HOW SURE ARE WE?

The Predictive Power of Early UX Evaluation Methods on Live Site Performance

WORLD IA DAY 2016

LOCAL CONNECTIONS. GLOBAL IMPACT.

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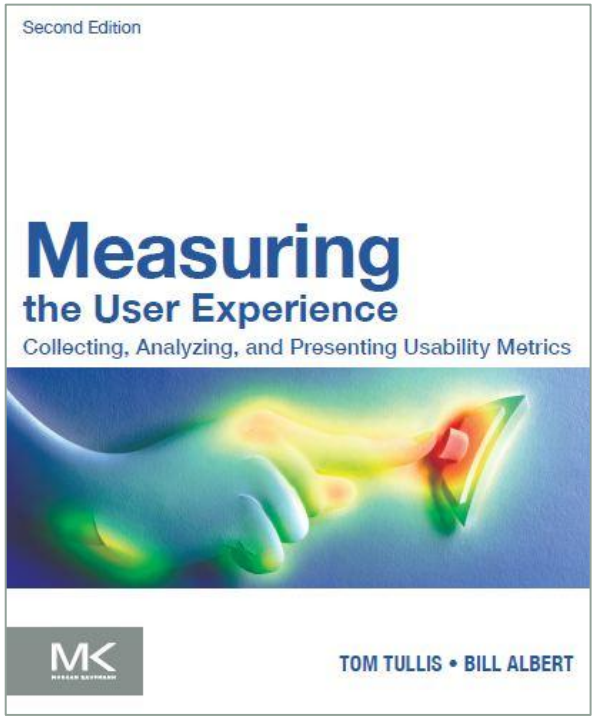
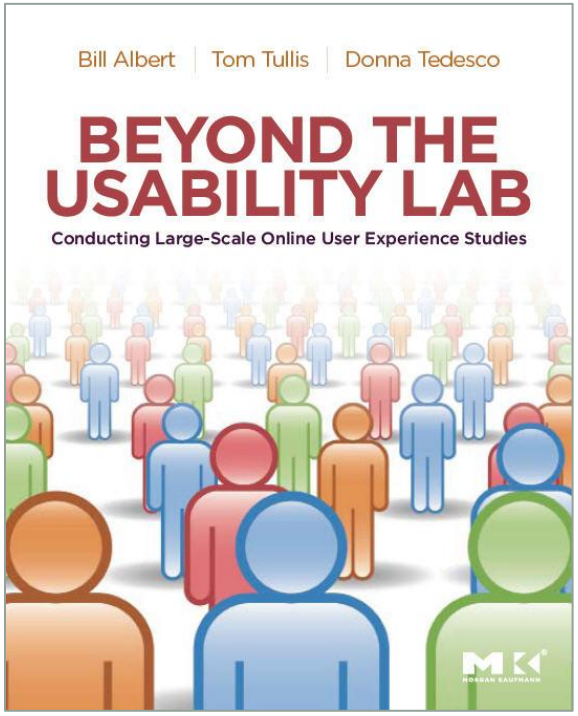
February 20, 2016

My Background

UXC

BENTLEY USER EXPERIENCE CENTER





JUS
Journal of Usability Studies

Thanks

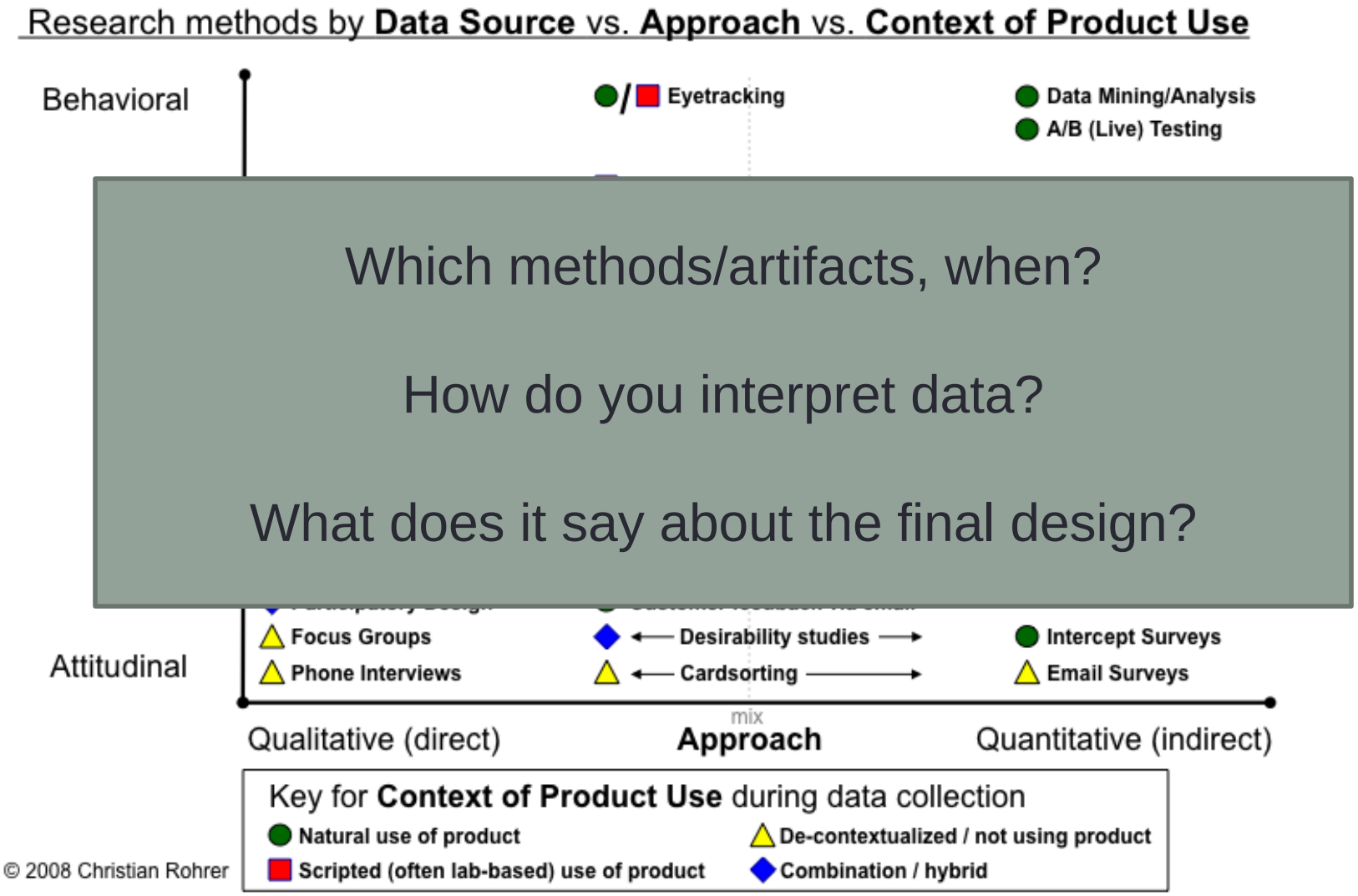
David Juhlin

userzoom
zooming in on the user experience

Dani Norden

Bentley User Experience Center (UXC)

