

Prototyping

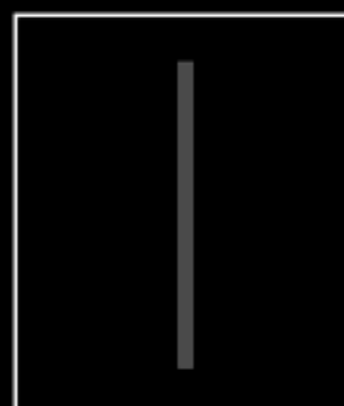
MICHAEL BERNSTEIN

CS 247

Here are some
great P2 portfolios



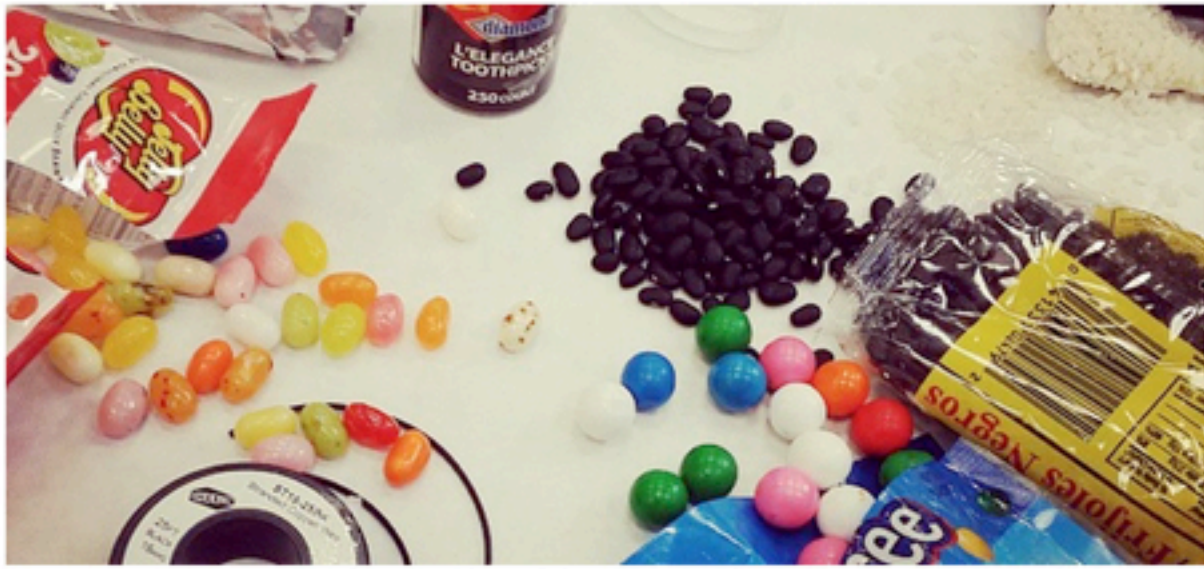
LUCILLE BENOIT



MacBook Air

admf
Discover apps before they launch.
A curated list of apps coming soon.
The best apps that are coming soon.
The "coming soon" iPhone apps.





byslee

welcome to my design portfolio.
i am a bay area native and interaction
designer based in san francisco.

[about](#)

[guide me](#)

keenon.github.io



I'm Keenon, an **NLP** geek at Stanford.

Scroll to fly

I try to remember humans
are *already AI complete*.

We need to get back to superhuman *partnership*
with AI, *not replacement* of humans by AI systems.

I study **AI + People**.



These are some of my *proudest projects*:

MinimaML:
Accelerating real ML research.

CUDA-LReg:
Regression at ludicrous speed.

Real-Valued Multi-armed Bandits:
Way beyond A/B testing.



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Keep track of my work on
my GitHub page.



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Let's design an ad for CS 247

