

# Computer Science E-1

## Understanding Computers and the Internet

### Lecture 8: Security

Thursday, 10 November 2005

David J. Malan  
malan@post.harvard.edu

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## Agenda

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

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# Threats to Privacy

## Forms

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Corporate > Basket > My Account

Company Info | Low Price Guarantee | Privacy Policy | Affiliates

First Time Customers

**Continuing to Checkout**

Please fill out the appropriate information below, then press the "Continue" button below.

Billing Information

Please note that paying by check or money order requires extra processing time. Only domestic credit cards will be accepted. International credit cards will not be accepted.  
[More information on payment options](#)

Payment Method [Choose Payment Method] Credit Card Number [ ]

Expiration Date [01] [2002]

Your billing address must be entered exactly as it appears on your credit card statement. Please check your statement for accuracy to avoid delays in processing your order.

\*First Name \*Last Name [ ] [ ]

\*Home Phone Number [ ] [ ] - [ ] [ ]

Company Phone Number [ ] [ ] - [ ] [ ] Ext: [ ] [ ]

Fax Number [ ] [ ] - [ ] [ ]

Company Name [ ]

\*Address - Line 1 [ ]

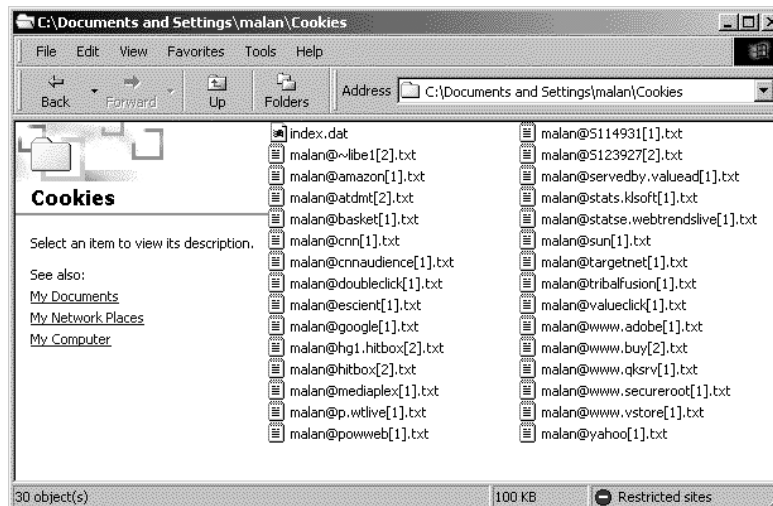
Address - Line 2 [ ]

\*City \*State \*Zip Code [ ] [ ] [ ]

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# Threats to Privacy

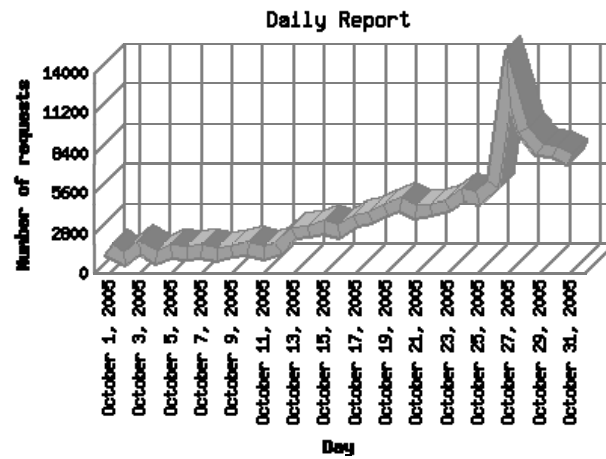
## Cookies



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# Threats to Privacy

## Logs



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# Threats to Privacy

## Data Recovery



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# 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.

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# Security Risks

## Packet Sniffing

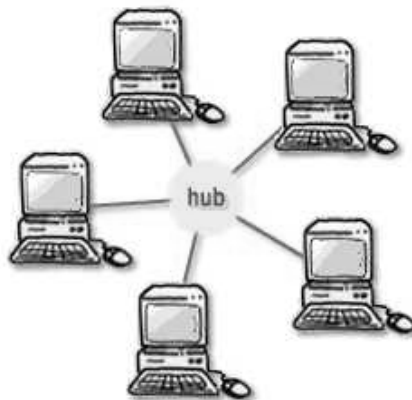
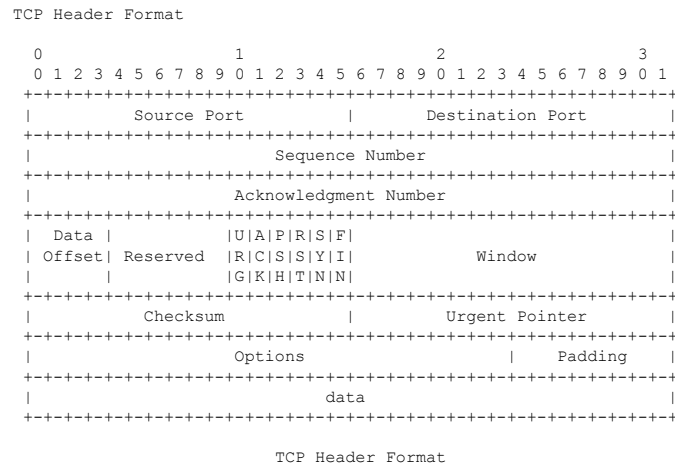


Image from Image from [http://oufent5.open.ac.uk/~steve\\_hall\\_4/t171sg2sec4.html](http://oufent5.open.ac.uk/~steve_hall_4/t171sg2sec4.html).

