Twist & Pulse

Ephemeral Adaptation to Improve Icon Selection on Smartphones

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cingular
9:41 AM
Text
Tuesday
9
Calendar
Photos
Camera
Calculator
Stocks
280
Maps
73°
Weather
Notes
Clock
Settings
Phone
Mail
Web
iPod

O2
06:45

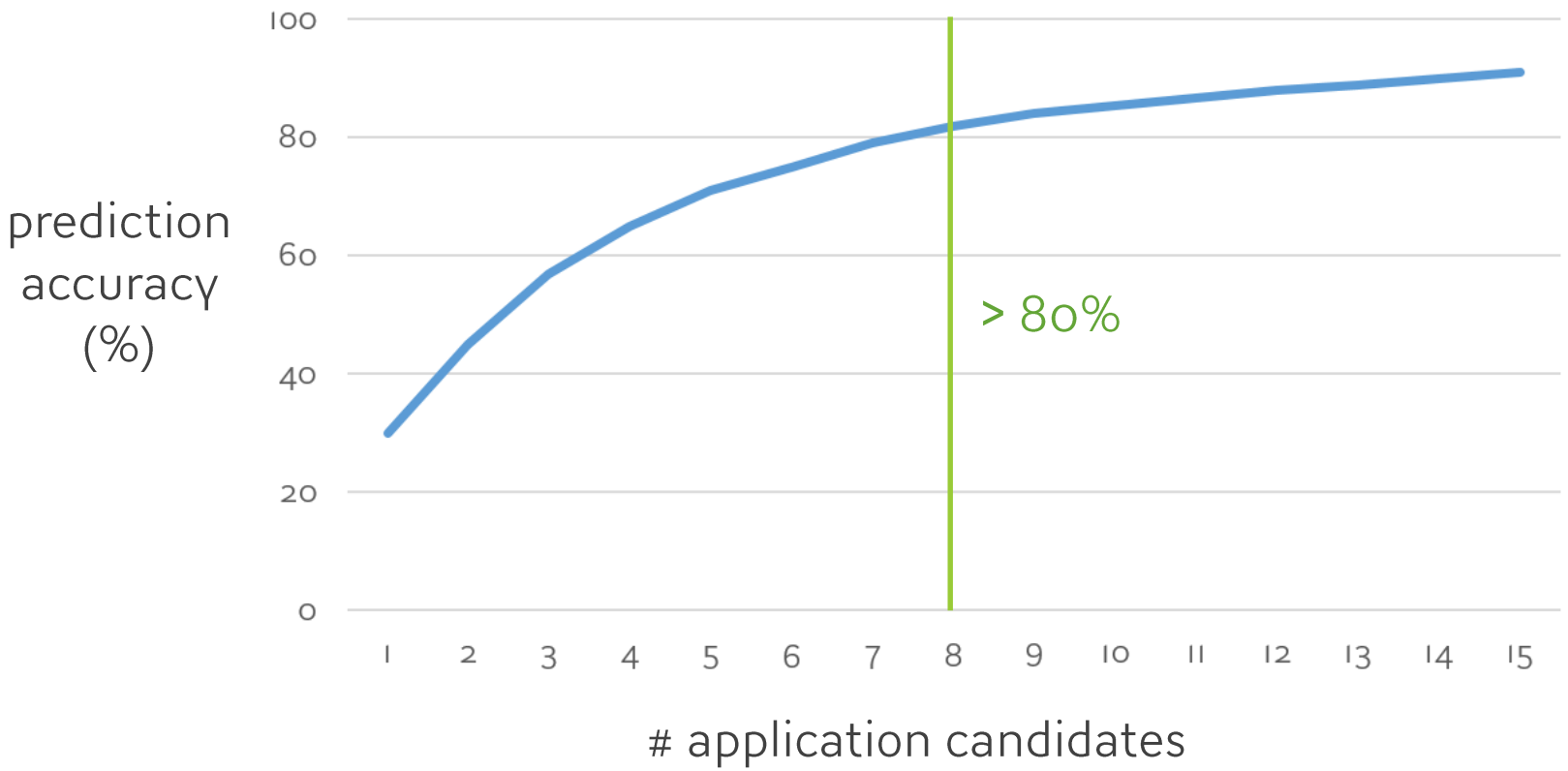
Patterns of use

Context-aware

O2
06:45

application candidates

Prediction algorithms



Shin *et al.* (2012)

