Chapter 4

ETHICAL AND SOCIAL ISSUES IN INFORMATION SYSTEMS

VIDEO CASES

Case 1: Big Brother is Copying Everything on the Internet
Case 2: Delete: The Virtue of Forgetting in a Digital Age

Learning Objectives

- **What ethical, social, and political issues are raised by information systems?**

- **What specific principles for conduct can be used to guide ethical decisions?**

- **Why do contemporary information systems technology and the Internet pose challenges to the protection of individual privacy and intellectual property?**

- **How have information systems affected everyday life?**

Behavioral Targeting and Your Privacy: You're the Target

- **Problem:** Need to efficiently target online ads

- **Solutions: Behavioral targeting** allows businesses and organizations to more precisely target desired demographics

- Google monitors user activity on thousands of sites; businesses monitor own sites to understand customers

- Demonstrates IT's role in organizing and distributing information

- Illustrates the ethical questions inherent in online information gathering

Understanding Ethical and Social Issues Related to Systems

- **Recent cases of failed ethical judgment in business**
  - **Lehman Brothers, Minerals Management Service, Pfizer**
  - **In many, information systems used to bury decisions from public scrutiny**

- **Ethics**
  - **Principles of right and wrong that individuals, acting as free moral agents, use to make choices to guide their behaviors**

Understanding Ethical and Social Issues Related to Systems

- **Information systems and ethics**
  - **Information systems raise new ethical questions because they create opportunities for:**
    - Intense social change, threatening existing distributions of power, money, rights, and obligations
    - New kinds of crime

Understanding Ethical and Social Issues Related to Systems

- **Model for thinking about ethical, social, political issues:**

    - **Society as a calm pond**

    - **IT as rock dropped in pond, creating ripples of new situations not covered by old rules**

    - **Social and political institutions cannot respond overnight to these ripples—it may take years to develop etiquette, expectations, laws**

   - Requires understanding of ethics to make choices in legally gray areas

Understanding Ethical and Social Issues Related to Systems

THE RELATIONSHIP BETWEEN ETHICAL, SOCIAL, AND POLITICAL ISSUES IN AN INFORMATION SOCIETY

The introduction of new information technology has a ripple effect, raising new ethical, social, and political issues that must be dealt with on the individual, social, and political levels. These issues have five moral dimensions: information rights and obligations, property rights and obligations, system quality, quality of life, and accountability and control.

FIGURE 4-1
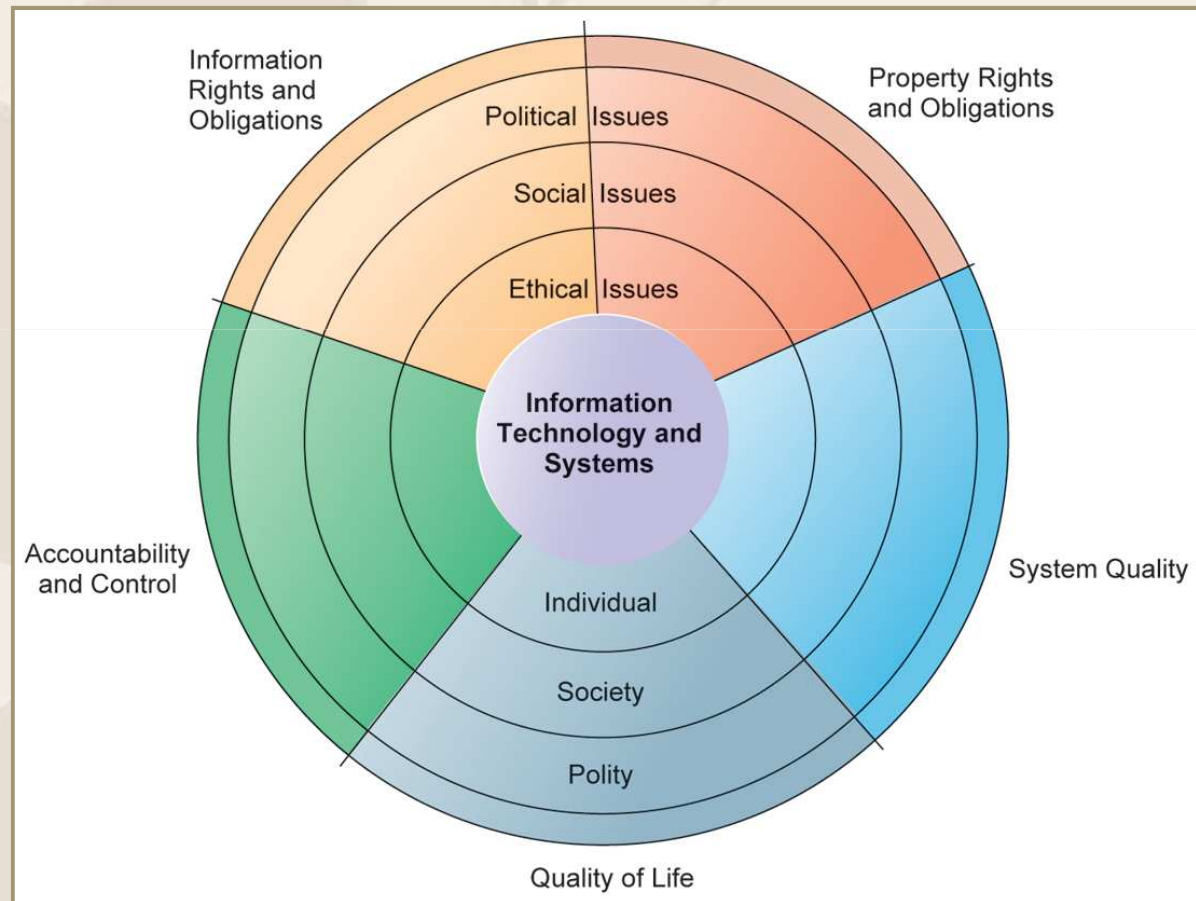
Understanding Ethical and Social Issues Related to Systems

