

Introduction to IT

Lecture 6

Fall Semester

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Automated Security Tasks

Ways to perform and automate important security tasks

1) Security Suites

- Provide a collection of utility programs designed to protect your privacy and security

2) Firewalls

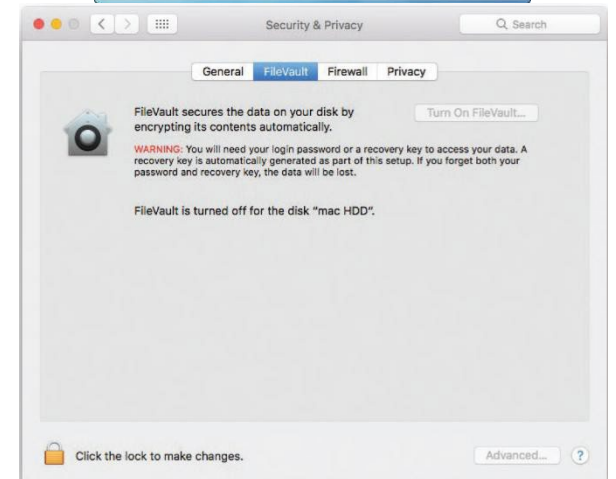
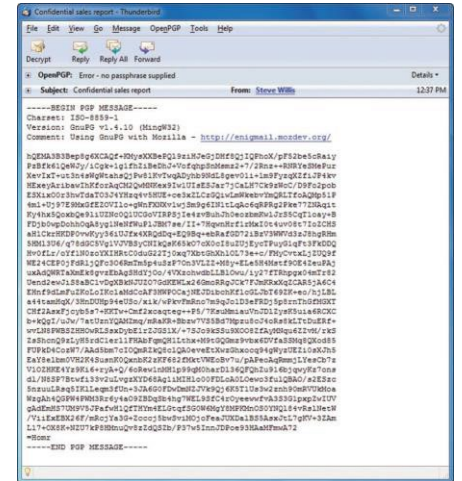
- Security buffer between a corporation's private network and all external networks

3) Password Managers

- Helps to create strong passwords

Encryption

- **Encryption** is the process of coding information to make it unreadable except to those who hold an **encryption key**.
- **Encryption key** is used to decrypt the information into a readable format.



Encryption

- **Common uses for encryption:**

- 1) E-mail encryption (protects emails)

- 2) File encryption (protects files)

- 3) Website encryption

- HTTPS – hypertext transfer protocol secured: is the most common protocol for website encryption

- 4) Virtual private networks (VPNs): encrypt connections between company networks and their remote users.

- 5) WPA2 (Wi-Fi Protected Access): Wireless network encryption restricts access to authorized users

Anticipating Disasters and Preventing Data Loss

Anticipating Disasters

- **Physical Security** protects hardware
- **Data Security** protects software and data from unauthorized tampering or damage
- **Disaster Recovery Plan** describes ways to continue operating in the event of a disaster

Anticipating Disasters and Preventing Data Loss

Preventing Data Loss can be done through:

- 1) Frequent backups
- 2) Redundant data storage
 - Store off-site in case of loss of equipment

Making IT Work for You ~ Security and Technology

Precautions you as an individual can and should take to make sure that you aren't the victim of high-tech criminals

- 1) Update software
- 2) Be careful when browsing
- 3) Be alert to e-mail scams
- 4) Use antivirus software
- 5) Strong passwords



Concept check

1. Define each of the following: password, dictionary attack, facial recognition, security suite, firewalls, and password managers.
2. What are encryption and an encryption key?
3. What is https?
4. List the common uses for encryption.
5. Define physical security, data security, and disaster recovery plans.
6. Describe how to prevent data loss.
7. What are the precautions that you should take to make sure that you aren't the victim of high-tech criminals?

Ethics

- **Computer Ethics** – guidelines for the morally acceptable use of computers
 - Copyright and Digital Rights Management
 - Cyberbullying
 - Plagiarism

Copyright and Digital Rights Management

- Copyright
 - Gives content creators the right to control the use and distribution of their work
 - Paintings, books, music, films, video games



Copyright and Digital Rights Management

- **Software piracy**: unauthorized copying and distribution of software
- Digital Millennium Copyright Act makes it illegal to deactivate or disable antipiracy technologies, to copy, resale, or give away commercial programs or to sell or use programs or devices that are illegally copying software.

Copyright and Digital Rights Management

- Digital rights management (DRM) is a collection of technologies designed to prevent copyright violations. Typically, DRM is used to :
 - (1) Control the number of devices that can access a given file
 - (2) Limit the kinds of devices that can access a file.

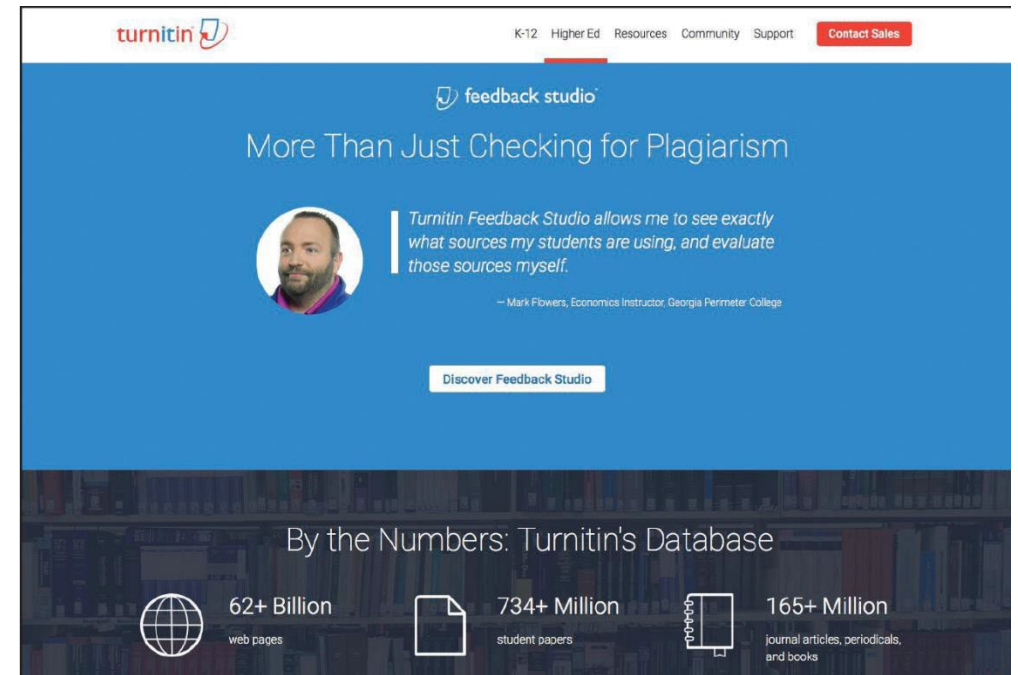
Cyberbullying and Plagiarism

Cyberbullying

- Use of the Internet to send or post content intended to harm another person

Plagiarism

- Representing some other person's work and ideas as your own without giving credit to the original person's work and ideas



Careers in IT

- IT Security Analysts maintain the security of a company's network, systems, and data.
- Bachelors or associates degree in information systems or computer science
 - Experience is usually required
- Must safeguard information systems against external threats
- Annual salary is usually from \$58,000 to \$86,000
- Demand for this position is expected to grow



Concept check

- 1) Define computer ethics.
- 2) Define copyright, software piracy, digital rights management, and the Digital Millennium Copyright Act.
- 3) What is cyberbullying?
- 4) What is plagiarism?

Thanks