SOCIAL ISSUES IN COMPUTER SCIENCE

Syllabus **CSC320**

TIME & LOCATION:

Tues/Thurs 12:30 PM – 1:45 PM Tyler Hall 106

INSTRUCTOR INFORMATION:

Instructor: Professor Joan Peckham
Email: joan@cs.uri.edu
Office: Room 254, Tyler Hall
Phone: 874-4174
Office Hrs: By appointment made in person, by phone or by e-mail

COURSE WEBPAGE:

Via URI Sakai

Students are expected to check the web site regularly for:

- Class discussions in the forum section
- Updates to the syllabus
- Other as announced in class or via e-mail

TEXTBOOK:

A Gift of Fire: Social, Legal, and Ethical Issues for Computers and the Internet, 3rd Edition; Sarah Baase; Prentice Hall, Inc. 2008

COURSE GOALS AND OVERVIEW

Today we live in a technology oriented society. Computers are used in most aspects of our modern lives; we depend upon them to solve the deepest problems and to support multiple endeavors in our personal and professional lives. Computing has the potential to transform our lives in significant ways. In this course we explore the opportunities and challenges that computing brings to us.

As a student of computing the decisions that you make about the use of computers and computing will have impact upon your personal life and profession. As a citizen of your nation and world you will be called upon to make decisions regarding technology that will impact us all. In this course we will explore the various aspects of computing to inform us how we might all move forward to harness the incredible potential of computers while mitigating the threats.

SUMMARY OF TOPICS COVERED:

- **Social context of computing**: Introduction to the social implications of computing; social implications of networked communication; growth of, control of, and access to the Internet; women and other underrepresented groups; international issues; ecological issues.
- **Methods and tools of analysis**: Making and evaluating ethical arguments; identifying and evaluating ethical choices; understanding the social context of design; identifying assumptions and values
- **Professional and ethical responsibilities**: Community values and the laws by which we live; the nature of professionalism; various forms of professional credentialing and the advantages and disadvantages; the role of the professional in public policy; maintaining awareness of consequences; ethical dissent and whistle-blowing; codes of ethics, conduct, and practice; dealing with harassment and discrimination; "Acceptable use" policies for computing in the workplace
- **Risks and liabilities of computer-based systems**: Historical examples of software risks; implications of software complexity; risk assessment and management
- **Intellectual property**: Foundations of intellectual property; copyrights, patents, and trade secrets; software piracy; software patents; transnational issues concerning intellectual property
- **Privacy and civil liberties**: Ethical and legal basis for privacy protection; privacy implications of massive database systems; technological strategies for privacy protection; freedom of expression in cyberspace; international and intercultural implications
- **Computer crime**: History and examples of computer crime; "Cracking" and its

effects; viruses, worms, and Trojan horses; crime prevention strategies

- **Economic issues in computing**: Monopolies and their economic implications; effect of skilled labor supply and demand on the quality of computing products; pricing strategies in the computing domain; differences in access to computing resources and the possible effects thereof
- **Philosophical frameworks**: Philosophical frameworks, particularly utilitarianism and deontological theories; problems of ethical relativism; scientific ethics in historical perspective; differences in scientific and philosophical approaches

ASSIGNMENT POLICIES

Each topic we cover in this course will have at least four assignments associated with it:

- **Reading Assignments** - Each topic roughly corresponds to a chapter in the textbook. You will need to read the appropriate chapter and be prepared for class discussions prior to the first class on that topic. There will also be additional readings related to the current topic that will be used for discussions.
- **Quizzes** – Short quizzes will be given for selected topical areas. You should prepare for the quizzes by doing the assigned reading on time and being present for and participating in the class discussions. Quizzes will not always be announced.
- **Article Critiques** - After completing the textbook and additional readings for each week, you should write and hand in short article critique related to the topic. Information about these is given below.
- **Class Participation / Forum Discussions** - For this course to be successful, students must engage in the material by doing the readings ahead of time, and then by participating in class. You will be expected to actively participate by asking questions, joining in our discussions, etc. Note that a significant portion of your grade is attributed to class participation.

Additionally, this course has two significant writing assignments:

- **Technology and Society Book Report** – To obtain a deeper understanding of a particular issue of interest to you, you are required to read a book that addresses the issue and then complete a 1000 word report.
- **Technology and Society Term Paper** - This assignment gives you an opportunity to dig deep into a topic concerning the impact of technology on society. Investigate the topic using articles and/or books, etc., for background. Your project must include some background research and some activity, e.g., **an interview or a site visit**. (If you choose a topic for which you can't think of an appropriate activity, discuss it with me.) Don't just report on the topic, discuss pros and cons and evaluate solutions. Use your own words.

There will be several team-presentations and or class activities. These may require a research and coordination outside of class time. For group projects, you will work in teams of three to five people. Separate groups are not allowed to collaborate - each group should have its own distinct presentation and talking points.

Any updates to the assignment syllabus will be posted on the course web site. Therefore, if there is a difference between the assignment syllabus and the course web site, information from the course web site should be used. To ensure you receive the maximum credit for your work, follow any templates or guidelines that are provided.

STUDENT RESPONSIBILITIES

- Class attendance, promptness, participation, and adequate preparation for each class are expected. If you are absent, it is your responsibility to find out what you missed (e.g. handouts, announcements, assignments, new material, etc.) There will occasionally be exercises to be completed in class. Some of these will be done in small groups and some will be presented to the class.
- Material in any class is not learned or mastered simply by attending class. The student needs to spend the time outside of class doing the readings, discussing the issues with fellow students, and discussing topics with the professor. In many respects, out of class time is, in fact, more important than lecture time.
- As a courtesy to your fellow classmates, **pagers and cell phones must be off or on vibrate during class.** Having cell phones or pages ring during class can result in points being deducted from your participation grade.
- Questions concerning the content of the course or project should be directed to the forum. This allows your question to be answered by whoever is monitoring the forum, and the answer to it can benefit all board readers. Please do not send e-mail directly to Dr. Henry with technical questions.
- I am happy to answer questions during an arranged office hour and via e-mail. However, office hours and email are not intended as a replacement for lecture. I am not online 24x7 so I may not respond to electronic questions instantly. Please make an appointment by e-mail, phone, or after class if you need to talk directly to me.

