

Lecture 4: Information Privacy

(Some slides are from M. Quinn, *Ethics for the Information Age*, Pearson © 2013.)

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Information Technology Erodes Privacy

- Information collection, exchange, combination, and distribution easier than ever means less privacy

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Lecture Overview

- Perspectives on privacy
- Information collection: Activities that gather personal information
 - Government and business enterprises
 - Websites, sensors, video camera
 - Surveillance by government* and business enterprises
- *Information processing: Activities that store, manipulate, and use personal information that has been collected
 - Databases and Data Mining
- Information dissemination: Activities that spread personal information
 - Public websites and 3rd party exchange of information

*Lecture 6

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Perspectives on Privacy

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Defining Privacy

- Privacy related to notion of access
- Access
 - Physical proximity to a person
 - Knowledge about a person
- Privacy is a “zone of inaccessibility”
- Privacy violations are an affront to human dignity
- Too much individual privacy can harm society
- Where to draw the line?

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Benefits of Privacy

- Individual growth
- Individual responsibility
- Freedom to be yourself
- Intellectual and spiritual growth
- Development of loving, trusting, caring, intimate relationships
- Sense of safety

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Harms of Privacy

- Cover for illegal or immoral activities
- Hidden dysfunctional families
- Ignored people on society's fringes

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Is There a Natural Right to Privacy?

- Privacy rights stem from property rights: "a man's home is his castle"
- Coercive Acts before American Revolution led to 3rd Amendment to U.S. Constitution
 - It prohibits, in peacetime or wartime, the quartering of soldiers in private homes without the owner's consent.
- 4th Amendment
 - "The right of the people to be secure in their persons, house, papers and effects, against unreasonable 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."
- Samuel Warren and Louis Brandeis: People have "the right to be let alone"
- Judith Jarvis Thomson: "Privacy rights" overlap other rights
- Conclusion: Privacy is not a natural right, but it is a prudential right

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Do People Have the Right to Be Left Alone?



PhamouFoto / Splash News/Newscom

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Privacy and Trust

- Perhaps modern life is actually more private than life centuries ago
 - Most people don't live with extended families
 - Automobile allows us to travel alone
 - Television v. public entertainment
- Challenge: we now live among strangers
- Remedy: establishing reputations
 - Ordeal, such as lie detector test or drug test
 - Credential, such as driver's license, key, ID card, college degree
- Establishing reputation is done at the cost of reducing privacy

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Information Collection by the Government

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Census Records

- Census required to ensure every state has fair representation
- Number of questions steadily rising
- Sometimes Census Bureau has broken confidentiality requirement
 - World War I: draft resisters
 - World War II: Japanese-Americans

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Japanese-Americans on Way to Internment Camp in 1942



National Archives, file #210-G-38-414

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Internal Revenue Service Records

- The 16th Amendment to the U.S. Constitution gives the federal government the power to collect an income tax
- IRS collects more than \$2 trillion a year in income taxes
- Income tax forms contain a tremendous amount of personal information: income, assets, to whom you make charitable contributions, medical expenses, and more
- Tax data is kept private except for non-profit businesses

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FBI National Crime Information Center 2000

- NCIC
 - Collection of databases related to various crimes
 - Contains > 39 million records
- Successes
 - Helps police solve hundreds of thousands of cases every year
 - Helped FBI tie James Earl Ray to assassination of Dr. Martin Luther King, Jr.
 - Helped FBI apprehend Timothy McVeigh for bombing of federal building in Oklahoma City

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OneDOJ Database

- Database being constructed by U.S. Department of Justice
- Gives state and local police officers access to information provided by five federal law enforcement agencies
 - Incident reports
 - Interrogation summaries
 - Other information not available through NCIC
- Criticisms
 - OneDOJ gives local police access to information about people who have not been charged with a crime
 - There is no way to correct misinformation in raw police reports

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Closed-circuit Television Cameras

