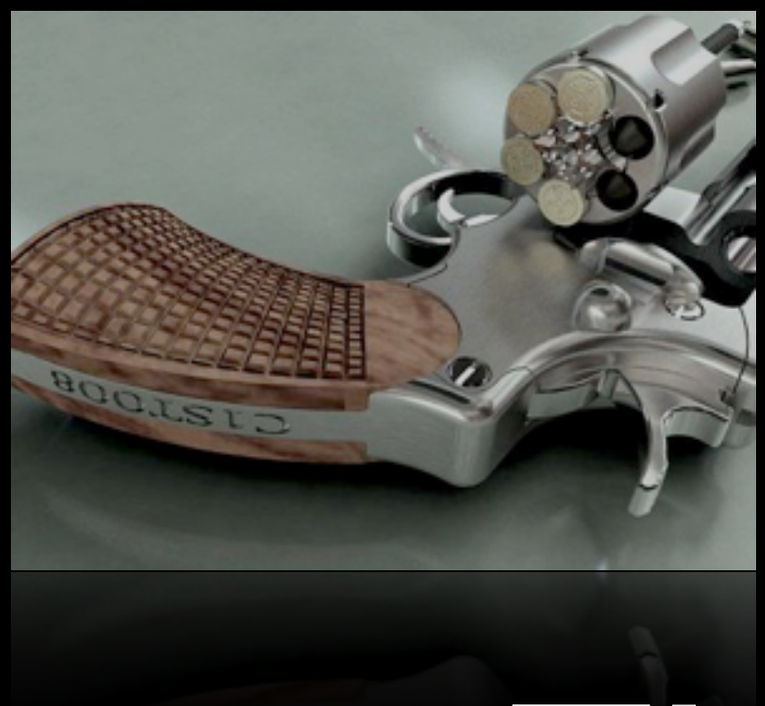
SOCIAL POISONING OF THE WEB



Dan Hubbard
CTO, @Websense

Hacker
Computer security
Spam
Internet fraud
Piracy
Virus
Spyware
Malware
credit card fraud
Phishing
Identity Theft
A Websense® White Paper
Websense Security Labs
State of Internet Security, Q3 – Q4, 2009
websense

altavista
Alexa
AOL
YAHOO!
msn
Google
Netscape
overture
excite

Google™

Golf Clap

Traditional SEARCH

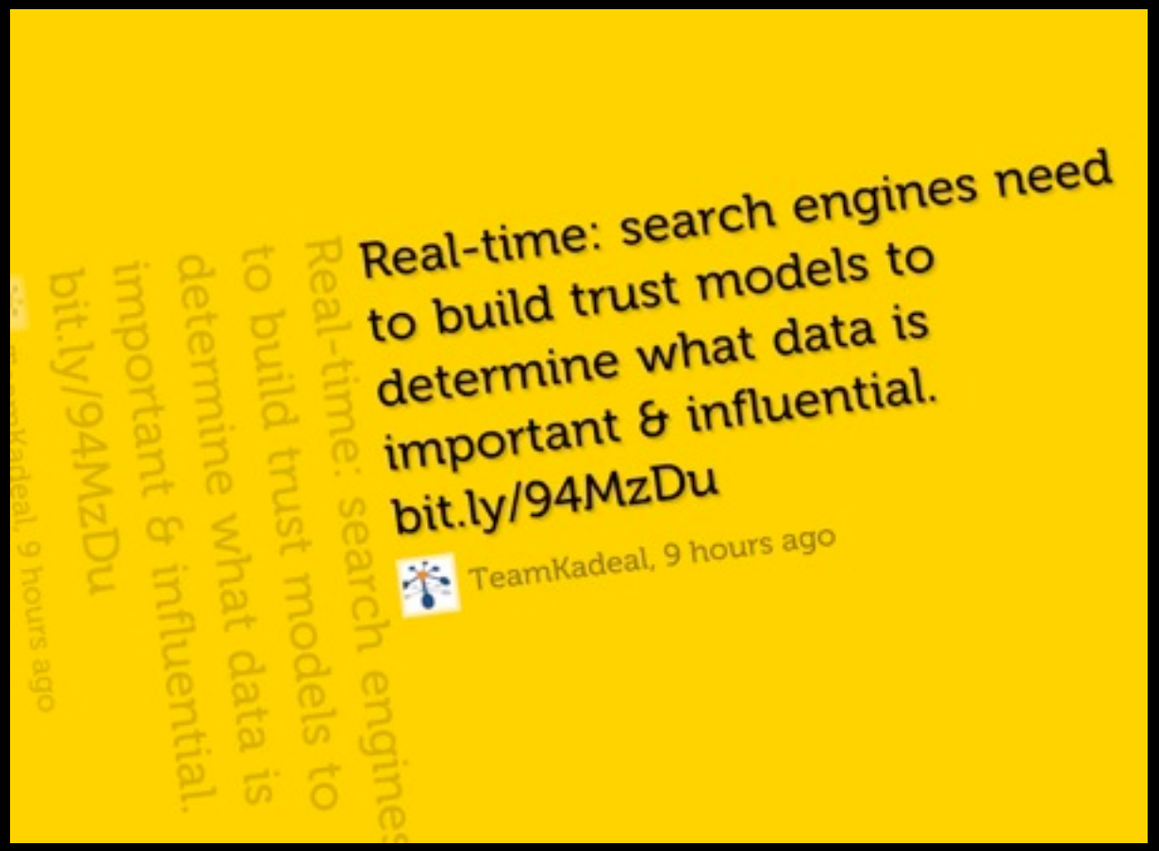
All about relevance with a sprinkle of prevalence. Oh and perhaps “intent”.

Real-Time

SEARCH

All about time, trends, with a sprinkle of social graph and location.

Sashi Seth...



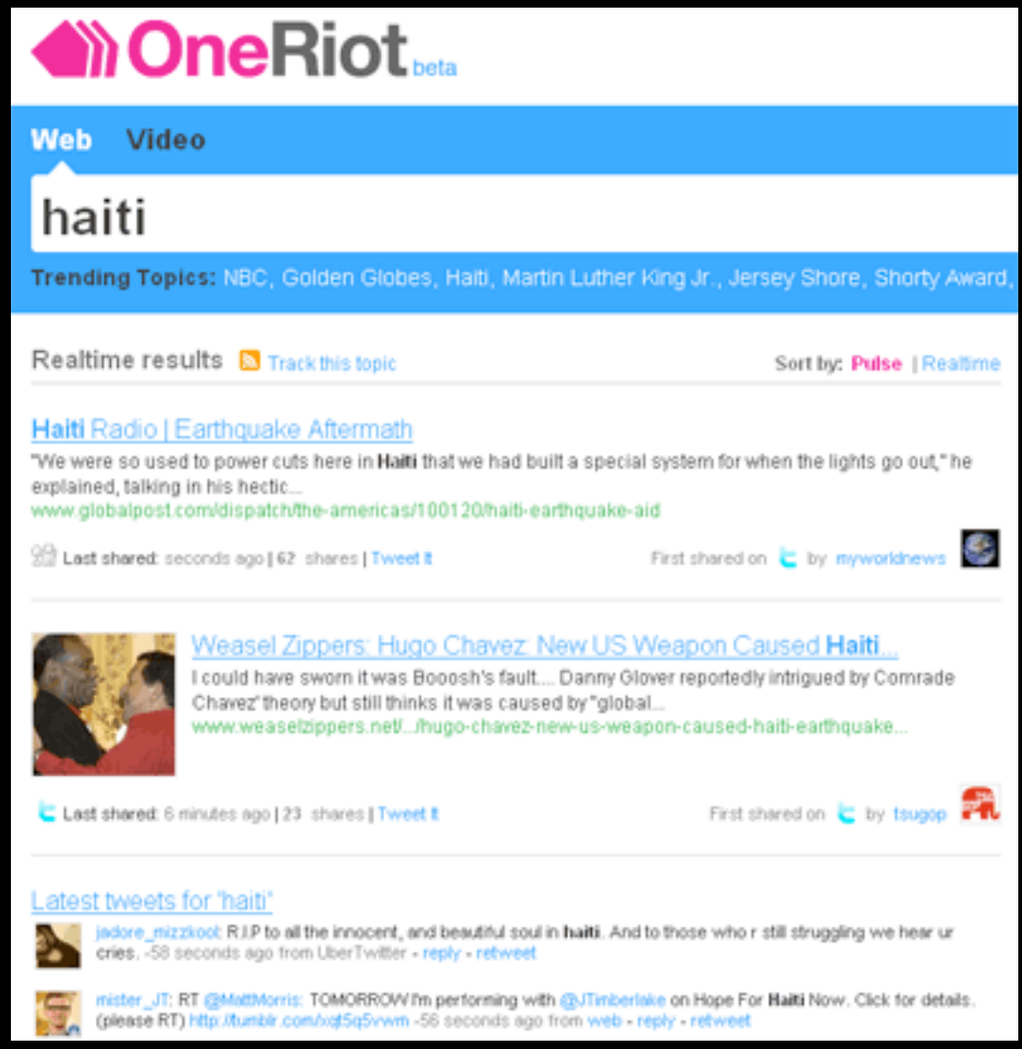
http://www.technologyreview.com/web/25110/

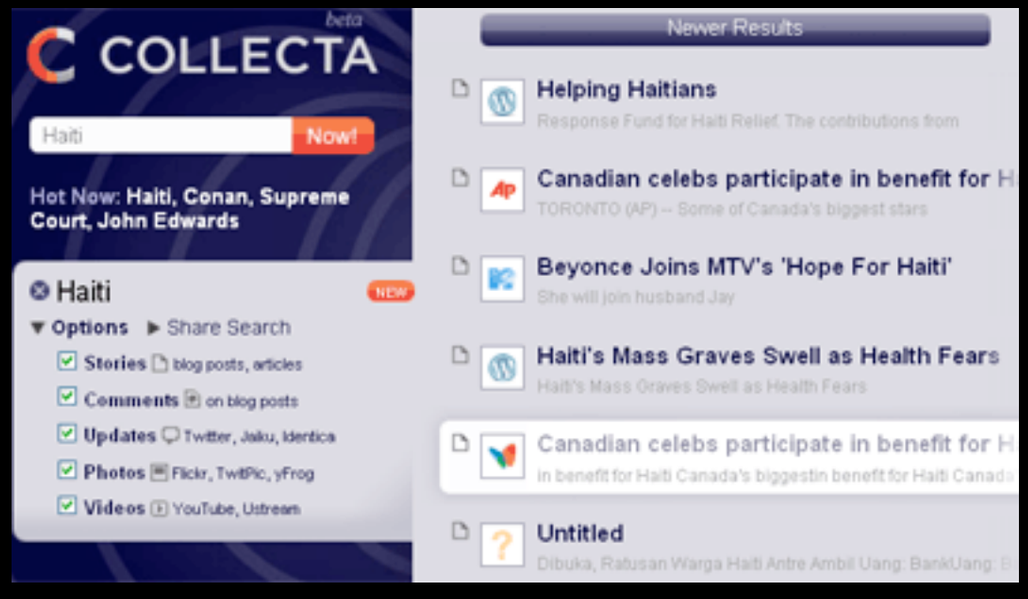
"The sheer amount of real-time data presents unique challenges for search. Because a lot of the data is nonauthoritative, noisy, or spammy, search engines need to build trust models that can determine what data is important and influential."

"Search engines must also determine the right balance between timeliness and relevance to each user. Further, real-time data needs to be indexed and updated instantaneously."

scoopler
haiti
Search
Results for: haiti
POPULAR SHARES
LIVE POSTS
Image Results:

thoora
Search
DISCOVER
WHAT THE WORLD IS TALKING ABOUT
TOP STORIES
BUSINESS
CONTROVERSY
ENTERTAINMENT
LIFESTYLE
POLITICS
SCI/TECH
SPORTS
Entertainment /
ALL
Movies
Television
Music
Theatre
Leading Story/
NBC, O'Brien reach deal for him to leave 'Tonight'
#1
NEWS 3,779
BLOGS 616
TWEETS/HOUR -
COMMENTS 1,924
Story Stats
Overview
Blogs View
News View
Discuss
Share
Top Related Blogs
Leno back to Tonight, Conan to Fox?
It looks like Jay Leno will be going back to The Tonight Show, and Conan O'Brien will leave NBC, perhaps ...
6 Days ago
JERMSGUY @ BLOGSPOT
NBC's Leno back to late nights
Jay Leno will move from prime time back to late nights, NBC said Sunday. Los Angeles, ...
10 Days ago
THEBLACKURBANTIMES
Video of Jay Leno Giving Conan Show in 2004, "Conan, It's yours..."
News Timeline
LAST 6 HOURS
Conan O'Brien set to leave NBC
GUARDIAN
Talk show host gets $45m pay-off
CO
LAST 24 HOURS
NBC, O'Brien reach deal for him to leave 'Tonight'
LATIMES
NBC: Conan O'Brien reaches deal to exit 'Tonight' show; deal worth $45 million
STARTRIBUNE
LAST 48 HOURS
Signs point to Friday farewell for Conan O'Brien
Last 48 Hours
News (Unique): 3,779 (1,022)
Blogs (Unique): 616 (537)
Twitter: 121 tweets/hour
Twitter Impact*: 1 in 15,200
Comments: 1,924
First Popular: 9 Hours ago
Last Updated: 1 Hour ago
*Tweets right now about this story
From Twitter
121 tweets/h
Melaniefp519: industry web :) http://bit.ly/8SU5JY Late-night comics pounce on late-night mess at NBC; Kimmel does scathing Leno


