Why Ethics in Computer Science?

Recipe for Disaster:
Computing without Ethics

1/22/2018
1986: The Chernobyl Lesson

This was no accident!

Modern disaster lesson:

• Highly intelligent engineers and scientists
• Advanced technologies
• Unethical decisions

What do we mean by ethics?

Study of human morality - determining values in human conduct

Deciding the “right thing to do” - based upon a set of norms

In computing:

  dealing with colleagues
  dealing with clients
  dealing with “users’
  dealing with public
Why Focus on Ethics?

- Raise awareness - ethics radar
- Make decisions – make the right choice
- Take action – do the right thing
- Personal integrity and self-respect
- #1 element of professional reputation
- HIGH ETHICS -> HIGH PROFITS

3 Ethical “What’s”

What? situation
So What? impact
Now What? reaction

Awareness Analysis Action
The 1971 Ford Pinto Case

US auto manufacturers under pressure to compete with Japanese and German automakers. 
**Ford’s goal: car under 2,000 pounds and under $2,000.** Completed from conception to production in 25 months – fastest cycle in automotive history. No decisions that threatened the delivery schedule were allowed.

During crash tests which proceeded the introduction of the Pinto to the public, a serious design flaw was discovered. The gas tank was so designed that when it was involved in a rear end collision at an impact speed of 20 MPH or greater, the tank was apt to rupture, causing a fire and explosion.

**Following crash tests, the conclusion was that the rear end structure was not satisfactory.** Suggested changes would have cost about $11 per car.

A confidential company memo directed that the safety features not be adopted at that time until required by law.

ECONOMICS OR ETHICS ???

Analysis of an Ethical Quandry

1. Who are the “stakeholders?”
2. What are the KEY statements (clues) in the problem?
3. What are the legal considerations?
4. What are the possible actions to be taken? (generate options)
5. Is there a clearly “right” action to be taken? (evaluate options)
So Why Bother With Ethics??

- Special knowledge
- Involved in decision-making
- Computing pervades society

BOTTOM LINE: CS professionals are more apt to get into trouble as a result of a failure to properly anticipate and handle ethical issues rather than as a result of traditional computing problems!

Goals for CS 2501

- Introduction and analysis of the ethical issues of the technological age.
- Ethical principles and skills and social analysis skills needed to evaluate future consequences of the design and implementation of complex computer systems.
- Application of professional ethics codes in decision-making in professional practice.
- Preparing computer professionals who can make the right decisions in the future!
Ethics will be THE issue of the 21st Century

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- Advanced technologies
- Unethical decisions

Remember Chernobyl, Challenger, Robert Morris computer virus, Mars lander.....