Chapter 3: Networking
Chapter Overview

- Spam
- Internet interactions
- Text messaging
- Censorship
- Freedom of expression
- Children and inappropriate content
- Breaking trust
- Internet addiction
Far More People Have Access to Cell Phones than Electricity or Clean Water
3.2 Spam
The Spam Epidemic (1/3)

- Spam: Unsolicited, bulk email
- Spam is profitable
  - More than 100 times cheaper than “junk mail”
  - Profitable even if only 1 in 100,000 buys product
- Amount of email that is spam has ballooned
  - 8% in 2001
  - 90% in 2009
The Spam Epidemic (2/3)
The Spam Epidemic (3/3)

- How firms get email addresses
  - Web sites, chat-room conversations, newsgroups
  - Computer viruses harvest addresses from PC address books
  - Dictionary attacks
  - Contests

- Most spam sent out by bot herders who control huge networks of computers

- Spam filters block most spam before it reaches users’ inboxes
Need for Socio-Technical Solutions

• New technologies sometimes cause new social situations to emerge
  – Calculators → feminization of bookkeeping
  – Telephones → blurred work/home boundaries
• Spam an example of this phenomenon
  – Email messages practically free
  – Profits increase with number of messages sent
  – Strong motivation to send more messages
• Internet design allows unfair, one-way communications
Case Study: Ann the Acme Accountant

• Ann: Accountant at Acme Corporation
• She distributes paychecks to all 50 employees
• Ann sends email advertising Girl Scout cookie sale
• 9 recipients order cookies; average 4 boxes each
• Other 40 recipients unhappy to get email; half complain to a co-worker
• Did Ann do anything wrong?
Kantian Analysis

• We should always respect autonomy of others, treating them as ends in themselves and never only as the means to an end (2\textsuperscript{nd} formulation of Categorical Imperative)
• Ann didn’t misrepresent what she was doing
• She didn’t force anyone to read the entire email
• Some who read her email chose to order cookies
• Therefore, she didn’t “use” others, and her action was not strictly wrong
• However, an “opt in” approach would have been better
Act Utilitarian Analysis

- Benefit to Girls Scouts = $108
  - $3 profit per box of cookies
  - 36 boxes sold
- Harm to company: time wasted
  - Orders taken during breaks
  - Lost productivity from complaining: $70
    - 20 employees × 2 × 5 minutes/employee = 200 minutes
    - 3.5 hours × $20/hour = $70
- Benefits exceed harms, so action good
- Company may create policy against future fundraisers
Rule Utilitarian Analysis

• Q: What would be consequences of everyone in company used email to solicit donations?
• A: Plenty of employee grumbling and lower morale
  • If all doing it, unlikely any one cause would do well
  • Harms greater than benefits, so Ann’s action was wrong
Social Contract Theory Analysis

• Acme Corporation has no prohibition against using its email system this way
• Ann was exercising her right to express herself
• Some people didn’t appreciate message, but she didn’t act like a spammer
  – She didn’t conceal her identity
  – She wasn’t selling a fraudulent product
• Ann did nothing wrong
Virtue Ethics Analysis

• As employee, relevant virtues: honesty, fairness, respect
• Ann was honest: her email didn’t mislead anyone
• She wasn’t fair or respectful, and she exercised poor judgment (as evidenced by larger amount of complaining by co-workers)
• In her role as parent, she did all work herself and didn’t find a role for her daughter to play
• Ann should have found a way for her daughter to help, and she should have found another way to advertise that respected co-workers
Summary

• Analyses reached different conclusions, but Ann could have taken a less controversial course
• She could have posted a sign-up sheet to identify those interested in cookie sale
• That way, she would have sent email only to those interested, avoiding the problems of grumbling and lost productivity
• She could have found a way to get her daughter more engaged
3.3 Internet Interactions
The World Wide Web

• WWW : networked hypertext system
• Stimulated tremendous growth in popularity of Internet
• Two important attributes
  – It is decentralized
  – Every Web object has a unique address
Rise of the App

- People spending more time on smartphones and tablets
- Using Web browsers awkward on mobile devices
- Mobile apps replace Web browsers as way to access Internet on mobile devices
How We Use the Internet

- Shopping
- Socializing (e.g., Facebook)
- Contributing content (e.g., wikis)
- Blogging
- Crowdsourcing
- Learning
- Exploring our roots
- Entering virtual worlds
- Controlling the Internet of Things
- Paying taxes
- Gambling
- Taking humanitarian action
- Lots more!
Online Source of Genealogical Information