- **Five moral dimensions of the information age**
    1. **Information rights and obligations**
    2. **Property rights and obligations**
    3. **Accountability and control**
    4. **System quality**
    5. **Quality of life**

Understanding Ethical and Social Issues Related to Systems

- **Key technology trends that raise ethical issues**

  1. **Doubling of computer power**
     - More organizations depend on computer systems for critical operations

  2. **Rapidly declining data storage costs**
     - Organizations can easily maintain detailed databases on individuals

  3. **Networking advances and the Internet**
     - Copying data from one location to another and accessing personal data from remote locations is much easier

Understanding Ethical and Social Issues Related to Systems

- **Key technology trends that raise ethical issues** (*cont.*)

  4. **Advances in data analysis techniques**
     - Companies can analyze vast quantities of data gathered on individuals for:
       - **Profiling**
         » Combining data from multiple sources to create dossiers of detailed information on individuals
       - **Nonobvious relationship awareness (NORA)**
         » Combining data from multiple sources to find obscure hidden connections that might help identify criminals or terrorists

## Understanding Ethical and Social Issues Related to Systems

NONOBVIOUS RELATIONSHIP AWARENESS (NORA)

NORA technology can take information about people from disparate sources and find obscure, nonobvious relationships. It might discover, for example, that an applicant for a job at a casino shares a telephone number with a known criminal and issue an alert to the hiring manager.

