















Privacy in a Digital Age

Howard Fosdick © 2019

19.1 / 6.0.7.

Photos Credit Clockwise: Amazon. Amazon. Engadget.com, Motorola, Amazon, Amazon, Google, NakedSecurity.sophos.com, Costco, Wired.com, TheStar.com, Amazon, Amazon, Yale via Amazon

Nest Cam Indoor security camera

Plug-in-and-go security.

The Nest Cam Indoor security camera is designed to help you look after your home and family – even when you're away.











Who am I?

Independent IT consultant:

- DBA/SA
- Author of books, articles, presentations
- Inventor of Hype Curves & Open Consulting



Agenda

- I. What is Privacy?
- II. Technologies
 - Overview
 - Solutions

III. Solutions Framework

We focus on problems, not benefits

Privacy:











1. The right to be free from surveillance

- and -

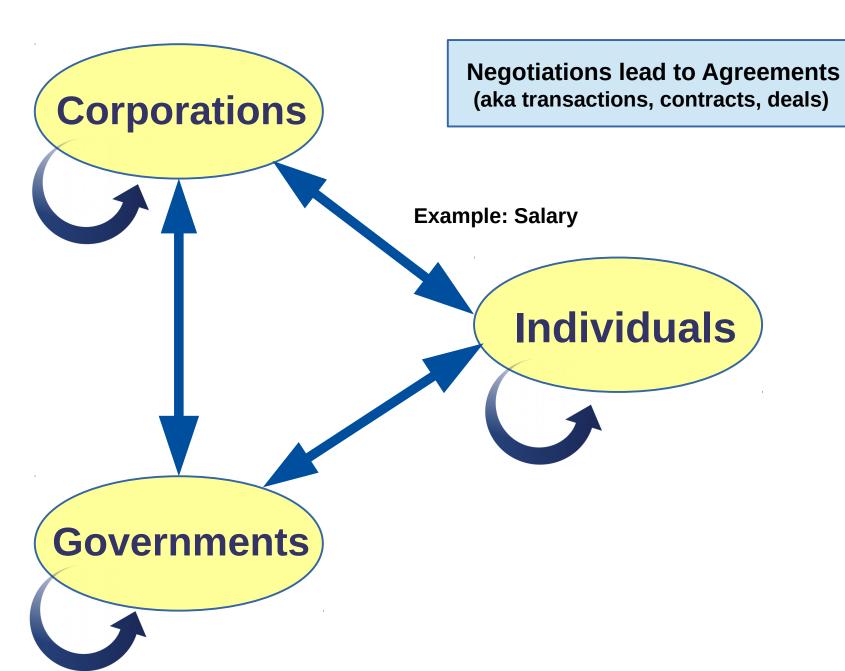
2. The ability to determine whether, when, how, and to whom, one's Personal Information is revealed

Psychology:

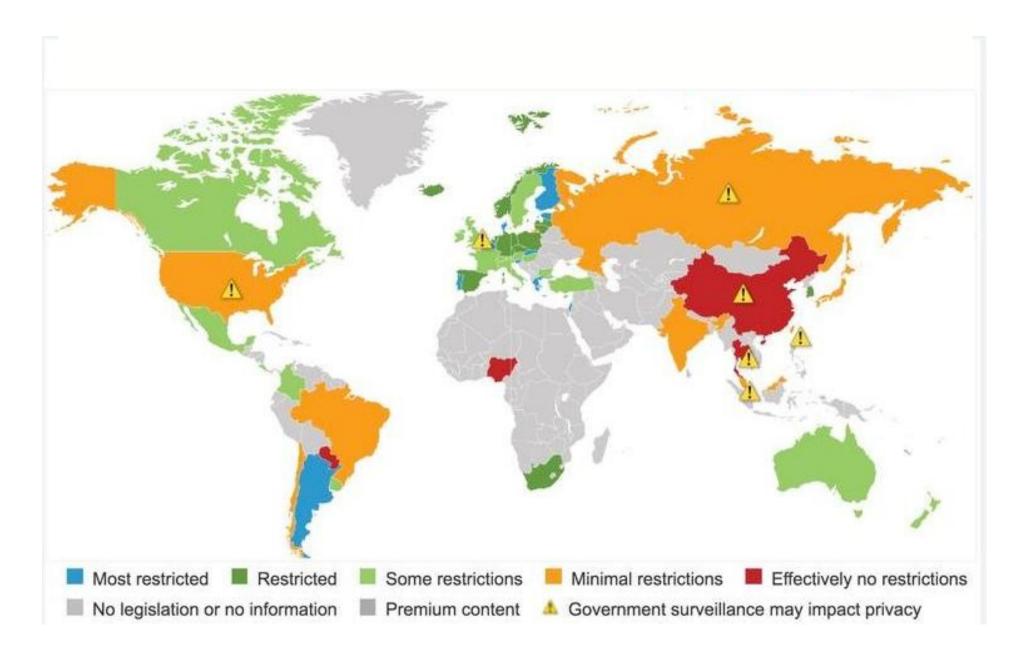
Required for:

- + Development and preservation of self
- **Autonomy or Agency (Freedom)**
- Intimacy

Privacy is *Power*



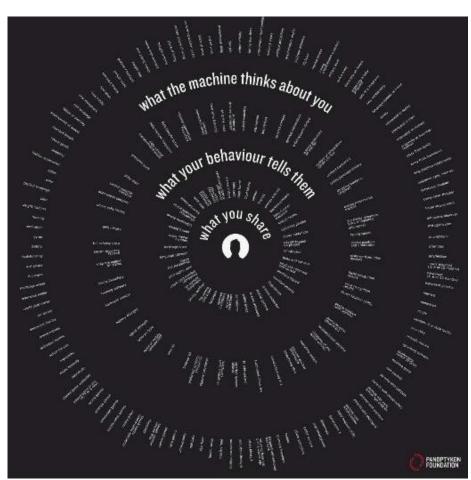
Is Your Privacy Protected From Corporations?

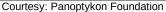


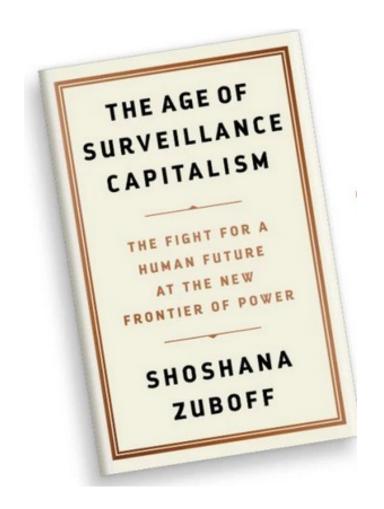
Why?

"Surveillance Capitalism ...the unilateral claiming of private human experience as free raw material for translation into behavioral data."

Zuboff



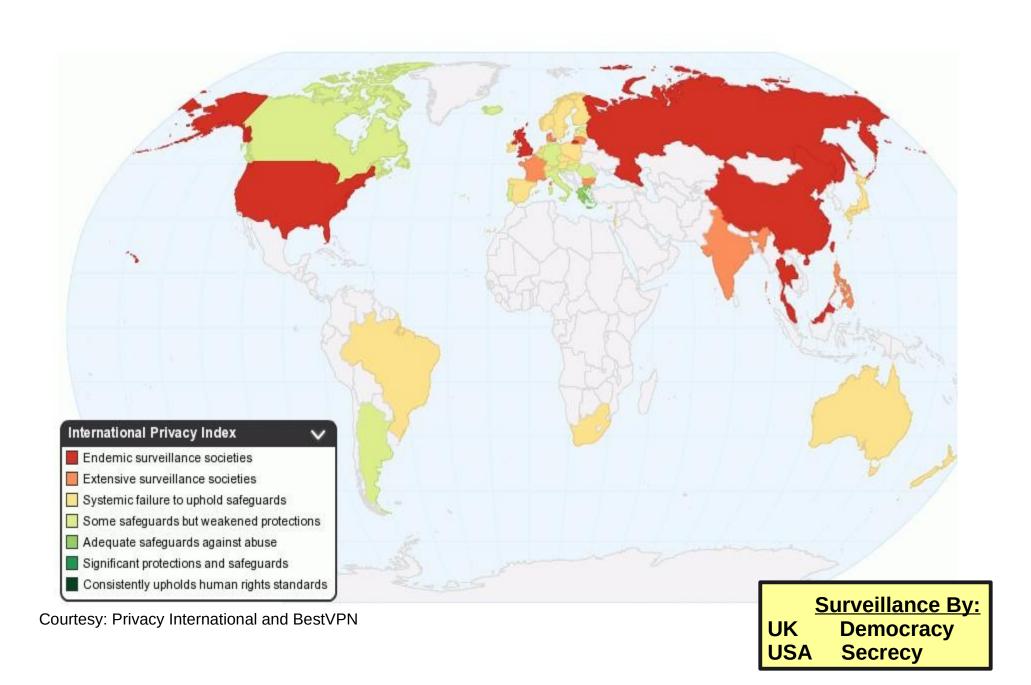




==> Appropriating your data drives corporate profits

- VLDB
- Big data

Is Your Privacy Protected From the Government?

