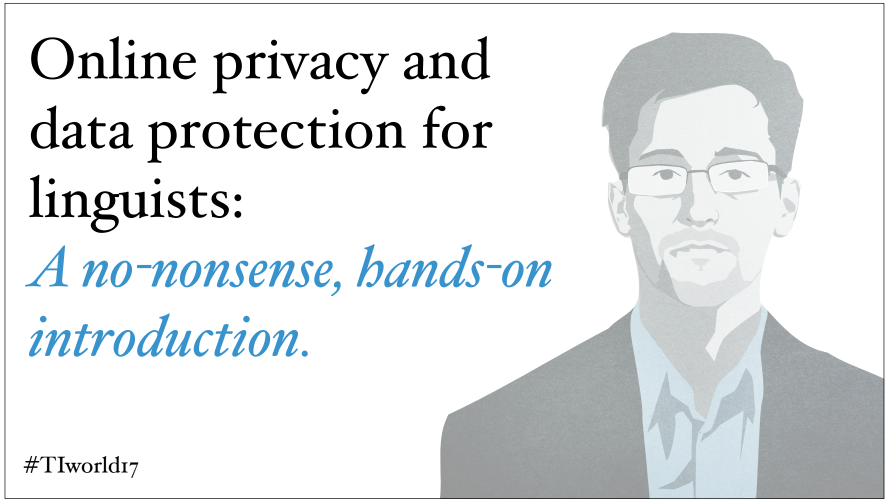


Online privacy and data protection for linguists:

A no-nonsense, hands-on introduction.

#TIworld17

Image credit: https://www.flickr.com/photos/truthout/14348649238/

Hi!

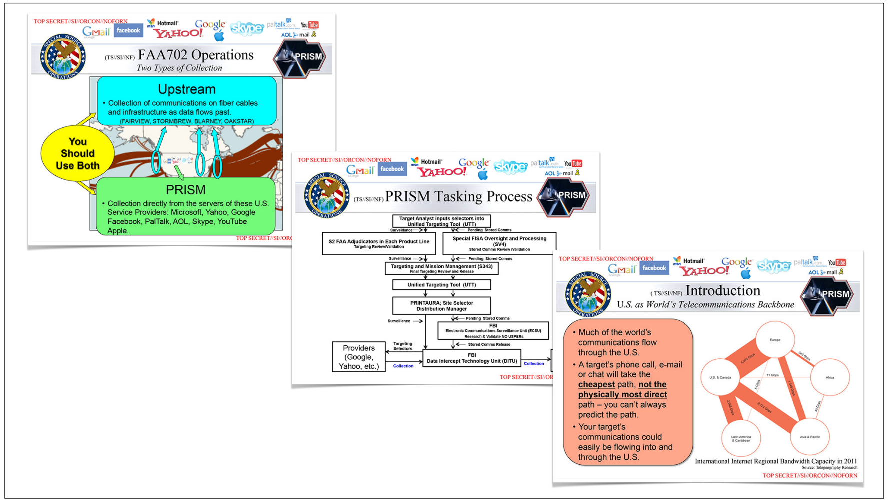
I am an EU staff interpreter, technology trainer, podcaster, father of two, husband of one.

http://xl8.link/movember

This is *Edward Snowden.*

- June 21, 1983
- North Carolina
- Family of public servants
- grandfather rear admiral in Coast Guard, later high-ranking FBI official; was in the Pentagon on 9/11
- father also coast guard officer
- mother at a district court
- sister lawyer at Federal Judicial Center in DC
- Studied Japanese, knew some Mandarin Chinese
- Discharged from military because broke both legs
- Joined CIA in 2006, rose up the ranks quickly
- Spent March 2007 under diplomatic cover in Geneva at US UN mission
- 2009 joined Dell, support government IT (stationed in Tokyo)
- Started "downloading" documents in 2012, while at Dell

https://citizenfourfilm.com/



TOP SECRET//SI//ORCON//NOFORN

(TS//SI//NF) FAA702 Operations

Two Types of Collection

You Should Use Both

Upstream

- Collection of communications on fiber cables and infrastructure as data flows past. (FAIRVIEW, STORMBREW, BLARNEY, OAKSTAR)

PRISM

- Collection directly from the servers of these U.S. Service Providers: Microsoft, Yahoo, Google Facebook, PalTalk, AOL, Skype, YouTube Apple.

TOP SECRET//SI//ORC

TOP SECRET//SI//ORCON//NOFORN

(TS//SI//NF) PRISM Tasking Process

Target Analyst inputs selectors into Unified Targeting Tool (UTT)

Surveillance

Pending Stored Comms

S2 FAA Adjudicators in Each Product Line
Targeting Review/Validation

Special FISA Oversight and Processing (SV4)
Stored Comms Review /Validation

Surveillance

Pending Stored Comms

Targeting and Mission Management (S343)
Final Targeting Review and Release

Unified Targeting Tool (UTT)

PRINTAURA; Site Selector Distribution Manager

Surveillance

Pending Stored Comms

FBI
Electronic Communications Surveillance Unit (ECSU)
Research & Validate NO USPERs

Stored Comms Release

Providers (Google, Yahoo, etc.)

Targeting Selectors

Collection

FBI
Data Intercept Technology Unit (DITU)

Collection

TOP SECRET//SI//OR

TOP SECRET//SI//ORCON//NOFORN

(TS//SI//NF) Introduction

U.S. as World's Telecommunications Backbone

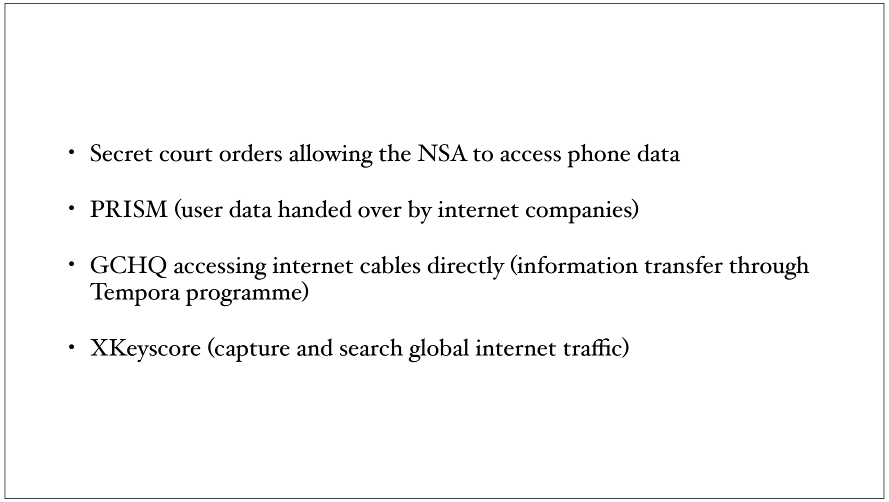
- Much of the world's communications flow through the U.S.
- A target's phone call, e-mail or chat will take the **cheapest** path, **not the physically most direct** path – you can't always predict the path.
- Your target's communications could easily be flowing into and through the U.S.

International Internet Regional Bandwidth Capacity in 2011

Source: Telegeography Research

TOP SECRET//SI//ORCON//NOFORN

Death. By. PowerPoint. Is real.