FIGURE 4-2
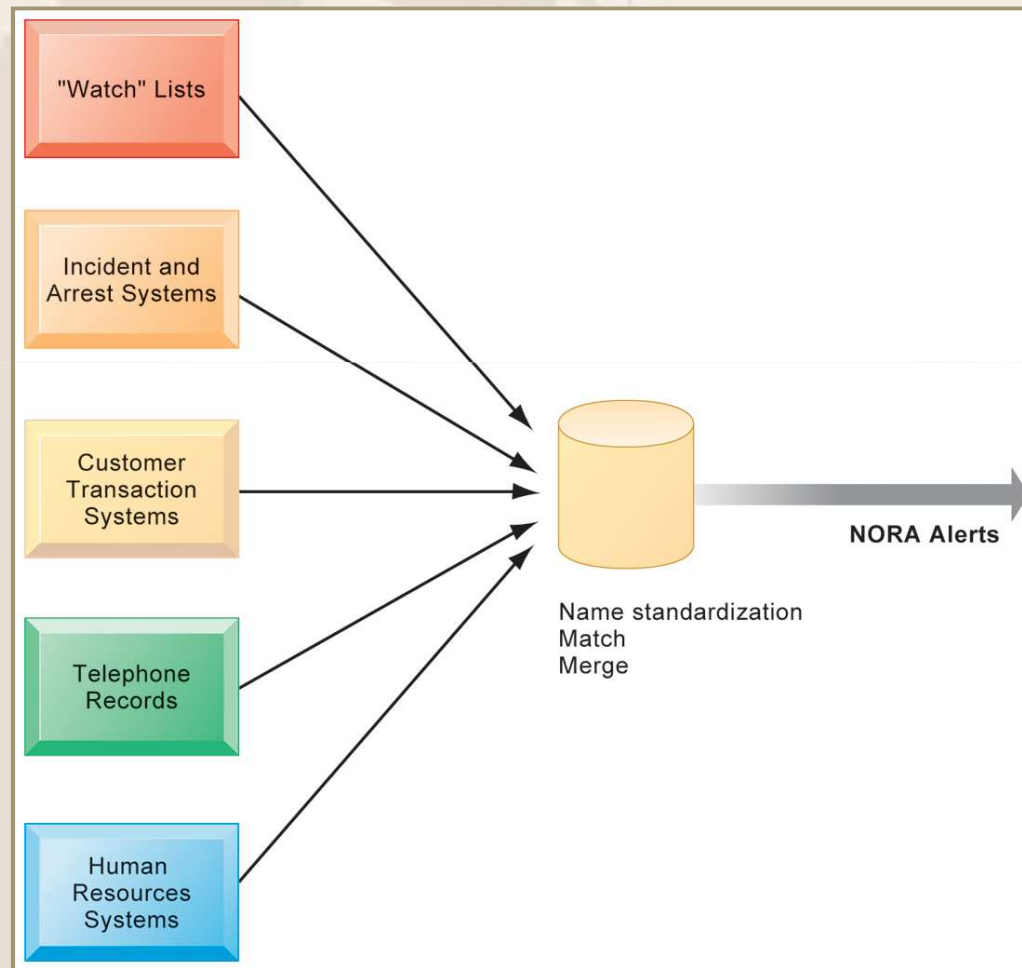
Ethics in an Information Society

- **Basic concepts for ethical analysis**

  - **Responsibility:**
    - Accepting the potential costs, duties, and obligations for decisions

  - **Accountability:**
    - Mechanisms for identifying responsible parties

  - **Liability:**
    - Permits individuals (and firms) to recover damages done to them

  - **Due process:**
    - Laws are well known and understood, with an ability to appeal to higher authorities

Ethics in an Information Society

- **Ethical analysis: A five-step process**
  1. **Identify and clearly describe the facts**
  2. **Define the conflict or dilemma and identify the higher-order values involved**
  3. **Identify the stakeholders**
  4. **Identify the options that you can reasonably take**
  5. **Identify the potential consequences of your options**

Ethics in an Information Society

- **Six Candidate Ethical Principles**

    1. **Golden Rule**

        - Do unto others as you would have them do unto you

    2. **Immanuel Kant's Categorical Imperative**

        - If an action is not right for everyone to take, it is not right for anyone

    3. **Descartes' Rule of Change**

        - If an action cannot be taken repeatedly, it is not right to take at all

Ethics in an Information Society

- **Six Candidate Ethical Principles** (*cont.*)

    4. **Utilitarian Principle**

        - Take the action that achieves the higher or greater value

    5. **Risk Aversion Principle**

        - Take the action that produces the least harm or least potential cost

    6. **Ethical "no free lunch" Rule**

        - Assume that virtually all tangible and intangible objects are owned by someone unless there is a specific declaration otherwise

Ethics in an Information Society

- **Professional codes of conduct**

  - **Promulgated by associations of professionals**

    - E.g. AMA, ABA, AITP, ACM

  - **Promises by professions to regulate themselves in the general interest of society**

- **Real-world ethical dilemmas**

  - **One set of interests pitted against another**

  - **E.g. Right of company to maximize productivity of workers vs. workers right to use Internet for short personal tasks**

The Moral Dimensions of Information Systems

- **Privacy:**

  - **Claim of individuals to be left alone, free from surveillance or interference from other individuals, organizations, or state. Claim to be able to control information about yourself**

