Ethics, Technology and Value

The word “ethics” comes from an ancient Greek word *eché*, which means character. Every human society, whether civilized or primitive practices ethics because every society attaches a value on an individual’s actions, on a continuum of good to bad, right to wrong, according to where that individual’s actions fall within the domain of that society’s rules and canons.

Ethics helps us not only in distinguishing between right and wrong, but also in knowing why and on what grounds our judgment of human actions is justified.

Ethics, therefore, is a field of inquiry whose subject is human actions, collectively called human conduct, which are performed consciously, willfully, and for which one can be held responsible. These acts must have knowledge that signifies the presence of a motive, voluntariness to signify that it is willed, and freedom to signify the presence of free choice to act or not to act.

The purpose of ethics is to interpret human conduct, acknowledging and distinguishing between right and wrong. The interpretation is done based a system. This system uses a process of argumentation consisting of a mixture of induction and deductions. In most cases, these arguments are based on historical schools of thought called ethical theories. **\*Covered in Chapter 2 \_Ethics Theory\***

# Code of Ethics

The main domains in which ethics is defined are governed by a particular and definitive regiment of rules called “codes of ethics.” These rules, guidelines, canons, advisories are usually followed by members of the respective domains. Depending on the domain, ethical codes can take any of the following forms:

1. Principles, which may act as guidelines, references, or bases for some document.
2. Public policies, which may include aspects of acceptable behavior, norms, and practices of a society or group.
3. Codes of conduct, which may include ethical principles
4. Legal instruments, which enforce good conduct through courts.

Use of codes of ethics is still limited to professions and high-visibility institutions and businesses; there is a growing movement toward widespread use **(TUK has one for Students?)** The wording, content, and target of many codes differ greatly. Some codes are written purposely for the public; others are targeting employees, and yet others are for professionals only.

An Example: Association of Computing Machinery

What is the ACM code of ethics? The Association for Computing Machinery (ACM) is the world's largest educational and scientific computing society. It has its own Code of Ethics and another set of ethical principles that were also approved by the IEEE as the standard for teaching and practicing software engineering.

<https://www.acm.org/about-acm/acm-code-of-ethics-and-professional-conduct#CONTENTS>to see the code of Ethics for ACM in details. *Association of Computing Machinery*

(ACM) Code of Ethics and Professional Conduct

On October 16, 1992, ACM’s Executive Council voted to adopt a revised Code of Ethics. The following imperatives and explanatory guidelines were proposed to supplement the Code as contained in the new ACM Bylaw 17.

Preamble

Commitment to ethical professional conduct is expected of every member (voting members, associate members, and student members) of the Association for Computing Machinery (ACM). This Code, consisting of 24 imperatives formulated as statements of personal responsibility, identifies the elements of such a commitment. It contains many, but not all, issues professionals are likely to face. Section 1 outlines fundamental ethical considerations, while Section 2 addresses additional, more specific considerations of professional conduct. Statements in Section 3 pertain more specifically to individuals who have a leadership role, whether in the work place or in a volunteer capacity, for example with organizations such as ACM. Principles involving compliance with this Code are given in Section 4.

The Code is supplemented by a set of Guidelines, which provide explanation to assist members in dealing with the various issues contained in the Code. It is expected that the guidelines will be changed more frequently than the Code.

The Code and its supplemented Guidelines are intended to serve as a basis for ethical decision making in the conduct of professional work.

Second, they may serve as a basis for judging the merit of a formal complaint pertaining to violation of professional ethical standards.

It should be noted that although computing is not mentioned in the moral imperatives section, the Code is connected with how these fundamental imperatives apply to one’s conduct as a computing professional. These imperatives are expressed in a general form to emphasize that ethical principles which apply to computer ethics are derived from more general ethical principles. It is understood that some words and phrases in a code of ethics are subject to varying interpretations, and that any ethical principle may conflict with other ethical principles in specific situations. Questions related to ethical conflicts can best be answered by thoughtful consideration of fundamental principles, rather than reliance on detailed regulations.

1. GENERAL MORAL IMPERATIVES

As an ACM member I will . . .

* 1. Contribute to society and human well-being.
  2. Avoid harm to others.
  3. Be honest and trustworthy.
  4. Be fair and take action not to discriminate.
  5. Honor property rights including copyrights and patents.
  6. Give proper credit for intellectual property.
  7. Respect the privacy of others.
  8. Honor confidentiality.

1. MORE SPECIFIC PROFESSIONAL RESPONSIBILITIES

As an ACM computing professional I will . . .

