

INSIDE THE CAVE



An In-Depth Look at the Digital, Technology, and Analytics Operations of Obama for America



CREDIT: TIME

THE CAVE

“The Cave” in Obama for America’s Chicago headquarters housed the campaign’s Analytics team. Behind closed doors, more than 50 data analysts used Big Data to predict the individual behavior of tens of millions of American voters.



“The core of the campaign was not flashy or even particularly innovative except in the willingness of senior staff to listen to numbers people rather than consultants acting on old-fashioned political intuition.”



The Organization

Obama 2012 didn't have the magic of hope and change. What it did have was a relentless focus on operational excellence and massive scale.

4X

Despite being evenly matched financially, Obama for America conceived of and built an operation 4 times the size of its competition.

Future national campaigns will have to grapple with how they build this massive an organization.

Operational Footprint: Obama vs. Romney



**Employees
on LinkedIn**

1,979

369

Donors

4.4M

1.1M

E-mail List

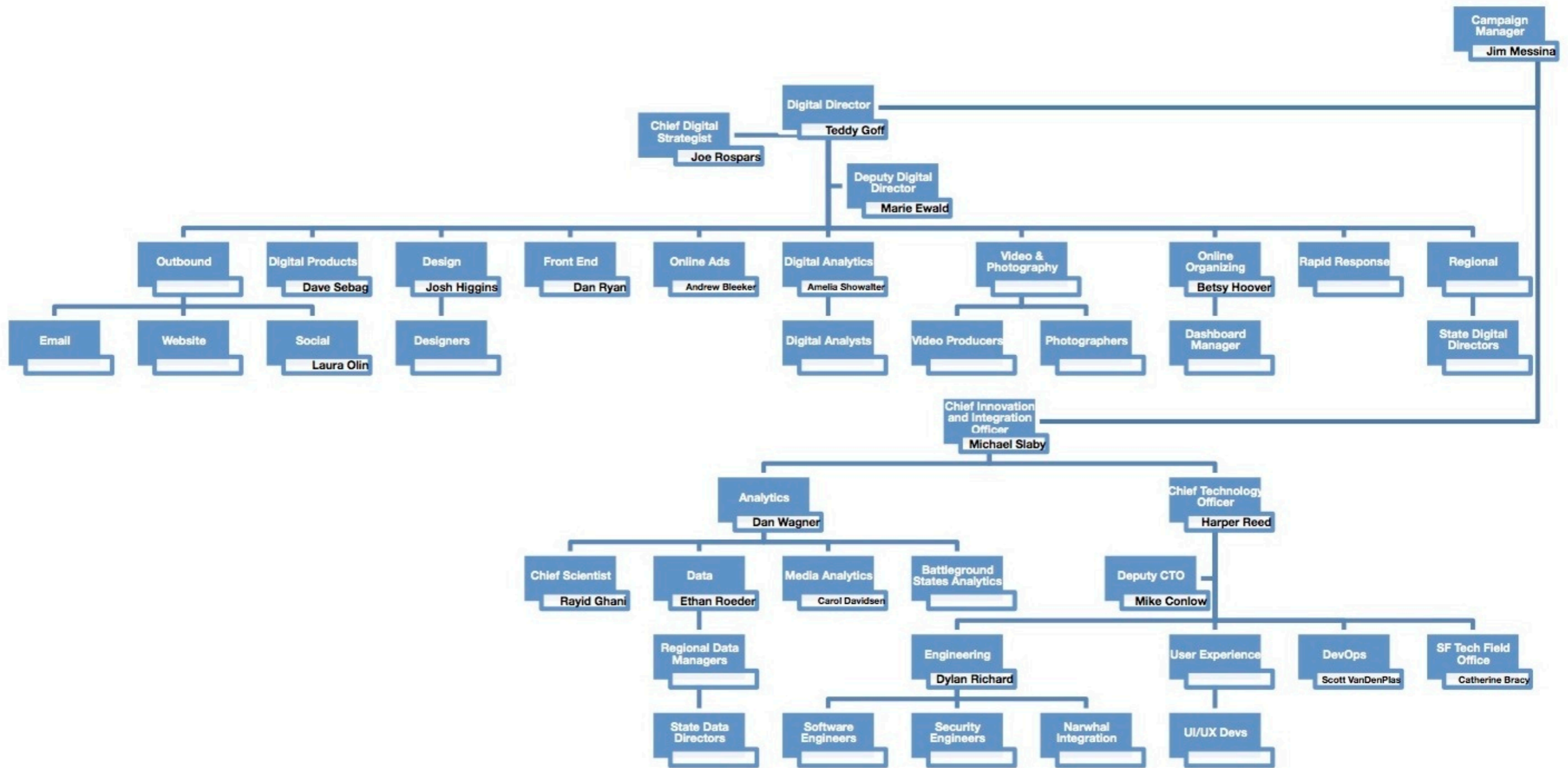
16M

2-3M

On Election Day, Obama for America had 4,000 employees - 2,700 of them field staffers.

They managed over 8,000 Neighborhood Team Leaders and 32,000 highly trained volunteers, known as Core Team Members.

The Digital and Technology Org Chart



Most campaigns talk about giving the Internet a seat at the senior staff table.

Obama for America had two.

Digital, headed by Teddy Goff and Joe Rospars, focused on the public facing elements of the campaign: Fundraising, e-mail, social.

Technology & Analytics were separate departments reporting to Chief Innovation and Integration Officer Michael Slaby. They focused on making the campaign itself more efficient.

Staff Breakdown

Digital

(Director: Teddy Goff)

200

Technology

(CTO: Harper Reed)

50

Analytics

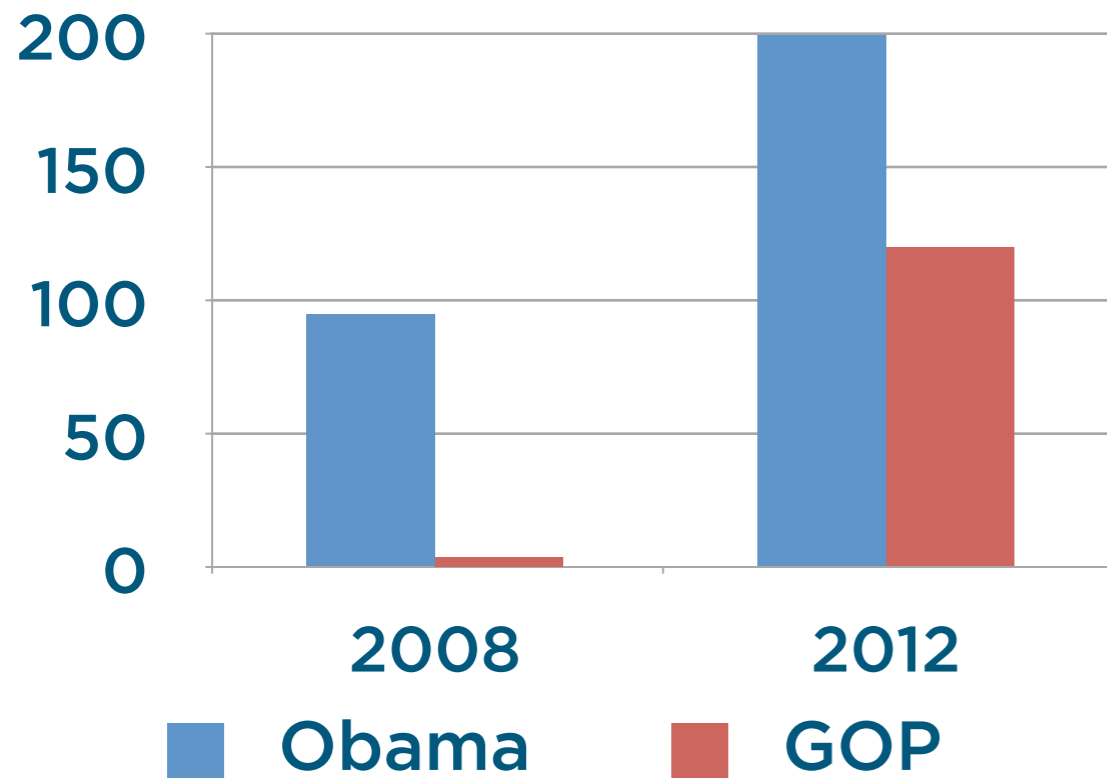
(Director: Dan Wagner)

50

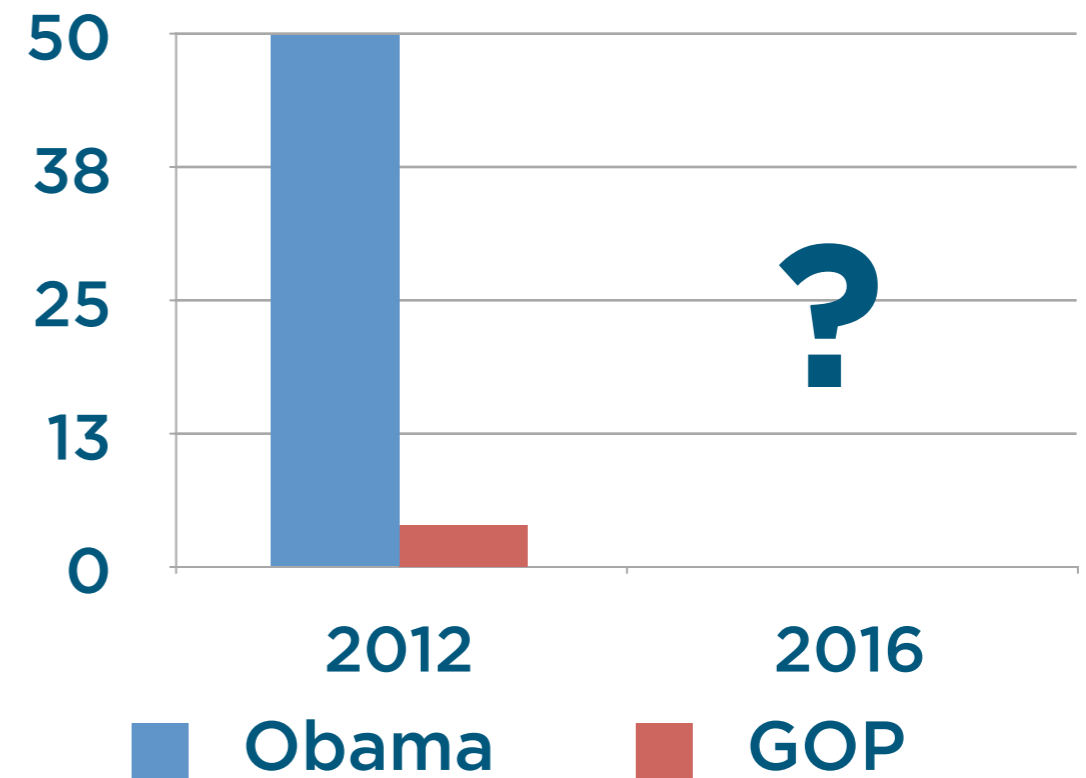
The campaign's data & technology operations made up an estimated 30-40% of headquarters staff

Digital 2008 : Analytics 2012

Digital Staff



Analytics Staff



The Lesson: Don't fight the last war. In 2016, the game will be different (total digital integration throughout the campaign?). GOP needs to catch up AND get ahead of where campaigns are going next like OFA did with Analytics in 2012.

