Announcements

- Read PSpice tutorial on web site.
- Lab make-up procedure.
- Lunch Wednesday @ 12:00 with Sec. 9-10 - meet in War Eagle Cafeteria.
- Sept 27 4:00pm Broun 238: Harris Corp (Barbecue House will provide food afterward)
- Put Section # on quiz!

Who is Shawn Fanning?

- As a 17-year-old college dropout, Fanning wrote the Napster utility in three months.
- Napster provided a directory of servers that were willing to share MP3 files.
- Napster enabled users to swap MP3 files directly using a peer-to-peer connection over the Internet.

Is This Unethical?

- The Recording Industry Association of America (RIAA) claimed that Napster enabled people to violate copyright laws and was therefore illegal.
- Napster claimed that it could not control how people used the software. It was intended only for legal sharing of music.

Ethical Issues

- Did Shawn Fanning act unethically by writing and distributing Napster, knowing that it would be used for illegal activities?
- Are we acting unethically if we use Napster-like systems to share copyrighted music?

Ethics vs. Laws

- Section 1008 of the Audio Home Recording Act of 1992 gives copiers immunity from copyright infringement action if they copy using a home recording device rather than professional reproduction equipment.
- Does this make it right to copy?

Ethics

- Ethical behavior and training are an essential part of good engineering.
- AU ECE Program Objective #5:
  “Foster within our graduates the development of an appreciation of and understanding for the need to maintain the highest ethical standards in their personal and professional lives.”
- PHIL 1040 Business Ethics required in ECE
Ethics

- ABET Accreditation Criterion:
  - Engineering programs must demonstrate that their graduates have:
    - (f) an understanding of professional and ethical responsibility

Why Essential to Engineering?

- Engineering involves solving problems within a set of constraints -- time, cost, market, etc.
  - One constraint is legal and regulatory
  - Another constraint is ethical or moral.
    - Even if an action is legal, it may not be moral or ethical

What Is the Source of Ethical Principles?

- Strangely, this question is rarely ever asked in ethical discussions.
- However, when we get into tight ethical dilemmas, we need an answer that won’t allow us to conveniently move the boundaries.

Typical Answers

- Evolutionary pressure -- deeply intuitive rules of behavior have evolved over time.
- Social contract -- as a culture we have developed a certain understanding among ourselves of what is acceptable and unacceptable.
- God -- our standards are based on standards given to us by a Creator God.

Ethical Principles

- There is great consensus on the principles even if there is disagreement about the source. For example:
  - Obey the law.
  - Respect property rights of others, including intellectual property.
  - Do not subject others to extreme, uninformed risks.
  - Tell the truth.

Personal and Professional Ethics

- “the need to maintain the highest ethical standards in their personal and professional lives.”
  - Personal and professional ethics are inseparably tied together.
    - Many professional ethical principles must be implemented without public scrutiny and in the face of potential personal sacrifice.
Personal Ethics

- Convenience lying
- Recreational theft
- Lack of self-control in pleasure-seeking
- Cheating, plagiarism, forging an excuse
- Lack of integrity in personal relationships

“Men do not despise a thief if he steals to satisfy himself when he is hungry” -- Proverbs

Professional Ethics

- Rooted in personal ethics.
- HOWEVER, more than just being a “nice guy”.
  - Applying ethical principles to engineering practice is not always straightforward.
  - Conflicts of interest.
  - Professional expectations.

IEEE Code of Ethics

We agree:
1 to accept responsibility in making engineering decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;
2 to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;

IEEE Code of Ethics -- cont.

3 to be honest and realistic in stating claims or estimates based on available data;
4 to reject bribery in all its forms;
5 to improve the understanding of technology, its appropriate application, and potential consequences;

IEEE Code of Ethics -- cont.

6 to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;
7 to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;

IEEE Code of Ethics -- cont.

8 to treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;
9 to avoid injuring others, their property, reputation, or employment by false or malicious action;
10 to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.
Ethics Quick Test

- Is the action legal?
- Does the action comply with the values of your company?
- Will it violate your personal standards of conduct?
- If you do it, will it make you feel bad?
- How will it look in the newspaper?

Case Study

Engineer A is retained by Client to investigate a building project and serve as an expert witness in litigation due to alleged design defects by Engineer B. He investigates without contacting Engineer B. The report advises Client E on how to reconstruct the alleged deficiencies that Engineer A alleges to have taken place. Later, Client E requests Engineer A to submit a proposal for the correction of the alleged design defects by Engineer B. Engineer A agrees to submit a proposal.

Case Study

Questions:
1. Was it ethical for Engineer A, without notifying Engineer B, to submit the design deficiency report?
2. Was it ethical for Engineer A to then submit a proposal to correct the alleged design defects by Engineer B?

Case Study

Conclusions:
1. It was not ethical for Engineer A to submit the design deficiency report without notifying Engineer B who had not been terminated.
2. Since Engineer A did not notify Engineer B, it was not ethical for Engineer A to submit a proposal to correct the alleged design defects by Engineer B.

Case Study

Engineer A is a civil and environmental engineering consultant for public and private clients. When initially meeting with clients, he explains that in an effort to fulfill his obligation as a faithful agent and trustee to the client, the client should be advised that should Engineer A discover a danger to the public health and safety, he has an ethical obligation to report such violations of the law and, therefore, the client "should exercise judgment and discretion when providing information to him or making him aware of facts and circumstances that could involve a violation of the law."

Case Study

Question:
- Was it ethical for Engineer A to advise the client in the manner described?
Case Study

Conclusion:
- It was ethical for Engineer A to advise the client in the manner described.

Reeves on Ethics

- 12:30 Thursday, December 2
- Optional lecture
- Get the “Reader’s Digest” version of an ethics class in 50 minutes or less.
- Solve all your ethical dilemmas!
- Find out what’s right and wrong with the various ethical systems.
- Learn more about where ethics come from.