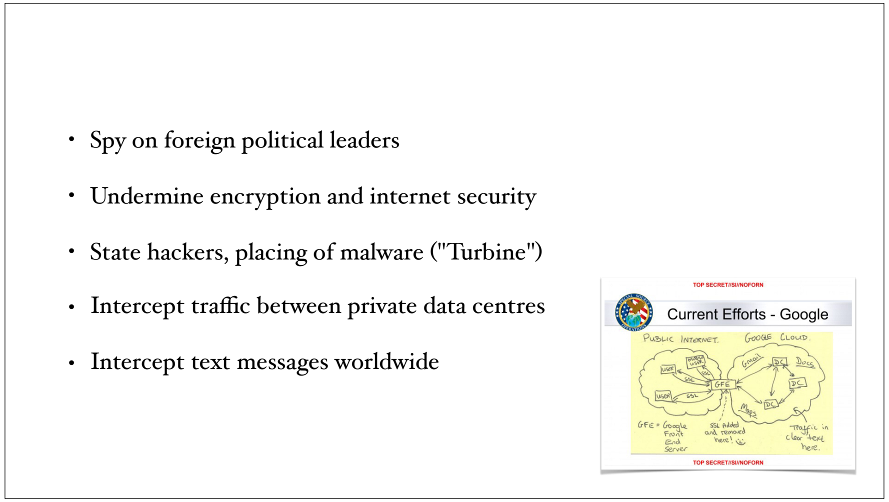


- Secret court orders allowing the NSA to access phone data
- PRISM (user data handed over by internet companies)
- GCHQ accessing internet cables directly (information transfer through Tempora programme)
- XKeyscore (capture and search global internet traffic)

Not just NSA

Five Eyes Intelligence Agency (USA + Australia, Canada, New Zealand, UK)

- Secret court orders allowing the NSA to access Google and Yahoo accounts
- PRISM (user data handed over by internet companies)
- GCHQ accessing internet cables directly (information transfer through TEMPORA programme)
- XKeyscore (capture and search global internet traffic for anything and anyone)



- Spy on foreign political leaders
- Undermine encryption and internet security
- State hackers, placing of malware ("Turbine")
- Intercept traffic between private data centres
- Intercept text messages worldwide

TOP SECRET//SI//NOFORN
Current Efforts - Google
PUBLIC INTERNET.
GOOGLE CLOUD.
USER
MOBILE USER
USER
SSL
SSL
SSL
GFE
Gmail
DC
Docs
DC
DC
Maps
GFE = Google Front End Server
SSL Added and removed here! ☺
Traffic in clear text here.
TOP SECRET//SI//NOFORN

*   Spy on 122 foreign political leaders (Merkel, EU, Israeli prime minister)

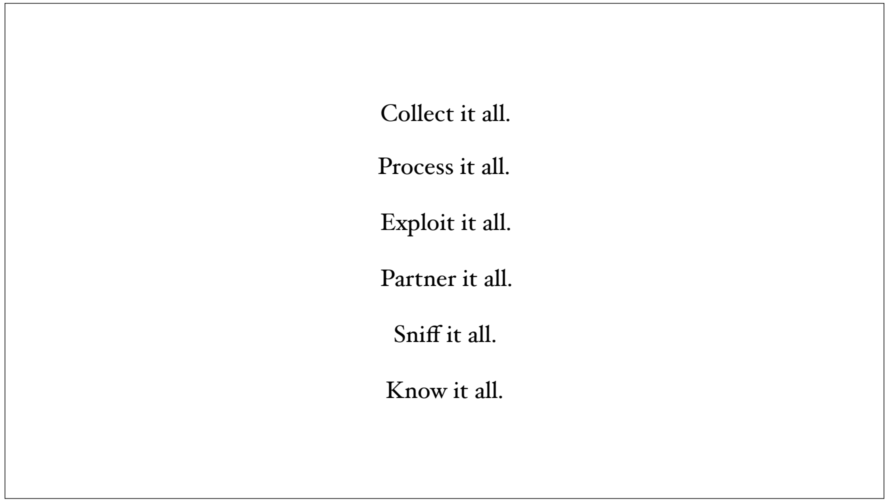
* Undermine encryption and internet security

* State hackers, placing of malware

Snowden was offered to join "Tailored Access Operations" (NSA hacker team) but turned down and went to Booz Allen

* Intercept traffic between private data centres or interface between company and public internet

* Intercept text messages worldwide, NSA call database ("Boundless Informant")



Collect it all.

Process it all.

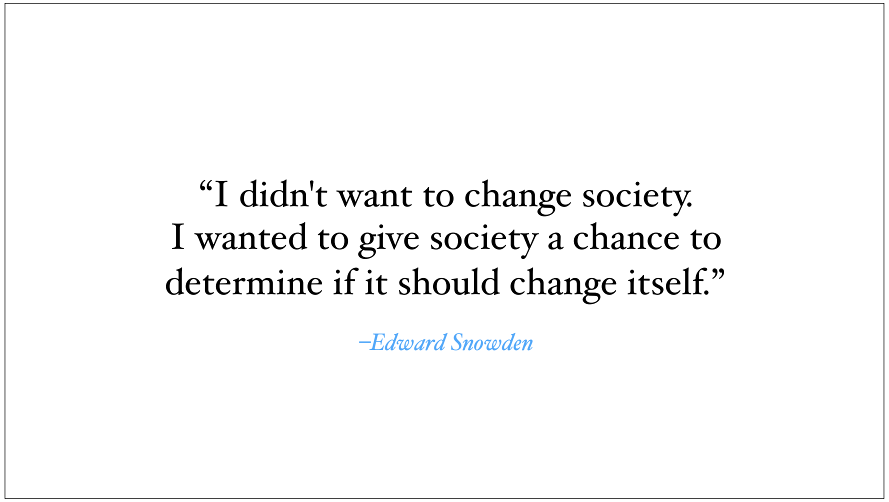
Exploit it all.

Partner it all.

Sniff it all.

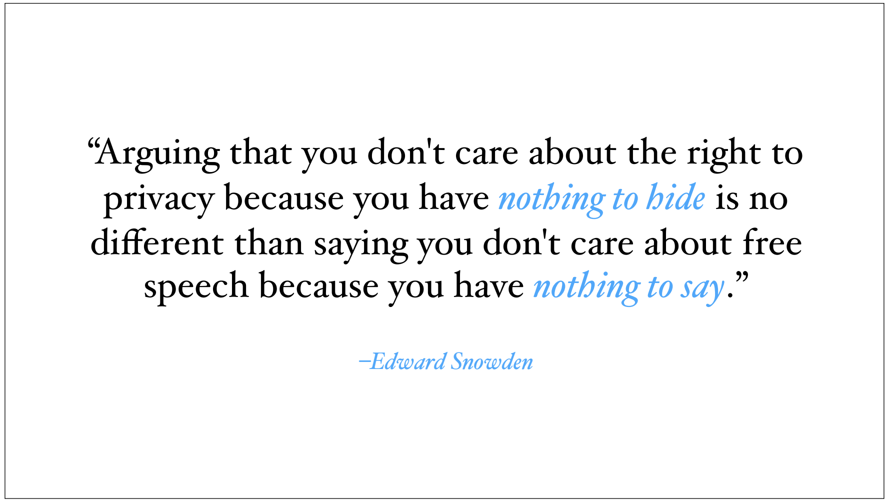
Know it all.

NSA: "Collect it all, process it all, exploit it all, partner it all, sniff it all, know it all."



“I didn't want to change society.
I wanted to give society a chance to
determine if it should change itself.”

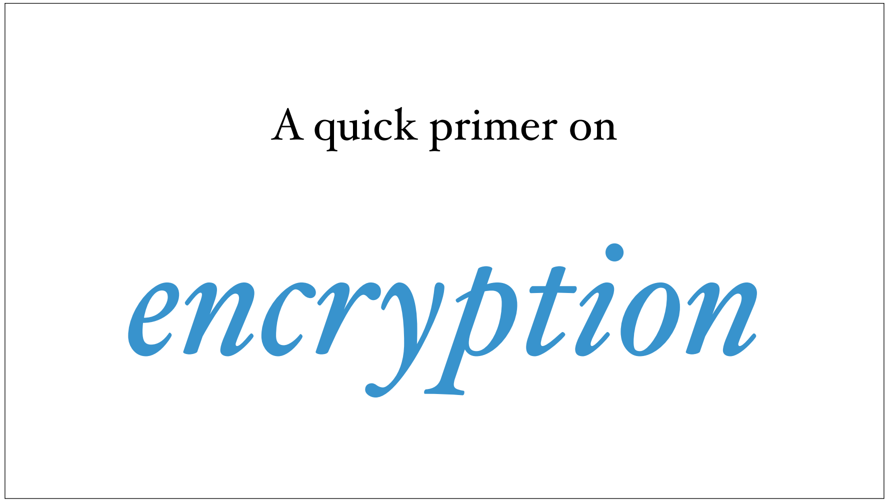
–Edward Snowden



“Arguing that you don't care about the right to privacy because you have *nothing to hide* is no different than saying you don't care about free speech because you have *nothing to say*.”

