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Review Article

Ethical Use of Computer Technology

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Abstract: Virtually every tool is accompanied with "how to use" and how to maximize use in a bid to minimize possible problems or technological setback that it might bring. The study of computer ethics is a way of generating and reasoning out policies that would guide us through an effective use of the technology. Moreover, to climb the height of efficient and safe use of our computer tools, we need to address surrounding ethical issues. When we place a value on what you do with a computer tool which will let us know that the act is good or bad, we are already discussing its ethics. Unfortunately, computer ethics, as important as it is do not receive due attention in our personal and corporate world. They do not really matter and this is why many organizations would not test professionals like a secretary on his awareness about these things during a recruitment exercise. Whether we like it or not, computer ethics concerns every one of us who come in contact with computer technology.
Keywords: Ethics, Ten Commandments, hacker, health, safety.

INTRODUCTION

Computer technology is a tool that has pervaded almost every aspect of our lives. It is like the centre can no longer hold without it [1]. Before an individual picks a computer to use, he must have been familiar with "how to". The point is as we learn how to operate a computer system we need to be conscious of learning associated ethics. This goes a long way optimizing usage, bailing us from errors of commission and omission, and freeing us from offending others and harming ourselves.

Computer ethics refers to rules for proper use of information technologies. Ethics is the study of what is morally right and what is not [2-4]. In the most simplistic form, it is about what is good or bad if done to others and even self.

Computer ethics has been explained by many researchers, philosophers etc. but from our own finding we want to maintain that it is not just about what we do that affects others but also what we do that affects self. In this presentation, we will mention how negligence to some computer ethics can be detrimental.

Philosopher James Moor, explained computer ethics as a special branch of applied ethics [5]. He proposed that computer ethics is the analysis of nature and social impact of computer technology and corresponding formulation and justification of policies for ethical use of such technology. The term computer technology means computer and its associated technology which include hardware, software and communication networks, computers and its environment. As we use this technology, what is right and what is wrong are reasoned out, proven and formulated into policies that eventually becomes our ethics.

Brief History of Computer Ethics

Computer ethics as a field of study has its origin in the work of MIT (Management Information Technology) Professor Norbert Wiener during World War II early 1940s in which he helped to developed an antiaircraft Cannon capable of shifting down fast warp.

In 1950 Wiener published his monumental work: The Human Use of Human Beings [6]. Although, Wiener did not use the term "Computer ethics' (which came into common use more than two decades later), he laid down a comprehensive foundation which remains today a powerful basis for computer ethics research and analysis.

Wiener's book included (1) an account of the purpose of a human life, (2) four principles of justice, (3) a powerful method for doing applied ethics, (4) discussions of the fundamental questions of computer ethics, and (5) examples of key computer ethics.

Early contributors also include Donn Parker, Joseph Weizenbaum and Walter Maner in the 70's. Krystyna Gornaik also proposed that computer ethics would later evolve into global ethics[7].

Problem Statement

- Of what relevance is knowing and doing "what to do" and avoiding "what not to do" while sitting at the computer console?
- What do I stand to lose if I shun all these claims when interacting with my own personal computer?
- What is my ache if the man at the other end of the network is affected since I don't see him?

As many are familiar with answers to these questions, a huge number of computer users are not aware they exist, while others downplay the need for it said "when people entered the computer centre they left their ethics at the door'. says in his article that computer ethics is a field concerned with "policy vacuums" and "conceptual muddles" regarding the social and ethical use of information technology.

The problem statement rests on the need to recognize that computer users, both the end-users and the professionals need to acknowledge that computer ethics is an issue of paramount importance in their day-to-day activities. Also, we use this medium to address issues that, for instance, promotes health and safety, maintains individuals' right, prevents harm and lot more.

SOME FORMULATED RULES OF ETHICS

At this juncture, we must register that computer ethics might have to grow as we have more computer technology and more inventions. For example, the advent of the internet brought us a lump sum of etiquette to feed upon. Arlene R wrote a well-respected set of internet guidelines called "The Net: Use guidelines and Netiquette[8]".
One of these Netiquette is "typing in all capital letter is considered SHOUTING and therefore rude".

Other internet ethics worthy of note include:

- Use subject line to reveal and idea of the mail content
- Check the authenticity of any message requesting you to do something questionable
- You do not have to open unsolicited mail. Doing that alone can welcome worms into your computers. you can get a junk by requesting for identification through clicking a reply button, then if no meaningful response then it is junk.
- Avoid responding to phishing(a new scam asking for information about you)
- Avoid flaming i.e. sending messages that provokes.

Many organizations and computer professional bodies and individuals have written lists of ethical standards for use. One of the most common is the Computer Ethics Institutes. This institute located in Washington DC, proposed the following 10 commandments of computer Ethics in 1992.) This also appeared in computer world, June 7, 1993, P.84 annotated version available at http://spigotprinceton.edu/net/ethics.html

Ten Commandments of Computer Ethics

1. Thou shall not use a computer to harm other people.
2. Thou shall not interfere with other people's computer work.
3. Thou shall not snoop around in other people's files:
4. Thou shall not use computer to steal
5. Thou shall not use a computer to bear false witness.
6. Thou shall not use or copy software you have not paid for.
7. Thou shall not use other people's computer resources without authorization.
8. Thou shall use a computer in ways that shows consideration and respect.
9. Thou shall not appropriate other people's intellectual output.
10. Thou shall think about the social consequences of the program you write or the system you design.