GRADING POLICIES

Penalties for late submission of assignments will be set separately for each assignment. Be sure to check the assignment for specifics.

The final grade will be based on individual grades received on homework, quizzes, group projects, class attendance and participation. The approximate weighting for each area is as follows:

- **20%** - Class Attendance & Participation
- **10%** - Group Projects
- **25%** - Quizzes and Article Critiques
- **20%** - Book Report
- **25%** - Term Paper

PRINTED SUBMISSION FORMAT

- You will be required to submit your assignments in printed form. These should be formatted as follows:
  - Edited on a computer
  - 1.0” Top, Bottom, Left and Right Margins
  - 12 point Times New Roman (or similar) font.
  - All text should be double-spaced.
  - All pages should be stapled or bound together.
  - Place your name on the top of each page of the paper, and number the pages.

PRELIMINARY COURSE OUTLINE

Class Week		Topics:
1	Sept 7	Introduction to Course
2	Sept 12	Introduction to issues and problems. Benefits of Computers. Discussion of book report and term project assignments
3	Sept 19	Ethical Issues for computer professionals. The ACM Code
4	Sept 26	Privacy: introduction; new threats and issues. Consumer data and privacy. Internet issues. Government use of computer matching and personal data. Technical methods of privacy protection. Philosophical views of privacy. Policies for privacy protection.
5	Oct 3	Communications issues: encryption and wiretapping. Debate on mandatory key escrow.
6	Oct 10	Constitutional and civil liberties issues. Freedom of speech and press, censoring the Internet. Filters in libraries. Libel. Constitutional issues continued: Responsibility of service providers. Spam. search and seizure. Group presentations.
7	Oct 17	Intellectual property issues, copyright and patent, free software, software piracy. Software protection techniques, laws. The future of copyright in cyberspace.
8	Oct 24	Computer Crime: fraud, hacking. Mock trial for virus case or group presentations on penalties for hacking cases.
9	Oct 31	Computers in the workplace: effects on employment, telecommuting. Employee monitoring. E-Mail privacy. Health issues.
10 11	Nov 7 Nov 14	Reliability of computer systems: errors, major and minor failures, responsibility for failure. Liability, accountability. Risk, comparisons with other technologies, what can be done, perspectives. Evaluating computer models (case studies: car crash models, climate models).
12 □ 13	Nov 21 Nov 28	General social issues: impact on community, access to computing, gender and ethnic issues. Ecological issues. Overall evaluations of technology.
14	Dec 5	Special Topics

This schedule may change depending on when speakers are available to come to our classes. Please check the course web site for the most up to date information.

ARTICLE CRITIQUES

ARTICLE CRITIQUE - (9 PTS)

As we discuss topics on technology and society, **you are to collect and critique** one article per week from reliable Internet sources that report or comment on:

- benefits and valuable applications of computers, and
- failures and/or mistakes caused by computer systems.

Hand your critique to me the beginning of the class on Tuesday of each week, beginning in the third week of class. Make sure the articles are recent. You will need to **provide a link or citation to each article** and a paragraph critique commenting on the information in the article. In your **100-200 word critique** of the article, be sure to clearly indicate into which category it falls. Your review should also comment on the authority of the information (see below).

Grading Rubric for Article Critique:

Critique of Article	**6**	**4**	**2**
	Article is recent and relevant to topic and correct link is included. Critique examines real issues and does not repeat "press release" of article.	Posting meets minimum requirements, but critique is shallow or superficial, link is missing or incorrect or posting is not relevant to current topic.	Only link is posted, critique is non-existent or just a repeat of information in article.
Timeliness	**3**	**2**	**1**
	Article Critique is handed in on time.	Article is handed in by Friday of topic week.	Article is handed in by Tuesday of the following week.

Your timely and active participation in course discussions forms a significant portion of your class participation grade. You might consider weaving your article into the discussions in class, where appropriate.

In choosing a good article, first, read the article. Then, while looking for accurate and authoritative information from your internet source (a paper based magazine, newspaper), consider the source of the information and ask the following questions (these questions will not give you an absolute answer as to the merit of the site, but they may help weed out unreliable sites):

- Is the creator of the site named and is that person an authority in the subject matter covered?
- Is the site sponsored by a university, a government agency, or some other organization likely to be a source of reliable information?
- Is the site sponsor likely to have no vested interest or prejudice concerning the material being presented? If there is a bias, does the site acknowledge it?
- Is the purpose of the site to provide information rather than to entertain or to advertise?
- Does the site offer documentation or bibliographic references for the material presented?
- Is the site carefully edited or is it full of mistakes (typographical and factual)?
- Is the site updated regularly--important if the information you are seeking must be current?
- Is the organization of the site clear and is it well enough developed that the information you are seeking is complete? (Web sites in early stages of

construction may have significant gaps or completely change focus later on.)

BOOK REPORT

GUIDELINES FOR BOOK REPORT

Your book report should be roughly 1000 words.

Don't try to summarize the whole book. Give an overview of what it's about, then pick a few critical themes or issues and discuss how the author presents them. **Analyze and comment;** don't just summarize. Tell which points you think are valid and which you don't agree with, and why. Add your own examples, counterexamples, or arguments, if appropriate.

Some books on the book list are general evaluations of computers or technology. Some take one side (pro or anti-technology) and argue it strongly. Read critically. Think about and include counter-arguments.

BOOK SELECTION

You may choose a book that will be useful for your term project, or you may choose an entirely different topic for the book report.

A book list is attached for a long list of suggested books.