Setting the Stage

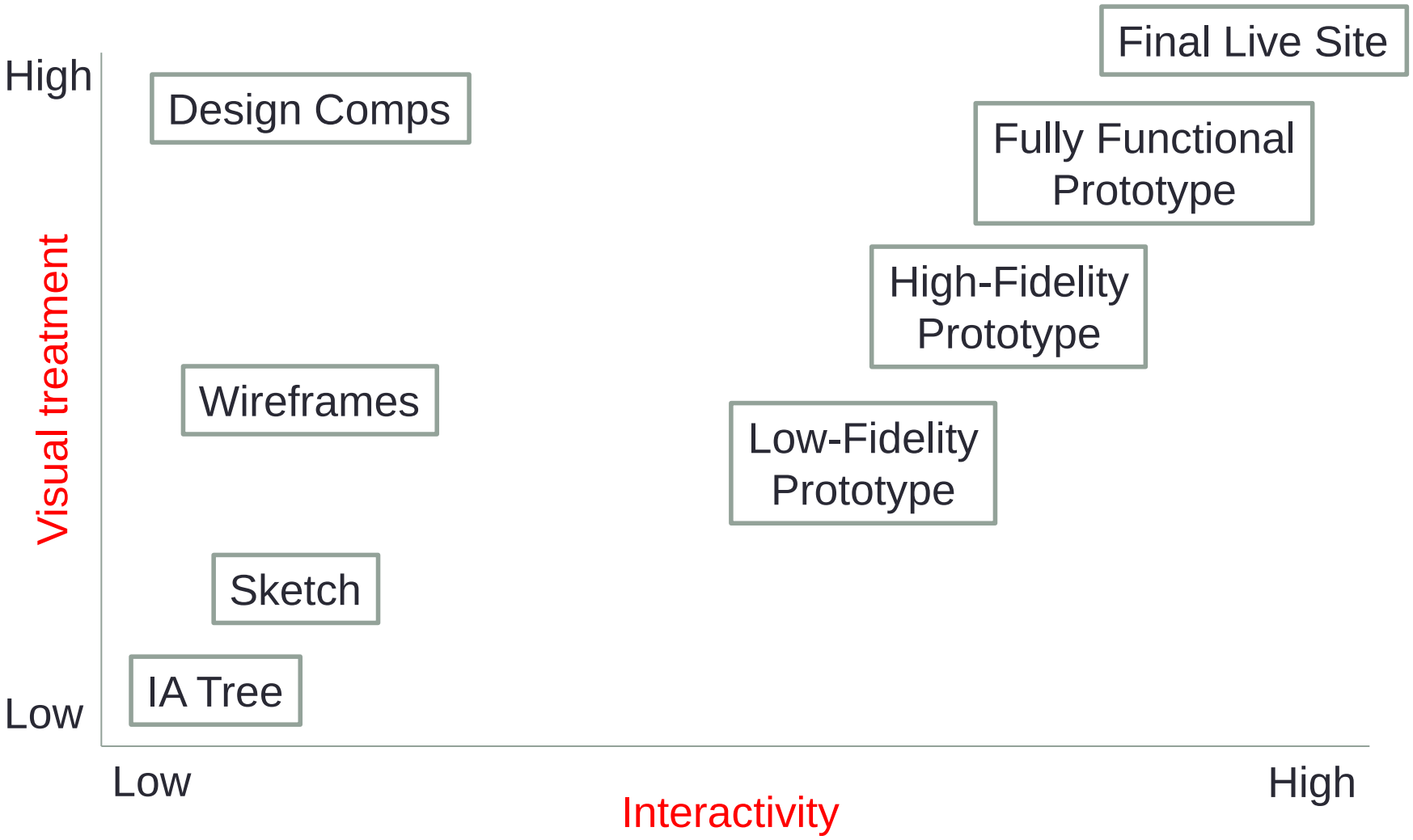


Motivation

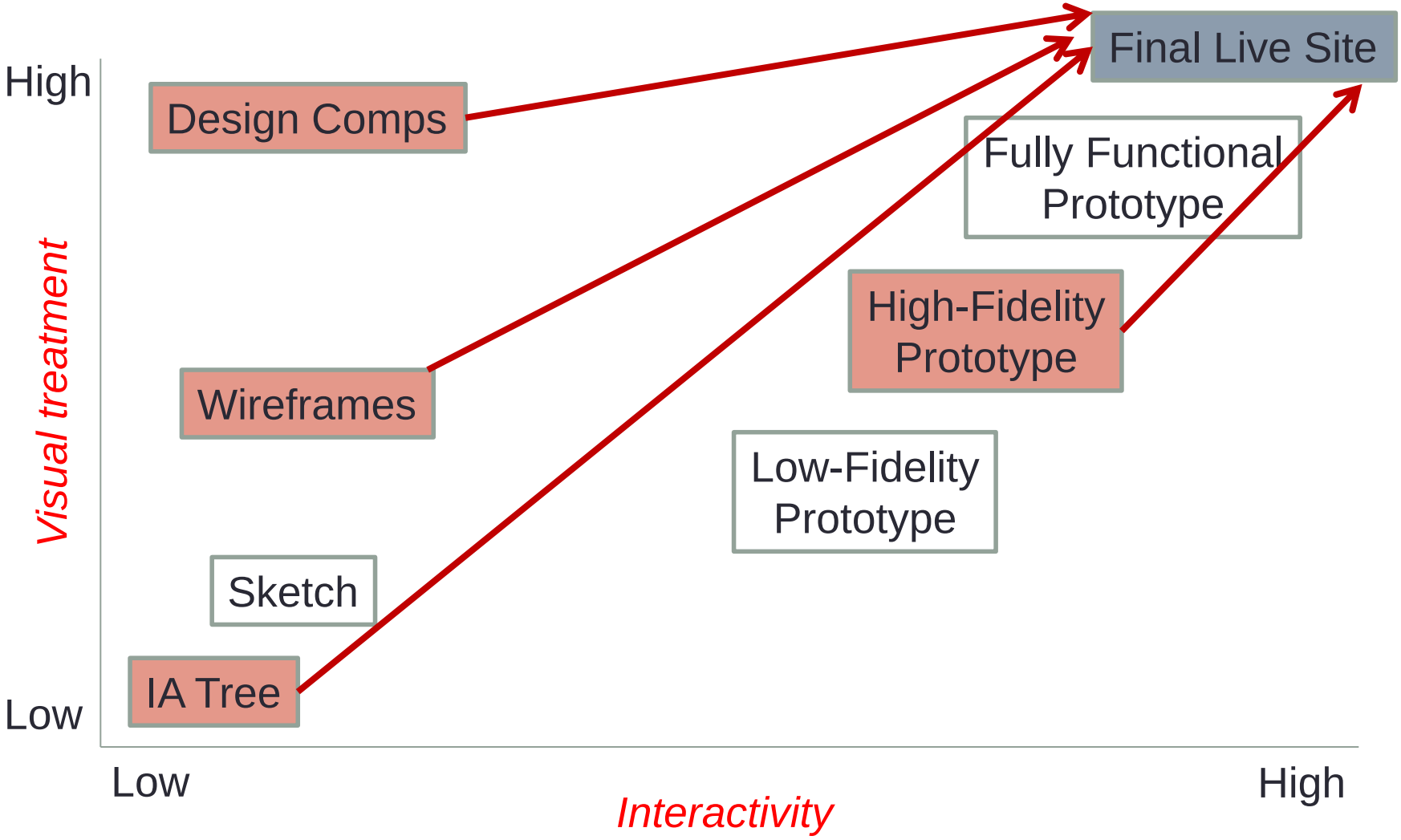
- Better understand how UX methods, tools, and artifacts are used as part of decision making
- How predictive is early UX research on a final design?
- Help organizations avoid bad decisions
  - “Sky is falling” might lead to radical and unnecessary changes“
  - “We’re good to go” might lead to lack of improvements

