

THE GOOD & EVIL OF THE INTERNET AND WHY YOU SHOULD KNOW ABOUT THEM

WEEK 3


OLLI WINTER 2020 COURSES

Mondays, January 27—March 2

9:30—11:30 a.m.

@Cooperage

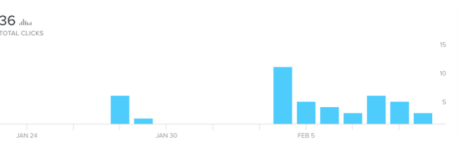
Dr. Farid Farahmand



A Quick Check-in.....


- Thank you for completing the survey

36 *blue*
TOTAL CLICKS




Date	Total Clicks
JAN 24	0
JAN 25	5
JAN 26	2
JAN 27	1
JAN 28	0
JAN 29	0
JAN 30	0
JAN 31	0
FEB 1	15
FEB 2	8
FEB 3	5
FEB 4	4
FEB 5	15
FEB 6	6
FEB 7	5
FEB 8	4

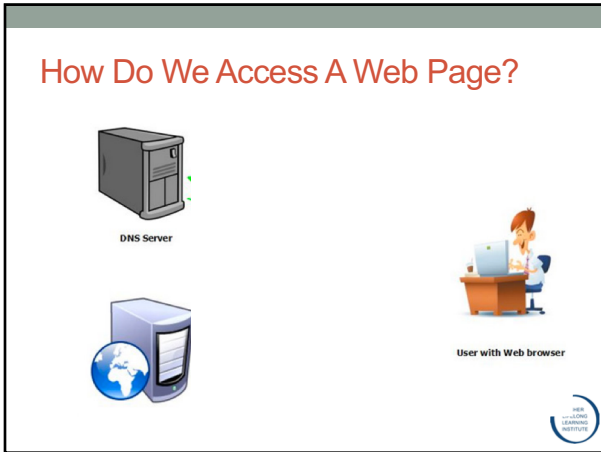
- Uploaded the slides
- Let's hold on to your questions for the first 45 min



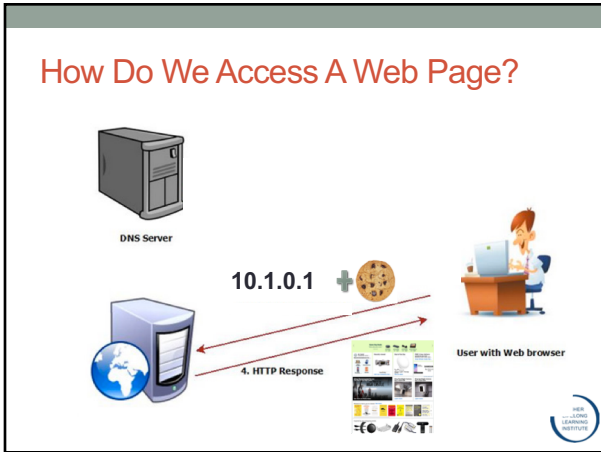
What We Cover Today

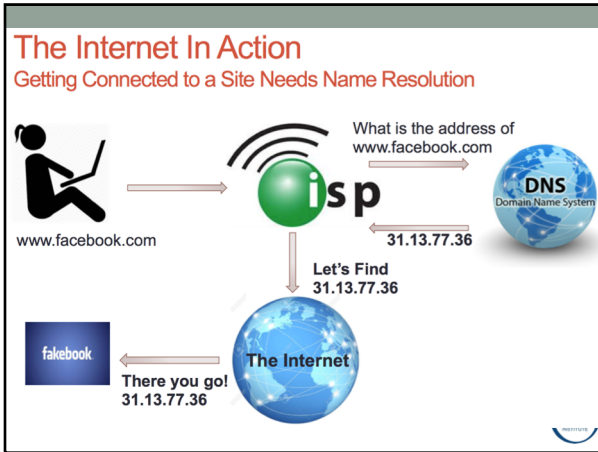
- Quick review.....
- Internet connection (video)
- Internet & Google
- VPN
- Encryption
- Dark Net
- Bitcoin














Domain Names

Domain Name	Assigned To
aero	Air transport industry
arpa	Infrastructure domain
asia	For or about Asia
biz	Businesses
com	Commercial organizations
coop	Cooperative associations
edu	Educational institutions
gov	United States Government
info	Information
int	International treaty organizations
jobs	Human resource managers
mil	United States military
mobi	Mobile content providers
museum	Museums
name	Individuals
net	Major network support centers
org	Non-commercial organizations
pro	Credentialed professionals
travel	Travel and tourism
country code	A sovereign nation

Country Codes (.mx or .cn)

- .mx** is the Internet country code top-level domain (**ccTLD**) for Mexico, controlled by **Network Information Centre México**
 - .com.mx: Commercial entities (actually unrestricted)
 - .net.mx: Network providers (registration limited to qualifying entities)
 - .org.mx: Non-profit organizations (registration limited to qualifying entities)
 - .ngo.mx: Non-profit organizations or Civil society org.
 - .gob.mx: Federal, State or Municipal Governmental entities (similar to gov.)
 - Currently second level domains can be registered directly under .m**
- .cn** is for the People's Republic of China
 - Domain name administration in mainland China is managed through a branch of the **Ministry of Industry and Information**.
 - The registry is maintained by China Internet Network Information Center (CNNIC).


