Curriculum Development
Centers Program

Awardee of The Office of the National Coordinator for
Health Information Technology

Component 4: Introduction to Information and Computer Science

Unit 2: Internet and the World Wide Web

Lecture 4

Unit Objectives

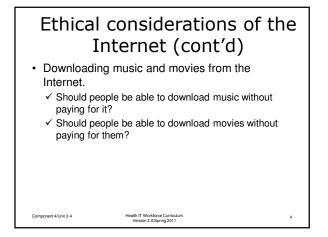- Definition of the Internet and World Wide Web.
- Connecting to the Internet.
- Searching the Internet, filtering results and evaluating credibility of results.
- Internet security and privacy concerns.
- Ethical considerations of the Internet.
- Online healthcare applications and associated security and privacy issues (including HIPAA).

Ethical considerations of the Internet

- Sharing Internet connection with neighbors.
  - ✓ Should neighbors have the ability to pool together, lease an Internet connection from an ISP, and pay for shared one connection?
- Downloading software from the Internet.
  - ✓ Should license "key generator" sites be allowed to operate?
  - ✓ Should people be able to download pirated software from the Internet?
  - ✓ Pirating software is a copyright infringement; selling unauthorized copies of commercial software, usually at a very low price.

Ethical considerations of the Internet (cont'd)

- Downloading music and movies from the Internet.
  - ✓ Should people be able to download music without paying for it?
  - ✓ Should people be able to download movies without paying for them?

Ethical considerations of the Internet (cont'd)

- Copyright infringement
  - ✓ What are the ethical concerns for buying/using college research papers found online?
  - ✓ Should students or students be allowed to do this?
  - ✓ If a you purchase a paper, is it copyright infringement?
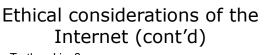 - ✓ Is it plagiarism?

Ethical considerations of the Internet (cont'd)

- Internet Databases
  - ✓ Should companies be able to gather information about your surfing habits and sell this to marketing companies?
  - ✓ Should the government have your surfing, banking, and credit card history at its disposal?

Ethical considerations of the Internet (cont'd)

- Truth or Lies?
  - ✓ Should companies or people be able to post false information in blogs, consumer ratings, etc.?
  - ✓ What is a lie and who defines it?
  - ✓ What problems do you see in implementing this type of law?

Everyone's Online Today

- Information Overload
  - ✓ When debit cards emerged, many people refused to use them because of privacy and security concerns.
  - ✓ People today are very comfortable with online banking and are comfortable conducting business over the Internet.
- Social networking sites facilitate sharing
  - ✓ People are comfortable sharing personal information in online communities even though this subjects them to privacy invasion.
  - ✓ Posting your birth date, mother's maiden name, etc. may enable an attacker to impersonate you.

What is Privacy?

- Most privacy law revolves around privacy between a person and the government.
- According to Wikipedia, "The law of privacy regulates the type of information which may be collected and how this information may be used and stored."
  - ✓ i.e., privacy relates to people.

What is Confidentiality?

- Not the same as privacy.
- According to Wikipedia, "Confidentiality is commonly applied to conversations between doctors and patients. Legal protections prevent physicians from revealing certain discussions with patients, even under oath in court. The rule only applies to secrets shared between physician and patient during the course of providing medical care."
  - ✓ i.e., confidentiality relates to <u>data</u>.

Federal Rules Emerge

- HIPAA (Health Insurance Portability and Accountability Act) was enacted in 1996 by the federal government.
- HIPAA requires that health care providers, insurance companies, and employers abide by privacy and security standards.

HIPAA and Privacy

- Privacy Rule
  - ✓ HIPAA requires those covered by the act to provide patients a "Notice of Privacy Practices" when care is first provided.
  - ✓ The Privacy Rule covers paper and electronic private health information.
- Security Rule
  - ✓ Goes further than the Privacy Rule in that it covers administrative, physical, and technical data safeguards that must be enacted to secure electronic health record data.

Free Online PHR Systems Readily Available

- PHRs are maintained by individuals.
- PHRs are not covered by HIPAA rules because you manage your health record – not the company providing the PHR.
  - ✓ Google Health - www.google.com/health/
  - ✓ Microsoft HealthVault - www.healthvault.com/
  - ✓ WebMD Health Manager - http://www.webmd.com/phr

EHRs Used by Health Care Providers

- EHRs are maintained by health care providers.
- EHRs are covered by HIPAA rules.
- EHRs utilize centralized database systems to integrate patient intake, medical care, pharmacy, billing, etc. into one system.
- Departments/entities may not be in same physical location, so patient data must travel over the Internet.
- People can view their own health record, taking ownership of its contents, ensuring accuracy, etc.

EHR Security Q & A

- How is my data sent over the Internet?
  - ✓ It is to be sent in an encrypted, secure manner over the Internet.
- Is my data safe?
  - Much depends on each organization's physical record and network security practices.
  - No data is 100% secure against theft or misuse.
- Who can view my health records?
  - ✓ Only those who need to know or view the contents of your health record should be able to view it.
  - ✓ You must authorize all other access.