Caveat

Research Question



Research Question

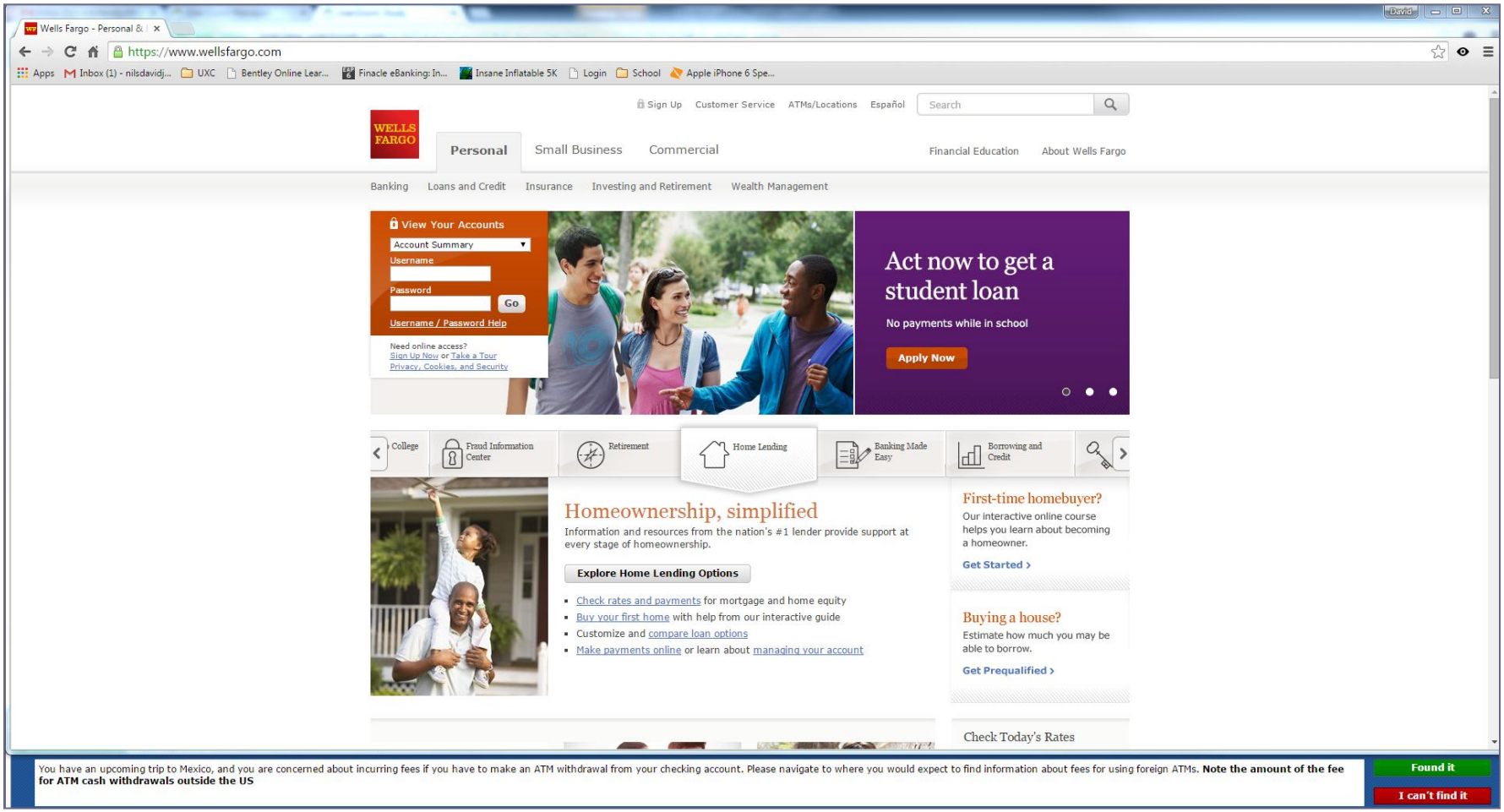


A Few Details

- Wells Fargo's website (Fall, 2014)
- Reversed engineered the live website into each artifact (high-fidelity prototype, design comp, wireframe, IA tree)
- UserZoom to collect data (success, time, unique pages, clicks)
- Participants recruited through Amazon's Mechanical Turk
- 7 common tasks
- 99-195 participants used each artifact
- Analyzed correlations between each artifact and the live site

