

Privacy & Security in the context of cloud computing and big data

Is it possible, relevant, and
what would it take?

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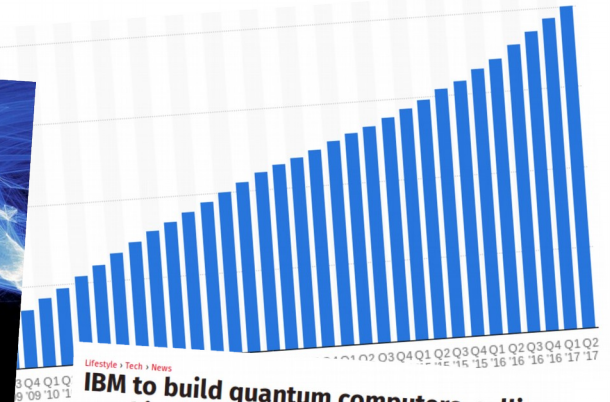
How Big?

7:30, Nov 27th, 2017

<http://www.internetlivestats.com/total-number-of-websites-online-right-now/>

1,292,130,527

Websites online right now



IBM to build quantum computers, selling machines millions of times faster than anything made before

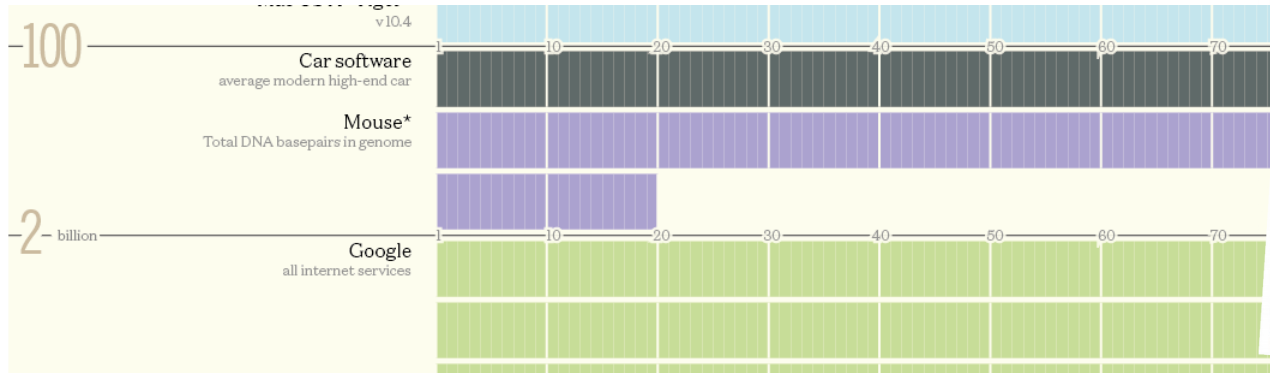
The first practical machines will be available soon enough that developers should start working on software for them, according to executives

Andrew Griffin | @_andrew_griffin | 23 hours ago | 2K comments



2K

news



<http://www.informationisbeautiful.net/visualizations/million-lines-of-code/>

- “ [... 2011] Google's server count [...] **1 million** [...]”

<http://www.datacenterknowledge.com/archives/2011/08/01/report-google-uses-about-90000-servers/>

implications of connectivity

- access to information & knowledge
- direct democracy, holacracy, OpenOrg etc.
- non-centralized currencies
- education
- entertainment
- more ...

http://rationalwiki.org/wiki/List_of_forms_of_government

<http://www.holacracy.org/constitution>

<https://opensource.com/open-organization/resources/what-open-organization>

Connected World Services

- free services
 - Facebook, Google, Skype, ...
- really free?
 - Service providers use our data to enable effective delivery of advertisement
- “Have we accepted surveillance as a business model?” https://www.schneier.com/blog/archives/2013/11/surveillance_as_1.html
- Why should we care?
 - Service providers make money from using users' data for advertisements
 - “surveillance as a business model” isn't so bad!



Raising awareness about over-sharing

Check out our [guest blog post](#) on the CDT website.

Like Share 32K people like this.

Check your own Twitter timeline for checkins

Are you curious if people can see your checkins? Enter your Twitter username and find out.

