Introduction and Background to Legal, Social, and Ethical Issues in Information Systems
"Unwrapping the Gift"

CSE 312 – Legal, Social, and Ethical Issues in Information Systems

Stony Brook University

http://www.cs.stonybrook.edu/~cse312

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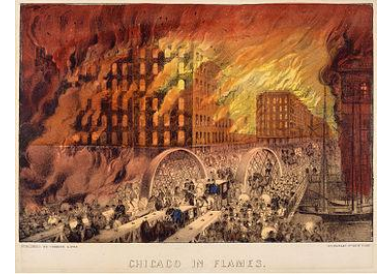   1.2.4 Tools for Disabled People

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Ch 1: Unwrapping The Gift

CHICAGO IN FLAMES.

- Why is our textbook called the "gift of fire"?
  - Prometheus, according to Greek myth, gave the gift of fire to humans
    - According to anthropologists, this is what started our race: we used fire to: heat our homes, cook our food, and run the machines that we depend on.
    - But there were also disasters because of fire: the fires of Rome, the Chicago fire in 1871 left 100,000 people homeless, the fires of the oil fields of Kuwait were intentionally set ablaze, etc.
      - Fire was considered as the root of some of the most dangerous humanly created disasters for thousands of years.
  - Computer technology is the most significant new technology since the beginning of the Industrial Revolution:
    - it allowed us to control machines, communicate, travel to space, etc.
    - but it also creates powerful problems: potential loss of privacy, multimillion-dollar thefts, and breakdowns of large, complex systems that we depend on (e.g., air traffic control systems, communications networks, banking systems)

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1.1 The Pace of Change

"In a way not seen since Gutenberg's printing press that ended the Dark Ages and ignited the Renaissance, the microchip is an epochal technology with unimaginably far-reaching economic, social, and political consequences."

– Michael Rothschild (1942-)
American economist, MIT, Princeton, UCLA

The Pace of Change

- 1940s: First computer was built.

- 1956: First hard-drive disk weighed
a ton and stored five megabytes.

- 1991: Space shuttle had a one-megahertz computer.

- Ten years later, some automobiles had 100-megahertz computers.

- Speeds of several gigahertz are now common.
  - The way you use computer systems and mobile devices, personally and professionally, will change substantially in two years, in five, and in ten, and almost unrecognizably over the course of your career.
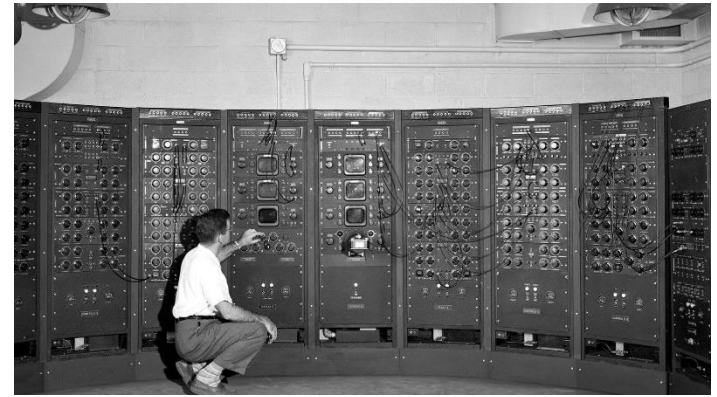
The Pace of Change

- Discussion Question:
  - *What devices are now computerized that were not originally?*
  - Think back 10, 20, 50 years ago.

1.2 Change and Unexpected Developments

Connections: Cellphones, Social Networking, and More

- Relatively few cellphones in 1990s (mostly business people).
- Approximately five billion smartphones (with cameras) worldwide in 2011.
  - Apple introduced the iPhone in 2007.
  - Consumers downloaded 10 billion apps from Apple's App Store (2011).
  - "A Masai warrior with a smartphone and Google has access to more information than the President did 15 years ago"

Change and Unexpected Developments

Cellphones (cont.)

- Used for conversations and messaging, but also for:
  - taking and sharing pictures
  - downloading music and watching videos
  - checking email and playing games
  - banking and managing investments
  - finding maps
  - tracking friends
  - Smartphones serve as electronic wallets
  - control home appliances from a distance

Change and Unexpected Developments

Cellphones (cont.)

- Smartphone apps for many tasks, including:
  - monitoring diabetes
  - locating water in remote areas
  - organizing flash mobs for street demonstrations (Moldova *Twitter Revolution* of 2009)

Change and Unexpected Developments

Cellphones (cont.)

- Problems:
  - Location tracking raises privacy concerns.
  - Talking or texting on cell phones while driving is dangerous.
  - Cameras in cell phones affect privacy in public and non-public places.
  - Rudeness is an issue with cellphones: Cell phones can interfere with solitude, quiet and concentration.
  - Other unanticipated negative applications:
    - teenagers sexting
    - terrorists detonating bombs
    - rioters organizing looting parties

Change and Unexpected Developments

Kill switches

- Allow a remote entity to disable applications and delete files.