OFA didn't hire your typical political staffer.

They went directly to Silicon Valley and to data analysts in the Fortune 500 and academia. One used to work at Pixar. Another was a high-energy particle physicist.

Obama's Best and Brightest



Harper Reed
Chief Technology Officer

Previously: CTO, Threadless



Rayid Ghani
Chief Scientist

Previously: Director of Analytics Research, Accenture



Carol Davidsen
Director of Integration and Media Targeting

Previously: Navic Networks, a TV startup acquired by Microsoft



Michelangelo D'Agostino
Senior Data Analyst

Previously: High-energy particle physicist, Argonne National Lab



Mark Trammell
"Undersecretary for Internet Wildlife Preservation and Regulation"

Previously: Design, Twitter



Kevin Der
Software Engineer (Technology)

Previously: Quora; Sr. Tech. Dir., Pixar Animation Studios

How Were They Recruited?

- In June 2011, the campaign pored through their donor rolls, looking for people who listed occupations in technology, data, or design.
- Then, they sent them this e-mail:
 - "You're one of very few people receiving this email because, based on what you've told the Obama organization in the past. We think you might know someone who should quit his or her job and come work on the Obama campaign's digital team for the next 18 months."

"It won't pay very well. The hours are terrible Most people who come to work here will take a pay cut."
- One recipient was Carol Davidsen, who would go on to manage the Narwhal and TV Optimizer projects for the campaign.

Source: ["How Analytics Made Obama's Campaign Communications More Efficient"](#), *TechPresident*

Obama's Technology Machine: Consultants

- **Blue State Digital**
 - Lead digital agency for Obama in 2008 and 2012
 - Co-founded by Joe Rospars, New Media Director in '08 and Chief Digital Strategist in 2012
 - In 2008, they led most software development. In 2012, they focused mostly on online fundraising and e-mail when most development was moved in-house.
- **NGP VAN**
 - Formed by a merger of two firms
 - NGP - Leading Democratic fundraising database
 - VAN (Voter Activation Network): Built VoteBuilder, the official voter file software of the Democratic Party
- **Catalist**
 - As a private firm, it allows Democratic campaigns and left-leaning outside groups to share data in accordance with campaign finance laws.
 - Provides analytics, modeling, and microtargeting on the voter file.

Obama's Technology Machine: Institutions

- **New Organizing Institute**
 - Trains thousands of progressive operatives on field organizing, new media, and data management.
 - Job placement for Democratic campaigns and left-leaning groups
 - Hosts national and state RootsCamp unconferences; this year, the national RootsCamp was attended by over 2,000 people -- more than half of them former Obama staff
- **Analyst Institute**
 - Founded in 2007, it works with progressive organizations to conduct randomized experiments to determine the most effective methods to contact voters
 - Embedded within the Obama campaign in 2012

Analytics

"We were going to put an analytics team inside of us to study us the entire time to make sure we were being smart about things."

- Jim Messina, Campaign Manager

And no, it's not just Google Analytics.

Obama for America used Analytics to improve every aspect of the campaign, with teams looking at Battleground States, Web, Email, Field, and Communications.

Analytics encompassed everything from predicting the results of the election to optimizing the performance of landing pages.

Analytics was the breakout star of 2012. It saw a 5x bump in staffing and resources over 2008.

Battleground States Analytics

- Using dynamic models powered by voter contact data, the Analytics team ran 66,000 simulations each night to project who was winning every battleground state.
- They used this data to allocate resources in real-time.
- In Ohio, OFA had ballot test data on 29,000 voters, more than 1% of the electorate, allowing for deep demographic analysis.
- The final simulations were accurate to within 0.2% in Ohio and 0.4% in Florida, but were 1% too cautious in Colorado.

Sources: ["How Obama's data crunchers helped him win" TIME](#); ["Messina: Obama Won On The Small Stuff" BuzzFeed](#)

How They Measured the Electorate

- **Battleground States Survey**
 - Single poll taken across battlegrounds: CO, FL, IA, MI, NV, NH, NC, OH, PA, VA, WI
 - Initially once every three weeks; 2 per week in final 2 months
 - Used to measure broad public opinion, not individual states; no national polling done
- **State Tracking Polls**
 - Three-day rolling sample in each state
 - 500-900 voters
- **Analytics**
 - Run by Analytics Department
 - Live callers, large sample sizes, short questionnaire
 - 8,000 - 9,000 calls per night

Source: ["Obama Campaign Polls: How The Internal Data Got It Right" Huffington Post](#)

"The call centers that completed these analytics surveys typically specialize in "voter identification," the process of contacting most or all individual voters in a state to identify supporters who can then be targeted in subsequent "get out the vote" efforts. But the Obama campaign's approach to voter targeting was different. It called very large random samples of voters to develop statistical models that generated scores applied to all voters, which were then used for get-out-the-vote and persuasion targeting."

- Mark Blumenthal, *Huffington Post*

How It Worked: Hamilton County, OH Early Vote

57.68%

Model Prediction

57.16%

Actual Results

- In late October, Hamilton County releases the names of 103,508 people who have voted early.
- Armed with Obama support scores for every voter in Ohio, Analytics director Dan Wagner matches these voters to the model.
- 58,379 of them have Obama support scores of 50.1 or more, for a projected raw vote lead of 13,249 in the county.

Source: ["How Obama Wrangled Data to Win His Second Term"](#) MIT Technology Review

Dynamic Modeling

- In contrast to early “microtargeting” methods, which uses a single survey with multiple variables to build voter models with support scores for individuals, Obama’s support models were dynamic. This meant they could change to reflect shifts in public opinion.
- A Romney surge like that after the first debate would be reflected in the support scores of individual voters once new data was fed into the model.
- The process works like this: The campaign calls voters asking whom they support. They then compare the predicted support score for those voters to who they actually say they’re voting for. If people with Obama support scores of 55 start supporting Romney more than 45% of the time, the race has shifted and support scores are adjusted.
- Obama for America also had a “persuadability” score that modeled how susceptible an individual was to changing their mind based on campaign appeals.

Modeling vs. Polling

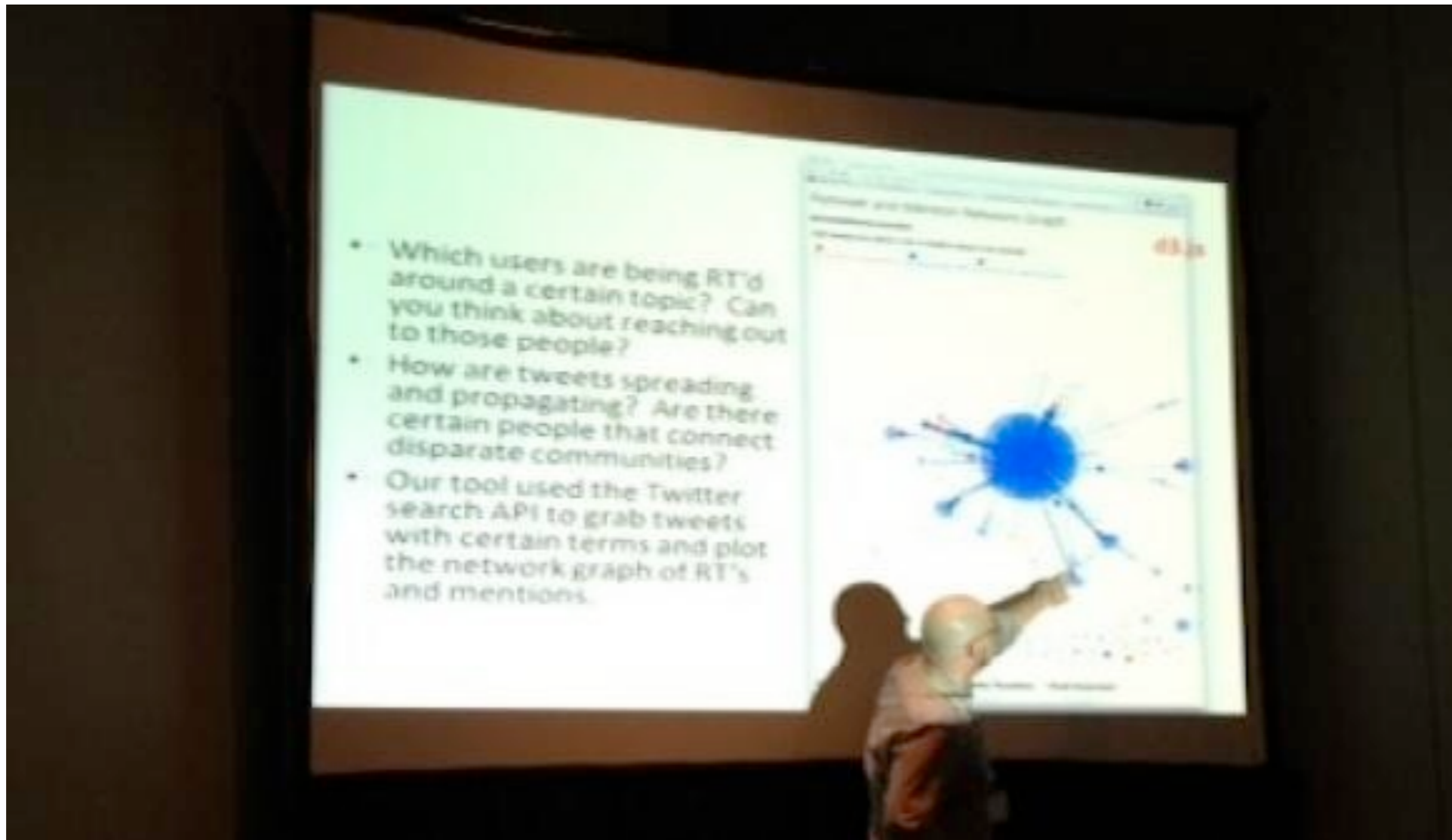
- **With cell phone-only households approaching a third of the electorate, traditional polling began to show cracks.**
 - **Final RCP Average: Obama +0.7%**
 - **Actual Result: Obama +3.7%**
- **OFA's modeled results were much less volatile than public polling, and never showed Obama falling behind Romney nationally (though it was very close after the first debate)**

Try This at Home!