O2
06:45

O2
06:45

Attentional draw Distraction

How to convey algorithmic predictions to the user while balancing attention and distraction?

1. Design process | distraction / attention

2. Experiment

1. Design process

2. Experiment

distraction

attention

Ephemeral adaptation

1. adapt the interface for a short time
2. revert it back to its normal state

Findlater *et al.* (2005)

Ephemeral adaptation

Cheese	Wine	Bread
Gruyère		
Comté		
Emmental		
Abondance		
Tomme		
Reblochon		
Mont d'Or		
Tamié		
Brie		
Pont l'Evêque		
Camembert		
Boursin		

Findlater *et al.* (2005)

1. Design process

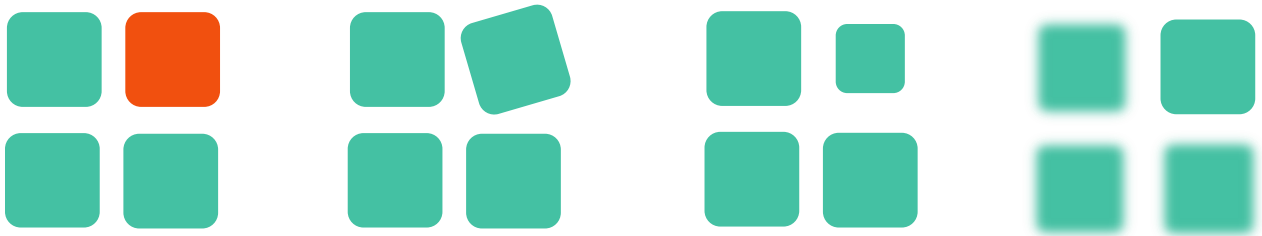
2. Experiment

distraction

attention

Preattentive visual properties

processed in parallel by visual system



DIRECT

"Shrink"

"Rotate"

"Pulse"

"Twist"

INDIRECT

"Greyscale"

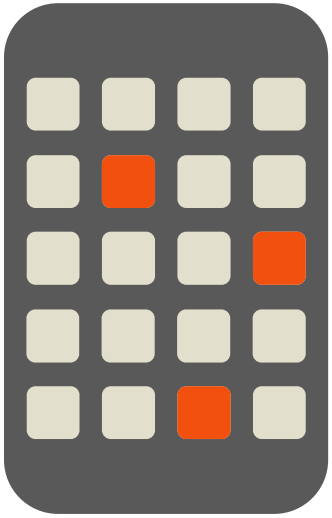
"Transparency"

"Blur"

