

Learning from & Running Experiments



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UC San Diego

A6 Example

“Do You Like My Interface?”

“How much do you like
my interface?”

“This is a useful interface:
agree/disagree”

Please the Experimenter Bias

Developers are Valuable Testers

Getting beyond “*do you like my interface?*”

- What’s the comparison?
- What’s the yardstick?

Getting beyond “*do you like my interface?*”

- **Baselines:** How often does Y occur?
 - Requires measuring Y.

Getting beyond “*do you like my interface?*”

- **Base rates:** How often does Y occur?
 - Requires measuring Y.
- **Correlations:** Do X and Y co-vary?
 - Requires measuring X and Y.

Getting beyond “*do you like my interface?*”

- **Base rates:** How often does Y occur?
 - Requires measuring Y.
- **Correlations:** Do X and Y co-vary?
 - Requires measuring X and Y.
- **Causes:** Does X cause Y?
 - Requires measuring X and Y, and manipulating X.
 - Also requires somehow accounting for the effects of other independent variables (confounds)!

IS MY COOL NEW APPROACH BETTER
THAN THE INDUSTRY STANDARD?

A Not-Very-Useful iPhone Keyboard Study

 ADD TO MY PAGES  PRINT  E-MAIL  COMMENT  RSS

 SLASHDOT IT  DIGG THIS  DELICIOUS  NEWSVINE



Research firm User Centric has released a study that tries to gauge how effective the iPhone's unusual on-screen keyboard is. The goal is certainly a noble one, but I can't say that the survey's approach

results in data that makes much sense.

User Centric brought in twenty owners of other phones--half who had ones with QWERTY keyboards, and half who had ordinary numeric phone keypads. None were familiar with the iPhone. The research involved having the test subjects enter six sample text messages with the phones they already had, and six with an iPhone.

Logical end result: These iPhone newbies took twice as long to enter text with an iPhone as they did with their own phones, and made lots more typos.

Benefits and Drawbacks?

The screenshot shows the User Centric website. The header includes the logo, navigation menu (Home, Services, Experience, Facilities, About Us, News & Resources, Contact Us), and a language dropdown set to English. The main content area features a blue banner with the article title "QWERTY texters demonstrated drop in efficiency when texting on iPhone" dated August 15, 2007. The article text discusses a study comparing iPhone touch keyboards with QWERTY and numeric keyboards. A sidebar on the left lists various resources like "Handbook of Global User Research" and "Usability Tips".

usercentric

English

We believe experiences matter.™

Home Services Experience Facilities About Us News & Resources Contact Us

User Centric > News & Resources > 2007 >

QWERTY texters demonstrated drop in efficiency when texting on iPhone

August 15, 2007

Related Services: [Mobile Device Usability Testing](#)

In late July, Chicago-based usability consultancy User Centric, Inc. tested the iPhone's touch keyboard in comparison with conventional QWERTY and numeric phone keyboards. In an [earlier baseline study](#), User Centric had identified texting as potentially problematic for new iPhone customers. The goal of the current study was to determine how easy it was for conventional mobile phone users to text using the iPhone.

Participants Texted using Both Conventional Phones and iPhones

A total of 20 participants were brought in for one-on-one usability sessions with a moderator. All sent text messages at least 15 times per week. Ten of the participants owned a phone with a QWERTY keypad, and ten of the participants owned a phone with a numeric keypad. Those who owned a numeric keypad used the "multitap" method of entering text messages rather than predictive text. To multitap, a user must press a particular key on the numeric keypad multiple times to get the desired character to appear.

During each session, participants were required to use their own phones. In addition, they were provided with an iPhone for use during the study. None of the participants were iPhone owners, and all participants were compensated for their time.

Standardized Messages Were Provided for Texting

Every participant entered six messages using their own phone and six messages on the iPhone. In their sessions, participants were asked to

[in](#) [f](#) [t](#) [r](#) [v](#) [g+](#)

The *Handbook of Global User Research* collects insight from user experience professionals in over 20 countries. This book is a must-read for professionals working on global research projects. [More Info](#)

- Manipulation: Input Style
- Measure: Words per minute
- External validity: not so much