BOOK SELECTION DEADLINE

Let me know what book you have selected by Tuesday, September 27th. If you choose a book that is NOT on the list of suggested books, include the following information: title, author, date of publication, and a sentence or two on what it's about if not obvious from the title.

You should submit your choice to me in writing for approval.

I will limit the number of people reading the same book, so if your first choice is a very popular one, you may have to choose another. You have a better chance of your first choice getting approved if your selection is on time (or early).

PRINTED SUBMISSION FORMAT

The book report is due Thursday, October 27th and should be submitted to me on paper.

The report should be formatted as follows:

- Written on a computer
- 1.0" Top, Bottom, Left and Right Margins
- 12 point Times New Roman (or similar) font.
- All text should be double-spaced.
- All pages should be stapled together.
- Place your name and e-mail address on the top of the paper.

WARNING

URI's library has some of these books, but only one copy. You can get some from Interlibrary Loan, which takes a few days or more. (You may have to return books from these sources after only a week or two.) Some of the books are available in local libraries or bookstores.

POSSIBLE BOOKS FOR BOOK REPORT

You will find other possibilities in the "For Further Reading" Sections at the end of the each chapter in The Gift of Fire.

- Robert M. Anderson, Robert Perrucci, Dan E. Schendel, and Leon E. Trachtman, Divided Loyalties: Whistle-Blowing at BART, Purdue University, 1980. This book describes the efforts of several engineers to get computer-related safety problems fixed during the construction of the San Francisco Bay Area Rapid Transit System.
- Frederick Bennett, Computers As Tutors: Solving the Crisis in Education, Faben, 1999. Proposals for productive ways to use computers in education (a controversial topic).
- Anne Wells Branscomb, Who Owns Information? Basic Books, 1994.
- Frances Cairncross, The Death of Distance: How the Communications.Revolution Is Changing Our Lives (Harvard Business School Press, 2001).
- Dorothy Denning and Peter Denning, Internet Besieged: Countering Cyberspace Scofflaws (ACM Press, Addison-Wesley, 1998).
- David H. Flaherty, Protecting Privacy in Surveillance Societies, Univ. of North Carolina Press, 1989.
- Bill Gates, The Road Ahead, Viking Press, 1995. Gates made some predictions in this book. How accurate have they been?
- Glyn Moody, Rebel Code: Inside Linux and the Open Source Revolution, Perseus, 2001. Alan Murray, The Wealth of Choices, Crown Business, 2000.
- Alan Murray, The Wealth of Choices (Crown Business, 2000).
- Donald Norman, The Invisible Computer: Why Good Products Can Fail, The Personal Computer Is So Complex, and Information Appliances Are the Solution, MIT Press, 1998.
- Donald Norman, Things That Make Us Smart: Defending Human Attributes in the Age of the Machine, Addison Wesley, 1993.
- Andrew Oram et al., Peer-to-Peer: Harnessing the Power of Disruptive Technologies, O'Reilly, 2001.
- George Orwell, 1984, Orwell's distopian novel in which the totalitarian government controlled the people via ubiquitous telescreens. (Orwell introduced the term "Big Brother" for the government.) Tell how realistic Orwell's view of the future turned out to be. What did he foresee accurately, and what did he miss?
- Douglas S. Robertson, The New Renaissance: Computers and the Next Level of Civilization, 1998.
- Gene Rochlin, Trapped in the Net: The Unanticipated Consequences of Computerization.
- Douglas Schuler, New Community Networks: Wired for Change, Addison-Wesley, 1996.
- Bruce Sterling, The Hacker Crackdown: Law and Disorder on the Electronic Frontier (Bantam Books, 1992).
- Clifford Stoll, The Cuckoo's Egg: Tracking a Spy Through the Maze of Computer Espionage (Doubleday, 1989).
- Charles Sykes, The End of Privacy (St. Martin's Press, 1999)
- Eugene Volokh, Freedom of Speech in Cyberspace from the Listener's Perspective: Private Speech Restrictions, Libel, State Action, Harassment, and Sex (Univ. of Chicago Legal Forum, 1996). You may have to get this from a law library.
- Henry Petroski, To Engineer Is Human: The Role of Failure in Successful Design, St. Martin's Press, 1985. This book is more about engineering in general, not computer systems design, but the principles and lessons carry over. In your report, tell how the book is relevant to computer systems.