30-minute activity

Critiquing

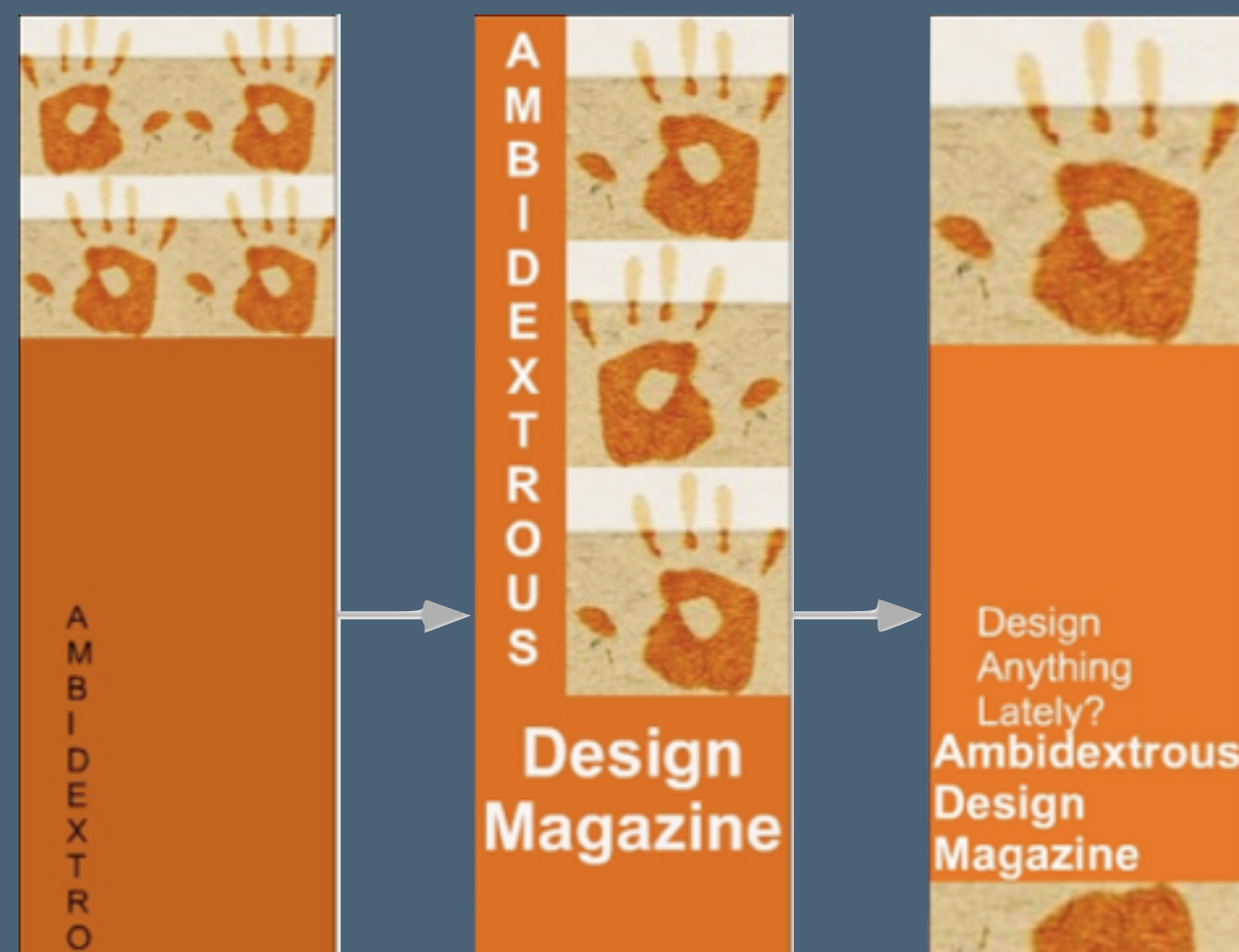
- You have a set of critique feedback items on the page.
- When you critique a poster, choose one critique from each category (1), (2), and (3) on the page. Three total.
- Never repeat a critique item in a later stage.
- Read all the critiques now.

We'll be doing this in groups.

- Pair up with a partner. One of you will be the designer, the other will be the critiquer.
- Michael will be announcing timepoints for the critiquers every few minutes.
- When it's your group's turn, look at the screen.
- When it's not, look down or cover your eyes.
- Don't ruin it!

Group A (shhh!)

- For every Group A timepoint (every 10min), you must complete a new draft of your poster. 30min total.
- When I call the timepoint, show it to your partner.
- Your partner will choose a critique from each category.
- Based on the feedback, revise for the next timepoint.



Group A

timepoint 1

(this is an example)

Group B (shhh!)

- By the first Group B timepoint (at 20min), you must complete two different concept drafts of your poster.
- When I call the timepoint, show them to your partner.
- For each draft, your partner will choose a critique from each category. 2 drafts x 3 critiques = 6 total critiques
- Based on the feedback, revise for the next timepoint.



Group B

timepoint 1

(this is an example)

Group B (part 2)

- By the second Group B timepoint (at 30min), complete one final draft of your poster.
- 2 in 20min, then 1 in 10min. Got it?



Design process

- Sign up at www.canva.com
 - Click through the tutorial
 - Choose a “poster” type to create the file
 - Make a CS 247 poster
-
- Take three minutes now to sign up and create your poster files

Design!

Start!

Group A
timepoint 1

Design!

Group A timepoint 2

Group B timepoint 1

Design!

STOP

Download your final poster as an image.
Put it in your dropbox in a folder called “Group A” or “Group B”.