- **In U.S., privacy protected by:**

  - **First Amendment (freedom of speech)**

  - **Fourth Amendment (unreasonable search and seizure)**

  - **Additional federal statues (e.g. Privacy Act of 1974)**

The Moral Dimensions of Information Systems

- **Fair information practices:**
  - **Set of principles governing the collection and use of information**
  - **Basis of most U.S. and European privacy laws**
  - **Based on mutuality of interest between record holder and individual**
  - **Restated and extended by FTC in 1998 to provide guidelines for protecting online privacy**
  - **Used to drive changes in privacy legislation**
    - COPPA
    - Gramm-Leach-Bliley Act
    - HIPAA

The Moral Dimensions of Information Systems

- **FTC FIP principles:**

  1. **Notice/awareness (core principle)**

  2. **Choice/consent (core principle)**

  3. **Access/participation**

  4. **Security**

  5. **Enforcement**

The Moral Dimensions of Information Systems

- **European Directive on Data Protection:**
  - **Requires companies to inform people when they collect information about them and disclose how it will be stored and used.**
  - **Requires informed consent of customer**
  - **EU member nations cannot transfer personal data to countries with no similar privacy protection (e.g. U.S.)**
  - **U.S. businesses use safe harbor framework**
    - Self-regulating policy to meet objectives of government legislation without involving government regulation or enforcement.

The Moral Dimensions of Information Systems

- **Internet Challenges to Privacy:**
  - **Cookies**
    - Tiny files downloaded by Web site to visitor's hard drive to help identify visitor's browser and track visits to site
    - Allow Web sites to develop profiles on visitors
  - **Web beacons/bugs**
    - Tiny graphics embedded in e-mail and Web pages to monitor who is reading message
  - **Spyware**
    - Surreptitiously installed on user's computer
    - May transmit user's keystrokes or display unwanted ads