- Hubert Dreyfus, What Computers Still Can't Do: A Critique of Artificial Reason, MIT Press, 1992. A report on this book should include some discussion about how well Dreyfus's arguments have held up over the past decade. (Can computers now do some of the things he said they could not do?)
- Ithiel de Sola Pool, Technologies of Freedom, Harvard University Press, 1983. About communications technologies and government policy. Although it's a little old, this book has a lot of relevance to issues about the Internet.
- Ivars Peterson, Fatal Defect: Chasing Killer Computer Bugs, Times Books (Random House), 1995.
- James A. Dorn, ed., The Future of Money in the Information Age, Cato Institute.
- Jeffrey Rosen, The Unwanted Gaze: The Destruction of Privacy in America (Random House, 2000)
- Jerry Mander, In the Absence of the Sacred: The Failure of Technology and the Survival of the Indian Nations, Sierra Club Books, 1991. Mander is a strong critic of technology. Read at least Parts 1 and 2. Parts 3 and 4 are interesting but not much related to this course.
- Jessica Littman, Digital Copyright: Protecting Intellectual Property.on the Internet (Prometheus Books, 2001).
- Joel Kotkin, The New Geography: How the Digital Revolution Is Reshaping the American Landscape, Random House, 2000.
- Joel Mokyr, The Lever of Riches: Technological Creativity and Economic Progress; Oxford University Press, 1990.
- John Naisbitt, Global Paradox: The Bigger the World Economy, the More Powerful Its Smallest Players, William Morrow and Company, 1994.
- Kirkpatrick Sale, Rebels Against the Future: The Luddites and Their War Against the Industrial Revolution: Lessons for the Computer Age, Addison Wesley, 1995. A vehement critic of computers. You can skim the first part of the book, about the original Luddites.
- Lance J. Hoffman, editor, Building In Big Brother: The Cryptographic Policy Debate, Springer Verlag, 1995.
- Linus Torvalds and David Diamond, Just for Fun: The Story of an Accidental Revolutionary, HarperBusiness, 2001.
- Michael Dertouzos, What Will Be: How the New World of Information Will Change Our Lives (HarperEdge, 1997)
- Mike Godwin, Cyber Rights: Defending Free Speech in the Digital Age, Times Books, 1998.
- Neil Gershenfeld, When Things Start to Think, Owl Books, 1999.
- Neil Postman, Technopoly: The Surrender of Culture to Technology, Alfred A. Knopf, 1992. Another critic of technology.
- Peter Denning and Robert Metcalfe, Beyond Calculation: The Next Fifty Years of Computing, Copernicus, 1997.
- Peter Denning, Talking Back to the Machine: Computers and Human Aspiration, 1999.
- Peter J. Denning, ed., The Invisible Future: The Seamless Integration of Technology Into Everyday Life (McGraw Hill, 2001).
- Peter Huber, Law and Disorder in Cyberspace (Oxford Univ. Press, 1997). Criticizes FCC regulation of telecommunications, showing examples where regulations have delayed introduction of new technologies.
- Peter Neumann, Computer-Related Risks, Addison Wesley, 1995. Neumann is the founder and moderator of the comp.risks forum on Usenet.
- Rees, Martin, Our Final Hour, 2004, Discusses the impact of recent technological events on our future society.

- Samuel C. Florman, Blaming Technology: The Irrational Search for Scapegoats, St. Martin's Press, 1981. A report on this book should include some discussion of how his ideas relate to computer issues.
- Scott Shane, Dismantling Utopia: How Information Ended the Soviet Union, I. R. Dee, 1994.
- Stan Liebowitz and Stephen Margolis, Winners, Losers, and Microsoft, Independent Institute, 1999.
- Steven Levy, Crypto: When the Code Rebels Beat the Government---Saving Privacy in the Digital Age, Viking, 2001.
- Steven Levy, Hackers: Heroes of the Computer Revolution, Doubleday, 1984.
- Sven Birkerts, The Guttenberg Elegies: The Fate of Reading in An Electronic Age, Faber and Faber, 1994. Birkerts is a critic of computers; he writes his books on a typewriter.
- Adam Thierer and Clyde Wayne Crews Jr., eds. Who Rules The Net? Internet Governance and Jurisdiction (Cato Institute, 2003)
- Thomas K. Landauer, The Trouble With Computers: Usefulness, Usability, and Productivity, MIT Press, 1995.
- Virginia Postrel, The Future and Its Enemies: The Growing Conflict Over Creativity, Enterprise, and Progress, Free Press, 1998.
- Whitfield Diffie and Susan Landau, Privacy on the Line: The Politics of Wiretapping and Encryption, MIT Press, 1998.
- William Wresch, Disconnected: Haves and Have-Nots in the Information Age, Rutgers Univ. Press, 1996
- Ray Kurzweil, The Singularity is Near: When Humans Transcend Biology, Penguin, 2006.
- Jane Margolis and Alan Fisher, Unlocking the Clubhouse, Women in Computing, MIT
- Press, 2003.
- Jane Margolis, Rachel Estrella, Joanna Goode and Jennifer Jellison Holme, Stuck in the Shallow End: Education, Race, and Computing, MIT Press, 2010.

TERM PAPER

GUIDELINES/SPECIFICATIONS FOR THE TERM PAPER

Investigate the topic. Use articles and/or books, etc., for background. Your project must include some background research and some activity, e.g., **an interview or a site visit**. (If you choose a topic for which you can't think of an appropriate activity, discuss it with me.)

Don't just report. Discuss pros and cons. Evaluate. Use your own words. Quote where appropriate. Give citations for facts and quotes.

The paper should be approximately 4000 words.

Outline for the paper (roughly)

- Cover page with title
- Introduction/overview of topic and issues to be discussed
- Background, description, and/or history of the issue
- Issues, various points of view
- Results of interviews, observations, etc.
- Your comments or evaluation
- Summary

- List of references
- Appendix

Use information and/or quotes from your interview or site visit in the appropriate place(s) within your paper. The Appendix should contain the name, position, and company (or other relevant information) for the person(s) you interviewed or the places you visited. For interviews, include your list of questions and indicate if the interview was in person, by phone, or by e-mail. Include the person's answers. (A summary is acceptable.) If you identify the person fully and quote extensively from the interview in the body of your paper you do not have to include the appendix. The Appendix does not count toward the 4000 word requirement.

The project is to be done this semester. Do not turn in a paper done earlier for another course or for your job.

REQUIREMENTS FOR SUBMITTING YOUR TOPIC SELECTION

Include a title and one or two paragraphs describing what you plan to do. Tell what interviews or site visits you plan. Be specific if you can. Include at least one good reference you plan to use (e.g., a book, an article, a Web site).

There will be a limit on the number of students doing any single topic, so it will be good to have a second topic in mind in case you choose one that has too many people.

PRINTED SUBMISSION FORMAT

You are required to submit this assignment in printed forms. The electronic version should be submitted through the course web site. I will accept PDF's, OpenOffice Documents, Apple Pages and Microsoft Word documents. PDF is the best choice to ensure what I read is formatted the same way you expect it to be. The printed version should be formatted as follows:

- Type written, preferably on a computer
- 1.0" Top, Bottom, Left and Right Margins
- 12 point Times New Roman (or similar) font.
- All text should be double-spaced.
- All pages should be stapled together.
- Only write your name on the back of the last page of the papers.