1. Design process | ephemeral adaptation
preattentive properties

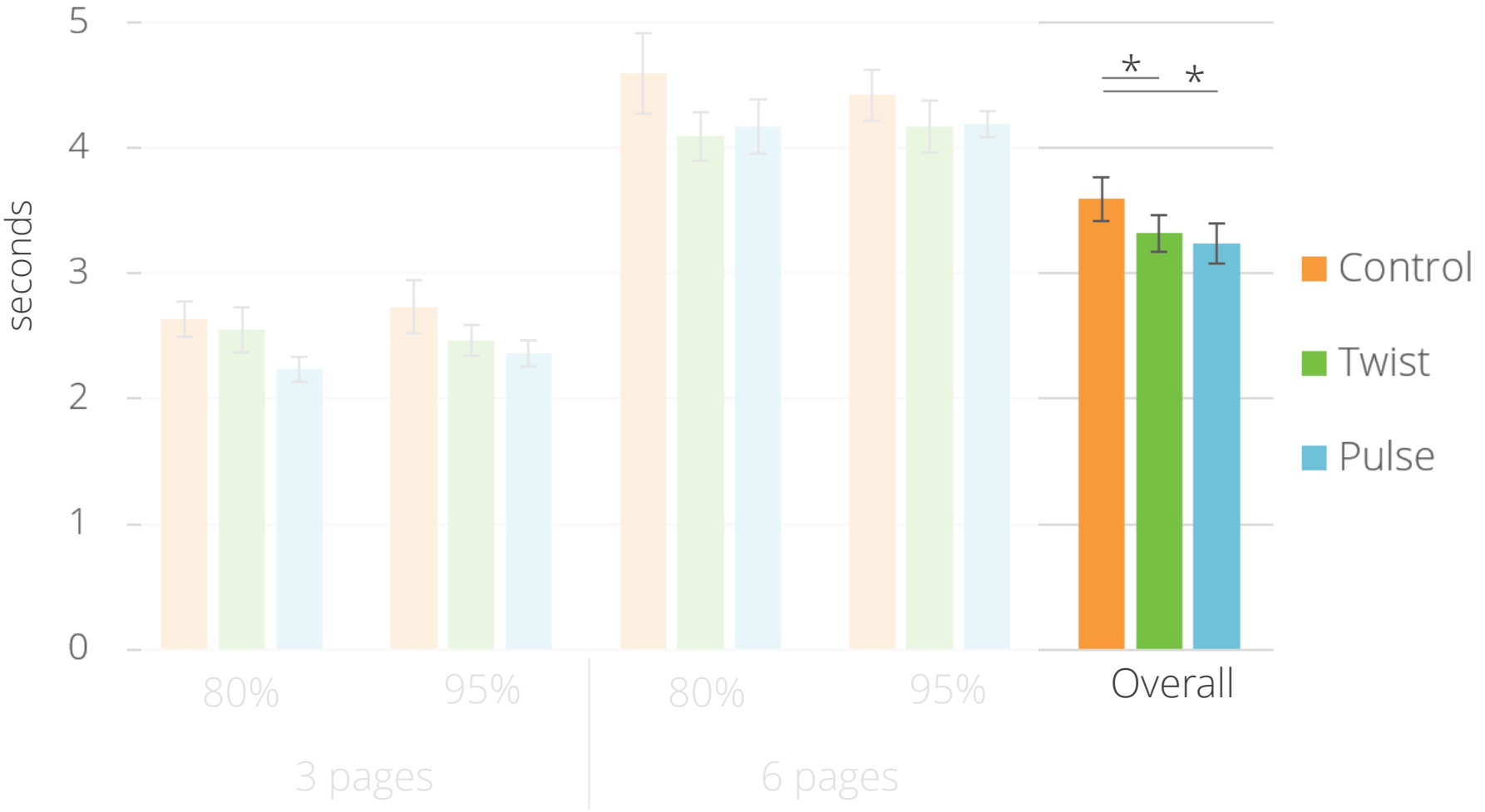
2. Experiment

Effects	Twist, Pulse, Control
Pages	3 pages, 6 pages
Accuracy	80%, 95%

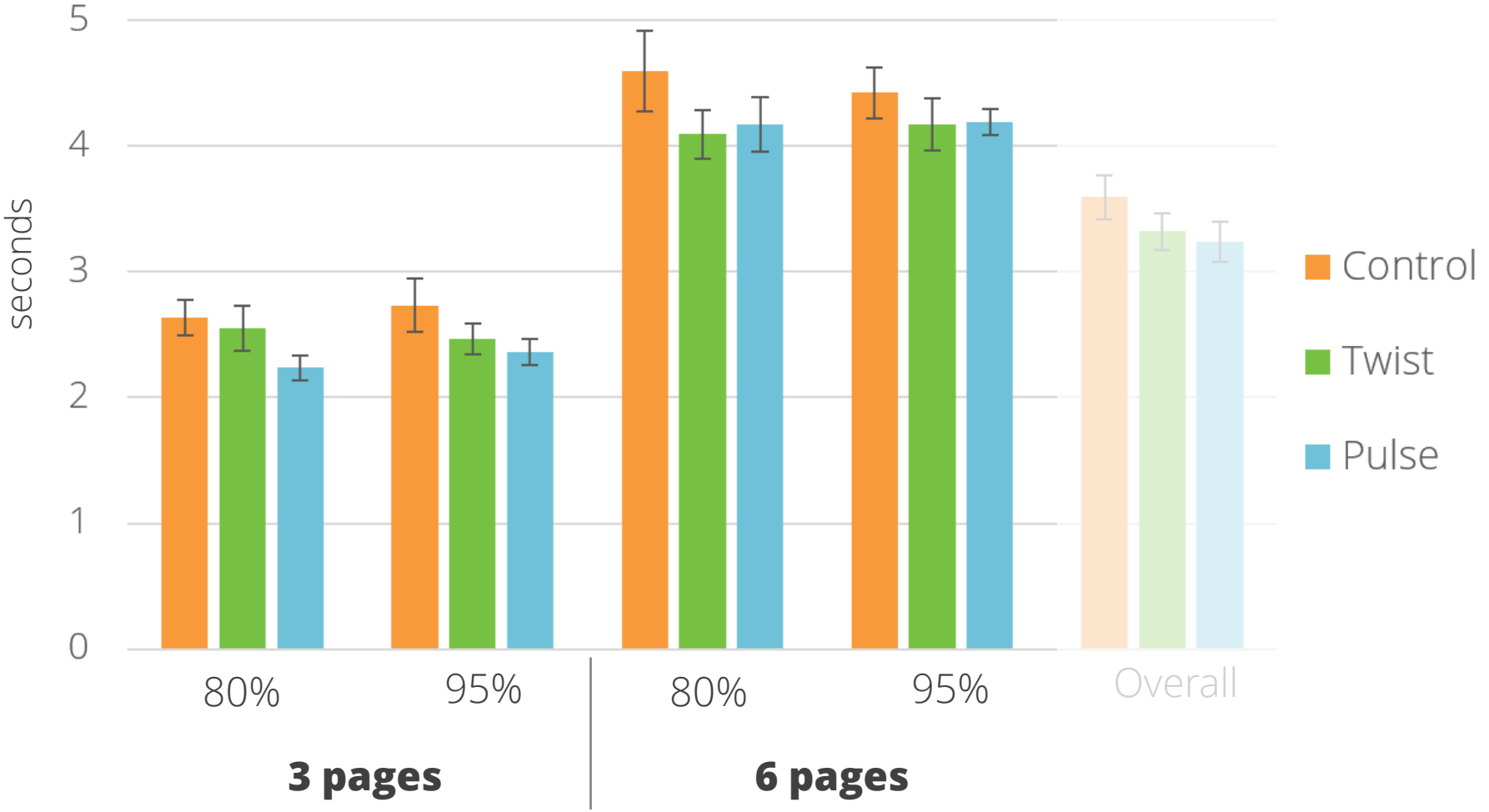


12 participants