–Edward Snowden

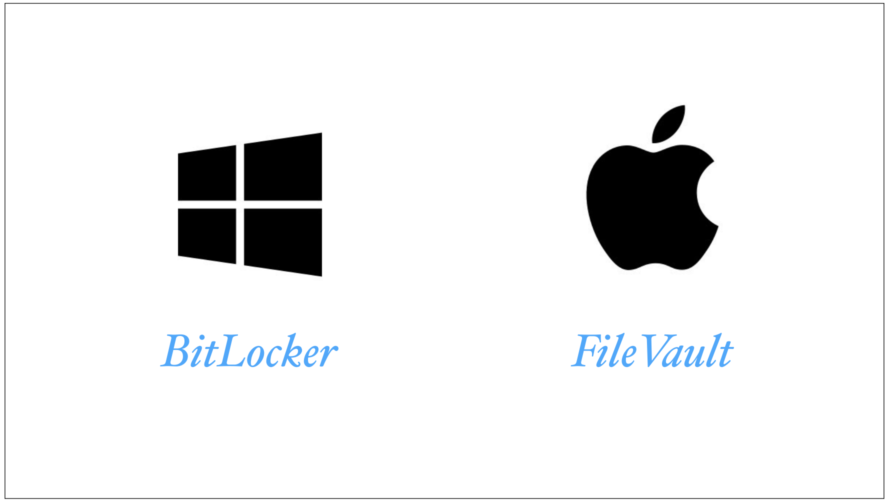
Glenn Greenwald's TED talk about privacy: https://www.ted.com/talks/glenn_greenwald_why_privacy_matters/



A quick primer on

encryption

* Dictionary: "the activity of converting data or information into code"
* Sophisticated mathematics
* Objectives:
    * confidentiality (only for authorised recipient (email))
    * data integrity (has data been modified?)
    * authentication (correct sender)
    * enforcability (digital signature)
* Encrypt data on computer: TrueCrypt for Windows, FileVault for Mac (built in)



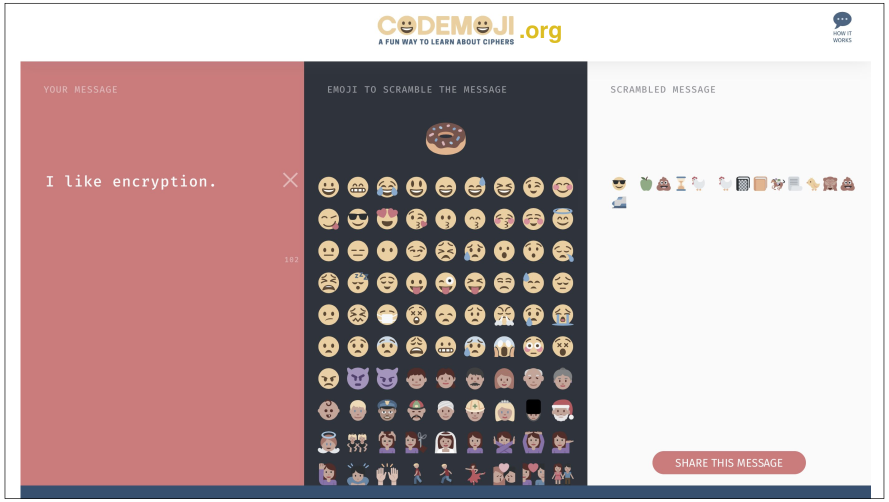
BitLocker

FileVault

https://www.howtogeek.com/234826/how-to-enable-full-disk-encryption-on-windows-10/

More about BitLocker: https://docs.microsoft.com/en-us/windows/device-security/bitlocker/bitlocker-overview

More about FileVault: https://support.apple.com/kb/PH25553?locale=en_US



I like encryption.

Going dark?

https://cyber.harvard.edu/pubrelease/dont-panic/

- encryption unlikely to be adopted ubiquitously by companies
- most businesses rely on access to user data for revenue and functionality (forgotten passwords)
- ecosystems are (inherently) fragmented
- networked sensors/Internet of Things = much bigger issue for surveillance
- Metadata is not encrypted (and mostly cannot be)

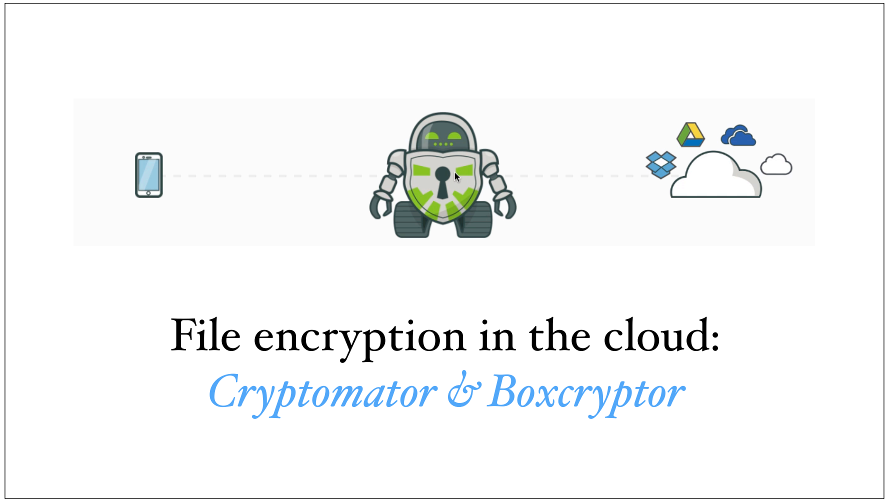
Let's talk about...

the "cloud"

There is no cloud
it's just someone else's computer

- Automated "spying": spam filter, email intelligence
- Rogue employees (Twitter’s 11 minutes without Trump)
- Secret government access (US National Security Letter)
- Data breaches by third parties (incl. state-sponsored attacks)

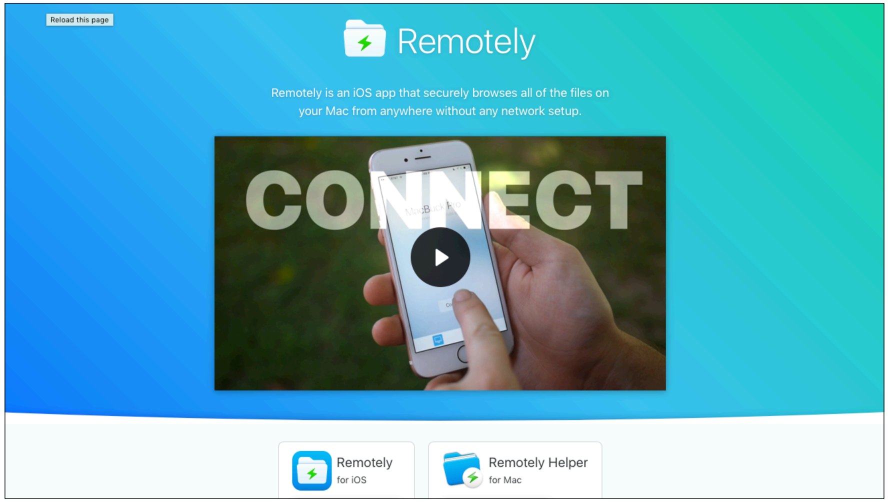
Photo credit: https://www.flickr.com/photos/wbob/4171615158, Bob West



File encryption in the cloud:

Cryptomator & Boxcryptor

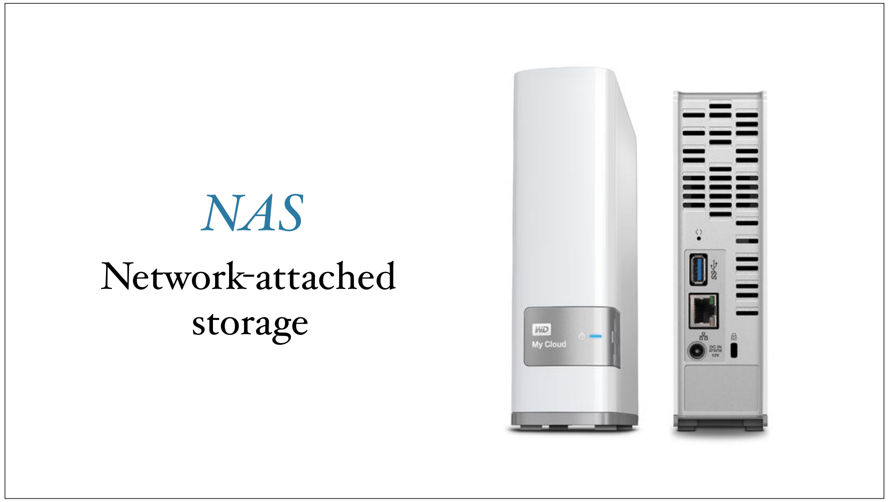
Cryptomator/Boxcryptor (secure cloud use on all platforms, free for private use, encrypt using TouchID)
https://www.boxcryptor.com/
http://cryptomator.org



Remotely

Remotely is an iOS app that securely browses all of the files on your Mac from anywhere without any network setup.

Accessing files on your computer from away: https://getremotely.com
(alternative for Windows/Android: https://www.pushbullet.com; “Remote Files” feature)
cloud backup services like Backblaze or Carbonite —> access backed-up files in the cloud



NAS

Network-attached storage

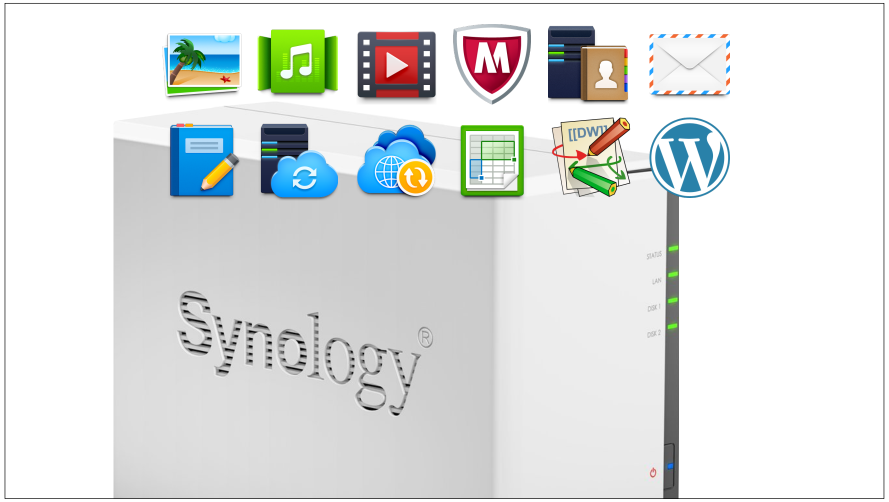
external hard drive/Time Machine/Windows backup

BACKUP: Rule of three (https://www.hanselman.com/blog/TheComputerBackupRuleOfThree.aspx)

- 3 copies of anything **you care about**
- 2 different formats - Example: Dropbox+DVDs or Hard Drive+Memory Stick or CD+Crash Plan, or more
- 1 off-site backup (if the house burns down)

Extra rule: make it automatic or put it in your to-do list/calendar

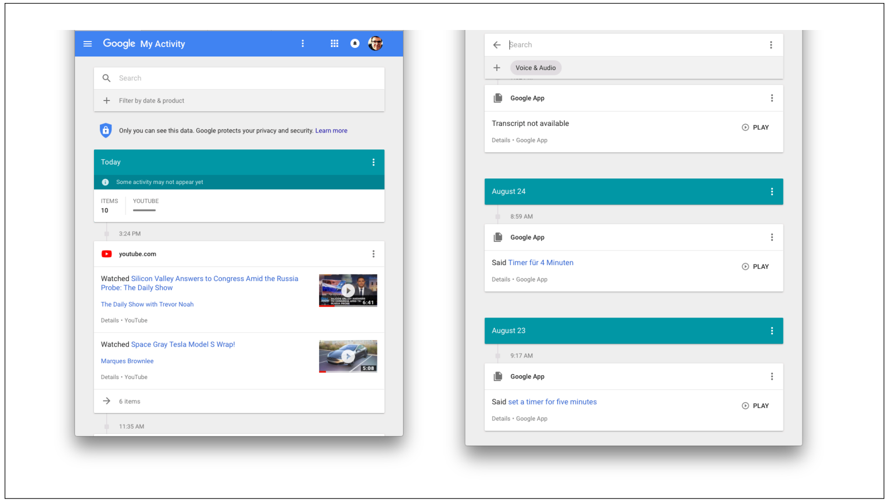
WesternDigital My Cloud: https://www.wdc.com/products/personal-cloud-storage/my-cloud.html



Network-attached storage (Synology, QNAP)

Storage/backup

Install applications



Only you can see this data. Google protects your privacy and security. Learn more

Some activity may not appear yet

Watched Silicon Valley Answers to Congress Amid the Russia Probe: The Daily Show

The Daily Show with Trevor Noah

Details • YouTube

Watched Space Gray Tesla Model S Wrap!

Marques Brownlee

Details • YouTube

Transcript not available

Details • Google App

Said Timer für 4 Minuten

Details • Google App

Said set a timer for five minutes

Details • Google App

not just files and documents
processing of voice input (Google can do it locally, iPhone always goes up to the cloud)
https://myactivity.google.com/myactivity?restrict=vaa
How to delete what Google knows about you: http://www.wired.co.uk/article/google-history-search-tracking-data-how-to-delete

https://www.scientificamerican.com/article/pogue-how-private-is-your-voice-assistant-device/

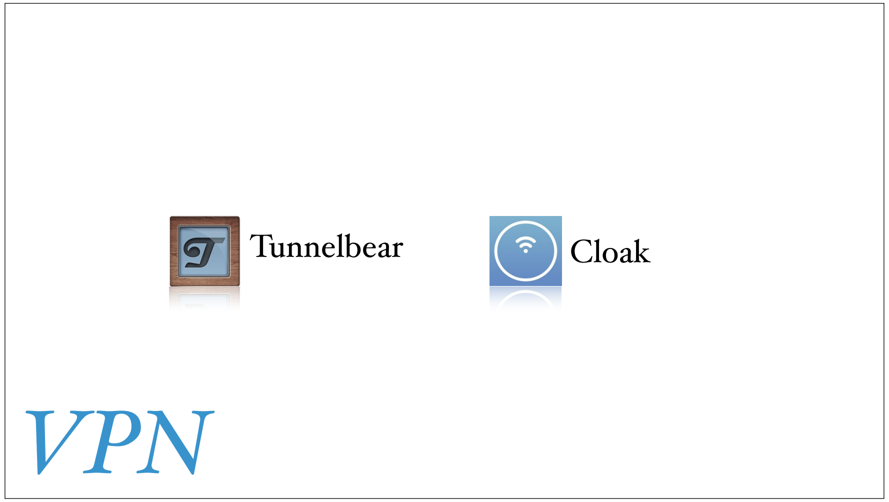
Let's talk about...

secure connectivity

- Data often transported unencrypted
- Device > router/access point > internet provider > internet backbone > target computer
- Risks: spying, manipulating data, intercept data, steal credentials

- Be wary of free, open wifi (airports, coffee shops, hotels…)
- Retail wifi: "wifi tracking" (https://www.theguardian.com/technology/datablog/2014/jan/10/how-tracking-customers-in-store-will-soon-be-the-norm), customer profiling