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# Security Risks

## Packet Sniffing



Note that one tick mark represents one bit position.

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

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# Security Risks

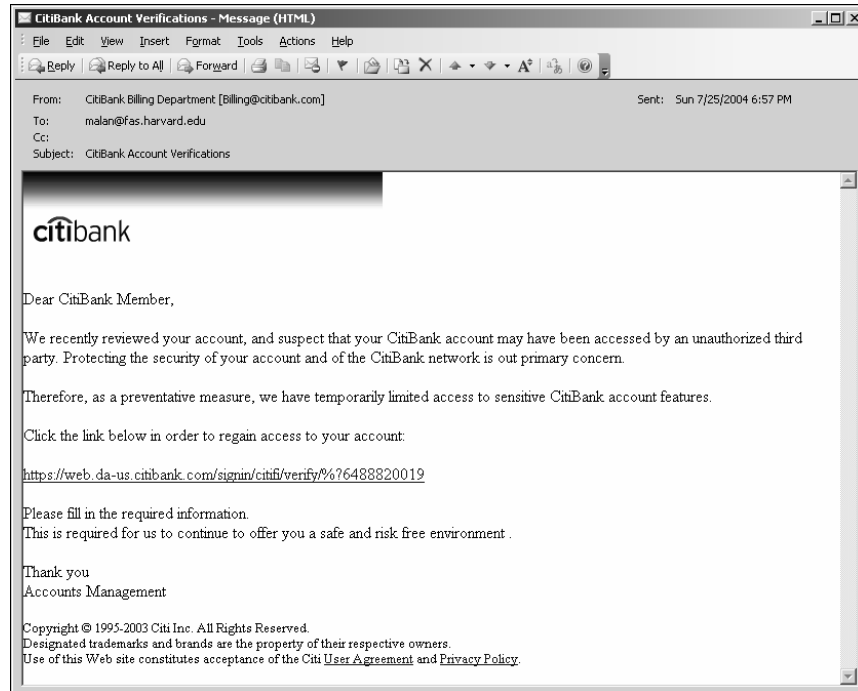
## Hacking



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# Security Risks

## Phishing



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# Security Risks

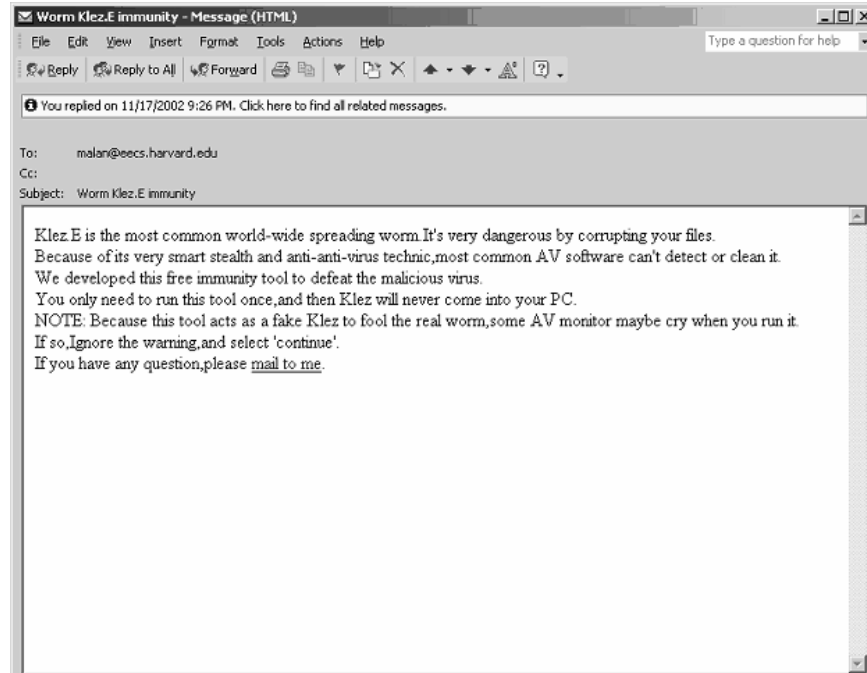
## Viruses and Worms



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# Security Risks

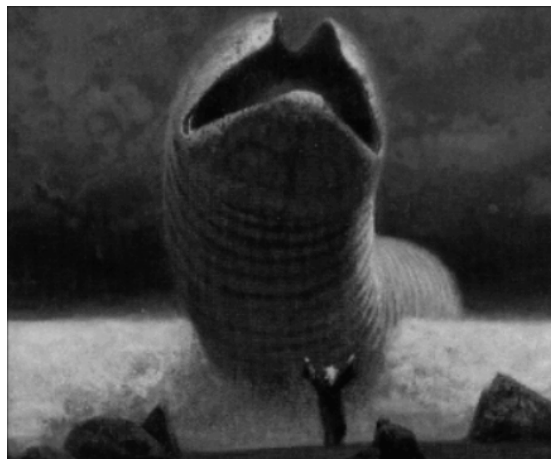
## Viruses and Worms



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# 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

Image and quote from <http://www.software.com.pl/newarchive/misc/Worm/darbyt/pages/what.html>.

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# Security Risks

## Viruses and Worms

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.

Excerpted from <http://www.cityscope.net/hoax1.html>.

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# Piracy

## WaReZ



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# Piracy

**Cracking**



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**Understanding Computers and the Internet**

### **Lecture 8: Security**

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