- Are in operating systems for smartphones, tablets and computers.

- Used mainly for security, but raise concerns about user autonomy.

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Change and Unexpected Developments

Kill switches

- Amazon:
  - After the introduction of the Kindle, a company on Amazon sold books in US that they did not have the copyright for.
  - Amazon deleted the book from the people's devices and refunded them
  - However, people were startled to learn that Amazon could delete books from their own devices.
  - It was included in the use agreement, but the document has thousand of pages and very few people read them.

Change and Unexpected Developments

Kill switches

- Google:
  - In 2011, a software developer discovered malicious code in an app for Android phones.
  - Google quickly removed the app from its store and from more than 250,000 phones.
  - A good purpose for a kill switch, but again people were surprised that Google can delete apps from their phones.

  - Same is possible for Apple (it can remotely delete apps from phones)

Change and Unexpected Developments

Kill switches

- What is the problem?
  - What if malicious hackers found a way to operate the kill switches on our devices?
  - Or even the Government can pressure businesses to act as the government prefers.
    - for over 2,000 years, governments and religious and social organizations have burned books that displeased them.
  - These tools are remarkably powerful and remarkably vulnerable!

Change and Unexpected Developments

Social Networking:

- First online social networking site was www.classmates.com in 1995.

- Founded in 2003, Myspace had roughly 100 million member profiles by 2006.

- Facebook was started at Harvard as an online version of student directories

- Social networking is popular with hundreds of millions of people because of the ease with which they can share aspects of their lives.

Change and Unexpected Developments

Social Networking:

- Uses:
  - People can communicate.
  - Businesses connect with customers.
  - Organizations seek donations.
  - Groups organize volunteers.
  - Protesters organize demonstrations and revolutions.
  - Individuals pool resources through "crowd funding".

Change and Unexpected Developments

Social Networking:

- Problems:
  - Stalkers and bullies stalk and bully.
  - Jurors tweet about court cases during trials.
  - Socialbots simulate humans
    - A person you follow in social media might not be a person at all
    - A socialbot is an artificial intelligence program that simulates a human being in social media
    - "on the Internet, no one knows you're a dog."

  - Should we be comfortable with these problems?

Change and Unexpected Developments

Social Networking

"While all this razzle-dazzle connects us electronically, it disconnects us from each other, having us "interfacing" more with computers and TV screens than looking in the face of our fellow human beings. Is this progress?"

— Jim Hightower, radio commentator, 1995

Change and Unexpected Developments

Communication and the Web (email, blogs, videos):

- In the 1980s, email messages were short and contained only text.

- People worldwide several billions of email daily, but texting, tweeting, and other social media are now preferred.

- Blogs ("weB log") began as outlets for amateurs wanting to express ideas, but they have become significant source of news and entertainment.

- Inexpensive video cameras and video-manipulation tools have resulted in a burst of amateur videos.

  - We can start our own television network without any cost.

- Many videos on the Web can infringe copyrights owned by entertainment companies.

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Change and Unexpected Developments

Communication and the Web (email, blogs, videos):

- The Good and the Bad:
  - in 2006, an argument in an Hong Kong bus about a person talking loudly on the cell phone was watched by millions of people
  - Creativity: people set it on music, ringtones, pictures, quotes, etc.
    - Internet facilitates and encourages creativity and the quick creation and distribution of culture artifacts and entertainment, with the contribution of ideas, modifications, variations, improvements, and new works from thousands of people.
  - Problem: anything we do in a public place can be captured and preserved on video.

Change and Unexpected Developments

Telemedicine

- *Long-distance medicine* refers to remote performance of medical exams, analyses, and procedures using specialized equipment and computer networks.

- Remote performance of medical exams and procedures, including surgery.
  - Surgeons in New York used video, robotic devices, and high-speed communication links to remotely remove a gall bladder from a patient in France.

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Change and Unexpected Developments

Telemedicine

- Discussion Questions:

1. *How will we react when we can go into a hospital for surgery performed entirely by a machine?*

2. *Will it be scarier than riding in the first automatic elevators or airplanes?*

3. *How will we react when chips implanted in our brains enhance our memory with gigabytes of data and a search engine?*

4. *Will we still be human?*

Change and Unexpected Developments

Collaboration

- Wikipedia: The online, collaborative encyclopedia written by volunteers.

- Informal communities of programmers create and maintain free software.

- Watch-dogs on the Web: Informal, decentralized groups of people help investigate crimes, Wikileaks.

- Problems:

  - How can we guide the efforts of thousands of individuals toward useful ends while protecting against mistakes, instant vigilantism, and other abuses?