Live Site

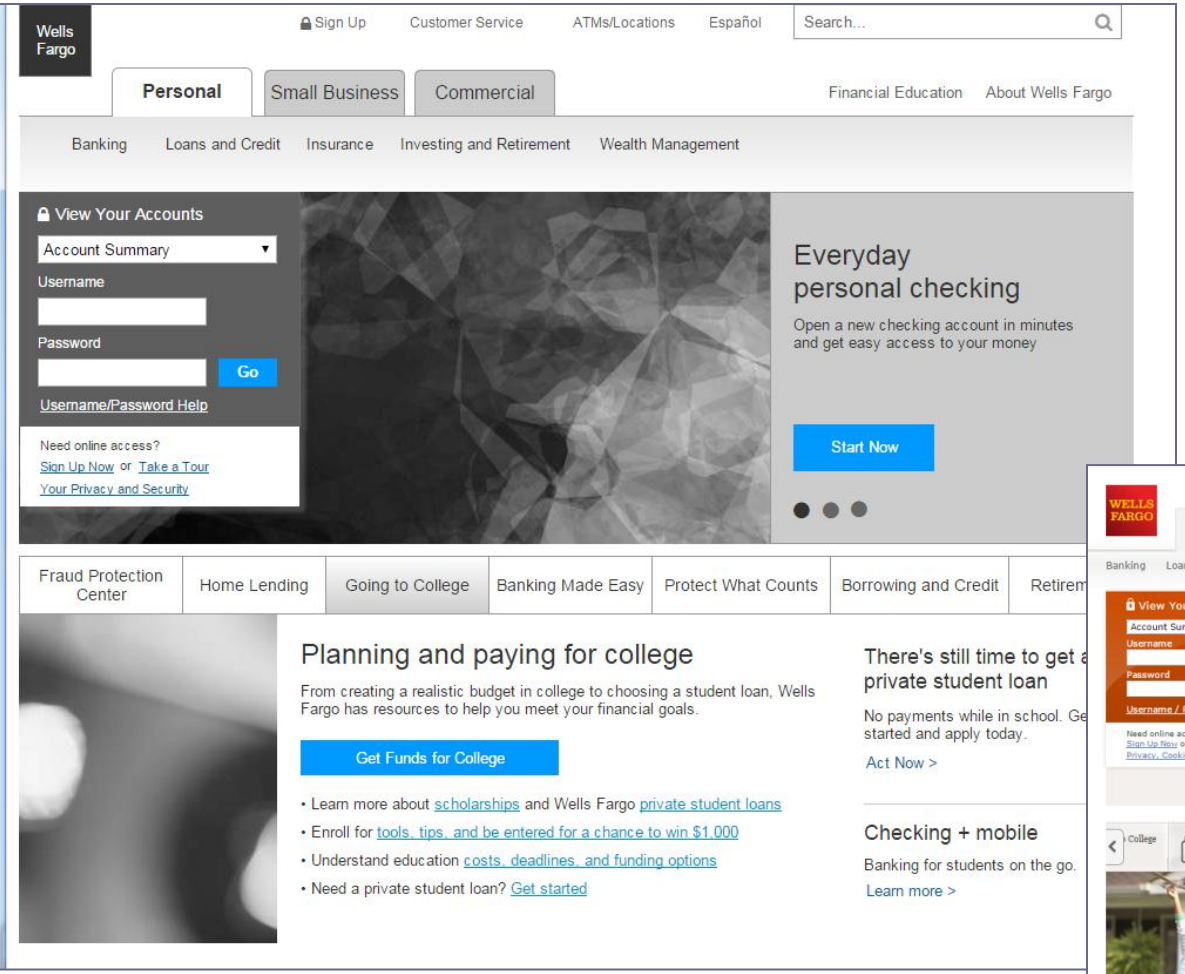
- Live WellsFargo.com website
- Metrics: success, time, unique pages, and clicks
- Unmoderated usability test (n=100)



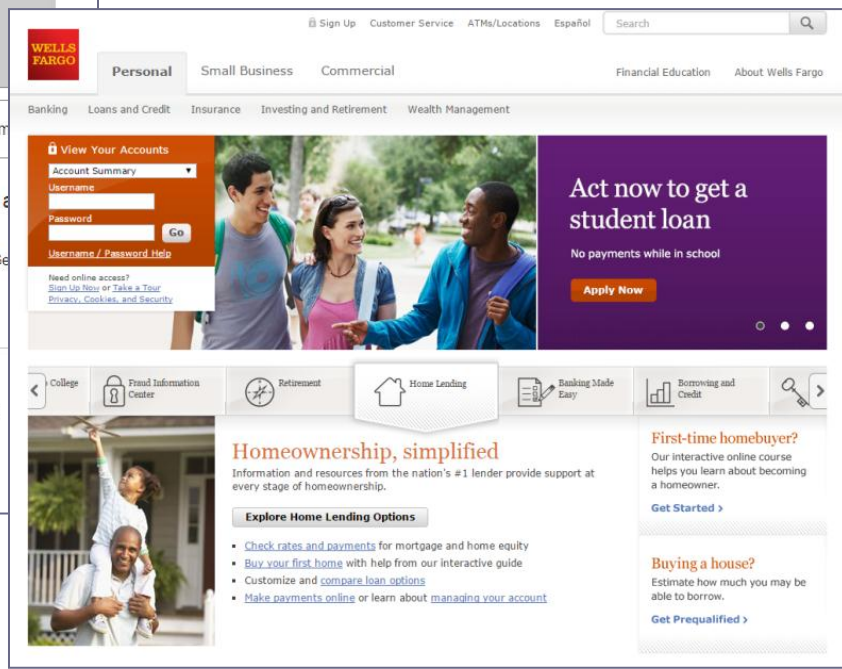
Tasks

	Task	Purpose
T1 - Overdraft	How much is an overdraft if you have linked your checking account to your savings account?	Impact of mega menu (overdraft link is furthest out to the right)
T2 - Locations	How far away is the closest Wells Fargo branch?	Impact of utility navigation (ATM/Locations link is at the top of all pages)
T3 - Interest rate	What is the interest rate for a Way2Save savings account?	Primary navigation + in-page link navigation
T4 - Insurance	What is covered if you purchase insurance for your apartment?	Primary navigation + in-page tab navigation
T5 - ATM fee	What is the ATM fee for a withdrawal in Mexico?	Multiple distracting starting points
T6 - Internship	What majors are desired if you want to apply for an internship in the audit division?	Impact of footer navigation (Careers link at the bottom of the page)
T7 - Retirement	What is the recommended amount you should be placing in your 401k if you are 22 years old?	Impact of separation in the primary navigation

High-Fidelity Prototype



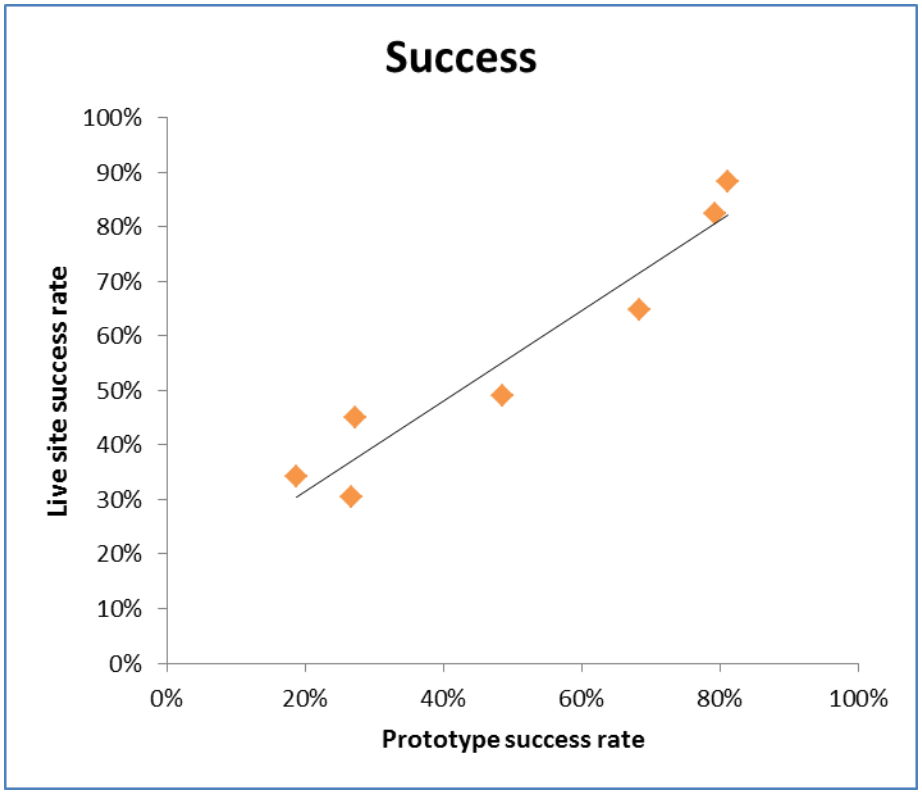
- Black/white
- No visual treatments
- Consistent terminology and layout
- Mostly clickable (64 pages)
- No Small Biz or Commercial
- Unmoderated usability test (n=99)