“HTTPS everywhere” browser plug-in: https://www.eff.org/https-everywhere



Tunnelbear

Cloak

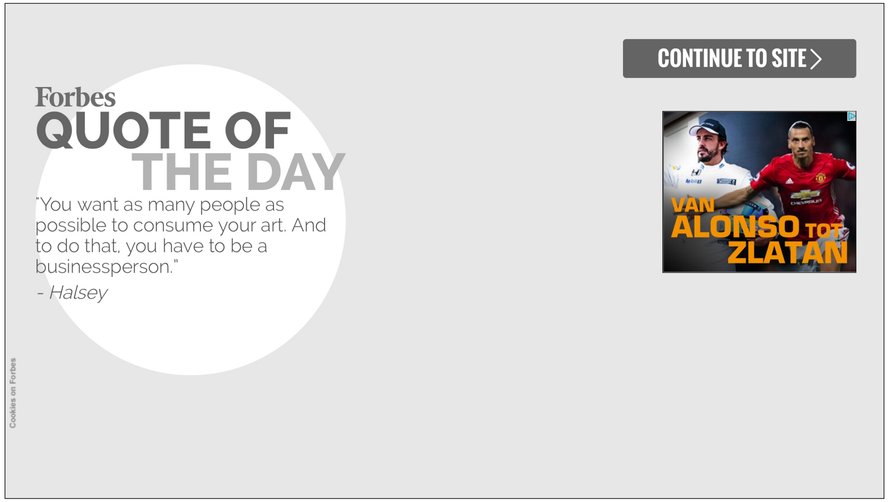
VPN

- VPN - virtual private network
- Build secure tunnel for your internet communication

* VPN and geo-blocking

talk ab

ads

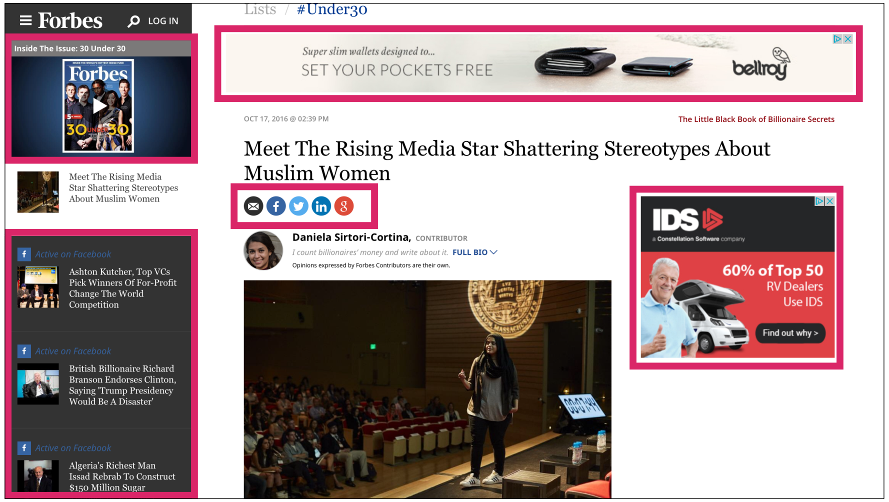


Forbes

QUOTE OF THE DAY

"You want as many people as possible to consume your art. And to do that, you have to be a businessperson."

- *Halsey*



Meet The Rising Media Star Shattering Stereotypes About Muslim Women

Active on Facebook

Ashton Kutcher, Top VCs Pick Winners Of For-Profit Change The World Competition

Active on Facebook

British Billionaire Richard Branson Endorses Clinton, Saying 'Trump Presidency Would Be A Disaster'

Active on Facebook

Algeria's Richest Man Issad Rebrab To Construct $150 Million Sugar

OCT 17, 2016 @ 02:39 PM

The Little Black Book of Billionaire Secrets

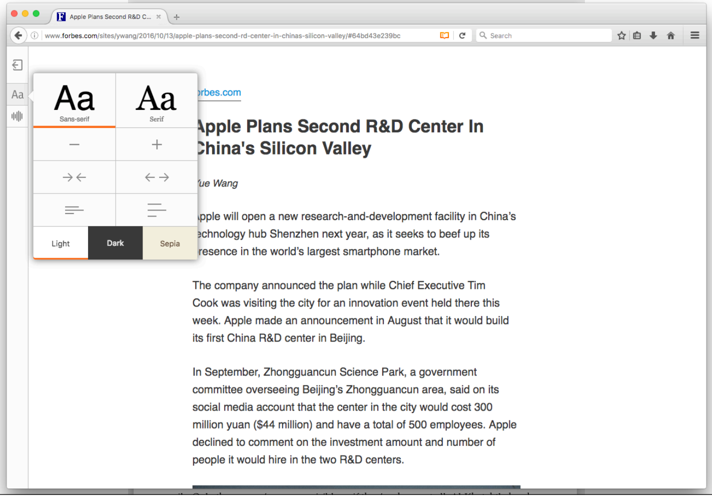
Meet The Rising Media Star Shattering Stereotypes About Muslim Women

Daniela Sirtori-Cortina, CONTRIBUTOR

I count billionaires' money and write about it. FULL BIO

Opinions expressed by Forbes Contributors are their own.

1. Ads
2. Auto-playing video
3. Social plugins, sharing buttons


Apple Plans Second R&D C...
www.forbes.com/sites/ywang/2016/10/13/apple-plans-second-rd-center-in-chinas-silicon-valley/#64bd43e239bc
Search
Aa
Sans-serif
Aa
Serif
Light
Dark
Sepia

rbes.com

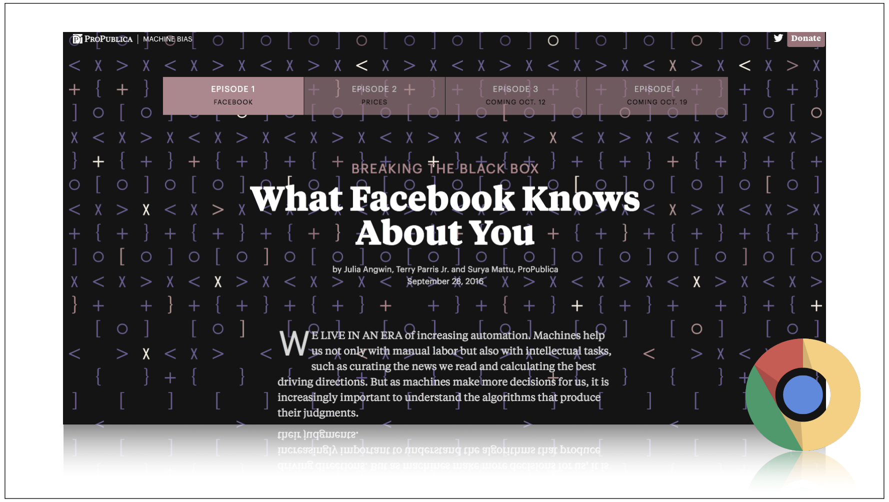
pple Plans Second R&D Center In hina's Silicon Valley

ue Wang

pple will open a new research-and-development facility in China's echnology hub Shenzhen next year, as it seeks to beef up its resence in the world's largest smartphone market.

The company announced the plan while Chief Executive Tim Cook was visiting the city for an innovation event held there this week. Apple made an announcement in August that it would build its first China R&D center in Beijing.

In September, Zhongguancun Science Park, a government committee overseeing Beijing's Zhongguancun area, said on its social media account that the center in the city would cost 300 million yuan ($44 million) and have a total of 500 employees. Apple declined to comment on the investment amount and number of people it would hire in the two R&D centers.



