The Ohio State University
Dept. Electrical and Computer Engineering

ECE 3080/7080 Ethics in Electrical and Computer Engineering

Final Project: Computer Ethics

Background Information:

There are a multitude of issues that arise in ethics and professionalism as they relate to computers and software. Some of the issues are discussed below, but a good source for more information is the internet. You can do a search yourself, or begin at the homepage for this class where some pointers are provided.

Intellectual Property and Software Theft: You have a friend who always buys the nifty new software and gains significant advantages in his job (or studies) due to this. This friend is willing to "share" the software with you by allowing you to load it on your machine and use it. Should you do this? What if it is only for educational purposes? What if it is for commercial gain? Is it ever acceptable to violate a license agreement on a software package?

Unreliable Computers: Computers are used in a wide variety of applications, not just for, for example, word processing. Computers are used to operate nuclear power plants, chemical processing plants, automobiles brake systems, air traffic control systems, etc. There can be significant consequences if there are computer failures in each of these applications. Is extra attention needed to assure safety for such systems? Can software be exhaustively tested in all cases?

Computer Hype: There are many computer hardware and software products that do not achieve their advertised functions. Moreover, computers and computer software are often marketed using wonderful "buzz words" (e.g., intelligent, turbo, etc.) and in a way that certain capabilities are implied, but not realized in practice (e.g., the capabilities are only present in highly idea situations, not in standard practice). When is this practice acceptable? Is it ever acceptable? What if the competitor is doing the same thing? Note that software products are used in many unforseen ways (e.g., a certain data base program may be used in some application where safety is an issue).

Privacy: With the ever expanding internet and intranets in office environments the issue of computer privacy has arisen. Are your medical records private? Should your insurance company have access to them? Under what conditions? Are your travel records (e.g., on airlines) private? Should law enforcement agencies have access to them? Encryption technologies are used in electronic commerce and other places. Should the government be allowed a "back door" to break these codes (e.g., to montior and prosecute criminal activity)? Under what conditions? Court order? Must companies

who you purchase products from keep your purchasing records private? Can they share them with their subdivisions if they are a large corporation? Who should have access to your credit information and rating? Clearly there are other issues that will arise in privacy as computing technologies become ever more pervasive in our society.

Internet: The internet is increasingly affecting many aspects of our lives. Is there information that can be put on the web that should not be? What constitutes censorship? What is offensive? What information is unprofessional to put on the web? What information is unethical to put on the web?

Assignment:

Your company develops and manufactures computer hardware and software for a wide variety of applications so all the issues mentioned in the last section are of concern to your company in one way or another. Your company is seeking to set policy on the sorts of issues that were discussed in the last section (these issues were specified in a brainstorming session conducted by the CEO). This is to be a policy on what should be done in situations such as those listed in the last section. Due to your broad technical knowledge on company products and its applications you have been asked to join a team that will write a draft policy for consideration by the CEO and top executives.

You have, in particular, been assigned to a team (to be comprised of no more than 4 people due to limited resources) that will analyze the professional and ethical aspects of computing technologies and write a document entitled:

"Computer Ethics"

and you must include in your document:

- A list of ethical and professional issues that may arise in developing and selling computing technologies. Be sure to use the library and internet to *expand* on items given in the last section; the CEO's group is not confident that it has identified all the relevant issues and would like to get a sense that all the possible issues have been uncovered by your team.
- The policy of your company on each of these issues.
- An organizational structure and set of procedures for bringing complaints to the company about violations to company policy (and include a set of guidelines on when "whistle-blowing," as defined in your textbook, would be acceptable)

You will type your report and will submit it as a team. Also, and the CEO wants to know how much each team member contributed so include, on the title sheet, your team-member names and the percentage contribution of each team member.

Due Date: Last day of class, at the beginning of class.