High-Fidelity Prototype: Task Success

Success on the high-fidelity prototype reliably predicts success on the live site (r= 0.961, p<.001)

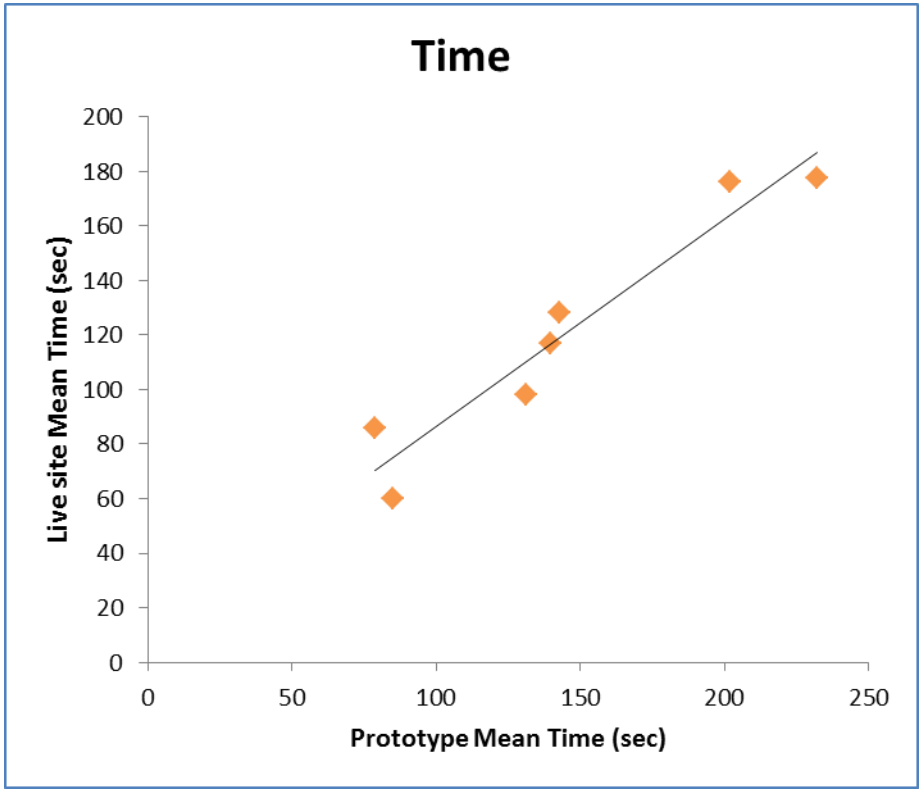
Prototype success rate	Live site predicted success rate
20%	32%
30%	40%
40%	48%
50%	56%
60%	65%
70%	73%
80%	81%



High-Fidelity Prototype: Completion Time

Completion time on the high-fidelity prototype is an excellent predictor of completion time on the live site (r=0.960, p<.001)

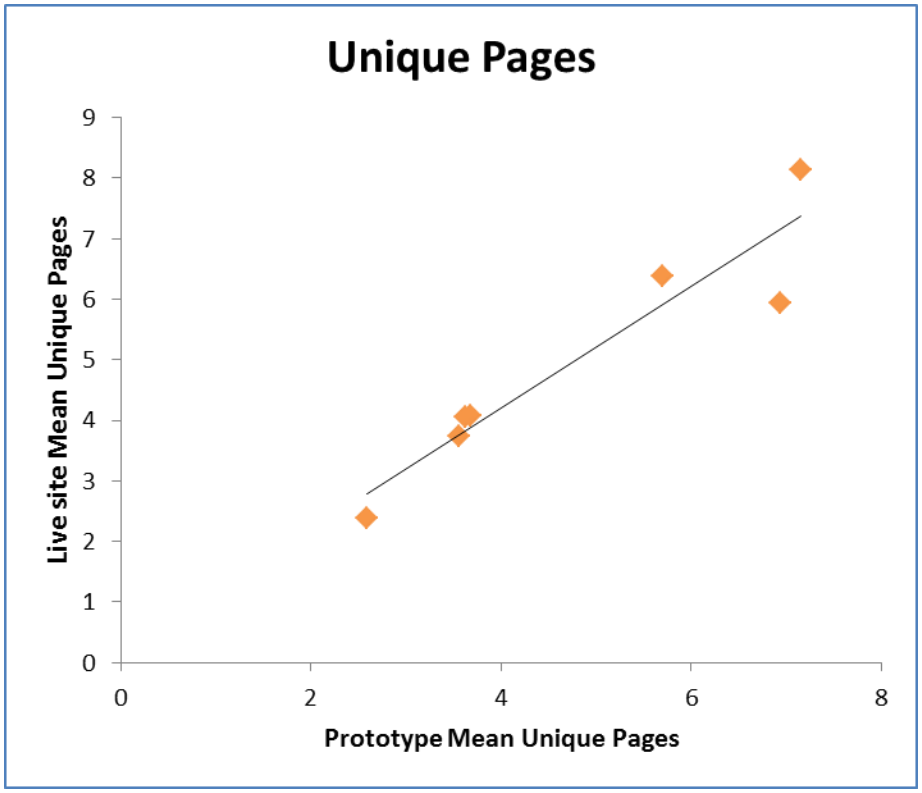
Prediction of Time (s)	
Prototype	Live site
80	71
100	87
120	102
140	117
160	132
180	147
200	162



High-Fidelity Prototype: Unique Page Views

The number of unique page views on the high-fidelity prototype was a good predictor of unique page views on the live site (r=0.943, p<.001)