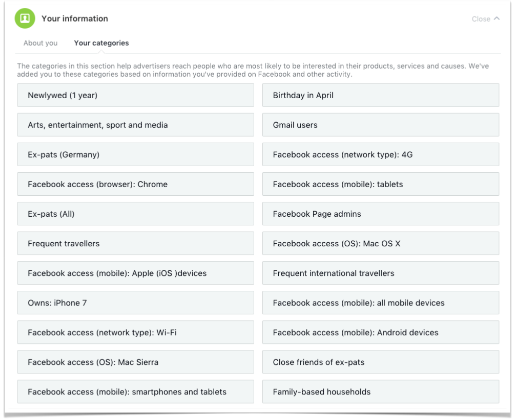
BREAKING THE BLACK BOX

What Facebook Knows About You

by Julia Angwin, Terry Parris Jr. and Surya Mattu, ProPublica
September 28, 2016

WE LIVE IN AN ERA of increasing automation. Machines help us not only with manual labor but also with intellectual tasks, such as curating the news we read and calculating the best driving directions. But as machines make more decisions for us, it is increasingly important to understand the algorithms that produce their judgments.

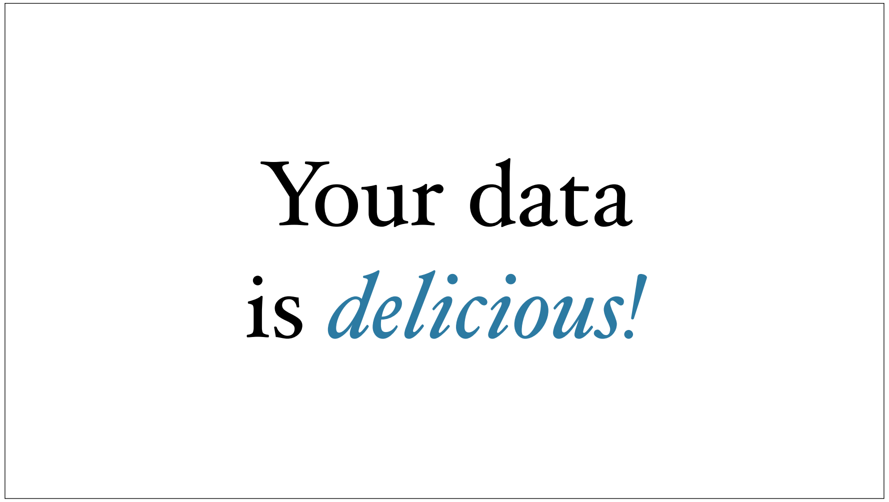
Chrome tool: https://www.propublica.org/article/breaking-the-black-box-what-facebook-knows-about-you
https://www.washingtonpost.com/news/the-intersect/wp/2016/08/19/98-personal-data-points-that-facebook-uses-to-target-ads-to-you/
Keep track of your activities on all sites outside Facebook that have a Like or Share button installed.



The categories in this section help advertisers reach people who are most likely to be interested in their products, services and causes. We've added you to these categories based on information you've provided on Facebook and other activity.

Newlywed (1 year)	Birthday in April
Arts, entertainment, sport and media	Gmail users
Ex-pats (Germany)	Facebook access (network type): 4G
Facebook access (browser): Chrome	Facebook access (mobile): tablets
Ex-pats (All)	Facebook Page admins
Frequent travellers	Facebook access (OS): Mac OS X
Facebook access (mobile): Apple (iOS)devices	Frequent international travellers
Owns: iPhone 7	Facebook access (mobile): all mobile devices
Facebook access (network type): Wi-Fi	Facebook access (mobile): Android devices
Facebook access (OS): Mac Sierra	Close friends of ex-pats
Facebook access (mobile): smartphones and tablets	Family-based households

Facebook: Settings > Adverts > Your information > Your categories
(also check “Ad settings” while you’re at it)

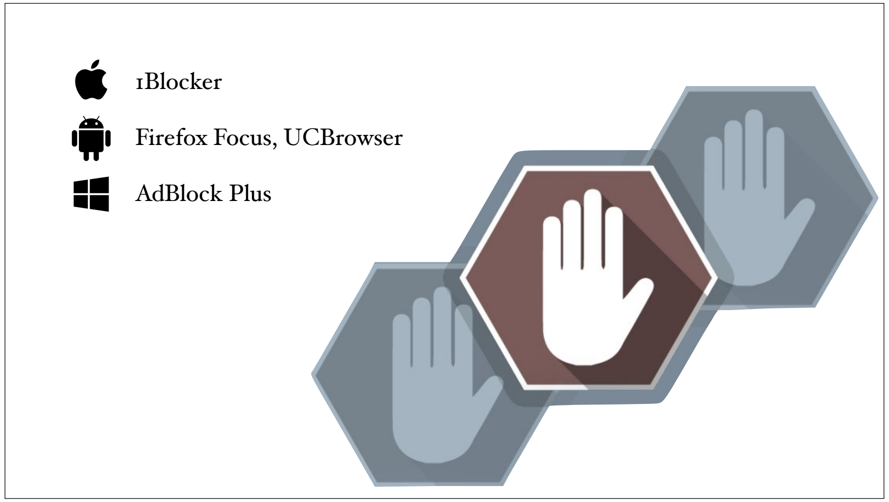


Your data
is *delicious!*

- Facebook user worth average 5 USD per year
- Respect other peoples' privacy concerns (NO address upload to social media)
- "If the product is free, you are the product." 🙄 (data = currency)

Cookies:

- identify users
- remember users' custom preferences (i.e. interface language)
- help users complete tasks without having to re-enter information when browsing from one page to another or when visiting the site later
- online behavioural target advertising and to show adverts relevant to something that the user searched for in the past.
- When user requests a new page, the web server can receive the values of the cookies it previously set and return the page with content relating to these values.
- session cookie which is erased when the user closes the browser or
- persistent cookie which remains on the user's computer/device for a pre-defined period of time
- first-party cookies which are set by the web server of the visited page and share the same domain
- third-party cookies stored by a different domain to the visited page's domain. This can happen when the



1Blocker

Firefox Focus, UCBrowser

AdBlock Plus

- Ad-blockers
- advantages (save data volume, faster load, security, tracking/privacy…)
- Apple: https://1blocker.com/ (sync settings across devices)
- Android: difficult, Google makes money with ads; use alternative browsers like Firefox Focus or UCBrowser; https://www.androidauthority.com/samsung-android-browser-ad-block-670709/
- Windows: AdBlock Plus plug-in for Firefox, Chrome etc.
- Remember to whitelist your favourite sites or subscribe to them!
- Use micro-payment services or online reading services (Blendle, Flattr etc.)

Devices/computers phoning home
https://www.howtogeek.com/224616/30-ways-windows-10-phones-home/

Image source: https://www.flickr.com/photos/132604339@N03/25381872413

Let's talk about...

passwords

Passcode/passphrase/password
Finger print, biometric information (face, iris)

123456
111111
pencil
letmein
password
...

Do/don’t

- Hard to guess (no family , pets, simple words from the dictionary)
- Think “pass-phrase” instead of “pass-word” (e.g. thirtyX4=1hundred20)
- Don’t reuse passwords across services
- Change important passwords regularly
- Use a password manager

2FA

Two-factor *authentication*

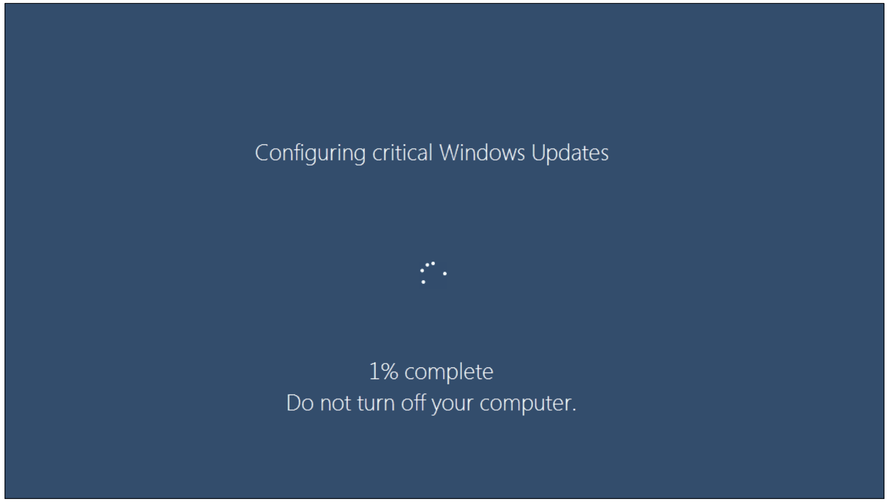
- https://twofactorauth.org/

Password managers

https://medium.com/@mshelton/password-managers-for-beginners-d1f49866f80f

Let's talk about...