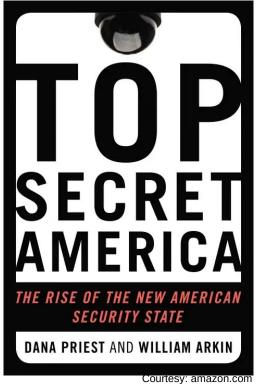


Top Secret America

Even oversight bodies don't know the extent of its activities



- Budget \$75Bblack budget
- 1.7B communications stored per day
- 1,271 agencies
- 1,931 contractors
- 854,000 have top-secret clearance



Courtesy. amazon.co

"Collect it all."

--former NSA Director Keith Alexander

Status:

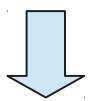


From The New York Times

How US Surveillance Happened



2001: Bush – NSA targets America



2016: Obama – 16 agencies get NSA data



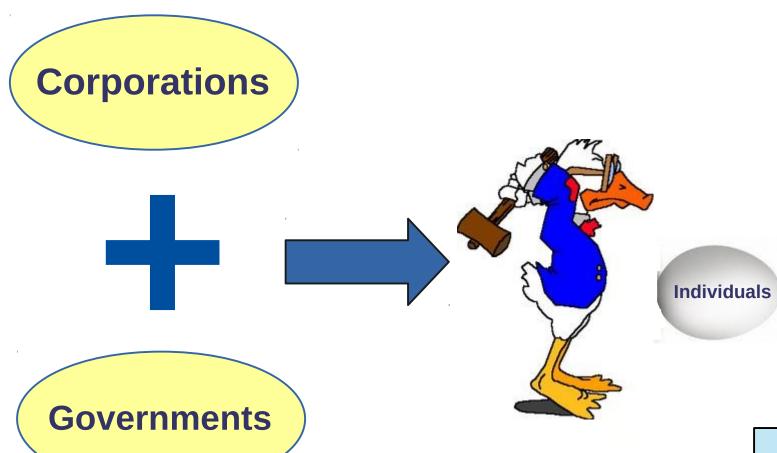
Data used for purposes other than fighting terrorism.

To what extent, we don't know.



No presumption of innocence. Unconstitutional – 4th Amendment

Why You are Losing Privacy



Partnership to gain power by appropriating citizens' privacy

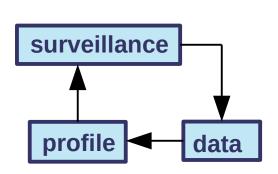
The Security-Industrial Complex

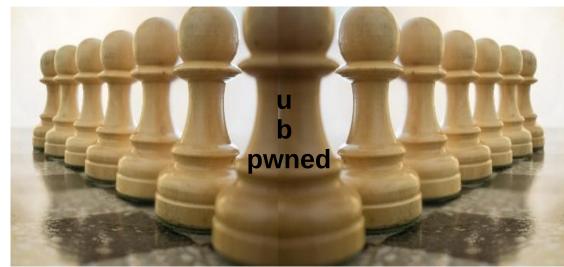
- Corps collect data for government
- Outsourcing
- "Revolving door"
- Lobbying
- More...

We Are "Digital Peons"



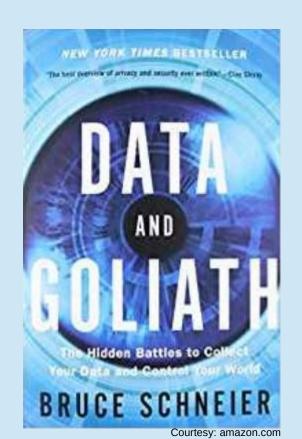
- Your data is appropriated
- You can not live a modern life otherwise
- You don't know how, when or where your personal data is used and sold
- You can't review accuracy of that data
- You have no assurance your data is properly secured
- Decisions critically affecting your life are made based on data you can't review that may not even be accurate. By unaccountable, opaque algorithms.





Courtesy: public domain @ pxhere.com

II. Selected Technologies





<- Recommended

Tracking You: Location Data

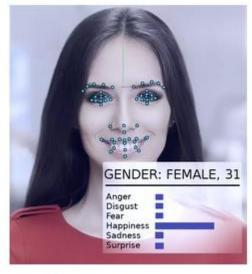
LPR, Car GPS, cameras everywhere, aerial, satellite, drone, Gorgon Stare ...

Facial Recognition

Courtesy: cnbc.com

- Accuracy varies, improving rapidly
- Used @ public events, streets, Facebook, police, CBP, ICE...
- Police partnering with Home & Store cameras
- Photos appropriated -> online, DL, airports
 - Principle of Data Cross-Use
 - No Informed Consent
 - Principle of Invisibility

Everywhere soon



A face tracking and analysis system takes a look at a woman's face.

Courtesy: Abyssus/Wikimedia Commons CC BY-SA



Cell Phone

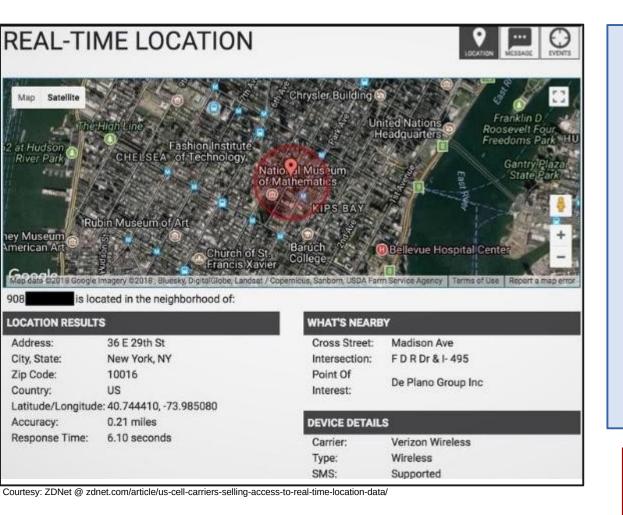
- Towers, GPS, WiFi, E911
- Carriers, OS, Apps
- Geofencing
- Stingray
- Trackable even if Off

Your real-time & historical data is sold

Carpenter vs US limits police use of historical data



Location Data is Valuable!



Location data tells -

- If you're LGBT
- Your medical problems
- If you're in therapy
- If you drink a lot
- If you cheat on your spouse
- If you're hiding taxable income
- Political rallies you attend
- If you oppose US military policies
- How you vote
- If you're a religious minority
- Your race & ethnicity
 - ... so much more ...

Principle of Aggregation: Enough data tells you anything

Do we want private lives?

Or do we let corporations sell them?

Don't Courts Protect My Privacy?

Courts are:

- Reactive
- Mixed messages (until Supreme Court)
- Bound by bad precedents



Courtesy: NCCourts.gov

1967, 1976

No Privacy in Public

No expectation of privacy in a public place

==> Enables facial recognition & locational tracking

1967

3rd Party Doctrine

No expectation of privacy for information you give out

==> No limits on use or sale of data about you

"Surveillance is the Business Model of the Internet" - Bruce Schneier

- Web searches
- Web surfing behavior:
 - Pages visited
 - Every click you make
- Posts:
 - Social media
 - Blogs
 - Websites
 - Forums
- Contact lists
- Purchasing behavior and history
- Email, texts, tweets, chats, IMs, etc

Goal: know <u>everything</u> about you

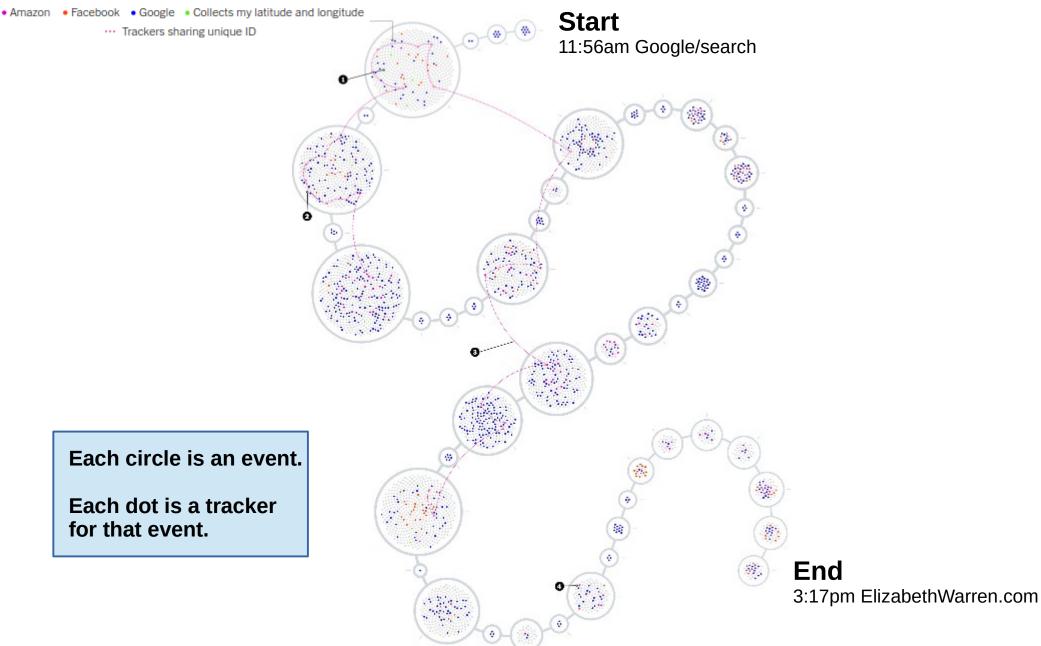


Intimate portrait of your:

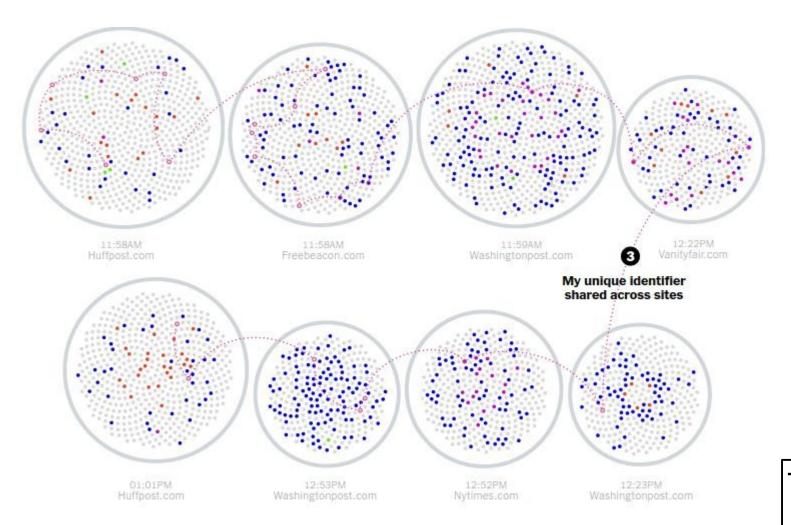
hopes & fears social life finances medical opinions personality emotions conversations

Tracking You: 4 Hours Online

Tracking Resources



Tracking You: Psyching You Out



My unique identifier: 5535203407606041218

They collected his:

- Passwords
- Location
- Device info
- Behavior
- More...



What Do They Know About You?

Why not download your <u>raw</u> data and find out?

Google

Click on http://takeout.google.com/settings/takeout
Select the Product data to dump
Select a file format
Choose delivery method
Create Archive



Facebook

Go to Settings section, click on "download my data" in General Account Settings. They'll send you a link to your data.



Far more intimate than any diary!

What Do They Know About You?

Google Example:

- "- Every single place I've searched in Google Maps
- The apps I've opened on Android down to the exact second I opened it
- Rewards cards I once used in Google Pay
- Everything I've asked Google Assistant
- Every comment I've left on YouTube and every video I've watched
- Every Android app I've searched for or downloaded
- Every news article I've read on Google News
- Ads I viewed or visited in any of Google's products
- All Gmail messages including Spam and Trash

... and 150 gig more"



How to Secure Your Email





Courtesy: Wayne State Univ.

- Crackable
- Office: newer versions more secure
- Good passwords matter!

Solution: vendors agree on email encryption standard



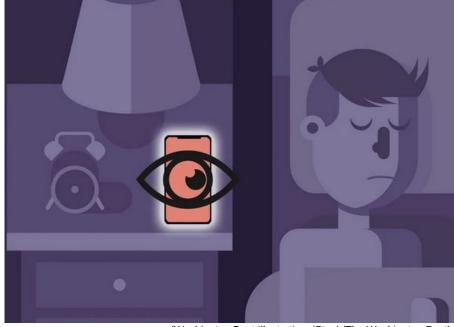
How They Track Your Every Click

<u>Mechanism</u> :	<u>To Defeat It</u> :
Location Data	Don't use a cell
Logins (to Google, Chrome, Gmail, Facebook, Disqus, Yahoo, Microsoft)	Don't log in
Web bugs, cookies, flash cookies, 3 rd party cookies, evercookies	Browser settings and extensions
Spy Browsers (eg Chrome)	Use another browser
Spy Extensions (eg, from the Chrome and Mozilla Stores)	Don't install
Spy OS's (eg, Chrome OS, Windows 10)	Use Linux Windows 10 -> change defaults
Spy Apps	Don't install. Install anti-malware
ISP Monitoring	Virtual Private Network (VPN) plus HTTPS
Mac and IP addresses	Change or Mask or TOR
Device Fingerprinting	Browser settings (in progress)
Communications (Email, texts, tweets, IM's)	Encryption





The Secret Life of Your iPhone



(Washington Post Illustration; iStock/The Washington Post)

Default:

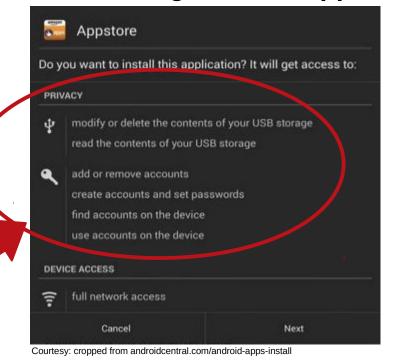
- Phone busy <u>all night</u> sending out your data
- 5,400 data trackers active in a week

Apps & Browser Extensions Steal Your Privacy

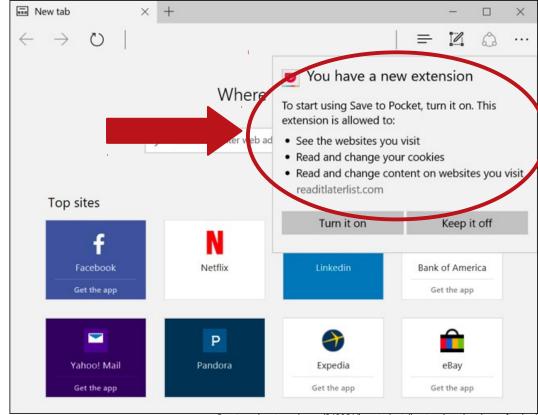
ICSI study ==> 1,300 Android apps harvest data without permission!

NC State ==> Found 3,800 bad extensions affecting 60 million users in the Chrome Store

Installing Android App



Installing Browser Extension



Courtesy: howtogeek.com/249921/how-to-install-extensions-in-microsoft-edge/

It's a sham to place the privacy burden on users!

The Data Brokering Industry





- Sell sensitive data without regard to harm!
 - Police officers' Pl

\$200 billion business

- Rape victims
- AIDS sufferers
- Demented Seniors
- Your politics, race, religion, opinions...



- Categorizes people and imposes decisions without consent



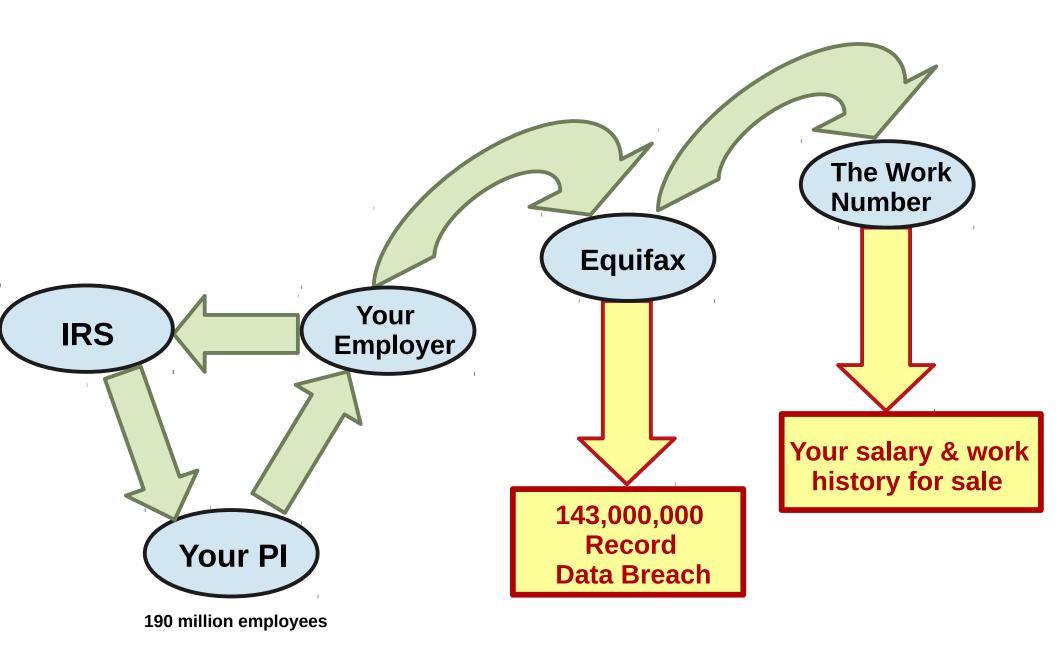




Solution: Impose obligations on PI vendors, provide rights for subjects, with effective penalties for violators