    - Mobs and individuals emotionally involved in a political, religious, or moral cause do not always pause for the details of due process

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Change and Unexpected Developments

E-commerce

- Amazon.com started in 1994 selling books on the Web.
  - It has grown to be one of the most popular, reliable, and user-friendly commercial sites.
- eBay.com facilitates online auctions.
- Traditional brick-and-mortar business have established Web sites.
- Online sales in the United States now total hundreds of billions of dollars a year.
- Sellers can sell directly to buyers, resulting in a peer-to-peer economy.

Change and Unexpected Developments

E-commerce and trust concerns

- Problem: People were reluctant to provide credit card information to make online purchases, so PayPal.com grew out of need for trusted intermediary to handle payments.
  - Encryption and secure servers made payments safer.
- The Better Business Bureau established a Web site to help consumers see if others have complained about a business.
- Auction sites implemented rating systems.

- Problems:
  - Web sites were selling illegal items (Silk Road) using crypto currency (Bitcoin)

Change and Unexpected Developments

E-commerce

- More problems:
  - Web sites were selling illegal items (Silk Road) using crypto currency (Bitcoin)
  - International sites selling products (sometimes medicine) for other countries

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Change and Unexpected Developments

Free stuff:

- Email programs and email accounts, browsers, filters, firewalls, encryption software, word processors, spreadsheets, software for viewing documents, software to manipulate photos and video, and much more

- Phone services using VOIP such as Skype

- Craigslist classified ad site

- Free books (Project Gutenberg, Google Books)

- News from all over the world for free

- Store our personal photographs, videos, and other files online for free

- University lectures

Change and Unexpected Developments

Free stuff (cont.): Is it really FREE?

- We pay for libraries with taxes. Who pays these free services?
  - Advertising pays for many free sites and services, but not all.
  - Wikipedia funded through donations.
  - Businesses provide some services for good public relations and as a marketing tool.
  - Generosity and public service flourish on the Web. Many people share their expertise just because they want to.

- The ugly:
  - In order for companies to earn ad revenue to fund multimillion-dollar services, many free sites collect information about our online activities and sell it to advertisers. This tracking is most of the time now obvious.

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# Change and Unexpected Developments

Artificial intelligence

- A branch of computer science that makes computers perform tasks normally requiring human intelligence.
  - Some problems are easier for computer than people (because they are rooted in mathematics)
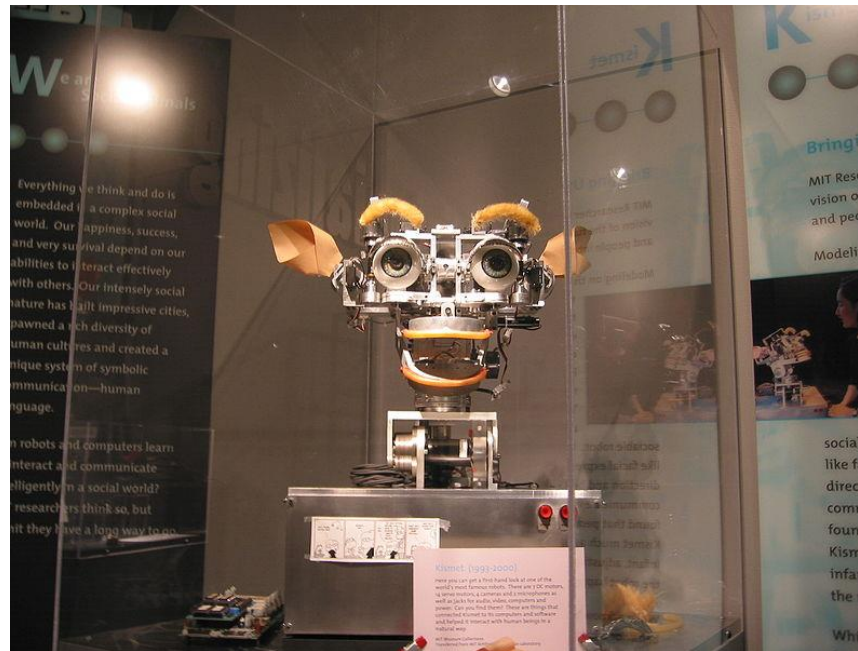
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Change and Unexpected Developments

Artificial intelligence
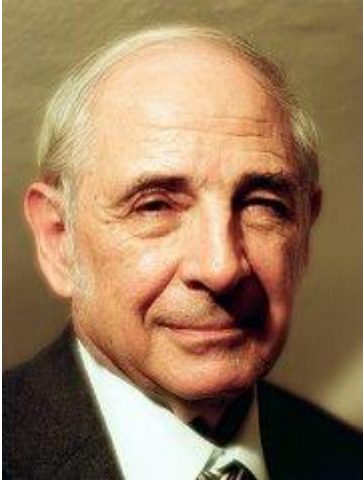
- Philosopher John Searle (1932-) argues that computers are not and cannot be intelligent. They do not think; they manipulate symbols. They do so at very high speed, and they can store (or access) and manipulate a huge quantity of data. They do not understand; they simulate understanding.
- Many AI applications involve *pattern recognition*.