<https://en.wikipedia.org/wiki/cn>



Internet Country Codes

Country / Territory	Country code top-level domain (TLD)	Country / Territory	TLD
Algeria	.dz	Tajikistan	.tk
Algeria	.dz	Tanzania	.tz
Albania	.al	Tanzania & Tshagan	.tz
Algeria	.dz (stands for الجزائر or, in the Latin alphabet, al-jazair; pronounced as Al Dzaïyer)	Tanzania	.tz
American Samoa	.as	Turkey	.tr
Andorra	.ad	Turkmenistan	.tm
Angola	.ao	Turks and Caicos Islands	.tc
Anguilla	.ai	Turkmenistan	.tm
Antarctica	.aq (stands for Antarctica)	Turkmenistan	.tm
Antigua and Barbuda	.ag	Turkmenistan	.tm
Argentina	.ar	Turkmenistan	.tm
Armenia	.am	Uganda	.ug
Aruba	.aw (stands for Aruba West Indies)	Ukraine	.ua (stands for Укїїна, or, in the Latin alphabet, ukraina)
Ascension Island	.ac	United Arab Emirates (UAE)	.ae
Australia	.au	United Kingdom (UK)	.uk
Austria	.at	United States of America (USA)	.us
Azerbaijan	.az	United States Virgin Islands	.vi
Bahamas	.bs	Uruguay	.uy
Bahrain	.bh	Uzbekistan	.uz
Bangladesh	.bd	Venezuela	.ve
Barbados	.bb	Vatican City	.va
		Venezuela	.ve
		Vietnam	.vn
		Wallis and Futuna	.wf
		Western Sahara	.eh (not in use; instead, .ma is used)
		Yemen	.ye
		Zambia	.zm
		Zimbabwe	.zw

<https://www.worldstandards.eu/other/tlds/>



Check (Top-Level) Domain Names



The screenshot shows the MARCARIA.com website interface. The main heading is "Domain Registration in China". Below this, there is a search bar and a list of domain extensions with their annual prices:

Domain	Annual Price
.CN	\$ 20
.COM.CN	\$ 20
.NET.CN	\$ 20
.ORG.CN	\$ 20
.SH.CN	\$ 20
.BI.CN	\$ 20

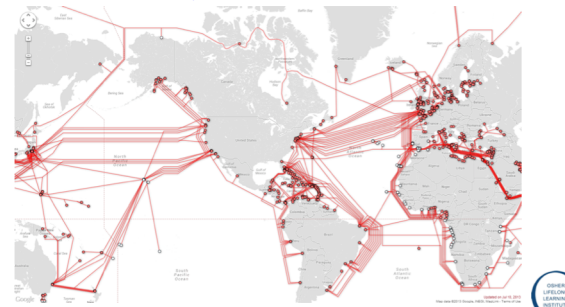
Prices are in U.S. Dollars. There is a "Change Currency" link.

<https://www.marcaria.com/w/en/home#>



How is The Internet Connecting Different Countries?

Watch video: <https://www.youtube.com/watch?v=eTBLIYJSzdc>

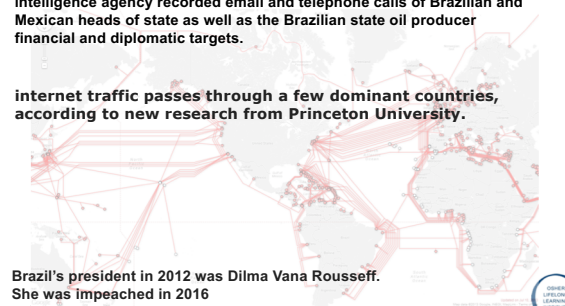


A world map with red lines connecting various countries, representing internet infrastructure. The lines are most dense in North America, Europe, and Asia, showing a global network of connections.

Where is the Internet Traffic Going?

U.S. National Security Agency documents from 2012 revealed that the intelligence agency recorded email and telephone calls of Brazilian and Mexican heads of state as well as the Brazilian state oil producer financial and diplomatic targets.