Prototyping: what you know

- Low-fi vs. high-fi prototyping
- Wizard of Oz prototyping
- Video prototyping
- Sketching vs. prototyping

Prototyping is not just for testing.

Though this is what is temping: brainstorm, select, and then create.

Prototyping is for thinking.

This is known as reflective practice.



The most common
problem with
prototypes:

You let them become demos.

Be rapid. Be ruthless. Strip out everything less important.

Being ruthless

- Prototypes should be, by nature, incomplete.
- Do not create a mockup or a scale model.
Instead, create an experience that users can react to.
- But how do you make the decision about what to focus on and what to fake or remove?

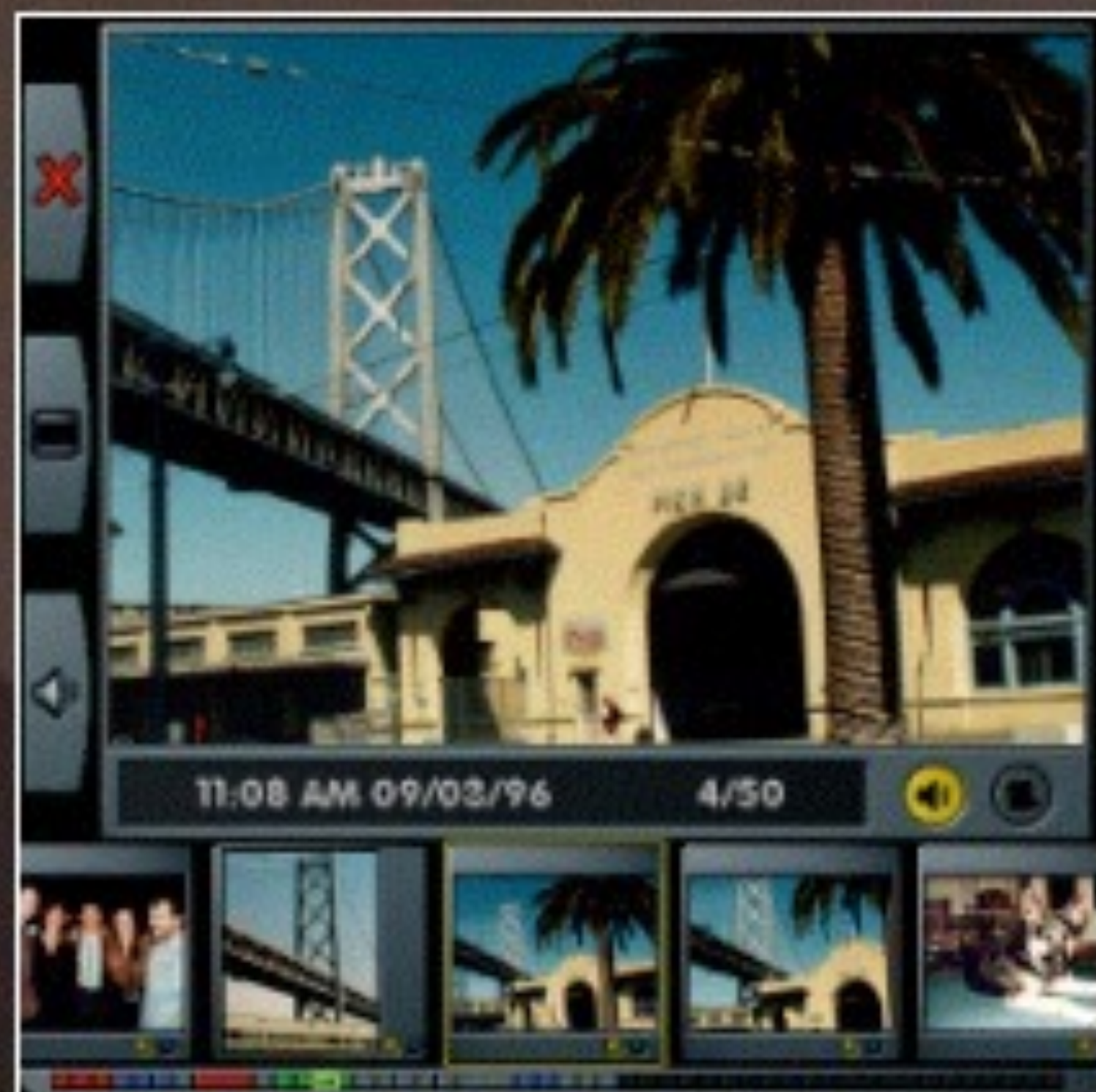
What do prototypes prototype?

- **Feel:** how it looks
- **Tech:** how it works
- **Role:** how it feels

The first question: which of these three are you prototyping?