TIPS FOR INTERVIEWS

- Use ingenuity in choosing and finding interviewees.
- Choose someone in a position to have special knowledge of the topic.
- Don't be afraid of asking well-known people, but be prepared for refusals.
- Start early. It may take time to find someone, schedule interviews, and do follow-up.
- Plan; write up your questions in advance.
- Start with easy questions, getting general information.
- Ask about positive things before asking about problems.
- Take notes so you get details right.
- Be polite.

SOME MORE WARNINGS

Remember what this course is about. Do not hand in papers that are purely factual or historic (e.g., a history of the Internet, a summary of computer technology used in the military). Such papers will not get high scores. You must include discussion of issues.

One of the most common problems with papers is poor organization. Write an outline. Organize your thoughts. You may use section headings to indicate the

topic or purpose of sections of the paper. If you wait until late in the semester to get started, then discovered that most information on the topic is classified or people you want to interview refuse, you will be in dire straits. Start early in case you have to change topics or find a new interviewee or site visit.

Use a variety of sources for information and arguments. If you use articles from the Web, give the URL and the organization sponsoring the site. There's a lot of junk and unsupported opinion on the Web. Pay attention to quality of your sources.

Do not hand in a paper you have not written or in which large segments are copied from other sources. It is dishonest, unfair to your fellow students, and unpleasant for both you and me. Cases of plagiarism will be reported to the appropriate office. Write in your own words. Start working on your project early; talk to me if you are having problems.

- Identify yourself and your project.
- Thank the person.

GRADING CRITERIA

The project is worth 20% of the course grade. A few points will be based on your interview/site visit. Grading criteria include: background or history, presentation of issues and various points of view, interview or other activity, quality of argument and analysis (principles, examples, counterexamples), structure/organization, clarity of writing, sufficient references, sufficient length, and originality. You should define terms where necessary. Be sure to read and edit your final copy before handing it in.

REFERENCES ON WRITING AND RESEARCH

Joseph Williams, **Style: Ten Lessons on Clarity and Grace**.

Gordon Harvey, **Writing With Sources: A Guide for Students** (Hacket, 1998).

Evaluating and Citing Web Sites, www.lib.rochester.edu/ref/webeval.htm

DEADLINES

Tuesday, October 4th	Topic and Interview Selection.
Tuesday November 22nd	Peer Review Workshop Draft Due.
Thursday, December 8th	Final Term Paper due. (I will keep the papers; keep a copy for yourself.)

TERM PAPER TOPIC SUGGESTIONS

Your topic does not have to come from this list. These are suggestions.

Devices to assist people with disabilities.

Report on computer-based technologies that assist people with disabilities. Consider blind people, deaf people, people who use wheelchairs, people with limited use of their hands and arms, etc.

Describe some of the new tools and their impact. Discuss issues such as cost, any problems with these devices, etc. (Focus on newer developments, e.g., devices not mentioned in the textbook.)

Identity theft.

What is the current state of the problem? Describe relevant laws. How have consumers and businesses changed behavior in response to Identity Theft? What technical solutions have developed?

The Global Economy.

What are the roles and impacts of computers and communications technology in the increase of trans-border economic activity (e.g., eBay as a global garage sale; customer service workers in other countries handling U.S. consumer calls; databases to track the origin of a cow with Mad Cow Disease; etc.)? What are the benefits? What are the problems? Is this aspect of increased globalization a good thing for people in the U.S., for people in other countries, for humanity in general?

Identification and biometrics.

A company announced plans to sell an identification chip that is implanted under a person's skin. About the size of a grain of rice, it could contain personal information and emit a radio signal that identifies the person. Discuss beneficial uses, potential problems and abuses, and appropriate guidelines for use of such a chip and other identification technologies, including various biometrics.

Telemedicine.

Describe applications, from remote consultation to remote surgery. Benefits, possible problem areas (privacy, errors, loss of personalized care).

Health information on the Web.

Research and report on Web-based health information sites, including such issues as benefits, reliability of the information, privacy protections, techniques being developed to rate or accredit sites, impact on medical care. Patients of some healthcare providers can access their own records online. Describe an example. How does it affect medical care?

Computerized medical record systems.

Many large HMOs have implemented computerized patient record systems.

Report on one or more such systems, focusing on benefits, privacy risks and protections, how well it is accepted by doctors and staff, and other relevant issues.

Privacy on the Web.

What's happening now? Recent abuses and improvements. Describe and evaluate Web site policies and technical and policy privacy protections provided by the market, and current proposals for government regulations.

Privacy for organizations and businesses.

All our discussion of privacy concerns privacy for people. There have been incidents in which sensitive information that organizations and businesses must provide to government agencies has been made public, intentionally, accidentally, or by leaks. Release of information about fund-raising, sales plans, pricing, members, or customers might aid competitors. Release of information about manufacture of, storage of, and security for certain chemicals could aid terrorists. Report on some cases and discuss reasonable extensions of principles about privacy for organizations and businesses.

Personal data privacy regulations in other countries.

Report on personal data privacy regulations, Web site privacy policies, and law enforcement access to personal data in one or more countries, e.g. the European Union.

Computers in law enforcement.

Issues include benefits to crime fighting, invasion of privacy, problems caused for innocent people because of errors in databases.

Describe cases where the computer system has been very helpful in catching a criminal, and describe cases where it has caused serious problems. An activity for this project could include a ride-along in a police car. (A few students did this in the past and found it very instructive.) Another possible activity is to interview someone who runs or supervises the use of local law enforcement computer systems.

What databases do they access? How do they prevent unauthorized access? Have errors in NCIC been reduced?

Government surveillance of communications.

How are arguments about Echelon and Carnivore affected by the terrorist attacks in 2001?

Technological responses to terrorism.

Describe and evaluate some of the computer-based technologies implemented or expanded after Sept. 11, 2001. (Include, for example, CAPPS II, the program to screen prospective airline passengers.) Consider effectiveness, cost, impact on daily life, air travel, etc., and arguments related to privacy and civil liberties.