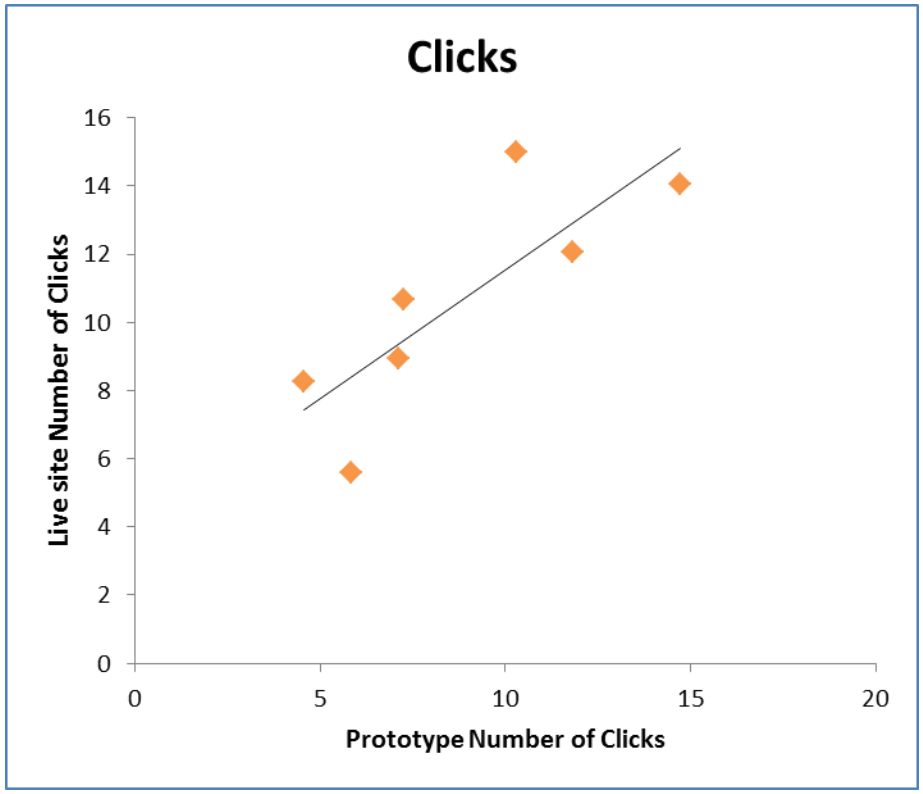
Prediction of Unique Pages	
Prototype	Live site
3.00	3.19
4.00	4.20
5.00	5.21
6.00	6.21
7.00	7.22



High-Fidelity Prototype: Clicks

The number of clicks on the high-fidelity prototype is a good predictor of the number of clicks on the live site (r=0.814, p=.026)

Prediction of Clicks	
Prototype	Live site
6.00	8.54
8.00	10.04
10.00	11.55
12.00	13.05
14.00	14.55

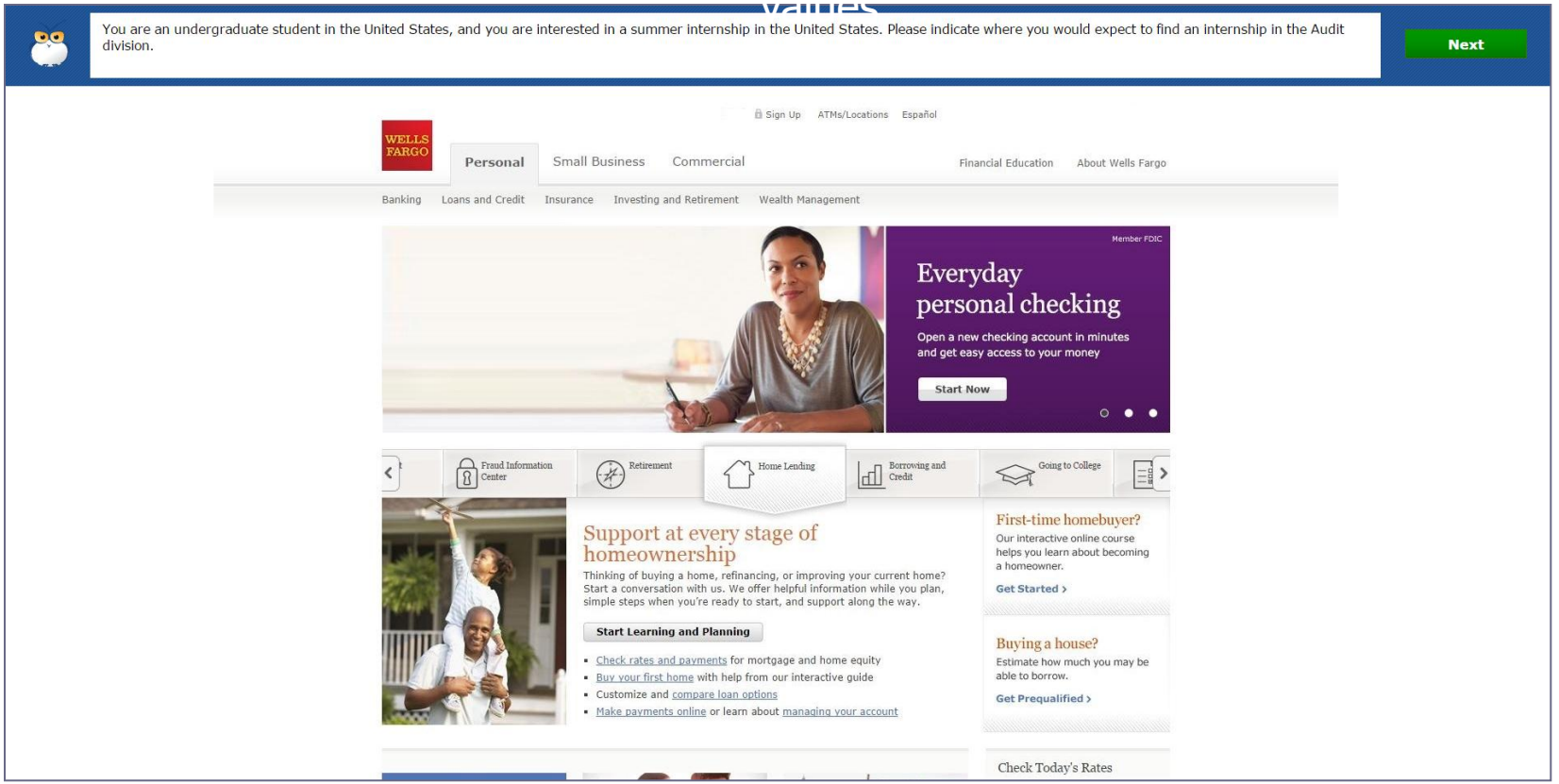


High-Fidelity Prototype: Summary

Live Site	High-Fidelity Prototype: Task Success	High-Fidelity Prototype: Time	High-Fidelity Prototype: Unique Pages	High-Fidelity Prototype: Clicks
Task Success	**Excellent** Correlation = 0.961 p < 0.001			
Time	**Good** Correlation = -0.807 p = 0.028	**Excellent** Correlation = 0.960 p < 0.001		
Unique Pages	**Good** Correlation = -0.833 p = 0.020		**Excellent** Correlation = 0.943 p < 0.001	
Clicks	**Good** Correlation = -0.796 p = 0.032			**Good** Correlation = 0.814 p = 0.026

Design Comp

- Removed Search, Contact Us and Login
- Screenshot (home page only)
- First Click Test (n=105)