- R is a free, open source statistical software package that was used for analytics projects throughout the campaign.
- Download it: <http://www.r-project.org/>
- Coursera class: <https://www.coursera.org/course/compdata>

Social Analytics



CREDIT: SARAH LAI STIRLAND/TECHPRESIDENT

Social Analytics presentation delivered by Michelangelo D'Agostino at RootsCamp. (He's the particle physicist.)

Social Analytics

- **The Obama campaign scored 50,000 Twitter accounts by political affiliation.**
- **Mention volume wasn't a reliable metric since most tweets about Obama came from conservatives criticizing him.**
- **OFA used Twitter influence (looking at number of tweets & followers) to target direct messages asking people to get involved.**

Communications Analytics

"For example, he explained, Matthew Rattigan, an analyst on the team, built a tool for looking at the coverage of speeches in local newspapers so it could break down by geographic region how people reacted and which parts were quoted most. Speechwriters were therefore able to see how the messages they wanted to convey were actually the ones that were covered."

- "How Obama's data scientists built a volunteer army on Facebook",
GigaOm

Online Fundraising

The Results: 2008 vs. 2012

	2008	2012
Total Raised Online	\$500M	\$690M
Donors	3.95M	4.4M
Average Per Donor	\$126	\$156



Hey

(The most successful subject line of the campaign, based on e-mail opens.)

Heading into 2012, the Obama campaign faced a fundamental challenge.

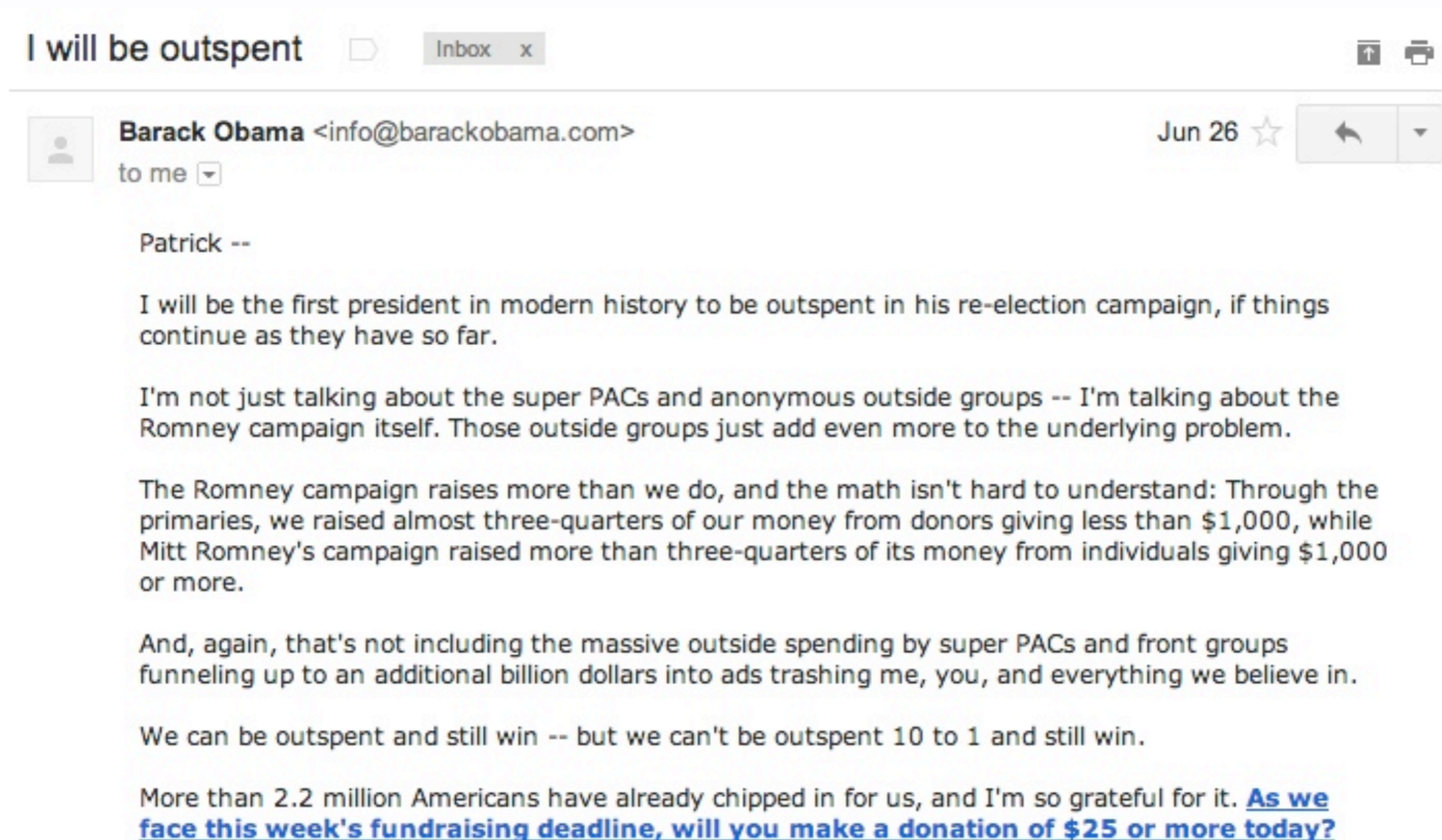
Obama '08 had raised more more money than any campaign in history on the back of the Internet. \$500 million, or two-thirds of the total money raised, came in online.

In 2012, OFA was universally expected to become the first billion-dollar campaign. But there was a problem.

Incumbents typically raise more money, but not online. Ensconced in the White House, they lack the grassroots "oomph" of come-from-behind campaigns like Obama '08.

If they didn't beat their 2008 numbers, OFA would never come close to the billion-dollar goal.

Through late June, it wasn't going well. Their numbers were lagging behind. And then...



Driven by Romney's newfound fundraising advantage, the campaign's "I will be outspent" email raised

\$2,673,278.

This was the strongest of 13 test emails that day. If they had gone with the lowest performing, they would have raised \$2.2 million less.

Source: "The Science Behind Those Obama Campaign E-Mails", [Bloomberg BusinessWeek](#).

One Day Inside a Fundraising Machine

Before firing off a fundraising plea to Obama's tens of millions of supporters, the campaign would experiment with different versions of a single message to see what got the most clicks.

A snapshot of the e-mail team's work on June 26

THE SUBJECT LINE

The team tested numerous subject lines by sending fundraising e-mails to small groups of supporters

THE HAUL

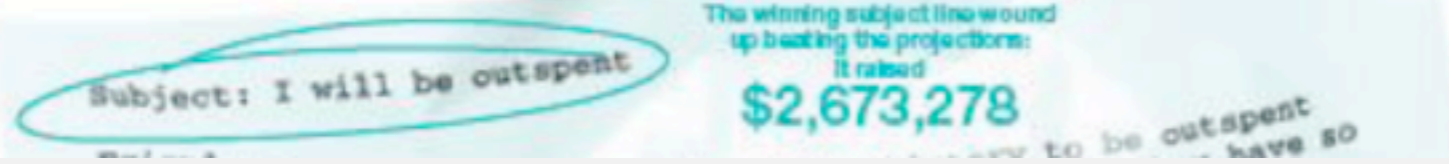
Based on the donations those e-mails raised, the team projected how much the pitches would bring in if sent to the full Obama list

THE DIFFERENCE

They then projected how much less money the campaign would collect if they used anything other than the most successful e-mail

THE SUBJECT LINE	THE HAUL	THE DIFFERENCE
I will be outspent	\$2,540,866	n/a
Some scary numbers	\$1,941,379	\$599,487
If you believe in what we're doing...	\$911,806	\$1,629,060
Last call: Join Michelle and me	\$894,644	\$1,646,222
Would love to meet you	\$755,425	\$1,785,441
Do this for Michelle	\$714,147	\$1,826,719
Change	\$711,543	\$1,829,323
The most popular Obama	\$659,554	\$1,881,312
Michelle time	\$604,813	\$1,936,053
Deadline: Join Michelle and me	\$604,517	\$1,936,349
Thankful every day	\$545,486	\$1,995,380
The one thing the polls got right...	\$403,603	\$2,137,263

THE WINNER!



**TEST.
TEST.
TEST.**

Source: "The Science Behind Those Obama Campaign E-Mails," *Bloomberg Businessweek*

Here's how OFA turned around initially weak fundraising and raised \$1 billion.

- 1. Send A LOT more email than 2008 (At least 404 national fundraising e-mails in 2012)**
- 2. Test everything.**
- 3. Make people think they were going to lose.**

How They Did It

- 10,000 segments tested during the campaign
- Email Team with 18 staff
- Regularly tested as many as 18 variations on subject line and email copy
 - Tip: Avoid “Frankenstein” emails that mix and match best subject with best copy without testing the combination first
- Could see up to an 80% difference between versions
- Developed a “special sauce” for asking the optimal amount from previous donors
- Could test with segments as small as 18,000 people
- They tested sending less email. It got “mixed results.”
- AND... little to no interference from campaign management on content
(!!!)

“We basically found our guts were worthless.”

- Senior member of Obama's campaign email team in a session at RootsCamp 2012, on the fact that no member of their team could reliably predict which email would perform best.