A better version: actual users

- Manipulation: Input Style
- Measure: Words per minute
- ...and error rate

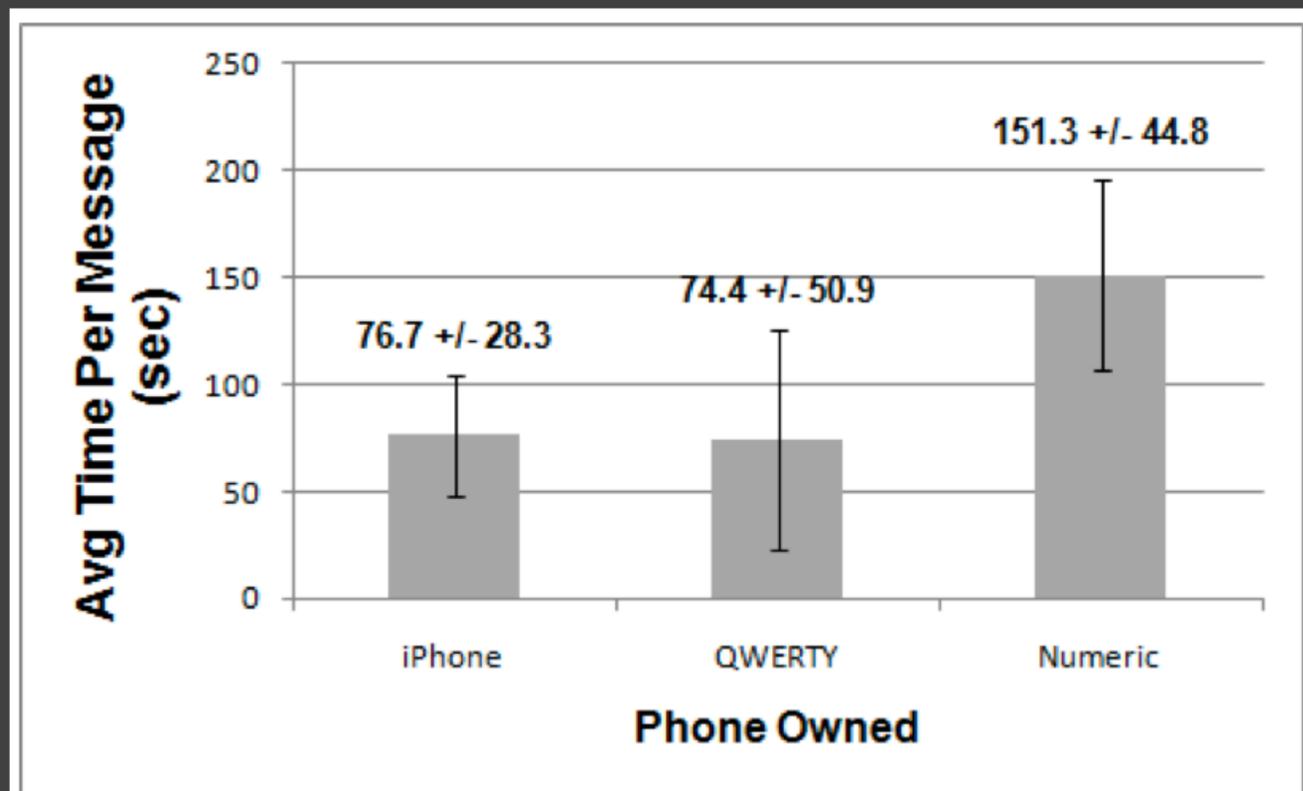


Figure 1. Average time to type a message on phones owned by the participants ($M \pm SD$).