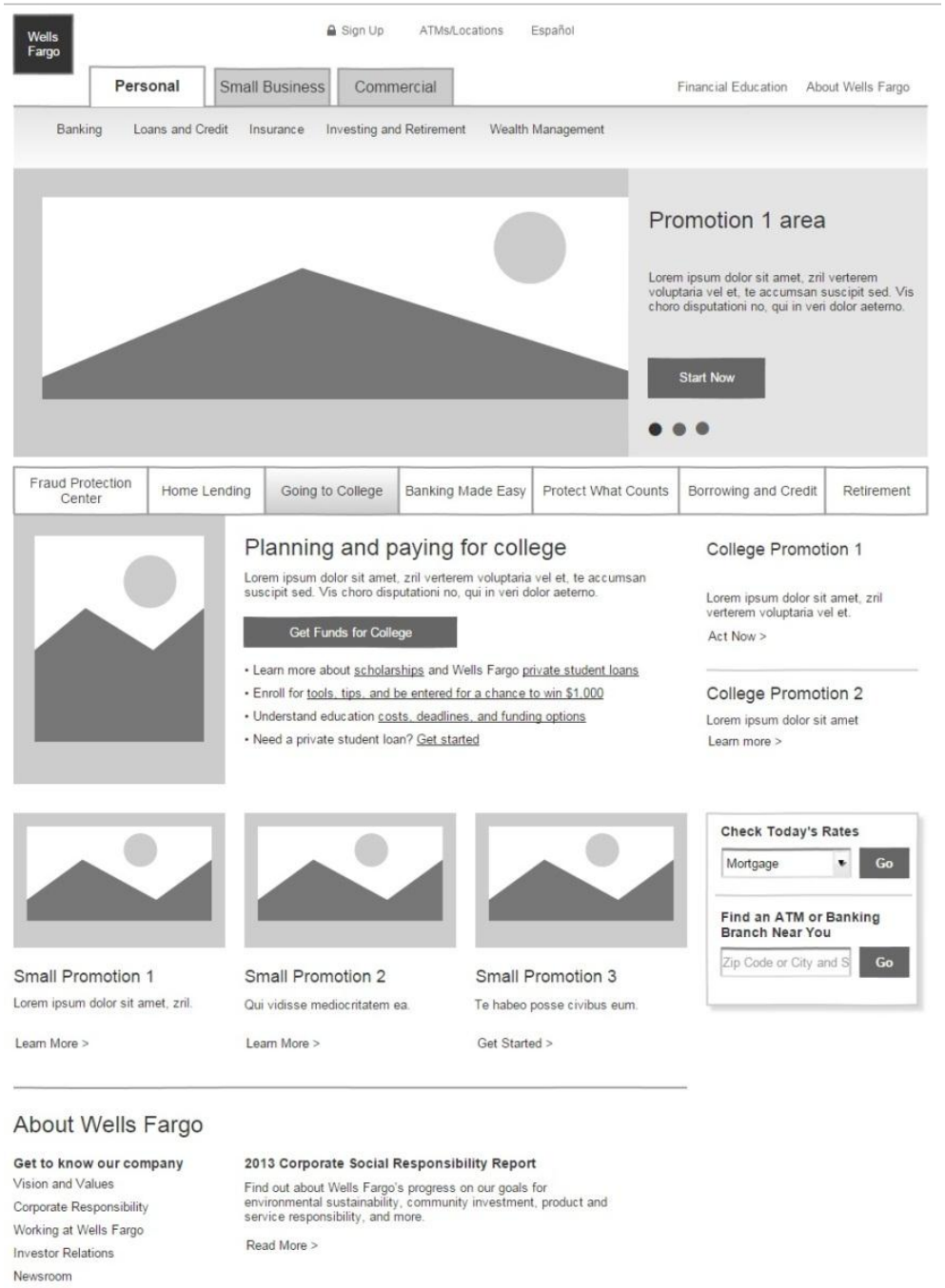


Design Comp: Summary

Live Site	Design Comp: Click Success	Design Comp: Time	Design Comp: Unique Pages	Design Comp: Clicks
Task Success	**Excellent** Correlation = 0.910 p = 0.004			
Time	**Good** Correlation = -0.754 p = 0.050			
Unique Pages	**Excellent** Correlation = -0.926 p = 0.003			
Clicks	**Good** Correlation = -0.737 p = 0.059			

Wireframe

- Similar to high-fidelity prototype except that Search, Login, and Contact US were removed
- Lorem Ipsum text in some places
- First click test of the home page only (n=105)