Children on the Internet.

There are several problem areas: availability of material not appropriate for children, contact with people who seek to abuse children, and privacy risks from game sites that ask children for extensive personal and family information (for marketing purposes). How serious are these problems? What is being done about them? Evaluate various solutions.

Do benefits for children on the Net outweigh risks? Can we arrange to have the benefits without the risks?

The Global Economy.

What are the roles and impacts of computers and communications technology in the increase of trans-border economic activity (e.g., eBay as a global garage sale;

customer service workers in other countries handling U.S. consumer calls; databases to track the origin of a cow with Mad Cow Disease; etc.)? What are the benefits? What are the problems? Is this aspect of increased globalization a good thing for people in the U.S., for people in other countries, for humanity in general?

Electronic commerce.

Implications for the economy, for privacy, etc. Which industries will benefit? Which will be hurt? How will daily activities be affected? Are there significant social benefits or detriments from electronic commerce? Impact of **RFID**?

Electronic commerce.

There are many more specific topics. For example, Smart Cards: uses, benefits, privacy implications and protections in a particular application or industry. Another example: Several companies are working on technology for micropayments on the Net. What will the impact be (on the structure of businesses, physical store locations, communities, etc.) if we can easily make small purchases on the Net? What are the privacy and security issues?

Automated systems.

Study progress, safety, and social issues related to an automated system such as automated highways and self-driving vehicles.

Safety-critical applications.

Find a local application to study. Or study the Air Traffic Control system, which uses antiquated computers that break down often. Another idea: the Ariane 5 rocket which exploded because of a software problem.

Investigate the safety measures used in software for other rockets.

Nancy Leveson's book _Safeware_ is a good reference.

Use of computers in restaurants.

Investigation and discussion of the issues such as customer service, impact on employment, food safety, ambiance. Visit a restaurant with self-service ordering terminals. Some fast food restaurants use robotic devices for food preparation; report of one. Interview a waiter or restaurant manager.

(This could be part of a paper that looks at the impact of computer automation in two or three industries or consumer services.)

Spam.

Describe and evaluate technical solutions, current legislation and regulation (e.g., the federal CAN-SPAM Act of 2003), and significant proposed legislation. Some people propose that the federal government create a "Do not spam" list, like the "DO not call" list for telemarketers. Discuss privacy problems that could occur with implementation of such a list. Discuss the roles of technical and legislative solutions for spam. Consider the relevance of freedom of speech.

Censorship of the Internet.

Some aspect not covered in the text, or study some issue in more detail.

Some possibilities: filtering Internet terminals in libraries, control of the Net in other countries. (For historical background on libraries: Louise S. Robbins, Censorship and the American Library: The American Library Association's Response to Threats to Intellectual Freedom, 1939-1969, Greenwood Press, 1996.)

Information warfare.

Will the next wars be fought without bombs? Will computer networks and computer-controlled infrastructure be the targets of military hackers? What is happening now? What kind of defenses are possible?

Violence in video/computer games.

What is the impact on children? There haven't been many serious studies yet. You could use studies on the impact of violence on television for background. Interview people who write and publish computer games to find out their policies and views about violent games.

Recent copyright battles for music and movies.

Since A Gift of Fire was published, the music and movie industries have continued to develop new methods to fight copyright infringement of digital media. These include threatening lawsuits against universities and small retailers, uploading damaged files to file-sharing sites, and offering rewards for information about movie-pirating operations. They also include building copy-protection into CDs and so forth and some attempts to sell authorized works on the Web. Report on several recent strategies used by the industries (legal, technological, and business). Evaluate the effectiveness and ethics of the methods. Describe current controversies about digital rights management.

Free software.

What's happening with "free" software? What is the impact of Linux and Apache, for example? What are the implications for consumers? For big companies like Microsoft?

Hacking.

Report on the community of hackers who hack to improve security.

Are their actions responsible and beneficial, or immature and harmful, or both?

Identity theft.

What is the current state of the problem? Describe relevant laws. How have consumers and businesses changed behavior in response to Identity Theft? What technical solutions have developed?

Hacktivism.

Report on specific incidents or organizations engaged in hacktivism.

Compare to civil disobedience and to other kinds of hacking.

Government surveillance of the Internet.

The terrorist attacks on the U.S. in 2001 led to laws reducing restrictions on government surveillance of the Internet. Before that, the Clinton administration proposed massive monitoring of major computer networks by the government to protect their security. Is this a good idea? What are the pro and con arguments?

Are Web issues really new?

Choose two other technologies or innovations, such as radio, telegraph, railroads, or electricity, and find out what ethical, social, and legal issues and controversies arose about them. Compare the problems and issues to current problems and issues about the Web. What solutions developed? How well do those solutions fit the Web?

Green Computing/Computers and the Environment

What is the carbon footprint for distance teamwork versus travel via air? What are the responsibilities of programmers and software engineers with regard to the environment? How much energy does a supercomputer use? How do we dispose of used hardware? How are computers used by nature researchers and organizations? Describe applications that help protect the environment. Describe aspects of computers that cause environmental problems. What do environmentalists think of computers?

e? Is the mining and use of rare earth elements an issue?

Broadening Participation in Computing

What are the statistics? How would we and why would we want to broaden participation in computing? Does diversity really matter? What are others doing about this issue?

Computational Thinking

What is computational thinking? Should every citizen and every worker be trained in computational thinking? What would that look like in the general education of everyone? What would be the benefits and/or disadvantages?

Political activism on the Net.

How has the Internet helped or hurt political groups outside the mainstream? How is it used by major political parties and candidates? What is the impact? How do/should current regulations about political campaigns affect individuals and small organizations that set up Web pages to support/oppose candidates and issues? (Look at the Resources page, Chap. 9, for a useful article.)

Electronic Voting and Internet Voting.

