Parallel Prototyping

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CS 247

THANKS TO SCOTT KLEMMER AND MANEESH AGRAWALA
Let’s design an ad for learning to code

30-minute activity
Find a critique partner

• Pair up with a partner.

• You’ll be critique partners (but will create ads individually).

• I will be announcing timepoints for critiques every few minutes. Do the critiques, then keep designing!
Critiquing

• You have a set of critique feedback items on the page.
• When you critique a poster, use the items on the page to critique your partner’s designs.
Design process

- Visit hci.st/247stepzero
- Click “Get Started” at the bottom
- Create an account or use the account:
  - cs247@cs.stanford.edu / hcirocks
- Click through the tutorial
- Visit hci.st/247stepone
- Make a learn to code poster
Process

- By the first timepoint (at 16 min), 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. Critiques should be 2 min per partner.

hci.st/247stepzero
Process

- By the second timepoint (at 30min), complete one final draft of your poster.
- 2 in 16min, trade critiques for 4 minutes, 1 in 10min. Got it?
Design!

Start!
Timepoint

Complete your critiques in 2 minutes per partner
Swap! Second partner critique now.

Complete your critiques in 2 minutes per partner
Design!
Download your final poster as an image or take a screenshot. Upload it to: hci.st/247learntocode
Prototype science

Or, why I always ask you to generate a ton of observations, ideas, and prototypes.
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”

Bayles and Orland, 2001
Does creating parallel prototypes improve the final design?
Task: design an advertisement

Submit to: hci.st/247learntocode
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

<table>
<thead>
<tr>
<th>Ad group</th>
<th>Status</th>
<th>Default Max. CPC</th>
<th>Managed Placements Max. CPC</th>
<th>Display Network Max. CPC</th>
<th>Clicks</th>
<th>Impr.</th>
<th>CTR</th>
<th>Avg. CPC</th>
<th>Cost</th>
<th>Avg. Pos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Campaign ended</td>
<td>$2.50</td>
<td>$2.50</td>
<td>$2.50</td>
<td>112</td>
<td>139,600</td>
<td>0.08%</td>
<td>$1.51</td>
<td>$168.61</td>
<td>1.2</td>
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</tbody>
</table>
Parallel design → more clicks

Parallel design

<table>
<thead>
<tr>
<th></th>
<th>Clicks per million impressions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parallel</td>
<td>445</td>
</tr>
<tr>
<td>Serial</td>
<td>398</td>
</tr>
</tbody>
</table>

F(1,30)=4.227, p<.05
Trend toward more time on site

- Parallel: 31.3 seconds
- Serial: 12.9 seconds

F(1,493)=3.172, p=0.076
Higher expert ratings

Parallel: 24.4
Serial: 21.7

F(1,5) = 7.948, p < 0.05
More diverse designs

- Parallel: 2.78
- Serial: 3.18

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.”

Parallel case condition

- case 1: “Describe the solution.”
- case 2: “Describe the parallels of these solutions.”

Face-to-face negotiation

Gentner, Loewenstein, & Thomson, 2000

>3x more likely to transfer the technique from training
Get better feedback, too

- Having alternatives lessens the pressure to be nice

Tohidi, Buxton, Baecker, Sellen, CHI ‘06