Computer Ethics

CHAPTER 2

ETHICS OF PROFESSIONAL

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Outline

Introduction

Professional Ethics

Ethical Dilemma

Introduction

Profession is any type of work that needs special training or a particular skill,

Often one that is respected because it involves a high level of education such as Doctors, Engineers, IT Professions , Nursing ,…etc.

Introduction

Professionals are a group of people who earn a living by undertaking a common activity. e.g. consultant, researcher, nurse, doctor , Journalist…etc.

Also, Software Developer, System Analysis, Mobile Developer, Video game designer, ..etc consider as professional.

Introduction

Professional ethics are principles that govern the behavior of a person or group in a working environment.

Professional ethics provide rules on how a person should act towards other people and institutions in such an environment.

Every profession has its particular rules, regulations, or you could say principles.

Introduction

A person when choosing a job must know that specific profession.

Every person has a choice for a specific profession, they need to what some basic facts about ethics related to that profession.

For example: Journalists have to be honest and unbiased while reporting the news.

Outline

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Professional Ethics

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Professional Ethics

Professional Ethics are standards for action that are accepted by professional groups and individuals, and are used to evaluate the honesty of the individual or organization.

Professional ethics support all professional. There are some universal ethical principles that apply across all professions, including:

Professional Ethics

Common Professional Values

1) Respect for others. Treat people as you want to be treated.

2) Honesty. Tell the truth and avoid any wrongdoing to the best of your ability.

3) Justice. Make sure you're objective and fair and don't disadvantage others.

4) Lawfulness. Know and follow the law – always.

5) Competence and accountability. Work hard and be responsible for your work.

6) Teamwork. Collaborate and ask for help.

1) Respect for others

It’s required to respect everyone you interact with. Be nice, polite and understanding.

You must respect others’ personal space, opinions and privacy.

Just because you can do something doesn’t mean you should do it.

For example you as university network administrator, It is not right to read users’ emails.

1) Respect for others

Example:
Donald works for the county records department where he has access to files of property tax records. For a scientific study, a researcher, Ethel, has been granted access to the numerical portion but not the corresponding names of some records.

Ethel finds some information that she would like to use, but she needs the names and addresses corresponding with certain properties. Ethel asks Donald to retrieve the names and addresses so she can contact these people for more information and for permission to do further study.

1) Respect for others

Also, not use a computer to harm other people.

It is unethical to use a computer to harm other people

It is unethical to write programs, which on execution lead gaining unauthorized access to other users' data. Being involved in practices like hacking, spamming or phishing does not conform to computer ethics.

1) Respect for others

Also, respect for others include respect persons' intellectual properties as copy righted software, websites, multimedia ..etc.

Computer software is an original creation of the human mind; it is considered intellectual property and is copyright protected.

- Example : A map on my web page?
- "Due to licensing restrictions, we cannot authorize you to put a map image directly on a web page.

2) Honesty

Honesty is one of the most fundamental ethical values.

An honest person does not steal, cheat, or use fraud, trick or any other form of trickery to obtain anything of value (money, job approval).

2) Honesty

Example:

A software consultant is negotiating a contract with a local community to design their traffic control system. He recommends they select the TCS system out of several available systems on the market. The consultant fails to mention that he is a major stockholder of the company producing TCS software.

2) Honesty

Example:

A tester has decided to sign off a system without doing any testing, because they trust the customer and development team to test the system better than they can.

Example: People (or their employers) automatically own the copyrights to anything they write. Copying of a chunk of code from another program or website would is honesty violation.

2) Honesty

Also, you should be honest in your CV and interview.

If in your want to get a job, you have ever put something on a resume or communicated something in an interview that wasn't true..

In a study, 63% of IT hiring managers reported that they'd caught a lie on a resume.

3) Justice

Don’t act in a way that abuses others, their hard work or their mistakes. Give everyone equal opportunity .

Be objective when making decisions that can impact other people, including when you’re deciding to hire, promote or fire someone.

Be sure that you can justify any decision with written records or examples. Seek and use the most objective methods in any case;

3) Justice

For example, when interviewing candidates, ask the same interview questions to all of them and avoid judging non-job-related criteria, like dress, appearance, etc.

3) Justice

Also, don’t discriminate against people

When exercising authority, be fair. Don’t show favoritism toward specific employees and be transparent when you decide to praise or reward an employee.

Be just toward customers or vendors, too. If you think our company was in the wrong in a specific instance, don’t try to cover it up or accuse the other side.

3) Justice

Example: In determining requirements for an information system to be used in an employment agency, the client explains that, when displaying applicants whose qualifications appear to match those required for a particular job, the names of white applicants are to be displayed ahead of those of non-white applicants, and the names of male applicants are to be displayed ahead of those of female applicants.

4) Lawfulness

You are obliged to follow all laws which apply to organization or country.

Depending on your role and profession, there might be various laws you need to observe.