In a few states in the U.S., some people voted in the 2000 presidential primary elections on the Internet. By 2004, several states and countries (e.g., India) began using electronic voting machines. How successful were the first experiments? Will most political elections be held on the Internet in the future? Discuss the problems of maintaining secret ballots, preventing election fraud, and providing for recounts (for both electronic voting machines and Internet voting). What other issues are relevant? How are the states (and other nations) handling these issues?

Use of computers in schools.

How are they used? Are they really helping to teach or to babysit? Visit an elementary school or middle school and observe how computers are used. Interview a teacher and a few students. For background, find some of the many research articles on the effectiveness of computers in education.

Distance learning.

What are the common uses? What will be the impact on universities? On adult education? Is cheating a problem?

Monitoring of employees' Web use and e-mail.

What policies are employers using? Perhaps study a few large businesses in your area. A useful part of a project on e-mail privacy could be collecting and evaluating (or writing) sample policies for different kinds of employers (e.g., for your university, covering students, faculty, and staff, and for a software company in a highly competitive business).

Cyberspace communities.

What makes a "community"? How do cyberspace communities handle decision making, dealing with troublesome members, etc.? Find one community to study in depth, preferably one that you are a member of or have a special interest in. Possibilities: an online game community; the Open Directory Project, etc. (Please respect the community's privacy guidelines and ask permission if quoting members.)

Gender or ethnic issues.

The "Journal of Women and Minorities in Science and Engineering" might have some useful articles for background and ideas for specific projects. There have been several studies of differences in the way men and women use computers. There are many Web sites aimed at women or at specific ethnic minority audiences. You could study the differences and similarities between such sites and the Web in general.

Computing and network access in other countries.

For example, how are computers used in rural, poor areas of Africa? How do politics restrict access in Vietnam? Choose one country to study in depth or compare a few.

Science fiction and prediction.

Find several science fiction stories published at least 30 years ago that are set in the present time or near future and describe computer and communications technologies. Report on how closely their view of the technology corresponds to what is actually available. What social benefits and problems did they anticipate?

What will the world be like 50 years from now?

How will electronic communications and commerce affect the power of centralized governments? Everyday life? What will happen as computers are connected to the human body? Deep Blue beat Garry Kasparov at chess in 1997. Will human intelligence be of less value in the future? Several experts have written books addressing these issues. You could read two or three and evaluate their predictions.

Blogs.

What are they? How and when did they arise? For background, describe Usenet news groups (and perhaps 18th and 19th century newspapers). How are blogs similar to and how do they differ from news groups? Evaluate benefits and weaknesses. Do blogs illustrate empowerment and increased availability of information, or do they illustrate the avalanche of gossip and inaccurate or useless information on the Net?

ACADEMIC INTEGRITY

THIS IS AN ETHICS COURSE!

As such, there will be zero tolerance for plagiarism or any form of academy dishonesty.

- Students are expected to be honest in all academic work. A student's name on any written work shall be regarded as assurance that the work is the result of the student's own thought and study. Work should be stated in the student's own words, properly attributed to its source. Students have an obligation to know how to quote, paraphrase, summarize, or reference the work of others with integrity. The following are examples of academic dishonesty.
    - Using material from published sources (print or electronic) without appropriate citation
    - Claiming disproportionate credit for work not done independently
    - Unauthorized possession or access to exams

  - Unauthorized communication during exams
  - Unauthorized use of another's work or preparing work for another student
  - Taking an exam for another student
  - Altering or attempting to alter grades
  - The use of notes or electronic devices to gain an unauthorized advantage during exams
  - Fabricating or falsifying facts, data or references
  - Facilitating or aiding another's academic dishonesty
  - Submitting the same paper for more than one course without prior approval from the instructors.

- **All work is to be the result of your own individual efforts unless explicitly stated otherwise.** Plagiarism, unauthorized cooperation or any form of cheating will be brought to the attention of the Dean for disciplinary action. **If you have any uncertainties in this area, see the appropriate sections (8.27) of the University Manual.**
- You may discuss homework in a general way with other students, but you may not consult any one else's written work. Sharing of code on programming assignments is a form of academic dishonesty. Any similarity in form or notation between submissions with different authors will be regarded as evidence of academic dishonesty -- **so protect your work.**
- Software piracy will be dealt with exactly like stealing of university or departmental property. Any abuse of computer or software equipment will subject to disciplinary action.

PLAGIARISM

- Plagiarism is a serious academic and professional offense. To avoid plagiarizing, err on the side of documenting too much. Pay special attention to online sources-just because a text is available on the World Wide Web, it is not necessarily public domain or common knowledge. As you read, synthesize ideas, and write, consider the complicated ways knowledge is created and the difficult nature of defining ownership of ideas or combinations of words.
- Of particular importance to your learning experience is the study and analysis of previously established practices, theories, or ideas that may be considered "knowledge." As you study the established scholarship of your field and as you begin to participate in the reading and writing of your profession, you become a member of a discourse community-a group of people who read and write about the same topics. In this professional peer group, you will synthesize, criticize, juxtapose, and otherwise use words and ideas of other authors as a basis analysis and discussion. You will support and create arguments and further contribute to existing knowledge and technology by participating in a continuing conversation or dialectic; others may eventually cite your work as part of this ongoing conversation.
- In your life, you are naturally encouraged to read, write, and test ideas in your discourse community. Part of your responsibility is treating the sources of your information with respect. Reading, studying, and synthesizing a body of knowledge is critical to the learning process. Read all that you can and write copiously, but do so with academic integrity-always cite your sources.
- When conducting research and incorporating others' work into your own projects and papers **you must cite the sources of quotes, paraphrases, summaries, concepts, and ideas that are not distinctly your own**. Knowledge is created when people build on the work of others; the others, however, must be given credit for their contributions. As you incorporate and weave

into your own work the support necessary to creating an effective text-regardless of its purpose or audience-you must cite all sources of your information.