Your Twitter username

Find

Share

More Info

Home

Why

Made Possible By

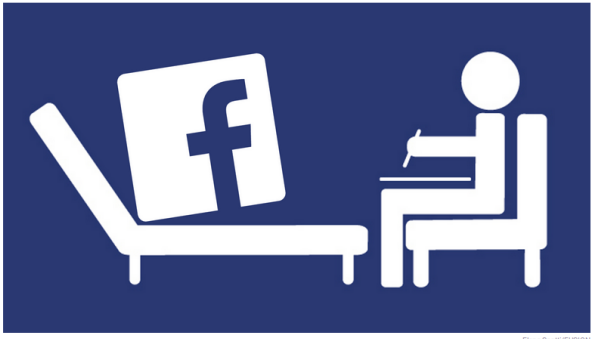
Foursquare

Twitter

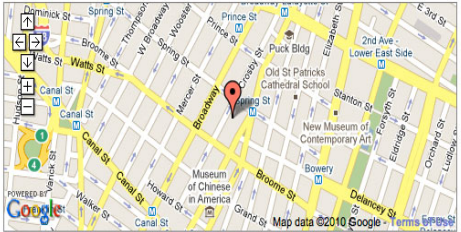
@bovyanamstel

@frankmcneaney

Facebook recommended that this psychiatrist's patients friend each other



Elena Scotti/FUSION



ars TECHNICA

BIZ & IT TECH SCIENCE POLICY CARS GAMING & CULTURE FORUMS

LAW & DISORDER —

Beware of ads that use inaudible sound to link your phone, TV, tablet, and PC

Privacy advocates warn feds about surreptitious cross-device tracking.

DAN GOODIN - 11/13/2015, 8:00 PM

DELLEMC

Twitter Facebook LinkedIn

Dell EMC webinar: More than cameras: the invisible challenges of video surveillance

Tuesday, November 15th 12:00 p.m. CET

Register Now >>

Social Media Plays Key Role in Bank Fraud



Interview with American Bankers Association's Jane Yao

Tracy Kitten @FraudBlogger • August 3, 2016 • 5 Minutes • 0 Comments

Twitter Facebook LinkedIn Credit Eligible Get Permission

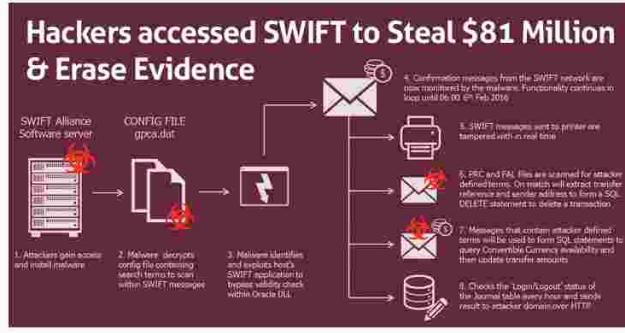


dependability of the conr world

How Did Hackers Who Stole \$81 Million from Bangladesh Bank Go Undetected?

Monday, April 25, 2016 Swati Khairulwal

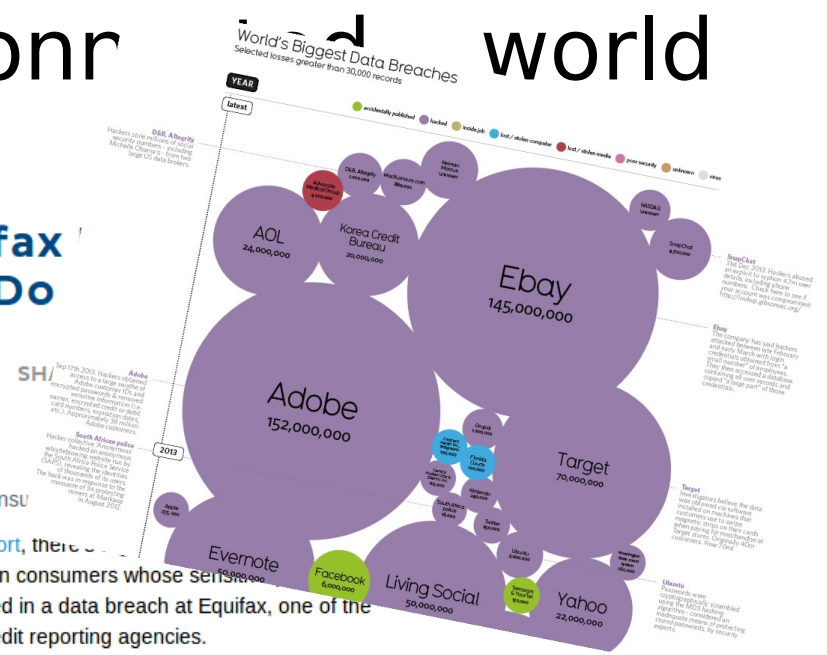
474 Likes 5.7K Shares 8306 Tweets 808 Shares 417 Shares 9765