Change and Unexpected Developments

Artificial intelligence

- Turing Test: If the computer convinces the human subject that the computer is human, the computer is said to "pass".
  - Let a person converse (over a network) with the system on any topics the person chooses. If the computer convinces the person that it is human, the computer passes the test.

  - Discussion Question:
    - *How will we react when we can have a conversation and not know if we are conversing with a human or a machine?*

Change and Unexpected Developments

Artificial intelligence

- AI "struggle greatly, and humans will outperform them—by a lot."
  - See a related article "Artificial Intelligence Is More Artificial Than Intelligent".

    https://www.wired.com/2016/12/artificial-intelligence-artificial-intelligent/
  - Why can't Microsoft conversant Twitter bot, touted as artificially intelligent, be smart enough to stop itself from spewing obscenities?
  - No existing AI technologies can master even the simplest challenges without human-provided context.
    - DeepMind spent years playing Go
    - Watson had the context for Jeopardy
    - x.ai's meeting scheduling assistant took years to learn the context around meeting scheduling in order to reach a consumer-acceptable level of competence
  - It is only because of this human hand-holding and "training" that these machines were able to deliver such dominating performances.
- What is your opinion?
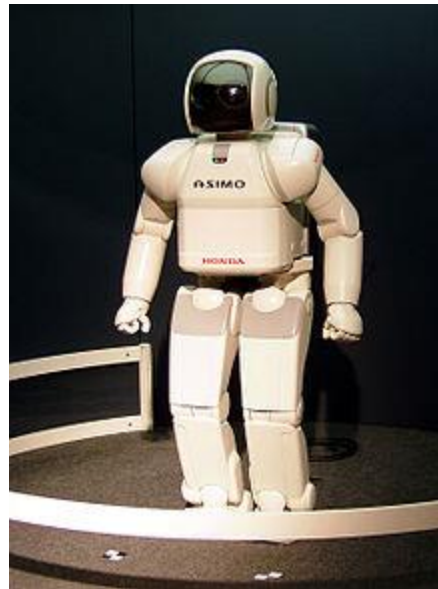
Change and Unexpected Developments

Robots

- Can operate in environments that are hazardous for people.
- Mechanical devices that perform physical tasks traditionally done by humans.
  - Robotic machines have been assembling products in factories for decades.
  - McDonald's and other fast-food sellers use robotic food preparation systems to reduce costs and speed service.
  - Amazon robots fill orders connected to a customer database, plucks the appropriate products from shelves by reading bar codes and handle billing

Change and Unexpected Developments

Robots

- House robots:
  - iRobot Roomba vacuum cleaners
  - Scooba floor washer
  - robotic lawn mowers
  - Kitchen robots, such as Somabar, are some of the most funded robots on Kickstarter
  - Automated pool cleaners
  - Looj cleans house gutters

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Change and Unexpected Developments

Robots

- Robot toys and Social Robots:
  - Sony sold a robot pet dog, Aibo.
  - Even human shape: Honda's Asimo, for example, walks up and down stairs.
  - can serve as companions to elderly people
  - JIBO and ConnectR are family robots that includes telepresence: robots can move around in a remote location and let one communicate with people there via its camera, speaker, and microphone
  - Even help us in the near future
    - In popular culture: Rosie the Robot from The Jetsons
    - Discussion question: Would you trust a robot with your child?

Change and Unexpected Developments

Robots

- Can we trust them?
  - Can you trust a robot pharmacist machine, connected to a patient database, to take the appropriate medications from pharmacy shelves by reading bar codes, check for drug interactions?
  - Sometimes human error causes them to make mistakes.
  - They need continuous supervision.

- Impact on jobs
  - White-collar workers being replaced by AI?
  - https://qz.com/875491/japanese-white-collar-workers-are-already-being-replaced-by-artificial-intelligence/

  "One Japanese insurance company, Fukoku Mutual Life Insurance, is reportedly replacing 34 human insurance claim workers with "IBM Watson Explorer," starting by January 2017. The AI will scan hospital records and other documents to determine insurance payouts, according to a company press release, factoring injuries, patient medical histories, and procedures administered."