Internet traffic passes through a few dominant countries, according to new research from Princeton University.



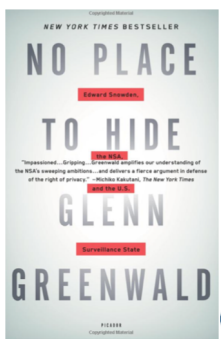
A world map with red lines showing internet traffic flow. The lines are concentrated in North America and Europe, with many lines passing through these regions to reach other parts of the world.

Brazil's president in 2012 was Dilma Vana Rousseff. She was impeached in 2016

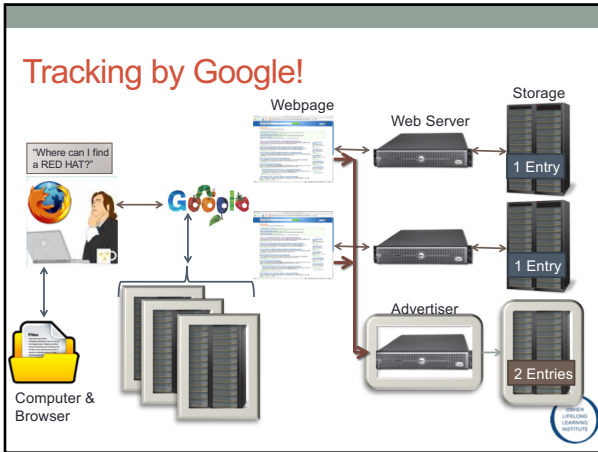
<http://dailymail.com/news/2013/02/20/20130220-brasil-nsa-dilma-rousseff.html>

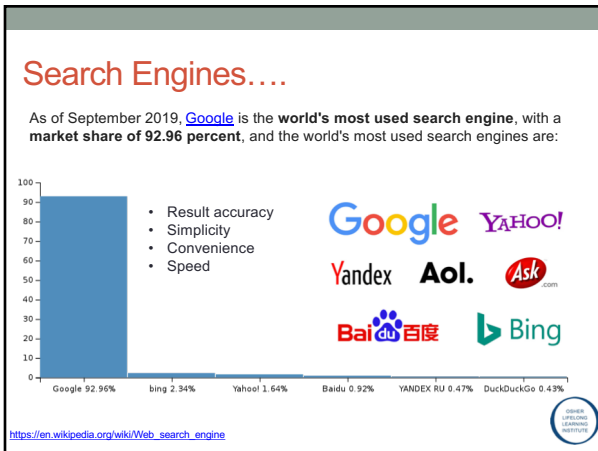
Book:

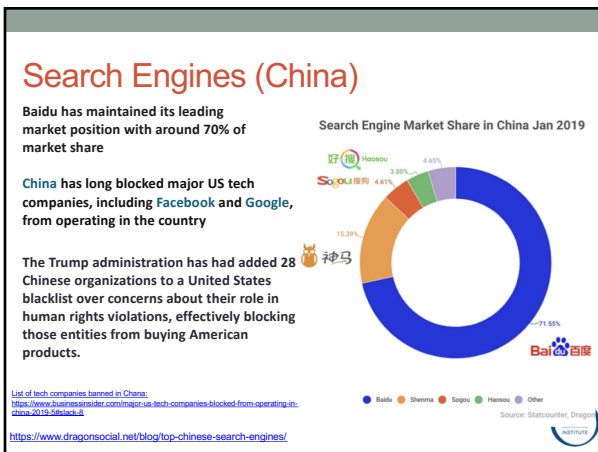
No Place to Hide: Edward Snowden, the NSA, and the U.S. Surveillance State



The book cover features the title 'NO PLACE TO HIDE' in large, bold, black letters. Below the title is the author's name 'Edward Snowden'. At the bottom, it says 'GLENN GREENWALD' and 'Surveillance State'. There are several quotes and endorsements on the cover, including one from 'The New York Times'.







Search Engines (Iran) ...localizing services and startups!

Google	bing	Yahoo!	YANDEX RU	DuckDuckGo	ParSpoo
99.24%	0.45%	0.19%	0.05%	0.02%	0.02%

Search Engine Market Share in Islamic Republic Of Iran - january 2020

- 4 main search engines in Iran
- Can handle 700K searches per day plus 200K Q&A.
- 80 percent accurate!

<http://techrasa.com/2016/03/10/4-iranian-search-engines-to-know-about/>
<https://gs.statcounter.com/search-engine-market-share/all/iran/#monthly-201901-202001-bar>

So what does Google do, actually?

- Google is an advertising company.
- 88.7% of Google's revenue comes from advertising
- Alphabet, Google's holding company created in 2015, is one of the most valuable companies in the world
- It has a market value of over \$500 billion.