- Acknowledging your sources will benefit not only you, but also everyone concerned. Citing your sources allows you, as an author, to:
    - Acknowledge your dependence on previously established facts and information
    - Take credit for the research and information that belongs to you
    - Invite your readers to evaluate your work
    - Allow your readers to look further at your sources
    - Orchestrate others' ideas and words as a way to learn

- As you embark upon a research project of any kind, reduce your risk of plagiarizing by following good research work habits such as:
    - Taking and keeping good notes
    - Summarizing and paraphrasing appropriately
    - Recording bibliographic information completely and accurately
    - Learning to synthesize thoughts and ideas instead of cutting and pasting
    - Creating a conversation between sources
    - Joining the conversation you are creating
    - Citing both primary and secondary sources
    - Reviewing and critiquing papers in study groups
    - Understanding the line between collaborating and plagiarizing

Further, your instructor may ask to see research work at various stages of its development. With the text as a reference and your instructor's guidance, you will be able to cite outside sources of any type, appropriately.

EXAMPLES OF PLAGIARISM

(Reprinted with permission from Princeton University)
This set of examples provides a range of textual plagiarism from verbatim copying to thorough paraphrasing. The comments that follow the examples offer guidance about how a source may be used and when a source must be cited.

Original source (text)
Alvin Kernan
The Playwright as Magician. New Haven:
Yale University Press, 1979. pp.102-103.

From time to time this submerged or latent theater in Hamlet becomes almost overt. It is close to the surface in Hamlet's pretense of madness, the "antic disposition" he puts on to protect himself and prevent his antagonists from plucking out the heart of his mystery. It is even closer to the surface when Hamlet enters his mother's room and holds up, side by side, the pictures of the two kings, Old Hamlet and Claudius, and proceeds to describe for her the true nature of the choice she has made, presenting truth by means of a show. Similarly, when he leaps into the open grave at Ophelia's funeral, ranting in high heroic terms, he is acting out for Laertes, and perhaps for himself as well, the folly of excessive, melodramatic expressions of grief.

Text example 1
Verbatim plagiarism, or unacknowledged direct quotation
*(lifted passages are in **boldface type**):*

Almost all of Shakespeare's Hamlet can be understood as a play about acting and the theater. For example, there is **Hamlet's pretense of madness, the "antic disposition"** that **he puts on to protect himself and prevent his antagonists from plucking out the heart of his mystery. When Hamlet enters his mother's room,** he **holds up, side by side, the pictures of the two kings, Old Hamlet and Claudius, and proceeds to describe for her the true nature of the choice she has made, presenting truth by means of a show. Similarly, when he leaps into the open grave at Ophelia's funeral, ranting in high heroic terms, he is acting out for Laertes, and perhaps for himself as well, the folly of excessive, melodramatic expressions of grief.**

Comment

Aside from an opening sentence loosely adapted from the original and reworded more simply, this entire passage is taken almost word-for-word from the source. The few small alterations of the source do not relieve the writer of the responsibility to attribute these words to their original author. A passage from a source may be worth quoting at length if it makes a point precisely or elegantly. In such cases, copy the passage exactly, place it in quotation marks, and cite the author.

Text example 2
*Lifting selected passages and phrases without proper acknowledgment (lifted passages are in **boldface type**):*

Almost all of Shakespeare's Hamlet can be understood as a play about acting and the theater. For example, in Act 1, Hamlet adopts a **pretense of madness** that he uses to **protect himself and prevent his antagonists from** discovering his mission to revenge his father's murder. He also presents **truth by means of a show** when he compares the portraits of Gertrude's two husbands in order **to describe for her the true nature of the choice she has made**. And when he leaps in Ophelia's open grave **ranting in high heroic terms**, Hamlet is **acting out the folly of excessive, melodramatic expressions of grief**.

Comment

This passage, in content and structure, is taken wholesale from the source. Although the writer has rewritten much of the paragraph, and fewer phrases are lifted verbatim from the source, this is a clear example of plagiarism. Inserting even short phrases from the source into a new sentence still requires placing quotations around the borrowed words and citing the author. If even one phrase is good enough to borrow, it must be properly set off by quotation marks. In the case above, if the writer had rewritten the entire paragraph and only used Alvin Kernan's phrase "high heroic terms" without properly quoting and acknowledging its source, the writer would have plagiarized.

Text example 3
Paraphrasing the text while maintaining the basic paragraph and sentence structure:

Almost all of Shakespeare's Hamlet can be understood as a play about acting and the theater. For example, in Act 1, Hamlet pretends to be insane in order to make sure his enemies do not discover his mission to revenge his father's murder. The theme is even more obvious when Hamlet compares the pictures of his mother's two husbands to show her what a bad choice she has made, using their images to reveal the truth. Also, when he jumps into Ophelia's grave, hurling his challenge to Laertes, Hamlet demonstrates the foolishness of exaggerated expressions of emotion.

Comment

Almost nothing of Kernan's original language remains in this rewritten paragraph. However the key idea, the choice and order of the examples, and even the basic structure of the original

sentences are all taken from the source. Although it would no longer be necessary to use quotation marks, it would absolutely be necessary to place a citation at the end of this paragraph to acknowledge that the content is not original. Better still would be to acknowledge the author in the text by adding a second sentence such as--"Alvin Kernan provides several examples from the play where these themes become more obvious"--and then citing the source at the end of the paragraph. In the case where the writer did not try to paraphrase the source's sentences quite so closely, but borrowed the main idea and examples from Kernan's book, an acknowledgment would still be necessary.

Social Issues In Computing

CSC 320

Important Dates to Remember

(There will be more as the semester progresses.)

September 27 – Book Selection for Book Report

October 4 – Topic Selectio for Term Paper

October 27 – Book Report Due

November 22 – Peer Review Workshop Draft of Term Paper Due

December 8 – Term Paper Due