

WDMM 3314 Web and Multimedia Engineering
SDEV 2301 Principles of Software Engineering

Chapter 1 Introduction

Part 2 Software engineering ethics

Dr. Nour Almadhoun Alserr

Lecture 6

Week 2



Issues of Professional Responsibility

■ Computer misuse:

- Engineers should not use their **technical skills** to **misuse** other people's computers.



Trivial



Extremely serious

Objectives

- Understand **ethical** and **professional** issues that are important for software engineers.



Software Engineering Ethics

- Software engineering involves **wider responsibilities** than simply the application of **technical** skills.
- Software engineers must behave in an **honest** and **ethically responsible** way if they are to be respected as professionals.
- **Ethical behavior** is more than simply upholding the law but involves following a **set of principles** that are morally correct (**Professional Responsibility**).



Principles of Professional Responsibility

■ Confidentiality:

- Engineers should normally **respect the confidentiality** of their employers or clients regardless of whether or not a formal confidentiality agreement has been signed.



CLIENTS HAVE the RIGHT to CONFIDENTIALITY 

* PROTECT CONFIDENTIALITY:
↳ NOT DISCLOSING PERSONAL INFO to OTHERS NOT INVOLVED in THEIR CARE

Issues of Professional Responsibility

■ Competence:

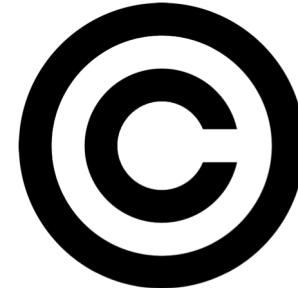
- Engineers should not misrepresent their level of competence. They should **not** knowingly accept work which is outside their competence.



Issues of Professional Responsibility

■ Intellectual property rights:

- Engineers should be aware of local laws governing the use of **intellectual property** such as **patents and copyright**.
- They should be careful to **ensure** that the intellectual property of employers and clients is **protected**.





ACM/IEEE Code of Ethics

- The professional societies (notably ACM, the IEEE) in the US have cooperated to produce a code of ethical practice.
- Members of these organizations sign up to the code of practice when they join.
- The Code contains **eight Principles** related to the **behavior** of and **decisions** made by professional software engineers, including practitioners, educators, managers, supervisors and policy makers, as well as trainees and students of the profession.





ACM/IEEE Code of Ethics

Software Engineering Code of Ethics and Professional Practice

ACM/IEEE-CS Joint Task Force on Software Engineering Ethics and Professional Practices

PREAMBLE

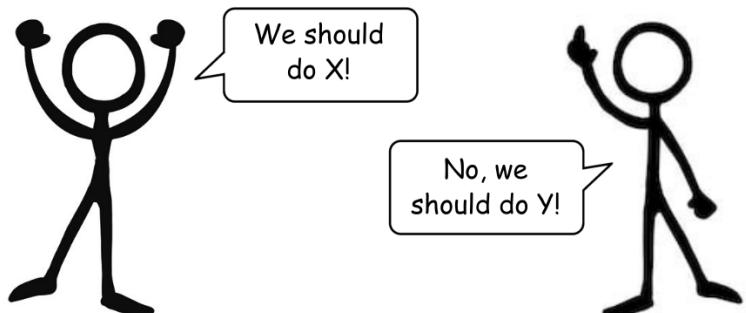
The short version of the code summarizes aspirations at a high level of the abstraction; the clauses that are included in the full version give examples and details of how these aspirations change the way we act as software engineering professionals. Without the aspirations, the details can become legalistic and tedious; without the details, the aspirations can become high sounding but empty; together, the aspirations and the details form a cohesive code.

Software engineers shall commit themselves to making the analysis, specification, design, development, testing, and maintenance of software a beneficial and respected profession. In accordance with their commitment to the health, safety, and welfare of the public, software engineers shall adhere to the following Eight Principles:

1. PUBLIC – Software engineers shall act consistently with the public interest.
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.
3. PRODUCT – Software engineers shall ensure that their products and related modifications meet the highest professional standards possible.
4. JUDGMENT – Software engineers shall maintain integrity and independence in their professional judgment.
5. MANAGEMENT – Software engineering managers and leaders shall subscribe to and promote an ethical approach to the management of software development and maintenance.
6. PROFESSION – Software engineers shall advance the integrity and reputation of the profession consistent with the public interest.
7. COLLEAGUES – Software engineers shall be fair to and supportive of their colleagues.
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.

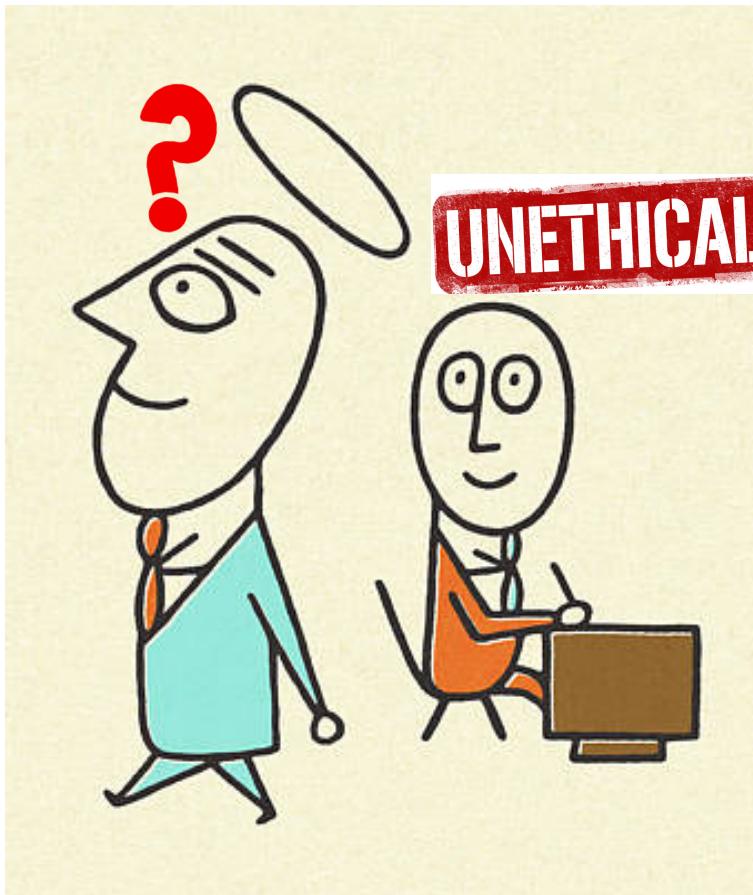
Ethical Dilemma

- Disagreement in principle with the policies of senior management.
 - Is it best to argue a case for your position from within the organization or to resign in principle?
 - When do you reveal the software problems to management?



Ethical Dilemma

- Your employer acts in an unethical way and releases a safety-critical system without finishing the testing of the system.



Ethical Dilemma

- Participation in the development of military, weapons, and nuclear systems.
 - It is important that both employers and employees should **make** their **views** known to each other **in advance**.
 - If an employee is taken on and makes clear that he or she **does not wish to work** on such systems, employers should not **exert pressure** to do so at some later date.



Do you have
any
QUESTIONS
??

