Topics

Below is a list of suggestions for topics of papers by students for this course. The list is not meant to be exhaustive, but rather to provide some ideas to stimulate your imagination in thinking of what topic you would like to discuss. You can also visit the Resources page of the class web site for more sources of ideas.

1. Individual vs. corporate responsibility:

   (a) Software ownership and intellectual property: Should software be treated similarly to other written works? What rights do the author, vendor, and user respectively have? How does software differ from other kinds of goods and services, and how does this affect the ownership issue?

   (b) Software piracy: Does the responsibility lie with the vendor, the pirate, or both? What are the consequences, practical, moral and legal? Can a distinction be drawn between small-scale piracy, in which software is copied for one’s own use or for a few friends, and large-scale piracy, in which a company makes many copies either for sale or for in-house use?

   (c) Defective software: What are the consumer’s rights? Should the consumer have to pay for “bug fixes?” Is the vendor responsible for damages resulting from software failures? Was the Y2K problem or “millenium bug” a hoax? Mere hype? What does the way this issue was handled say about the mechanisms in place for preventing or repairing defective software? About our society’s dependence on technology?

   (d) Misuse of software: Should a software producer be concerned that his product may be used for illegal or improper ends? Does the principle of double effect apply here?

   (e) Privacy and information access: Does the ease of unauthorized access to computer systems or data affect the morality of such access? Do individuals have the right to view information about themselves stored in proprietary databases? Do citizens have a right to view information in governmental databases? Should organizations (whether commercial or governmental) be allowed to share data on individuals without their consent? How private is e-mail? Is it ethically justifiable for a company to monitor the e-mail of its employees? For an internet service provider to monitor the e-mail of its customers? Is it legitimate for ordinary citizens to use strong cryptography to protect the privacy of their e-mail messages? Web browser cookies: what are they? What legitimate purposes do they serve? How can they compromise users’ privacy? What can be done to prevent cookies from being used in unethical ways?

   (f) Microsoft has a reputation for ruthless, monopolistic business practices. By its nature software, and particularly operating system software, benefits by uniformity and so helps justify and support such practices. Yet experience shows that monopoly is ultimately harmful to the consumer by permitting higher-priced, lower-quality products to persist in the market. What are the ethical principles at issue here? How can these competing interests be balanced? What are other vendors doing to remain competitive in this market? What role will Linux and the open-source software paradigm play in all this?

2. Professional issues:

   (a) Various associations of computer professionals have approved codes of ethics for their members. Are such codes a good idea? Do the codes properly address the ethical issues faced by computer professionals? To what extent are computer professionals, whether members of the associations or not, bound by these codes?
(b) How can computer professionals help each other to be more aware of ethical issues and to put them into practice in their work?

(c) How can computer professionals help members of the general public to be more aware of ethical issues relating to the use of computers in their work?

(d) Social scientists who study the communities of the Internet should adhere to accepted ethical codes of conduct for research involving human subjects, such as informed consent, community consent, respect for privacy, and avoiding harm. In many cases it may be difficult to follow these norms. For example, how can one obtain informed consent from anonymous contributors to a discussion group? Also, obtaining consent from the members of a community may compromise the goals of the research, since their behavior may change if they know that their activities are being monitored. How can these conflicting demands be reconciled in an ethical manner?

3. Social issues:

(a) Computer crime: How should society protect itself against the new methods of embezzlement, fraud, etc. enabled by computers? How can this be done without excessive intrusion on individual privacy?

(b) Free speech vs. society’s right to protect itself: should web sites presenting pornography, hate speech, etc., or promoting illegal activities be permitted to operate? Are such sites protected (in the U.S. at least) by the constitutional right of freedom of speech, or do they constitute threats against which society has a right to act? If these activities should be regulated, to what degree? Similar questions are raised by online gambling.

(c) Viruses and hacking: Does the responsibility lie with vendors for providing inadequate protection, or with users for not observing the most basic precautions? What motivates hackers, and what is the best way for society to deal with them?

(d) Cryptography and national security: Does a government have the right to eavesdrop on the communications of its citizens? How can the legitimate need for privacy in business or personal communications be balanced against the dangers of allowing strong cryptographic software to get into the hands of criminals and terrorists?