For example, accountants and medical professionals have their own legal restrictions and they must be fully aware of them.

4) Lawfulness

Following laws regarding fraud, bribery, corruption and any kind of assault is a given. You are also obliged to follow laws.

For example of computer illegal act is stealing funds via computer. Or buy products using stolen credit card.

Entering a computer unauthorized, the perpetrator can steal a company's trade secrets and data. Such a crime could be committed by an employee aiming to sell such secrets to a competitor.

4) Lawfulness

Law may be a national law:

Examples of USA Computer Crime Laws

- **Computer Security Act of 1987: Requires Federal Executive agencies to Establish Computer Security Programs.**
- **Electronic Communications Privacy Act Prohibits unauthorized interception or retrieval of electronic communications**
- **Electronic Signatures in Global and National Commerce Act .**
- **E-money Electronic Fund Transfer Act**

4) Lawfulness

Or it can be company level law

- For example:

Huawei values and works hard to create a culture of integrity.

- All employees are required to study, sign, and comply with the company's Business Conduct Guidelines (BCGs).
- We also provide anti-bribery and anti-corruption training programs for key employee groups.

4) Lawfulness

Law and Ethics

Laws are written, approved, and then enforced by the level of government where they were written.

4) Lawfulness

Ethics are contain a sense of right and wrong in regard to proper behavior.

For example If a Doctor is unable to help you with your problem he has an ethical responsibility to refer you to a specialist, but there is not a law saying that he has to do that.

4) Lawfulness

I. Ethical and Legal

- Buying a spreadsheet program and using it to do accounting for clients

II. Ethical but not Legal

- Copying copyrighted software to use only as a backup, even when the copyright agreement specifically prohibits copying for that purpose

4) Lawfulness

III. Not Ethical but Legal (Policy Vacuum)

- Revealing data that was expected to remain confidential – for example, talking by data entry operators, about the salary data they are processing
- Using a pirated version of a software product in a country that has no software copyright laws (policy vacuum)

IV. Not Ethical and Not Legal

- Pirating copyrighted software
- Planting viruses in someone else's computer system

5) Competence and accountability

Competence is the ability to do something well and effectively.

Accountability the fact of being responsible for what you do and able to give a satisfactory reason for it.

Accountability means that mechanisms are in place to determine who took responsible action, who is responsible.

5) Competence and Accountability

We all need to put a good amount of effort in our work.

Not just because we're all responsible for the organization's success,

But also because to slow down affects our colleagues. Incomplete or slow working might delay other people's work or cause them to take on a responsibility.

5) Competence and Accountability

We also expect you to take up opportunities for learning and development, either on-the-job or via educational material or training.

Also, take responsibility for your actions. We all make mistakes or need to make tough decisions and it's important we own up to them.

If you take responsibility and come up with ways to fix your mistakes where possible, you will be in a far better position.

5) Competence and Accountability

Example:

A QA group has decided to sign off a system without doing any testing, because they trust the customer and development team to test the system better than they can.

5) Competence and Accountability

Example:

A computer company is writing the first stage of a more efficient accounting system that will be used by the government. This system will save tax payers a considerable amount of money every year. A computer professional, who is asked to design the accounting system, assigns different parts of the system to her staff. One person is responsible for developing the reports; another is responsible for the internal processing; and a third for the user interface. The manager is shown the system and agrees that it can do everything in the requirements. The system is installed, but the staff finds the interface so difficult to use that their complaints are heard by upper level management.

5) Competence and Accountability

Example:

This computer-controlled machine was designed for the radiation treatment of cancer patients.

During a two-year period the machine massively overdosed six patients, contributing to the eventual death of three of them.

These incidents were the result of the combination of a number of factors, including software errors, inadequate testing and quality assurance, bad interface design, and inadequate investigation or follow-up on accident reports.

6) Teamwork

Working well with others is necessary.

You will certainly get to work autonomously and be focused on your own projects and responsibilities. But, you should also be ready to collaborate with and help others.

Be open to learning and evolving. If days go by without you consulting or brainstorming with anyone, you are missing out on opportunities for excellence.

6) Teamwork

Instead, work with others and don’t hesitate to ask for help when you need it.

Much of your future work will be organized around group or team activities.

6) Teamwork

Examples of Teamwork in the Workplace:

Respect your fellow employees, Be open to all options and opinions, Give even input and don't try to rule the group, and Work together to find the best possible solution to the problem.

6) Teamwork

Free Riders:

Free riders are individuals who attempt to "ride for free" on the work of the other members of the group.

Free riders seek to gain the benefits of a cooperative, collective activity without taking any of the loads or without, themselves, contributing to the work.

Outline

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Professional Ethics

Ethical Dilemma

Ethical Dilemma

IT workers are routinely confronted with ethical dilemmas in practice.

Ethical dilemmas, also known as moral dilemmas, are situations in which there are two choices to be made, neither of which resolves the situation in an ethically acceptable fashion.

