



The Dark Side of the Internet

INFO/CSE 100, Spring 2006

Fluency in Information Technology

<http://www.cs.washington.edu/100>

Readings and References

- Reading
 - » *Fluency with Information Technology*
 - Chapter 17
- References
 - » See web page

Negative Issues

- Spam
- Malware
 - » Viruses, et al.
 - » Spyware / Adware
- Phishing
- Cracking
- Attacks targeting network service
- Privacy

How Dangerous Is It?!?

- Any attacks (viruses, spyware,...) you're protected against
 - » You may not even notice...
 - Viruses (and virus-carrying spam) that damage your files
 - » Cracking that damages your files
 - » May destroy your work...
 - » May damage your operating system and applications...
 - Viruses that only replicate...if they don't replicate too fast
 - » May slow down your machine, annoy others...
 - » But you might get in trouble, depending on what it's used for...
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Denial of Service Attack

- A denial-of-service attack (also, DoS attack) is an attack on a computer system or network that causes a loss of service to users
- Results in the loss of network connectivity and services by consuming the bandwidth of the victim network or overloading the computational resources of the victim system.
- If they don't affect you directly
 - » May slow down your network service...
- If they do affect you directly
 - » May block your network service...

Spyware/Adware

- If they don't collect personal info
 - » May slow down your machine...
 - » Intrusive and disruptive to your work...
- If they do collect personal info
 - » Can lead to phishing

Spam / Phishing

- If you know not to respond
 - » You may not notice
- If you do respond
 - » An annoyance, waste of time and resources...
 - » Depends on whether you believe it...
 - » Might be psychologically hurtful...
 - » May lead to identity theft, financial loss...

Is The World in Danger?!?

- Text-only spam...that delivers lies, hate
 - » What if people believe it? act on it?
 - Viruses that "only" replicate
 - » May be part of a "denial of service" attack...
 - Viruses that use your computer
 - » May be part of a "denial of service" attack...
 - » May be spreading malware...
 - Attacks on network service
 - » May prevent vital services from being performed...
 - Cracking that targets utilities, hospitals, government services
 - » Could lead to anything up to loss of life...
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Cookies

- Although cookies were initially implemented to facilitate shopping carts, a common use of cookies is to uniquely identify users within a web site.
- Cookies work in the following manner.
 - » When a person visits a cookie enabled web site, the server replies with the content and a unique identifier called a cookie, which the browser stores **on the user's machine**.
 - » On subsequent requests to the same web site, the browser software includes the value of the cookie with each request. Because the identifier is unique, all requests that were with the same cookie are known to be from the same browser.
 - » Since multiple people may use the same browser, each cookie may not actually represent a single user, but most web sites are willing to accept this limitation and treat each cookie as a single user.
- Recently, browser vendors have provided users with controls to select the cookie policy that maps to their privacy preferences.

A Cookie or a Session?

- The key difference would be cookies are stored in your hard disk whereas a session aren't stored in your hard disk.
- Sessions are basically like tokens, which are generated at authentication. A session is available as long as the browser is opened.
- Sessions are popularly used, as the there is a chance of your cookies getting blocked if the user browser security setting is set high.

Collaborative Filtering

- Collaborative filtering (CF) is the method of making automatic predictions (filtering) about the interests of a user by collecting taste information from many users (collaborating).
 - The underlying assumption of CF approach is that: Those who agreed in the past tend to agree again in the future.
 - » For example, a collaborative filtering or recommender system for music tastes could make predictions about which music a user should like given a partial list of that user's tastes (likes or dislikes).
 - » Amazon's recommender is an example
 - » <http://www.movielen.com> is another
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How This Goes Awry?

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