The Equifax What to Do

September 8, 2017
by Seena Gressin
Attorney, Division of Consumer Affairs

If you have a credit report, there is a 1/3 chance that the 143 million American consumers whose sensitive information was exposed in a data breach at Equifax, one of the nation's three major credit reporting agencies.



Hackers Hit 100 Banks in 'Unprecedented' \$1 Billion Cyber Heist: Kaspersky Lab

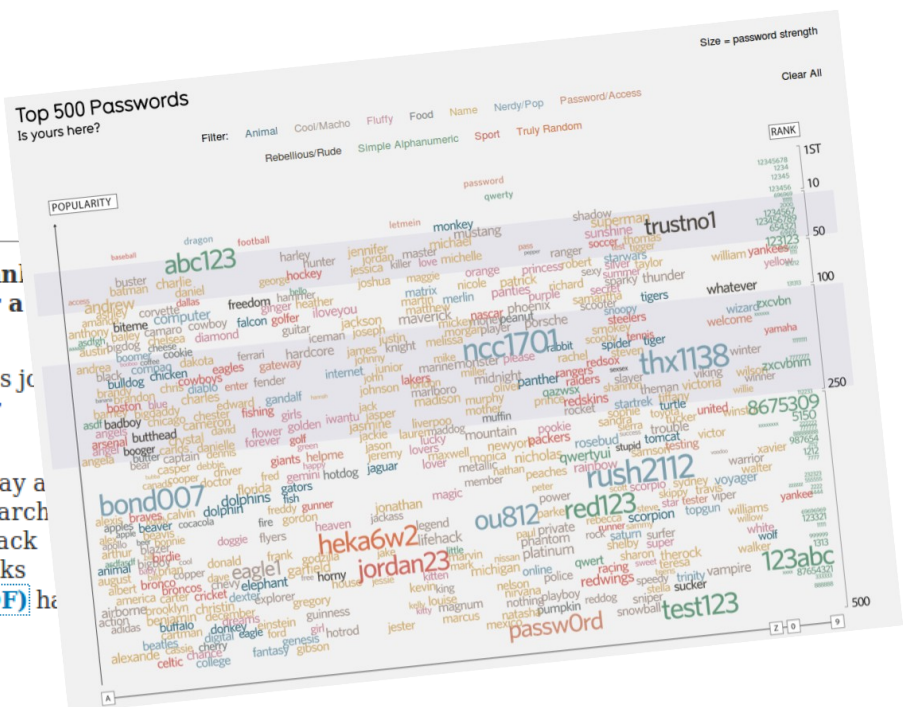
By Mike Lennon on February 15, 2015

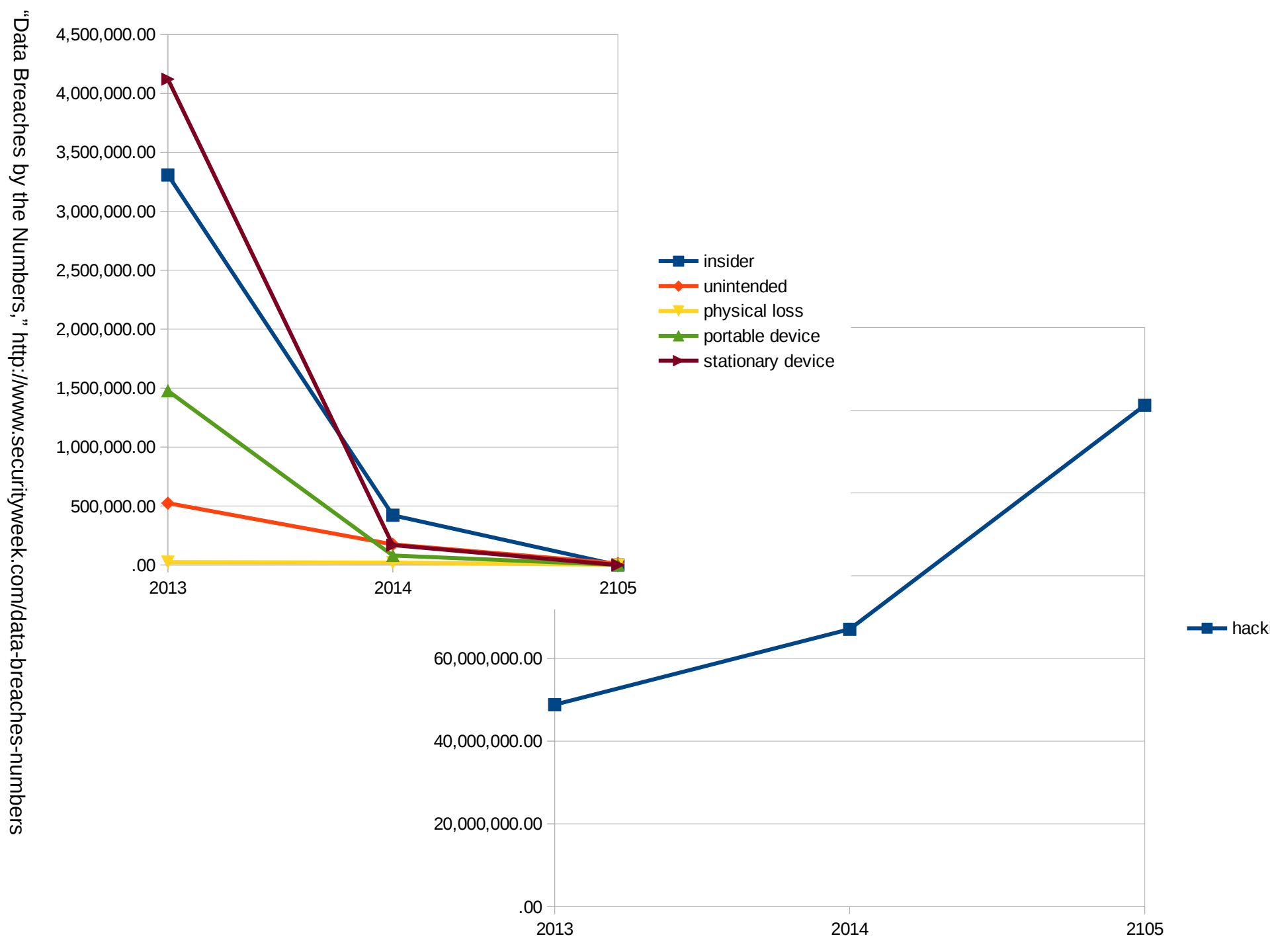
707 Shares 49 Tweets 348 Recommend 31 RSS

A multinational gang of cybercriminals infiltrated more than 100 banks across 30 countries and made off with up to one billion dollars over a period of roughly two years, Kaspersky Lab said on Saturday.

Kaspersky Lab, INTERPOL, Europol and authorities from different countries joined forces to uncover the plot, which is being called an "unprecedented cyber robbery."

In a report obtained by SecurityWeek that is scheduled to be released Monday at Kaspersky Lab's Security Analyst Summit (SAS) in Cancun, Mexico, researchers described a Hollywood style scheme where attackers used an arsenal of attack tools and techniques to siphon massive amounts of money directly from banks rather than targeting end user banking customers. (Update: the report (PDF) has now been released)





Dependability!