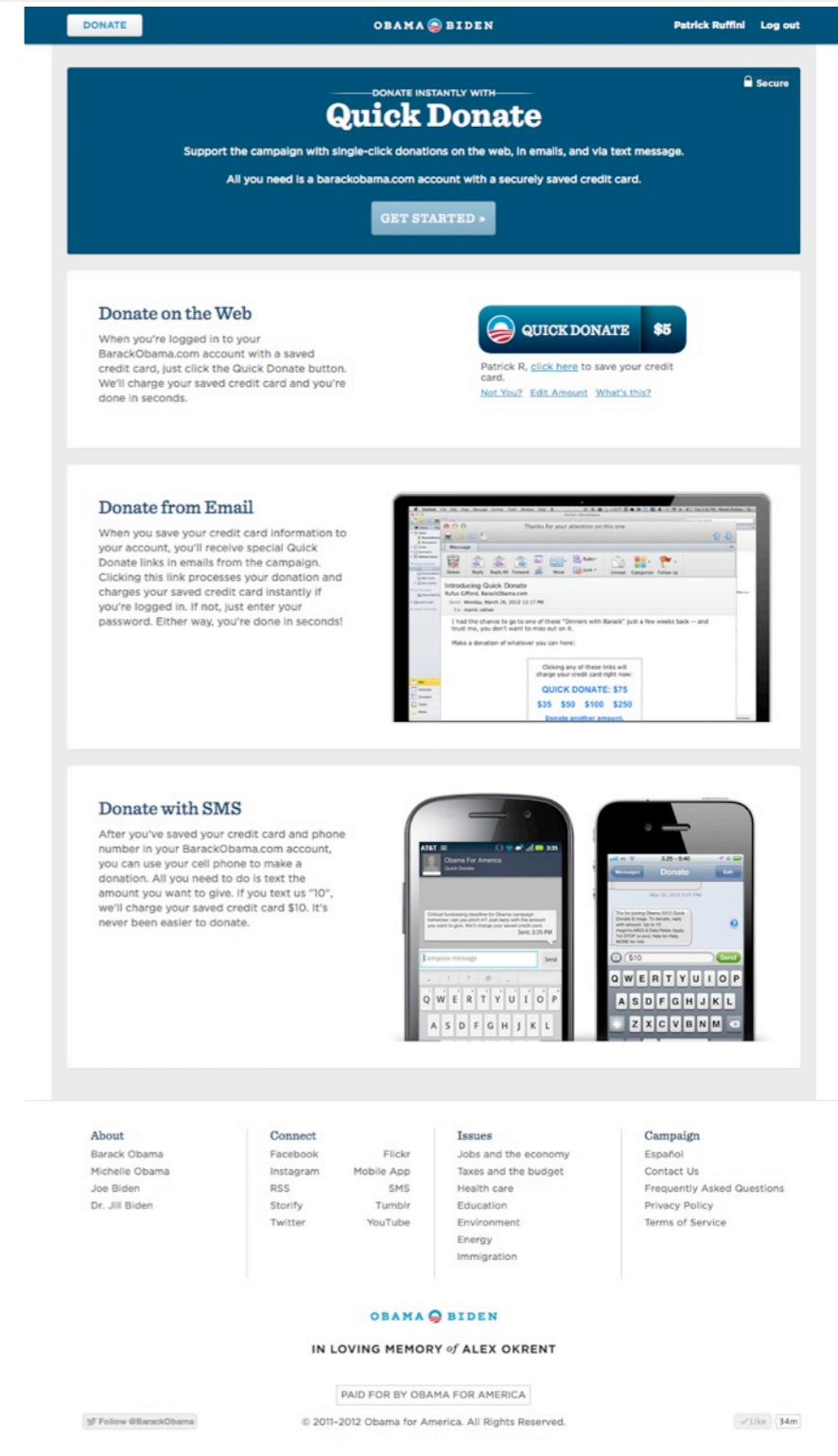
Sometimes, ugly stuff won.

Like emails with yellow highlighting.

(Though increased performance from these tactics would sometimes wear off, reinforcing the need to constantly re-test.)

Quick Donate: What Was It?

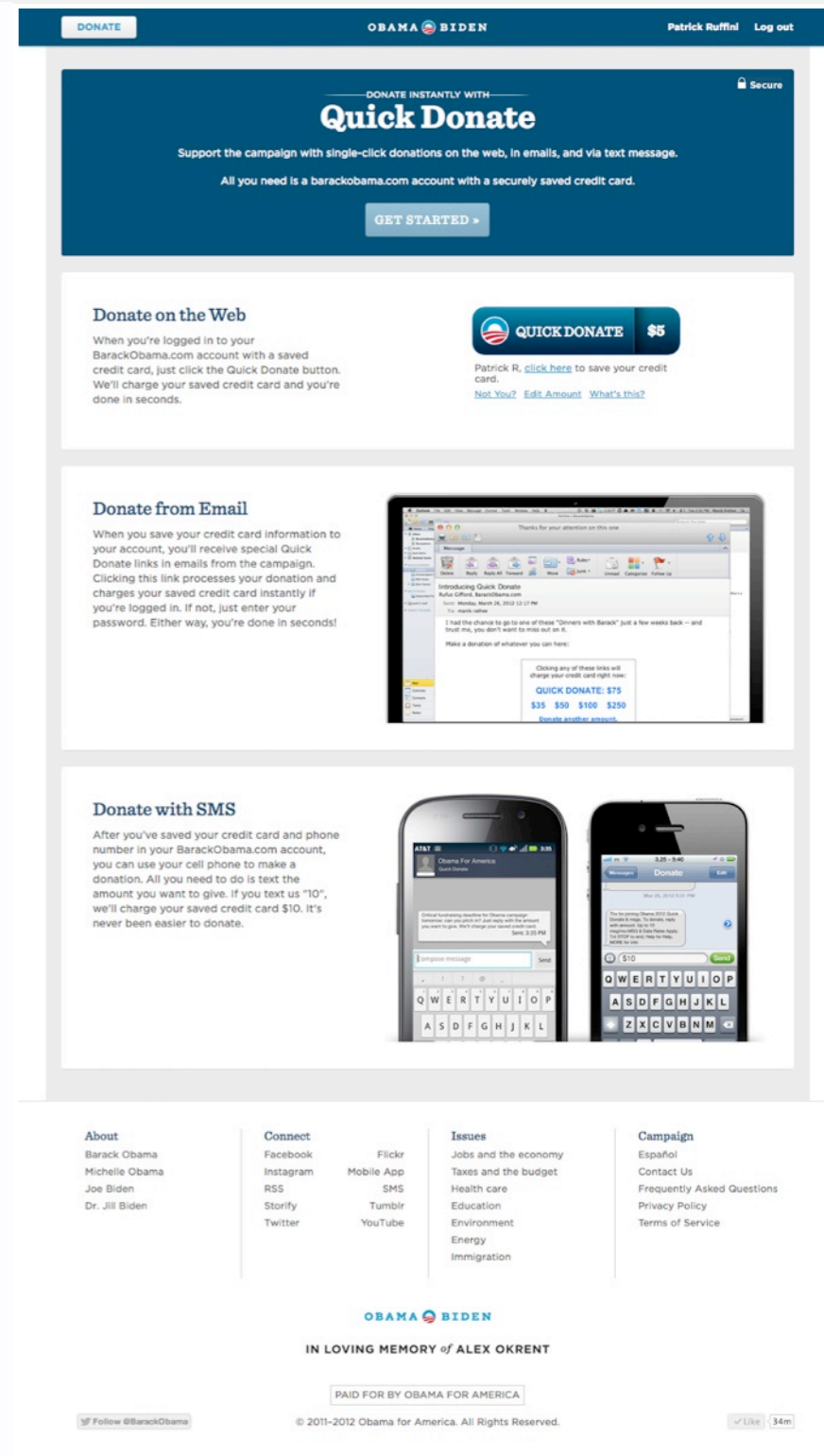
- A wallet app that stored donor credit card info on BarackObama.com
- Could donate with one click, or over mobile - just like Amazon
- Problem it solved: 25% of traffic came from mobile, but almost no donations




Quick Donate: What Was It?

- More than 1.5 million users
- Raised \$115 million - \$75 million of which would not have been raised without the program
- Donors gave 4 times as often
- And gave 3 times as much money

Source: "[Corporations Want Obama's Winning Formula](#),"
Bloomberg Businessweek



Quick Donate: The Upsell with Every Donation





Thanks for donating!

Now, help spread the word.
By reaching out to your family and friends about the importance of chipping in now, you'll help build the grassroots campaign we need to win.

Would you like to donate again?

 **QUICK DONATE \$5**

[Log in at barackobama.com](#)
[Edit Amount](#) [What's this?](#)

 **Max Power** 
Share your giving activity on Facebook to remind your friends to contribute. (Amounts are never shown.)
[Learn More](#)

Share Giving Activity

2012: The Dawn of “Drunk Donating”



A screenshot of a tweet from Ilya Gerner (@igerner) dated 7 Nov 12. The tweet text reads: "@PatrickRuffini Quick Donate became hyper-addictive. Some people drunk text. Me and my Dems drunk-donated every time we saw close poll #s." The tweet interface includes a profile picture, name, handle, a 'Follow' button, and interaction icons for Reply, Retweet, and Favorite.

