

COMPUTER ETHICS

What do we mean by Ethics?

Ethics is a set of moral principles that govern the behavior of a group or individual.

What do we mean by Computer Ethics?

Computer ethics is a set of moral principles that regulate the use of computers.

Ref: <https://techterms.com/definition/computerethics>

COMPUTER ETHICS

Examples:

For example, while it is easy to duplicate copyrighted electronic (or digital) content, computer ethics would suggest that it is wrong to do so without the author's approval. And while it may be possible to access someone's personal information on a computer system, computer ethics would advise that such an action is unethical.

Ref: <https://techterms.com/definition/computerethics>

COMPUTER ETHICS

Issues:

Some common issues of computer ethics include intellectual property rights (such as copyrighted electronic content), privacy concerns, and how computers affect society.

Ref: <https://techterms.com/definition/computerethics>

SOFTWARE ENGINEERING CODE OF ETHICS AND PROFESSIONAL PRACTICE

Software
Engineering
Ethics and
Professional
Practices

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WHAT IS SEEPP?

- Stands for
Software Engineering Ethics and Professional Practices
- Goal: Establish a code of conduct for professional software engineers to make software engineering a beneficial and respected profession.
- Joint Effort by IEEE-Computer Society and Association of Computing Machinery(ACM)



WHO ARE THE ENGINEERS?

- Software engineers are those who contribute either by direct participation or by teaching to the,
 - analysis,
 - specification,
 - design,
 - development,
 - certification,
 - maintenance, and
 - testingof software systems



ROLES OF ENGINEERS

- “Professional Software Engineers” include:
 - Practitioners
 - Educators
 - Managers
 - Supervisors
 - Policy makers, and
 - Trainees & students of the profession



WHAT IS SOFTWARE?

- Computers have a central and growing role in commerce, industry, government, medicine, education, entertainment and society at large
- Software Engineers develop software to automate/facilitate other areas of society
- Thus Role of software in medicine, education, government, industry, commerce etc is “Key”



SOFTWARE ENGINEERS IN FOCUS

- Because of their roles in developing software systems, software engineers have significant opportunities to
 - **Do** good or cause harm
 - **Enable** others to do good or cause harm
 - **Influence** others to do good or cause harm



NEED FOR CODE OF ETHICS

To ensure, as much as possible, that software engineers efforts will be used for good

Software engineers must commit themselves to making software engineering a beneficial and respected profession

In accordance with that **commitment**, software engineers shall **adhere** a Code of Ethics and Professional Practice



SOFTWARE ENGINEERING CODE OF ETHICS AND PROFESSIONAL PRACTICE

- The Code contains eight Principles related to the behavior of and decisions made by professional software engineers

1. PUBLIC
2. CLIENT AND EMPLOYER
3. PRODUCT
4. JUDGMENT
5. MANAGEMENT
6. PROFESSION
7. COLLEAGUES
8. SELF



SOFTWARE ENGINEERING CODE OF ETHICS AND PROFESSIONAL PRACTICE (CONTD.)

○ 1 PUBLIC

- Software engineers shall act consistently with the public interest
 - Accept full responsibility for their own work.
 - Moderate the interests of the software engineer, the employer, the client and the users with the public good
 - Approve software only if they believe that it is safe, meets specifications, passes appropriate tests
 - Be fair and avoid deception in all statements, particularly public ones concerning software.
 - Consider issues of physical disabilities and allocation of resources & other factors that diminish access to software
 - Be encouraged to volunteer professional skills to good causes



SOFTWARE ENGINEERING CODE OF ETHICS AND PROFESSIONAL PRACTICE (CONTD.)


○ 2 CLIENT AND EMPLOYER

- Software engineers shall act in a manner that is in the best interests of their client and employer, consistent with the public interest
 - Provide service in their areas of competence
 - Not knowingly use software that is obtained or retained either illegally or unethically
 - Use the property of a client or employer only in ways properly authorized
 - Identify, document, collect evidence and report to the client or the employer promptly if, a project is likely to fail or to violate intellectual property law



SOFTWARE ENGINEERING CODE OF ETHICS AND PROFESSIONAL PRACTICE (CONTD.)

○ 3 PRODUCT

- Software engineers shall ensure that their products and related modifications meet the highest professional standards possible
 - Strive for high quality and acceptable cost
 - Ensure proper and achievable goals and objectives for any project they work on
 - Ensure that they are qualified for any project they work on
 - Ensure that an appropriate method is used for any project
 - Work to follow professional standards
 - Strive to fully understand the specifications for software
 - Ensure adequate testing, debugging, documentation and review of software
 - Treat all forms of software maintenance with the same professionalism as new development.
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SOFTWARE ENGINEERING CODE OF ETHICS AND PROFESSIONAL PRACTICE (CONTD.)

○ 4 JUDGMENT

- Software engineers shall maintain integrity and independence in their professional judgment
 - Temper all technical judgments by the need to support and maintain human values.
 - Only endorse documents if prepared under supervision
 - Maintain professional objectivity with respect to any software or related documents
 - Not engage in deceptive financial practices such as bribery, double billing, or other improper financial practices.
 - Disclose to all concerned parties those conflicts of interest that cannot reasonably be avoided or escaped.


SOFTWARE ENGINEERING CODE OF ETHICS AND PROFESSIONAL PRACTICE (CONTD.)

○ 5 MANAGEMENT

- Software engineering managers and leaders shall subscribe to and promote an ethical approach to the management of software development and maintenance
 - Ensure good management for any project on which they work
 - Ensure that software engineers are informed of standards before being held to them.
 - Ensure realistic quantitative estimates of cost, scheduling, personnel, quality and outcomes on any project they work on
 - Provide for due process in hearing charges of violation of an employer's policy or of this Code.
 - Not ask a software engineer to do anything inconsistent with this Code
 - Not punish anyone for expressing ethical concerns about a project.

SOFTWARE ENGINEERING CODE OF ETHICS AND PROFESSIONAL PRACTICE (CONTD.)

○ 6 PROFESSION

- Software engineers shall advance the integrity and reputation of the profession consistent with the public interest
 - Help develop an organizational environment favorable to acting ethically
 - Promote public knowledge of software engineering
 - Support, as members of a profession, other software engineers striving to follow this Code.
 - Not promote their own interest at the expense of the profession, client or employer.
 - Take responsibility for detecting, correcting, and reporting errors in software
 - Report significant violations of this Code to appropriate authorities
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SOFTWARE ENGINEERING CODE OF ETHICS AND PROFESSIONAL PRACTICE (CONTD.)

○ 7 COLLEAGUES

- Software engineers shall be fair to and supportive of their colleagues
 - Encourage colleagues to adhere to this Code
 - Assist colleagues in professional development
 - Credit fully the work of others and refrain from taking undue credit
 - Assist colleagues in being fully aware of current standard work practices
 - Not unfairly intervene in the career of any colleague



SOFTWARE ENGINEERING CODE OF ETHICS AND PROFESSIONAL PRACTICE (CONTD.)

○ 8 SELF

- Software engineers shall participate in lifelong learning regarding the practice of their profession and shall promote an ethical approach to the practice of the profession
 - Further their knowledge of recent developments
 - Improve their ability to create safe, reliable, and useful quality software
 - Improve their ability to produce accurate, informative, and well-written documentation
 - Improve their knowledge of relevant standards
 - Not influence others to undertake any action that involves a breach of this Code



WHERE TO FIND THIS CODE?

<http://www.computer.org/tab/seprof/code.htm>

