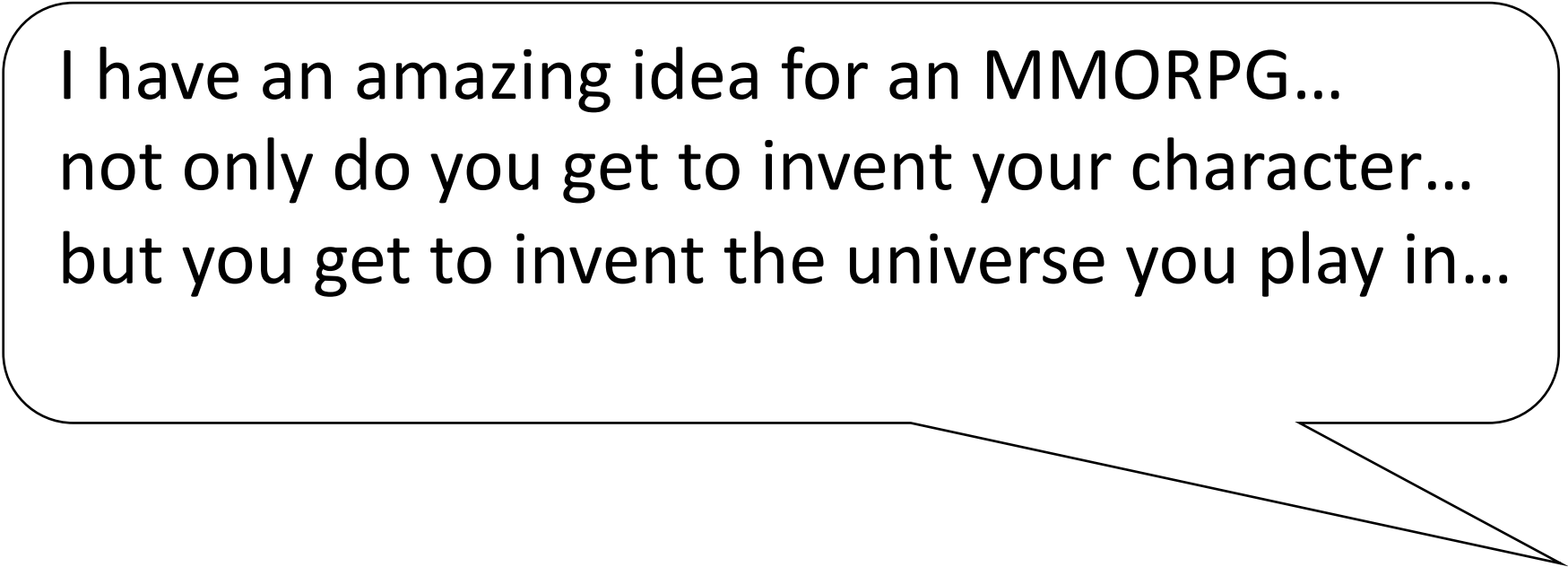
I have an amazing idea for an MMORPG...

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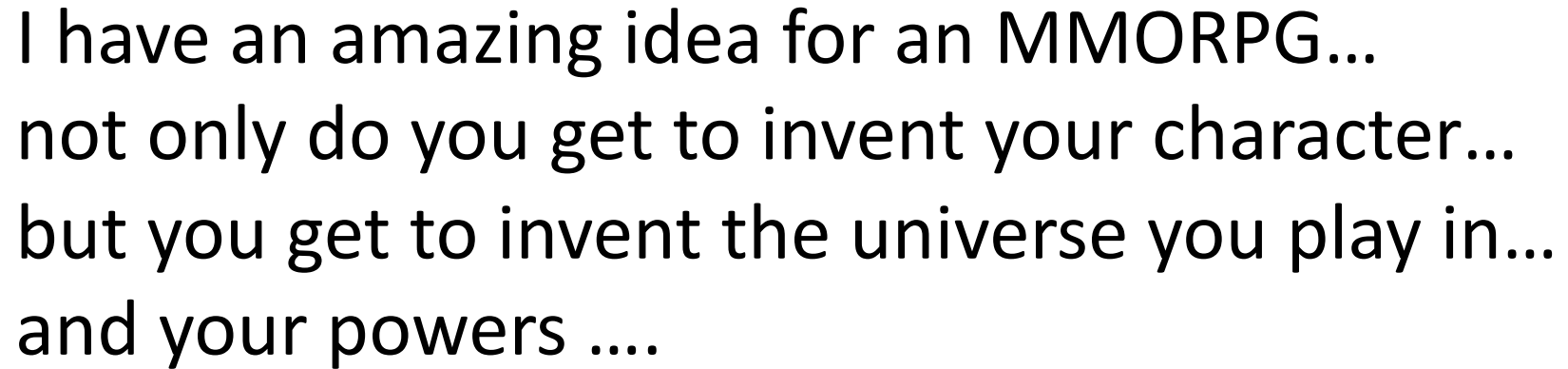
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not only do you get to invent your character...

