Lecture 8: Security
Wednesday, 8 November 2006

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Agenda

- Threats to Privacy
  - Forms
  - Cookies
  - Logs
- Security Risks
  - Passwords
  - Packet Sniffing
  - Phishing
  - Hacking
  - Viruses and Worms
- Piracy
  - WaReZ
  - Cracking
Threats to Privacy

Forms
Threats to Privacy

Cookies
Threats to Privacy

Logs
Threats to Privacy

Data Recovery
Security Risks

Passwords

ROLAND No, wait, wait. I’ll tell. I’ll tell.
HELMET I knew it would work.
HELMET and SANDURZ go closer to the screen. SANDURZ is going to write the combination down.
HELMET All right, give to me.
ROLAND The combination is (hesitates) one.
HELMET One.
SANDURZ One. (writes)
ROLAND Two.
HELMET Two.
SANDURZ Two. (writes)
ROLAND Three.
HELMET Three.
SANDURZ Three (writes)
ROLAND Four.
HELMET Four.
SANDURZ Four. (writes)
ROLAND (hesitates) Five.
HELMET Five.
SANDURZ Five. (writes)
HELMET So the combination is one, two, three, four, five. (lifts mask) That’s the stupidest combination I’ve ever heard in my life. That’s the kinda thing an idiot would have on his luggage.

SKROOB Well, did it work? Where’s the king?
HELMET It worked, sir. We have the combination.
SKROOB Great. Now we can take every last breath fresh air from planet Druidia. What’s the combination?
SANDURZ One, two, three, four, five.
SKROOB One, two, three, four, five?
SANDURZ That’s amazing. I’ve got the same combination on my luggage.

Excerpted from the script for Spaceballs, 1997.
Security Risks

Packet Sniffing

Security Risks

Packet Sniffing

TCP Header Format

0                   1                   2                   3
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+|          Source Port          |       Destination Port ...                         data                           |+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+

TCP Header Format

Note that one tick mark represents one bit position.

Figure from http://www.ietf.org/rfc/rfc0793.txt?number=793.
Security Risks

Hacking
Security Risks

Phishing

Dear Citibank Member,

We recently reviewed your account, and suspect that your Citibank account may have been accessed by an unauthorized third party. Protecting the security of your account and of the Citibank network is our primary concern. Therefore, as a preventative measure, we have temporarily limited access to sensitive Citibank account features.

Click the link below in order to regain access to your account:


Please fill in the required information. This is required for us to continue to offer you a safe and risk-free environment.

Thank you

Accounts Management

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Use of this Web site constitutes acceptance of the Citibank User Agreement and Privacy Policy.
Security Risks

Viruses and Worms

Man charged with unleashing 'Melissa' computer virus

April 2, 1999

Web posted at 9:29 p.m. EST (0229 GMT)

TRENTON, New Jersey (CNN) - A 30-year-old man launched the e-mail computer virus known as 'Melissa' just to see if it would work, state and federal authorities alleged Friday.

David L. Smith was arrested Thursday night by New Jersey state police and was released on $100,000 bail Friday, state Attorney General Peter Verniero said. His office said the virus was named after a topless dancer from Florida.
Security Risks

Viruses and Worms

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Klez.E is the most common world-wide spreading worm. It's very dangerous by corrupting your files. Because of its very smart stealth and anti-anti-virus technique, most common AV software can't detect or clean it. We developed this free immunity tool to defeat the malicious virus.

You only need to run this tool once and then Klez will never come into your PC.

NOTE: Because this tool acts as a fake Klez to fool the real worm, some AV monitor may cry when you run it. If so, ignore the warning and select 'continue'.

If you have any question, please mail to me.
Security Risks

Viruses and Worms

“There may be a virus loose on the internet.”
Andy Sudduth of Harvard, 34 minutes after midnight, Nov. 3, 1988

To: malan@post.harvard.edu
Subject: !!!

Happy Chanukah everyone, and be careful out there. There is a virus on America Online being sent by E-Mail. If you get anything called "Good Times", DON'T read it or download it. It is a virus that will erase your hard drive. Forward this to all your friends. It may help them a lot.

Piracy

WaReZ
Piracy

Cracking