 **Ilya Gerner**
@igerner Follow

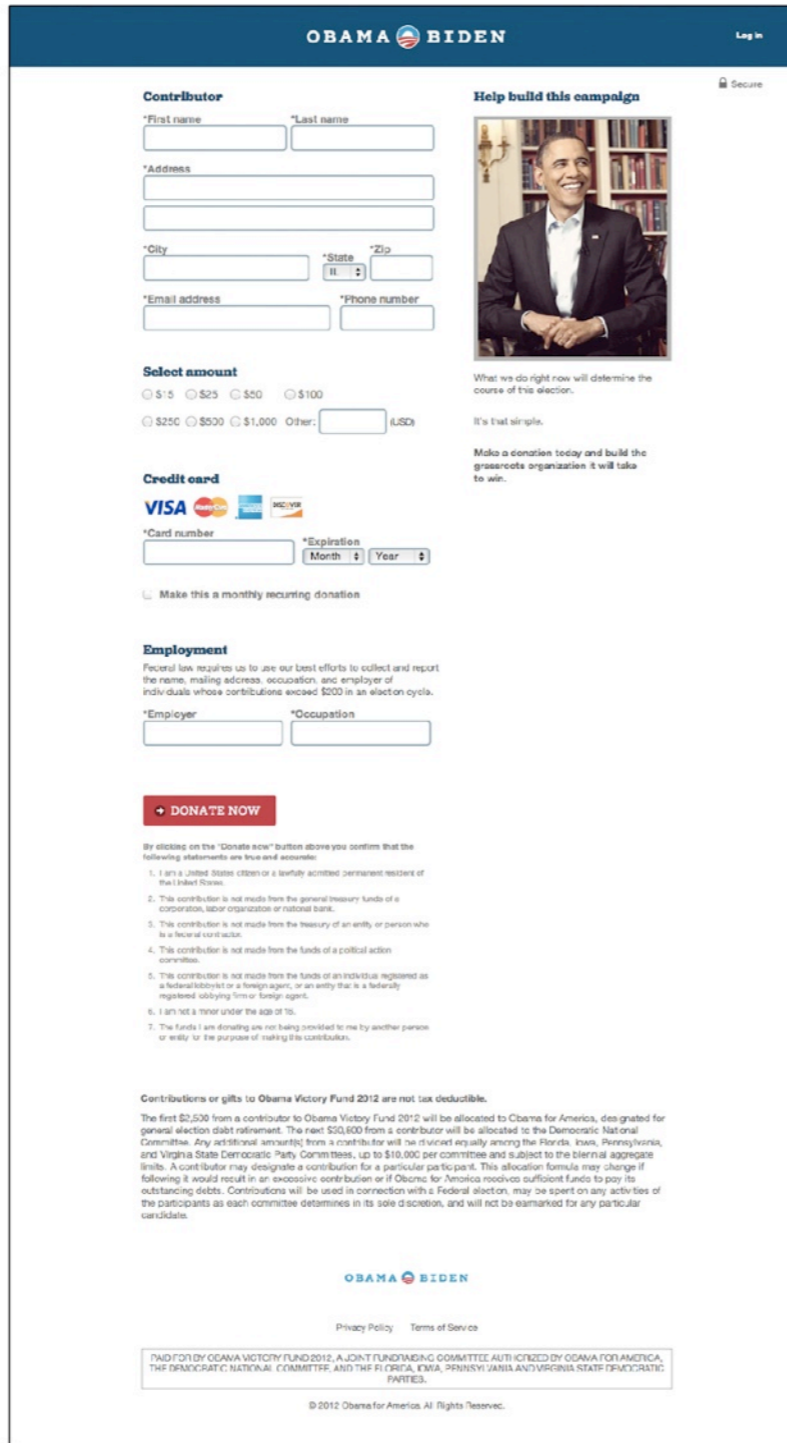
@PatrickRuffini Quick Donate became hyper-addictive. Some people drunk text. Me and my Dems drunk-donated every time we saw close poll #s.

7 Nov 12 Reply Retweet Favorite

Online Donation Infrastructure

- In-house system raised \$250 million from 4,276,463 donations
- 81,548,259 pageviews from 17,807,917 unique visitors
- 4,000 lines of JavaScript
- 23% of traffic is from mobile (including tablet)
- 6 frontend engineers focused on fundraising
- Highest surge: \$3 million per hour (during the debates)
- Shifted from a BSD-hosted system early in the campaign to one powered by BSD API's with backup payment processors

BEFORE OPTIMIZATION



Contributor

*First name *Last name

*Address

*City *State *Zip




*Email address *Phone number

Select amount

\$5 \$25 \$50 \$100

\$250 \$500 \$1,000 Other: (USD)

Credit card

VISA   

*Card number *Expiration /

Make this a monthly recurring donation

Employment

Federal law requires us to use our best efforts to collect and report the name, mailing address, occupation, and employer of individuals whose contributions exceed \$200 in an election cycle.

*Employer *Occupation

→ DONATE NOW

By clicking on the "Donate now" button above you confirm that the following statements are true and accurate:

1. I am a United States citizen or a lawfully admitted permanent resident of the United States.
2. This contribution is not made from the general treasury funds of a corporation, labor organization or national bank.
3. This contribution is not made from the treasury of an entity or person who is a federal contractor.
4. This contribution is not made from the funds of a political action committee.
5. This contribution is not made from the funds of an individual registered as a federal lobbyist or a foreign agent, or an entity that is a federally registered lobbying firm or foreign agent.
6. I am not a minor under the age of 18.
7. The funds I am donating are not being provided to me by another person or entity for the purpose of making this contribution.

Contributions or gifts to Obama Victory Fund 2012 are not tax deductible.

The first \$2,500 from a contributor to Obama Victory Fund 2012 will be allocated to Obama for America, designated for general election debt retirement. The next \$20,800 from a contributor will be allocated to the Democratic National Committee. Any additional amount(s) from a contributor will be divided equally among the Florida, Iowa, Pennsylvania, and Virginia State Democratic Party Committees, up to \$10,000 per committee and subject to the biennial aggregate limits. A contributor may designate a contribution for a particular participant. This allocation formula may change if following it would result in an excessive contribution or if Obama for America receives sufficient funds to pay its outstanding debts. Contributions will be used in connection with a Federal election, may be spent on any activities of the participants as each committee determines in its sole discretion, and will not be earmarked for any particular candidate.

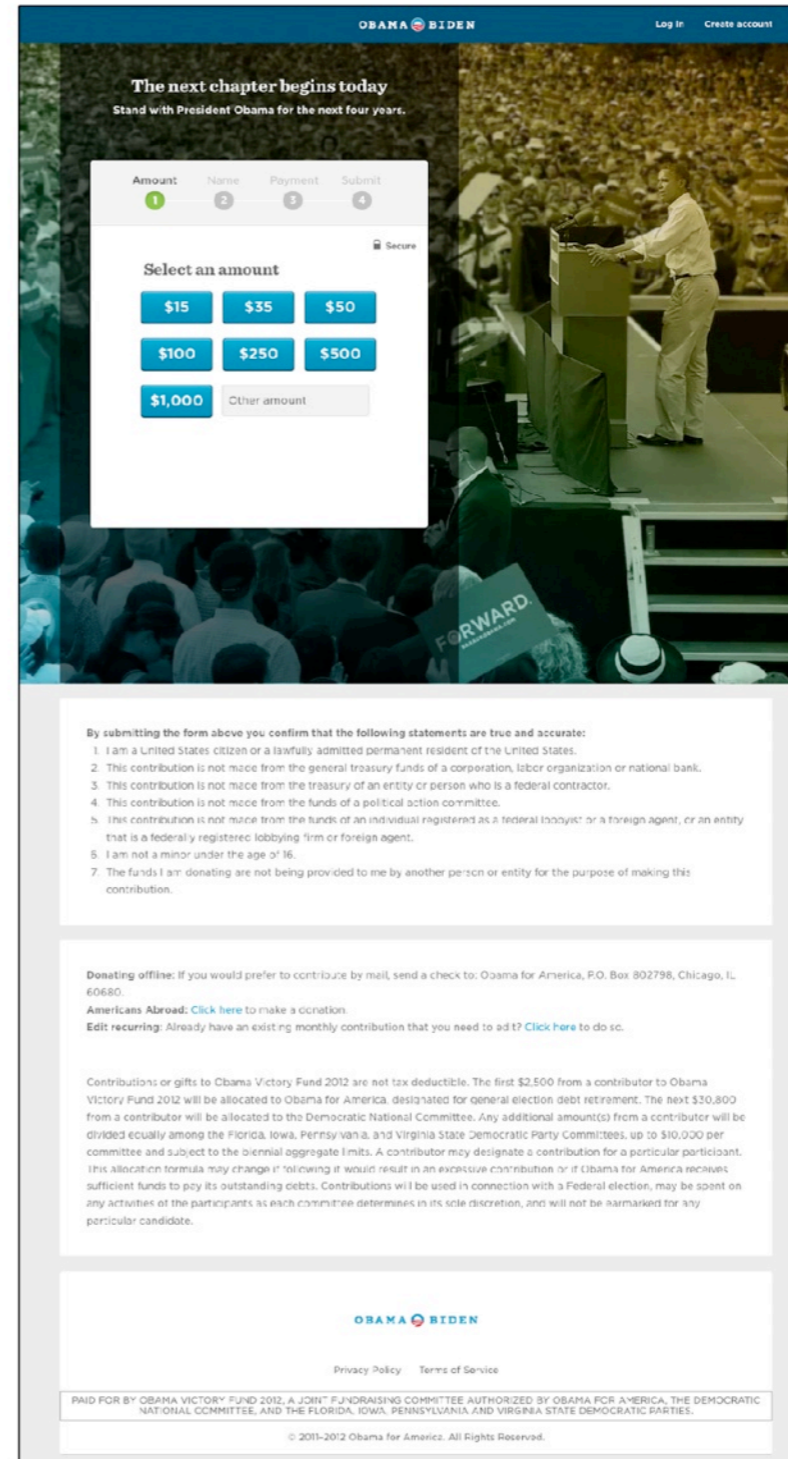
OBAMA BIDEN

Privacy Policy Terms of Service

PAID FOR BY OBAMA VICTORY FUND 2012, A JOINT FUNDRAISING COMMITTEE AUTHORIZED BY OBAMA FOR AMERICA, THE DEMOCRATIC NATIONAL COMMITTEE, AND THE FLORIDA, IOWA, PENNSYLVANIA AND VIRGINIA STATE DEMOCRATIC PARTIES.

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AFTER OPTIMIZATION



The next chapter begins today
Stand with President Obama for the next four years.

Amount: 1 2 3 4 Name: Payment: Submit

Select an amount

\$15 \$35 \$50

\$100 \$250 \$500

\$1,000 Other amount

By submitting the form above you confirm that the following statements are true and accurate:

1. I am a United States citizen or a lawfully admitted permanent resident of the United States.
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5. This contribution is not made from the funds of an individual registered as a federal lobbyist or a foreign agent, or an entity that is a federally registered lobbying firm or foreign agent.
6. I am not a minor under the age of 18.
7. The funds I am donating are not being provided to me by another person or entity for the purpose of making this contribution.

Donating offline: If you would prefer to contribute by mail, send a check to: Obama for America, P.O. Box 802798, Chicago, IL 60680.

Americans Abroad: [Click here](#) to make a donation.

Edit recurring: Already have an existing monthly contribution that you need to edit? [Click here](#) to do so.

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http://kylrush.net

Source: [KyleRush.net](http://kylrush.net)

A/B Testing Donation Pages

- The campaign conducted 240 A/B tests on their donation page.
- This resulted in a 49% increase in their conversion rate.
- By making the platform 60% faster, they saw a 14% increase in donations. (Speed matters.)