iPhone & Qwerty users similar speed, but make more errors

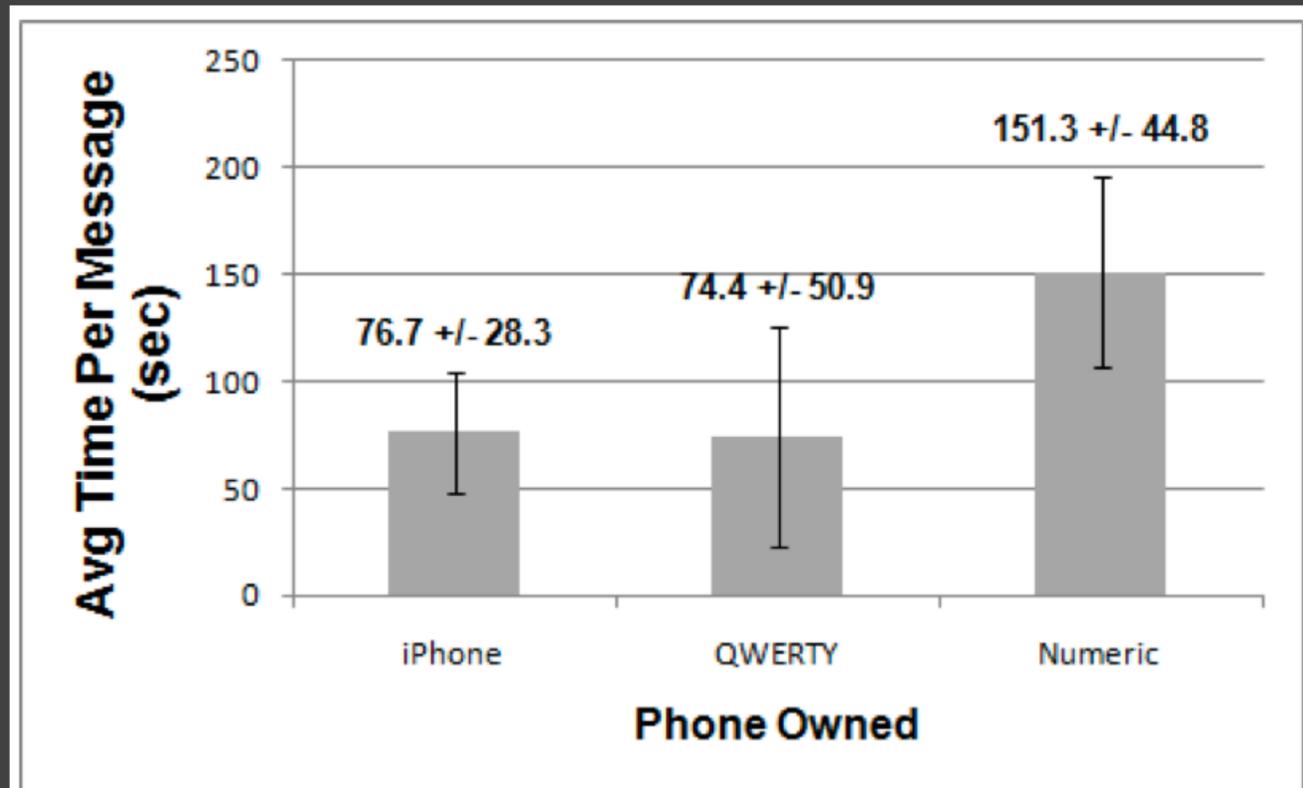


Figure 1. Average time to type a message on phones owned by the participants ($M \pm SD$).