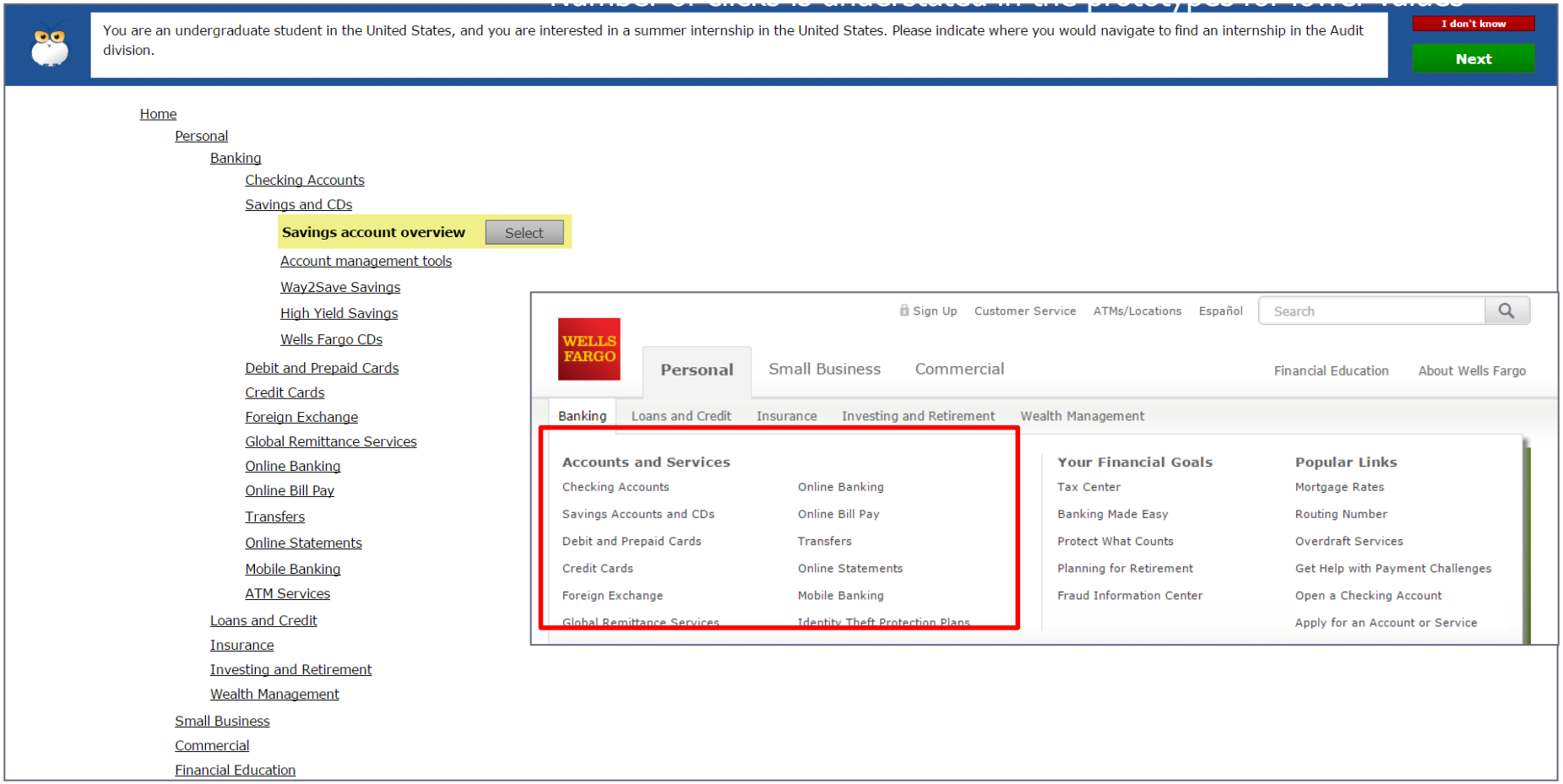


Wireframe: Summary

Live Site	Wireframe: Click Success	Wireframe: Time	Wireframe: Unique Pages	Wireframe: Clicks
Task Success	**Good** Correlation = 0.762 p = 0.046			
Time	**Good** Correlation = -0.844 p = 0.017			
Unique Pages	**Excellent** Correlation = -0.969 p < 0.001			
Clicks	**Good** Correlation = -0.853 p = 0.015			

IA Tree

- Converted the mega menu into a IA Tree
- Only focused on primary navigation
- Tree-test focused on target success/time (n=195)
- Caveat – some task could have been solved without mega menu



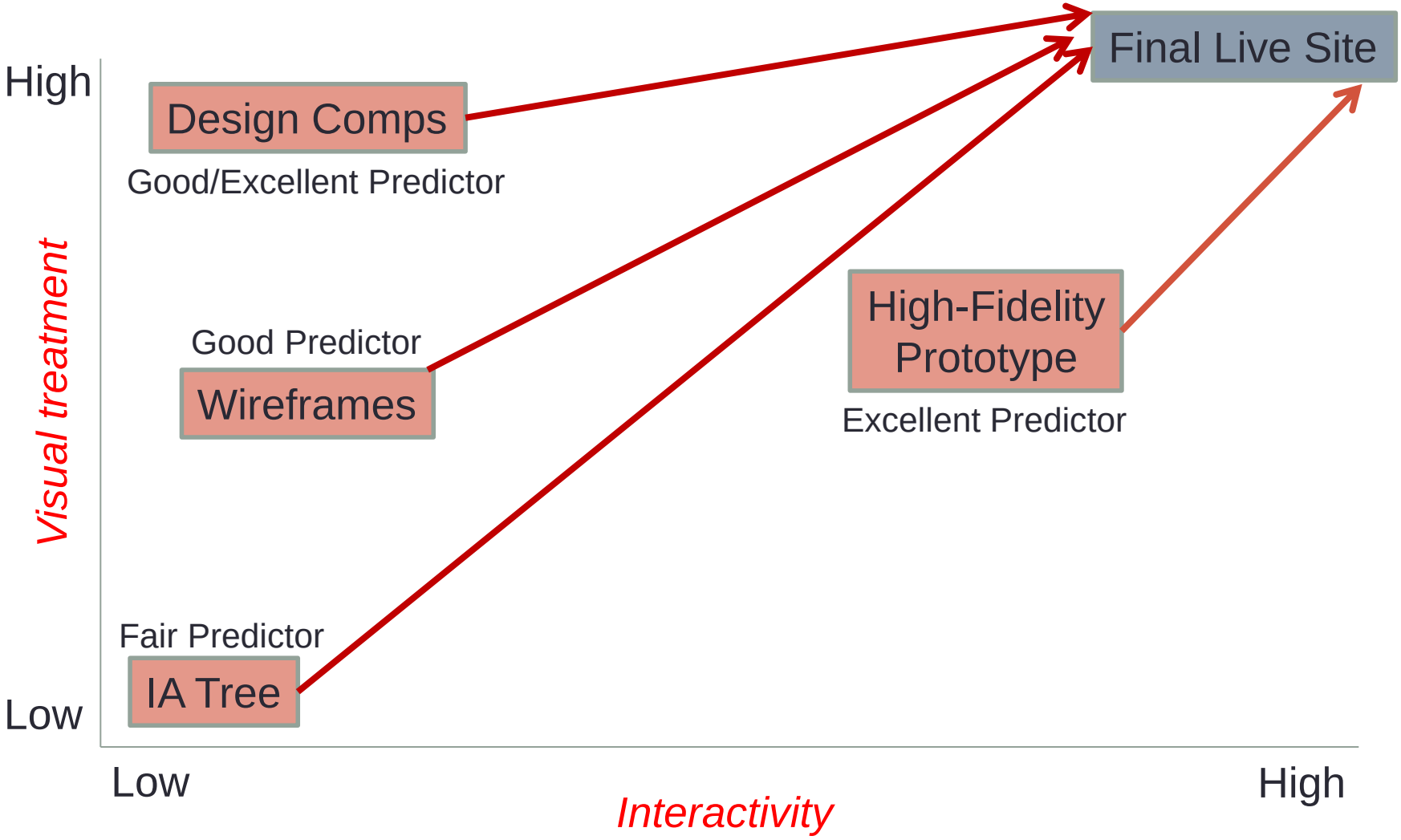
IA Tree: Summary

Live Site	IA Tree: Target Success	IA Tree: Target Time	IA Tree: Unique Pages	IA Tree: Clicks
Task Success	**Poor** Correlation = 0.302 p = 0.510			
Time	**Good** Correlation = -0.756 p = 0.049	**Fair** Correlation =0.611 p=0.145		
Unique Pages	**Fair** Correlation = -0.587 p = 0.166			
Clicks	**Fair** Correlation = -0.687 p = 0.088			

Overall Summary

	High-Fidelity Prototype				Screenshot		IA Tree	
					Wireframe	Design Comp		
Live Site	Task Success	Time	Pages	Clicks	Click Success	Click Success	Target Success	Target Time
Task Success	Excellent				Good	Excellent	Poor	
Time	Good	Excellent			Good	Good	Good	Fair
Unique Pages	Good		Excellent		Excellent	Excellent	Fair	
Clicks	Good			Good	Good	Good	Fair	

Visual Summary



Key Takeaways

- Early UX research results does predict final site performance
- The closer the artifact is to the live site, the better the prediction
- The farther the artifact is from the live site, the worse the prediction
- Don’t use one type of metric to predict another type of metric (e.g., success as a predictor of time)
- Limitations of the study include only a sample of artifacts and data, limited number of tasks, and a single website

Implications

- During formative research, focus on identifying issues, making improvements, and measurement
- If management are concerned about the results from early research – don't let them read too much into it – it's a long, winding road to great design
- Promote UX validation research

Thank You!

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