- **Google's collection of private data; behavioral targeting**

The Moral Dimensions of Information Systems

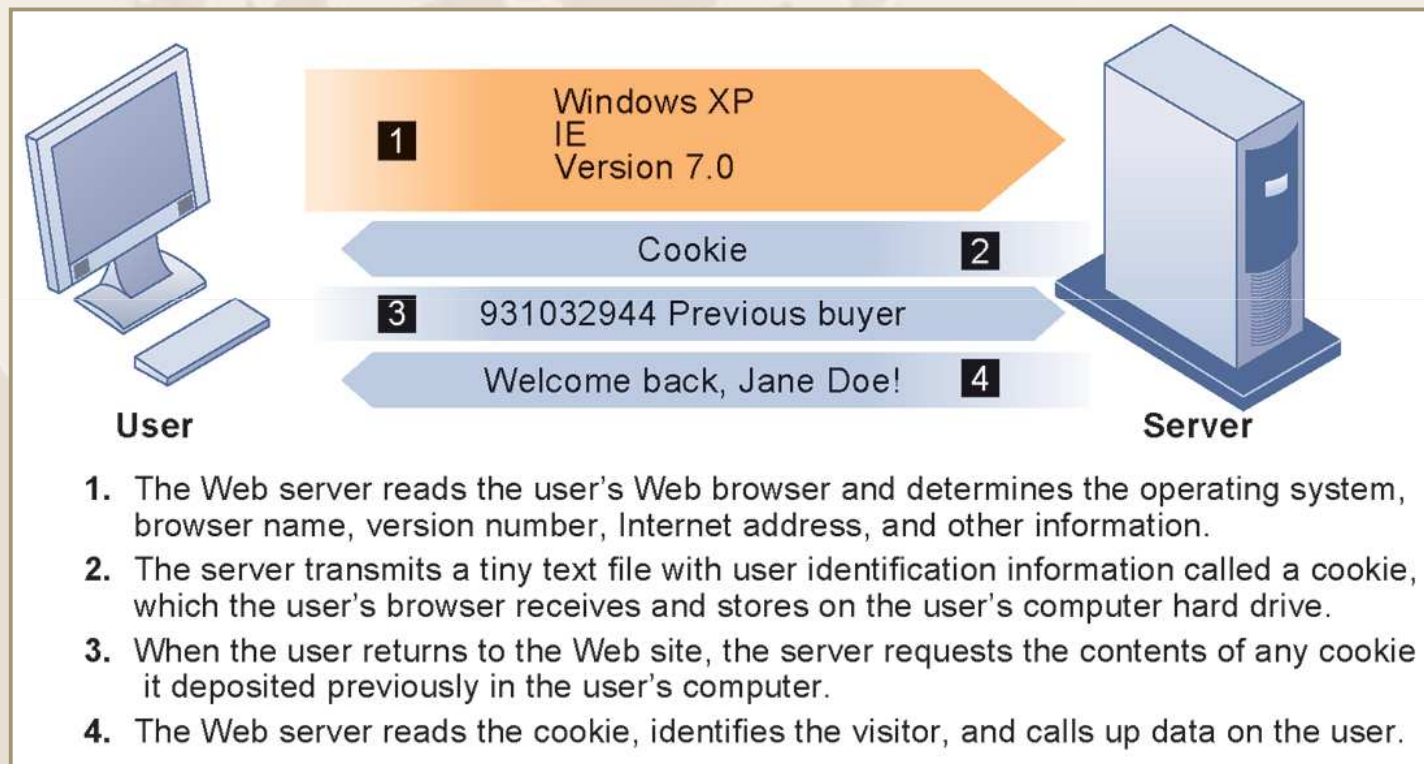### HOW COOKIES IDENTIFY WEB VISITORS

FIGURE 4-3 Cookies are written by a Web site on a visitor's hard drive. When the visitor returns to that Web site, the Web server requests the ID number from the cookie and uses it to access the data stored by that server on that visitor. The Web site can then use these data to display personalized information.

The Moral Dimensions of Information Systems

- **U.S. allows businesses to gather transaction information and use this for other marketing purposes**

- **Online industry promotes self-regulation over privacy legislation**

- **However, extent of responsibility taken varies**
  - Statements of information use
  - Opt-out selection boxes
  - Online "seals" of privacy principles

- **Most Web sites do not have any privacy policies**

The Moral Dimensions of Information Systems

- # Technical solutions

  - ## The Platform for Privacy Preferences (P3P)

    - Allows Web sites to communicate privacy policies to visitor's Web browser – user

    - User specifies privacy levels desired in browser settings

    - E.g. "medium" level accepts cookies from first-party host sites that have opt-in or opt-out policies but rejects third-party cookies that use personally identifiable information without an opt-in policy