CRA, November 2003, [unsolved] grand challenges:

- Economic
- Epidemic
- Engineering
- Human

<http://archive.cra.org/Activities/grand.challenges/security/home.html>

– The Economist, November 2015:

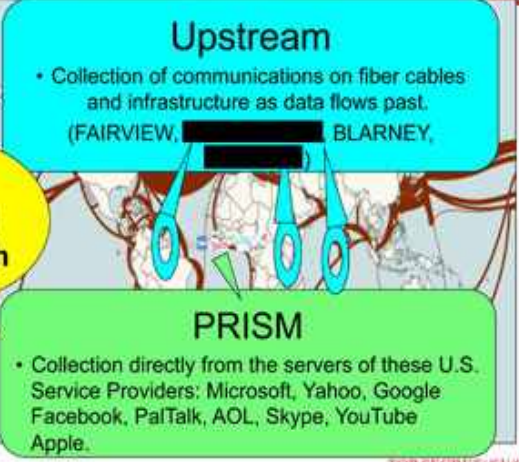
- “The cost of immaturity”
 - Average time to breach detection 205 days
 - Estimated global cost of 90m cyber-attacks: \$575 billion
- “cyber-security industry is booming”
 - Market: \$75 billion a year now [...] \$170 billion by 2020

– 2016:

- cloud, mobile, social media, and more: **“Cybersecurity is terrible, and will get worse”**; IoT **“will be a security disaster”**

<https://www.lightbluetouchpaper.org/2016/02/22/financial-cryptography-2016/>

FAA702 Operations
 Two Types of Collection



You Should Use Both

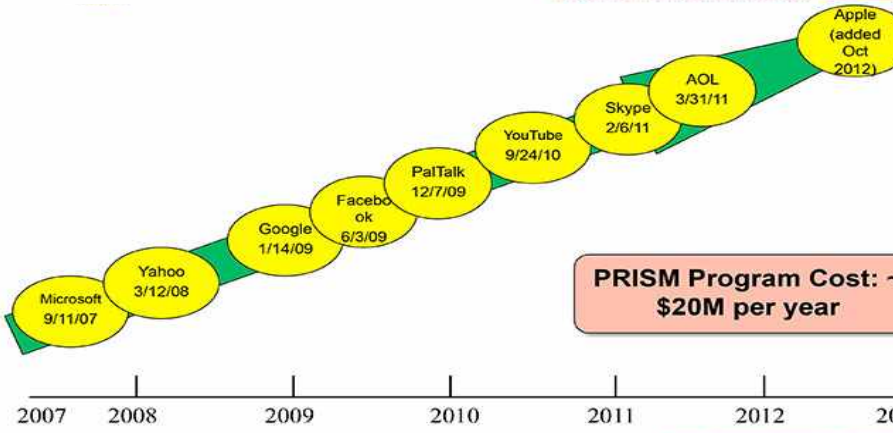
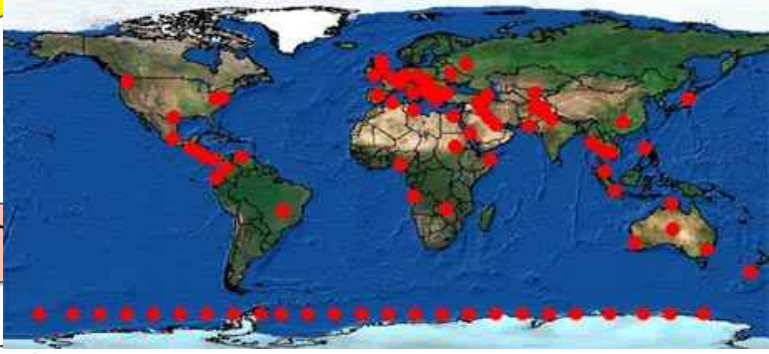
PRISM Collection Details

- Current Providers
- Microsoft (Hotmail, etc.)
 - Google
 - Yahoo!
 - Facebook
 - PalTalk
 - YouTube
 - Skype
 - AOL
 - Apple

- What Will You Receive in Collection (Surveillance and Stored Comms)?
 It varies by provider. In general:
- E-mail
 - Chat – video, voice
 - Videos
 - Photos
 - Stored data
 - VoIP
 - File transfers
 - Video Conferencing
 - Notifications of target activity – logins, etc.
 - Online Social Networking details
 - **Special Requests**

Complete list and details on PRISM web page:
 Go PRISMFAA

Where is X-KEYSCORE?



