Computer Professionals’ Responsibilities

Ethics

- Professional Ethics
  - Categories:
    - Medical,
    - Legal,
    - Accounting,
    - Computer,
    - …and more.

  Q: What are the special responsibilities of these professionals?

Ethics

- Computer Ethics
  - Special Responsibilities Facing Computer Professionals and Users
    - Maintaining relationships with and responsibilities toward customers, clients, coworkers, employees, and employers.
    - Making critical decisions that have significant consequences for many people.
    - Determining how to manage, select, or use computer hardware and software in a professional setting.
Ethics

“Do the Right Thing”

- Behaving Ethically Includes:
  - Being honest.
  - Keeping promises.
  - Doing your job well.
  - Not stealing.

Q: What other behaviors are usually considered “doing the right thing?”

Ethics

- There is no formula to solve ethical problems.
- The computer professional must consider trade-offs.

Ethics

- Some Important Distinctions
  - Right, Wrong, and Okay: acts may be ethically obligatory, ethically prohibited, or ethically acceptable.
  - Negative rights (liberties): the right to act without coercive interference.
  - Positive rights (claim-rights): imposing an obligation on some people to provide certain things.
  - Causing harm: some acts may cause harm to others but are not necessarily unethical.
Ethics

- Some Important Distinctions (cont’d)
  - Goals vs. actions: the actions we take to achieve our goals should be consistent with our ethical constraints.
  - Personal preference vs. ethics: some issues we disapprove of because of our dislikes, rather than on ethical grounds.
  - Law vs. ethics: some acts are legal, but unethical (Are there acts that are ethical but illegal?)

Ethical Guidelines for Computer Professionals

Guidelines and Professional Responsibilities:

- Understand what success means
- Include users (such as medical staff, technicians, pilots, office workers) in the design and testing stages to provide safe and useful systems
- Do a thorough, careful job when planning and scheduling a project and when writing bids or contracts
- Design for real users and be inclusive

Ethical Guidelines for Computer . . . (cont.)

Guidelines and Professional Responsibilities (cont.):

- Don’t assume existing software is safe or correct; review and test it
- Be open and honest about capabilities, safety, and limitations of software
- Require a convincing case for safety
- Pay attention to defaults
- Develop communication skills
Analyzing Ethical Scenarios

- **Brainstorming phase**
  - List risks, issues, problems, consequences.
  - List all the stakeholders.
  - List possible actions.

- **Analysis phase**
  - Identify the responsibilities of the decision-maker.
  - Identify the rights of stakeholders.
  - Consider the impact of the action options on the stakeholders.
  - Find sections in codes of ethics that apply. Categorize each potential action or response as ethically obligatory, ethically prohibited, or ethically acceptable.
  - Consider the ethical merits of each option and select one.

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**Scenarios**

**Scenario 1:**

- Your company is developing a free e-mail service that will include targeted advertising based on the content of the e-mail messages (similar to Google’s Gmail). You are part of the team designing the system. What are your ethical responsibilities?

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**Scenario 2:**

- You are a relatively junior programmer working on modules that collect data from loan application forms and convert them to formats required by the parts of the program that evaluate the applications. You find that some demographic data are missing from some forms, particularly race and age. What should your program do? What should you do?
Scenarios

Scenario 3:
- Your company has 25 licenses for a computer program, but you discover that it has been copied onto 80 computers. What do you do?

Scenario 4:
- Suppose you are a member of a team working on a computer-controlled crash avoidance system for automobiles. You think the system has a flaw that could endanger people. The project manager does not seem concerned and expects to announce completion of the project soon. Do you have an ethical obligation to do something?

Scenario 5:
- You work for the IRS, the Social Security Administration, a movie-rental company, or an Internet service provider. Someone asks you to get a copy of records about a particular person. He will pay you $500. What do you do?
Scenarios

Scenario 6:
- You have a small consulting business. The CyberStuff company plans to buy software to run a new collaborative content-sharing Web site. CyberStuff wants to hire you to evaluate bids from vendors. Your spouse works for NetWorkx and did most of the work in writing the bid that NetWorkx plans to submit. You read the bid while your spouse was working on it and you think it is excellent. Do you tell CyberStuff about your spouse’s connection with NetWorkx?

Scenario 7:
- A team of programmers is developing a communications system for firefighters to use when fighting a fire. Firefighters will be able to communicate with each other, with supervisors near the scene, and with other emergency personnel. The programmers will test the system in a field near the company office. What is the ethical issue?

Scenario 8:
- You are the computer system administrator for a mid-sized company. You can monitor the company network from home, and you frequently work from home. Your niece, a college student, is visiting for a week. She asks to use your computer to check her e-mail. Sure, you say. You are being a gracious host. What is the ethical problem?
Ethics in Professional Organizations

Special Ethical Responsibilities of Professionals
- Most people don’t have much knowledge of a professional field (computer science, medicine) - thus, problems can surreptitiously have a great impact
- Huge numbers of people can be affected, including being victims
- Responsibility to employer as well as to society
- Accuracy about capabilities and reliability
- Proper training of users

ACM Code of Ethics

Summary of ACM Code of Ethics

1. GENERAL MORAL IMPERATIVES

As an ACM member I will ....
1.1 Contribute to society and human well-being.
1.2 Avoid harm to others.
1.3 Be honest and trustworthy.
1.4 Be fair and take action not to discriminate.
1.5 Honor property rights including copyrights and patent.
1.6 Give proper credit for intellectual property.
1.7 Respect the privacy of others.
1.8 Honor confidentiality.
Summary of ACM Code of Ethics

2. MORE SPECIFIC PROFESSIONAL RESPONSIBILITIES

As an ACM computing professional I will ....
- 2.1 Strive to achieve the highest quality, effectiveness and dignity in both the process and products of professional work.
- 2.2 Acquire and maintain professional competence.
- 2.3 Know and respect existing laws pertaining to professional work.
- 2.4 Accept and provide appropriate professional review.
- 2.5 Give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks.
- 2.6 Honor contracts, agreements, and assigned responsibilities.
- 2.7 Improve public understanding of computing and its consequences.
- 2.8 Access computing and communication resources only when authorized to do so.

3. ORGANIZATIONAL LEADERSHIP IMPERATIVES

As an ACM member and an organizational leader, I will ....
- 3.1 Articulate social responsibilities of members of an organizational unit and encourage full acceptance of those responsibilities.
- 3.2 Manage personnel and resources to design and build information systems that enhance the quality of working life.
- 3.3 Acknowledge and support proper and authorized uses of an organization's computing and communication resources.
- 3.4 Ensure that users and those who will be affected by a system have their needs clearly articulated during the assessment and design of requirements; later the system must be validated to meet requirements.
- 3.5 Articulate and support policies that protect the dignity of users and others affected by a computing system.
- 3.6 Create opportunities for members of the organization to learn the principles and limitations of computer systems.

4. COMPLIANCE WITH THE CODE

As an ACM member I will ....
- 4.1 Uphold and promote the principles of this Code.
- 4.2 Treat violations of this code as inconsistent with membership in the ACM.