OneRiot beta
Web
Video
haiti
Trending Topics: NBC, Golden Globes, Haiti, Martin Luther King Jr., Jersey Shore, Shorty Award,
Realtime results
Track this topic
Sort by: Pulse | Realtime
Haiti Radio | Earthquake Aftermath
"We were so used to power cuts here in Haiti that we had built a special system for when the lights go out," he explained, talking in his hectic...
www.globalpost.com/dispatch/the-americas/100120/haiti-earthquake-aid
Last shared: seconds ago | 62 shares | Tweet It
First shared on by myworldnews
Weasel Zippers: Hugo Chavez: New US Weapon Caused Haiti...
I could have sworn it was Booosh's fault.... Danny Glover reportedly intrigued by Comrade Chavez' theory but still thinks it was caused by "global...
www.weaselzippers.net/.../hugo-chavez-new-us-weapon-caused-haiti-earthquake...
Last shared: 6 minutes ago | 23 shares | Tweet It
First shared on by tsugop
Latest tweets for 'haiti'
jadore_mizzkoot: R.I.P to all the innocent, and beautiful soul in haiti. And to those who r still struggling we hear ur cries. -58 seconds ago from UberTwitter - reply - retweet
mister_JT: RT @MattMorris: TOMORROW I'm performing with @JTimberlake on Hope For Haiti Now. Click for details. (please RT) http://tumblr.com/xq35q5vvvm -56 seconds ago from web - reply - retweet


beta
COLLECTA
Haiti
Now!
Hot Now: Haiti, Conan, Supreme Court, John Edwards
Haiti
NEW
Options
Share Search
Stories blog posts, articles
Comments on blog posts
Updates Twitter, Jaiku, Identica
Photos Flickr, TwitPic, yFrog
Videos YouTube, Ustream
Newer Results
Helping Haitians
Response Fund for Haiti Relief. The contributions from
Canadian celebs participate in benefit for H
TORONTO (AP) -- Some of Canada's biggest stars
Beyonce Joins MTV's 'Hope For Haiti'
She will join husband Jay
Haiti's Mass Graves Swell as Health Fears
Haiti's Mass Graves Swell as Health Fears
Canadian celebs participate in benefit for H
in benefit for Haiti Canada's biggestin benefit for Haiti Canad
Untitled
Dibuka, Rabusan Warga Haiti Antre Ambil Uang: BankUang:

Do we really know what real-time search is used for yet?

My .02: NO. This is just the beginning!

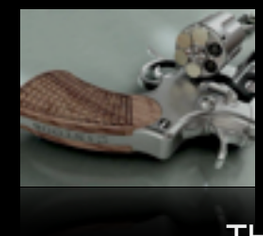
SOCIAL POISONING THE WEB

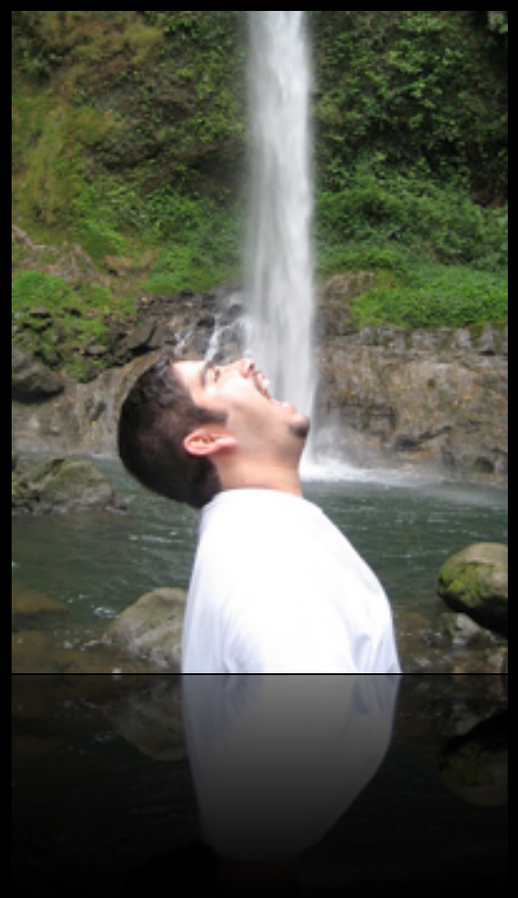
Have we really thought through security models of real-time search?

SOCIAL POISONING THE WEB

My .02: NO.
This is just the beginning!

Fun-duh-mentals.....





- API's are very easy to use and open
- API's are anonymous / trace
- Data must be delivered in real-time leaving little room for filter algorithm cycles. Fire-hose dwarfs Moores law in growth
- "Joe the plumber" can compete with CNN.

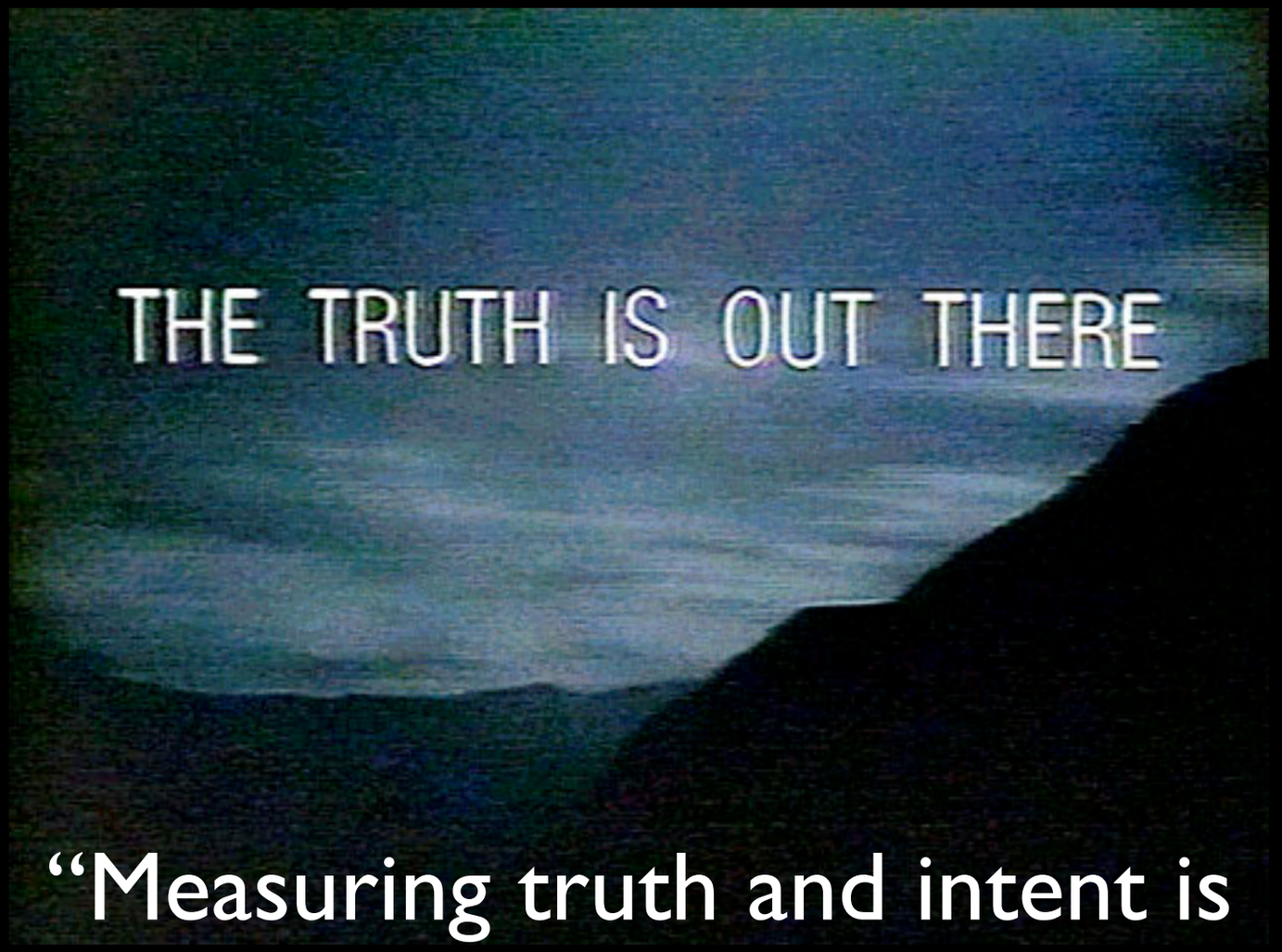
"In the future we will not look for the NEWS, the NEWS will find us, or we will create the NEWS. The future is NOW"

Quality + Relevance

= Truth

Quality + Relevance

= Truth



"Measuring truth and intent is pretty darn hard and but tricking man and machines is pretty darn easy"

bing

Social

HOTTEST SOCIAL TOPICS

- Glee
- Carling Cup
- k Michelle
- Northampton
- Lyfe Jennings
- Registry
- Birthday Love
- Newcastle
- Harvest
- Svu

SOURCE
- Twitter
- Facebook

TIMEFRAME
- **Past Hour**
- Past Day
- Past Week

GLEE

See all social results for this topic

TOP SHARED LINKS

Pinoy Channel | Pinoy24.TV | Pinoy TV - Charice Actual Auditon Video For Glee! (...
www.pinoy24.tv/video/25452/Charice-Actual-Auditon-Video-For-Glee-Halo-EMBED-ONLY

Hulu - Glee: Audition - Watch the full episode now.
www.hulu.com/watch/178226/glee-audition

RECENT PUBLIC UPDATES

Celebrity Gossip: Gwyneth Paltrow will star in two episodes of #Glee as a sub teacher for Glee coach Mr Schuester http://bbc.in/8XBmYQ (bbc.co.uk) · Facebook · 2 hours ago

ashsimpsonwentz: Who is ready for glee tonight? @dannykurily might be a little too ready....
http://twitpic.com/2qpc7w · Twitter · 1 day ago

Celebrity Gossip: RT @GleeonFOX: Get a sneak peek at next week's all-new Britney / Brittany episode of #GLEE: http://bit.ly/aojv3s (youtube.com) · Facebook · 1 hour ago

GLEEonFOX: Check out photos from "Britney/Brittany" airing next TUE at 8/7c! http://bit.ly/9BwF9d #GLEE · Twitter · 44 minutes ago

WITHIN THIS TOPIC

People Britney Spears, Gwyneth Paltrow, John Stamos

Keywords awesome, amazing, sad, excited, funny

Web Images Videos Shopping News Maps More | MSN Hotmail

bing

Social

HOTTEST SOCIAL TOPICS

- Glee
- Carling Cup
- k Michelle
- Northampton
- Lyfe Jennings
- Registry
- Birthday Love
- Newcastle
- Harvest
- Svu

SOURCE
- Twitter
- Facebook

TIMEFRAME
- **Past Hour**
- Past Day
- Past Week

GLEE

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TOP SHARED LINKS

Pinoy Channel | Pinoy24.TV | Pinoy TV - Charice Actual Auditon Video For Glee! (...
www.pinoy24.tv/video/25452/Charice-Actual-Auditon-Video-For-Glee-Halo-EMBED-ONLY

Hulu - Glee: Audition - Watch the full episode now.
www.hulu.com/watch/178226/glee-audition

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WITHIN THIS TOPIC

People Britney Spears, Gwyneth Paltrow, John Stamos

Keywords awesome, amazing, sad, excited, funny

Time and Trend Hacks

Social Graph Hacking

Geo Hacks

Time and Trend Hacks

Most real-time search engines are based mostly off of the stream in sequence regardless of who you are.

- ☑ Grab top trends and simply post tweets linking to malicious sites

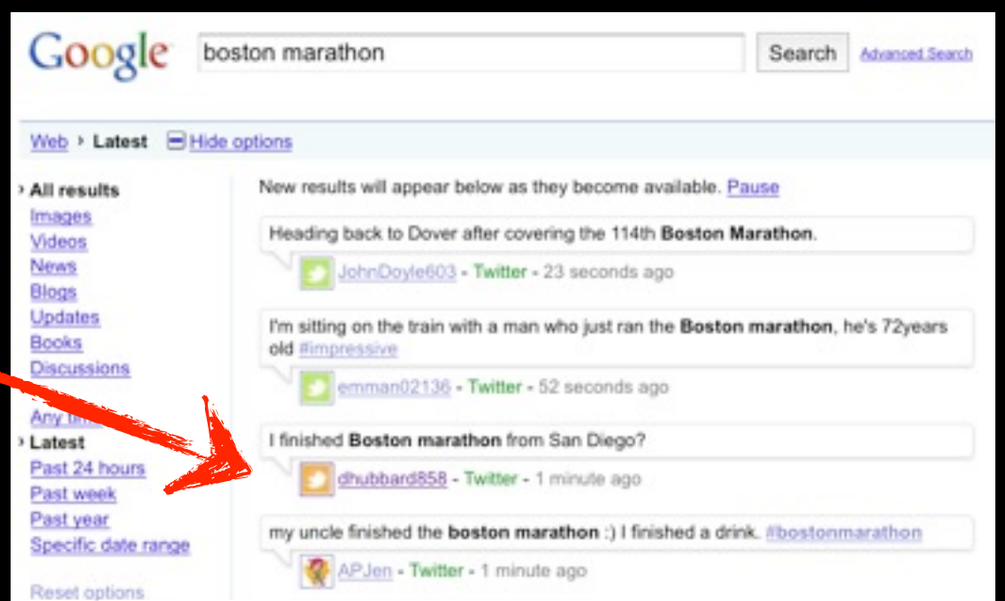
- ☑ Post from multiple accounts with multiple URL's that all have the same code

- ☑ Post with images (exploits) and URL's

- ☑ Pause and post. Tweet malicious URL...sleep 10...tweet again with different account....sleep 10...