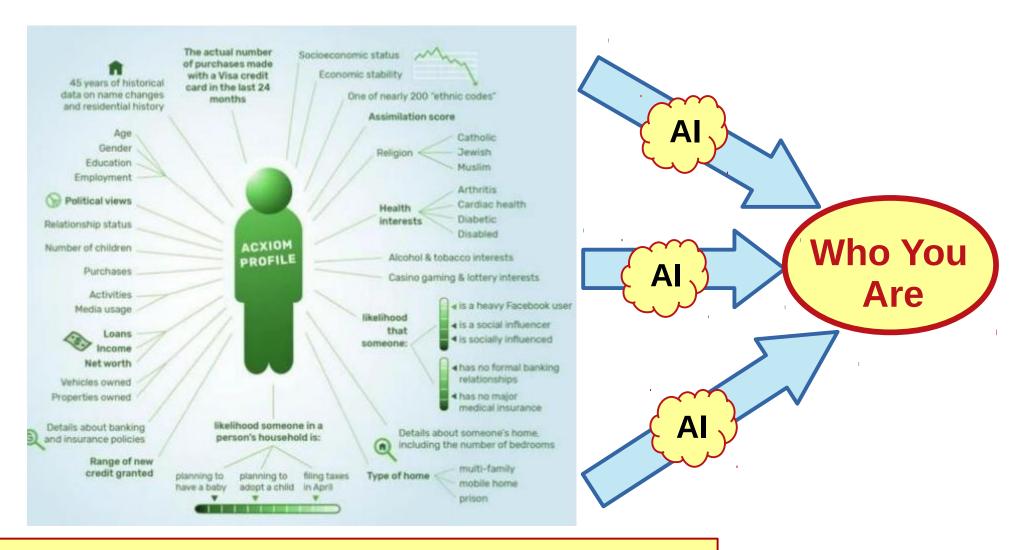
<u>See</u>: GDPR, FTC report: "A Call for Transparency & Accountability"

Your Employer Sells Your Salary



Read: nbcnews.com/technolog/exclusive-your-employer-may-share-your-salary-equifax-might-sell-1B8173066

Your Data Broker Profile



2018: Acxiom sells 10,000 data elements on each of 2.5 billion people

Most "Privacy Policies" Mislead

```
Our Privacy Policy & Terms of Use
Page 24

We reserve the right to change this policy at any time by posting the amended version on our website...

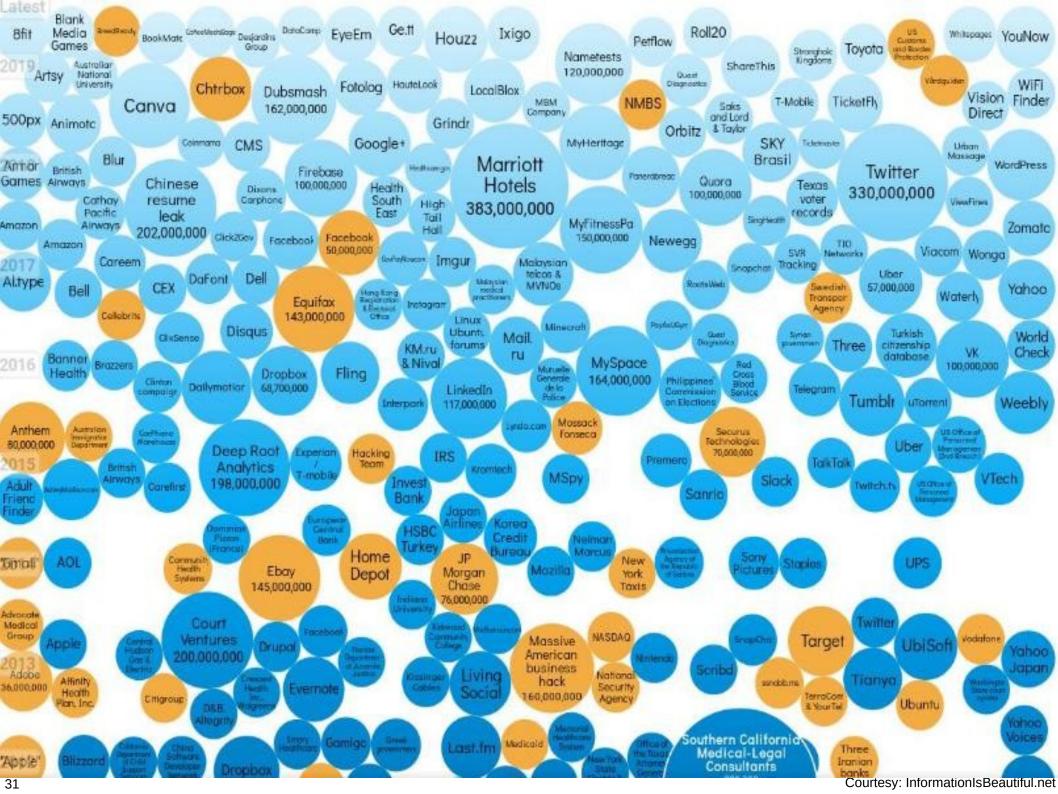
...
```

Look for words like "change" or "alter"



Non-binding!

Solution: Place burden on holder of Pl. Data broker laws.

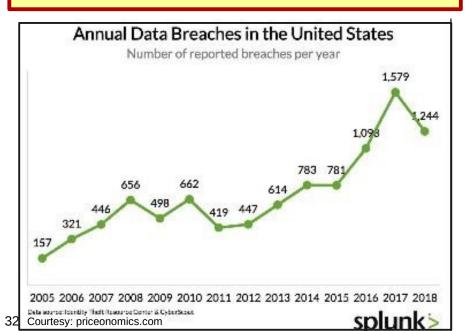


Data Breaches

Data Breach: The loss of your PI by those who appropriated it

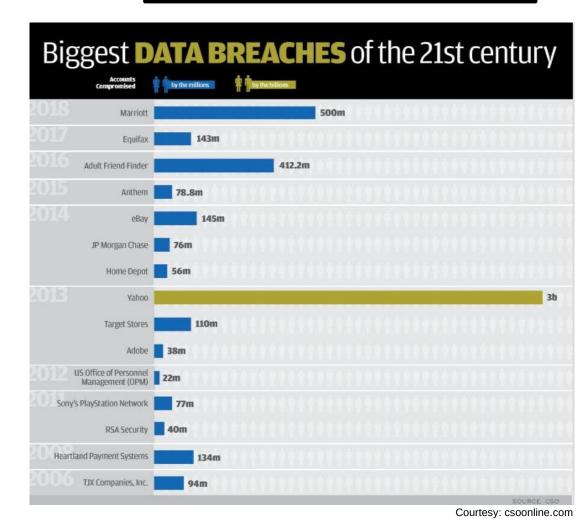
Solutions -

- If you store PI, you must:
 - Meet security standards
 - Encrypt the data
 - Only collect necessary data
 - Delete old data
- Limits on cross-use, data selling
- Subjects' rights
- Penalties for violators
- Default encryption for Windows
- Better MS password schemes
- Encrypted email



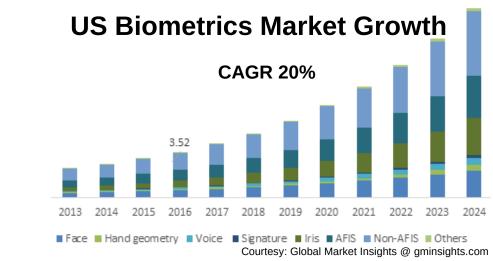
11.6 billion records lost in 9,000 breaches since 2005

Privacy Clearinghouse



--- DNA not an "absolute ID" --Analogy -> Fingerprints

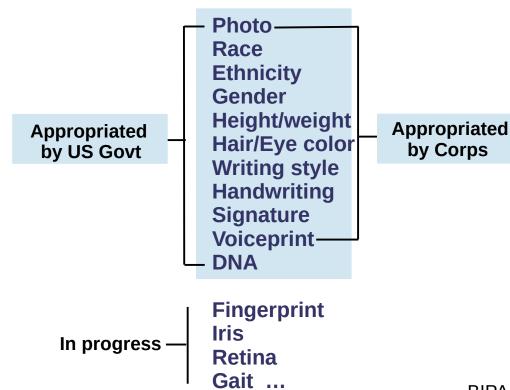
GINA hardly protects you.



Biometrics

Total number of people tested by consumer genetics companies through January 2019, in millions





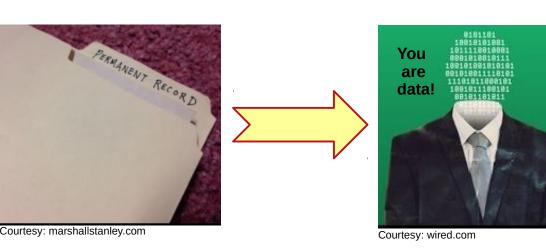
BIPA

Anonymity & Permanent Records

"There's No Such Thing as Anonymous Data" – <u>HBR</u>

Internet anonymity is possible.

<u>Not</u> against a ubiquitous surveillor.





Anonymous No Longer

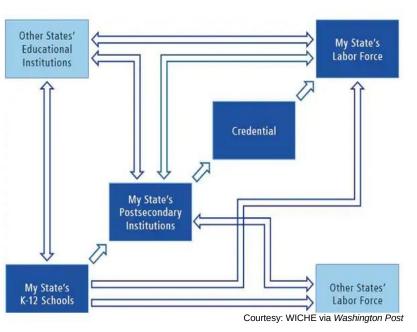
Your permanent records could be used against you in future.

Principle of Future Use:

You can't predict for what.