What's your prototype's question?

- All prototypes can only ask a single question.
- Ask yourself: what's the core question you need to answer about your idea?
- Flesh out the elements relevant to that question, and get rid of or fake everything else.



Digitally-enhanced mall shopping cart

What's the most important question? What do you prototype?

A vest for hugging over a distance

What's the most important question? What do you prototype?

Chuck Norris faculty facts site

What's the most important question? What do you prototype?

Prototype science

Acknowledgments to Steven Dow and Scott Klemmer

Quantity or Quality?



Bayles and Orland, 2001

Quantity or Quality?

“While the quantity group was busily churning out piles of work—and learning from their mistakes—the quality group had sat theorizing about perfection, and in the end had little more to show for their efforts than grandiose theories and a pile of dead clay”

Does creating parallel
prototypes improve the final
design?

Task: design an advertisement



Procedure

serial prototyping condition



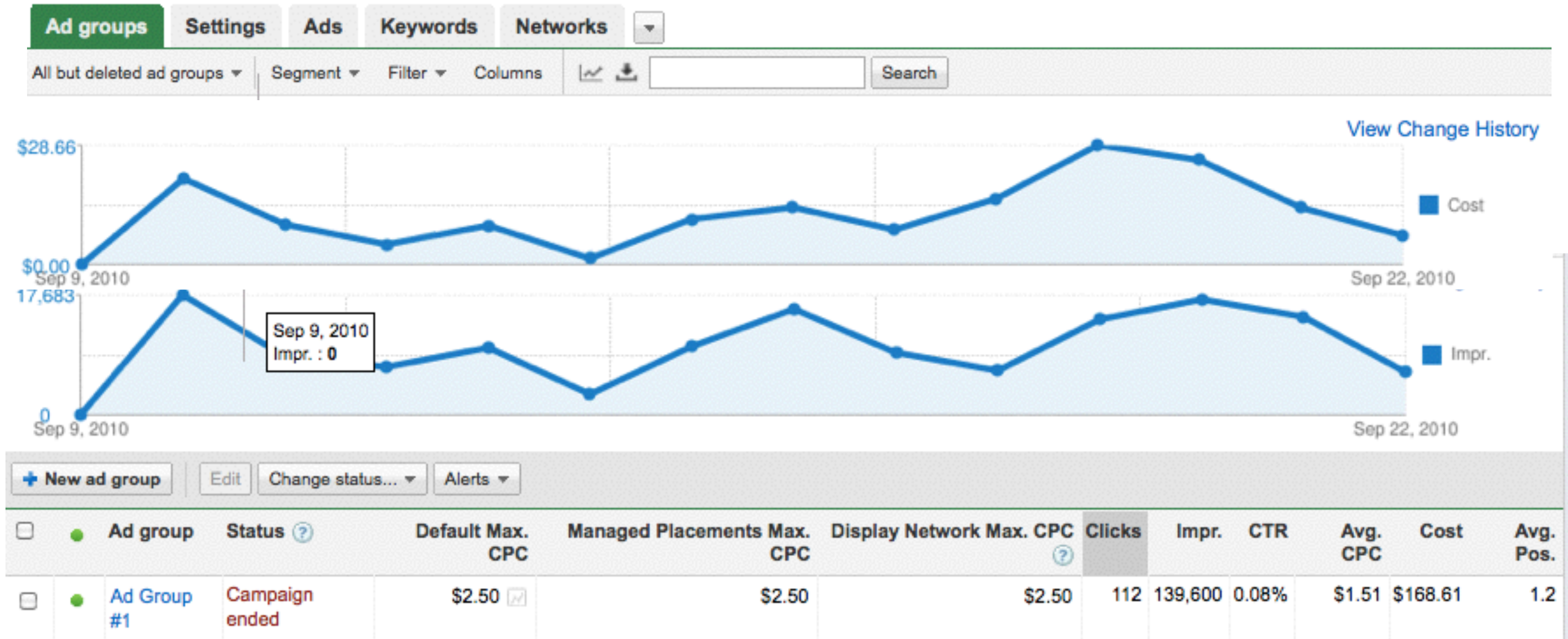
parallel prototyping condition



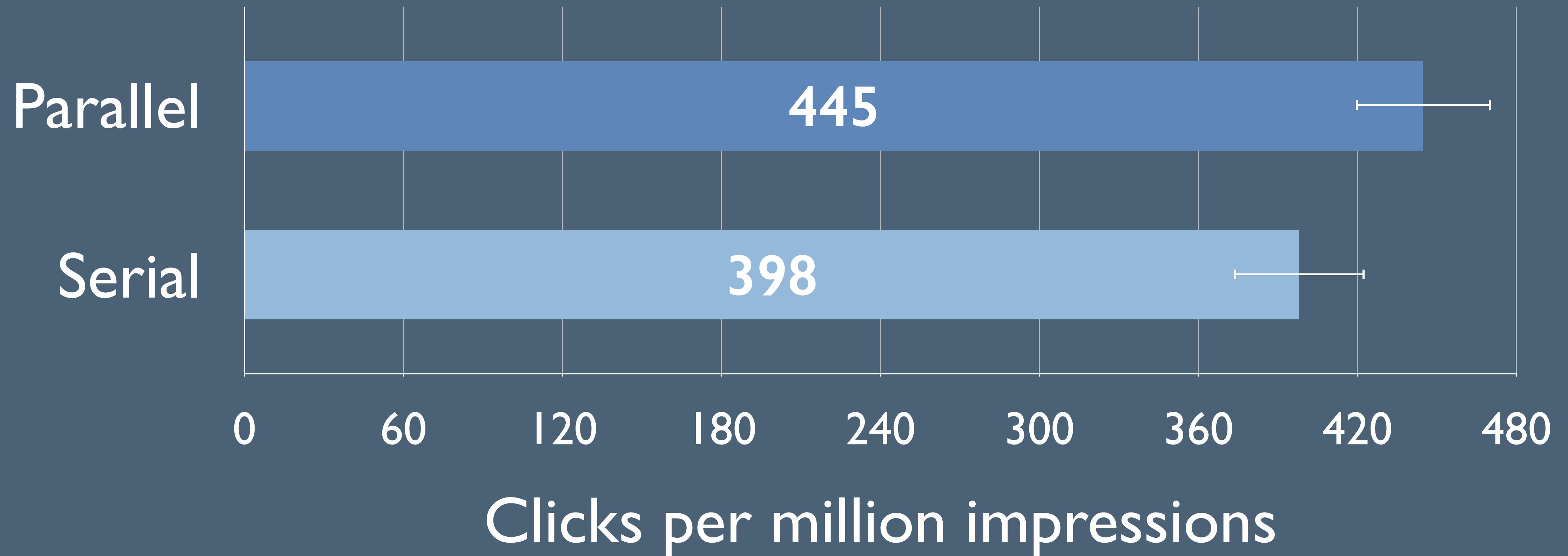
Which group did better?

- I'll be getting your ads evaluated by paid crowd members on Amazon Mechanical Turk.
- Next week, let's revisit the results.

