
Internet Issues (continued)

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Lecture #10
September 28, 2015**

SOPA and PIPA

Megaupload

- Megaupload Ltd. Was a Hong Kong based company that ran an illegal on-line storage and viewing system with pirated material.
- January 2012, the owners were indicted and arrested for allegedly operating an organization dedicated to **copyright infringement**.

SOPA and PIPA

2012

- Stop On-line Piracy Act (SOPA)
Protect Intellectual Property Act (PIPA)
- Both of these bills were introduced to Congress, supported by major media and entertainment companies
- Intent was to shut down foreign websites that distribute unauthorized copies of software, videos and music

SOPA and PIPA

2012

- Tech industry maintained the “language was too broad” and could threaten free speech and stifle innovation
- Sites could be responsible for “all content and links posted by their users”
- Tough job for social networks

SOPA and PIPA – What Happened?

- An Internet Groundswell

Initiated by Tumblr, Reddit, et al.,

Helped by Twitter

Followed by Wikipedia (went dark 1/25/2012)

- The bill was withdrawn

Monopolies and Oligopolies

Big Tech

Monopolies and Oligopolies

- Legislators, agencies, and judges decide the rules of the game
- Whoever has the most influence over these decisions wins the game

Monopolies and Oligopolies

- Google runs two-thirds of all searches in the United States
- Amazon sells more than 40 percent of new books
- Facebook has nearly 1.5 billion active monthly users worldwide

- In 2001, the top 10 websites accounted for 31% of all page views in US
- By 2010, the top 10 websites accounted for 75%

Have tech companies gotten too powerful?

- Big tech has recently been immune to anti-trust scrutiny.
- Political clout in the US?
 - Would congress and the presidential candidates take on Google, Facebook, Amazon in an election year

Google In Europe

2014

Background in Google EU Case

- In 2006, Shivaun and Adam Raff opened the shopping website Foundem
- Suddenly Foundem is a lot less visible in search results, after Google updates its algorithms Google had reasons to believe MSFT was involved.
- In 2009 the Ruffs file an antitrust complaint (note that the lawyer, Gary Reback, had represented Netscape vs. MSFT in the 1990s).

Background in Google EU Case

- Multiple rivals have filed formal complaints that Google had used its overwhelming dominance in web searches to divert users to its own services. Two previous proposals had been rejected.

Google's Monopoly?



Background in Google EU Case

- Present solution is to prominently place a box at the top of its result page with links and logos of rival websites (e.g., Yelp, TripAdvisor, Expedia).
- Google hopes to finalize settlement with Joaquin Almunia, the EU's powerful competition czar and Google's adversary for four years.
- Expected results at the meeting was a “fiat accompli”



Laws on Monopolies

- “Under European law, being dominant is not a problem, but once dominant, you have a special responsibility not to crush the competition in the market.”
- Note that in the U.S., goal is to protect consumers (who were not hurt), not competitors.

Why We Fear Google

April 2014

- Mathias Dopfner, CEO of Axel Springer (Bild, 4x NYTimes) writes an open letter stating that search results are a result of self-advertising.
- “This is an abuse of a market-dominating position.”



Why We Fear Google

April 2014

- Margrethe Vestager- Alumnia's successor- "Dominant companies can't abuse their dominant position to create advantage in related markets."
- A new investigation. Had Google abused its dominance with the Android O/S for smart phones?
- Potential fines could approach \$6B
- Potential limitations on future products



Have Tech Companies Gotten Too Powerful?

Freedom of Speech, Privacy, and National Security

The First Amendment

“Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press, or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.”

The Fourth Amendment

“The right of the people to be secure in their persons, houses, papers, and effects, **against unreasonable searches and seizures**, shall not be violated, and no warrants shall issue, **but upon probable cause**, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

Privacy and Security: Challenges of the new Internet Regulations

- Freedom of Speech vs. Security vs. Privacy?
- Maintenance of net neutrality and a free Internet?