In such cases, societal and personal ethical guidelines can provide no satisfactory outcome for the chooser.

Ethical Dilemma

Example: You're at a store with a friend and you see that friend stealing something. On your way out, you're confronted by the security about it, and you might be faced with the dilemma of being honest and telling the truth, but betraying your friend, or protecting him and lie.

In this case, society has taught us that both telling the truth and being loyal are correct, but you're now facing the question of which one is more "right."

Ethical Dilemma

Example:

Imagine an autonomous car with broken brakes going at full speed towards a grand-mother and a child. By deviating a little, one can be saved.

This time, it is not a human driver who is going to take the decision, but the car's algorithm.

Who would you choose, the grandmother or the child? Do you think there is only one right answer?

This is a typical ethical dilemma, that shows the importance of ethics in the development of technologies.

Ethical Dilemma

Computer scientist's study ethics to help them prepare for situations where they have to make decisions. This is often done by considering ethical dilemmas.

Society has become extremely depends on new coming technology, and raises ethical dilemma the technology brings.

Ethical Dilemma

There are various ethical dilemmas in relation to I.T. that need to be addressed.

In regard to hackers, for example, are they testing the system or performing an immoral action?

Will genetic engineering improve the quality of peoples' lives or start to destroy it?

Decide whether or not to tell your customers that they are interacting with a program (ChatBot) rather than a human being.

Ethical Dilemma: Example

Ali has chosen improvement of commercial systems and security threat as a research for his security course. He develops an algorithm for the purpose of implementing his project in a practical process. He can discover the security vulnerabilities of some companies with this algorithm and he adds these vulnerabilities to his project as project grade. When one of the companies that Ali has entered searches the source of the attack, they find university laboratory as a source of this attack and informs the officials of his university.

Ethical Dilemma: Example (Cont.)

1) Company: They are in the opinion of giving punishment to the student because of creating security threat to their systems.

2) Ali: He encouraged that he has done a good project and he just found the security vulnerabilities of the company, he did not damage their system.

3) Professor: He stated that Ali has done a great job and he did not damage network systems of the company

4) Officials: They are in the opinion of awakening student for executing project process in university laboratory

Ethical Dilemma: Example 2

You are working for a company who are about to launch a new computer game. The adverts have gone out, the newspapers and TV are ready for the launch ... then the day before you are told that there is a bug, a mistake, in the software.

It means players sometimes can't kill the dragon at the end of the game. If you hit the problem the only solution is to start the final level again. It can be fixed they think but it will take about a week or so to track it down. The computer code is hard to fix as it's been written by 10 different people and 5 of them have gone on a holiday so can't be contacted.

Ethical Dilemma: Example 2

Which is your choose:

1) Go ahead and launch. After all, there are still plenty of parts to the game that do work and are fun, there will always be some errors, and for this game in particular thousands have been signing up for text alerts to tell them when it's launched. It will make many thousands happy.

2) Cancel the launch until the game is fixed properly, no one should have to buy a game that doesn't work 100%

Ethical Dilemma: Example 3

Self Driven Car:

Some of the world’s biggest tech companies — including Google's parent, Alphabet; Uber; and Tesla — and carmakers now have self-driving car programmers.

Ethics of self-Driven car related to trolly problem. For more information see the following video.

https://www.youtube.com/watch?v=ol8SkzSZIvM&t=14s

Ethical Dilemma: Example 4

Trolly problem not only for “vehicles” but can be use in many situation.

In the 2015 British, a military team locates a terrorist cell preparing an attack expected to kill hundreds. They command a drone that can drop a bomb on the terrorists, preventing their attack. As the team readies the bomb, their cameras spy a little girl selling bread within the blast radius. Should they go through with their mission – killing the girl in order to prevent the deaths of many others?

For this and other ethical dilemma , we can use ethical theories.

Ethical Dilemma: Example 5

Police in facial recognition project to identify hidden faces

Project could identify people wearing masks or other face coverings.

“The societal impact is anticipated to be multifaceted,” it said. “Unconstrained face biometrics capability will significantly contribute to the government’s security agenda in the framework of smart cities and national security.

While reports by other media connection to Jiangnan University, which sparked fears that the project could enhance the Chinese government’s ability to identify both masked protesters in Hong Kong and Uighur Muslims in Xinjiang, the use of this technology.

References

Ethics for the information age Ch. 2.6,2.7,2.8

Ethics In Information Technology Ch. 2

Information And Computer Ethics Ch.3

Ethics and Professional Responsibility in Computing

https://onlineethics.org/cases/ethics-and-professional-responsibility-computing

Top 10 technology and ethics stories of 2020

https://www.computerweekly.com/news/252493520/Top-10-technology-and-ethics-stories-of-2020

Ethical Dilemma

https://corporatefinanceinstitute.com/resources/knowledge/other/ethical-dilemma/