You're not free with <u>surveillance</u> with <u>permanent records</u>

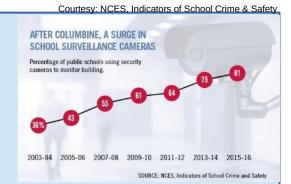
The K - 12 Panopticon: Training Digital Peons



Data Sharing

We have outsourced 24 x 7 data collection on our kids to private companies

- Forced Consent
- Cameras everywhere
- Facial recognition soon



- Complete monitoring & data collection
 - Social Media Sc
 - Google login Google
 - Judge all they type



- Turnitin
 - presumption of guilt turnitin
 - a private company gets students' IP?
- Police integration

By age 18, our kids have never communicated a private thought

Sweden – World's 1st Cashless Society

Pay by Card or Mobile App

The corporate / government dream becomes reality !!!

- + Tracks ALL transactions!
- + No more privacy!
- + No more underground economy!
- + Saves us money!



Courtesy: Janerik Henriksson/TT



Courtesy: Forrester Res. cropped

Requires Trust!





Courtesy: Fredrik Sandberg/TT

Internet of Things (IoT)

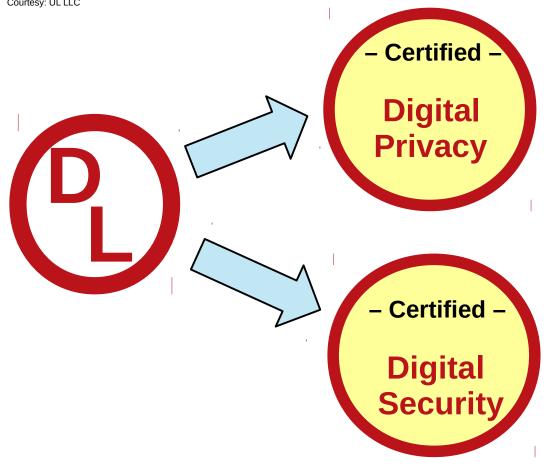


- + Convenience for us
- Invading your home (appliances)
- Invading you (wearables)
- Security nightmare
- Updates?
- "Internet Pollution"
 - Botnets for spam, DDOS, bitcoin mining,
 Adsense, manipulate polls/games,
 spread malware, IRC attacks, more...

Solutions: certification or regulation, opt in only, privacy, security, & update standards, etc.



Solution: Certification



- Gov't approved private company
- By automated test suite, hackers
- Usage stats change ratings
- "Provisional Approval"?
- How to get critical mass? Tax.
- A penalty for "Internet Pollution"

A Seal of Approval

-> IoT Appliances, Apps, Add-ons

III. Solutions Framework



Technology can assist, but the solutions are political

Privacy is a <u>Human Right</u>

US: Constitution – Bill of Rights

"The right of the people to be **secure in their** persons, houses, **papers, and effects** ... shall not be violated ... **but upon probable cause** ... **describing the place to be searched, and the persons or things to be seized.**"

Also: freedom of speech, the press, religion, and assembly.

"General Warrants" are unconstitutional

UN: Universal Declaration of Human Rights

"No one shall be subjected to arbitrary interference with his privacy ... or correspondence"

Rights to freedom of expression, assembly, and association.

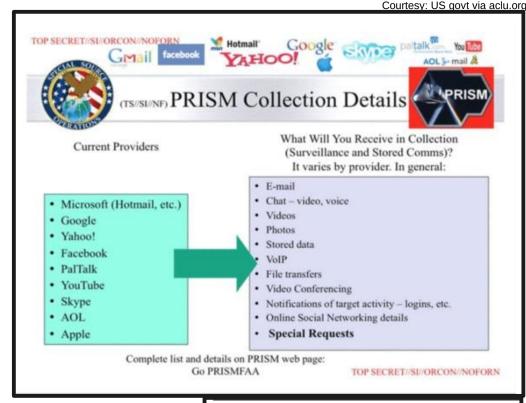
EU: European Convention on Human Rights European Charter of Fundamental Rights

==> General Data Protection Regulation (GDPR)



Unconstitutional





Courtesy: US govt via aclu.org

"Seizing the phone records of millions of innocent people is ... un-American"

"Washington is violating the privacy rights guaranteed to us by the 4th Amendment."

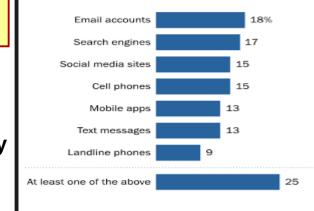
> - Rep Jim Sensenbrenner **Patriot Act author**

Chilling Effect or Self-Censorship

on freedom of speech, press, religion assembly

Surveillance Programs Prompt Some to Change the Way They Use Technology

Among the 87% of U.S. adults who have heard of the government surveillance programs, the percentage who have changed their use of ... "a great deal" or "somewhat"



Source: Survey of 475 adults on GfK panel November 26, 2014-January 3, 2015.

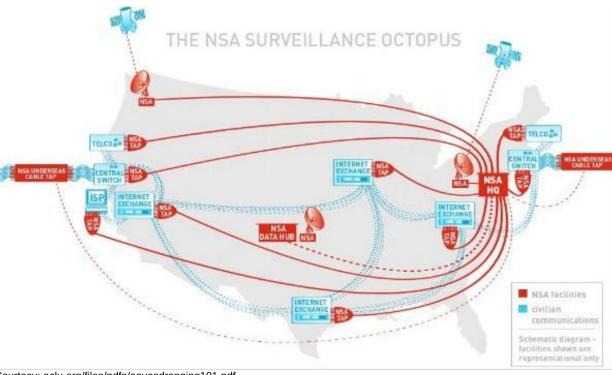
Courtesy: Pew.org

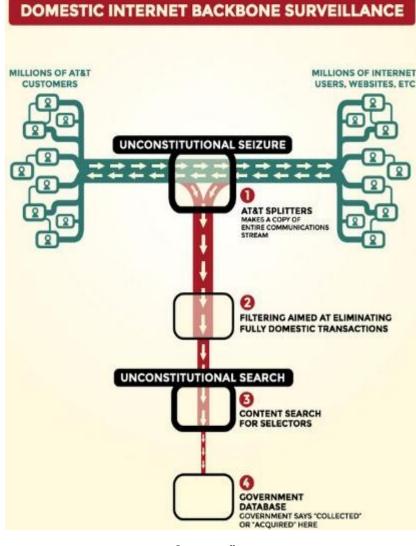
PEW RESEARCH CENTER

Data Mining Your Communications

Principle of Aggregation

- With enough metadata we don't need content
- "We kill people based on metadata" Michael Hayden





Courtesy: eff.org

Courtesy: aclu.org/files/pdfs/eavesdropping101.pdf

Privacy Rights?

USA

EU

Violating our Constitution

Retarded Judicial Response

Spotty Privacy Laws

General Data Protection Regulation (GDPR)

US Bill of Rights

Euro Convention on Human Rights Euro Charter of Fundamental Rights

UN Universal Declaration of Human Rights



The Spotty Patchwork of US Privacy Laws

HIPAA (healthcare) Problem: <u>Shadow profiles</u> (credit purchases, locational data, social media, searches, forum posts, emails, digital phenotyping ...)

GINA (DNA discrimination) Problem: Only covers employment and health insurance. Nothing else!

GLBA Graham-Leach-Bliley Act (financial) Explains right to opt-out. Problem: Opt-outs not required

Credit Bureaus (financial) (Fair Credit Reporting Act (FCRA), FACTA). Problem: Credit theft is easy Good: Consumer remediation

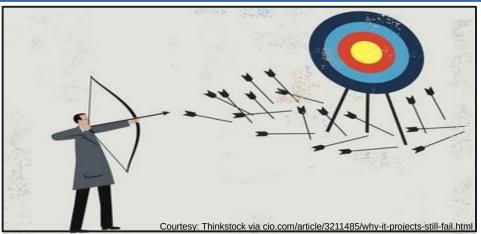
Childrens Online Privacy Protection Act (COPPA) Age 12 or less. Problem: 13 is an adult? FERPA Problem: Doesn't stop runaway data collection

Privacy Act of 1974 (Govt data collection) <u>Problem</u>: Gutted by exceptions, OMB oversight ineffective Right to Financial Privacy Act 1978 (Govt data collection) <u>Problem</u>: Gutted by Patriot Act

FOIA (data review) Problem: Works but agencies can thwart it

FISA Court (surveillance) Problem: Hears only 1 side, no investigative ability, a rubber stamp

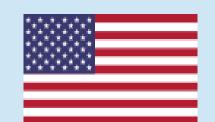
<u>Problem</u>: Few to no regulations – Online data collection, social media, data selling, data aggregation, Al processing, profile compilations, data security for PI, etc





The EU Model





Privacy is a fundamental human right	Little privacy
Based on Broad Principles (GDPR)	Spotty laws
Proactive	Reactive
Informed Consent	Personal data appropriated



GDPR

Processor Obligations:

- Must disclose data collection
- No cross-use
- Limit data gathered plus time constraints
- Security standards
- Anonymize data
- Keep processing records
- Compliance Officer
- Notify of data breach
- Big penalties!