PRISM Program Cost: \$20M per year



Colin Ellard Ph.D.
Mind Wandering

Oppressive Spaces, Social Networks, and the Panopticon

How does being seen or being hidden influence our feelings?



Posted Sep 05, 2012

www.psychologytoday.com/blog/mind-wandering/201209/oppressive-spaces-social-networks-and-the-panopticon

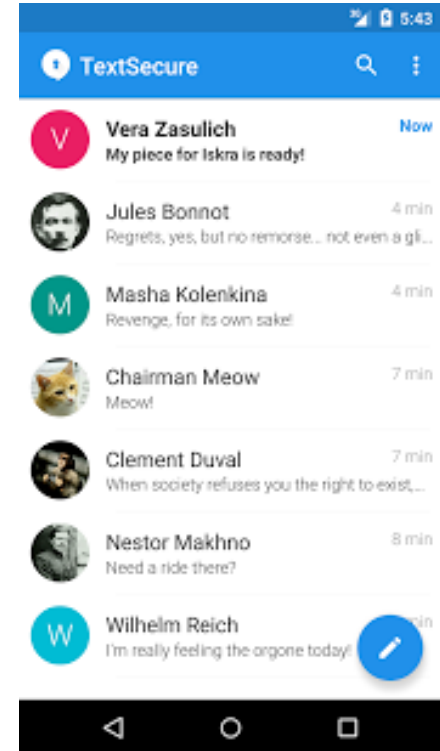
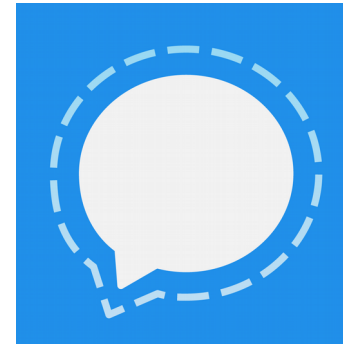
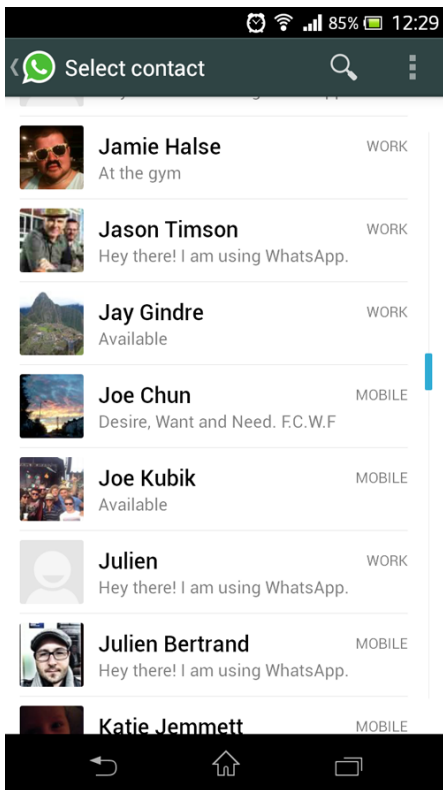
“Orwell was an optimist”

<https://www.google.com/search?q=Orwell+was+an+optimist>

implications

- gaps in knowledge & understanding
 - RSA Conference 2017: Hacker Highschool
 - <https://youtu.be/lqllMoPnihA>
 - <http://www.hackerhighschool.org/>
 - <http://www.isecom.org/>
--Pete Herzog
- “Robust Protection for Privacy Must Be Technical”
--R. Stallman, “How Much Surveillance Can Democracy Withstand,” <https://www.wired.com/2013/10/a-necessary-evil-what-it-takes-for-democracy-to-survive-surveillance/>

a short case study



<http://unicornomy.com/how-does-whatsapp-make-money/>

<https://www.whispersystems.org/>

<https://www.opentech.fund/project/open-whisper-systems>

final considerations

- the connected world, dependability, & trust
- greater transparency & oversight
- X “[...] is too important a matter to be left to [...]” Y
 - Georges Clemenceau
- alternative business models
 - will they be accepted
 - should we try?

final considerations

- Security/CIAA is/are essential
- “privacy is possible,” but not easy
- society should define the standards

Thank you ...

Questions?

<http://www.cse.aucegypt.edu/~skassas/itu-2017/>