IT Professionalism

CSCI3250+3251
Computers and Society + Engineering Practicum
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A Job or a Profession?

- Job vs. Profession?
  - Plumber
  - Lawyer
  - Cleaner
  - Accountant

- In essence a profession *requires training* and needs to attain *certain standards of behavior* in their work continually

Profession

- Nature of work
  - Intellectual, specialized skills and knowledge

- Moral aspect
  - Goes beyond general honesty, integrity, codes of conduct and ethics, and self-regulation

- Collective organization
  - Professional association, entry and competence, accreditation and recognition

- Status

- Impartiality and independence

Definition of Professional Bodies

- Oversee the professional examinations
- Facilitate continuing professional development (CPD)
- Provide up-to-date information
- Provide networks for members engagement
- Define codes of conduct and ethics that professionals would be expected to follow
- Carry disciplinary matters

Functions of Professional Bodies

- Recognition
  - Marketable identity

- Networking and Events
  - Networking events
  - Specialist groups

- Knowledge and Best Practice
  - Journals, Magazines
  - Specialized lectures and seminars

- Chartered Professional Status

Code of Conduct/ Ethics

- A set of rules that the professional bodies defined for their members, who are *expected to adhere to*

- Categories
  - Public interest
  - Professional competence and integrity
  - Duty of relevant authority
  - Duty to the profession

Code of Conduct/ Ethics

- Provide evidence that external monitoring is not needed, i.e. enhance *public trust*
- Clarify responsibility to society
- Provide either a set of rules/prohibitions
- Aid in decision making

Ten Commandments of Computer Ethics (1992)

1. Thou shalt not use a computer to *harm* other people
2. Thou shalt not *interfere* with other people's computer work
3. Thou shalt not *snoop around* in other people's computer files
4. Thou shalt not use a computer to *steal*
5. Thou shalt not use a computer to *bear false witness*
6. Thou shalt not *copy or use* proprietary software for which you have not paid

See: http://computerethicsinstitute.org/publications/tencommandments.html

Ten Commandments of Computer Ethics

7. Thou shalt not use other people's computer resources *without authorization* or proper compensation

8. Thou shalt not appropriate other people's *intellectual output*

9. Thou shalt think about the *social consequences* of the program you are writing or the system you are designing

10. Thou shalt always use a computer in ways that ensure consideration and *respect for your fellow humans*

See: http://computerethicsinstitute.org/publications/tencommandments.html

IEEE Code of Ethics (1963)

1. To hold paramount the safety, health, and welfare of the public, to strive to comply with ethical design and sustainable development practices, and to disclose promptly factors that might *endanger the public* or the environment

2. To avoid real or perceived *conflicts of interest* whenever possible, and to disclose them to affected parties when they do exist

3. To be *honest and realistic* in stating claims or estimates based on available data

See: https://www.ieee.org/about/corporate/governance/p7-8.html

IEEE Code of Ethics

4. To reject *bribery* in all its forms

5. To *improve the understanding* by individuals and society of the capabilities and societal implications of conventional and emerging technologies, including intelligent systems

6. To maintain and improve our technical competence and to undertake technological tasks for others *only if qualified* by training or experience, or after full disclosure of pertinent limitations

See: https://www.ieee.org/about/corporate/governance/p7-8.html

IEEE Code of Ethics

7. To seek, accept, and offer *honest criticism* of technical work, to acknowledge and correct errors, and to credit properly the contributions of others

8. To treat fairly all persons and to not engage in acts of *discrimination* based on race, religion, gender, disability, age, national origin, sexual orientation, gender identity, or gender expression

See: https://www.ieee.org/about/corporate/governance/p7-8.html

IEEE Code of Ethics

9. To avoid injuring others, their property, reputation, or employment by *false or malicious action*

10. To assist colleagues and co-workers in their *professional development* and to support them in following this code of ethics

See: https://www.ieee.org/about/corporate/governance/p7-8.html

ACM Code of Ethics (1992)