- First use in Olean, New York in 1968
- Now more than 30 million cameras in U.S.
- New York City's effort in lower Manhattan
 - \$201 million for 3,000 new cameras
 - License plate readers
 - Radiation detectors
- Effectiveness of cameras debated
 - Boston Marathon bombing

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Number of Surveillance Cameras Keeps Increasing



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**U.S. Legislation Restricting
Information Collection by
Institutions and Businesses**

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Employee Polygraph Protection Act

- Passed in 1988
- Prohibits private employers from using lie detector tests under most conditions
- Cannot require test for employment
- Exceptions
 - Pharmaceutical companies and security firms may give test to certain classes of employees
 - Employers who have suffered a theft may administer tests to reasonable suspects
 - Federal, state, and local governments exempt

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**Children's Online Privacy Protection
Act**

- Reduces amount of public information gathered from children
- Online services must gain parental consent before collecting information from children 12 and under

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Genetic Information Nondiscrimination Act

- Health insurance companies
 - Can't request genetic information
 - Can't use genetic information when making decisions about coverage, rates, etc.
 - Doesn't apply to life insurance, disability insurance, long-term care insurance
- Employers
 - Can't take genetic information into account when hiring, firing, promoting, etc.
 - Small companies (< 15 employees) are exempt

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Information Collection by Companies

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Information collected by Websites: GigaOM Privacy Policy

- Personally Identifiable Information
 - Name
 - Email Address
 - Mailing Address
 - Telephone Number(s)
 - Credit Card Information
 - Blog or Website URL
 - Social Networking Handle or Username
 - Photo
 - Demographic Information (e.g., age, gender, interests, and preferences)
 - Professional Title
 - Company
 - Industry

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GigaOM Example cont.

- Activities or Content Viewed on GigaOM: Information Collected Automatically
 - Browser Information
 - Operating System Information
 - Mobile Device Information (e.g., device identifier, mobile operating system, etc.)
 - IP Address
 - Internet Service Provider
 - Content Viewed
 - Geographic Location
 - Connection Speed
 - Time of Visit
 - Referring Site, Application, or Service
 - Registration Time

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GigaOM Example cont.

- Information Received from Third Parties
 - Events and Webinars
 - Third Party Websites/Social Networking Sites
 - Name
 - Nickname or Username
 - Photo or Graphic Avatar
 - Unique Third Party Website Identifier (e.g., Facebook User ID)
 - Biographical or Demographic Information (e.g. professional title, gender, college attended, etc.)
 - Likes and Interests
 - Contacts/Friends/Associations
 - Any Information That Is Publicly Available on Third Party Websites

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Business Data Gathering and Privacy Implications

- Identity Theft
- Facebook tags
- Enhanced 911 services
- Rewards or loyalty programs
- Body scanners
- RFID tags
- Implanted chips
- OnStar
- Automobile "black boxes"
- Medical records
- Digital video recorders
- Cookies and flash cookies

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Facebook Tags

- Tag: Label identifying a person in a photo
- Facebook allows users to tag people who are on their list of friends
- About 100 million tags added per day in Facebook
- Facebook uses facial recognition to suggest name of friend appearing in photo
- Does this feature increase risk of improper tagging?

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Enhanced 911 Services

- Cell phone providers in United States required to track locations of active cell phones to within 100 meters
- Allows emergency response teams to reach people in distress
- What if this information is sold or shared?

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Rewards or Loyalty Programs

- Shoppers who belong to store's rewards program can save money on many of their purchases
- Computers use information about buying habits to provide personalized service
 - ShopRite computerized shopping carts with pop-up ads
- Do card users pay less, or do non-users get overcharged?