* 1. Strive to achieve the highest quality, effectiveness, and dignity in both the process and products of professional work.
  2. Acquire and maintain professional competence.
  3. Know and respect existing laws pertaining to professional work.
  4. Accept and provide appropriate professional review.
  5. Give comprehensive and thorough evaluations of computer systems and their impacts including analysis of possible risks.
  6. Honor contracts, agreements, and assigned responsibilities.
  7. Improve public understanding of computing and its consequences.
  8. Access computing and communication resources only when authorized to do so.

1. ORGANIZATIONAL LEADERSHIP IMPERATIVES

As an ACM member and an organizational leader, I will . . .

* 1. Articulate social responsibilities of members of an organizational unit and encourage full acceptance of those responsibilities.
  2. Manage personnel and resources to design and build information systems that enhance the quality of working life.
  3. Acknowledge and support proper and authorized uses of an organization’s computing and communications resources.
  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.
  5. Articulate and support policies that protect the dignity of users and others affected by a computing system.
  6. Create opportunities for members of the organization to learn the principles and limitations of computer systems.

1. COMPLIANCE WITH THE CODE

As an ACM member, I will . . .

* 1. Uphold and promote the principles of this Code.
  2. Treat violations of this code as inconsistent with membership in the ACM.

## Objectives o f C o d e s o f E t h i c s

Different domains and groups of people formulate different codes of ethics, but they all have among them the following objectives:

1. Disciplinary: By instilling discipline, the group or profession ensures professionalism and integrity of its members.
2. Advisory: The codes are usually a good source of tips to members and offer advice and guidance in areas where there are fuzzy moral issues.
3. Educational: Ethical codes are good educational tools for members of the domain, especially the new ones who have to learn the do’s and don’ts of the new profession. These codes are also a good source of renewal for the older members needing to refresh and polish their possibly waning morals.
4. Inspirational: Besides being disciplinary, advisory, and educational, the codes should also carry subliminal messages to those using them to inspire them to be “good.”
5. Publicity: One way for professions to create a good clientele is to show that they have a strong code of ethics and, therefore, their members are committed to basic values and are responsible.

**REFLECTIONS ON COMPUTER ETHICS**

## C h a n g i n g P re m i s e s

Although it is true that the outcome of the ethics value function remains the same, the domain set itself has changed and will keep changing. The number of input possibilities for every human action keeps on growing with new advances in computer technology. For example, take the act of forgery, which traditionally involves taking somebody’s document, making changes to it, and getting a benefit as a result. Suppose the document is a cheque. Let us also assume, all other acts notwithstanding, that you have the document in your hand, in this case the cheque. Traditionally, your inputs were limited to making changes to the signature and probably changing the date, and cashing it meant literally walking to the financial institution either to deposit it or asking the teller to cash it after producing identification. Although these acts are still possible and readily accepted, new and cleverer ways have emerged as computer technology has advanced. They range from scanning the cheque to electronically reproducing almost an original cheque, to cashing it or depositing it without ever stepping in any financial institution, even in the late hours of the night. All these offerings were of course unheard of just a few years back, but they are giving thieves more ways to do their job and making it very difficult for financial institutions and law enforcement agents to do theirs.

## D i f f e re n t Te m p t a t i o n s

In traditional ethics there were few temptations prompting unethical actions but computer technology has generated many more temptations for each input action. Seven of these new temptations:

1. Speed: The speed of gathering information has greatly increased, causing unethical actions to be carried out in shorter times, thus decreasing the chances of detection. When the chances of being caught are slim, many perpetuators think that they can get away with it.
2. Privacy and anonymity: The great availability of computers and computer- related technology in less visible places like people’s homes; high, cheap and fast communication equipment; and software that can guarantee anonymity are creating a highly tempting environment for unethical acts.
3. Nature of medium: The ability to copy digital data without erasing or altering the original in any way causes little or no suspicion and hence encourages unethical activities.
4. Aesthetic attraction: Technology, especially when it is new, seems to offer challenges to those who try to use it. Thus, there is a sigh of relief and a sign of great achievement if one overcomes a technological obstacle. In the same way, if an intruder tries to break into a computer system, the sign of success and the euphoria thereafter overshadows the incivility of the act itself.
5. Increased availability of potential victims: With the widespread use of computers and the ever-widening reach of computer networks, an individual can now reach an unprecedented audience. This in itself creates an urge to attempt things that one would otherwise not have done.
6. International scope: The boundary less nature of many computer networks, including the Internet, has created a temptation of its own. Now the entire world is well within reach by a touch of a button. This can tempt many intruders, many trying to circumvent their country’s laws, and others thinking that an illegal act done in another country cannot be prosecuted in their own country. There are lots of temptations here.
7. The power to destroy: Computers seem to give this enormous invisible power to those who have them. This seemingly omniscient power may be a temptation to some.