<https://www.nature.com/articles/s41599-017-0021-4>

A Few Interesting Facts

Alphabet Inc. (GOOGL): 161Billion

- A simple change of background color from white to black can save us 750 Mega-Watts-hours of electricity / year
- With 1MW of electricity available, you can light up 2000 household

What does Google know about you?

- **Who You Are (to some degree)**
- **Where You've Been (totally)**
- **Who Your Friends Are (mostly)**
- **What You Like and Dislike (somewhat)**
- **Your Future Plans (maybe)**
- **Your Online Life (mostly)**

<https://www.visualcapitalist.com/what-does-google-know-about-you/>



What does Google know about you?

- **Who You Are (to some degree)**
Google knows what you look like, what you sound like, your political and religious beliefs, and how healthy you are. The search giant also knows if you have children, or if you have specific dietary restrictions.
- **Where You've Been (totally)**
Google uses location tracking to know where you live, where you work, and everywhere you've traveled.
- **Who Your Friends Are (mostly)**
Google knows who you talk to, and what you talk about. It also knows who you've been with, and when.
- **What You Like and Dislike (somewhat)**
Based on your search queries, Google knows the food, books, movies, videos, and stores that you like or dislike.
- **Your Future Plans (maybe)**
Your search queries tell a story about what you are thinking about, including your future plans. Have you started searching for information about parenting techniques? If so, Google knows that you are expecting.
- **Your Online Life (mostly)**
Google also knows all of the websites you've visited, your data that **autofills**, and your bookmarked pages.

<https://www.visualcapitalist.com/what-does-google-know-about-you/>



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The Proof is in your customized news, searches, and autofills!

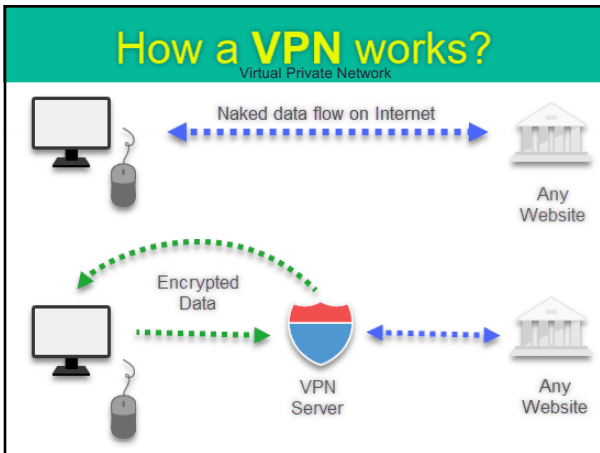
<https://www.visualcapitalist.com/what-does-google-know-about-you/>



Interested to decrease the amount of data that Google has on you?

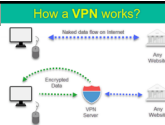
- Adjusting privacy settings
- Using private browsing
- Using a different browser for search
- Turning of your location settings
- Deleting your Google accounts
- **Using a VPN ←**





What is VPN?

- Virtual Private Network
- It secures your computer's internet connection
 - Guarantees that all of the data you're sending and receiving is encrypted
- Benefits:
 - Enhanced security. ...
 - Online anonymity.
 - Unblock websites & bypass filters.
 - Change the IP address.
 - Reduce costs.
- List of some VPNs: <https://www.wizcase.com/best-vpn-guide/>



Turkish people turn to VPNs as Istanbul protests spread (2013)

- Started over redeveloping a park in Istanbul!
- Turkish people turn to VPNs as Istanbul protests spread
- AnchorFree has reported a 1000% growth in the local use of its free virtual private network (VPN) **Hotspot Shield**
- Erdogan condemned social media as "the worst menace to society."



Are VPNs Totally Secure?

- In 2017 AnchorFree, a major VPN provider listed government demands for user data by country, and the legal mechanism used
- 81 formal legal requests received by the company - 63 came from the US government

The US government keeps subpoenaing VPN companies for customer information

<https://thenextweb.com/security/2017/11/29/us-government-keeps-subpoenaing-vpn-customer-information/>



How Does Encryption Work?

- The key to VPN is creating an encrypted channel
- So, what is encryption?
- Watch the video! (6 min)



Dark Net (Watch Video)

Exploring The Hidden Internet

Surface Web (4%)

Deep Web (90%)

- Legal Documents
- Government Records
- Scientific Reports
- Academic Records
- Financial Records

Dark Web (6%)

- Drugs
- Tor
- Illegal Info

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What is Cryptocurrency or Bitcoin!

...Let's remove the bank as the central organization!

- Watch the Video!

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