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Change and Unexpected Developments

Smart sensors, motion, and control

- How do robots walk, climb stairs, and move?
  - Tiny motion-sensing and gravity-sensing devices collect status data.
  - These motion sensing devices are used to give robots the ability to walk, trigger airbags in a crash, and protect laptops when dropped.
- Sensors can detect leaks, acceleration, position, temperature, and moisture.
  - The Wii game console, whose controller Wii Remote detects the user's motion, brought motion-sensing applications to millions of consumers.
  - Now in smartphones and other products (like the Sony PlayStation Move)

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Change and Unexpected Developments

Smart sensors, motion, and control

- Video motion detection:
  - Kinect for the Microsoft Xbox 360
    - Webcam-style add-on peripheral that enables users to control and interact with their console/computer without the need for a game controller, using gestures and spoken commands

Change and Unexpected Developments

Smart sensors, motion, and control

- Sensors detect temperature, acceleration, and stress in materials
  - airplane parts
  - car parts
  - smart buildings and bridges can detect structural problems, report on damage from earthquakes
  - sensors in agricultural fields report on moisture helping farmers to use water when needed

Change and Unexpected Developments

Smart sensors, motion, and control

- Microprocessor-controlled devices in or on human bodies: heart pacemakers and defibrillators and devices that restore motion to paralyzed people

- Sensors in baby clothes detect when a baby is sleeping face down, at risk for Sudden Infant Death Syndrome, and warn parents on their cellphone

- A heart monitor in a firefighter's shirt alerts supervisors if the firefighter is too stressed and needs a break.

Change and Unexpected Developments

Tools for disabled people

- Assistive technology devices help restore productivity and independence to people with disabilities.

- Researchers are experimenting with chips that convert brain signals to controls for leg and arm muscles.
  - A person whose leg was amputated above the knee can walk, sit, and climb stairs with an artificial "smart" knee.
    - Sensors pick up tiny electrical fields generated by contractions of muscles in the upper (natural) limb.

- For people who are blind, computers equipped with speech synthesizers read aloud what a sighted person sees on the screen.

Change and Unexpected Developments

Tools for disabled people

- To restore control and motion to people paralyzed by spinal injuries, researchers are experimenting with chips that convert brain signals to controls for leg and arm muscles.
  - the people can operate a computer and control appliances with their thoughts

1.3 Themes

- Old problems in a new context: crime, pornography, violent fiction
  - helpful perspective for analysis and even ideas for solutions to new problems by looking at older technologies and established legal and social principles.

Themes

- Adapting to new technology: thinking in a new way
  - Changes in technology usually require adaptive changes in laws, social institutions, business policies, and personal skills, attitudes, and behavior.
    - During Japanese election campaigns in 2005, candidates were afraid to use email and blogs and to update their websites to communicate with voters, because a 1955 law that specifies the legal means of communicating with voters does not include these methods.
  - We might naturally think some actions are criminal or legal because the legislators did not consider them when writing existing laws.
    - The major impact of computer technology on privacy means we have to think in new ways about how to protect ourselves.

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Themes

- Varied sources of solutions to problems: natural part of change and life
  - Solutions for problems that result from new technology come from more or improved technology, the market, management policies, education and public awareness, volunteer efforts, and law.
    - Technology: Authentication technology helps reduce identity theft.
    - Market mechanisms: competition and consumer demand generate many improvements.
    - Legal: appropriate penalties for people who commit fraud online, and there must be appropriate liability laws for cases where system failures occur.

Themes

- Global reach of Net: ease of communication with distant countries
  - It makes crime fighting and law enforcement more difficult, because criminals can steal and disrupt services from outside the victim's country.
  - Laws in one country prohibiting certain content on the Web or certain kinds of Web services restrict people and businesses in other countries because the Web is accessible worldwide.

Themes

- Trade-offs and controversy:
  - Increasing security means reducing convenience.
  - Protecting privacy makes law enforcement more difficult.
  - Unpleasant, offensive, or inaccurate information accompanies our access to the Web's vast amounts of useful information.
  - Leaking confidential information on the Internet.
- It is important to know the arguments on the other side
  - Analyze the weight on different factors
  - Use logic and mathematical arguments to avoid fallacies (a mistaken belief based on unsound arguments)

Themes

- Perfection is a direction, not an option.
  - In general, when evaluating new technologies and applications, we should not compare them to some ideal of perfect service
  - That is impossible to achieve in most aspects of life
  - Instead, we should compare them to the alternatives and weigh the problems against the benefits
  - The ideal shows us the direction to seek improvements and solutions to problems

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Themes

- There is a difference between personal choices, business policies, and law.
  - The criteria for making personal choices, for making policies for businesses and organizations, and for writing laws are different.
    - A business bases its policies on many factors, including the manager's perception of consumer preferences, what competitors are doing, responsibilities to stockholders, the ethics of the business owners or managers, and relevant laws
    - Laws are based on the notion of rights not on personal views about their benefits or how we want people to behave (such as is a good idea, or is efficient, or is good for business, or is helpful to consumers).

1.4 Ethics

Honesty is the best policy.

—English proverb, pre-1600

What is Ethics?