480 trials each

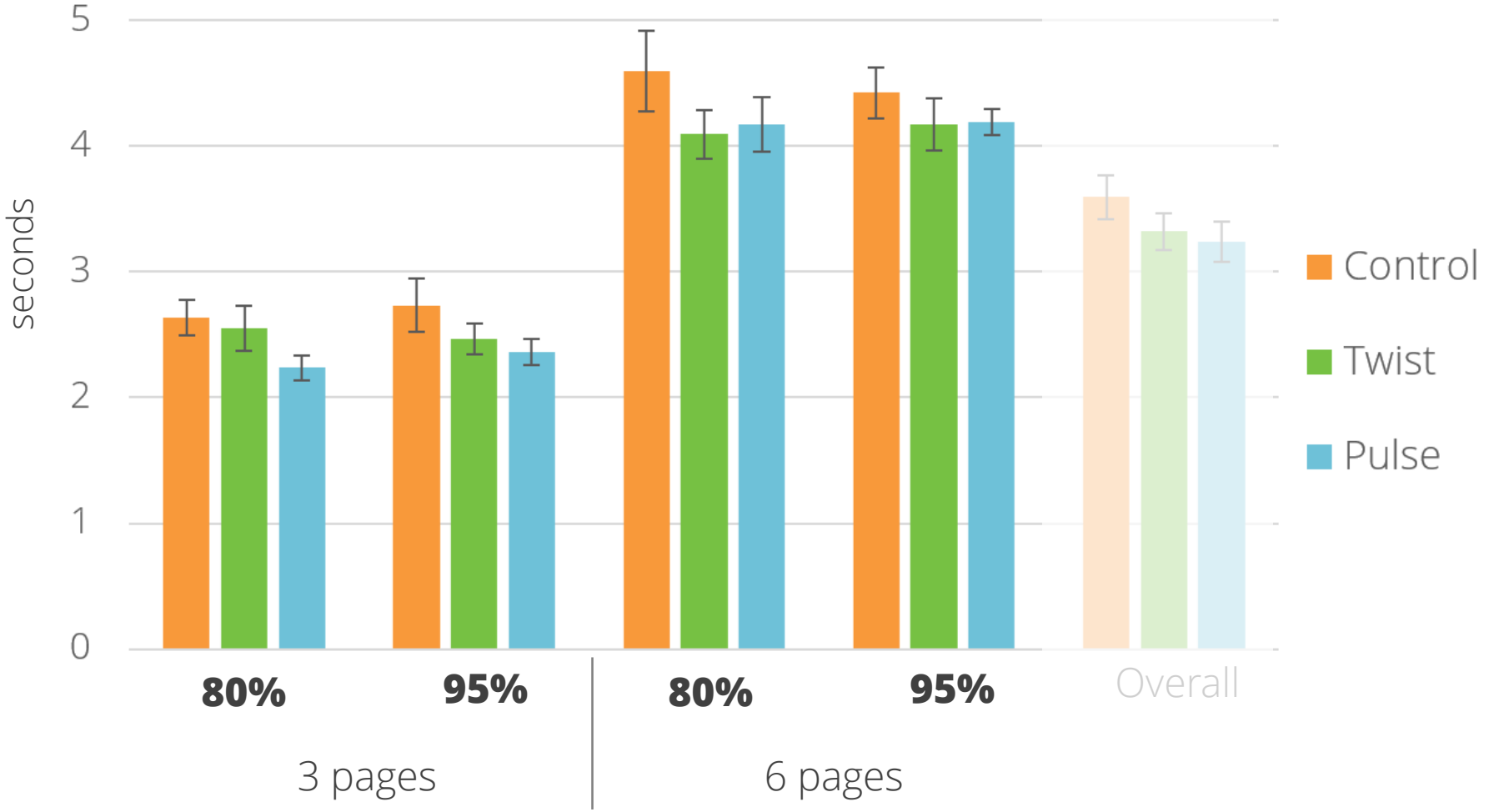
Twist and Pulse faster than Control



3 Pages faster than 6 Pages



No effect of Accuracy



No effect of accuracy

4x less errors at 95% than 80%...

...but more costly at 95%

Subjective results

11/12 Pulse > Control

9/11 Pulse > Twist

8/11 Pulse less distracting than Twist

Ephemeral highlighting for icon selection

Preattentive visual properties — motion

Twist & Pulse faster (8-10%) and preferred

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