- ☑ Predict future events and post tweets to be first

Time and Trend Hacks



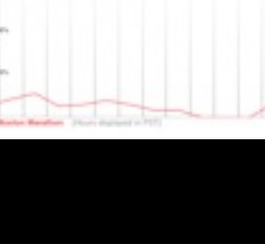
Time and Trend Hacks

Latest tweets for 'tweeting from boston marathon'

dhubbard858: tweeting from Boston Marathon in 35,445 place..http://bit.ly/bgFU6E 6 minutes ago from web - reply - retweet

nikki[illegible]: Follow @ipadrunner today, it's @jasonjedrusiak running the Boston Marathon. He'll be live tweeting during the race from his ipad! 2 hours 47 minutes ago from web - reply - retweet

search.twitter.com/search?q=tweeting from boston marathon



Google boston marathon volcano Search Advanced Search

Web › Latest Hide options

› All results
Images
Videos
News
Blogs
Updates
Books
Discussions

Any time
› Latest
Past 24 hours
Past week
Past year

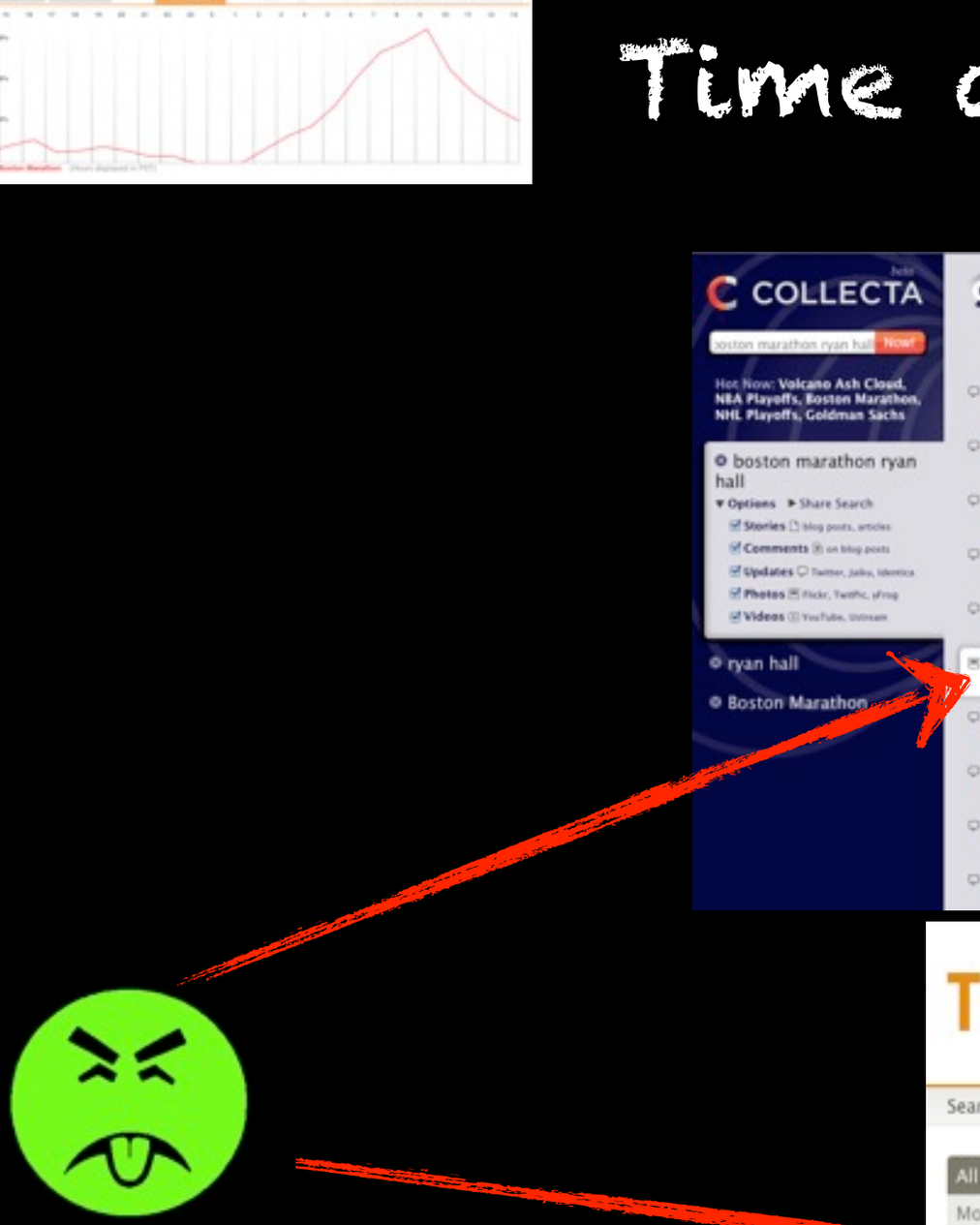
New results will appear below as they become available. Pause

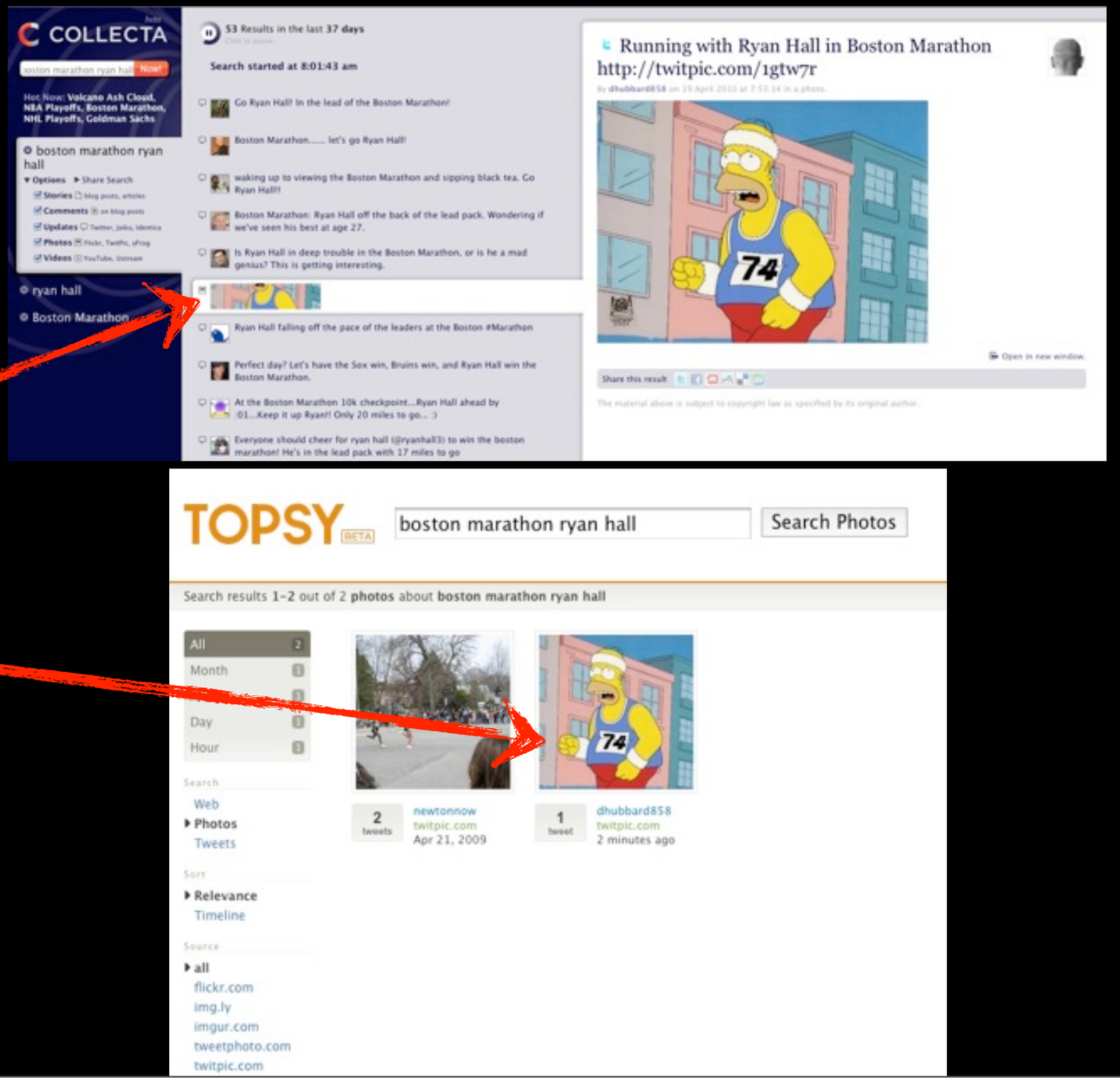
Great image of **Boston Marathon volcano**
Websense.com - Web security, email security, data security - websense.com
dhubbard858 - Twitter - 20 seconds ago

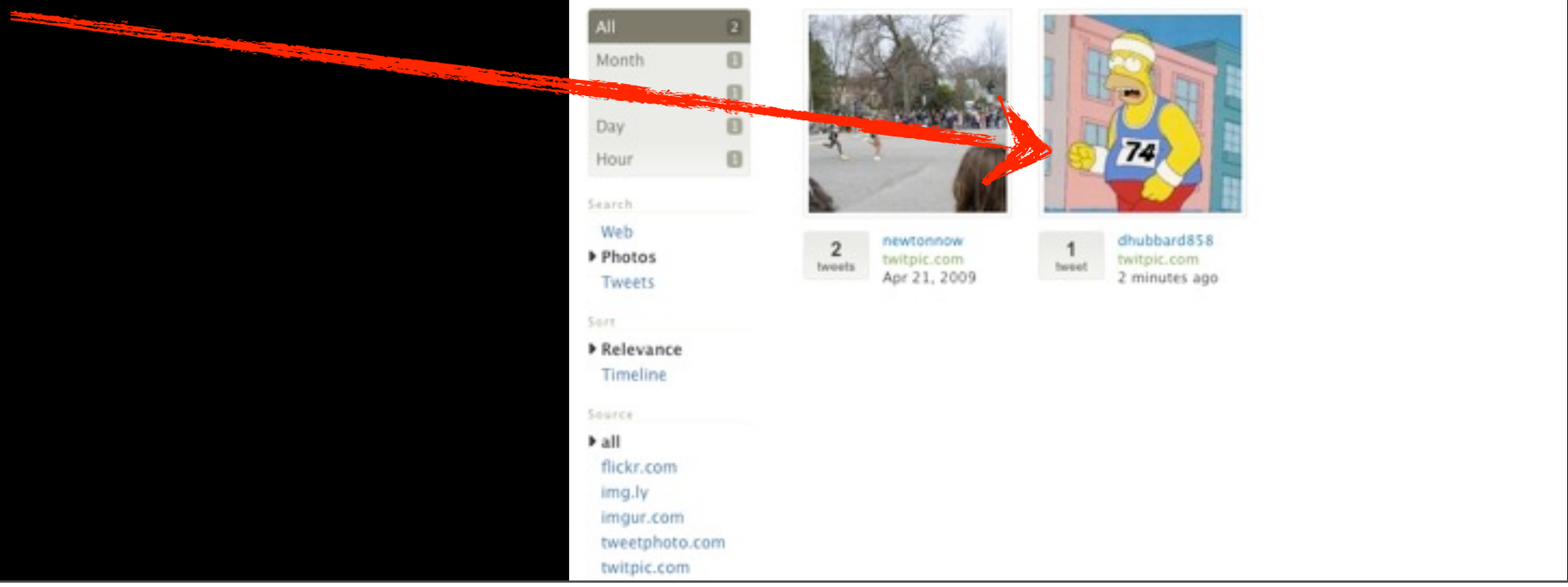
The **Boston Marathon** has over 26000 registered runners, but the Icelandic **volcano** ash cloud grounded planes forcing some runners to withdraw
AlesiaPowellCBS - Twitter - 30 seconds ago

Volcano means less runners **boston marathon** bit.ly/bgFU6E
dhubbard858 - Twitter - 50 seconds ago

