Lecture 27

Social & Legal Issues
(S&G, ch. 14)

Social Implications of Artificial Intelligence
Kismet (Brooks’ Lab, MIT)

- Responds to a face with a happy expression
- Responds to rapidly moving face with disgusted expression

Example of three-way conversational interaction
Social Implications of AI

- Elimination of jobs
- Replacing human judgment by machine judgment
- Altering our understanding of ourselves

Consider Computers that are More Intelligent than Humans

- *Suppose it’s impossible*
  - establishing this would require some kind of scientific proof that a computer cannot emulate a brain, or that a brain is not sufficient for intelligence
  - in either case, a major scientific breakthrough
- *Suppose it’s possible*
  - could displace us in all intellectual activities
  - if we had nothing to do, what would it mean to be human?
  - would/should humans be obsolete?
Social & Legal Issues

Promethean Fire

- “All technology is non-neutral”
- Computer technology has:
  - social benefits
  - social costs
- Often, issues are not peculiar to computers, but are amplified by computer technology
- Sometimes problems arise from using computers as they are intended to be used
Privacy

• Government databases (federal & state)
• Computer matching
• Computer profiling
• Open & closed files

Uses of Personal Data

• Marketing
• Decision making
• Other uses:
  – secondary use
  – invisible information gathering
  – information from children
• “Information underground”
Protecting Privacy

- Access control
- Audit trails
- Encryption
- Ethical use policies
- Informed consent
- Regulation
- Ownership of data
- Contracts
- Markets, options & consumer pressure

Computer Error

- Overdependence on computers
- Major failures
- Lesser failures
- Limitations of computer simulation
Simulation & Models

- Recall our discussion of models:
  - a model is intended to address a certain class of questions or issues
  - models make simplifying assumptions
- Recall the omission of aerodynamic stability from bridge models before the Tacoma Narrows Bridge disaster
- Nevertheless, computer models & simulations are essential

Evaluating Models

- How well is the underlying science understood?
- What sorts of simplifying assumptions are made?
- How well does the model agree with experimental results?
Computer Crime

• Often just a new or “better” way to commit traditional crimes
• Ampliative aspects of computer technology
  – may allow committing crimes on a larger scale
• Reductive aspects of computer technology
  – may make it harder to detect crimes, identify criminals, etc.

Some Kinds of Computer Crime

• Fraud, embezzlement & theft
• Stealing (data)
• “Hacking” (system cracking)
  – individual systems
  – the information infrastructure
  – benign hacking?
• Viruses & worms: reproduce selves
  – virus: hides in another program
  – worm: an independent program
Constitutional & Civil Liberties Issues

- 1st Amendment protects freedom of speech & press
- 4th Amendment protects against unreasonable search & seizure
- Do they apply to electronic & other new media?
- So far, the courts generally have held them to apply, but there is much uncertainty

Communication Media

- Is the operator of a communication medium responsible for the information it carries?
  - analogy: telephone companies & post office
  - analogy: a privately-owned meeting room
- Can the operator restrict this information?
  - analogy: telephone companies & post office
  - analogy: private presses
Encryption & Wiretapping

- Encryption can be used to ensure privacy & authenticity
  - may be used for legal/illegal purposes
- May be subject to export restrictions
- What provisions should be made for government interception & recording of communications?
- What limits should be imposed on the government