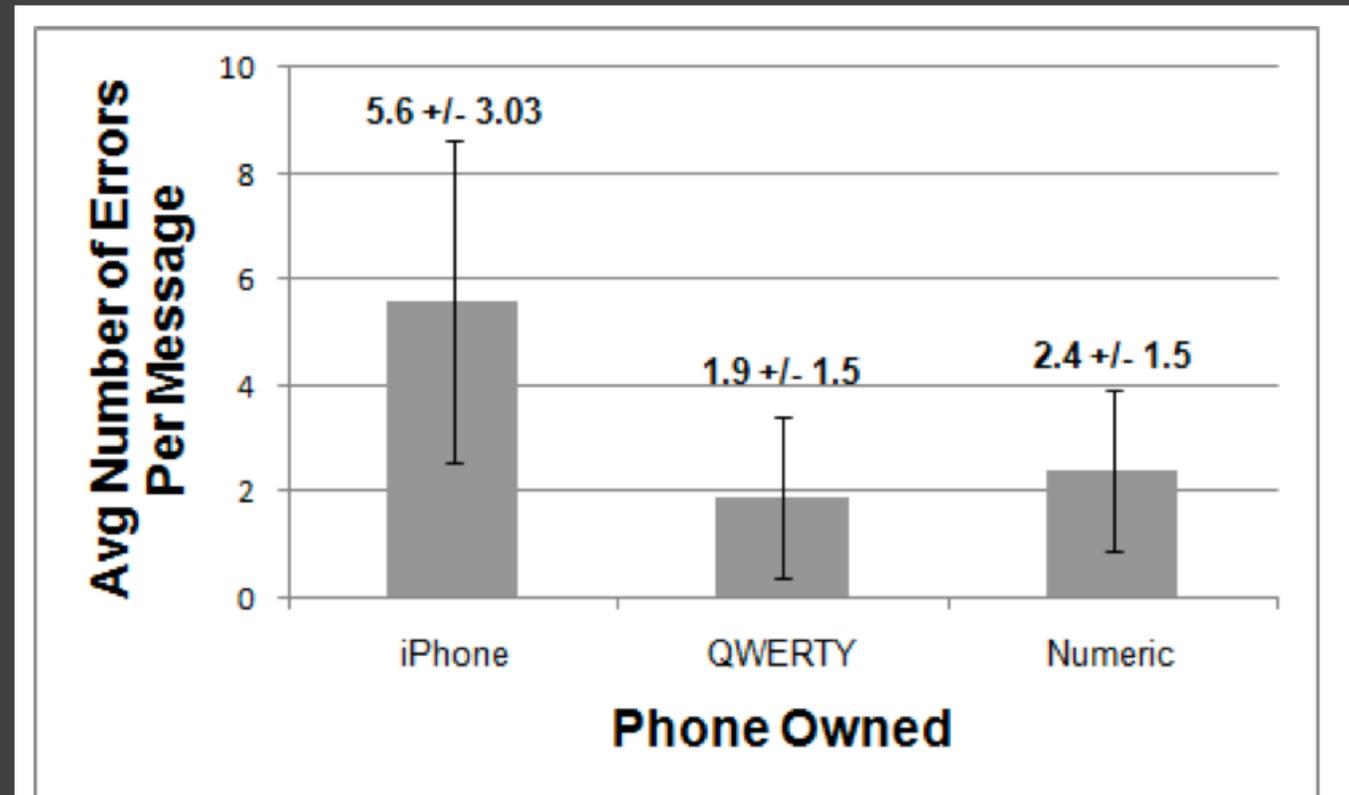


Figure 2. Average number of total errors per message made by participants using their own phones ($M \pm SD$).

Strategies for fairer comparisons

- Insert your new approach into the production setting
- Recreate the production approach in your new setting
- Scale things down so you're just looking at a piece of a larger system
- When expertise is relevant, train people up

IS INTERFACE A BETTER
THAN INTERFACE B?

Most often, the answer is
“it depends”

The question is “on what”?

CONTROLLED COMPARISON
ENABLES CAUSAL INFERENCE
(a fancy way of saying you can learn stuff)

I USED TO THINK
CORRELATION IMPLIED
CAUSATION.



THEN I TOOK A
STATISTICS CLASS.
NOW I DON'T.



SOUNDS LIKE THE
CLASS HELPED.

WELL, MAYBE.



<http://xkcd.com/552>

Let's introduce a few terms...

manipulations

Independent Variables

measures

Dependent Variables

precision

Internal Validity

generalizability

External Validity

Make a Study Plan

- Who are your users?
- What's your task?
- What will you measure?

Turn to the person next to you

- In A7, you'll submit a 2-3 sentence plan for the study you'll run in A8
- What do you hope to learn? What questions do you have about your Webapp?
- Help each other improve your plan to better match what you want to learn

Running Web Experiments

Search Results

Search Initiated:	8/2/2005	Time: 12:12 P.M.	
Search Location:	Zip: 32225	City: JACKSONVILLE, JAX	State: FL

33 Registered sex offenders are located in your immediate area.

Get the **complete report** including map, **photograph**, and addresses to find out who they are and where they **live**. You will be able to enter your full address and specify a **larger** radius.

The complete report includes:

- ➔ Photos
- ➔ Appearance Details
- ➔ Conviction Information
- ➔ Offense Dates
- ➔ Offense Details
- ➔ Street Addresses
- ➔ Name Aliases

ID	Name	Address	Photo
1	KUNKEL, MARK JEFFREY	2116 LAIRD ST OMAHA, NE 68111	Yes
2	STEVENS, THADDEUS DYSHON	2016 EMMET ST OMAHA, NE 68110	Yes
3	SMITH, TERRELL	2102 1/2 SPENCER OMAHA, NE 68110	Yes
4	WRIGHT, ROBERT LEE	2824 SPAULDING ST	Yes
5	PERKINS		
6	COOKS		
7	SWINEY SCOTT		
8	STEVENS, THADDEUS DYSHON	2016 EMMET ST OMAHA, NE 68110	OFFENSE SEXUAL ASSAULT OF A CHILD F3
18	BOHM, CARL MICHAEL	1907 WERT ST OMAHA, NE 68110	OFFENSE ASSLT W/ INTENT TO RAPE
12	DELEZENE, ROLAND ALFRED	4515 N 16TH ST OMAHA, NE 68110	OFFENSE 1ST DEGREE SEXUAL ASSAULT F2

[See the entire sample Report!](#)

To get a complete Predator Report **today**, register below with National Alert Registry, and for just \$10.00 we will create a custom report using your address. We will also send you a "Red Alert" notification when new predators are in your area.