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Have you tested your idea yet?

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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...



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?

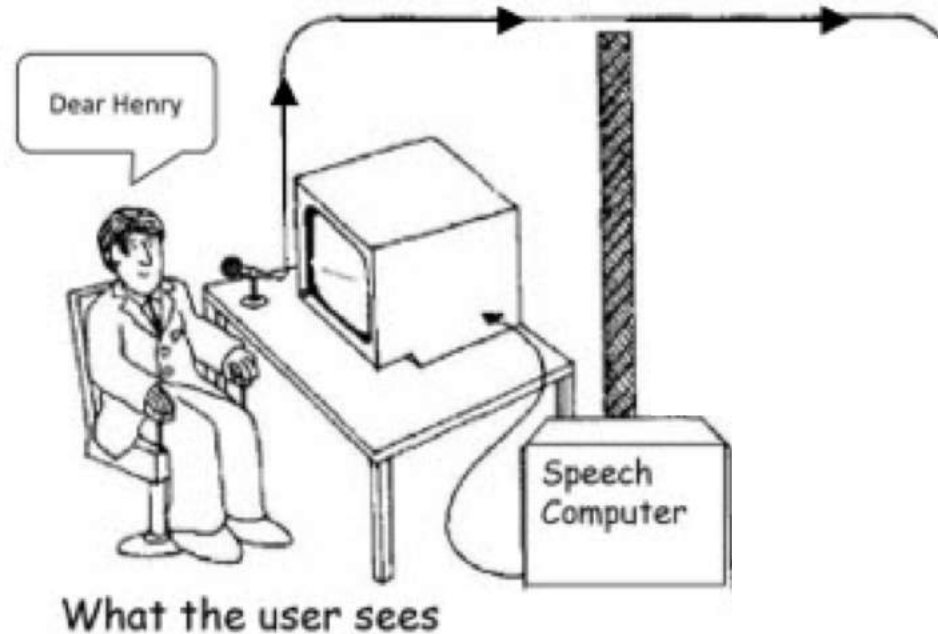
Prototype - just built that.