Although some of these temptations can still be found in the set of the old temptations, most of them are new.

## D i f f e re n t M e a n s o f D e l i v e r y

What used to be the traditional means of carrying out an act like stealing has changed. With the expanded set of outcome possibilities comes expanded delivery system for the crime. For example, let us go back to the cheque. The traditional way of cashing a cheque was to go to the bank. With computers facilitating new ways of banking, you can get your cheque cashed without ever visiting the bank, even in the middle of the night.

## C o m p l a c e n t S o c i e t y

A majority of computer-related actions are either deliberately ignored by society for fear of publicity or they are hailed as novel science. This says that either members of society are still caught in the spell of the new wonder machine or that they have gotten so comfortable with the new wonder machine that they let their moral and ethical standards slide. Whatever it is, society is too complacent about computers, and until this attitude changes, computer ethics is likely to remain different from traditional ethics.

## E t h i c a l M u d d l e s

With the possibility of numerous inputs from events, new difficulties of choice and justification cause ethical dilemmas, creating conflicting arguments and counterarguments on an input possibility of an event. This is because computers produce new situations that sometimes fall within our existing laws, rules, and moral principles, and sometimes fall outside these guidelines.

## Technology and Values

Every now and then, a new technology is introduced in our midst, intended to make our lives easier. Some of these technologies do not last for more than a month; others take hold and become revolutionary in magnitude. Those which become successful most often influence society by creating new possibilities that may raise new moral and ethical concerns and consequently create vacuums and new dilemmas in that society’s basic sets of moral values. Computer technology has been one of these successful technologies. In its very short duration, it has had such a strong impact and influence on society, and if it continues the present trend unchecked, it is likely to become one of the greatest revolutions in the history of humankind.

Successful technological revolutions tend to create tempting situations often resulting in a loosening of individual moral values, and the computer revolution tops that list. Worldwide cultural, political, and social underpinnings and values are undergoing a silent, but tremendous change as new computer products come on the market and the revolution gathers momentum. It is moving so fast that it is stripping us of our ability to cope. Although we are constantly in need of new moral principles and new ethical values to fit the changing landscape, we cannot formulate, debate, and put in place such principles and values fast enough before they are outdated. More important still, even if we were able to come up with new values and moral principles, we would still lack the conceptual models within which such values and principles can be applied.

There are many new situations resulting from the computer revolution that are outdating our basic sets of values. Take, for example, the processes of dealing with works of art like masterpieces that are worth millions of dollars. There are laws on the books in almost every country to protect ownership of these works from thieves and unscrupulous art dealers and many others who want to make money. These laws are further reinforced with individual moral values. One can, for example, reproduce Monet’s painting (A French painter in the 19th Century) for one’s bedroom but not for profit because such an action is unlawful and one intrinsically knows that it is wrong. Now think of a situation where one is able to scan Monet’s painting or a picture of that painting and turn it into a digital form, move parts around so it becomes an authentic derivative of the original and people can buy it as that individual’s work without knowing it was originally a work by Monet. Suppose even further that one writes a separate program and sells it in addition to selling the derived work, the job of this program being to unscramble the digital puzzle into the original Monet. One’s conscience tells the person that what one is doing is wrong, but the new technological advances are so tempting and so available that one can start rationalizing one’s acts—I bought the machine with my own money, did all the work by myself, if it was like Monet’s painting, I would have been caught by now, but people cannot even see the difference: It is my work. All one is doing is creating a vacuum in one’s basic set of values, and society needs to find a way to fill that moral vacuum so as to prevent individuals from taking moral vacations! As computer and telecommunication revolutions pick up speed, creating new avenues of use and access like the Internet and the World Wide Web, thus giving users room and reasons to take moral vacations, there is an urgent need to do the following:

1. Formulate new laws to strengthen our basic sets of values, which are being rendered irrelevant by computer technology.
2. Construct a conceptual model in which the new laws can be applied successfully.
3. Launch a massive education campaign to make society aware of the changing environment and the impact such an environment is having on our basic values.

### Reference

Kizza, J.M (2010). Ethical and Social Issues in the Information Age (4thed.). New York: Springer-Verlag.