Email:

(Email address used for RED ALERT Notifications)

First Name:

Last Name:

Address 1:

Address 2:

City:



Background

The **U.S. Congress** passed three laws that require States to keep **track** of sex offenders; the Wetterling Registration Act, the Lynchner Tracking and **Identification Act** and Megan's Law. On March 5, 2003, The Supreme Court ruled that information about **potential predators** may be posted on the Internet.

The Problem

The information is available and you have the **right** to see it. But the problem is that access is very **difficult**. You have to know the name of the individual you are looking for and in many States you must go to your police station and complete a **request form**. In some States there is a fee and **limit** to view only two names

The Solution - Predator Report

Now in the **privacy** of your home you can view the same information displayed on a map of **your neighborhood**. The free service provides the number of predators in your neighborhood. You can then choose to purchase the full service, which includes details about those **sexual offenders**, including

Search Results for Zip Code 32225

Search Initiated:	8/2/2005	Time: 12:11 P.M.	
Search Location:	State: FL	City: JACKSONVILLE, JAX	Zip: 32225

There are currently 32 Registered Sex Offenders located in your zip code

Would you like **names, pictures and addresses**? [Click Here](#)

The National Alert Registry has made all this vital information available to you. Plus you can get a custom map of your neighborhood, identifying your home and where offenders reside in proximity to it.

Your complete "Predator Report" includes all of the below:

- **Color Photos** (when available)
- **Appearance Details**
- **Street Addresses**
- **A Detailed Map**
- **Name & Aliases**
- **Conviction Information**
- **Offense Dates**
- **Offense Details**

SAMPLE MAP RECEIVED BY

ID	Name	Address	Photo
1	KUMMEL, MARK JEFFERY	2136 LAIRD ST OMAHA, NE 68111	Yes
2	STEVENS, THADDEUS DYSHON	3036 EMMET ST OMAHA, NE 68110	Yes
3	SMITH, TERRELL	2102 1/2 SPENCER OMAHA, NE 68110	Yes
4	WRIGHT, ROBERT LEE	2824 SPALDING ST OMAHA, NE 68110	Yes
5	BERKINS	2016 SPRING ST OMAHA, NE 68110	DEFENSE SEXUAL ASSAULT OF A CHILD P3
6	COOKS		
7	SKIDNEY SCOTT		
8	SEVENS, THADDEUS DYSHON	2016 SPRING ST OMAHA, NE 68110	DEFENSE SEXUAL ASSAULT OF A CHILD P3
9	BOHN, CARL MICHAEL	2307 HERT ST OMAHA, NE 68110	DEFENSE ATTEMPT TO RAPE
10	DELIZENE, ROLAND ALFRED	4515 N 16TH ST OMAHA, NE 68110	DEFENSE 1ST DEGREE SEXUAL ASSAULT P1

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Email:

(Email address used for RED ALERT Notifications)

First Name:

Last Name:

Address 1:

Address 2:

City:

State:

Zip:

Country:

Phone:

Billing Information

By submitting this information you agree to a one time charge of \$10.00. [Terms and Conditions](#)



"I love my NAR monthly Predator Report. You can't imagine my shock to find a registered sex offender living one mile from my home. I have grandchildren that visit often and you can bet I will keep a **MUCH** closer watch on them from now on. NAR is a wonderful tool for keeping my family safe." *Jolene S., Florida*

"NAR Predator Report is wonderful! I live in an upscale neighborhood and thought I was safe, but when I checked my Predator Report I discovered that we have three (3) offenders living in our neighborhood. I was astounded." *Bill S., New York*

"I am very pleased that I subscribed to this. It does indeed, keep me: **ALERT, and AWARE** and I feel **SAFER! THANK YOU** for these services." *-- Justice of Colorado*



Free Search Results for Zip Code 32225

Search Initiated:	8/2/2005	Time: 12:12 P.M.	
Search Location:	State: FL	City: JACKSONVILLE, JAX	Zip: 32225
32 Registered Sex Offenders currently located in your zip code			



Create Your Sex Offender Map And Detailed Predator Report

Get a custom **map of your neighborhood**, identifying your home and where offenders reside in your area. It only takes a few seconds to generate your report and costs **just \$10**.