Web advertising analytics

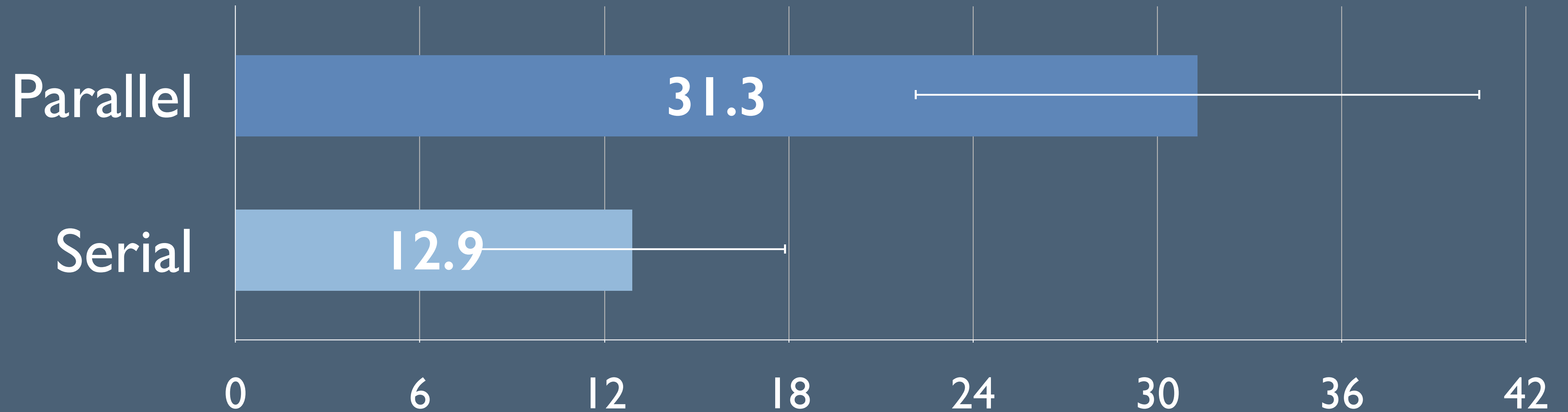


Parallel design → more clicks



$F(1,30)=4.227, p<.05$

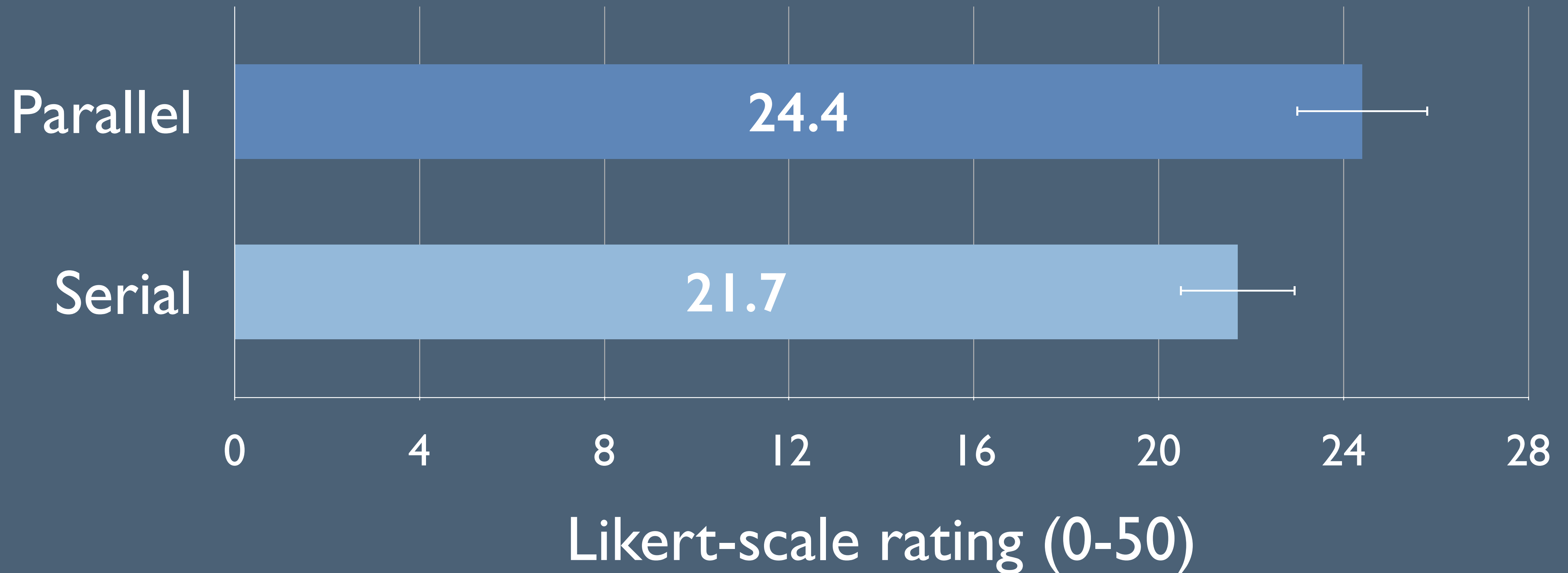
Trend toward more time on site



Average time on client site per visitor (seconds)