- Study of what it means to "do the right thing".
- Assumes people are rational and make free choices.
  - There are Rules to follow in our interactions and our actions that affect others.
  - Ethical rules are rules to follow in our interactions with other people and in our actions that affect other people.
- People make decisions about what technologies and products to develop and how to use them
  - Ethics matters in Computer Technologies

Ethics

- Ethics matters in Computer Technologies:
  - Should you download movies from unauthorized websites?
  - Should you talk on your cellphone while driving on a freeway?
  - Should you hire foreign programmers who work at low salaries?
  - Should you warn potential customers that the smartphone app you sell needs to copy their contact list?
  - Should you fire an employee who is criticizing your business in social media?
  - What information should you allow advertisers and other trackers to collect from visitors to the website you run?
  - ETHICS: "Is it right to . . . ?" (all of the above)

Ethics

- Ethical rules:
  - are intended to achieve good results for people in general
  - Ethical theories attempt to achieve the same goal: to enhance human dignity, peace, happiness, and well-being
  - Ethical rules are good and work for people:
    - Most of the time we are honest, we keep our promises, we do not steal, we do our jobs
  - Behaving ethically is usually practical:
    - Honesty makes interactions among people work more smoothly and reliably
    - We might lose friends if we often lie or break promises
    - We might land in jail if caught stealing --- Social institutions encourage us to do right

Ethics

A variety of ethical views:

- Deontological theories

- Utilitarianism

- Natural rights

- Negative rights (liberties)
  - The right to act without interference

- Positive rights (claim-rights)
  - An obligation of some people to provide certain things for others

- Golden rules
  - Treat others as you would want them to treat you.

Ethics

- Deontological theories:
  - View acts as good or bad based on the intrinsic aspect of the action
  - emphasize duty and absolute rules
    - whether they lead to good or ill consequences in particular cases
    - One example is: *Do not lie.*
  - An act is ethical if it complies with ethical rules and you chose it for that reason.
  - Immanuel Kant (1724 – 1804) theories:
    - The principle of universality: We should follow rules of behavior that we can universally apply to everyone.
    - Follow rationality is ethical: "Respect the reason in you"
    - Principle about interacting with other people: One must never treat people as merely means to ends, but rather as ends in themselves.

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Ethics

- Deontological theories (nonconsequentialist):
  - Absolute rules: never break these rules, no matter the consequences.
- Three Immanuel Kant's ideas about ethics:
  - Principle of universality: we should follow rules of behavior that we can universally apply to everyone
  - Logic and reason determines rules of ethical behavior. One should use reason, rationality, and judgment, not emotions, when making ethical decisions
  - Never treat people as merely means to ends, but rather as ends in themselves

Ethics

- Utilitarianism (consequentialist):
  - Consider consequences, aim to increase happiness, or net aggregate "utility" (what satisfies the person's needs and values)
    - We should consider the consequences—the benefits and damages to all affected people—and "calculate" the change in aggregate utility
      - Aggregate utility: consider all affected people
  - An act is right if it tends to increase aggregate utility
  - Problem: difficult to determine all the consequences of an act

Ethics

- Distinguish act utilitarianism and rule utilitarianism

  - Act: Consider utility of each act

  - "Rule utilitarianism" applies the utility principle not to individual actions but to general ethical rules

    - they don't measure the effect of one action only

    - Consider utility of general ethic rules instead, not individual act

Ethics

- **Asimov's Laws of Robotics (introduced in 1942, _I, Robot_):**

  0. A robot may not harm humanity, or, by inaction, allow humanity to come to harm.

  1. A robot may not injure a human being or, through inaction, allow a human being to come to harm, except where such orders conflict with the Law 0.

  2. A robot must obey the orders given it by human beings except where such orders would conflict with the Laws 0 and 1.

  .

Ethics

- Natural rights:
  - Try let people make their own decisions, act freely according to their own judgment
  - Ethical behaviors respect fundamental/natural rights including rights to life, liberty, and property
  - Acts are likely ethical if they involve voluntary interactions and freely made exchanges, where the parties are not coerced or deceived
    - Emphasize the process by which people interact, not the result of the interaction

Ethics

- Natural rights:
  - Three natural rights (John Locke (1632 – 1704) commonly known as the "Father of Liberalism"):
    - Life: everyone is entitled to live.
    - Liberty: everyone is entitled to do anything they want to so long as it doesn't conflict with the first right.
    - Property/Estate: everyone is entitled to own all they create or gain through gift or trade so long as it doesn't conflict with the first two rights.

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Ethics

- Natural rights:
  - freedom in which people can act freely according to their own judgment, without coercive interference by others
  - not dependent on the laws or customs of any particular culture or government
  - universal and inalienable (i.e., rights that cannot be repealed or restrained by human laws).
  - Natural rights are considered beyond the authority of any government or international body to dismiss
  - Natural rights were used to challenge the divine right of kings, and became an alternative justification for the establishment of a social contract, positive law, and government
  - Problem: anarchism.