Subject Rights:

- Informed consent
- Can withdraw it
- Can review his data
- Can correct data
- Can be forgotten (erase data)
- Can transfer data



Solutions – Corporate



Courtesy: stephentucker.net

Beware fake "privacy" laws!

47 Courtesv: Forrester Res cropped

Good starting points:

- GDPR
- White House report:"Consumer Privacy Bill of Rights"

- Shift privacy burden from individuals to data holders
- Any entity holding PI must abide by certain rules:
 - Follow security standards
 - Encryption for PI
 - Sales restrictions
 - Usage restrictions
 - Data subject's rights (assent, review, correct...)
 - Subject verification process
 - Eliminates Privacy Policies
 - Fixes Informed Consent
 - Fixes consent signed under duress
 - Fixes data appropriation
 - Opt Out is the new default
- Data broker laws
- Require encryption for OS's by default
- Certification (privacy/security)
- Enforce Anti-trust!
- Effective penalties for violators

Solutions – Government





I support our employees in DHS, NSA, FBI, DHS, TSA, CIA, and law enforcement

My criticisms are <u>not</u> of them!

--> What I'm talking about are <u>new policies</u>

Mass Surveillance Is Not Effective

- * Many programs
- * Hard to judge given secrecy

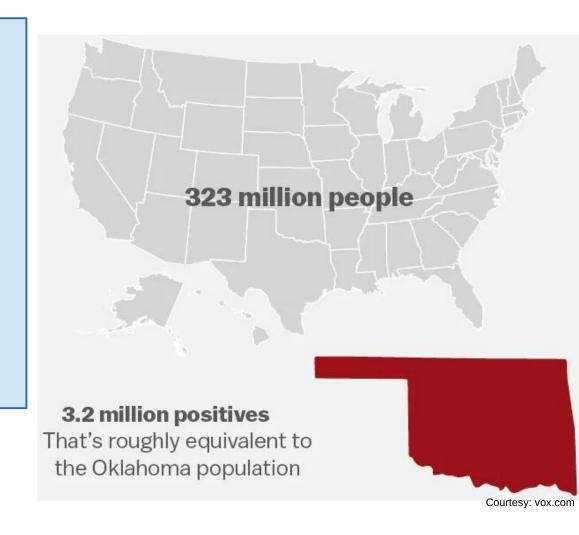


Phone Call Metadata

- Barack ("Nobody's listening to your phone calls") Obama: "50 terrorist plots foiled"
- -> Turned out to be 1 (a monetary donation)
- White House Report (2013) "Not essential in preventing attacks"
- Privacy & Civil Liberties Oversight Board (2014) Not one terrorist found
- Charlie Savage (2015) FBI calls NSA tips worthless

Why Failure? The "Percentage Fallacy"

- 99% accuracy
- Assume 1 of 100,000 is a terrorist
- Nationwide 3,230 terrorists
- Misses 32 terrorists
- IDs > 3.2 million false positives
- The 3,230 terrorists are hidden in the 3.2 million false postives



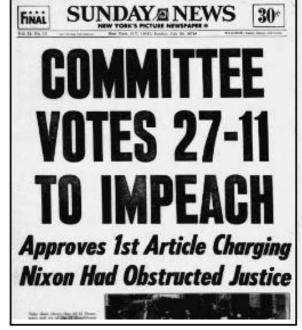
With large numbers, 99% accuracy is not enough

Read: vox.com/science-and-health/2018/2/22/17041080/predict-mass-shooting-warning-sign-research vox.com/future-perfect/2019/8/7/20756928/trump-el-paso-dayton-mass-shooting-ai-social-media

Surveillance + Secrecy = A Danger to Democracy

Impeachment indictment:

- 1. Violated opponent's privacy (the plumbers' theft)
- 2. Misused opponents' PI (IRS harassment)



twitter.com/beschlossdc/status/1022927554166943744



qz.com/1479020/could-trump-be-impeached-read-richard-nixons-articles-of-impeachment/

"Trust Us" doesn't work.

That's why we have a Constitution, Bill of Rights, division of powers between 3 branches of gov't, checks & balances, congressional oversight, judicial review, independent judiciary, etc ...

Solutions – Government



Courtesy: Ibis Support Centre

Many of these recommendations are in the White House Report:

"Liberty & Security in a Changing World"

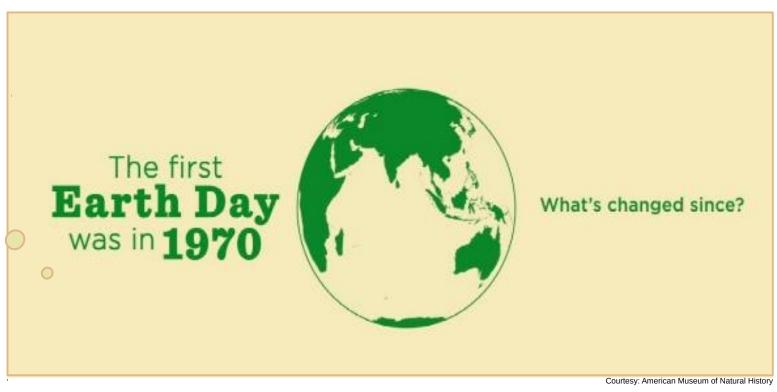
Fear drove our laws after 9/11

It's time for a course correction

- Adhere to 4th Amendment
- Stop domestic mass search & surveillance
- Oversight required for Top Secret America
 - Full disclosure to Congress
 - Judiciary
- Balance <u>national security</u> and <u>personal security</u>
 - Encryption for email & texting
 - Stop weakening security for backdoors & zero-days
 - Stolen NSA tools used against us
 - No SSN for purchases over \$10,000
- Warrants require court approval (no NSLs, gag orders)
- Due process for citizens
 - Blacklists
 - Borders
 - Civil asset forfeiture
- FISA court redo
 - Needs both sides represented
 - Needs investigative authority
 - Fix judge selection
 - A secret court making secret law -> bad

Will Solutions Happen?







- Hidden harm
- Govt / Corporate partnership

"The preferences of the average American have a near-zero... effect on public policy."

- Gilens & Page study

Time to Update the Fairy Tale . . .



Courtesy: Chris Slane @ www.slane.co.nz



Questions?



In slide order (roughly) -

- * Privacy Definitions Business Dictionary (BD) businessdictionary.com/definition/privacy.html, Wikipedia en.wikipedia.org/wiki/Privacy
- Psychology of Privacy science.jrank.org/pages/10854/Privacy-Psychological-Functions-Philosophical-Values-Privacy.html, opus.uni-hohenheim.de/volltexte/2017/1315/pdf/Dienlin 2017 The Psychology of Privacy.pdf
- Privacy is Power politico.eu/article/privacy-is-power-opinion-data-gdpr/, teachprivacy.com/10-reasons-privacy-matters/ Corps Appropriate Your Privacy - zdnet.com/article/forrester-highlights-the-data-protection-guidelines-and-practices-for-54-different-countries-with/
- Age of Surveillance Capitalism by Dr Zuboff amazon.com/Age-Surveillance-Capitalism-Future-Frontier/dp/1610395697,
- thequardian.com/technology/2019/jan/20/shoshana-zuboff-age-of-surveillance-capitalism-google-facebook
- Panopticon Panoptykon Foundation "Three Layers of Your Digital Profile" @ en.panoptykon.org/articles/three-layers-your-digital-profile
- Top Secret America complete report projects.washingtonpost.com/top-secret-america/
- New York Times complete Privacy Project nytimes.com/interactive/2019/opinion/internet-privacy-project.html
- "Collect it all" washingtonpost.com/world/national-security/for-nsa-chief-terrorist-threat-drives-passion-to-collect-it-all/2013/07/14/3d26ef80-ea49-11e2-a301-ea5a8116d211 story.html?utm term=.3b20b80418da
- thequardian.com/commentisfree/2013/jul/15/crux-nsa-collect-it-all, portside.org/2013-09-15/inside-mind-nsa-chief-general-keith-alexander, thedailybeast.com/the-nsa-can-collect-it-all-but-what-will-it-do-with-our-data-next
- Bush administration fears sleeper cells globalsecurity.org/military/world/para/al-gaida-sleeper-cells.htm, foxnews.com/story/0,2933,57507,00.html, pbs.org/wgbh/pages/frontline/shows/sleeper/etc/synopsis.html,
- abcnews.go.com/WNT/Investigation/story?id=566425&page=1, Today Wray warns of omnipresent terrorist threat inside US nypost.com/2018/09/11/wray-warns-current-terrorism-threat-in-us-is-everywhere/
- Other agencies get NSA data forbes.com/sites/jennifergranick/2013/08/14/nsa-dea-irs-lie-about-fact-that-americans-are-routinely-spied-on-by-our-government-time-for-a-special-prosecutor-2/#63444d579e8c, eff.org/deeplinks/2017/01/obama-expands-surveillance-powers-his-way-out, theintercept.com/2017/01/13/obama-opens-nsas-vast-trove-of-warrantless-data-to-entire-intelligence-community-just-in-time-for-trump/
- Data and Goliath schneier.com/books/data and goliath/ Location data & facial recognition - wired.com/story/carriers-sell-location-data-third-parties-privacy/, newsweek.com/why-us-must-follow-our-lead-san-francisco-risk-becoming-surveillance-state-opinion-1449379
- techrepublic.com/article/your-smartphone-can-be-tracked-even-if-gps-location-services-are-turned-off/, nbcnews.com/tech/internet/facial-recognition-s-dirty-little-secret-millions-online-photos-scraped-n981921. komando.com/happening-now/579104/dmv-photos-used-in-facial-recognition-searches, kairos.com/blog/60-facial-recognition-databases, fedscoop.com/facial-recognition-algorithms-getting-lot-better-nist-study-finds/
- Police view of facial recognition nytimes.com/2019/06/09/opinion/facial-recognition-police-new-york-city.html?action=click&module=RelatedLinks&pgtype=Article Surveillance is business model of the internet – securityweek.com/surveillance-business-model-internet-bruce-schneier, en.wikipedia.org/wiki/Computer and network surveillance
- Personal cellphone tracking topcellphonetracking.com/track-cell-phone-location/, freecellphonetracker.net/