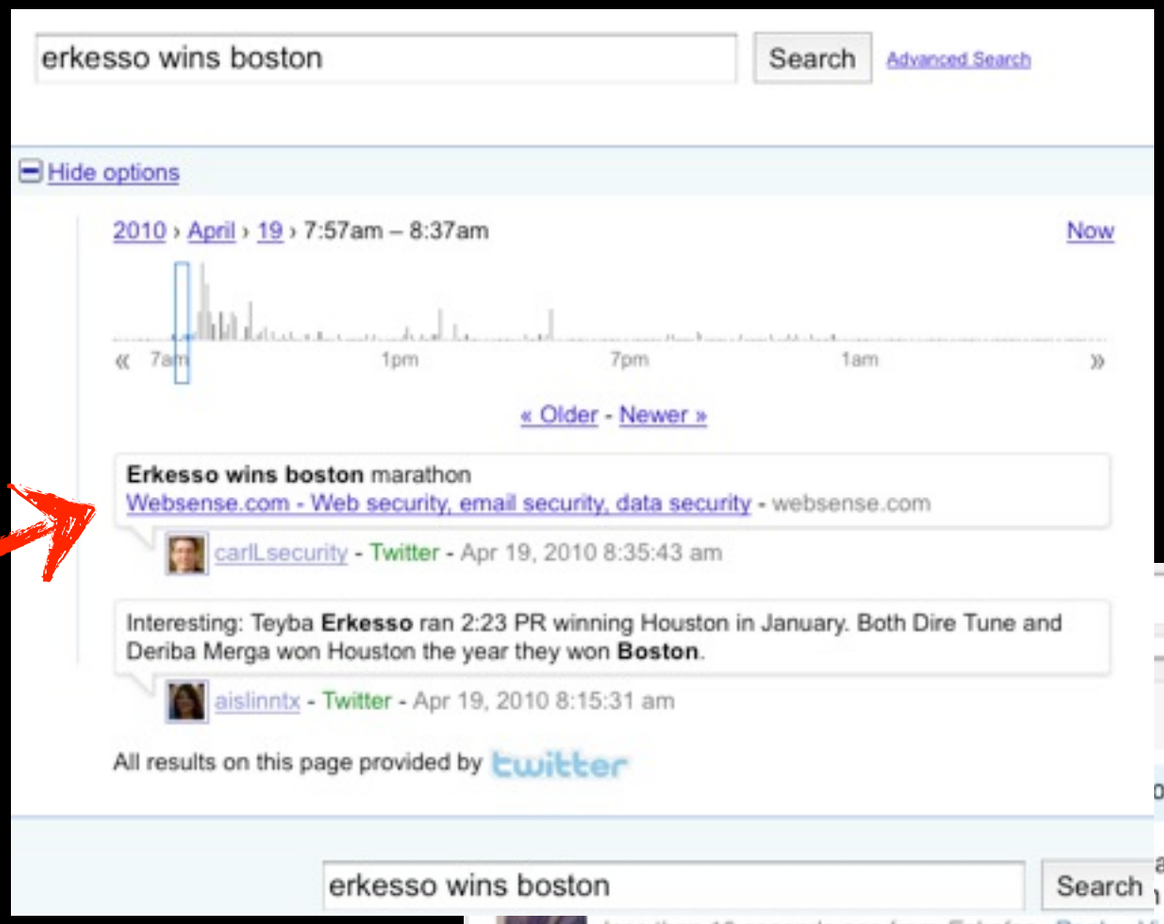
Time and Trend Hacks

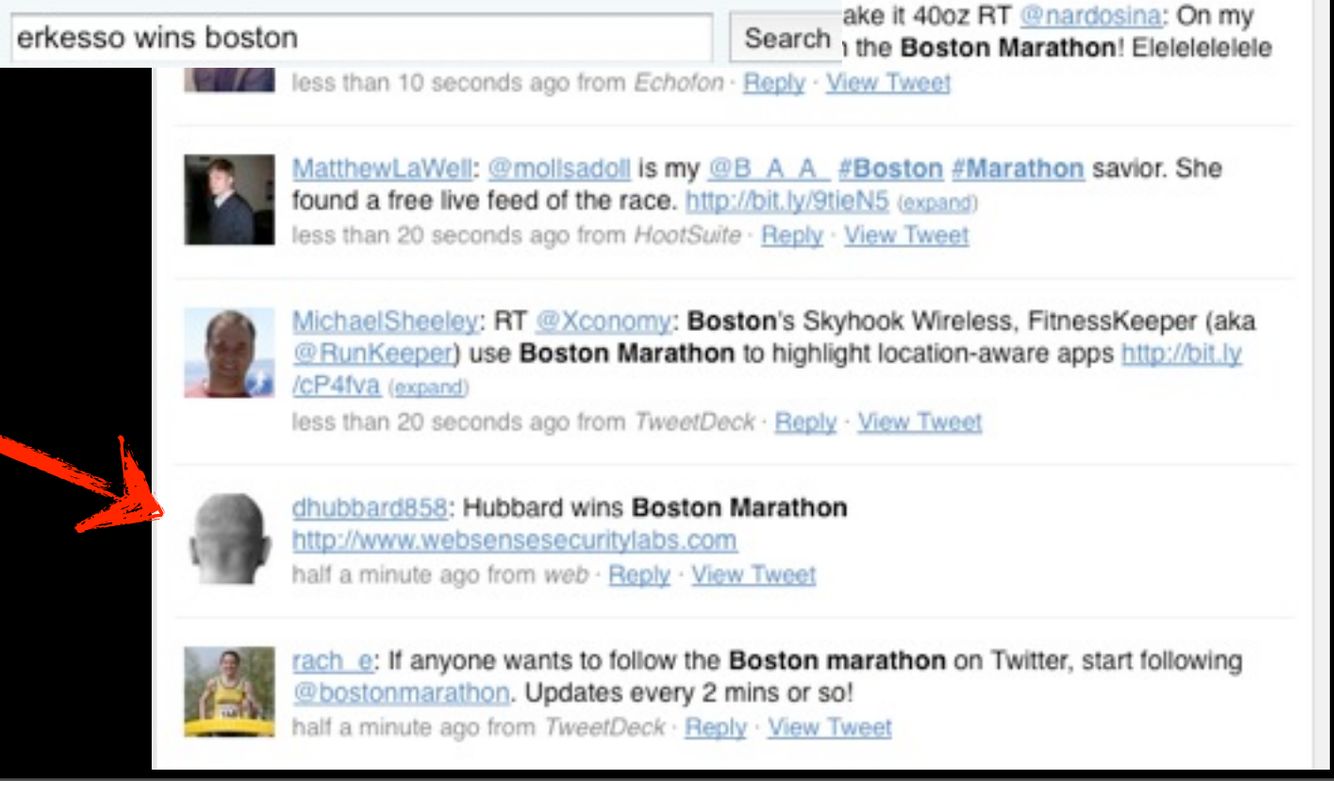


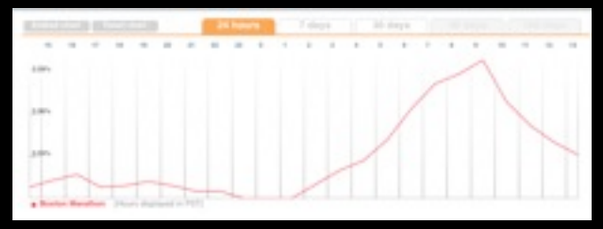




Time and Trend Hacks

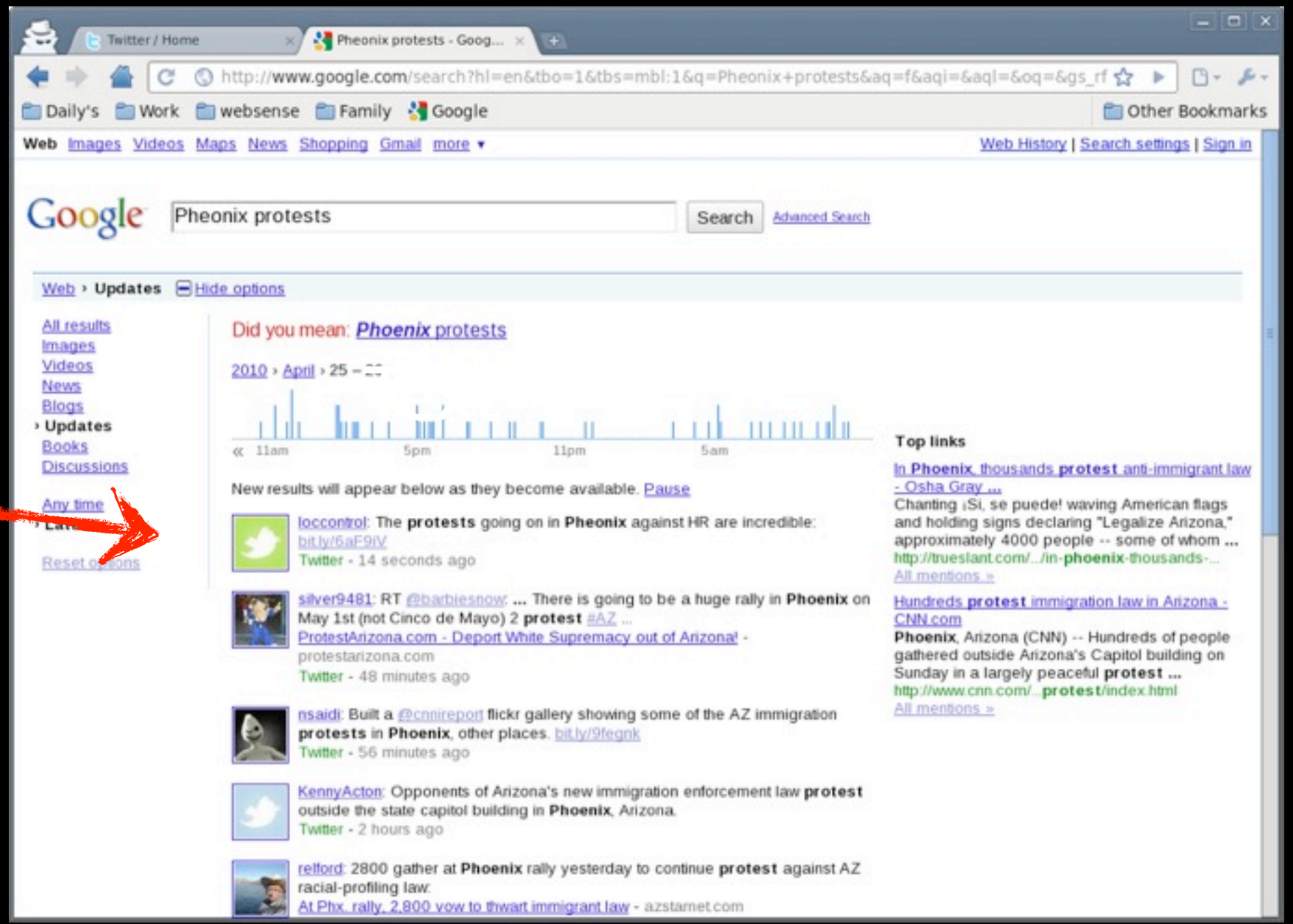






Time and Trend Hacks

Typo-attacks working well



Social Graph Hacking

Some real-time search providers attempt to map social graphs into their relevance algorithms.

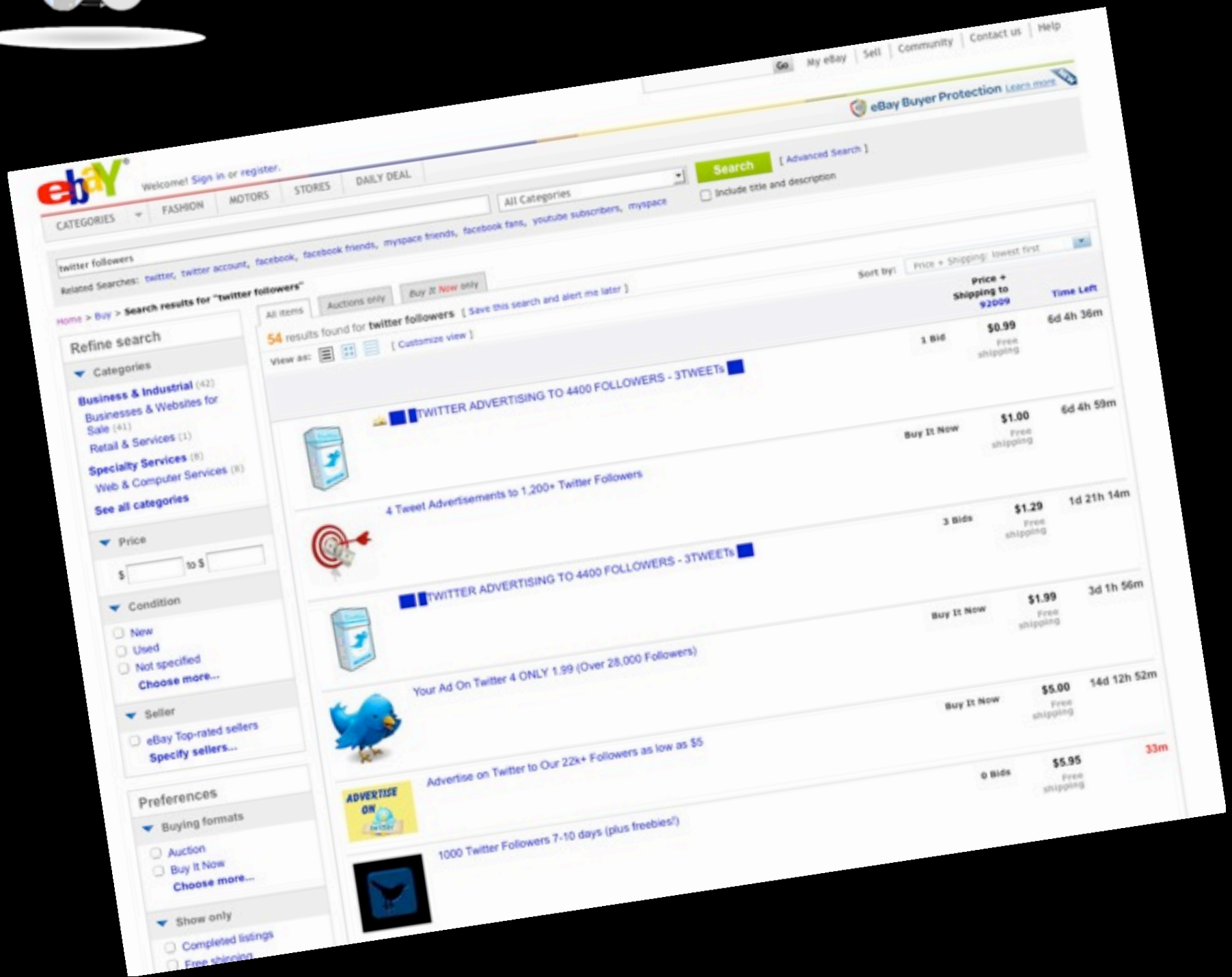
- ☑ Getting followers and following in Twitter
- ☑ Seeding the engines with good posts over time
- ☑ Taking control of good accounts for bad purposes (app attack)
- ☑ Linking accounts across data streams (Facebook, Twitter, Myspace, etc).