Your Neighborhood Report

We will use your address to create a custom report

Email:

(Only used for RED ALERT Notifications)

First Name:

Last Name:

Address 1:

Address 2:

City:

State:

Zip:

Country:

Phone:

Select your billing preference:

- Single "Predator Report" one time charge of **\$10.00**

Sample Report

SAMPLE MAP RECEIVED BY:

★ You • Results

ID	Name	Address	Photo
1	KIMMEL, MARY JEFFREY	2136 LAIRD ST OMAHA, NE 68111	Yes
2	STEVENS, THADDEUS DYSHON	5036 EMMET ST OMAHA, NE 68110	Yes
3	SMITH, TERRELL	2102 1/2 SPENCER OMAHA, NE 68110	Yes
4	WRIGHT, ROBERT LEE	2824 SPAULDING ST	Yes
5	PEKRIE	1. STEVENS, THADDEUS DYSHON 2016 SPENCER ST OMAHA, NE 68110	OFFENSE: SEXUAL ASSAULT OF A CHILD P2
6	COOKS, SHINEY SCOTT	19. BOHM, CARL MICHAEL 1307 WEST ST OMAHA, NE 68110	OFFENSE: ABILITY INTENT TO RAPE
7	12. BELIZENE, ROLAND ALFRED	4515 N 16TH ST OMAHA, NE 68110	OFFENSE: 1ST DEGREE SEXUAL ASSAULT P1

[See the entire sample Report!](#)

The complete Predator Report includes:

- Color Photos (when available)

A/B/C Split Test

	PAGE A	PAGE B	PAGE C
Percent of traffic	34%	33%	33%
New sales	244	282	114
Change	N/A	15.57%	-53.28%

NATIONAL ALERT REGISTRY

Be Aware • Be Alert • Be Safe

NATIONAL ALERT REGISTRY

Be Aware • Be Alert • Be Safe

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Be Aware • Be Alert • Be Safe

Search Results

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- Name Aliases

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2	STEVENS, THADDEUS	2016 EMMET ST OMAHA, NE 68110	Yes
3	SMITH, TERRELL	2102 1/2 SPENCER OMAHA, NE 68110	Yes
4	WRIGHT, ROBERT LEE	2024 SPALDING ST OMAHA, NE 68110	Yes
5	PEEKING	1. STEVENS, THADDEUS DYSON 2016 EMMET ST OMAHA, NE 68110	OFFENSE: SERIAL ASSAULT OF A CHILD P2
6	COOKS	16. BORN, CARL MICHAEL 1307 HERT ST OMAHA, NE 68110	OFFENSE: SERIAL ASSAULT OF A CHILD P2
7	SCOTT	12. BELZINE, ROLAND ALFRED 4512 N 16TH ST OMAHA, NE 68110	OFFENSE: 1ST DEGREE SEXUAL ASSAULT P2

See the entire sample Report!



Background

The U.S. Congress passed three laws that require States to keep track of sex offenders: the Wetterling Registration Act, the Lynchner Tracking and Identification Act, and Megan's Law. On May 2003, the Supreme Court ruled that information about potential predators may be posted on the Internet.

The Problem

The information is available and you have the right to see it. But the problem is that it is very difficult. You have to know the name of the individual you are looking for and in many States you must go to your police station or complete a request form. In some States there is a fee and you view only two names.

The Solution - Predator Report

Now in the privacy of your home you can view the same information displayed on a map of your neighborhood. The free service provides the number of predators in your neighborhood. You can then choose to purchase the full service which includes details about those sexual offenders, including specific addresses. The full service search is based on your exact address.

Search Results for Zip Code 32225

Search Initiated:	8/2/2005	Time:	12:11 P.M.
Search Location:	State: FL	City:	JACKSONVILLE, JAX
		Zip:	32225

There are currently 32 Registered Sex Offenders located in your zip code

Would you like names, pictures and addresses? [Click Here](#)

The National Alert Registry has made all this vital information available to you. Plus you can get a custom map of your neighborhood, identifying your home and where offenders reside in proximity to it.