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Body Scanners

- Some department stores have 3-D body scanners
- Computer can use this information to recommend clothes
- Scans can also be used to produce custom-made clothing

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RFID Tags

- RFID: Radio frequency identification
- An RFID tag is a tiny wireless transmitter
- Manufacturers are replacing bar codes with RFID tags
 - Contain more information
 - Can be scanned more easily
- If tag cannot be removed or disabled, it becomes a tracking device

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Implanted Chips

- Taiwan: Every domesticated dog must have an implanted microchip
 - Size of a grain of rice; implanted into ear
 - Chip contains name, address of owner
 - Allows lost dogs to be returned to owners
- RFID tags approved for use in humans
 - Can be used to store medical information
 - Can be used as a “debit card”

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OnStar

- OnStar manufactures communication system incorporated into rear-view mirror
- Emergency, security, navigation, and diagnostics services provided subscribers
- Two-way communication and GPS
- Automatic communication when airbags deploy
- Service center can even disable gas pedal

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Automobile “Black Boxes”

- Modern automobiles come equipped with a “black box”
- Maintains data for five seconds:
 - Speed of car
 - Amount of pressure being put on brake pedal
 - Seat belt status
- After an accident, investigators can retrieve and gather information from “black box”

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Medical Records

- Advantages of changing from paper-based to electronic medical records
- Quicker and cheaper for information to be shared among caregivers
 - Lower medical costs
 - Improve quality of medical care
- Once information in a database, more difficult to control how it is disseminated

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Digital Video Recorders

- TiVo service allows subscribers to record programs and watch them later
- TiVo collects detailed information about viewing habits of its subscribers
- Data collected second by second, making it valuable to advertisers and others interested in knowing viewing habits

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Cookies

- Cookie: File placed on computer's hard drive by a Web server
- Contains information about visits to a Web site
- Allows Web sites to provide personalized services
- Put on hard drive without user's permission
- You can set Web browser to alert you to new cookies or to block cookies entirely

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Flash Cookies

- Flash cookie: File placed on your computer's hard drive by a Web server running the Adobe Flash Player
- Flash cookie can hold 25 times as much information as a browser cookie
- Flash cookies not controlled by browser's privacy controls
- Some Web sites use flash cookies as a way of backing up browser cookies. If you delete browser cookie, it can be "respawned" from the flash cookie
- Half of 100 most popular Web sites use flash cookies

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Information Dissemination

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Required Dissemination by Government: Public Records

- Public record: information about an incident or action reported to a government agency for purpose of informing the public
- Examples: birth certificates, marriage licenses, motor vehicle records, criminal records, deeds to property
- Computerized databases and Internet have made public records much easier to access

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Required Dissemination by Government: Freedom of Information Act

- Federal law designed to ensure public has access to U.S. government records
- Signed by President Johnson (1966)
- Applies only to executive branch
- Nine exemptions
 - Classified documents
 - Trade secrets or financial information
 - Documents related to law enforcement investigations

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Required Dissemination by Government: Toll Booth Records

- E-ZPass: an automatic toll-collection system used on most toll roads, bridges, and tunnels between Illinois and Maine
- Drivers with E-ZPass tags pass through without stopping to pay attendant
- Records have been provided in response to court orders in criminal and civil cases

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Legislation to restrict information dissemination by Businesses/ Organizations

- Family Education Rights and Privacy Act
- Video Privacy Protection Act
- Health Insurance Portability and Accountability Act

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Family Education Rights and Privacy Act (FERPA)

- Rights given to
 - Students 18 years and older
 - Parents of younger students
- Rights include
 - Reviewing educational records
 - Requesting changes to erroneous records
 - Preventing release of records without permission

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Video Privacy Protection Act

- Videotape service providers cannot disclose rental records without consumer's written consent
- Rental stores must destroy personal information related to rentals within a year of when it is no longer needed

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Health Insurance Portability and Accountability Act

- Limits how doctors, hospitals, pharmacies, and insurance companies can use medical information
- Health care providers need signed authorization to release information
- Health care providers must provide patients with notice describing how they use medical information

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Summary

- Privacy is becoming an increasingly critical issue with new technology
 - Regulation of business practices while accommodating business interests?
 - Overall “right to privacy” legislation?
 - Government: Security traded for rights?

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