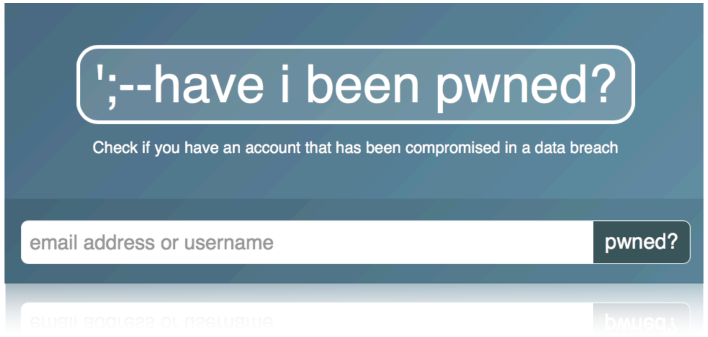
all the rest



Configuring critical Windows Updates

1% complete
Do not turn off your computer.

- OS updates (security!)
- Browser updates (Chrome does that automatically)
- Mobile vs desktop
- Check app updates before installing
- On this note, also be careful about using Android phones, which often run out-of-date software without current security patches. Google’s Nexus and Pixel phones, which get software updates promptly and directly from Google, are the best way to make sure you’re up to date; while Samsung’s newer smartphones are also patched relatively promptly, everything else in the Android ecosystem is hit or miss.



';--have i been pwned?

Check if you have an account that has been compromised in a data breach

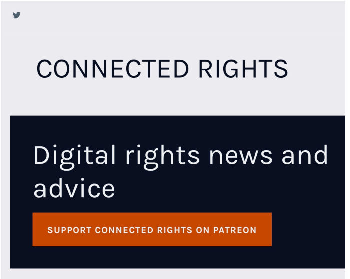
haveibeenpwned.com

pwn, to (v.): to appropriate, to gain control of a computer

THE UNABRIDGED GRAPHIC ADAPTATION
ITUNES TERMS AND CONDITIONS
PART A & PART B
vice
“I have read an
gest lie on the

- https://tosdr.org/ - Terms of service, didn’t read
- browser plugin: Mozilla Firefox - Google Chrome - Opera - Safari - Internet Explorer
- user rights initiative to rate and label website terms & privacy policies, from very good Class A to very bad Class E
- terms often too long to read, but it's important to understand what's in them
- TOS agreements require giving up first born—and users gladly consent: https://arstechnica.com/tech-policy/2016/07/nobody-reads-tos-agreements-even-ones-that-demand-first-born-as-payment/
- I read all the small print on the internet and it made me want to die: https://www.theguardian.com/technology/2015/jun/15/i-read-all-the-small-print-on-the-internet

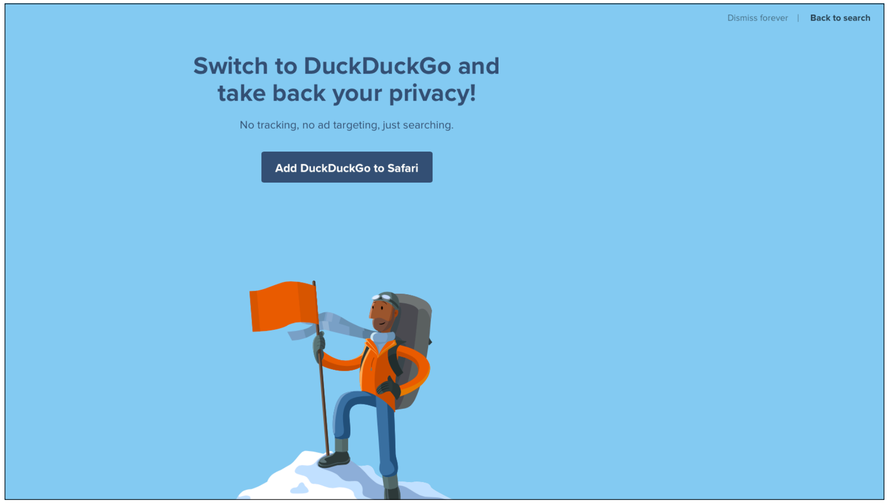
Podcast: “Note to Self”



CONNECTED RIGHTS

Digital rights news and advice

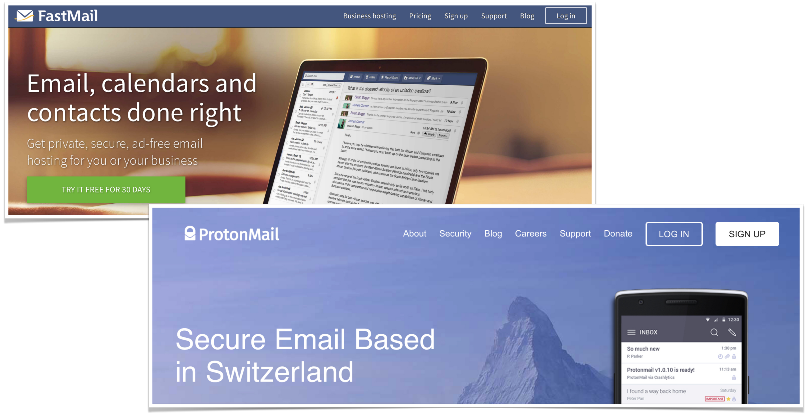
Newsletter: “Connected Rights”



Switch to DuckDuckGo and take back your privacy!

No tracking, no ad targeting, just searching.

www.duckduckgo.com



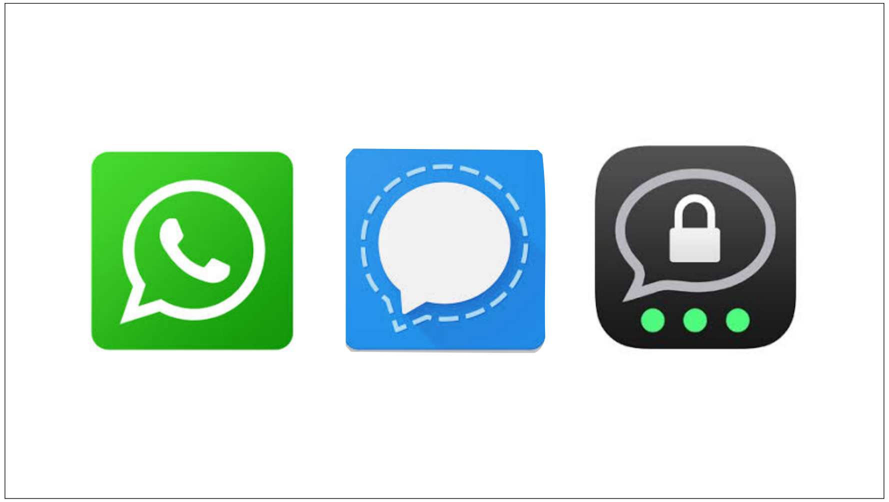
Email, calendars and contacts done right

Get private, secure, ad-free email hosting for you or your business

Secure Email Based in Switzerland

ProtonMail: https://protonmail.com/
Fastmail

Mac: automatic lock/unlock with iPhone/Apple Watch by using Bluetooth awareness (e.g. http://hellotether.com/, http://macid.co/)
Windows: https://www.cnet.com/how-to/4-ways-to-lock-your-windows-10-pc/, http://www.banamalon.net