CONTROL

OBAMA BIDEN

Log in | Create account

OBAMA CLASSIC
20 18 18

You could be there
Michael Jordan, Patrick Ewing, Sheryl Swoopes, Carmelo Anthony, and many, many more basketball greats are all stepping up to support President Obama.
You and a guest will meet the President—and shoot hoops with some of the best basketball players alive.
More players to be announced.

Contributor

*First name: *Last name:

Address:

*City: *State: ZIP:

Youth: *Phone number:

Select amount

Other:

Credit card

VISA MasterCard American Express Discover

*Card number: *Expiration: Month Year

Make this a monthly donation to sustain this campaign in the time we have left—Election Day is closer than you think.

Employment

Federal law requires us to use our best efforts to collect and report the name, mailing address, occupation, and employer of individuals whose contributions exceed \$200 in an election cycle.

*Employer: *Occupation:

“SEQUENTIAL”

OBAMA BIDEN

Log in | Create account

OBAMA CLASSIC
20 18 18

You could be there
Michael Jordan, Patrick Ewing, Sheryl Swoopes, Carmelo Anthony, and many, many more basketball greats are all stepping up to support President Obama.
You and a guest will meet the President—and shoot hoops with some of the best basketball players alive.
More players to be announced.

How much would you like to donate today?

Select amount

↑ +5%

<http://by.kylekush.net>

Source: [KyleRush.net](http://kylekush.net)

In June 2012, the campaign switched to the 4 step donation process and saw a 5% increase in conversions (donations).

“Turns out you can get more users to the top of the mountain if you show them a gradual incline instead of a steep slope.”

- [Kyle Rush](#), Deputy Director of Frontend Web Development

Technology



CREDIT: CARRIE SAPP

“Welcome to the team. Don’t fuck it up.”

– Obama Campaign Manager Jim Messina to Harper Reed upon being hired as Chief Technology Officer

Meet Harper Reed

"He may be like you, but he also juggles better than you, and is wilder than you, more fun than you, cooler than you. He's what a king of the nerds really looks like. Sure, he might grow a beard and put on a little potbelly, but he wouldn't tuck in his T-shirt. He is not that kind of nerd. Instead, he's got plugs in his ears and a shock of gloriously product-mussed hair and hipster glasses and he doesn't own a long-sleeve dress shirt, in case you were wondering."

- Alexis Madrigal, ["When the Nerds Go Marching In"](#), *The Atlantic*

The Campaign as a Startup

- Heavily reliant on BSD tools in 2008, the first campaign hired just 4 in-house developers. This grew to 40 engineers for the re-elect in 2012.
- Previously the CTO at Threadless, Reed recruited heavily from his personal network at startups.
- The team included veterans of Google, Facebook, Twitter, and Quora.

Tools Built by the Technology Division

- **Narwhal:** Synchronized data from multiple sources to build complete profiles of supporters
- **Dashboard:** Enabled supporters to connect with supporters near them and take action from home
- **Call Tool:** Allowed supporters in non-battleground states to use their home phones to call voters in battleground states
- **Stork:** Transferred data from vendors to databases for querying

Culture Clash: Tech vs. Politics

An in-house tech team to build tools from scratch meant the tools wouldn't be ready on day one, as they were with My.BarackObama.com in 2008. Field was frustrated early on, and Field Director Jeremy Bird was later open about the fact that they didn't get technology tools to volunteers early enough.

"You very much have to understand the campaign's hiring strategy: 'We'll hire these product managers who have campaign experience, then hire engineers who have technical experience--and these two worlds will magically come together.' That failed. Those two groups of people couldn't talk to each other."

- Carol Davidsen, quoted in ["When the Nerds Go Marching In"](#), *The Atlantic*

Culture Clash: Tech vs. Politics

- The problem, according to Reed: In the field, paper scales infinitely, and sometimes a clipboard works best.
- Could the campaign automate data entry for the field staffers staying up until 3 a.m. keying in data? In some cases, they didn't.
- Technology did not make the difference between victory and defeat, but it did make the rest of the campaign more efficient, ensuring they could contact the right people.
- It was only in the spring of 2012, a year after the campaign started, there was a sense that the tools Reed and his team built were finally starting to work.
 - Lesson: Future campaigns may need LONGER than the 18 months Obama had to develop their technology stack.

DevOps: Keeping BarackObama.com Up

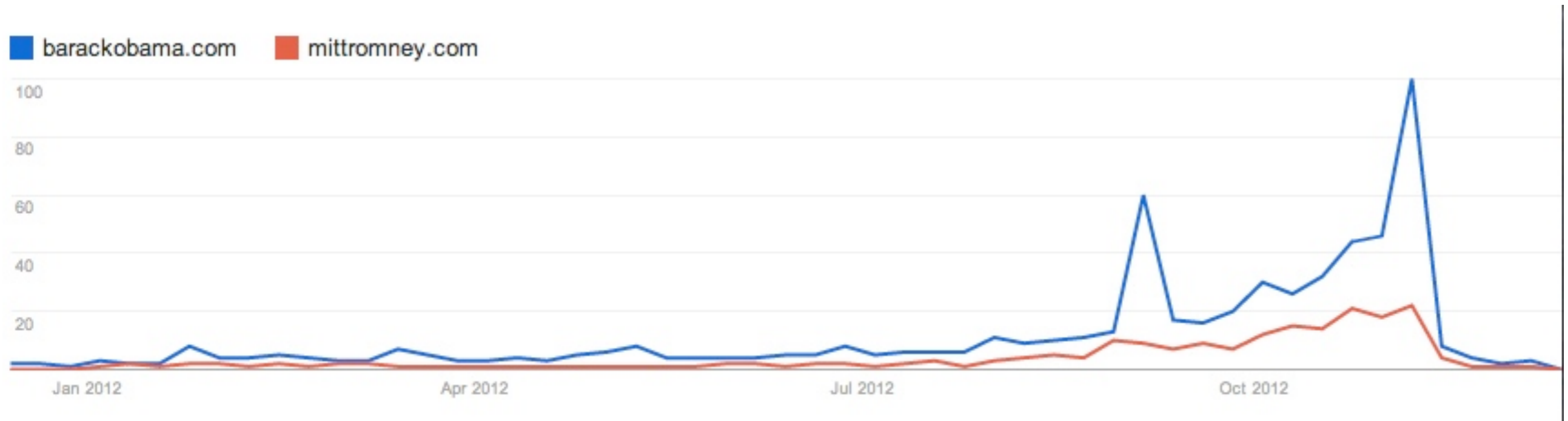
"DevOps (a portmanteau of development and operations) is a software development method that stresses communication, collaboration and integration between software developers and information technology (IT) professionals. DevOps is a response to the interdependence of software development and IT operations. It aims to help an organization rapidly produce software products and services."

- DevOps on [Wikipedia](#)

DevOps

- Answered the challenge of keeping BarackObama.com up and running throughout the campaign during major traffic surges
- An hour of downtime could mean millions in lost donations. The campaign's peak was \$3 million in one hour
- On October 21, the team conducted a drill known as "Game Day" that helped them address several worst case scenarios. The following week, Hurricane Sandy made landfall in the US and caused critical infrastructure to go offline, but because they had prepared for the worst, the team was able to keep the site up.

DevOps: Obama vs. Romney Web Traffic



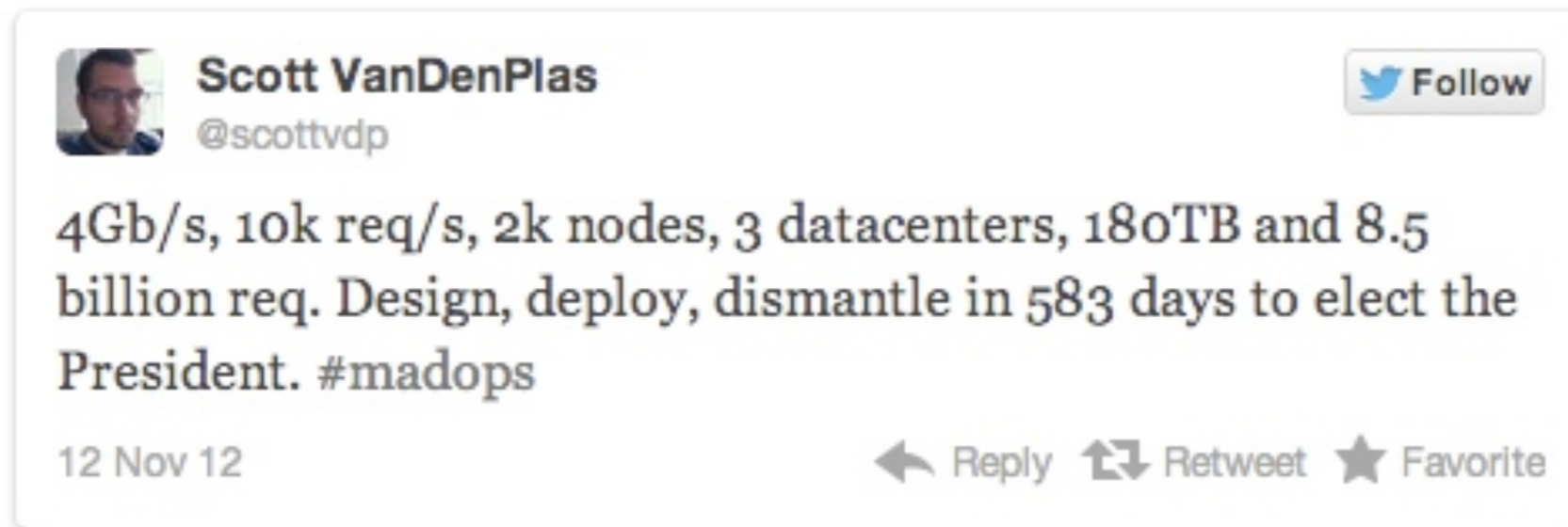
“Game Days” were disaster preparedness exercises where DevOps simulated nightmare scenarios, such as a catastrophic database failure or Amazon’s East Coast data center going offline.

It’s not enough to have it in a manual. The lesson of DevOps is that you actually have to practice and practice disaster recovery scenarios until you have them down cold.

“We knew what to do. We had a runbook that said if this happens, you do this, this, and this.”

