

10 Professional Ethics and Responsibilities

10.1 Ethics

10.1.1 What Is “Computer Ethics”?

The scope of the term “computer ethics” varies considerably. Some people include such issues as the universal-access issue, the environmental impact of computers, the impact of computers on employment, whether to sell computers to totalitarian governments, and the use of computers by the military.

“Computer ethics” is most usefully defined more narrowly as a category of professional ethics, similar to medical, legal, and accounting ethics.

Computer ethics includes ethical issues faced by a computer professional as part of the job. It includes relationships with and responsibilities toward consumers, clients, coworkers, employees, employers, others who use one’s products, and others whom they affect.

What if your company is about to deliver a computer system to a customer and you believe it still has serious bugs? What if your supervisor asks you to make unauthorized copies of copyrighted software? Is it right to hire foreign programmers who work at low salaries? What if you are assigned to a job for a client whose business you find objectionable?

Suppose you are a manager and discover that many of your employees are spending a lot of time visiting sports, stock, and entertainment Web sites while at work. Will you install monitoring software. Will you inform employees first? You are confronting practical and legal issues—and ethical ones.

There are special aspects making ethical decisions in a professional context, but the decisions are fundamentally based on general ethical principles and theories.

10.1.2 What Is Ethics, Anyway?

Ethics is the study of what it means to “do the right thing.” It is a complex subject that has occupied philosophers for thousands of years.

Free choice and use of rational judgment are capacities and characteristics of human beings, and they are reasonably assumed as the basis of ethical theory. We take the view that the individual is, in most circumstances, responsible for his or her actions.

Most ethical theories attempt to achieve the same goal: to enhance human dignity, peace, happiness, and well-being. Ethical rules apply to all of us and are intended to achieve good results for people in general, and for situations in general.

We could view ethical rules as fundamental and universal, like laws of science, or we could view them as rules we make up, to provide a framework in which to interact with other people in a peaceful, productive way.

If ethical rules are good ones, they work for people; that is, they make our lives better. Behaving ethically is often practical.

Doing good ethically often corresponds closely with good business in the sense that ethically developed products are more likely to please consumers.

Courage in a professional setting could mean admitting to a customer that your program is faulty, declining a job for which you are not qualified, or speaking out when you see someone else doing something wrong.

10.1.3 A Variety of Ethical Views

A distinction between ethical theories that view certain acts as good or bad because of some intrinsic aspect of the action and ethical theories that view acts as good or bad because of their consequences. They call these deontological and consequentialist theories, respectively.

DEONTOLOGICAL THEORIES

Immanuel Kant: We should follow rules of behavior that we can universally apply to everyone.

Kant believed that rationality is the standard of what is good.

One must never treat people as merely means to ends, but rather as ends in themselves.

Kant took an extreme position on the absolutism of ethical rules.

UTILITARIANISM

Utilitarianism is the main example of a consequentialist theory. Its guiding principle is to increase happiness, or “utility.”

We should consider the consequences—the benefits and damages to all affected people—and “calculate” the change in aggregate utility. An act is right if it tends to increase aggregate utility and wrong if it tends to decrease it.

A fundamental objection to act-utilitarianism is that it does not recognize or respect individual rights.

NATURAL RIGHTS

This approach views ethical behavior as acting in such a way that respects a set of fundamental rights of others, including the rights to life, liberty, and property.

NO SIMPLE ANSWERS

We cannot solve ethical problems by applying a formula or algorithm. Human behavior and real human situations are complex. There are often trade-offs to consider. Ethical theories do not provide clear, incontrovertibly correct positions on most issues.

Although ethical theories do not completely settle difficult, controversial issues, they help to identify important principles or guidelines.

There is much merit in Kant's principle of universalism and his emphasis on treating people as intrinsically valuable "ends," in utilitarianism's consideration of consequences and its standard of increasing achievement of people's happiness, and in the natural-rights approach of setting minimal rules in a rights framework to guarantee people a sphere in which they can act according to their own values and judgment.

10.1.4 Some Important Distinctions

RIGHT, WRONG, AND OKAY

It is misleading to divide all acts into two categories, ethically right and ethically wrong. Rather, it is better to think of acts as either ethically right and ethically wrong. Rather, it is better to think of acts as either ethically obligatory, ethically prohibited, or ethically acceptable.

