Day 4

Privacy: Key Aspects
Fair Information Principles
4th Amendment
Privacy Case Law
**KEY ASPECTS OF PRIVACY:**

1. Freedom from intrusion (being left alone)
2. Control of information about oneself
3. Freedom from surveillance (from being tracked, followed, watched)
Privacy Threats

- Intentional, institutional uses of personal information
- Unauthorized use or release by “insiders”: AOL 2006
- Theft of information
- Inadvertent leakage of information
- Our own actions
  - Aware
  - Unaware

AOL: "This was a screw up"

Posted Aug 7, 2006 by Michael Arrington (@arrington)

AOL is apologizing in the aftermath of yesterday's story about their voluntary release of search data on 650,000 users.

https://techcrunch.com/2006/08/07/aol-this-was-a-screw-up/
Privacy threat or cancer cure?

Microsoft Finds Cancer Clues in Search Queries

By JOHN MARKOFF JUNE 7, 2016

The researchers focused on searches conducted on Bing, Microsoft’s search engine, that indicated someone had been diagnosed with pancreatic cancer. From there, they worked backward, looking for earlier queries that could have shown that the Bing user was experiencing symptoms before the diagnosis. Those early searches, they believe, can be warning flags.
Old issues, new risks:

0 Government and private databases → Public record
0 Sophisticated tools for surveillance and data analysis
0 Vulnerability of data
Examples

Smartphones

- Data sometimes stored and sent without user’s knowledge
  - Roughly half the apps in one test sent the smartphone’s ID number or location to other companies (in addition to the one that provided the app).
  - Various apps copy the user’s contact list to remote servers.
Examples cont’d

Screen shot of friend’s phone, 1/2017, when trying to open Gmail
New Technology, New Risks – Summary of Risks:

- Anything we do in cyberspace is recorded.
- Some people are not aware of collection of data.
-Leaks happen.
- A collection of small items can provide a detailed picture → **metadata = content**

**RE-IDENTIFICATION** (Identifying individuals based on small pieces of info from multiple sources) has become much easier due to the quantity of information and power of data search and analysis tools.
“We have been led to believe that metadata — or rather, activity logs — is nothing to worry about; it’s only the content that matters. This may have been true a couple of decades ago when the frequency of digital communications between people and systems was minimal and storage prohibitively expensive. Today, metadata collection and mining has become an industry of its own — accumulating and matching information across countless databases to produce detailed records of everyone’s activities and associations. The goals range from targeting users with relevant advertising to behavioral pattern recognition to aimless harvesting of records for yet unknown future use.”

-Nico Sell, Rita Zolotova

Data collected for one purpose will find other uses → SECONDARY USE

We depend on businesses and organizations to protect our info.
Terms to know

- **INVISIBLE INFORMATION GATHERING** - collection of personal information about a user without the user’s knowledge.

- **DATA MINING** – Searching and analyzing masses of data to find patterns & develop new information or knowledge.

- **COMPUTER PROFILING** – Analyzing data to see which people are likely to engage in a certain behavior.
INFORMED CONSENT – users being aware of what information is collected and how it is used.

- **opt out** – Person must request (usually by checking a box) that an organization *not* use information.

- **opt in** – The collector of the information may use information only if person explicitly permits use (usually by checking a box).
1. Inform people when you collect information.
2. Collect only the data needed.
3. Offer a way for people to opt out.
4. Keep data only as long as needed.
5. Maintain accuracy of data.
6. Protect security of data.
7. Develop policies for responding to law enforcement requests for data.
HIPAA 1996

Health Insurance Portability and Accountability Act

Protects the confidentiality and security of healthcare information, enforceable by law

Gramm-Leach-Bliley Act ("Glibba") 1999

Requires financial institutions to explain their information-sharing practices to their customers and to safeguard sensitive data, enforceable by law.

FISMA 2002

Federal Information Security Management Act

Assigns various responsibilities to various agencies to ensure the security of data in the federal government.

Requires annual reviews of information security practices

Enforceable by law
The right of the people to be secure in their person, 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.

—4th Amendment, U.S. Constitution
The Bill of Rights

Ratified December 15, 1791

Article I
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.

Article II
A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.

Article III
No Soldier shall, in time of peace be quartered in any house, without the consent of the Owner, nor in time of war, but in a manner to be prescribed by law.

Article IV
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.

Article V
No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any Criminal Case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

Article VI
In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining Witnesses in his favor, and to have the Assistance of Counsel for his defence.

Article VII
In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury shall be otherwise reexamined in any Court of the United States, than according to the rules of the common law.

Article VIII
Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishment inflicted.

Article IX
The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.

Article X
The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.
2 key problems arise from new technologies with the 4th amendment:

- Much of our personal info is no longer safe in our homes; it resides in huge databases outside our control.
- New technologies allow the government to search our homes without entering them and search our persons from a distance without our knowledge.
  - particle sniffers, imaging systems, location trackers
Supreme Court allowed the use of wiretaps on telephone lines without a court order.

Interpreted the Fourth Amendment to apply only to physical intrusion and only the search or seizure of material things, not conversations.
Supreme Court reversed its position and ruled that the Fourth Amendment does apply to conversations. The Court said that the Fourth Amendment protects people, not places. To intrude in a place where a reasonable person has a reasonable expectation of privacy requires a court order.
Court stated that where “the government uses a device that is not in \textbf{general public use}, ... the surveillance is a "search" and a warrant must be obtained.”
Search “Incident to Arrest”

Formerly permitted an officer to perform a warrantless search during or immediately after a lawful arrest, regardless of what the arrest was for.

The exception is now limited to the person arrested and the area immediately surrounding the person in which the person may gain possession of a weapon, in some way effect an escape, or destroy or hide evidence.

So can they search your phone?

Search/seizure of phones & computers

Update (6/14): cell phones may **not** be searched, even incident to arrest, without a warrant. BUT…

**Court: Police can use your fingerprint to search your phone**

By Cory Bennett - 10/31/14 09:21 AM EDT

The police can get your fingerprint, but not your password, to unlock your smartphone, a Virginia judge ruled this week.

A password is constitutionally protected individual knowledge, Virginia Beach Circuit Court Judge Steven Frucci **ruled**. But a fingerprint is similar to giving a DNA or handwriting sample, which the law allows, he said.

Surveillance, facial recognition

- Security cameras
- Increased security
- Decreased privacy
- 2001 “SnooperBowl”

Facebook, Walmart to Help Write Rules On Facial Recognition Technology