Types of Prototypes

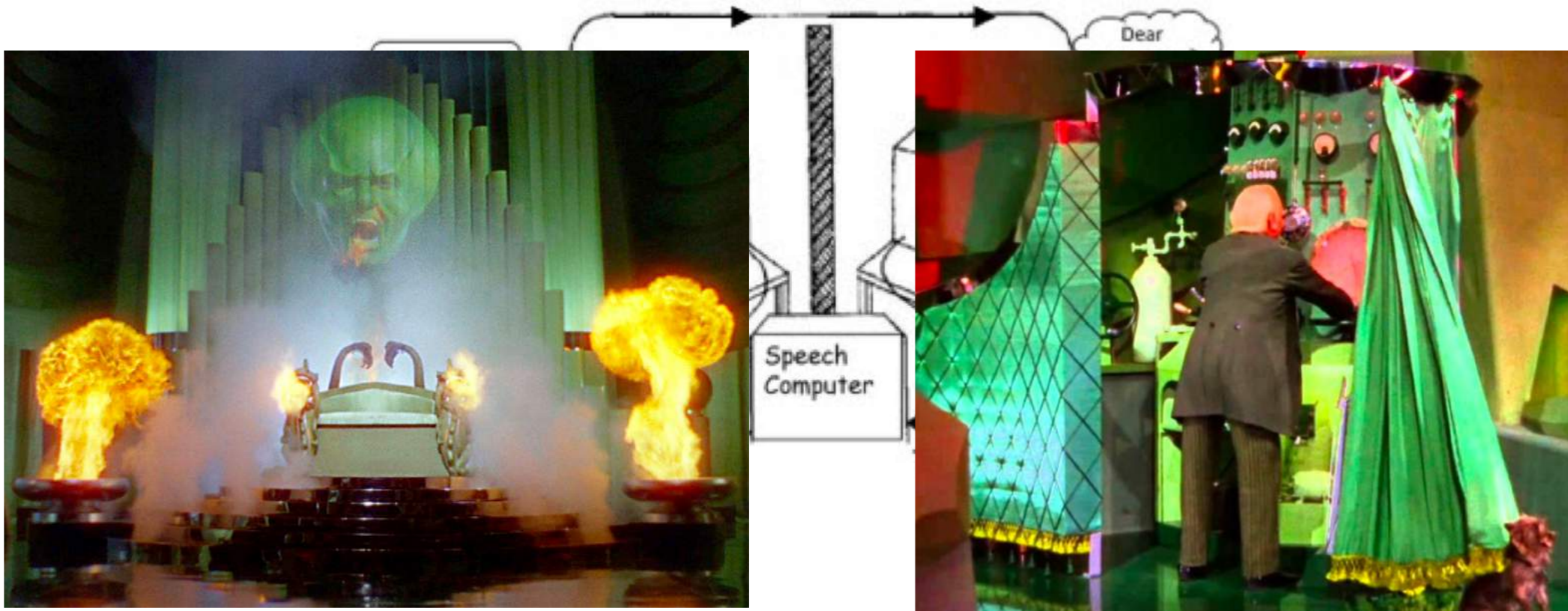
Wizard-of-Oz Prototype

Wizard of Oz testing – The listening type writer IBM 1984



Wizard-of-Oz Prototype

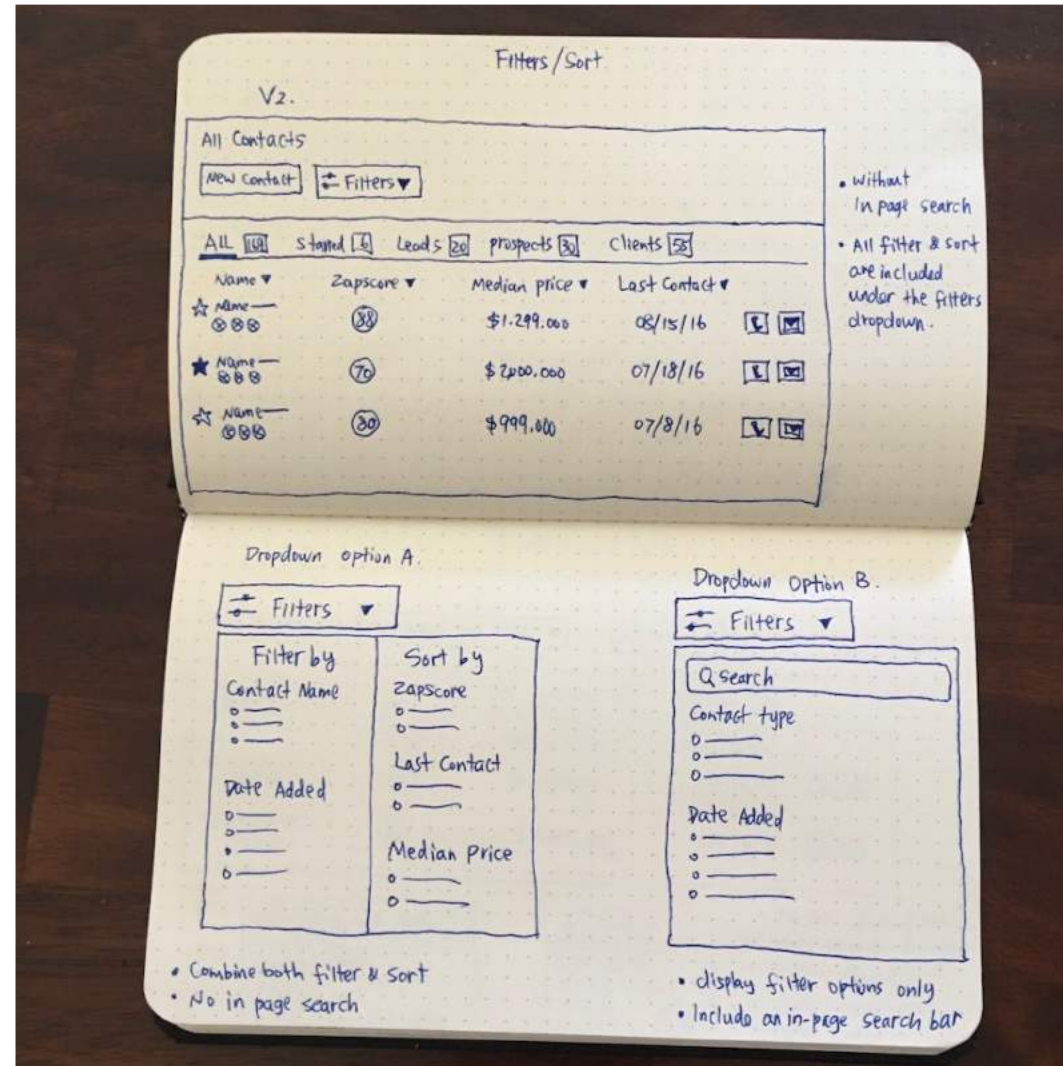
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Physical prototype