NEGATIVE AND POSITIVE RIGHTS, OR LIBERTIES AND CLAIM-RIGHTS

Negative rights, or liberties, are rights to act without coercive interference. Claim-rights, or positive rights, are rights that impose an obligation on some people to provide certain things for others.

DISTINGUISHING WRONG AND HARM

Carelessly and needlessly causing harm is wrong, but it is important to remember that harm alone is not a sufficient criterion to determine that an act is unethical.

SEPARATING GOALS FROM CONSTRAINTS

Economist Milton Friedman has written that the goal or responsibility of a business is to make a profit for its shareholders.

There is nothing unethical about a business having the goal of maximizing profits. The ethical character of the company depends on whether the actions taken to achieve the goal are consistent with ethical constraints.

PERSONAL PREFERENCE AND ETHICS

It is a good idea to try to distinguish between actions we find distasteful, rude, or ill-advised and actions that we can argue convincingly are ethically wrong.

LAW AND ETHICS

What is the connection between law and ethics? Very little.

Ethics precedes law in the sense that ethical principles help determine whether or not we should pass specific laws.

Many laws fall into a category that is not intended to implement ethical rules.

Examples include the laws that delayed the introduction of cable television laws, sponsored by the dairy industry when margarine was first introduced, against coloring margarine yellow to look more like butter.

Are we ethically obligated to obey a law just because it is a law?

Is it always ethically right to do something that is legal?

Ethics fills the gap between the time when technology creates new problems and the time when reasonable laws are passed.

While it is not ethically obligatory to obey all laws, that is not an excuse to ignore laws, nor is a law (or lack of a law) an excuse to ignore ethics.

10.2 Ethical Guidelines for Computer Professionals

10.2.1 Special Aspects of Professional Ethics

The professional is an expert in a field, be it computer science or medicine, that most customers know little about.

The products of many professionals profoundly affect large numbers of people.

Computer professionals have special responsibilities not only to their customers, but also to the general public.

Professional responsibility includes knowing or learning enough about the application field to do a good job.

10.2.2 Professional Codes, Guidelines, and Responsibilities

PROFESSIONAL CODES OF ETHICS

Codes of professional conduct provide valuable guidance for new or young members of the profession who want to behave ethically but do not know what is expected of them.

The Codes emphasize the basic ethical values of honesty and fairness. They cover many aspects of professional behavior, including the responsibility to respect confidentiality, maintain professional behavior, maintain professional competence, be aware of relevant laws, and honor contracts and agreements.

They stress the responsibility to respect and protect privacy, avoid harm to others, and respect property rights.

SOME GUIDELINES

Understand what success means

Include users 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.

Don't assume existing software is safe.
(Recall the Therac-25 and Ariane 5).

Be open and honest about capabilities, safety, and limitations of software.
For medical diagnosis or investment planning, for example.

Require a convincing case for safety.

10.3 Cases

How shall we analyze specific scenarios? We can try to apply our favorite ethical theory, or some combination of the theories. We can ask questions that reflect basic ethical values: Is it honest? Is it responsible? Does it violate an agreement we made? Ethical theories and guidelines might conflict.

Discussions of the cases will usually include most of these elements:

1. Brainstorming phase

- List risks, issues, problems, consequences.
- List all the people and organizations affected. (They are generally referred to as the *stakeholders*.)
- In cases where there is not a simple yes-or-no decision, but rather one has to choose some action, list possible actions.

2. Analysis phase

- Identify responsibilities of the decision maker. (Consider responsibilities of both general ethics and professional ethics.)
- Identify rights of stakeholders. (It might be helpful to clarify whether they are negative or positive rights.)
- Consider the impact of the action options on the stakeholders. Analyze consequences, risks, benefits, harms, costs for each action considered.
- Find sections of the Software Engineering Code or the ACM Code that apply. Consider the guidelines in Section 10.2.2. Consider Kant's and Mill's approaches. Then, categorize each potential action or response as ethically obligatory, ethically prohibited, or ethically acceptable.

- If there are several ethically acceptable options, select an option, considering the ethical merits of each, courtesy to others, practicality, self-interest, personal preferences, and so on. (In some cases, plan a sequence of actions, depending on the response to each.)