- General ethical principles
  1. Contribute to society and to human well-being, acknowledging that all people are stakeholders in computing
  2. Avoid harm
  3. Be honest and trustworthy
  4. Be fair and take action not to discriminate
  5. Respect the work required to produce new ideas, inventions, creative works, and computing artifacts
  6. Respect privacy
  7. Honor confidentiality

See: https://www.acm.org/code-of-ethics

ACM Code of Ethics

- Professional responsibilities
  1. Strive to achieve the highest quality, effectiveness and dignity in both the process and products of professional work
  2. Maintain high standards of professional competence, conduct, and ethical practice
  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

See: https://www.acm.org/code-of-ethics

ACM Code of Ethics

6. Perform work only in areas of competence
7. Foster public awareness and understanding of computing, related technologies, and their consequences
8. Access computing and communication resources only when authorized or when compelled by the public good
9. Design and implement systems that are robustly and usably secure

- Professional leadership principles
  1. Ensure that the public good is the central concern during all professional computing work
  2. Articulate, encourage acceptance of, and evaluate fulfillment of social responsibilities by members of the organization or group

See: https://www.acm.org/code-of-ethics

ACM Code of Ethics

3. Manage personnel and resources to enhance the quality of working life

4. Articulate, apply, and support policies and processes that reflect the principles of the Code

5. Create opportunities for members of the organization or group to grow as professionals

6. Use care when modifying or retiring systems

7. Recognize and take special care of systems that become integrated into the infrastructure of society

See: https://www.acm.org/code-of-ethics

ACM Code of Ethics

- Compliance with the Code
  1. Uphold, promote, and respect the principles of the Code
  2. Treat violations of the Code as inconsistent with membership in the ACM

See: https://www.acm.org/code-of-ethics

Software Engineering Ethics (1997)

- Public
  - Act consistently with the public interest

- Client and Employer
  - Act in a manner that is in the best interests of their client and employer consistent with the public interest

- Product
  - Ensure that their products and related modifications meet the highest professional standards possible

See: https://ethics.acm.org/code-of-ethics/software-engineering-code

Software Engineering Ethics

- Judgment
  - Maintain integrity and independence in their professional judgment

- Management
  - Subscribe to and promote an ethical approach to the management of software development and maintenance

- Profession
  - Advance the integrity and reputation of the profession consistent with the public interest

See: https://ethics.acm.org/code-of-ethics/software-engineering-code

Software Engineering Ethics

- Colleagues
  - Be fair to and supportive of their colleagues
- Self
  - Participate in lifelong learning regarding the practice of their profession and shall promote an ethical approach to the practice of the profession

See: https://ethics.acm.org/code-of-ethics/software-engineering-code

Impact of Professional Bodies

- Individuals
  - Alter their day to day routine
  - Wider social considerations such as privacy

- Businesses
  - Employer needs to support and allocate time within the working schedule to its employees

- Society
  - People become more knowledgeable
  - More moral and ethical society

Professional Bodies in HK for CS/CE

- Institute of Electrical and Electronics Engineers (*IEEE*) – www.ieee.org
  - Computer Society – www.computer.org
- Association for Computing Machinery (*ACM*) - www.acm.org
- British Computer Society (*BCS*) - www.bcs.org
- The Hong Kong Institution of Engineers (*HKIE*) – www.hkie.org.hk
  - Information Technology Section – it.hkie.org.hk
- The Hong Kong Computer Society (*HKCS*) – www.hkcs.org.hk
- Information Security and Forensics Society (*ISFS*) – www.isfs.org.hk
- The Institution of Engineering and Technology Hong Kong (*IET*) – www.theiet.org/hongkong

Checkpoint Question

This has been a shocking news and there are still more from the court every day: The former projects director of MTR Corporation who quit recently as a result of a construction scandal has offered to resign as the chief of the Hong Kong Institution of Engineers amid growing pressure.
https://www.scmp.com/news/hong-kong/hong-kong-economy/article/2160743/disgraced-former-mtr-projects-director-philco-wong
Did something go wrong with the engineers in Hong Kong?