

# Security and Internet Censorship

Computer Literacy 1 Lecture 24  
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## Topics

- Security
  - Hacker
  - Viruses
  - Phishing
  - Firewall
- Censorship of the Internet
  - 2 Examples



## Hacking or Cracking

- Cracking = Subverting computer security without permission
- Motivation
  - Because I can (challenge)
  - E-Crime e.g. identity theft
  - Political (hacking into White House for example)



## Virus

- Inserts copies of itself into executable code or documents
- Infected files transferred over the network or by direct file copy
- Generally negative effect
  - At the very least will lose memory and CPU
- Transport, replication and effects are analogue to biological viruses



## Ways viruses can harm



- Fill memory
- Delete and corrupt files
- Interfere with the Operating System
- Use CPU
- Resend private mail using mail list
- Waste time
- Reduce productivity
- Prevent services

## Antivirus Software



- Searches for viruses, reports it when found
- Remove from infected memory, disks, files
- 2 forms:
  - Scan for signature, e.g. characteristic strings of 1s and 0s that uniquely identify a virus
  - Look for suspicious virus-like behaviour, e.g. attempting to erase or change areas of disk
- Software and signature needs to be updated every few days

## Identity theft

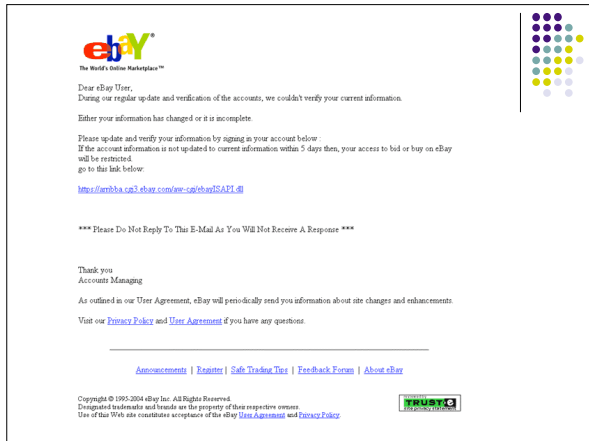


- Someone criminal steals enough information to gain more from data base
- Use credit card purchases to gain your identity
- E-Stealing passwords:
- Attacker runs program on your computer → Look like a login is needed → Anyone logging in gives away login and password
- All personal info is useful, even your birthday

## Phishing



- For example you might get a mail from “RBS” that something is wrong with your account and you need to submit your access details for verification
- Mail includes link to bogus copy of bank website (sometimes it’s genuine with bogus overlays)
- The person phishing collects your bank details when you use their bogus url



## Spyware

- Spyware is software that is installed on a computer
  - It's hidden and installed without the users knowledge
  - It not only secretly monitors the user's behaviour, it also collects various types of personal information such as Internet surfing habit
  - It can also interfere with user control of computer e.g. installing software, accessing websites blindly that will cause more harmful viruses
  - It can change computer settings causing slow connection speeds, even loss of Internet

## Firewall

- Protect against port scans
  - Hacker scans for open ports then sends in malicious code, Firewall closes open ports
- Checks outward traffic in case your computer might be used as a vessel (**Trojan**) to send out malicious code
- Always-on connection!

## Defend your Computer

- Keep up to date with virus definitions
- Get a spyware eliminator
- Use phishing filter or don't do bank statements via a link send by an email (if something's wrong banks usually call you)
- Turn on firewall software
- Keep personal info private

## Censoring the Internet



- Censorship of the Internet means control or suppression of publishing or accessing information on the Internet

## OpenNet Initiative



- The OpenNet Initiative (ONI) categorises nations in different levels of Internet censorship
  - Pervasive
  - Substantial
  - Nominal

## Pervasive



- Nations categorised as pervasive censors often censor political content and may retaliate against citizens who violate the censorship with measures such as imprisonment
- Examples of countries:  
Cuba, Iran, Maldives, Burma, China, North Korea, Syria, Tunisia, Uzbekistan, Vietnam

## Substantial



- Countries are:  
South Korea, Saudi Arabia, United Arab Emirates, Yemen

## Nominal

- Countries are:  
Australia (could soon be categorised as substantial if they go through with their plans), Canada (only Canadian websites are censored not foreign ones), India, Netherlands, Singapore, Thailand, Turkey, USA



## Australia vs Burma

- Australia:
  - Its Internet laws and censorship are the most restrictive in the Western world (in theory since they're not in use yet)
- Burma:
  - Has very strict Internet laws and its censorship is extreme



## Australia

- Nicknames for planned censorship: *Great Barrier Firewall*, *Firewall Australia*, *Great Firewall Reef*
- Australia wants to censor inappropriate material from the Internet
- Internet Service Provider (ISP) are supposed to use content filter



## Australia

- Testing of ISP-Level Internet Content Filtering showed:
    - One filter caused a 22% drop in speed even when it's not performing filtering
    - Only one of six filters had an acceptable level of performance
    - Most accurate filters are also slowest
    - All tested filter had serious problems with under- and over-blocking
- <http://news.bbc.co.uk/1/hi/technology/7689964.stm>



## Burma



- Country has Internet access since 2000
  - BUT government restricts access
    - One way is to charge high prices to connect someone to the internet and additionally charges on a per-hour basis once connected
    - Most citizens don't have the money
- Restricted is, amongst others, access to email provider

## Burma



- Nickname: Myanmar Wide Web (MWW)
- Journalists and free speech activists say the MWW is designed to keep users away from information and artistic works that could possibly undermine the regime
- Websites users are able to see are pre-selected by official censors
- Free e-mail services are not allowed (because they are difficult to monitor)

## Burma



- Still, Internet cafes are common in Burma
  - Most internet cafes used a number of different pieces of software to bypass governments proxy servers
- During the 2007 Saffron Revolution the government shut down all internet services from its country, citing "a break in an underwater-cable"
- Since then internet cafes are monitored very closely
- Nay Phone Latt, a blogger during that time was sentenced to 20 years prison

<http://news.bbc.co.uk/1/hi/world/asia-pacific/7721271.stm>

## Key Points



- Security
  - Why hacking?
  - What is a virus and what does it do?
  - Beware of Phishing
  - Firewalls protect your computer
- Censorship
  - ONI categorises countries who censor the internet
  - Australia will become THE Western country that restricts and censors the internet the most
  - Burma is one example for censorship of the internet in countries who are led by a military regime or a very conservative government