New Technologies Prompt Push for Better Wiretap Law

September 28, 2010

- Government wants a more air-tight federal eavesdropping law and would help law enforcement with real-time snooping
- New technologies and applications can't be easily monitored:
 - social networking sites (Facebook)
 - Voice-over IP
 - Blackberry Messenger
 - Peer-to-Peer Computing

Supreme Court Decision

January 2012

- United States vs. Jones

Police attached a GPS to a criminal suspect's car for monitoring

- Supreme Court ruled 9-0 this was a violation of 4th amendment
- Scalia – a physical invasion of property

Alito – violated “reasonable expectations of privacy”

Sotomayor – fundamental rights should not be subjected to technology change

The New York Times, 1/28/2012

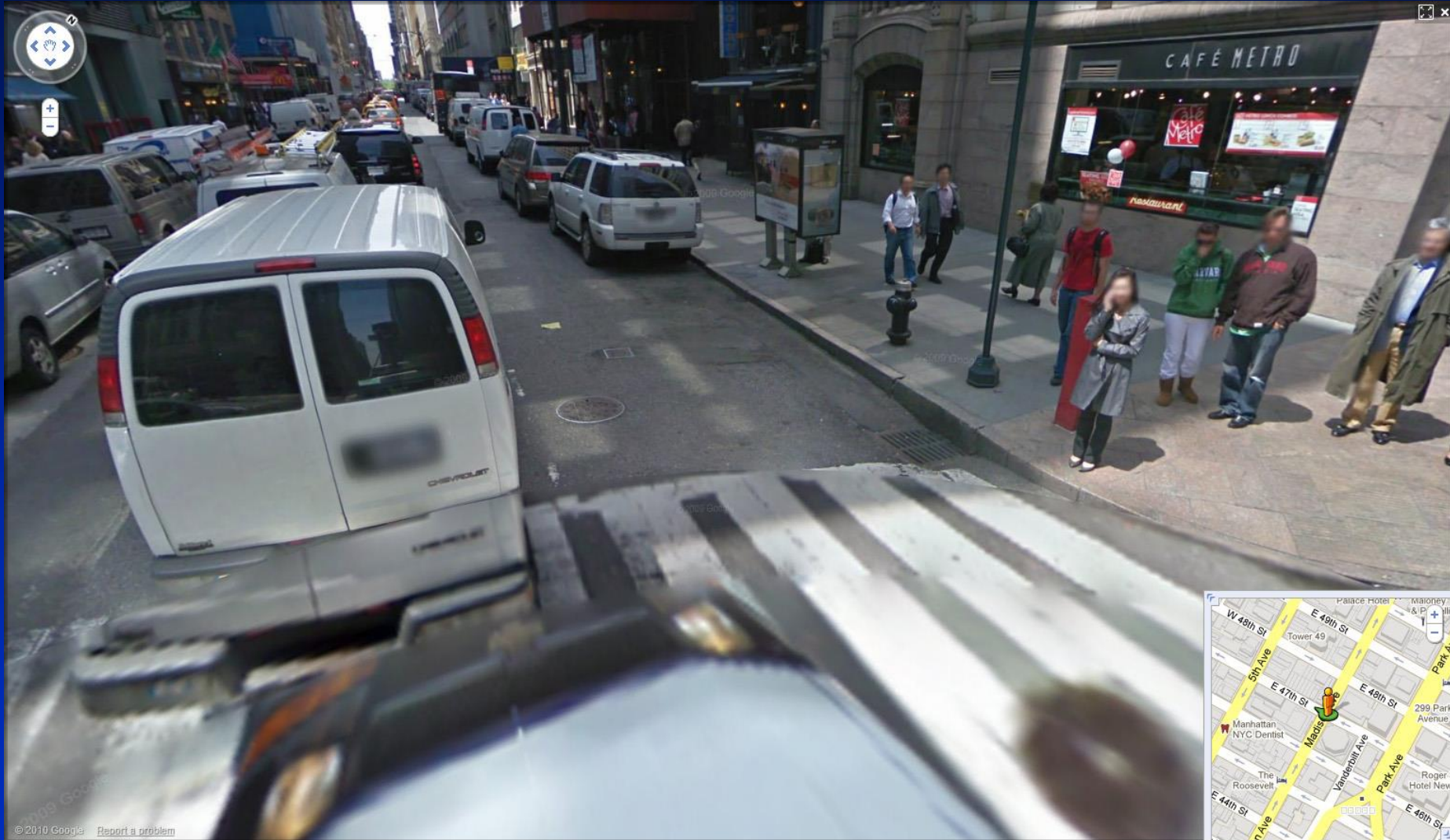
Europe's Proposed New Law on Online Privacy

- Internet companies (Amazon, Facebook, etc.) will need to:
 - Obtain explicit consent for use of personal data
 - Delete that data forever at consumer's request or face fines for failure to comply (as high as 2% of companies annual global revenue)

Europe's Proposed New Law on Online Privacy

- Websites will be compelled to explain:
 - Why the data is being collected
 - Retain the data only as long as necessary
 - Notify regulators within 24 hours if data is stolen
 - Offer consumers the right to transport data from one service to another

Google Street View in New York City



Background on Italian Google Privacy Case

- Italy is trying to compel online broadcasting to seek the same licensing agreements as broadcast TV
- Another proposal is that blogs must correct published errors within 48 hours
- If Google (or a service provider) is responsible for content, it then has unlimited liability

Background on Italian Google Privacy Case

- Is this a deliberate effort to control revenue of communications?
- Berlusconi owns 6 of the 7 public television stations and the government controls the other
- Italy has one of the lowest rates of Internet usage in Europe

Is this a means to stave off competition from the Web to public television stations?