ETHICAL USE FOR COMPUTER END-USERS

Even though the personal computer is bought for yourself it does not mean that you are free from observing some ethical use of it. One of the earliest computer ethics topics to gain public attention was piracy. This does not carry so much weight in the heart of many computer users especially in the under-developed and developing countries. As long as I have access to the software, I can use it, consciously or unconsciously pirating it.

Consider these scenarios:

i. Walking into a computer store and shoplifting a computer program.
ii. Olubukola makes a copy of software program borrowed from a friend to use on his computer at home.

These two acts should attract the same penalty because they are both crimes.

Another close example is that of unauthorized access to computer systems:

Consider these scenarios:

i. Picking a key without due permission to gain entrance to a room.
ii. Guessing passwords to gain unauthorized access into a system.

If (i) wrong then (ii) should.

The third illustration is the issue of appropriate use.

Consider this scenario:

i. Downloading pornography pictures using the companies system

The act is not just outside official assignment but demeaning.

Computer users need to be conscious that there are three main categories of software and should be treated as such. That is, commercial software should not be used as a freeware.

1) **Freeware:** This is downloaded or obtained without any payment because the writer or the owner of the software made it so.
2) **Shareware:** The owner allows you to copy and try out and then register and pay for it if you must continue to use it, otherwise, you erase it from your system.
3) **Commercial Software:** These are copyright software i.e. legally protected against copying and so must be purchased before use. If extremely few producers of other things will succeeds among us without making profit to produce more and even newer products, software developers need income from their labour as well.

Aside from the fact that piracy is a grievous crime, every one is a loser with the act – both the users and the developers.

The place of the hacker

A hacker is a responsible computer user who experiments with computer programs in an attempt to get the maximum possible performance from the computer. What he does is to break into computer programs, point out security features to those who should maintain the system. Calling computer criminals hackers in many publications and magazines is a misnomer.

Hacking is not about unauthorized computer access. Hacking a program may be to locate a loophole in a program or find an error. The term cracker has been proposed for a computer criminal trying to penetrate or gain unauthorized access. The act of cracking is wrong because it attacks the ethical principles of observing privacy.

Other ethics worthy of note for end-user include:

- Proper backup to protect data from loss.
- Respect confidentiality of data.
- Guard against virus attack e.g. By using licensed software and updated antivirus.
- Password your system. Giving out the secret code defeats the purpose.
- Use Uninterruptible Power Supply (UPS) with your computers etc. Power outage could crash systems.
- Avoid putting your computer on the floor. The fan could pull dirt in easily.
- Erase your hard-drive before disposing your computer to avoid giving out sensitive information.
- Practice clean shut down and avoid undue hurry.
- Avoiding moving computer about when it is powered on.
- Avoid eating and drinking in computer laboratory or while using your system

Ethical use for Computer Professionals [11]

A computer professional is no a way synonymous to computer end-users. An end user pick and use the tool while a professional form part of the group who made the tool available for use. They include programmers, designers, database administrators among others. These are the people who can cause the most harm because they know the strength and the weakness of the system they built for you. For this reason, many computer professional bodies such as Association of Computer Machinery, ACM, Computer Ethics Institute, CEI, Management Information Technology, MIT, and others have developed codes of ethics. We can only be approximately safe if they act ethically.

Health and Safety Ethics On Computer Use [12]

There is need to adopt a good posture when working with a system. Also varied working position is better than fixed.

Good posture for upper body: (Upper body comfort)

- Back well supported
- Head well positioned up
- Upper arms relaxed.

Good posture for hands and waist

- Forearm nearly at a right angle to your upper arm.
- Wrist in a straight line with your hand and forearm

Good posture when seated in a chair.

- Lower back must be supported
- Knees level with your hips[(1)].
- Feet flat on the floor.
- Eye level just above the top of the screen.
- Screen must directly in front of you not at an angle.
- Use both hands to type; you can also learn to touch-type[(2)]

(1). Hip: Area below the waist and above the leg or joint which connect the leg to the upper part of the body.
(2). Touch-type: To use a keyboard without looking at the keys (oxford Dictionary.)

Repetitive Stress Injuries [13-14]

Too many hours of using the keyboard or other devices can cause repetitive stress injuries. One of those injuries is the capital Tunnel Syndrome (a painful swelling of the tendon). To reduce the occurrence of this, one must observe the above-mentioned good working posture, take adequate breaks, do your work on time to prevent tight deadline pilling up. Also, do not forget to vary your work activities for example; a secretary faced with excess work may not necessary have to sit in a position and type all day. He or she might have to take a break, do other things till the entire typing job is completed.

To help out in this, some scientists and philosophers evolved a new field called ergonomics. Ergonomics is the science of designing equipment for safe and comfortable use. Engineers are designing software and hardware to meet this goal. An example is the development of ergonomic keyboards to vary the wrist position, ergonomic chair, mouse, footrest among others.

CONCLUSION

In point of fact, the study of computer ethics revolves around promoting responsible use of information technology resources. It cuts across use in ethical, professional and legal manner. And the speed of computer innovations has far outrun the development of ethical norms to guide the changing computer technology. Already, computer ethics is part of us and so the earlier we learn them alongside learning computer technology the better.

If you must interact with computer technology you must make effort to behave ethically. The consequence of neglecting them is directly on your technical and economic development, your society and your world.

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