Ethics

- Negative rights (liberties)
  - The rights to act without interference
- Positive rights (claim-rights)
  - An obligation of some people to provide certain things for others, such as work, food, medical care, etc.

- Negative rights and positive rights often conflict
  - Some think protecting claim rights is essential, some think protecting liberties is essential

Ethics

- Negative rights (liberties)
  - Right to life, liberty, and the pursuit of happiness
  - Right to freedom of speech and religion
  - Right to work, own property, access the Internet
- Positive rights (claim-rights)
  - To life: someone is obligated to pay for food/medical care
  - To freedom of speech
  - To a job: someone must hire you
  - To access Internet: subsidized access for poor people

Ethics

- Negative and positive rights are rights that respectively oblige either inaction (negative rights) or action (positive rights)
  - Negative rights may include civil and political rights such as freedom of speech, life, private property, freedom from violent crime, freedom of religion, habeas corpus, a fair trial, freedom from slavery.
  - Positive rights may include other civil and political rights such as police protection of person and property and the right to counsel, as well as economic, social and cultural rights such as food, housing, public education, employment, national security, military, health care, social security, internet access, and a minimum standard of living.

Ethics

- Negative rights (inaction rights / liberties)
  - The right to act without interference
  - The rights to "life, liberty, and the pursuit of happiness" described in the U.S. Declaration of Independence (July 4, 1776) are liberties / negative rights
  - Freedom of speech and religion, as guaranteed in the First Amendment of the U.S. Constitution (December 15, 1791, United States Bill of Rights), are negative rights: the government may not interfere with you, jail you, or kill you because of what you say or what your religious beliefs are.
  - The right to work, as a liberty, or negative right, means that no one may prohibit you from working or, for example, punish you for working without getting a government permit => NOT ABSOLUTE
  - The liberty or negative right to access the Internet is so obvious in free countries that we do not even think of it. Authoritarian governments restrict or deny it.

Ethics

- Positive rights (claim-rights)
  - An obligation of some people to provide certain things for others
  - Access to the roads, as a claim right, could require such things as taxes to provide subsidized access for poor people
  - Negative rights and positive rights often conflict: positive rights often diminish the liberties of some
  - For example: privacy protection regulations have a positive effect in detecting threats, but may infringe in the privacy right of people

Ethics

- Golden rules
  - Treat others as you would want them to treat you
  - Reciprocity or a role reversal
  - We want people to respect our privacy
    - Thus, we should respect theirs

Ethics

- Legal rights are those bestowed onto a person by a given legal system (i.e., rights that can be modified, repealed, and restrained by human laws).

Ethics

- Civil and political rights are a class of rights that protect individuals' freedom from infringement by governments, social organizations, and private individuals.
  - Civil rights: protection from discrimination on grounds such as race, gender, national origin, color, age, political affiliation, ethnicity, religion, or disability
    - Individual rights such as privacy and the freedoms of thought, speech, religion, press, assembly, and movement.
  - Political rights include natural justice (procedural fairness) in law, such as the rights of the accused, including the right to a fair trial; due process; the right to seek redress or a legal remedy; and rights of participation in civil society and politics such as freedom of association, the right to assemble, the right to petition, the right of self-defense, and the right to vote.

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Ethics

- Human rights are moral principles or norms, which describe certain standards of human behavior
    - They are commonly understood as inalienable fundamental rights "to which a person is inherently entitled simply because she or he is a human being," and which are "inherent in all human beings" regardless of their nation, location, language, religion, ethnic origin or any other status.
    - Highly influential in international law (the Universal Declaration of Human Rights (UDHR) was adopted by the United Nations General Assembly in 1948):

"*Everyone has the right to life, liberty and security of person*"

    - United States Declaration of Independence, 1776:

"*We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.*"

Ethics

- Contributing to society:
  - We are focusing on how to make ethical decisions
    - how to live a virtuous life?
  - Doing one's work honestly, responsibly, ethically, creatively, and well is virtuous.

"*His philanthropy was in his work.*"

—*Mike Godwin, writing about Apple co-founder Steve Jobs*

Ethics

- Social contracts:
  - People willingly submit to a common law in order to live in a civil society.
    - People are rational and will seek a better situation, even at the cost of giving up some independence in favor of common law and accepting some authority to enforce this "social contract."
  - John Locke: people could enforce moral rules, such as the rights to life, liberty and property, BUT it was better to delegate this function to a government instituted by an implicit social contract
  - John Rawls (1921-2002): reasonable people, recognizing that a legal (or political) structure is necessary for social order, will want to cooperate on terms that all accept, and they will abide by the rules of society, even those they do not like.