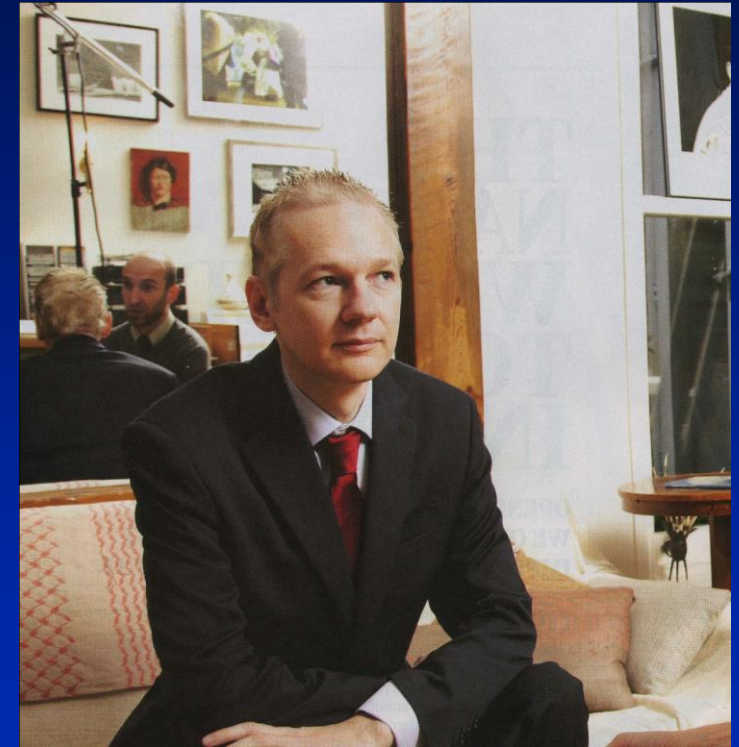
Italy Convicts 3 Google Executives in Privacy Case

- Note that in U.S. Google was applauded for not giving in to Chinese government demands to restrict content
- Italy contends that the company is responsible for text, photographs or videos made available (e.g. YouTube)

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- Should Internet Service Providers or Search Engine Companies Be Responsible for Content?

Julian Assange – Hero or Villian?

“The Internet, our greatest tool for emancipation, has been transferred into the most dangerous facilitator for totalitarianism we have ever seen.”



- The Foreign Intelligence Surveillance Act (FISA) approved by Congress in 1978 has for years been developing a secret and unchallenged body of law on core 4th Amendment issues.
- It has a surveillance court which can approve wiretap orders and consider requests related to nuclear proliferation, espionage, and terrorism.

- When National Security Agency contractor Edward Snowden revealed that leading internet providers were giving the FBI “direct access” to their servers, there was an uproar.
- Note that telecom companies were required to make real-time call monitoring available to the government (1994).

FISA warrant requests for electronic surveillance

September 2013

Year	# Requests Submitted	# Requests Modified ^[b]	# Requests Denied	Cumulative # Warrants Issued
1979–1999	12,082		0	12,090
1979	199	0	0	207 ^[7]
2000	1,005	1	0	13,102 ^[c]
2001	932	2	0	14,036
2002	1,228	2 ^[d]	0	15,264
2003	1,724	79	4 ^[e]	16,988
2004	1,758	94	0	18,742
2005	2,074	63	0	20,814
2006	2,181	77	1	22,990
2007	2,371	86	4	25,360
2008	2,082	2	1	27,443
2009	1,329	14	1	28,763
2010	1,511	14	0	30,342
2011	1,676	30	0	32,087
2012	1,789	40	0	33,942
TOTALS	33,949		11 ^[f]	33,942

a. ^ Excludes physical searches

N.S.A.'s Back Doors

- In 2006, the National Institute of Standards and Technology (NIST) helped build an international encryption system to prevent computer hacking and theft.
- The National Security Agency secretly inserted a “back door” into the system that allowed federal spies to crack open any data using NIST’s technology.
- Access was provided to Hotmail, Skype (Microsoft) as well as iPhones, Android and BlackBerry phones.