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THE P3P STANDARD

1. The user with P3P Web browsing software requests a Web page.
2. The Web server returns the Web page along with a compact version of the Web site's policy and a pointer to the full P3P policy. If the Web site is not P3P compliant, no P3P data are returned.
3. The user's Web browsing software compares the response from the Web site with the user's privacy preferences. If the Web site does not have a P3P policy or the policy does not match the privacy levels established by the user, it warns the user or rejects the cookies from the Web site. Otherwise, the Web page loads normally.
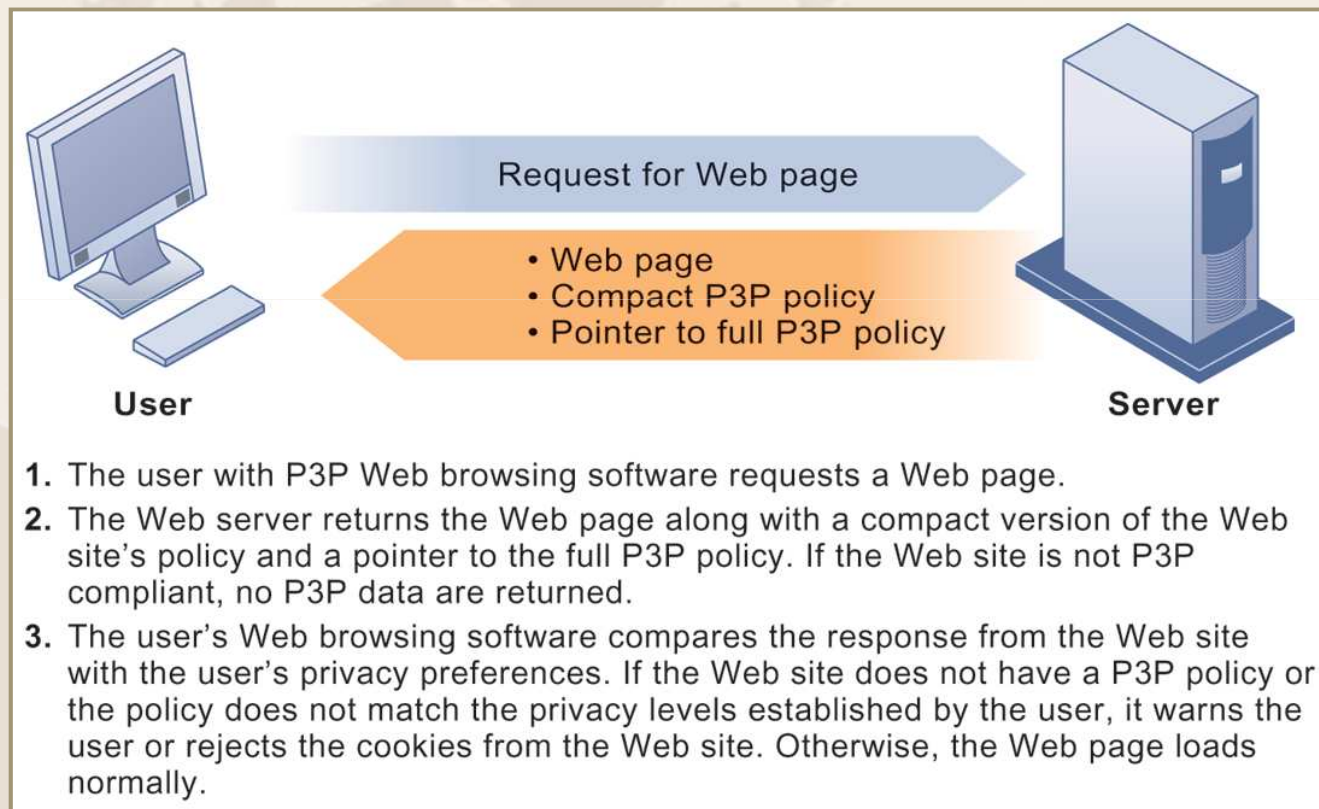
FIGURE 4-4   P3P enables Web sites to translate their privacy policies into a standard format that can be read by the user's Web browser software. The browser software evaluates the Web site's privacy policy to determine whether it is compatible with the user's privacy preferences.

The Moral Dimensions of Information Systems

- **Property rights: Intellectual property**
  - **Intellectual property: Intangible property of any kind created by individuals or corporations**
  - **Three main ways that protect intellectual property**
    1. **Trade secret:** Intellectual work or product belonging to business, not in the public domain
    2. **Copyright:** Statutory grant protecting intellectual property from being copied for the life of the author, plus 70 years
    3. **Patents:** Grants creator of invention an exclusive monopoly on ideas behind invention for 20 years

The Moral Dimensions of Information Systems

- **Challenges to intellectual property rights**
  - **Digital media different from physical media (e.g. books)**
    - Ease of replication
    - Ease of transmission (networks, Internet)
    - Difficulty in classifying software
    - Compactness
    - Difficulties in establishing uniqueness

- **Digital Millennium Copyright Act (DMCA)**
  - **Makes it illegal to circumvent technology-based protections of copyrighted materials**

The Moral Dimensions of Information Systems

- **Accountability, Liability, Control**

  - **Computer-related liability problems**

    - If software fails, who is responsible?

      - If seen as part of machine that injures or harms, software producer and operator may be liable

      - If seen as similar to book, difficult to hold author/publisher responsible

      - What should liability be if software seen as service? Would this be similar to telephone systems not being liable for transmitted messages?

