



Lecture 18

Computer and Network Security

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Participation Quiz

12. Dear Darcy,

My boyfriend only loves himself. He only thinks about himself. He stops and looks at himself when he passes by a store window. He doesn't buy me a gift on my birthday, and he never brings me flowers. And that's not all! He's also very selfish with his things. For example, he never lets me use his cell phone. He says that it is his and he doesn't want me to use it. What should I do?

Q34: What is the woman in this story looking for?

- a. admission
- b. advice
- c. advertising
- d. shame

Q35: Why is the girl's situation strange?

- a. because she is asking for help
- b. because she stays with her selfish boyfriend
- c. because she is selfish, too
- d. because she doesn't have her own cell phone

Hackers

- Hacker (original meaning):
 - Explorer, risk-taker, technical virtuoso
 - Values free exchange of information; mistrusts authority; values technical skill; holds an optimistic view of technology
- Hacker (ultimate meaning):
 - Teenagers accessing corporate or government computers
 - Stealing and/or destroying confidential information
- What hasn't changed: hackers' public image



Phreaks

- Phone phreak: person who manipulates phone system
 - Stealing or guessing long-distance telephone access codes
 - Use a “blue box” to get free access to long-distance lines: 2600 Hz (anyone remember 2600 Magazine?)
- Legion of Doom and Bell South’s E911 Document
 - Government claimed worth \$80K; defense showed worth <\$25
 - Led to formation of Electronic Frontier Foundation
- Parallels between hackers and MP3 downloaders
 - Establishment overvalues intellectual property
 - Use of technology as a “joy ride”
 - Breaking certain laws considered not that big a deal
 - (Guess what the police, RIAA thinks about these arguments?)

Ethical Question

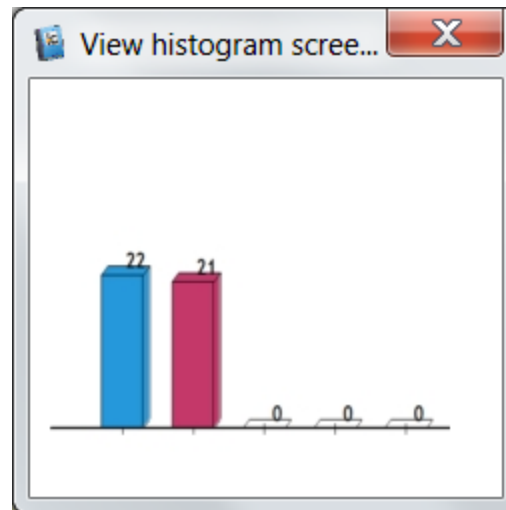
Is it wrong to learn hacking or phreaking skills,
if these skills are never put to use?

Distributed Denial of Service

- Puts together everything we've learned
 - Viruses, worms, trojans
 - Build a botnet
 - Use your botnet to launch even bigger DoS attacks
- Key examples:
 - North Korea vs USA gov, corporate sites (2009)
 - Russia vs Georgia during and after South Ossetia war (2008)
 - A variety of government, activist sites during Arab Spring (2011)
 - Anonymous
- How does it change things that DDoS is becoming a weapon of war?

Computer and Network Security

“Canadians should have the right to vote online in federal, provincial and municipal elections.”



Online Voting

- Motivation:
 - More people would vote
 - Votes would be counted more quickly
 - Cost less money
 - Avoid disputed elections like Florida 2000
 - Eliminate ballot box tampering
 - Software can prevent accidental over-, under-voting
- Risks:
 - Gives unfair advantage to those with home computers
 - More difficult to preserve voter privacy
 - More opportunities for vote selling
 - Obvious target for a DDoS attack
 - Security of election depends on security of home computers
 - Susceptible to phony vote servers
 - No paper copies of ballots for auditing or recounts