- Harper Reed, CTO

DevOps: What It Took



(VanDenPlas led the DevOps team.)

DevOps: What It Took

- Both the Obama and Romney campaigns used Amazon Web Services for hosting and Akamai for serving static cached content, reducing database load
- Amazon Web Services
 - Several thousand EC2 instances
 - Several large database clusters
 - S3 for file storage
- Akamai
 - Offloaded 98% of web traffic for BarackObama.com

DevOps vs. Orca

DevOps





- Rapid iteration
- Minimal barriers between developers and operations staff
- Heavy use of cloud technology
- Constant testing to handle outages and heavy loads

• Orca

- “Traditional corporate IT project gone bad” - Ars Technica
- No “game day”-style testing
- Launched on Election Day with no real user testing
- Could not add capacity

Dashboard

- Dashboard was the campaign's grassroots organizing platform. Unlike 2008, it mapped directly to how the campaign was structured in the Field
- Anyone who signed up for Dashboard was reached out to within 72 hours by field staff. After 72 hours, the likelihood that they would take action would drastically diminish
- Each of approximately 8,000 neighborhood teams had a presence on Dashboard
- Incorporated online data and offline, "hard" numbers from VAN
- Dashboard was the frontend for Narwhal

<h3>LATEST ACTIVITY</h3> <ul style="list-style-type: none"> Andrea Gretzmier just read an article. Heinrich Schmid updated their profile. Patrick Jones just read an article. <p>View activity feed</p>	<h3>MY TEAM</h3> <p>Members</p> <h1>48</h1>	<h3>EVENTS</h3> 
	<h3>MY MESSAGES</h3> 	<h3>RESOURCES</h3> 
<h3>GROUPS</h3> 	<h3>MAKE CALLS</h3>  	<h3>GRASSROOTS FUNDRAISING</h3>  
<h3>GET FIRED UP</h3> 	<h3>NUMBERS</h3> 	<h3>GET VOTING INFO</h3>  

HARD NUMBERS

for Young Americans for Obama (January 1 - December 31)

Personal Team Team members

Group Young Americans for Obama

Date range Yearly

January 1 — December 31

Metric	Jan 1	Feb 1	Mar 1	Apr 1	May 1	Jun 1	Jul 1	Aug 1	Sep 1	Oct 1	Nov 1	Dec 1	Total
Commitment to Vote	0	0	0	0	0	0	0	0	0	262	93	0	355
Voter Registrations Collected	0	0	0	0	1	2,020	5,399	11,159	17,824			0	45,550
Call attempts	0	0	0	0	318	116.5k	173k	222.8k	121k			74	1.1MM
Phone conversations held	0	0	0	0	148	19,413	27,951	38,012	24,802			144	191.9k
Doors knocked	0	0	0	0	1	11,031	14,634	21,847	52,000			0	236.4k
Door conversations held	0	0	0	0	1	2,871	3,710	6,151	13,416	23,765	8,324	0	58,238
One-on-one meetings held	0	0	0	0	49	1,784	1,967	1,745	1,754	564	0	0	7,863

18%
phone completion

25%
door completion

Digital Field: Centralized vs. Bottom-Up?

- The Dashboard project was undertaken in part to head off a problem the campaign faced in 2008: MyBO (the campaign's online organizing platform) did not serve the needs of field staffers. So, many went off and developed their own homebrew systems using Google Docs and custom tools.
- Though Dashboard was more campaign-centric than MyBO, reports suggest many field staffers continued to rely on their own tools in 2012.
- At RootsCamp, Field Director Jeremy Bird lamented the lack of full integration between technology and Field - even in a tech-savvy campaign. "We never got to a point where a field staffer thought it made more sense to text someone than to call them," he said.

“When I was in Colorado for the last weeks of GOTV it was stark what a disconnect there seemed to be between the tech team and the people who were using the tools. Centralizing the software development in HQ in part to avoid creation of rogue tools in the states, which is completely understandable, might have killed an important ecosystem for bubbling up innovation. You certainly can’t run a campaign where each state has their own show technologically, but there’s got to be a way to distribute authority at least a little bit down the chain.”

**- Catherine Bracy, community outreach lead for OFA’s
Technology Field Office**

Frontend

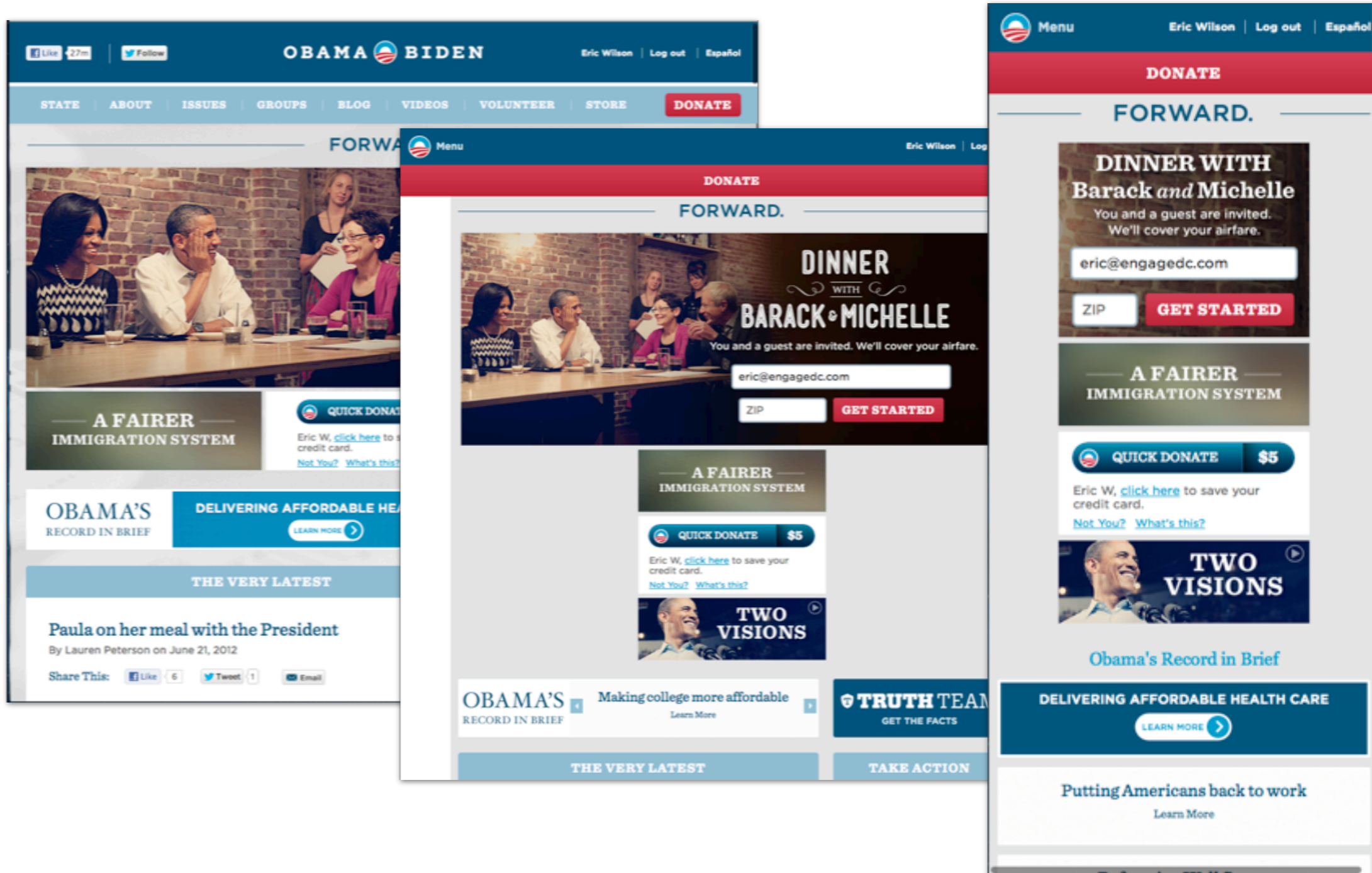


Frontend: Specs

- **Responsive design over mobile**
 - A single version of the website built to seamlessly display on desktops, tablets, and mobile devices
- **CMS: Expression Engine**
- **Frameworks: Django, Flask, Rails**
- **eCommerce: Magento**
- **Most used language: Python**
- **Jekyll used generate static copies of the site**
- **CSS/JS: jQuery, Modernizr, Mustache.js, Fitvids.js, LESS CSS**
- **VCS: Git; all code ran through Github**

Source: ["Chatting with Obama For America's Director of Frontend Development, Daniel Ryan", NetTuts+](#)

Frontend: Responsive Design



Frontend: How OFA Pushed Code

- branch locally
- set a Git tag on the repo once the code was ready for review and testing
- deploy the tag to staging servers
- code review and QA
- once the code was production ready, set up a pull request to the master branch
- pull requests were reviewed by lead developers or senior developers; static assets were deployed to S3, while server-side code required a deploy request to our DevOps team
- the DevOps team used Puppet and Gippetto to create apk distros for the Linux boxes
- small code changes would get deployed on the fly; large ones would get built out under new server clusters, tested internally and then swapped in place of the old version
 - ["Chatting with Obama For America's Director of Frontend Development, Daniel Ryan", NetTuts+](#)



Technology Field Office

- The Obama campaign set up a Technology Field Office in San Francisco in February 2012
- The effort recruited more than 100 volunteers by October.
- 50% of volunteers recruited did work, and 50% of those were solid, reliable contributors. Another dozen or so were rock stars.
- Tech volunteers developed apps including TripPlanner, eCards, and MapMaker.

Source: "My Experience Leading the Obama Campaign's Tech Field Office,"
Braceland

Social

Social: By the Numbers

- **1.2M active Facebook app users**
 - The key was using a single app throughout the campaign, allowing them to build up a massive install base and add features down the road
- **34M+ fans on Facebook**
 - 98% of the U.S. Facebook population was friends with someone who liked Barack Obama
- **24M+ followers on Twitter**
- **30-40 tweets from @BarackObama daily**
- **The social team was comparably lean: 4 people**

The Facebook Megaphone: 34 Million



Barack Obama

34,175,051 likes · 1,422,556 talking about this

 Like 

Politician

This page is run by Obama for America, President Obama's 2012 campaign. To visit the White House Facebook page, go to facebook.com/WhiteHouse.