ARC Guide for Genealogists and Family Historians

- What Is in the Archival Research Catalog?
  - ARC vs. Online Genealogy Databases
  - ARC Data Model Example: District Court Records

- How Do I Search in ARC?
  - Tips for Searching for an Individual's Name
    - More Tips for Searching for People by Name in ARC
  - Tips for Searching by Topics Related to Genealogy and Family History
    - Suggested Keywords
    - Follow the Clues

Immigrants on a Ferry Boat Near Ellis Island, ARC ID 594479.
3.4 Text Messaging
Transforming Lives in Developing Countries

- M-PESA in Kenya
  - Save money
  - Pay bills
  - Transfer funds
- Communicate information about crop prices
- Protect against counterfeit medicine
Twitter

- Web-based social networking service
- More than 200 million users
- Blogging tool
- Business promotion
- Role in Arab Spring uprisings debated
  - (+) Social networks lead to politicization
  - (-) Ties in social networks too weak for high-risk activism
3.5 Censorship
Forms of Direct Censorship

- Government monopolization
- Prepublication review
- Licensing and registration
Self-censorship

- Most common form of censorship
- Group decides for itself not to publish
- Reasons
  - Avoid subsequent persecution
  - Maintain good relations with government officials (sources of information)
- Ratings systems created to advise potential audience
  - Movies, TVs, CDs, video games
  - *Not* the Web
Challenges Posed by the Internet

- Many-to-many communications
- Dynamic connections
- Huge numbers of Web sites
- Extends beyond national borders, laws
- Hard to distinguish between minors and adults
Governmental Filtering and Surveillance

- Cuba, North Korea: Internet virtually inaccessible
- Saudi Arabia: centralized control center
- People’s Republic of China:
  - Blocks Internet access at times of social unrest
  - Has “one of most sophisticated filtering systems in the world”
- Germany: Forbids access to neo-Nazi sites
- United States: Have been repeated efforts to limit access of minors to pornography
Ethical Perspectives on Censorship

• Kant opposed censorship
  – Enlightenment thinker
  – “Have courage to use your own reason”

• Mill opposed censorship
  – No one is infallible
  – Any opinion may contain a kernel of truth
  – Truth revealed in class of ideas
  – Ideas resulting from discourse are more influential
Mill’s Principle of Harm

“The only ground on which intervention is justified is to prevent harm to others; the individual’s own good is not a sufficient condition.”
3.6 Freedom of Expression
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
Jeremy Jaynes

AP Photo/Loudoun County Sheriff's office
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
Case Study: Kate’s Blog

- Kate: Maintains a popular “life on campus” blog
- Jerry: Another student; active in Whig Party
- At private birthday party, someone gives Jerry a Tory Party T-shirt as a gag, and Jerry puts it on
- Kate uses cell phone to take picture of Jerry when he isn’t looking, posts it on her blog
- Story read by many people on and off campus
- Jerry confronts Kate and demands she remove photo; she complies, and they remain friends
- Kate’s blog and Jerry both become more popular
Kantian Analysis

• Kate uploaded Jerry’s photo to her blog without asking his permission
• She treated him as a means to her end of increasing the readership of her Web site
• Her action was wrong
Social Contract Theory Analysis

- Birthday party held in apartment of one of Jerry’s friends
- Jerry had a reasonable expectation of privacy
- Kate violated Jerry’s right to privacy
- Kate’s action was wrong
Act Utilitarian Analysis

• Benefits
  – Popularity of Kate’s blog increased (definitely)
  – Jerry become more popular on campus (definitely)

• Harms
  – Jerry’s anger at Kate (only temporary)
  – Photo could discredit Jerry at some point in future (unlikely)

• Benefits greater than harms, so Kate did a good thing
Rule Utilitarian Analysis

• What if everyone were constantly taking photos of people they encountered and posting them?