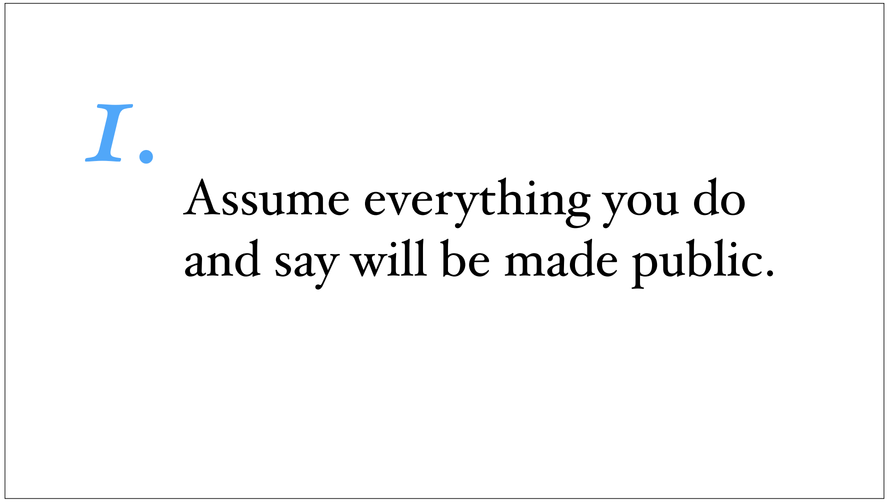


WhatsApp encrypts chats by default, but shares information with Facebook
Switch to Signal or Threema

five rules

for living with the internet

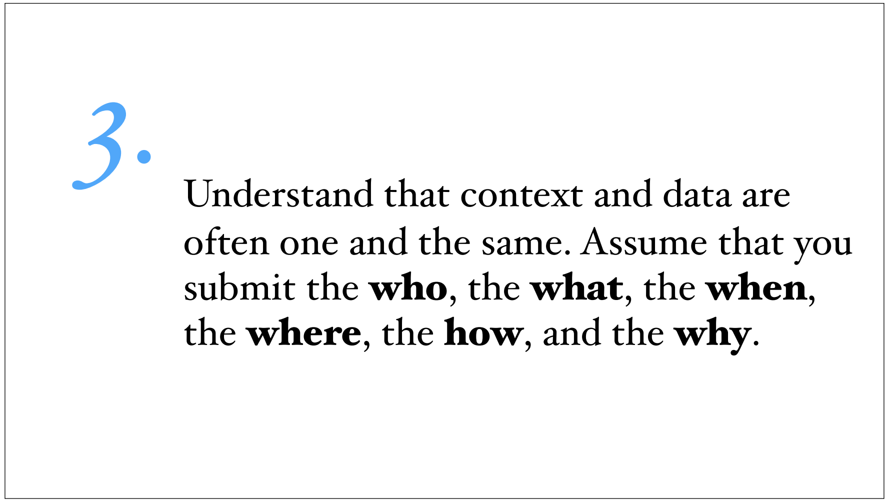
Source: https://www.theverge.com/2015/8/19/9176639/5-rules-internet



I.

Assume everything you do and say will be made public.

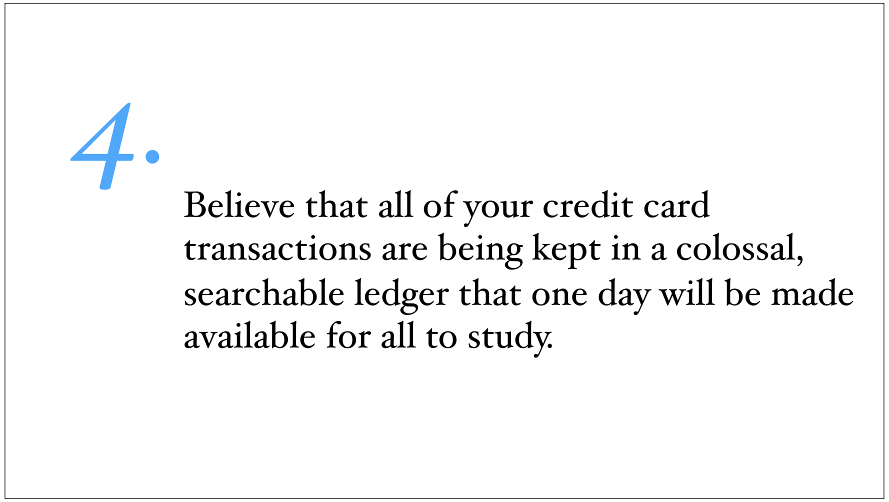
2. Do not be seduced by privacy settings and passwords, which are temporary illusions that distract from the reality of the previous point.



3\.

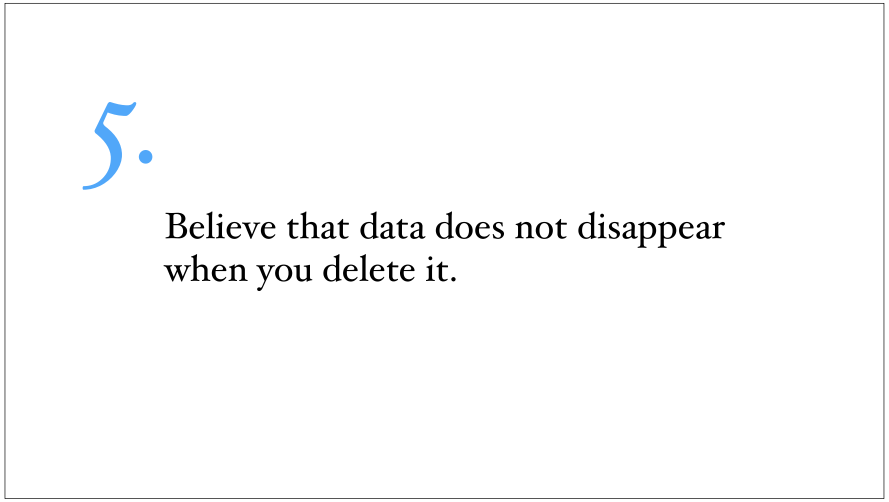
Understand that context and data are often one and the same. Assume that you submit the **who**, the **what**, the **when**, the **where**, the **how**, and the **why**.

Understand that context and data are often one and the same. When you enter information on the internet, assume that you include the who (you), the what (the data), the when (the time of data input), the where (the site on which the data is being placed), the how (the device on which you input the data), and the why (the purpose of the site).



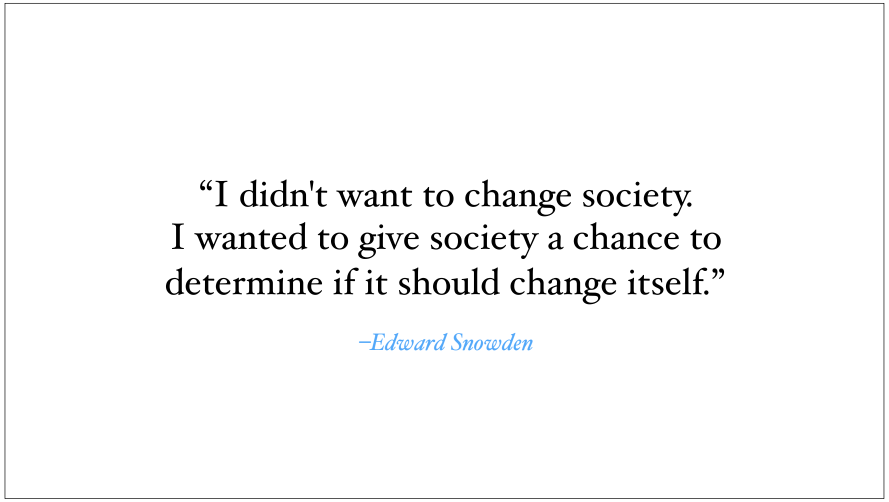
4.

Believe that all of your credit card transactions are being kept in a colossal, searchable ledger that one day will be made available for all to study.



5.

Believe that data does not disappear when you delete it.



> “I didn't want to change society.
> I wanted to give society a chance to
> determine if it should change itself.”

–Edward Snowden

Web	adrechsel.de
Podcasts	adrechsel.de/podcast
Twitter	adrechsel