Should these back doors be closed?

Privacy and Security

- Google and Apple began encrypting data on their smart phones in a way that would prevent them from unscrambling it for police (September 2014)
- New regulations by foreign governments could shield more information from U.S. spying – but also “break the Internet” (Eric Schmidt, Google, October 2014)
- Foreign governments also “push” their users to use local technology

Omnipresent (and non-obvious) Data Acquisition

Mobile Phones, Photography, Sensors, etc.

Gauging the allure of
designer drugs p. 469

Blown-up brains for a better
inside view pp. 474 & 543

Single-crystal perovskite
solar cells pp. 519 & 522

Science

\$10
30 JANUARY 2015
sciencemag.org



SPECIAL ISSUE

The End of

PRIVACY



Facial Recognition



Facial Recognition

Is that really you?

Just glance at these photos and it is immediately obvious that you're looking at the same person (computer scientist Erik Learned-Miller). To a computer, however, almost every parameter that can be measured varies from image to image, stymieing its ability to identify a face. A technique called deep learning squelches noise to reveal statistical features that these visages have in common, allowing a computer to predict correctly that they all belong to the same individual.



The Game of Drones



Who regulates the Internet?

President Obama on the FCC Regulations

- “... the government will remain vigilant and see to it that innovation is allowed to flourish
- “... that consumers are protected from abuse
- “... that the democratic spirit of ‘the Internet remains intact’”



December 22, 2010
The New York Times

The FCC and the Open Internet July 2014

- **Transparency:** That all ISPs must transparently disclose to their subscribers and users all relevant information as to the policies that govern their network.
- **No Blocking:** That no legal content may be blocked.
- **No Unreasonable Discrimination:** That ISPs may not act in a commercially unreasonable manner to harm the Internet, including favoring the traffic from an affiliated entity.

Internet History and Growth Today

- Big Users
 - Search engines (Google, Yahoo, Bing, Alibaba)
 - Pictorial content (YouTube, Netflix, Picassa, Flickr)
 - Social Communities (Facebook, Twitter)
- The above companies utilize the dominant portion of the available bandwidth and are large enough to pay for preferred or accelerated bandwidth
- Would this put small users and start-ups at a disadvantage?

Contributory Infringement

“One who, with the knowledge of the infringing activity, induces, causes or materially contributes to the infringing conduct of another.”

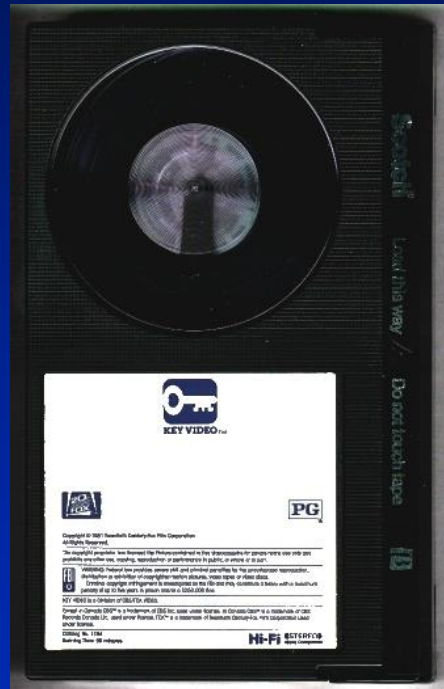
- Gerschwin Publishing vs. Columbia Artists, 1971

Contributory Infringement

“Liability exists if defendant engages in ‘personal conduct’ that encourages or assists the infringement”

- Matthew Bender vs. W. Publishing, 1998

Sony Corp. of America vs. Universal City Studios - “Betamax Case” 1984



Media type: Video recording

Media: Encoding magnetic tape

Developed by: Sony

Usage: Video storage

Sony Corp. of America vs. Universal City Studios - “Betamax Case” 1984

- 1976 – Universal & Walt Disney sued (partly to influence Congress to provide more protection to the film industry) to stop Sony from manufacturing a device that could be used for copyright infringement.
- Two years later, the District Court ruled in Sony’s favor, but this was overturned by the 9th Circuit Appeal’s Court. “The main purpose of Betamax was copying and thus contributory infringement.”
- 1984 – The Supreme Court ruled the making of individual copies of complete TV shows for the purpose of “time-shifting” does not constitute copyright infringement

Contributory Infringement

Sony Case

Sony was not liable for the infringing uses since the betamax had “substantial noninfringing uses”

End