Social Graph Hacking

- who are you?
- who do you know?
- who do they know?
- who are you following?
- who are they following?
- who is following you?
- where are you?

Every Dimension = a revenue opportunity but also an additional attack surface

Social Graph Hacking



Social Graph Hacking

Dan Hubbard,
Your application to be an Ad.ly advertiser has been APPROVED and now needs your activation.

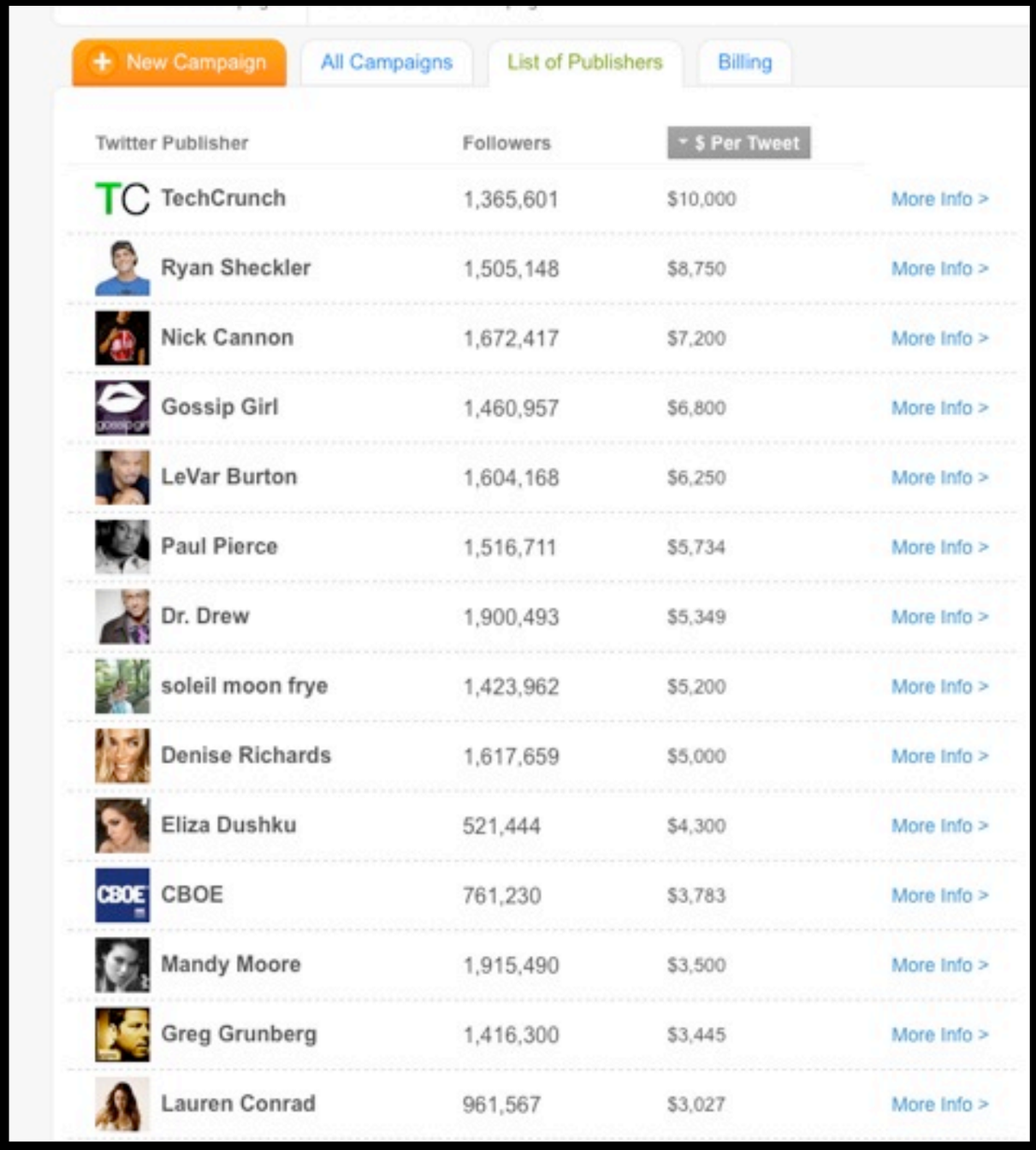
To complete your sign up, activate your account here or copy and paste the following link in your browser:
http://ad.ly/account/activation/ZGh1YmJhcmRAd2Vic2Vuc2UuY29t:2mc:160b3a34c8da12dc6925

As an approved advertiser, you can now access our self-service platform and advertise with any Ad.ly publisher.

If you have any questions, please email advertisers@ad.ly

- Ad.ly Team

Signup as an advertiser (ad.ly) and pay people: $10,000 per Tweet to reach 3.2 Million followers!!!!



Social Graph Hacking

Twitter Publisher	Followers	$ Per Tweet
Paul Pierce	1,517,406	$5,734

"NBA playoffs"

These guys put the fun in funeral! Check out Chris Rock & Tracy Morgan in @DeathAtAFuneral.Get tix http://bit.ly/bZ5TC1 #NowPlaying (Ad)

6:15 PM Apr 15th via Ad.ly Network

1200 clicks on release. Is it worth it?

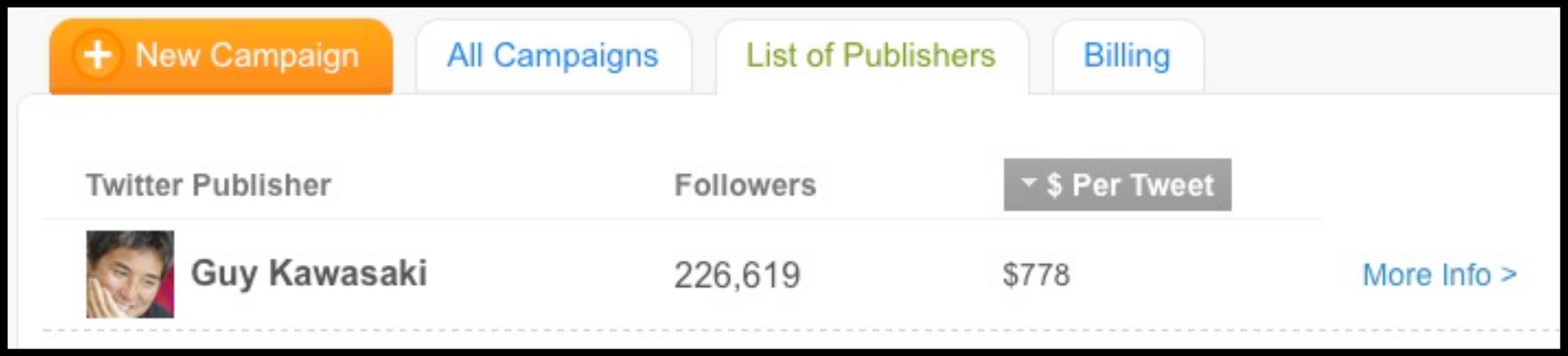
Social Graph Hacking

Compromise a well known user. Its cheaper than buying tweets.

High profile Twitter hack spreads porn Trojan

Malware posted to Guy Kawasaki's Twitter page attacks the Mac and the PC

By Robert McMillan, IDG News Service
June 23, 2009 08:41 PM ET

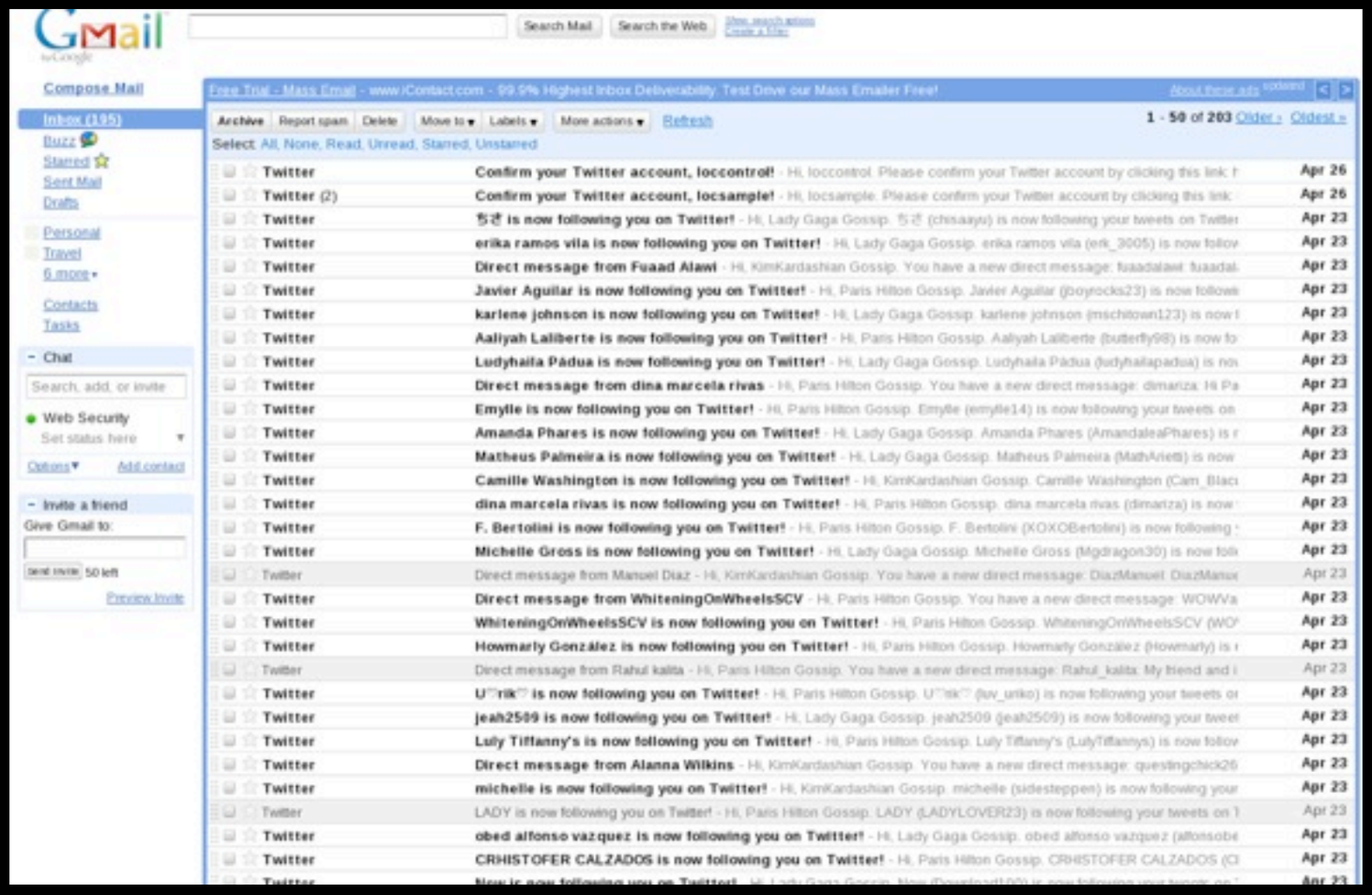


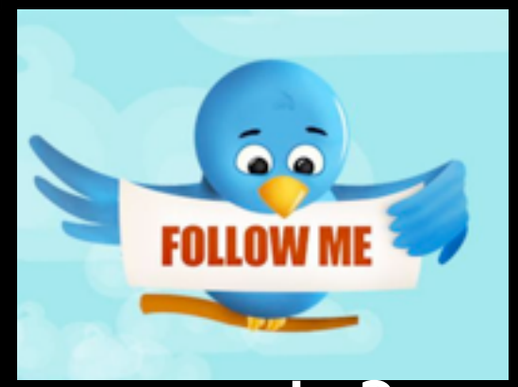
Social Graph Hacking

- ☑ Getting people to follow you is pretty easy
- ☑ Look for spammers first...(not too hard)
- ☑ Look for people who are clearly auto-following

- ☑ Follow the auto-followers, they will follow you
- ☑ Add an account that has social / timely characteristics and then start following people in the same peer group
- ☑ Recommendation: simulate clicks and don't use the API's to go under the radar longer