Security-industrial Complex - aclu.org/report/combatting-surveillance-industrial-complex, theatlantic.com/politics/archive/2013/06/the-security-industrial-complex/276906/

- Browser extensions and privacy @ washingtonpost.com/technology/2019/07/18/i-found-your-data-its-sale/?utm_term=.783750b9a51e How strong is MS Office encryption – techguylabs.com/episodes/1456/how-strong-encryption-microsoft-office-documents, makeuseof.com/tag/microsoft-office-password-recovery-tools/
- Winzip encryption blog.itsecurityexpert.co.uk/2017/04/winzip-encryption-password-security-2017.html, winpasskey.com/bundle/crack-encrypted-zip-winzip-file-password/
- What Google/Facebook know about you theguardian.com/commentisfree/2018/mar/28/all-the-data-facebook-google-has-on-you-privacy, cnbc.com/2017/11/20/what-does-google-know-about-me.html,
- usatoday.com/story/tech/talkingtech/2018/03/30/downloaded-all-my-facebook-data-what-learned/471787002/, cnbc.com/2018/03/29/how-to-download-a-copy-of-everything-google-knows-about-you.html, theguardian.com/commentisfree/2018/mar/28/all-the-data-facebook-google-has-on-you-privacy ISP full access to your data - usatoday.com/story/tech/news/2017/04/04/isps-can-now-collect-and-sell-your-data-what-know-internet-privacy/100015356/
- List of Data Breaches @ Privacy Clearinghouse privacyrights.org/data-breaches, csoonline.com/article/2130877/the-biggest-data-breaches-of-the-21st-century.html Data brokers - worldprivacyforum.org/wp-content/uploads/2013/12/WPF PamDixon CongressionalTestimony DataBrokers 2013 fs.pdf, priceonomics.com/why-security-breaches-just-keep-getting-bigger-and/
- nytimes.com/2019/07/15/opinion/intel-data-brokers.htm. FTC recommendations @ ftc.gov/news-events/press-releases/2014/05/ftc-recommends-congress-require-data-broker-industry-be-more
- Biometrics darkreading.com/endpoint/biometrics-are-coming-and-so-are-security-concerns/a/d-id/1331536, schneier.com/blog/archives/2009/01/biometrics.html
- DNA tests technologyreview.com/s/612880/more-than-26-million-people-have-taken-an-at-home-ancestry-test/, investors.com/politics/commentary/dna-testing-kits-risks-privacy/.
- axios.com/dna-test-results-privacy-genetic-data-sharing-4687b1a0-f527-425c-ac51-b5288b0c0293.html, selling theguardian.com/commentisfree/2018/aug/10/dna-ancestry-tests-cheap-data-price-companies-23andme Anonymity on the net - wired.com/tag/anonymity/, teachingprivacy.org/theres-no-anonymity/, psafe.com/en/blog/true-anonymity-possible-internet/
- Anonymous Data hbr.org/2015/02/theres-no-such-thing-as-anonymous-data, wired.com/2007/12/why-anonymous-data-sometimes-isnt/,
- nytimes.com/2019/07/23/health/data-privacy-protection.html?action=click&module=Well&pgtype=Homepage§ion=Health
- Internet never forgets theneweconomy.com/technology/the-internet-never-forgets-but-people-do, scientificamerican.com/article/the-internet-never-forgets/
- K-12 Surveillance nytimes.com/2019/07/02/opinion/surveillance-state-schools.html, edweek.org/ew/articles/2019/05/30/schools-are-deploying-massive-digital-surveillance-systems.html.
- washingtonpost.com/news/answer-sheet/wp/2015/11/12/the-astonishing-amount-of-data-being-collected-about-your-children/?noredirect=on&utm_term=.f25ae0bef781, eff.org/wp/school-issued-devices-and-student-privacy
- Chromebook Opt Out laptopmag.com/articles/keep-google-spying-kids-chromebook, truthinamericaneducation.com/privacy-issues-state-longitudinal-data-systems/school-issued-google-drive-data-collection-breach/, appleinsider.com/articles/17/04/19/eff-google-chromebook-is-still-spying-on-grade-school-students
- Sweden weforum.org/agenda/2018/11/sweden-cashless-society-is-no-longer-a-utopia/, thelocal.se/20190624/the-locals-readers-how-swedens-cashless-society-affects-international-residents Amazon Go - pocket-lint.com/phones/news/amazon/139650-what-is-amazon-go-where-is-it-and-how-does-it-work, biziournals.com/seattle/news/2018/03/19/amazon-go-gianna-puerini-shoppers.html
- IoT Privacy epic.org/privacy/internet/iot/, consumerreports.org/internet-of-things/gifts-that-snoop-internet-of-things-privacy-concerns/, en.wikipedia.org/wiki/Internet of things
- * Turn-key dictatorship ibtimes.com/unchecked-surveillance-technology-leading-us-towards-totalitarianism-opinion-2535230, theweek.com/articles/665113/donald-trump-about-inherit-turnkey-tyranny-thanks-obama
- Chilling Effect schneier.com/blog/archives/2018/11/how surveillanc 1.html, schneier.com/blog/archives/2016/03/mass surveillan 1.html, pen.org/research-resources/chilling-effects/ washingtonpost.com/news/wonk/wp/2016/04/27/new-study-snowdens-disclosures-about-nsa-spying-had-a-scary-effect-on-free-speech/?noredirect=on&utm term=.6a0f52a9d94c,
- Self-censoring pewinternet.org/2015/03/16/americans-privacy-strategies-post-snowden/ Human Rights - constitutionus.com/, un.org/en/universal-declaration-human-rights/, en.wikipedia.org/wiki/European Convention on Human Rights
- PRISM aclu.org/blog/national-security/privacy-and-surveillance/nsa-continues-violate-americans-internet-privacy, en.wikipedia.org/wiki/PRISM (surveillance program)
- NSA Ragtime program targets Americans zdnet.com/article/ragtime-program-appear-in-nsa-leaked-files/
- Sesenbrenner guotes wired.com/2013/09/nsa-abusing-patriot-act/, huffpost.com/entry/jim-sensenbrenner-nsa n 3397440
- NSA surveillance unconstitutional scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=2671&context=facpub, en.wikipedia.org/wiki/National Security Agency,
- washingtonpost.com/opinions/nsa-surveillance-may-be-legal—but-its-unconstitutional/2013/06/21/b9ddec20-d44d-11e2-a73e-826d299ff459 story.html?noredirect=on&utm term=.0ab8d163439c. aclu.org/blog/national-security/privacy-and-surveillance/nsa-continues-violate-americans-internet-privacy, restorethe4th.com/, jewishpress.com/blogs/the-lid-jeffdunetz/the-bill-of-rights-226-years-old-today-and-under-attack/2017/12/17/
- Govt surveillance programs -- brennancenter.org/analysis/are-they-allowed-do-breakdown-selected-government-surveillance-programs US Privacy Laws - iclg.com/practice-areas/data-protection-laws-and-regulations/usa, en.wikipedia.org/wiki/Information privacy law, look up individual laws in Wikipedia
- Bad court precedents en.wikipedia.org/wiki/Third-party doctrine, theatlantic.com/technology/archive/2013/12/what-you-need-to-know-about-the-third-party-doctrine/282721/,
- teachprivacy.com/carpenter-v-us-10-reasons-fourth-amendment-third-party-doctrine-overruled/, eff.org/deeplinks/2018/05/supreme-court-says-your-expectation-privacy-probably-shouldnt-depend-fine-print

