Networking & Censorship

How We Use the Web

- Shopping
- Contributing content (wikis, blogs)
- Promoting business
- Learning
- Exploring our roots
- Exploring virtual worlds
- Paying taxes
- Gambling
- Lots more!
Internet Speeds and Costs Around the World
Top 20 Nations in ITU Broadband Rankings

Average Broadband Speed in Mbps

Broadband Penetration Percentage

Price Per Month for Broadband

$1-
$5-
$5-$10-
$10-$20-
$20+

JAPAN 61mbps

Graph showing the comparison of broadband speeds and costs around the world.
Breakups over Facebook

Internet Addiction

Hi. My name is Bob, and I'm a Twitter addict...

Hi, Bob.

Hi, Bob!
Net Neutrality

Censorship

Sir, I’ll need you to step away from the keyboard. Step... Step away from the keyboard now! This is my internet, bucko!
World Internet Censorship

Too Much Control or Too Little?

- Not everyone in world has Internet access
- Saudi Arabia: centralized control center
- People’s Republic of China: ISPs sign “self-discipline” agreement
- Germany: Forbids access to neo-Nazi sites
- United States
  - Repeated efforts to limit access of minors to pornography
  - DMCA forbids discussion of security problems
**Types of Censorship**

- **Direct Censorship**
  - Government monopolization
  - Prepublication review
  - Licensing and registration

- **Self-Censorship**
  - Most common form of censorship
  - Reasons
    - Avoid subsequent persecution
    - Maintain good relations with government officials (sources of information)
  - Ratings systems
    - Movies, TVs, CDs, video games
    - *Not* the Web
What does China censor online?
Censored keywords and blocked websites

01net.com 163.com 2ch.net 4chan 6park.com addictinggames.com aforonbladet.se amazon.com
americanpressamnesty.org amnestyinternational.org antitrustblog.com apple.com ascom asahi.com barenaked.com bbc.co.uk bbc.com bbspot.com bebo.com bild.de bloggere.com boingboing.net bundesregierung.de bundestag.de cbc.ca chinachinatimes.cn china.ch anti-communist.cn jia.org.cn
clanix.com cmd.com collegehumor.com craigslist.com cyberalert.com anti-society.cn“BeijingSucks”com
dailydot.com.de wikipedia.de del.icio.us democracy.com deviantart.com dw.de spring.com disney.com du.se
drugreport.com e-gold.com ebusinessworld.de ebay.com ebay.de economist.com“blocking”facebook.com
dark.com dm.com fl.wikipedia.org fl.wikipedia.org espanol.brutaltorture.com facebook.com
darkforces.org.cn“censorship.jee.cn”com free.fr freeRepublic.com hallelujah.com“Chinese democracy”
online.com gameltaq.com ga movement.com gay.com gaymeow.com geektalk.gl“communist banlist.com”ca
google.ch google.com.co google.de gorf.de“ democracy”google.de google.es google.fr“democracy movement”gl
google.se gov“Democratic progressive party”disaposition.greenpeace.org“dictatorship”tim_uk.hattieke.org hessen.de
hzb“disident”eighty-nine“Epoch Times”buddha stretches a thousand com ign.com imdb.com
levels”Myanmar“genocide”“genocide horse”“Hui people riot”“human rights”anrc.com marcos
mcdonalds.com“lun gong”“Ma Sanja”“Mein Kampf”“news blackout”“no-limit com.msn.com msnbc.com
mySPACE.com browser“oppression”“persecution”Chinese Central Propaganda om nintendo.com nui
nytimes.com“Government”“political dissident”“Playboy”“Red Terror”“reeducation”com perehidhion.com
photos/through labor“Shanghai clique”“Shanghai”sky burial“Sino-Russian border”radio-canada.ca
reddragon.com“student federation”“student movement”“Independent Federation ofskype.com slashdot.org
sohux.com some Chinese Students and Scholars“Tiananmen incident”“Tiananmen square massacre”“Tibet Talk”“Tibetan in
twitter.com br usa.com usa userfriendly.or.independence“Voice of the People”web.de wenweicn.com
whatthatallhappened.com whitehouse.com“underground church”Xinjiang yepida.com wikipedia.de
wikipedia.org wikipedia.com worldofwarcraft.exe“indianpanda”“yishen”wretch.cc wwww com xanga.com
yahoo.com yahoo.co.jp yahoo.com yahoo.com“yellow peril”Zhao Ziyang“Freedom nee yandez.ru yle.fi
youtube.com ytmcd.com zh.wikipedia.org“Forum of Nanjing University”cctv 4chan.org 6park.com
addictinggames.com aforonbladet.se amazon.com antitrustblog.com apple.com ascom asahi.com barenaked.com bbc.co.uk bbc.com bbspot.com bebo.com bild.de
drugreport.com e-gold.com ebusinessworld.de bundesregierung.de bundestag.de cbc.ca chinachinatimes.cn china.ch
china.de china.org.cn larenmelcult.nl last.fm lb.de lemonde.fr leseur libertadigital.com livejournal.com
microsoft.com microsoft.com microsoft.com msnbc.com msnbc.com“reeducation”com
nytimes.com“prisonplanet.com”purepenango.com raco somethingawful.com sony.com
speigel.de stern.de studio.de vatican.se vg.no washingtonpost.com worldofwarcraft.com