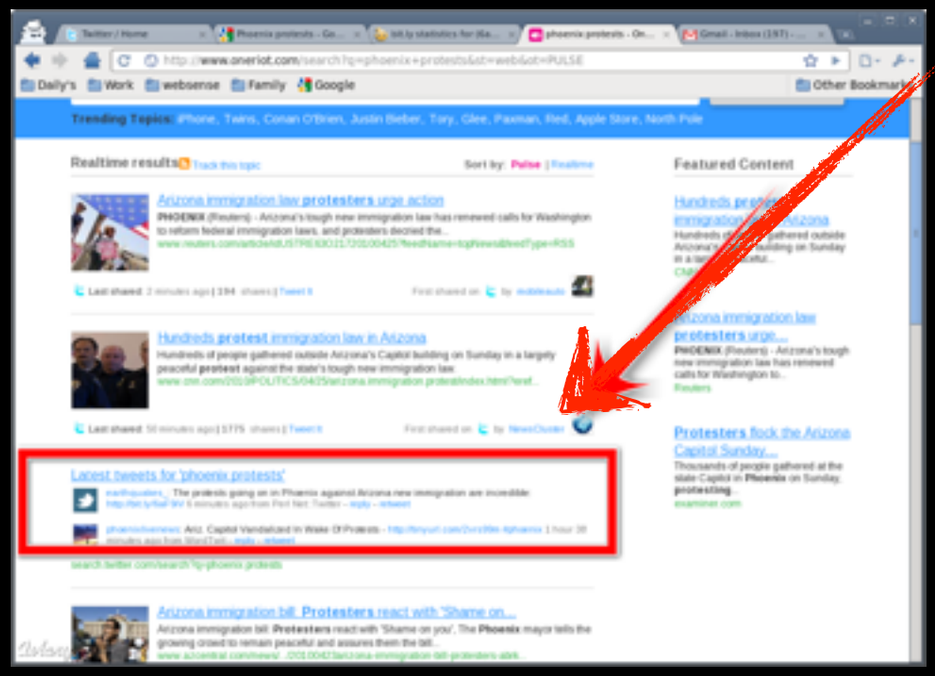
Social Graph Hacking

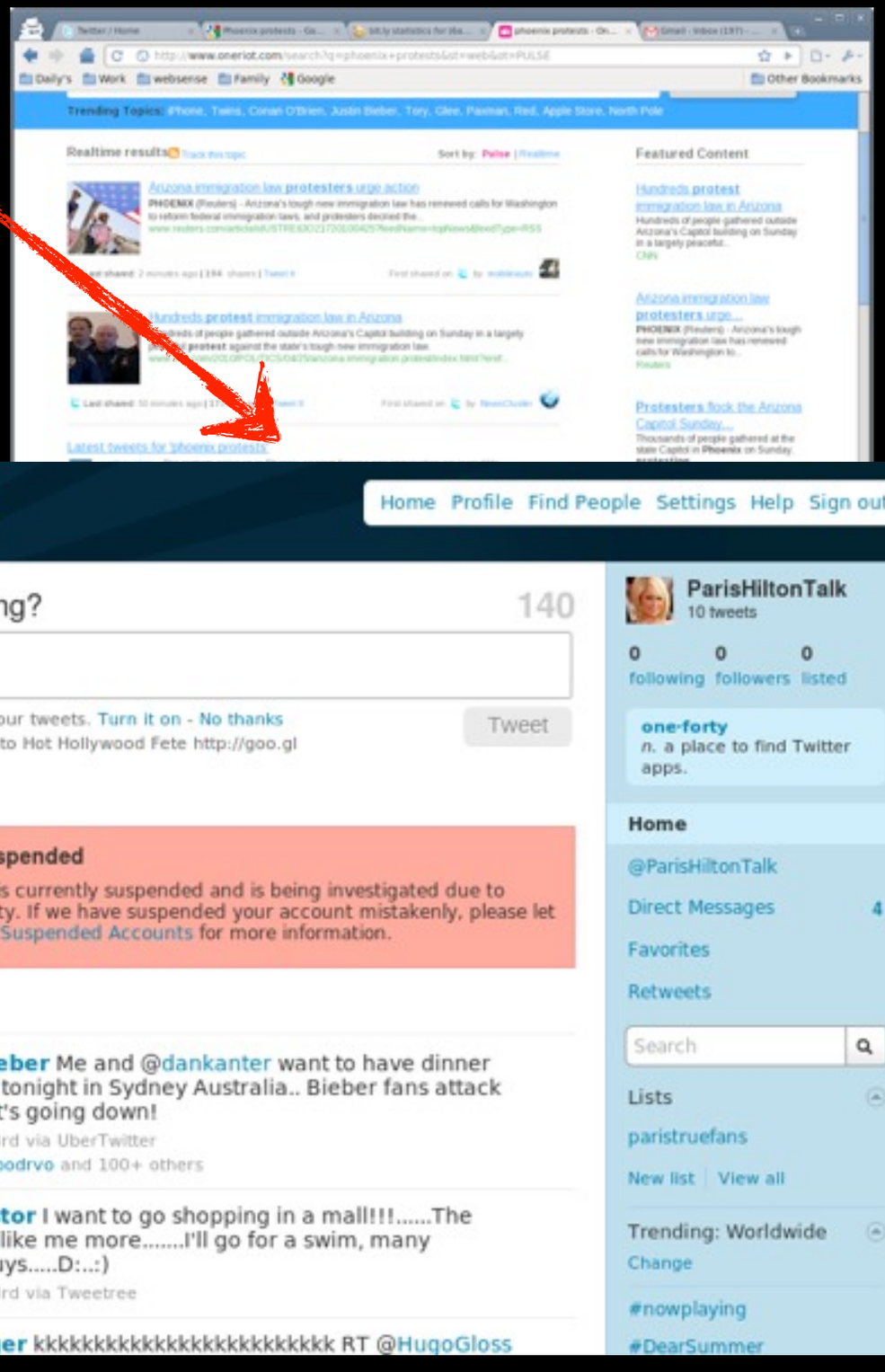




400 followers took 3 days. You have to trickle in your following or you will get bumped. Magic number seems around 50-75 per day per account. Of course you could create hundreds of accounts though.

Social Graph Hacking





We followed 500 people with 400 following us

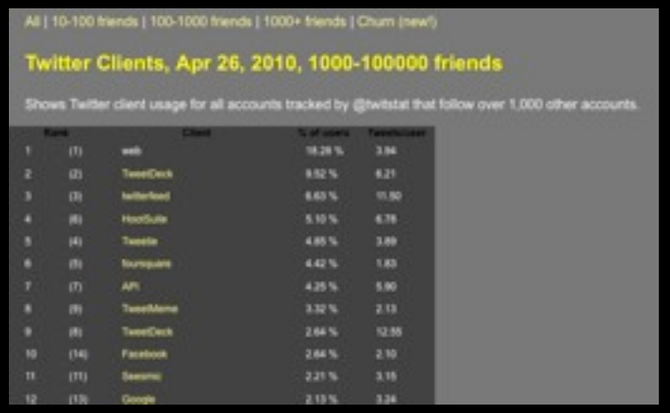
Then we got booted

Social Graph Hacking

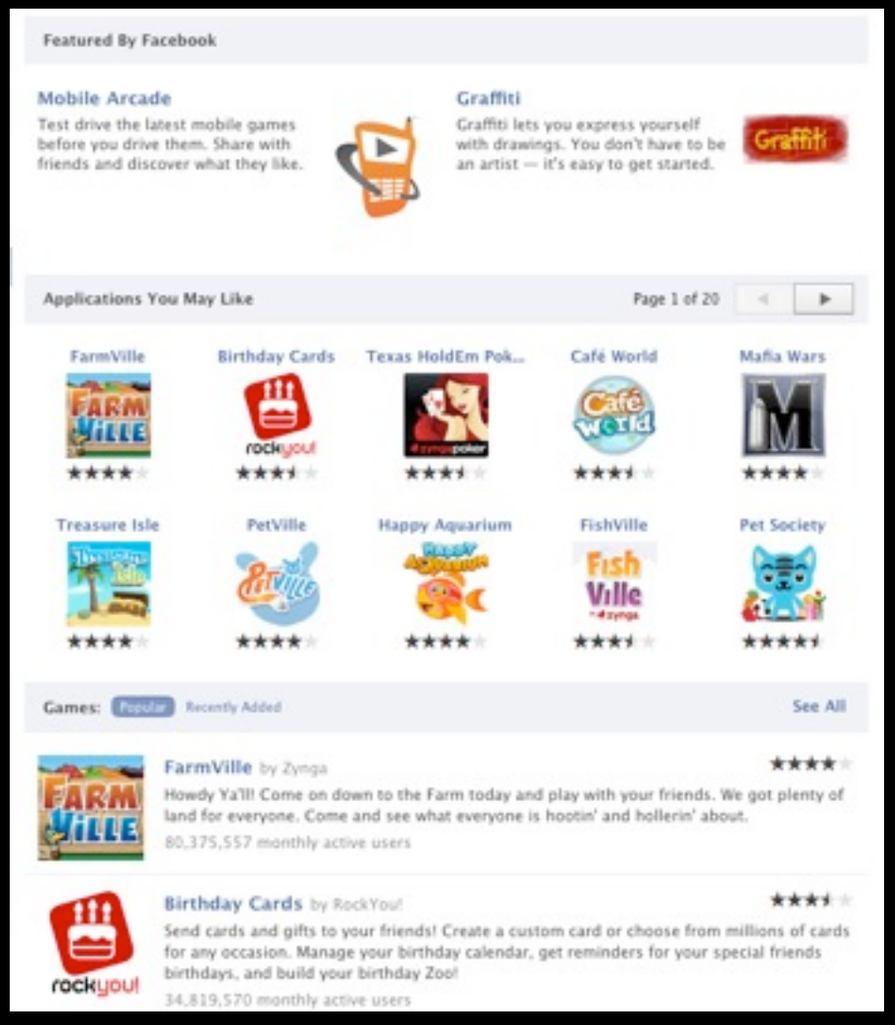
Q1: Do users *really* understand what they are agreeing to by allowing an app access?

Q2: Do developers *really* understand what access rights they have when people add their app?

Social Graph Hacking



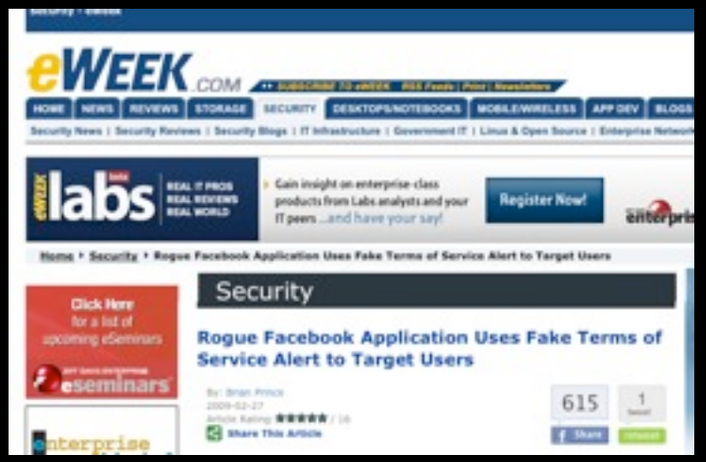
> 250 listed Twitter applications. 65% have > 1000 friends / users



> 5,000 Facebook applications. Games are the most popular.

Social Graph Hacking

☑ Create some apps within popular social web that does something good for free



☑ API's access gives you a LOT of power. eg: you can read, write, create, delete posts, and modify / edit social graphs

☑ Its being done already but could be a lot smarter. I have seen fake Facebook apps but not others yet (eg: Twitter)

☑ Once you have access you can post and modify accounts and details on accounts

All your Social Graph Belongs to US !!!

Geo Hacks

☑ Over time GEO will play a larger role in ranking real-time data

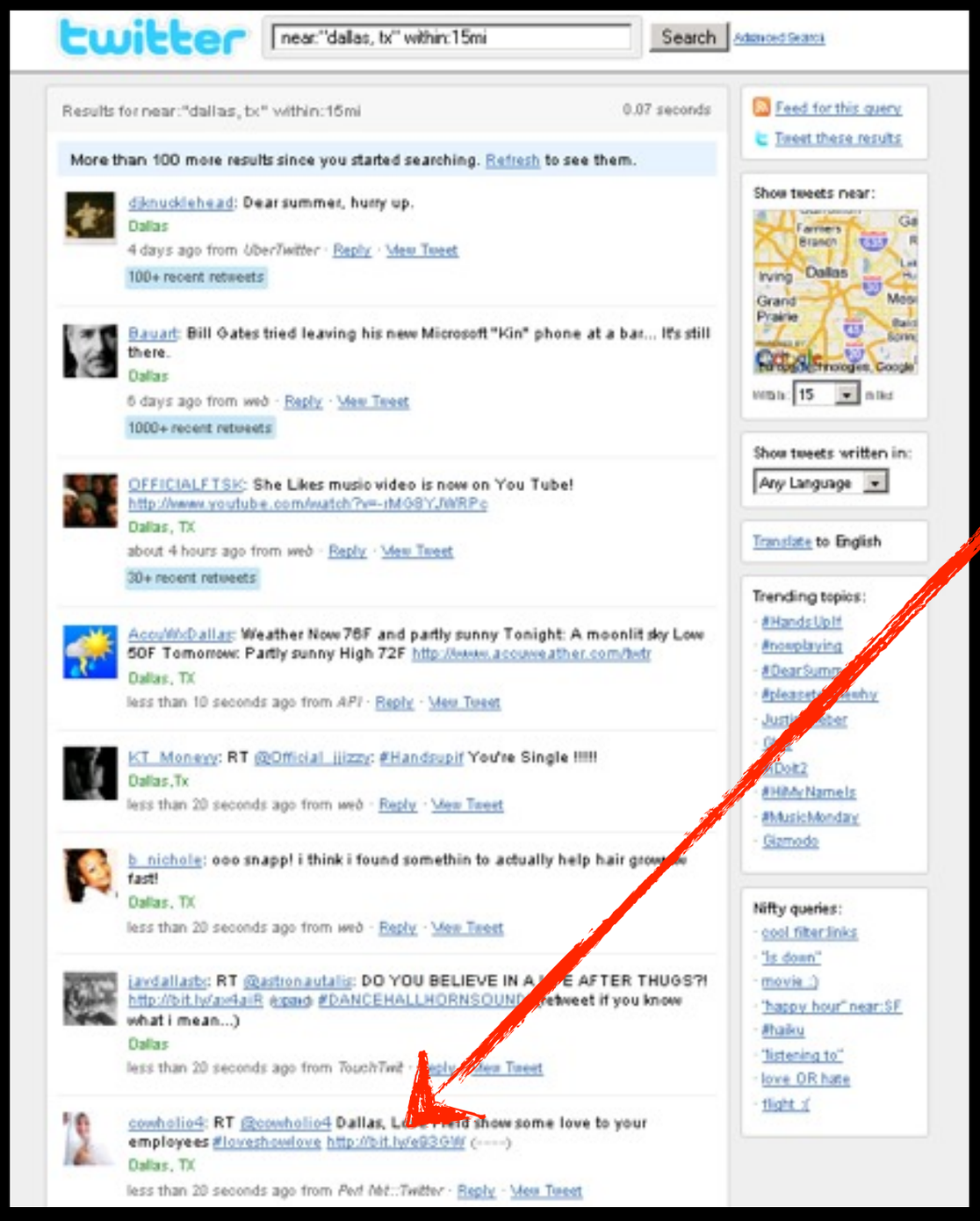
☑ API's that exist today allow you to send your own latitude and longitude however