More Useful Links

- * Privacy organizations epic.org, aclu.org, eff.org, BrennanCenter.org, WorldPrivacyForum.org, PrivacyRights.org, PrivacyInternational.org, PrivacyCoalition.org, DemocraticMedia.org, RightsAndDissent.org, privacy.ne
 * US laws relating to surveillance aclu.org/issues/national-security/privacy-and-surveillance/nsa-surveillance, eff.org/nsa-spying, epic.org/privacy/surveillance/,
- ncsl.org/research/telecommunications-and-information-technology/net-neutrality-2019-legislation.aspxt
- * GDPR en.wikipedia.org/wiki/General_Data_Protection_Regulation, gdprexplained.eu/, hackernoon.com/all-you-need-to-know-about-gdpr-explained-8e336a1987ea,techcrunch.com/2018/01/20/wtf-is-gdpr/
- * GDPR Irish enforcement issue politico.com/story/2019/04/24/ireland-data-privacy-1270123
- * FISA court epic.org/privacy/surveillance/fisa/fisc/, en.wikipedia.org/wiki/United States Foreign Intelligence Surveillance Court
- * Mass surveillance not effective propublica.org/article/whats-the-evidence-mass-surveillance-works-not-much, technologyreview.com/s/519336/bruce-schneier-nsa-spying-is-making-us-less-safe/ wired.com/2017/03/mass-spying-isnt-just-intrusive-ineffective/, washingtonpost.com/news/made-by-history/wp/2017/07/18/too-much-surveillance-makes-us-less-free-it-also-makes-us-less-safe/?utm_term=.b9eff2ba7a5d, newscientist.com/article/dn26801-mass-surveillance-not-effective-for-finding-terrorists/, PCLIB report @ pclob.gov/library/215-Report on the Telephone Records Program.pdf
- * Govt Solutions see "Liberty and Security in a Changing World," White House Panel recommendations Dec 2013 scribd.com/doc/192390553/2013-12-12-rg-final-report#download&from_embed
- amazon.com/Power-Wars-Inside-Obamas-Presidency/dp/0316286575/ref=sr_1_2?keywords=charlie+savage&qid=1562663086&s=books&sr=1-2
- * Surveillance Balloons, Gorgon Stare theguardian.com/us-news/2019/aug/02/pentagon-balloons-surveillance-midwest, en.wikipedia.org/wiki/Gorgon_Stare
- * PCLOB report .pclob.gov/library/702-Report.pdf
- * NSA & Phone Calls eff.org/nsa-spying, aclu.org/files/pdfs/eavesdropping101.pdf
- * Ozone layer/ Earth Day history historyofinformation.com/detail.php?entryid=3133, American Museum of Natural History @ youtube.com/watch?v=J3PqaeE8RVo
- * Will Solutions Happen scholar princeton edu/sites/default/files/mgilens/files/gilens_and_page_2014_-testing_theories_of_american_politics.doc.pdf (Gilens & Page study), newyorker.com/news/john-cassidy/is-america-an-oligarchy, press.uchicago.edu/ucp/books/book/chicago/D/bo27316263.html, vox.com/2016/5/9/11502464/gilens-page-oligarchy-study
- * Aerial surveillance theatlantic.com/technology/archive/2019/08/military-style-surveillance-air-often-legal/595063/
- * Real ID en.wikipedia.org/wiki/Real_ID_Act, upgradedpoints.com/real-id-act, themainewire.com/2017/04/real-id-dangerous-id/, reason.com/2019/01/15/america-where-you-need-internal-passport/
- * iPhone sends data washingtonpost.com/technology/2019/05/28/its-middle-night-do-you-know-who-your-iphone-is-talking/?noredirect=on&utm_term=.783695b28363
- * Smart Meters nakedsecurity.sophos.com/2018/08/23/using-smart-meter-data-constitutes-a-search-but-court-allows-them-anyway/
- * Spy TVs wired.com/2017/02/smart-tv-spying-vizio-settlement/, cnn.com/2015/02/11/opinion/schneier-samsung-tv-listening/index.html
- * Video game data collection thestar.com/news/canada/2015/12/29/how-much-data-are-video-games-collecting-about-you.html
- * Laptop Camera/Microphone Spying scmp.com/lifestyle/article/2140934/are-your-laptop-phone-camera-and-microphone-spying-you-why-you-should
- * IoT Medical Devices scandal healthnewsreview.org/toolkit/tips-for-understanding-studies/medical-devices/, nbcnews.com/health/health-care/exporting-pain-u-s-made-medical-devices-cause-serious-injuries-n939121
- * Refrigerator spying newsweek.com/us-spy-chief-we-could-use-your-fridge-spy-you-424994, tcf.org/content/commentary/new-fridge-spying/?session=1
- * Baby monitor spying newsweek.com/search-engine-sleeping-babies-420967, abc3340.com/news/abc-3340-news-iteam/hackers-spying-on-people-through-baby-monitors-and-home-cameras,
- forbes.com/sites/thomasbrewster/2018/02/21/50000-mi-cam-baby-cams-vulnerable-to-simple-spy-attacks/#acc4c551c7e1
- * Voice Assistants slate.com/technology/2019/01/smart-speaker-privacy-alexa-google-home-amazon-echo-siri.html, commonsensemedia.org/blog/what-parents-need-to-know-before-buying-google-home-or-amazon-echo Siri theguardian.com/technology/2019/jul/26/apple-contractors-regularly-hear-confidential-details-on-siri-recordings
- * Amazon Ring nbcnews.com/tech/security/amazon-developing-high-tech-surveillance-tools-eager-customer-america-s-n1038426
- * Spy toys engadget.com/2016/12/06/internet-connected-toys-accused-of-spying-on-kids/, childrenscommissioner.gov.uk/wp-content/uploads/2018/11/who-knows-what-about-me.pdf
- * Smart locks blog.malwarebytes.com/security-world/2017/10/please-dont-buy-this-smart-locks/.bisnow.com/national/news/technology/latch-smart-lock-privacy-concerns-discrimination-lawsuit-98733
- * Google Nest en.wikipedia.org/wiki/Google Nest, theverge.com/2019/5/7/18536184/google-nest-privacy-commitment, engadget.com/2019/05/09/google-nest-smart-home-privacy/
- * Decline of Brazilian Democracy through targeted prosecution theintercept.com/2019/06/09/brazil-archive-operation-car-wash/, newrepublic.com/article/154150/conspiracy-discredit-brazils-left
- * Video Doorbells & Home Security Cameras washingtonpost.com/technology/2019/01/31/doorbells-have-eyes-privacy-battle-brewing-over-home-security-cameras/?utm_term=.4650ee87ca3b,
- techcrunch.com/2019/01/10/amazon-ring-privacy-concerns/, wreg.com/2019/05/20/video-doorbells-are-they-worth-your-privacy/,
- * Video Doorbells & Police vice.com/en_us/article/mb88za/amazon-requires-police-to-shill-surveillance-cameras-in-secret-agreement?xyz, chicagobusiness.com/john-pletz-technology/yes-you-are-being-watched
- * Border 100 miles aclu.org/other/constitution-100-mile-border-zone.cnn.com/2018/06/23/us/maine-new-hampshire-border-patrol-checkpoints/index.html
- * Little Brother zdnet.com/article/forget-the-nsa-orwells-1984-is-alive-and-well-in-private-industry/, salon.com/2014/03/26/big brother is here google mass surveillance and the rise of the internet of things partner/
- * Privacy Misconceptions cheatsheet.com/gear-style/5-privacy-myths-you-should-stop-believing.html/?a=viewall, csoonline.com/article/3150713/5-most-common-data-privacy-misconceptions.html
- * China & Social Credit businessinsider.com/china-social-credit-system-punishments-and-rewards-explained-2018-4#4-stopping-you-getting-the-best-jobs-4, en.wikipedia.org/wiki/Social_Credit_System,
- theatlantic.com/international/archive/2018/02/china-surveillance/552203/
- * Shadow Profiles vox.com/2018/4/20/17254312/facebook-shadow-profiles-data-collection-non-users-mark-zuckerberg,
- theverge.com/2018/4/11/17225482/facebook-shadow-profiles-zuckerberg-congress-data-privacy, investopedia.com/news/google-not-facebook-collects-more-data-users/
- * OS Passwords are crackable howtogeek.com/192825/how-to-bypass-and-reset-the-password-on-every-operating-system/
- * BIPA fastcompany.com/90297382/illinois-supreme-court-decision-marks-a-landmark-win-for-biometric-privacy-harm
- * Costs of surveillance to US economy visual ly/community/infographic/economy/cost-surveillance-how-nsa-spying-hurting-us-economy
- * Employers sell employee PI nbcnews.com/technolog/exclusive-your-employer-may-share-your-salary-equifax-might-sell-1B8173066
- * How Google Builds Your Profile (series) medium.com/s/story/the-complete-unauthorized-checklist-of-how-google-tracks-you-3c3abc10781d
- * ID theft javelinstrategy.com/coverage-area/2019-identity-fraud-report-fraudsters-seek-new-targets-and-victims-bear-brunt, financialsamurai.com/15-identity-theft-warning-signs-and-statistics-you-cant-ignore/
- * IoT Updating Devices internetofthingsagenda.techtarget.com/feature/How-do-you-provide-IoT-updates-to-devices-in-the-field
- * Guardian Surveillance Project thequardian.com/world/surveillance, theguardian.com/us-news/the-nsa-files
- * Kevin McCarthy on how the free market will fix privacy nytimes.com/2019/07/14/opinion/kevin-mccarthy-privacy-blockchain.html?source=post_page------#
- * Personalized pricing review.chicagobooth.edu/marketing/2018/article/are-you-ready-personalized-pricing, theatlantic.com/magazine/archive/2017/05/how-online-shopping-makes-suckers-of-us-all/521448/
- * Pink Pyramid invented by Howard Fosdick © 2019