Privacy, Crime, and Security
Privacy in Cyberspace

• **Privacy**
  
  - Individual’s ability to restrict or eliminate the collection, use, and sale of confidential personal information
The Problem: Collection of Information Without Consent

- **Anonymity**
  - Means to communicate without disclosing one’s identity
  - More difficult with the use of computers and the Internet
The Problem: Collection of Information Without Consent

- Technologies that jeopardize anonymity
  - Cookies
  - Global unique identifiers
  - Ubiquitous computing
  - Radio frequency identification
The Problem: Collection of Information Without Consent

- Cookies
  - Small files written to your hard disk by Web sites visited
  - Examples include:
    - Track your browsing habits
    - Gather personal information without your consent
  - Can be disabled
  - **Banner ads**—targeted display ads based on cookies
The Problem: Collection of Information Without Consent

• Global unique identifier (GUID)
  - Identification number produced by software or a piece of hardware
  - Web servers read the GUID.
  - Users are not always aware of the GUID.
  - If used, companies typically allow users to opt out.
  - Civil liberties groups and public concern have decreased the use of GUIDs.
The Problem: Collection of Information Without Consent

• **Ubiquitous computing**
  - Interacting with multiple networked devices
    - Example: adjusting heat or light based on signals sent by monitors built into clothing
  - **Active badge**—transmits infrared signals to create an electronic trail
  - Current devices—hold private information that can be exploited if the device is lost or stolen
    - Example: smartphones
The Problem: Collection of Information Without Consent

• **Radio frequency identification (RFID)**
  - Uses radio waves to track a chip or tag
  - Used for inventory control in stores
  - Recognizes microchips in pets
  - May compromise anonymity and privacy if information stored on RFID tags attached to U.S. passports
The Problem: Collection of Information Without Consent
The Problem: Collection of Information Without Consent

• **European Union**
  - Be informed when information about them is being collected and how it will be used.
  - Give or deny consent to have their information collected and choose how collected information will be used.
  - Request that information about themselves be removed from marketing and other databases.

• **United States**
  - Legislation currently in place includes:
    - Fair Credit Reporting Act
    - Health Insurance Portability and Privacy Act
    - Family Education Rights and Privacy Act
  - No comprehensive federal law governing the overall privacy rights of U.S. citizens.
The Problem: Collection of Information Without Consent

- **SPAM**
  - Unsolicited messages sent in bulk over electronic mailing systems
  - CAN-SPAM Act of 2003
    - U.S. law that provided tools to combat spammers.
The Problem: Collection of Information Without Consent

• **Protecting privacy online**
  - Use products such as Anonymous Surfing or IronKey Secure USB flash.
  - Use free Web-based throwaway e-mail addresses in chat rooms and for mailing lists.
  - Tell children not give out personal information.
  - Complete forms only if you see a privacy statement.
  - Turn off cookies

• Prevent the activity of **Web beacons**
  - Transparent graphic images placed on a Web site or in an e-mail—used to monitor Web or e-mail behavior
The Problem: Collection of Information Without Consent

- **Protecting privacy at home**
  - Create logins and passwords for each person using the computer.
  - Do not save account numbers or passwords.
  - Close a secured account site when not using a computer.
  - Use **strong passwords**
    - Do use: difficult to guess passwords; at least 14 characters or more long; uppercase letters, lowercase letters, numbers, and special characters
    - Don’t use: a recognizable word or phrase; name of anything or anyone close to you, including names of family members or pets; recognizable strings of numbers, such as social security numbers or birth dates
The Problem: Collection of Information Without Consent

• Do not leave cell phones in public places.
• Turn off services not in use, especially Bluetooth.
• Verify that devices have secure configurations.
The Problem: Collection of Information Without Consent

• **Employee monitoring**
  - Majority of large U.S. employers observe employee phone calls, e-mails, Web browsing habits, and computer files

• **Protecting privacy at work**
  - Refrain from making personal calls on a work phone
  - Avoid using company e-mail for personal purposes
  - Assume you are monitored
  - Be aware of **shoulder surfing**
  - Do not allow others to tailgate
The Problem: Collection of Information Without Consent