

Aspetos Socio Profissionais da Informática (Informatics and Society)

The Impact of Communication Technologies in Human Interaction and Some New Social and Ethical Problems

Part 1 - Impact of Communications

Departamento de Informática da
FCT/UNL

Lecture Outline (Part 1)

- The Impact of Digital Communications
- Spam Ethical Analysis
- Impacts of the Web
- Free speech and censorship

Corresponds to most of the Chapter 3 of Book: Ethics in the Information Age

Made (partially) with the help of a half a dozen slides from CS 6431 slides by Vitaly Shmatikov and some slides made available by book publisher Pearson Education to instructors adopting book by Michael J. Quinn "Ethics for the Information Age", as basic bibliography

Lecture Outline (Part 2)

- What is privacy and why is important
- What is behavioural tracking and targeting and why it is prevalent in the Internet
- The social, economical, ethical and political impact of tracking
- Social Networks - a blessing or a curse?
- Conclusions

Digital Communications

- In the beginning it was email
- Then came spam
- The major impact of the web: huge increase of access to information and interaction
- Then came spam pornography, censorship, hate discourse, terrorism, disinformation, ...
- A brave new world: social networks and the danger of the virtual other

The Impact of Networking

- Networking increases computer's utility
 - In addition to Word processing, Excel, ...etc, you can share printers, extra storage, exchange data, e-mail.
- Internet connects thousands millions of computers
 - Powerful computational resource
 - E-mail, surfing www, promoting your company
 - The network becomes an even more powerful communications medium
- Metcalf Law Network utility grows as number of users squared ($N \times (N - 1)$)
 - 10 users => 90 sender-receiver combinations
 - 100 users => 9900 sender-receiver combinations
- As people grows
 - People may act irresponsibly
 - The impact of good and bad actions grows exponentially

The Spam Epidemic

- Amount of email that is spam has increased
 - 8% in 2001
 - 40% in 2003
 - 75% in 2007
 - 90% in 2009
 - ? Today
- Spam is effective (Cheap way for Ads. \$500 - \$2000)
 - A company hires an internet marketing firm to send thousands of emails (e.g. newsletters, ...)
 - More than 100 times cheaper than "surface junk mail"
 - Profitable even if only 1 in 100,000 buys product

How Spam Works

- How firms get email addresses
 - Opt-in lists (some are sold)
 - Crawling the web for email addresses
- Spammers seek anonymity
 - Change email and IP addresses to disguise sending machine
 - Hijack another insecure system as a spam launch pad

Ethical Evaluations of Spamming

- Kantian evaluation (Using people resources as a means for an end - profit)
- Act utilitarian evaluation
 - 1 from 100,000 will buy
 - What is the cost for the other 99,999 ?
- Social contract theory evaluation
 - you have the right to free speech
 - doesn't mean that all will need to listen
 - spammers are not introducing themselves
- From all these perspectives, it is wrong to send spam and is now against the law

Fighting Spam

- Collect and share in real time lists of sources of email spammer organizations
- Collect and share in real time lists of hijacked mail servers and block them, even if they have legitimate users
- Use online real time data analysis, historical data and user behaviour
- Sell spam analysis as a service in exchange of ... (users information, see part II)

Ethical Evaluations of "Publishing Blacklist and Affecting Innocent Users"

- **Kantian evaluation**

- Innocent users are used as a means for an end (eliminating spams)

- **Utilitarian evaluation**

- Blacklisting will affect innocent users, receivers and marketing firms, this will reduce the benefits of Internet utility as a whole.

- **Social contract theory evaluation**

- Mail senders and spam receivers do not derive equal benefit from emails.

Proposed Solutions to Spam Epidemic

- Require an explicit opt-in of subscribers and ban unsolicited email by law
- Give users the right to unsubscribe
- Both are now law (US and European RGPD)
- Require labelling of email advertising
 - all commercial emails must write ADS on the subject line
- There are several companies selling bulk email solutions in a “civilized way” (e.g. MailChimp)

Major Impacts of the Web

- **PROS**

- A wonderful new way to access information
- A marvellous new way to execute applications and interface with services
- A marvellous new way to interact with people
- A marvellous machine for publishing content

- **CONS**

- Some known problems become worst due to scale, price and reach (e.g. child pornography, censorship, free speech)
- An highly effective machinery against privacy
- An highly effective machinery to spread misinformation
- A brave new world of false interactions and the reign of avatars of all kinds
- A potential "Big Brother" substrate

Freedom of Expression Right

- Recognized in many countries
- In general balanced against the public good
- There are many restrictions in different countries
 - Advertisement of cigarettes
 - Child pornography
 - Advertisement of ways to promote terrorism
 - Cannot advertise neo-Nazi propaganda in Germany
 - and many others
- Does the Web makes a difference as compared to traditional media ?

Challenges Posed by the Web

- Many potential sources make it difficult to control or shutdown all
- Dynamic and disguised communications including using cracked computers
- Huge number of web sites
- Extends beyond national borders
- Can't determine age of users
- Can't easily determine who is behind (the person)

Traditional Forms of Censorship

- Government monopolization of media
- Pre-publication review
- Licensing and registration restricted to friendly actors
- Self-censorship
- No censorship at all, specially for humour and using law and tribunals after the publication

Too Much Control or Too Little?

- People's Republic of China, Saudi Arabia, Russia and many others: centralized control centers, users sign "self-discipline agreement"
- Many countries - "defend the State from enemies and terrorists", e.g. China Great Firewall
- Tentative of legalization of Backdoors to crack encrypted communications in the West

- United States: Repeated efforts to limit access of minors to pornography
 - like child pornography

Note: copyright laws are a different issue we will discuss in another chapter

Breaking trust on the Internet

- Identity theft: when a person uses another person's electronic identity and authentication tokens
 - Several millions are victims of identity theft due to their online activities
- Phishing: use of email or Web pages to attempt to deceive people into revealing critical personal information
- Data Leaks
- Some States (still known as democratic) are now trying to enact laws to legalize backdoors to prevent the use of encryption

Chat Room Predators

- Chat room: supports real-time discussions among many people connected to network
- Instant messaging (IM) and chat rooms or groups replacing telephone for many people
- Some pedophiles meeting children through chat rooms and other messaging means
- Police countering with "sting" operations
 - Policemen enter chat rooms to lure pedophiles.

Ethical Evaluations

- Censorship, freedom of expression, ... in the Internet probably do not pose new Ethical dilemmas
- The same with identity theft and phishing. They are clearly unlawful
- Data leaks are in fact similar to corporate responsibility to compensate customers prejudices. Nothing is really new
- The real new problem: are there limits to the means used by the State to enforce the law