Paper Prototype

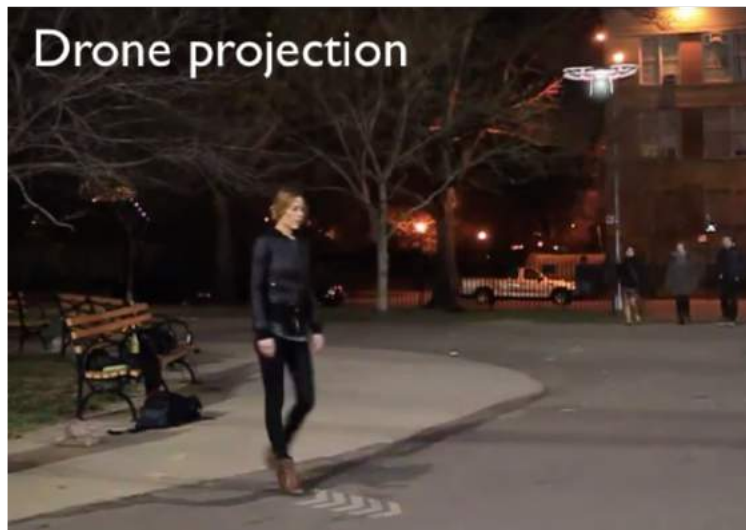


In prototyping, you often discover problems you didn't even consider....

New concepts in Drone.IO



What new concepts did they prototype?



How did they prototype them?

Can the drone carry the stuff?



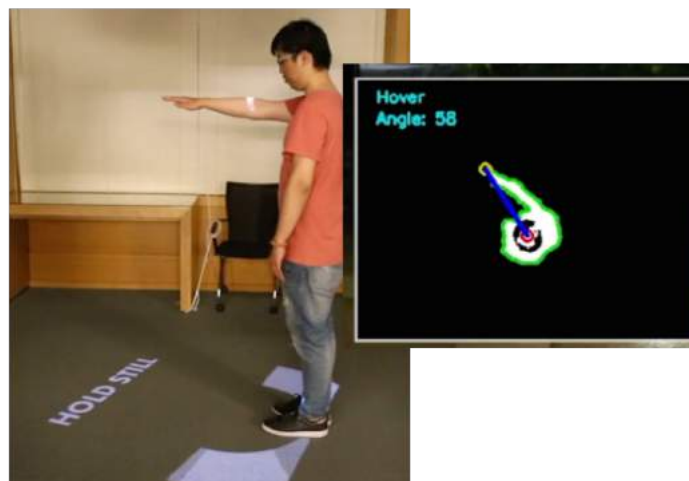
Can users select from menu?



Can users select symbols?



Can the drone detect hand position?



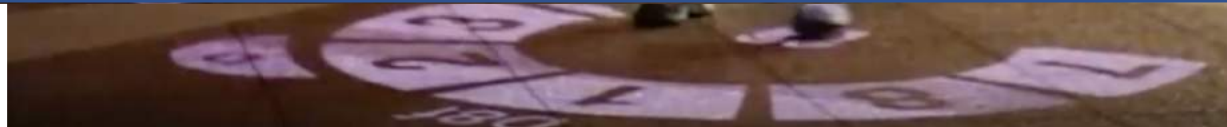
Can users select outdoors?