Data from 2008. Selected keywords & websites
source: ConceptCrawler.com, Wikipedia, GreatFirewallOfChina.org

Challenges Posed by the Internet

• Many-to-many communication
• Dynamic connections
• Huge numbers of Web sites
• Extends beyond national borders, laws
• Can’t determine age of users
Freedom of Expression:
History

- *De Scandalis Magnatum* (England, 1275)
- Court of Star Chamber
- 18th century
  - No prior restraints on publication
  - People could be punished for sedition or libel
- American states adopted bills of rights including freedom of expression
- Freedom of expression in 1st amendment to U.S. Constitution

1st Amendment to U.S. Constitution

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the government for a redress of grievances.
Freedom of Expression
Not an Absolute Right

- 1st Amendment covers political and nonpolitical speech
- Right to freedom of expression must be balanced against the public good
- Various restrictions on freedom of expression exist

FCC v. Pacifica Foundation et al.

- George Carlin records “Filthy Words”
- WBAI in New York airs “Filthy Words” (1973)
- FCC issues declaratory order to Pacifica
- Pacifica sues
- U.S. Supreme Court ruled FCC did not violate 1st Amendment (5-4 decision)
  - Broadcast media “uniquely pervasive”
  - Broadcasting uniquely accessible to children
**Web Filters**

- Web filter: software that prevents display of certain Web pages
  - May be installed on an individual PC
  - ISP may provide service for customers
- Methodologies
  - Maintain “black list” of objectionable sites
  - Examine content for objectionable words/phrases

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**Child Internet Protection Act**

- Libraries receiving federal networking funds must filter pages containing obscenity or child pornography
- U.S. Supreme Court ruled CIPA did not violate 1st Amendment guarantees (6-3 decision in June 2003)
**Spam**

- Networking increases computer’s utility
- Internet connects millions of computers
  - Powerful computational resource
  - Even more powerful communication medium
- Network utility grows as number of users squared
  - 10 users $\rightarrow$ 90 sender-receiver combinations
  - 100 users $\rightarrow$ 9900 sender-receiver combinations
Spam

Spam is unsolicited commercial email

- Amount of email that is spam has increased
  - 8% in 2001
  - 40% in 2003
  - 75% in 2007

- Spam is effective
  - More than 100 times cheaper than “junk mail”

Can SPAM Act of 2003

- Took effect January 1, 2004
  - Consumers have right to “opt out”
  - Sexually explicit messages must contain subject line notice
  - Prohibits dictionary attacks and falsifying header information

- Critics call it “You CAN Spam Act”
  - Spam still legal, as long as regulations followed
  - Opting out can have harmful consequences
  - Federal law weaker than state laws it preempted

- Spammers can avoid prosecution by locating outside United States
Online Privacy Threats

Online Identity Theft

Goal: Steal credit card or other financial or account information

Mechanisms:
- Phishing (email)
  - Trojans, worms, viruses
- Spyware
- Server Hacks

Online Profiling

Goal: Track your activities Online, including what you do, and who you interact with

Mechanisms:
- Cookies
- Webbugs
- Deceptive/Abusive data practices

Phishing

Dear ORST Webmail Subscriber,

We notice that your webmail account has been compromised by spammers. They have gained access to your webmail account and have been using it for illegal internet activities. You are to send us your account information immediately to enable us reset your account. A new password will be sent to you once this is done. Send the information as follows.

*User Name:

*Password:

You are advised to send this information immediately or we will delete your account from our network.

THE ORST HELP DESK
Why Phishing Works

In 2003 approximately 2 million people gave away information in phishing attacks (5% of recipients) valued at $1.2 billion

90% of study participants fooled by good phishing sites


Why Phishing Works

Common techniques

- Address obfuscation for links
  - www.cilibank.com
  - www.ebay-security.com
  - www.capital0ne.com

- Visual deception
  - Emails, logos and sites that look real
  - Bring up real site in addition to fake login box
Surviving Phishing Attacks

• Use common sense!
  – If it sounds too good/bad to be true... It probably is

Online Profiling

While not as bad as identity theft, can still be damaging, and often used together

Two main mechanisms:
  – Cookies (3rd party)
  – Webbugs

Both (potentially) enable a 3rd party to see where you go

See http://www.epic.org/privacy/profiling/ for dangers of profiling
Know Your Worth

Average Quarterly Revenue Per User

<table>
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<th>Company</th>
<th>Revenue (Q1 2023)</th>
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<td>$0.74</td>
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<tr>
<td>Microsoft</td>
<td>$0.81</td>
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<tr>
<td>Facebook</td>
<td>$1.21</td>
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<tr>
<td>LinkedIn</td>
<td>$1.76</td>
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<td>AOL</td>
<td>$2.39</td>
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<tr>
<td>Google</td>
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