• Positive consequences
  – People would have more opportunities to keep up with what their friends are doing
  – People might be more reluctant to engage in illegal activities

• Negative consequences
  – People would become more self-conscious
  – Some relationships would be harmed

• Negative consequences more weighty than positive consequences, so Kate’s action was bad
Virtue Ethics Analysis

- True friends trust each other and seek each other’s good
- Reciprocity and equality are fundamental elements of friendship
- Lack of reciprocity: Kate took something from Jerry without giving him anything in return
- Lack of equality: She put her own interest above that of Jerry
- Kate’s actions did not seem to be characteristic of a good friend
Summary

- Four out of five analyses: Wrong for Kate to post the photo without asking Jerry’s permission.
- Kate figured it would be better to beg for forgiveness than ask for permission, but she cut Jerry out of a decision that affected both of them, and that’s no way to treat a friend.
- Kate should have tried to get Jerry’s consent.
3.7 Children and Inappropriate Content
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
Do you support the free expression of ideas in our society?

Sure. That's first on our bill of rights.

So you would be against censorship and the suppression of ideas you found distasteful.

Right. You've got to take the bad with the good.

So you wouldn't object to me being exposed to art, movies or music that some people think is offensive and shocking, right?

Ok, first let me explain about our responsibility to be culturally educated and able to make critical distinctions about...

You're stalllling!
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)
Ethical Evaluations of CIPA

- Kantian evaluation: CIPA is wrong
- Act utilitarian evaluation: depends on how benefits and harms are weighed
- Social contract theory: freedom of conscience should be given precedence
Sexting

• Definition: sexually suggestive text messages or emails with nude or nearly nude photographs
• In a 2009 survey, 9% of U.S. teenagers admitted to sending a sext, 17% admitted to receiving a sext
• Case of Jesse Logan
• Case of Phillip Alpert
• Case of Ting-Yi Oei
3.8 Breaking Trust
Identity Theft (1/2)

- Identity theft: When a person uses another person’s electronic identity
- Leading form of identity theft is credit card fraud
- Financial institutions contribute to problem by making it easy to open new accounts
- About 8 million cases of identity theft in U.S. in 2010
- Consumer’s liability for credit card losses limited to $50
Identity Theft (2/2)

- Nearly half of cases from lost credit card, checkbook, etc.
- In 20% of cases, credit card number stolen at time of making purchase (skimmers)
- About 1 million cases of identity theft annually in United States from online activities
- Phishing: Use of email to attempt to deceive people into revealing personal information
- Identity theft a federal crime, but only 1 in 700 cases results in an arrest
Chat-Room Predators

• Chat room: Supports real-time discussions among many people connected to network
• Instant messaging and chat rooms replacing telephone for many people
• Some pedophiles meeting children through chat rooms
• Police countering with “sting” operations
Ethical Evaluations of “Stings”

- Utilitarian evaluation
- Kantian evaluation
- Social contract theory evaluation
False Information

- Quality of Web-based information varies widely
- Other media also have information of varying quality
  - *60 Minutes* v. *Conspiracy Theory*
- Google attempts to reward quality
  - Ranking uses “voting” algorithm
  - If many links point to a page, Google search engine ranks that page higher
Cyberbullying

- Cyberbullying: Use of the Internet or phone system to inflict psychological harm
- In a 2009 survey, 10% admitted to cyberbullying, and 19% said they had been cyberbullied
- Case of Ghyslain Raza
- Case of Megan Meier
- Megan Meier Cyberbullying Prevention Act
3.9 Internet Addiction
Is Internet Addiction Real?

- Some liken compulsive computer use to pathological gambling
- Traditional definition of addiction:
  - Compulsive use of harmful substance or drug
  - Knowledge of its long-term harm
- Some people spend 40-80 hours/week on the Internet, with individual sessions lasting up to 20 hours
Is Internet Addiction Real?

• Kimberly Young created test for Internet addiction
  – Sample question: “Have you repeatedly made unsuccessful efforts to control, cut back, or stop Internet use?”
  – Patients who answer “yes” to at least 5 of 8 questions may be addicted

• Others disagree, noting
  – Computer use is generally considered a positive activity
  – Excessive use does not lead to criminal activity
  – More accurate to call excessive use a compulsion
South Koreans in a PC Bang

Kim-Jae Hwan
Contributing Factors

- Social factors
  - Peer groups
- Situational factors
  - Stress
  - Lack of social support and intimacy
  - Limited opportunities for productive activity
- Individual factors
  - Tendency to pursue activities to excess
  - Lack of achievement
  - Fear of failure
Ethical Evaluation

• Enlightenment view
  – Individuals can and should govern their lives
  – People are responsible for their choices

• Jeffrey Reiman’s view
  – Addict’s behavior makes sense if addict has no hope for a better future
  – Society bears responsibility for putting people in hopeless situations