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. Ask them if they’d rent it.

(34% of girls walked away with dresses)

Let's prototype!

Image labeling game



Idea:

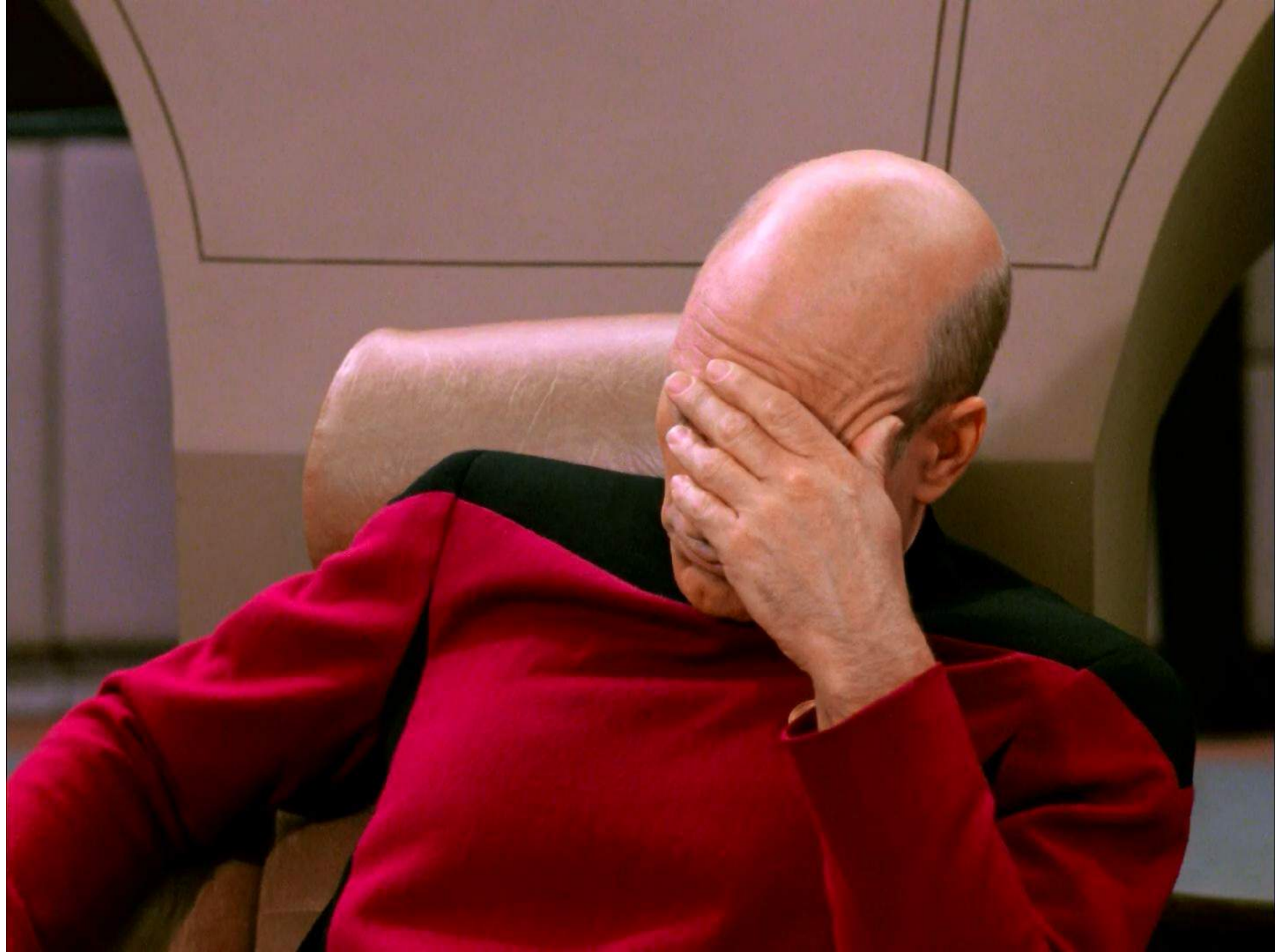
Millions of people will come to the site
They will get paired up
They both see an image
And they write tags for it ALONE for 30 sec
Whenever they get a tag match, they get a point.
We'll generate millions of tags for images on the internet.

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 each other in real time.
 - **Test:** if people message, do they really find connections?

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