☑ Some also may use the IP Address of where you are but its not too hard to spoof, proxy, or TOR to get other desired destinations

☑ Assuming GEO plays a larger role you could target folks based on geography

☑ Eventually I imagine GEO getting even more granular (see ambient streams future) where you could target exact locations

Geo Hacks


twitter
near:"dallas, tx" within:15mi
Search
Advanced Search
Results for near:"dallas, tx" within:15mi
0.07 seconds
More than 100 more results since you started searching. Refresh to see them.
djknucklehead: Dear summer, hurry up.
Dallas
4 days ago from UberTwitter · Reply · View Tweet
100+ recent retweets
Bauart: Bill Gates tried leaving his new Microsoft "Kin" phone at a bar... It's still there.
Dallas
6 days ago from web · Reply · View Tweet
1000+ recent retweets
OFFICIALFTSK: She Likes music video is now on You Tube!
http://www.youtube.com/watch?v=-rMGSYJWRPc
Dallas, TX
about 4 hours ago from web · Reply · View Tweet
30+ recent retweets
AccuWxDallas: Weather Now 76F and partly sunny Tonight: A moonlit sky Low 50F Tomorrow: Partly sunny High 72F http://www.accuweather.com/twtr
Dallas, TX
less than 10 seconds ago from API · Reply · View Tweet
KT_Moneyy: RT @Official_jjizzy: #Handsupif You're Single !!!!!
Dallas,Tx
less than 20 seconds ago from web · Reply · View Tweet
b_nichole: ooo snapp! i think i found somethin to actually help hair grow
fast!
Dallas, TX
less than 20 seconds ago from web · Reply · View Tweet
javdallasbx: RT @astronautalis: DO YOU BELIEVE IN A
E AFTER THUGS?!
http://bit.ly/ax4aiR
#DANCEHALLHORNSOUND
retweet if you know what i mean...)
Dallas
less than 20 seconds ago from TouchTwit · Reply · View Tweet
cowholio4: RT @cowholio4 Dallas, L
show some love to your employees #loveshowlove http://bit.ly/e83GW
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Feed for this query
Tweet these results
Show tweets near:
Dallas
Irving
Grand Prairie
Farmers Branch
Google
Within: 15 miles
Show tweets written in:
Any Language
Translate to English
Trending topics:
#HandsUpIf
#nowplaying
#DearSumm
#pleaset
#HiMyNamels
#MusicMonday
Gizmodo
Nifty queries:
cool filter:links
"is down"
movie :)
"happy hour" near:SF
#haiku
"listening to"
love OR hate
flight :(

Geo Hacks

Nearby Tweets

Home Preferences Share on Twitt

Tweets nearby Dallas, TX about anything

Daph_Bitchie @Lela_Victoria yea tell me all about it DALLAS, TX (BITCHIE WORLD) @ 2010-04-26 01:07 PM

tanlinebot Currently on #foolrulez http://foolz.us/webirc - problem(2) dinner(2) today(2) bike(2) play(2) good(2) DALLAS @ 2010-04-26 01:05 PM

cowholio4 RT @cowholio4 Dallas, **Love Field** show some **love** to your employees #**love**show**love** http://bit.ly/e93GW DALLAS, TX @ 2010-04-26 02:01 PM

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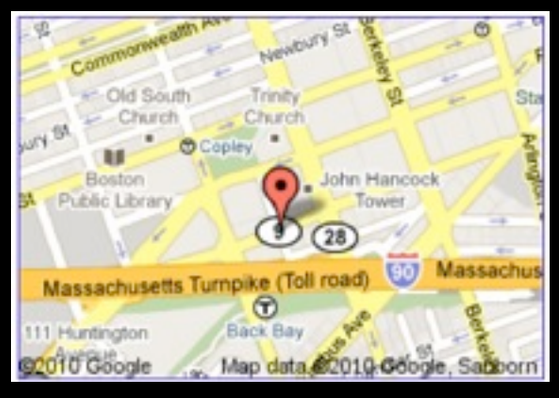
Synergy: Sum > parts



Relevant topic
current event!

+

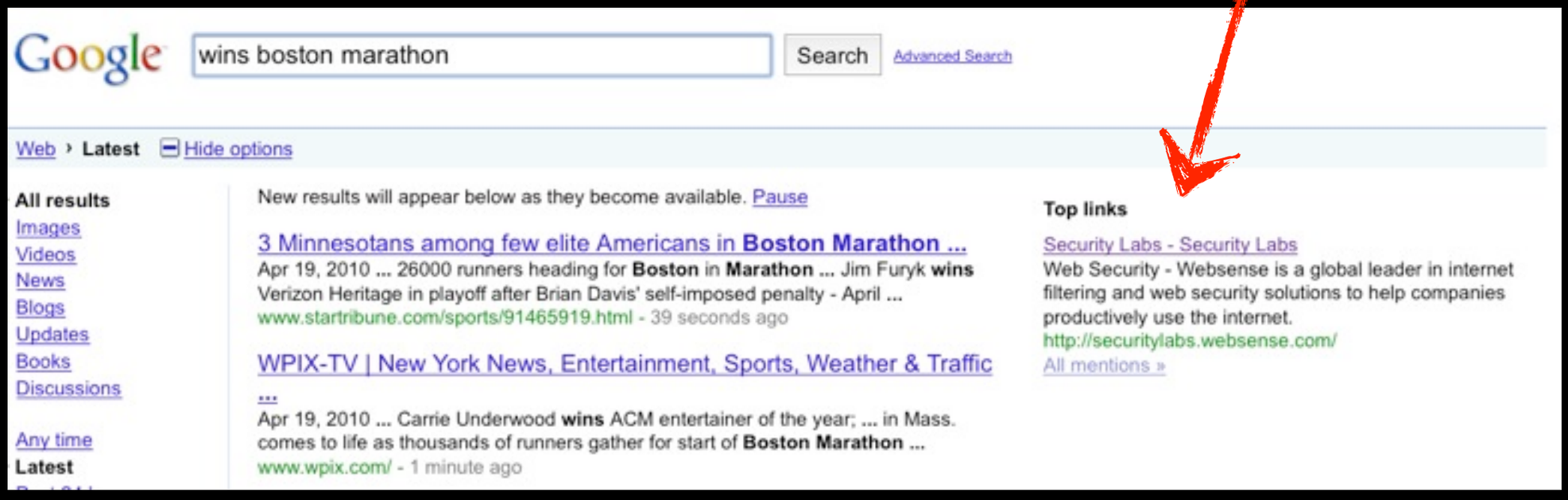
Social Graph member
14,000 members of
Boston Marathon
Facebook page like
what I like.

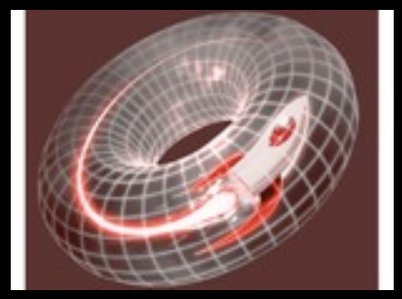
+

Posted from Boston
finish line

Synergy: Sum > parts

Utopia
real-estate

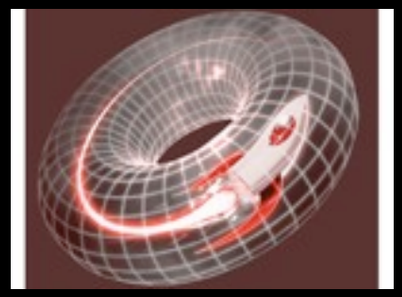




Future of Real-Time Hacking

+

When will Trojans use open API's? Its not a matter of *IF* its a matter of *WHEN* and *HOW* often.



Future of Real-Time Hacking

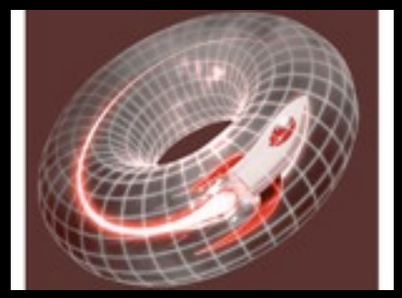
- [x] Bot Net rentals start using public API's

- [x] Bot Net uses TOR and other hidden networks and proxy capabilities. Approximate size = 100,000 nodes

- [x] Registers 5 accounts per day in Facebook, Twitter, Myspace, Google API's, and now controls 14 Million + accounts in 1 week (100,000 * 5 * 4 * 7)

- [x] Use the social grid messaging systems to control the BotNet. Use tactics similar to MebRoot and others. Entire BotNet should be P2P and controllable through messages across social graphs

- [x] Lets think evil, what would you do?



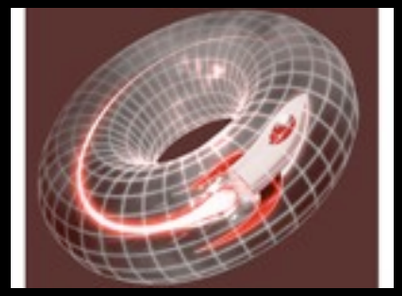
Future of Real-Time Hacking

- [x] Pull common headlines and build reputation with Tweets

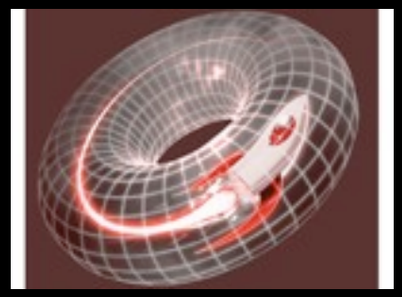
- [x] Distribute password cracking on top X Twitter and Facebook users

- [x] Build up GEO specific popularity for future attacks that rely on GEO

- [x] Build my own social graph within my peers and then start infiltrating others to join mine



Future of Real-Time Hacking



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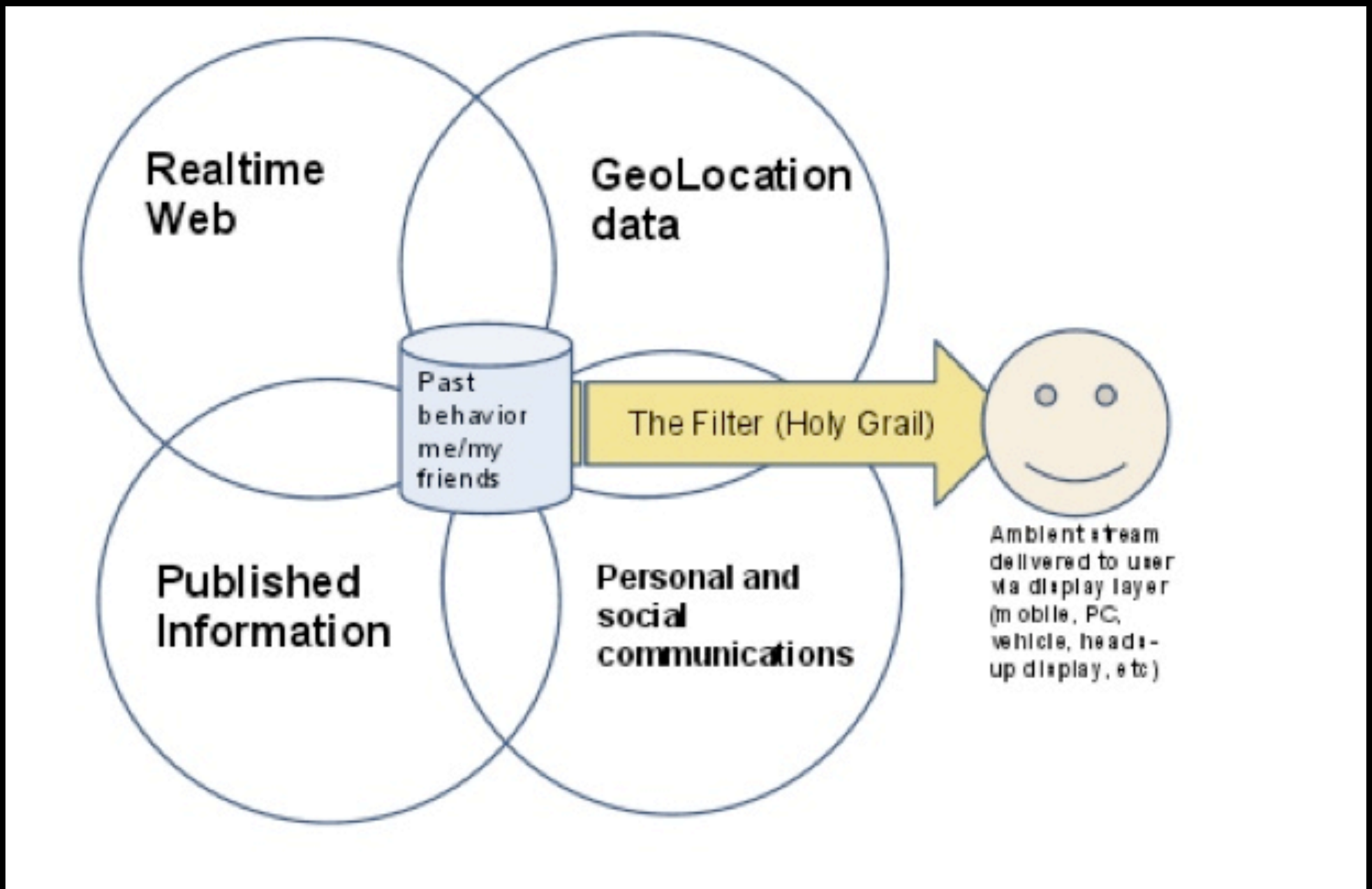