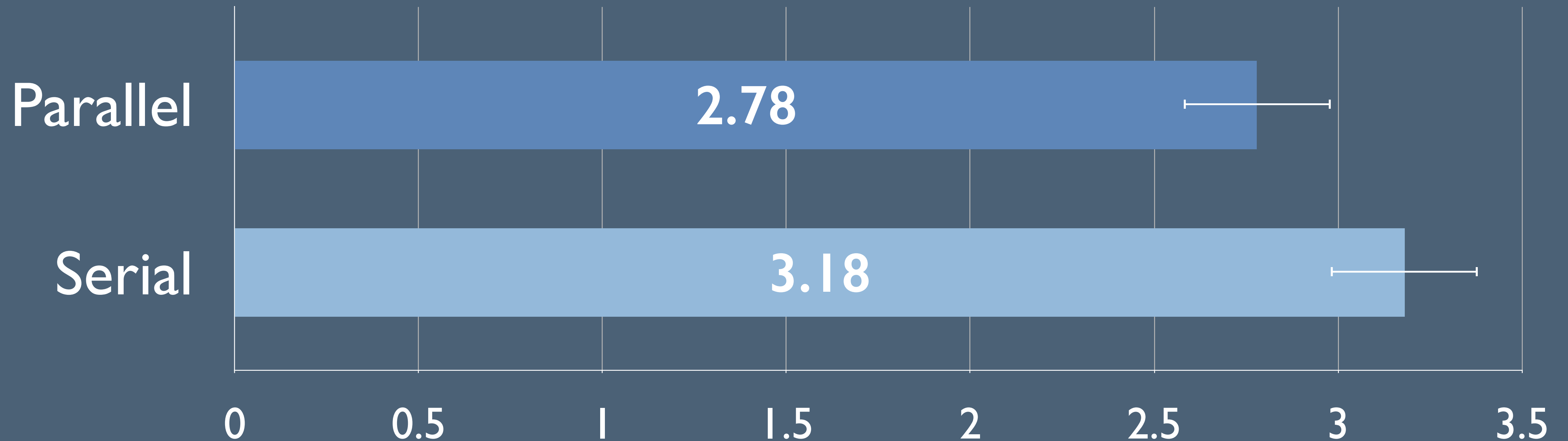
$F(1,493)=3.172, p=0.076$

Higher expert ratings



$F(1,5)=7.948, p<0.05$

More diverse designs



0 = not at all similar, 7 = highly similar

$F=182, p<0.001$

Comparison aids learning

Serial case condition

case 1

“Describe the solution.”

case 2

“Describe the solution.”

Face-to-face negotiation

Parallel case condition

case 1

case 2

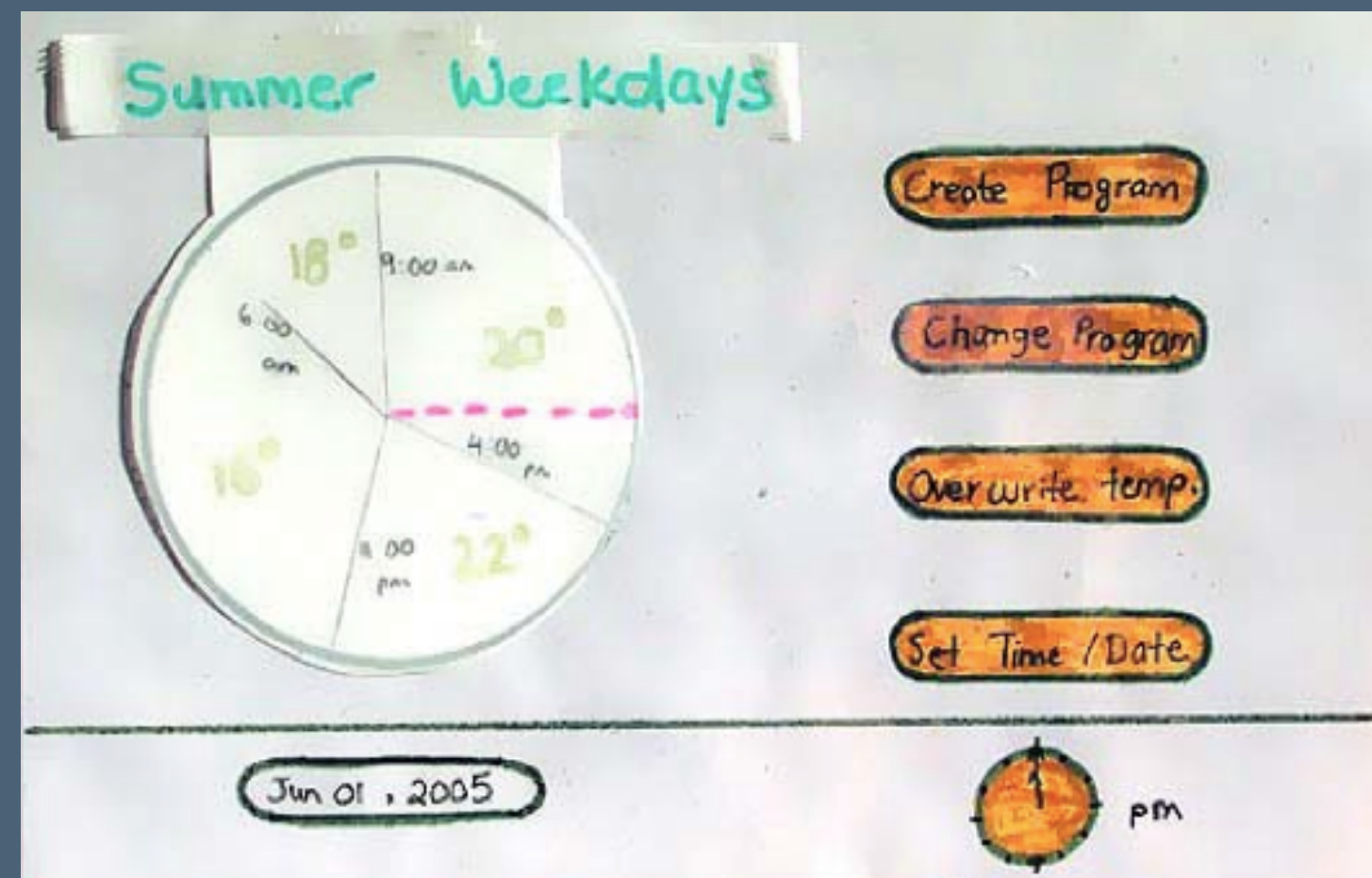
“Describe the parallels of these solutions.”