(e) Computer communication and freedom of expression: How should society’s need to protect itself be balanced against the individual’s right of expression? Is a service provider cooperating in evil if a customer uses the service to publish harmful or malicious materials?

E-mail chain letters at least waste people’s time and at worst are used for confidence schemes. Can/should something be done about them? Chat rooms and online forums are places for people to air their views freely, but some contributors conceal their true identities or motives. Is the ethical requirement of honesty relaxed simply because the medium makes deceit so easy?

(f) The increasing computerization of everyday life poses risks: computers are used to run aircraft, medical equipment, elevators, even toilets. When the software has bugs or design flaws, people can be injured or killed. What responsibilities do software designers have for the consequences of such errors? Do the managers responsible for computerizing their company’s operations tend to be overly optimistic about the reliability of these systems, to the extent of trusting them too much?

A related issue might be called bio-info-ethics, dealing with the convergence of information technology and medical advances: Who owns the human genome? Who should benefit from medical discoveries derived from it, or from studies based on tissue or blood samples from individuals? On a more personal level, who has a right to see your medical record? Who should be able to choose the kind of medical treatment you receive?

(g) Gender issues: historically, women have been under-represented in computer professions. Does this bias affect the design of software? What, if anything, should be done to increase the numbers of women in this area, and if so, how can this best be done?
Computer haves and have-nots: do inequities in access to cyberspace technology contribute to widening the gap between rich and poor? This question can be considered on the domestic level, addressing differences between social classes in U.S. society. It can also be considered on the global level, addressing differences between developed and less-developed countries.

What concrete steps could be taken to reduce these inequities? Are any such steps being taken now?

4. **New opportunities:**

(a) How can cyberspace technology contribute most effectively to the common good? How can we avoid the dangers it poses of exploitation and of increasing the gap between rich and poor?

(b) The Internet has made it much easier for people to collaborate on large projects. (This was one of the original purposes for which the Internet was developed.) Examples include the SETI@home project [http://www.setiathome.ssl.berkeley.edu](http://www.setiathome.ssl.berkeley.edu), which coordinates thousands of home computers to search for radio signals from extraterrestrial civilizations, and the Great Internet Mersenne Prime Search (GIMPS, [http://www.mersenne.org](http://www.mersenne.org)), which similarly uses idle computer time to find large prime numbers. These projects make use of spare computer resources that would otherwise be wasted, and allow projects that have difficulty obtaining public funding to go forward. Other examples of such projects can be found at the GIMPS site.

(c) There are numerous projects underway now to digitize books on a large scale and make them available over the Internet. These projects aim to increase the availability of important or rare books to people all over the world. But besides the technical problems of scanning large numbers of books, these projects face obstacles posed by copyright restrictions.

(d) Artificial intelligence researchers seek to produce computers and software that can perform sophisticated tasks normally considered the exclusive domain of human beings. What useful purposes can artificial intelligence serve? Is it realistic to suppose that it will ultimately free human beings from drudgery and poverty? Are there limits to what it can do? To what it should do? Is there a danger that computers will eventually displace human beings, rendering them irrelevant?

(e) In the late 1990s, a number of universities started projects to put courses onto the Web. These on-line distance learning programs charged tuition and carried full college credit. They offered the possibility of a college education to people (for instance working people with a family) whose schedules would not allow them to attend regular courses, but who could complete the on-line courses at times convenient for them and at their own pace. Also, people living in distant locations could enroll. Critics of these programs argued that university administrators were swayed by the prospect of lucrative programs that would cost little to maintain, and paid insufficient attention to the difficulties of making such courses equivalent in quality to the ones offered on campus. In this view, the universities sought to exploit disadvantaged individuals for crass commercial gain. Within a few years, most of these programs folded for lack of sufficient interest on the part of the students, and because they cost much more than expected to develop. Are the critics right about the motives, or were the universities simply victims of their own naiveté? Is there an appropriate role that distance learning can play in making education available to those who are disadvantaged by geography or the demands of their life? If so, what role should universities play in the development of these programs?