About



Photos



Donate



Store



Obama 2012



The Most Tweeted Photo Ever



FOLLOW THE CAMPAIGN

@BarackObama

@MichelleObama

@JoeBiden

@Obama2012

@TruthTeam2012

@LatinosForObama

@Students4Obama



Barack Obama ✓
@BarackObama



Four more years.
pic.twitter.com/bAJE6Vom

← Reply ↻ Classic RT ↻ Retweet ★ Favorite ⋮ More



817,210
RETWEETS

300,390
FAVORITES



11:16 PM - 6 Nov 12 · Embed this Tweet

Flag media

Online Ads

Online Ads: Spending

- Obama for America (with the DNC) became the first political campaign in history to spend more than \$100 million on online advertising
- Digital's share of the media budget: 21%
 - \$411.2 million to GMMB for TV ads
 - \$109 million for digital ads: \$106.5 million to Bully Pulpit Interactive & \$2.5M to AOL Advertising

Online Ads: Site Takeovers in Swing States

Sign In or Sign Up HOME DELIVERY DIGITAL MEMBERSHIPS PLACE AN AD JOBS CARS REAL ESTATE RENTALS CLASSIFIEDS PUBLIC NOTICES

Orlando Sentinel

1:22 AM EST Tuesday, Nov. 6, 2012 64° F

HOME LOCAL WEATHER SPORTS BUSINESS ENTERTAINMENT LIFE/FAMILY HEALTH TRAVEL OPINION VIDEOS PAY LESS.

HOLIDAYS DIGITAL MEMBERSHIPS MOBILE OBITS TRAFFIC BLOGS COLUMNISTS SUBSCRIBE SEND A NEWS TIP EL SENTINEL CONTACT US

TRENDING: Red Cross | Amanda Byrnes | James Bond | Watering Restrictions | Sharon Osbourne | Dreamliner Flight | Sam Worthington | George Zimmerman Search

FLORIDA VOTES

ELECTION DAY IS TODAY!

POLLS CLOSE AT 7PM

CONFIRM YOUR VOTING LOCATION

CLOSE

Jobs | Cars | Real Estate | Classifieds

OHIO VOTES FOR BARACK

ELECTION DAY IS TOMORROW

CONFIRM WHERE YOU VOTE

OHIO VOTES

The Columbus Dispatch

Columbus, Ohio - Nov 06, 2012 - 33° Clear

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OHIO VOTES FOR BARACK TODAY

CLICK TO EXPAND

Hot Links: Election Day information - Voters guide - Presidential campaign visits - Campaign Ad Watch - Cast your votes... on football

LATEST HEADLINES

- 68,000 vote early in Franklin County 11:38 PM
- One killed when SUV crashes through duplex on East Side 11:30 PM
- Canal Winchester picks new schools superintendent 11:20 PM
- Candidates give celebrity-studded farewells to Columbus 11:18 PM

FORWARD!

ELECTION DAY IS TODAY

CONFIRM WHERE YOU VOTE

OHIO VOTES

NEVADA VOTES FOR BARACK

ELECTION DAY IS TOMORROW. VOTE FOR BARACK.

CONFIRM YOUR VOTING LOCATION

LAS VEGAS SUN

evening edition

NEWS OPINION SPORTS POLITICS ENTERTAINMENT U.S. & WORLD VEGAS INC. BUSINESS HOUSING AUTOS

Sun Endorsements High School Football Podcasts Las Vegas Sol Photos UFC Rebels

ELECTION DAY IS TOMORROW!

CONFIRM WHERE YOU VOTE

NEVADA VOTES

On eve of election, judge rules Democrat ineligible to run for Assembly District 9
POSTED 8:51 PM
On the eve of the election, a Clark County judge ruled an Assembly

NEVADA VOTES

Online Ads: Direct Response



- Ads with Michelle Obama performed best
- Got more money by asking people to sign up first, then immediately skipping those people to a donation page vs. landing on donation page

Online Ads: Mobile

- Spent "millions" on mobile ads
- Targeted specific neighborhoods in battleground
- Mobile video ads saw 3% to 19.5% click-through-rates
- Targeted to young, female, and Hispanic voters

Source: "Here's One Advertiser Who Swears Mobile Ads Work: Obama"
AdWeek

Voter Contact Redefined

Traditional forms of voter contact are starting to become obsolete.

From 2008 to 2012, the Obama organization's completion rates on phones dropped from 23% to 16%. And just buying broadcast in a fragmented media environment where the choices include VOD, Netflix and YouTube... well, it just doesn't work anymore.

Will landline phones even be around in a few cycles? And what's going to happen to the U.S. Postal Service?

You might even say that traditional campaign methods are about to fall off a cliff.

Facing the Cliff, How Did OFA Innovate?

Old

New

TV

Broadcast

Optimizer
(behaviorally targeted TV buys)

GOTV

Phones

Facebook

Opinion Research

Polling

Analytics

Facebook Targeted Sharing

- When it came to reaching the crucial 18-29 year old demographic, the Obama campaign came to a startling realization
 - 50% of their targets in this demographic were unreachable by phone
 - But 85% of them were friends with an Obama 2012 Facebook app user
- OFA launched “targeted sharing” to Facebook friends who were voters in swing states
- Like Quick Donate, integration with the rest of the technology stack was key. Users received an email requesting that they contact six specific friends, with their names and photos
- 600,000 people reached 5 million voters
- 20% of those 5 million took some action, such as registering to vote

Facebook Targeted Sharing

The image shows a Facebook sharing interface for the Obama-Biden campaign. At the top, the text 'OBAMA BIDEN' is displayed with the campaign logo. The main heading is 'Remind Friends to Vote'. Below this is a quote from Michelle Obama: 'It's more important than ever that we SHOW UP TO VOTE, not just this year, but EVERY YEAR and IN EVERY ELECTION. EVERY VOICE must be heard and EVERY VOTE must be counted.' To the right of the quote is a text block: 'Here's an easy and important way to help President Obama win: make sure your friends in key states know when and where to vote with our polling place lookup tool.' A red 'SHARE NOW' button is positioned below the text. Underneath the button is a grid of 12 friend avatars, each with a checkmark indicating they have been reminded. The avatars are: Andy Coppens, Lisa Chappa, Abbie Testab..., Andy Shifflet..., Amanda Larson, Karen Slifka, Mike Harbath, Thomas Keeley, Dianna Van Eg..., George Semen..., Sue Van De..., and Nick Mueller. The background of the interface is a blurred image of Barack Obama smiling.

Facebook Targeted Sharing

- But it wasn't perfect. Matt Lira, a digital staffer with Eric Cantor who was working on the Romney campaign, received an email encouraging him to ask Eric Cantor to vote for Barack Obama.

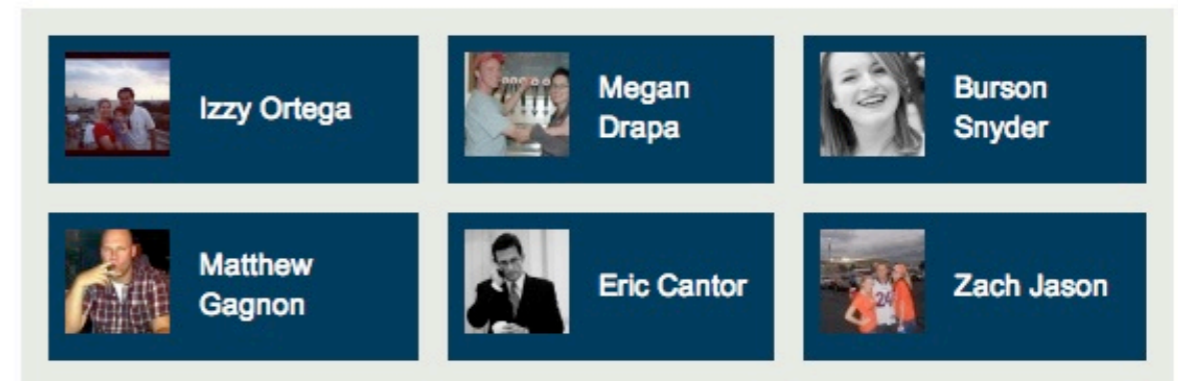


Matt --

This is cool:

[You can see exactly how many people named Matt have already voted.](#)

Take a look at that, then share it with some people you know -- like Izzy, Megan, and Burson who live in crucial battleground states -- so they can see how many people with their names have voted, and then look up their polling place.



Optimizer: More Efficient TV Buying

- The Obama campaign built a technology known as Optimizer to buy television ads in the same way that you might buy online ads, by focusing on audiences, not channels
- Here's how it worked
 - The Obama campaign collected data about their supporters' TV viewing habits in coordination with a company called Rentrak.
 - For each channel and time in a swing state, they projected how many targeted voters were watching specific shows at a specific time
 - They then went after the shows they felt were most cost-effective
- They estimated this made the TV buy as a whole 10-20% more efficient. That's the equivalent of \$40 million and \$80 million in added media.
- This meant that they bought micro-audiences that no one else would think to buy, spending less per ad. At one point, the Obama campaign was up on 60 different channels compared with the Romney campaign's 18 during the same time period.

What's Next

What's Next: 2016

- **Better Social Targeting:** Phones are falling off “the cliff” first but door knocks, still the gold standard, don’t scale easily. Can personalized outreach from friends on Facebook become the next phone call or door knock? The technology has plenty of room to improve. For one thing, Obama for America didn’t necessarily use social data itself to enhance its voter file or determine who to target. This will be standard by 2016.
- **Real-Time Analytics Overtakes Polling:** We have only just begun to understand what Big Data can do. The trend towards real-time analytics, and towards treating voters as individuals rather than as members of crude subgroups within a poll sample, will continue to evolve. We will also better be able to understand and model the relationship between online conversation and public opinion (which we can’t currently do very well). In four years, the media will stand up their own Analytics shops to better understand how voters are moving in real time.
- **True Digital Integration:** Practitioners on both sides agree that 2012 was a big step forward for integrating Digital with the rest of the campaign. Jeremy Bird notes that in eight years, “We will have difficulty telling a Field Director apart from a Digital Organizing Director. They are one and the same in future campaigns.” Indeed, as the backbone of the campaign itself moves online, separate Digital departments may fade away. The challenge will be to accomplish this transition while continuing to grow digital’s primacy within campaign organizations.

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