Face-to-face negotiation

>3x more likely
to transfer the
technique from
training

Get better feedback, too

- Having alternatives lessens the pressure to be nice



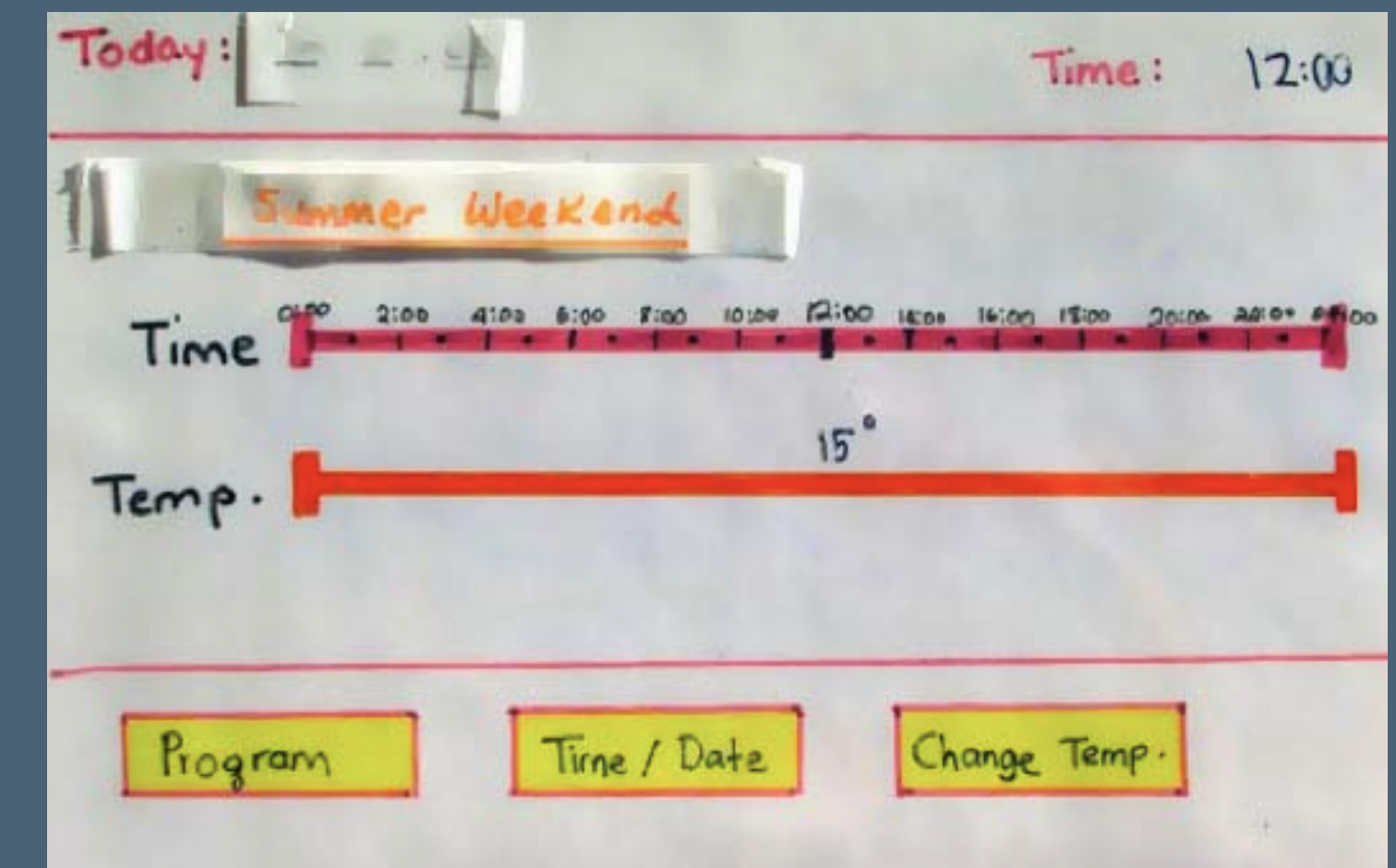
Program: Summer on Vacation

	from	to	temperature
Morning	7:00	9:00	15
Day	9:00	5:00	15
Evening	5:00	12:00	16
Night	12:00	7:00	15

Date: Jun 01 05

Time: 12:00 pm

Temperature: 23



Rapid prototyping activity

Redesign the airplane boarding experience and be ready to show a prototype solution to the rest of the class — in ten minutes.