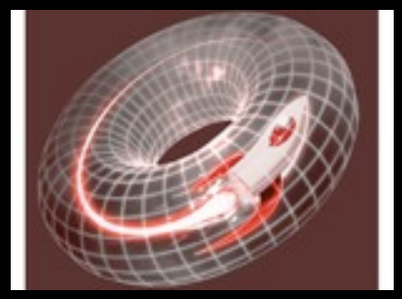

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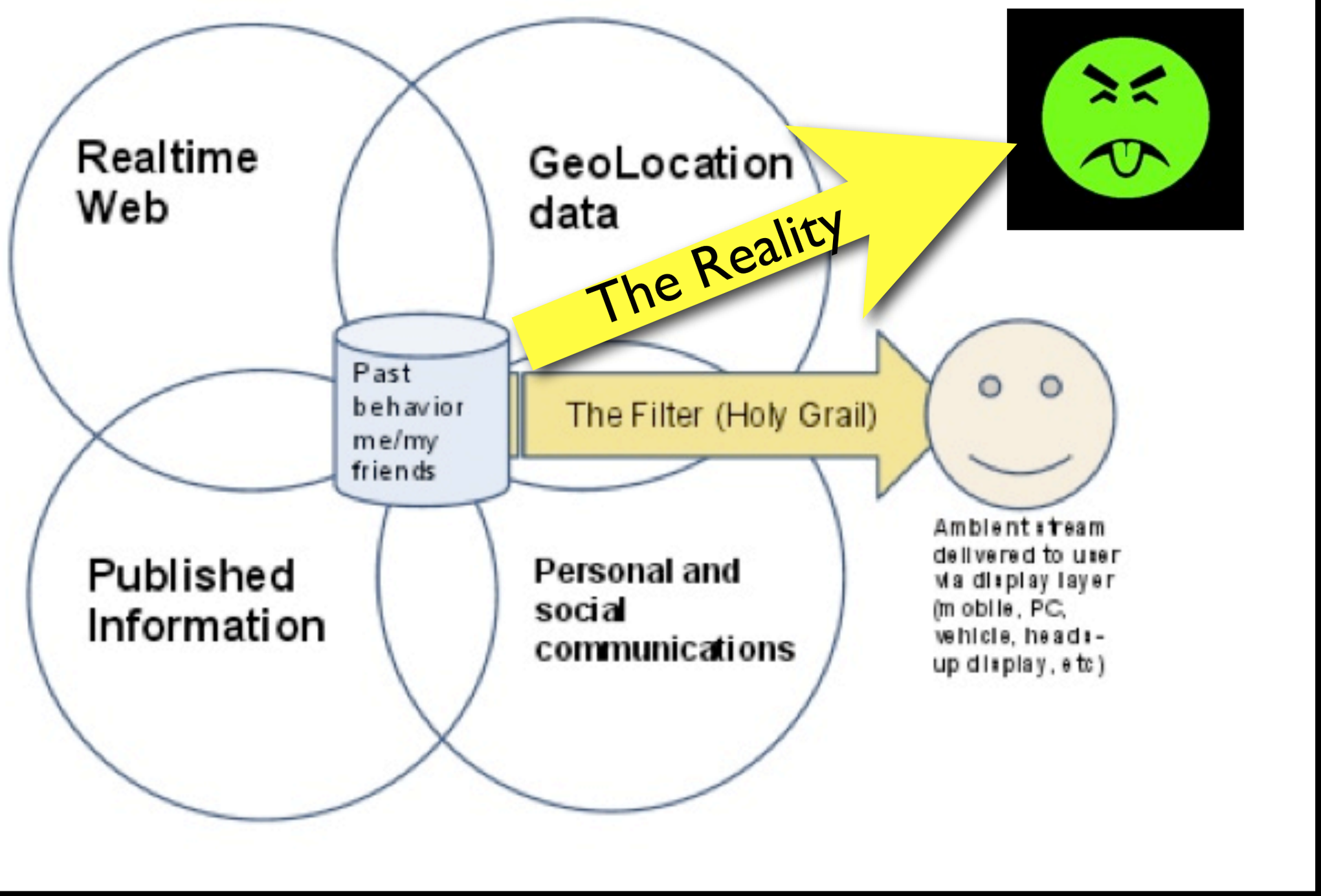
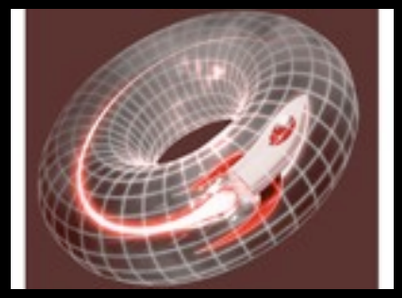
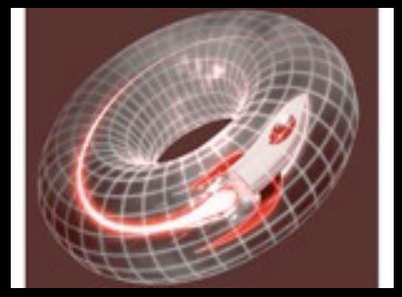




Future of Real-Time Hacking

Latitude/Longitude and pinpoint "AKA location aware" targeted services are particularly scary because they could transcend the attacks from virtual to meatspace.



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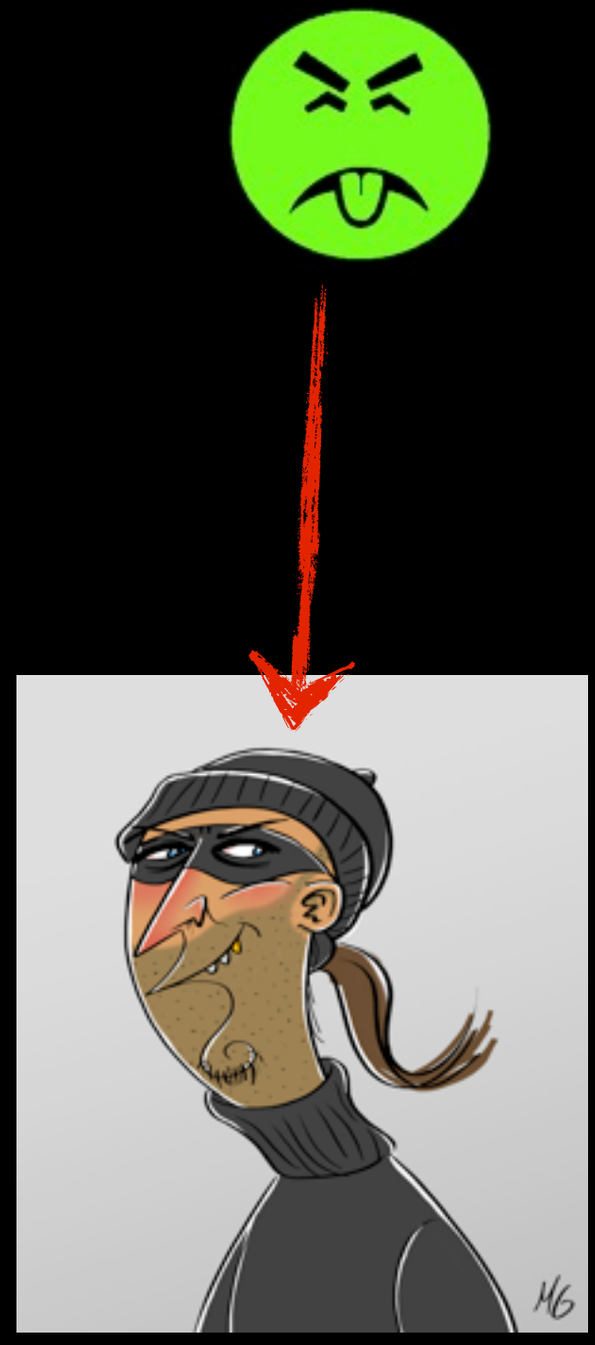


PINNOKIO

Already a liar? Login

Home | Story Gallery | About

Lie to Your Social Network!

Pinnokio shares little white lies about what you're doing through your Twitter, Facebook, and foursquare accounts.

Become a Liar

Learn More

We all use Facebook, Twitter, and foursquare to brag to our social network about the cool things we do. With Pinnokio, there is no reason to let the truth stand in the way of a good story.

Connects to Your Accounts On Popular Social Networks

Pinnokio works with the most popular social networks, including Facebook, Twitter and foursquare. And it's easy to connect them!

View Our Story Gallery or Create Your Own Story

Pinnokio gives you the option to use one of our pre-configured stories to share with others. Or use our Story Builder to create your own.

No One Will Know Your Posts Aren't the Real Deal

Pinnokio covers its tracks. None of your social network accounts will show any evidence that you're using our service.

Story Gallery

Below are some pre-configured stories you might want to share with your social network.

Date with a Beautiful Girl in New York

Why not let everyone in your social network think you're on a date with a beautiful girl? Includes check-ins at a nice restaurant and lounge, and a few other messages about the night out.

Register

Meeting with Potential Clients in New York

Want to play hookie? Let everyone back at the office think you're running around New York, meeting with potential clients and making sure work is getting done.

Register

Running Errands for the Wife in San Francisco

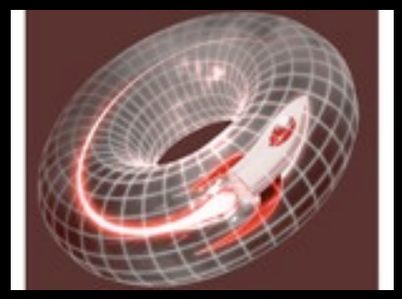
Need a day out of the house? Let the wife think you are getting your list of errands done and finishing up your honey-do list. Instead, go enjoy the day doing whatever you want.

Register

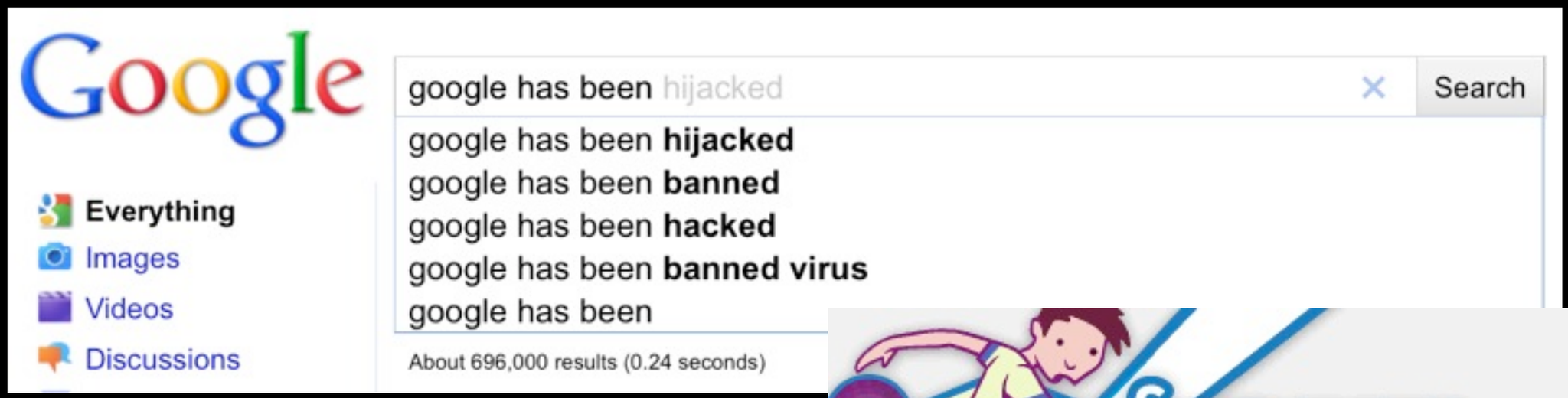
Drinkin' with Mikey in Las Vegas/Los Angeles

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed volutpat, nisi id suscipit suscipit, risus erat ultricies mi, nec ultricies nunc ligula in ante. Cras dapibus mollis porttitor.

Register



Future of Real-Time Hacking



Next project: hacking Google Instant search and hacking foursquare.

dhubbard @ websense.com

That's you!

Lists

Thanks, Questions and other Evil Thoughts?

5 minutes ago via web

Dan Hubbard
CTO, @Websense.com

- www.websensesesecuritylabs.com