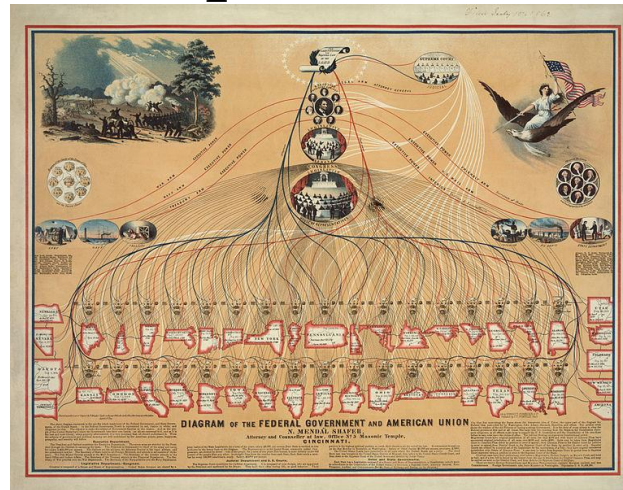(c) Paul Fodor (CS Stony Brook) and Pearson
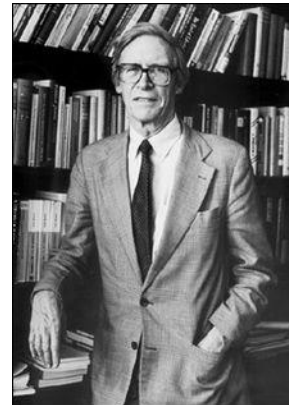
Ethics

- No simple answers
  - Human behavior and real human situations are complex.
  - There are often trade-offs to consider.
  - Ethical theories help to identify important principles or guidelines.

Ethics

- Do organizations have ethics?
  - Ultimately, it is individuals who are making decisions and taking actions.
  - We can hold both the individuals and the organization responsible for their acts.

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Ethics

Government

- Children's Online Privacy Protection Act (COPPA), 1998, is a privacy law intended to protect a vulnerable population by requiring that websites get parental permission before collecting personal information from children under 13.
  - After COPPA passed, because of the expense of complying with its requirements and the potential liability, some companies deleted all accounts of children under 13 and banned children under 13 entirely.
  - It is not clear how well it actually helps and protects children
    - The fiction that there are no members under 13 implies there is no need to provide mechanisms to protect them

Change and Unexpected Developments

- Some important distinctions:
  - Right, wrong, or okay: ethically obligatory, ethically prohibited, or ethically acceptable
  - Distinguishing wrong and harm:
    - harm alone is not a sufficient criterion to determine that an act is unethical
      - If your product is really good, you might put a competitor out of business completely and cause many people to lose their jobs.
    - there is nothing wrong with doing honest, productive work
    - some hackers argue that breaking into computer systems is not wrong, because they do no harm
      - might do unintended harm
      - is a violation of property rights: a person has no right to enter your property without your permission

Change and Unexpected Developments

- Separating goals from constraints
  - Ethics tells us what actions are acceptable or unacceptable in our attempts to achieve the goals
  - There is nothing unethical about a business having the goal of maximizing profits
  - The ethical character of the company depends on whether the actions taken to achieve the goal are consistent with ethical constraints

Change and Unexpected Developments

- Personal preference and ethics
  - Most of us have strong feelings about a lot of ethical issues
  - We have to know our rights and liberties, and our society rights and liberties
    - We have to know how these rights are decided on and how can we change and protect them

Change and Unexpected Developments

- Law and ethics

  - Some laws enforce ethical rules

    - The Uniform Commercial Code (UCC), first published in 1952, harmonizes the sales and other commercial transactions across the United States of America: https://en.wikipedia.org/wiki/Uniform_Commercial_Code

      - Contract formation: Offer, Consideration, Assignments

      - Contract repudiation and breach: Nonconforming goods, Insolvency

    - Copyright law:

      - defines the property right, violation of which is a form of theft

      - Copyright Act of 1790, Copyright Act of 1976, Copyright Term Extension Act of 1998 (also called the "Mickey Mouse Protection Act", because it prevented the copyright from expiring on the first commercial success of the cartoon character Mickey Mouse)

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Change and Unexpected Developments

- Law and ethics
  - Some laws enforce ethical rules
    - Copyright law: grants authors and artists the exclusive right to make and sell copies of their works, the right to create derivative works, and the right to perform or display their works publicly
      - time limit: expire 70 years after the author's death
        - In the United States, any music composed before January 1, 1923, is generally considered public domain.
    - Regulation W: Transactions Between Member Banks and Their Affiliates https://en.wikipedia.org/wiki/Bank_regulation_in_the_United_States
    - Basel II: how much capital banks need to hold to guard against the financial and operational risks https://en.wikipedia.org/wiki/Basel_II