Your complete "Predator Report" includes all of the below:

- Color Photos (when available)
- Appearance Details
- Street Addresses
- A Detailed Map
- Name & Aliases
- Conviction Information
- Offense Dates
- Offense Details

ID	Name	Address	Photo
1	KILGEL, MARK JEFFERY	2116 LARGO ST OMAHA, NE 68111	Yes
2	STEVENS, THADDEUS	2016 EMMET ST OMAHA, NE 68110	Yes
3	SMITH, TERRELL	2102 1/2 SPENCER OMAHA, NE 68110	Yes
4	WRIGHT, ROBERT LEE	2024 SPALDING ST OMAHA, NE 68110	Yes
5	PEEKING	1. STEVENS, THADDEUS DYSON 2016 EMMET ST OMAHA, NE 68110	OFFENSE: SERIAL ASSAULT OF A CHILD P2
6	COOKS	16. BORN, CARL MICHAEL 1307 HERT ST OMAHA, NE 68110	OFFENSE: SERIAL ASSAULT OF A CHILD P2
7	SCOTT	12. BELZINE, ROLAND ALFRED 4512 N 16TH ST OMAHA, NE 68110	OFFENSE: 1ST DEGREE SEXUAL ASSAULT P2

See the entire sample Report!

You can purchase your complete Predator Report and access this vital information today. For just \$10.00 we will create a custom report using your address.

Email:

(Email address used for RED ALERT Notifications)

First Name:

Last Name:

Address 1:

Address 2:

City:

State:

Zip: 32225

Country:

Phone:

Billing Information

By submitting this information you agree to a one time



"I love my MAR monthly Predator Report. You can't imagine my shock to find registered sex offenders living one mile from my home. I grandchildren that visit often and you can bet I will keep MUCH closer watch on them from now on. MAR is a wonderful tool for keeping family safe." Jolene S., Fla

"MAR Predator Report is wonderful! I live in an upscale neighborhood and thought was safe, but when I checked my Predator Report I discovered that we have (3) offenders living in our neighborhood. I was astounded." Bill S., New York

"I am very pleased that I subscribed to this. It does indeed, keep me: ALERT, and AWARE and I THANK YOU for the services." -- Justice of Colorado

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Your Neighborhood Report

We will use your address to create a custom report

Email:

(Only used for RED ALERT Notifications)

First Name:

Last Name:

Address 1:

Address 2:

City:

State:

Zip: 32225

Country:

Phone:

Select your billing preference:

- Single "Predator Report" one time charge of \$10.00
- Upgrade my registration to "Red Alert." Only \$4.95/month more.

Red Alert includes:

- Automatically Updated Predator Reports - Your map is updated daily when new information is available.
- Automatic Predator Notifications when new offenders are in your area.
- Updated alerts when our nation-wide database has been updated.



Sample Report

ID	Name	Address	Photo
1	KILGEL, MARK JEFFERY	2116 LARGO ST OMAHA, NE 68111	Yes
2	STEVENS, THADDEUS	2016 EMMET ST OMAHA, NE 68110	Yes
3	SMITH, TERRELL	2102 1/2 SPENCER OMAHA, NE 68110	Yes
4	WRIGHT, ROBERT LEE	2024 SPALDING ST OMAHA, NE 68110	Yes
5	PEEKING	1. STEVENS, THADDEUS DYSON 2016 EMMET ST OMAHA, NE 68110	OFFENSE: SERIAL ASSAULT OF A CHILD P2
6	COOKS	16. BORN, CARL MICHAEL 1307 HERT ST OMAHA, NE 68110	OFFENSE: SERIAL ASSAULT OF A CHILD P2
7	SCOTT	12. BELZINE, ROLAND ALFRED 4512 N 16TH ST OMAHA, NE 68110	OFFENSE: 1ST DEGREE SEXUAL ASSAULT P2

See the entire sample Report!