The Moral Dimensions of Information Systems

- **System Quality: Data Quality and System Errors**

  - **What is an acceptable, technologically feasible level of system quality?**

    - Flawless software is economically unfeasible

  - **Three principal sources of poor system performance:**

    - Software bugs, errors

    - Hardware or facility failures

    - Poor input data quality (most common source of business system failure)

The Moral Dimensions of Information Systems

- **Quality of life: Equity, access, and boundaries**

  - **Negative social consequences of systems**

    - **Balancing power:** Although computing power decentralizing, key decision-making remains centralized

    - **Rapidity of change:** Businesses may not have enough time to respond to global competition

    - **Maintaining boundaries:** Computing, Internet use lengthens work-day, infringes on family, personal time

    - **Dependence and vulnerability:** Public and private organizations ever more dependent on computer systems

The Moral Dimensions of Information Systems

- **Computer crime and abuse**
  - **Computer crime: Commission of illegal acts through use of compute or against a computer system – computer may be object or instrument of crime**
  - **Computer abuse: Unethical acts, not illegal**
    - Spam: High costs for businesses in dealing with spam

- **Employment:**
  - **Reengineering work resulting in lost jobs**

- **Equity and access – the digital divide:**
  - **Certain ethnic and income groups in the United States less likely to have computers or Internet access**

The Moral Dimensions of Information Systems

THE PERILS OF TEXTING

Read the Interactive Session and discuss the following questions

- **Which of the five moral dimensions of information systems identified in this text is involved in this case?**

- **What are the ethical, social, and political issues raised by this case?**

- **Which of the ethical principles described in the text are useful for decision making about texting while driving?**

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- **Health risks:**

  - **Repetitive stress injury (RSI)**
    - Largest source is computer keyboards
    - Carpal Tunnel Syndrome (CTS)

  - **Computer vision syndrome (CVS)**

  - **Technostress**

  - **Role of radiation, screen emissions, low-level electromagnetic fields**

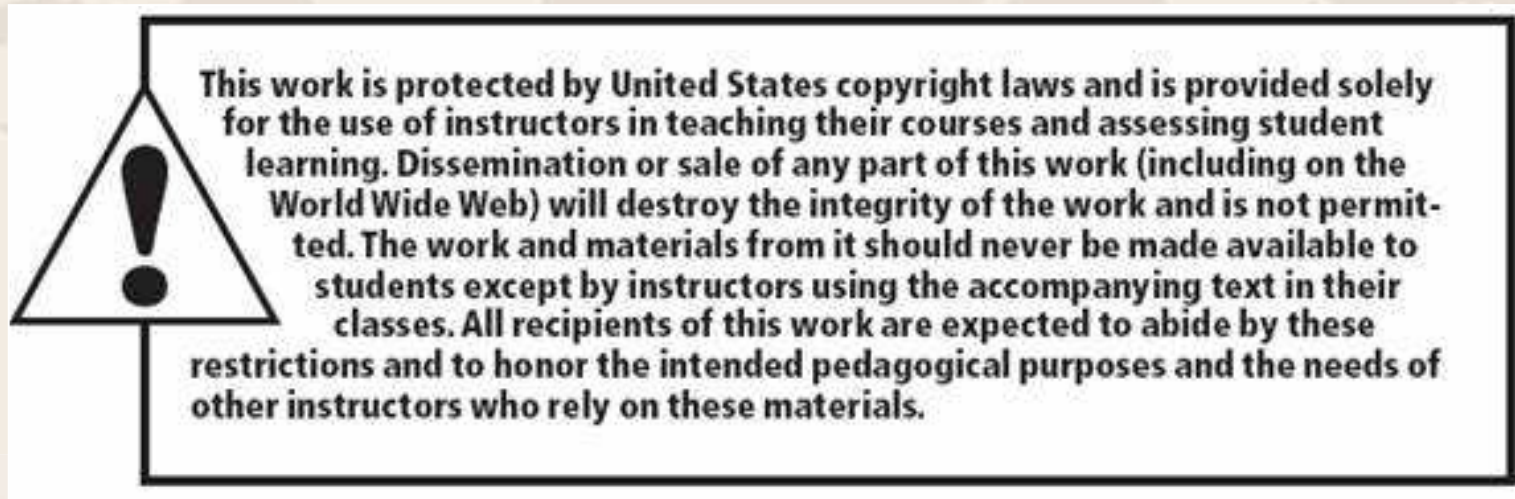## The Moral Dimensions of Information Systems

TOO MUCH TECHNOLOGY?

Read the Interactive Session and discuss the following questions

- **What are some of the arguments for and against the use of digital media?**

- **How might the brain be affected by constant digital media usage?**

- **Do you think these arguments outweigh the positives of digital media usage? Why or why not?**

- **What additional concerns are there for children using digital media? Should children under 8 use computers and cell phones? Why or why not?**

Management Information Systems