The complete Predator Report includes:

- Color Photos (when available)
- Appearance Details
- Street Addresses
- A Detailed Map
- Name & Aliases
- Conviction Information
- Offense Dates
- Offense Details

Ways design makes a difference

- Position and color of a call to action
- Position on the page of testimonials, if used
- Whether linked elements are in text or as images
- Amount of white space on a page, giving the content space to “breathe”
- Position and prominence of the main heading
- Number of columns used on the page
- Number of visual elements competing for attention
- Attributes of people and objects in photos

Quick Shots

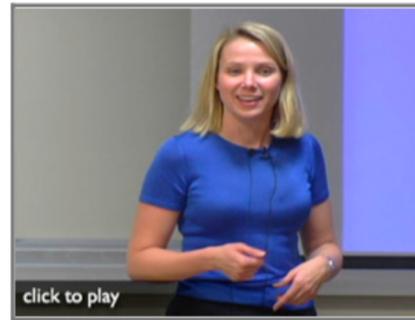
Spend just two minutes and a few odd seconds to learn bright ideas to build, grow, or sustain your entrepreneurial drive. These bite-sized, informative videos offer a fast jolt to your fast-tracking career.



[Negotiating with Customers and Clients](#)

[Stan Christensen](#) | [Dan Springer](#)

2 min. 1 sec.



[Don't Kill Projects; Morph Them](#)

[Marissa Mayer](#)

2 min. 2 sec.



[Taking Risks](#)

[Vinod Khosla](#)

2 min. 26 sec.

New Podcasts

From medical devices to social responsibility, corporate acquisitions to personal tales of trial and triumph, our speakers share their collective wisdom and decades of business savvy.



Podcast: [Representing the Socially Responsible Enterprise](#)

[Debra Dunn](#), Skoll Foundation | [Jay Coen Gilbert](#), B Corporation | [Bart Houlahan](#), B Corporation | [Andrew Kassoy](#), B Corporation - 50 min. 56 sec.

The co-founders of B Lab, Jay Coen Gilbert, Bart Houlahan, and Andrew Kassoy, unveil their infrastructure play that seeks to give voice to the burgeoning panoply of green business. They explain how a higher set of corporate standards

accountable to the environment, employees, and the community, can craft a healthier corporate

Quick Shots

Spend just two minutes and a few odd seconds to learn bright ideas to build, grow, or sustain your entrepreneurial drive. These bite-sized, informative videos offer a fast jolt to your fast-tracking career.



Video: [Negotiating with Customers and Clients](#)

[Stan Christensen](#), Stanford Technology Ventures Program; Arbor Advisors | [Dan Springer](#), Responsys - 2 min. 1 sec.

Dan Springer, CEO of Responsys, acknowledges that the most frequent and important negotiations often occur with customers. Furthermore, Springer advises that the keys to a successful negotiation with customers include: 1) Preparation to

discover what the customer wants and 2) Identifying the few things on which you will stand firm.



Video: [Don't Kill Projects; Morph Them](#)

[Marissa Mayer](#), Google - 2 min. 2 sec.

Repackage, rejuvenate, re-market, and re-examine those products or practices you thought would fly, and craft them a new set of wings. Head of Google product development Marissa Mayer lives by the old adage that if at first you don't succeed, try again. She pushes aspiring business thinkers to breathe new life into

failed ventures, as opposed to cutting the cord.



Video: [Taking Risks](#)

[Vinod Khosla](#), Kleiner, Perkins, Caufield & Byers - 2 min. 26 sec.

Launching a start-up is not a rational act. And Vinod Khosla, a partner in Kleiner, Perkins, Caufield & Byers and former Sun Microsystems CEO, believes that success only comes from those who are foolish enough to think

Results

- Version A (traditional version) was sent to 6272 users.
Opened: 1638 - Click thrus: 722 -
Forwards: 4
- Version B (Quick Shots version) was sent to 6263 users.
Opened: 1769 - Click thrus: 922 -
Forwards: 14



← Media

← Button

Baseline sign up rate: 8.26%

Which option performed best?

- Sign up
- Learn More
- Sign up Now
- Join Us Now

Now for the visual
material: five options



OBAMA

GET INVOLVED



JOIN THE
MOVEMENT

Email Address

Zip Code

SIGN UP NOW

© 2008 Obama for America



[CONTINUE TO WEBSITE](#)

Button: "Sign Up Now"

- Family Image
- Change Image
- Barack Video
- Springfield Video
- Sam's Video



Here We Saw

- Small changes: big difference
- Our expectations are often wrong

For Dustin Curtis, Which performed best?

- I'm on Twitter
- Follow me on twitter
- You should follow me on twitter
- You should follow me on twitter here

For Dustin Curtis, Which performed best?

4.70% I'm on Twitter

7.31% Follow me on twitter

10.09% You should follow me
on twitter

12.81% You should follow me
on twitter here