ECS 3361: Social Issues and Ethics in ECS

Lecture 3a Professional Ethics
Chapter 9 Part 1

Credits:

Dr. Michael J. Quinn, Author of "Ethics for the information age

The Free Encyclopedia, http://en.wikipedia.org

YouTube

Today's Learning Objectives

- Characteristics of a profession
- Professional Ethics
- Conflict of interest
- Software Engineering Code of Ethics

What is a profession?

- Informally, a profession is a vocation requiring:
  - Education (special knowledge)
  - Practical experience
  - Full time occupation that pays well
    - Doctors
    - Lawyers
    - Engineers

- We trust professionals to
  - Correctly diagnose and treat problems
  - Take actions for the best interest of their clients

Characteristics of a Profession

- Initial professional education
  - Accredited school/program
- Skills development (experience)
  - Certification (PMP, CPA)
  - Licensing (Lawyer, Medical doctor, PE)
- Professional development
  - Keep up with technical knowledge in your field
    - Professional society
- Know code of ethics

Certified Public Accountants

– Bachelor's degree

- 150+ semester hours
- 24+ hours of accounting-related classes

– Skills development: Two years' experience under supervision of a CPA

– Certification: CPA Exam

– Professional development

- Follow Code of ethics
- Continuing Education

Even if an occupation does not require

- Certification and licensing
- University degree
- Apprenticeship
- Membership in professional society
- Specific continuing education

Ability to harm the public can be similar to members of mature professions.

– Need to follow a set of standards of behavior

Chapter 9: Professional Ethics

Professional Ethics

- **Professional Ethics** refers to **codes of ethics** that every professional should follow.

- **Professionals** have autonomy in the workplace.
  - They use their independent judgment in carrying out their professional responsibilities.
  - They must maintain a high level of technical competence
  - However, technical expertise without adherence to ethical guidelines is as much a threat to public welfare as is professional incompetence.

- **Engineers as professionals**
  - Must perform under a standard of professional conduct described in codes of ethics.

Conflict of interest

A <u>Conflict Of Interest</u> occurs when an individual or organization ought to be loyal to multiple individuals or organizations and an action can be in favor of one at the expense of the other.

Examples:

- You own a drug company and you are a member of an FDA committee that approves drugs for public use.

- Work for a company and do consulting for a supplier of that company

http://www.youtube.com/watch?v=7fCh7HDhwrY (8 min)

How to handle a potential conflict of interest?

- Know your employer's "conflict of interest policy"

- Avoid it, if possible
- Recusal (not participate in decisions where there is a potential for conflict of interest)

- Disclose any potential conflict of interest and get consent of affected parties.

Software Engineering Code of Ethics (SECE)

- Preamble of Code (purpose, intent)
  - Software engineers have opportunities to do good or do harm. Ought to be committed to doing good.

  - Eight principles identifying key ethical relationships and obligations within these relationships.

  - Code should be seen as guidelines for "accepted" professional conduct

  - Concern for the public interest is paramount

Eight key Relationships

- The goal of a professional code of ethics is to ensure that the profession serves the goals of its constituents.

  - Public
  - Client and employer
  - Product
  - Judgment
  - Management
  - Profession
  - Colleagues
  - Self

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Act Consistently with Public Interest

1.01 "Accept full responsibility for own work"(Kantianism)

1.02 Balance competing interests (Utility)

1.03 Approve software only if it is safe (Utility)

1.04 Disclose actual/potential dangers (Kantianism)

1.05 "Cooperate in efforts to address" public concerns

1.06 "Be fair and avoid deception in all statements" (Kantianism)

1.08 "Volunteer professional skills to good causes"

Act in Best Interest of Client, Employer

2.01 Act within areas of competence (K)

2.02 Don't use software obtained illegally (K, RU,SC)

2.03 Only use property in authorized ways (K, RU)

2.04 Ensure documents are approved

2.05 Respect confidentiality (internal/strictly private data)

2.07 Report issues of social concern

2.09 Put employer's/client's interests first, unless overriding moral concern (pixel example)

Ensure Products Meet Highest Standards

3.01 Aim for "high quality, acceptable cost and a reasonable schedule," making trade-offs clear (Utility)

3.03 Face up to "ethical, economic, cultural, legal and environmental" issues

3.06 Follow the most appropriate professional standards

3.08 Ensure the specifications are correct and approved

3.10 "Ensure adequate testing, debugging, and review of software and related documents"

3.15 Use same standards for software maintenance as software development

Maintain Integrity in Professional Judgment

4.01 "Temper all technical judgments by the need to support and maintain human values" (K, Virtue)

4.03 Remain objective when evaluating software or related documents (K)

4.04 Do not engage in deceptive financial practices (bribery)

4.05 Disclose conflicts of interest (K)

4.06 Do not participate in decisions in which you, your employer, or your client has a potential conflict of interest (K, U)

Promote Effective Project Management

5.01 Ensure good project management procedures

5.04 Take employees' abilities into account before assigning work

5.05 Ensure reasonable estimates are made (utility)

5.06 Give full and accurate information to potential employees (K)

5.07 Pay employees fairly (K)

5.10 Provide employees charged with misconduct due process (firing process)

5.12 "Do not punish anyone for expressing ethical concerns about a project"

Advance the Profession

6.01 Help create an environment supporting ethical conduct

6.03 Participate in professional activities

6.05 Do not promote self-interest at expense of profession, client, or employer

6.06 Obey all laws unless there is an overriding public interest

6.08 Take responsibility for finding, correcting, and reporting errors in software and documentation

6.12 Share concerns about Code violations with the people involved. "Blow the whistle" if needed.

Be Fair to and Supportive of Colleagues

7.01 "Encourage colleagues to adhere to this Code"

7.03 Give others the credit they deserve

7.05 Give colleagues a fair hearing

7.06 Help colleagues remain aware of work practices

7.07 Do not unfairly interfere with another's career, but protect the public interest

7.08 Bring in experts for situations outside your own area of competence (help and seek help).

Participate in Lifelong Learning

8.01 Stay current with developments in field

8.04 Improve understanding of software and documentation used in work

8.05 Improve knowledge of relevant standards

8.06 Improve knowledge of this Code and its application

8.07 Do not treat others unfairly because of prejudices

8.08 Do not influence others to break the Code

8.09 "Recognize that personal violations of this Code are inconsistent with being a professional software engineer"

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Analysis of Preamble

- Code reflects principles drawn from multiple ethical theories

- Should not take an overly legalistic view of the Code
  - It is not an algorithm to determine right from wrong, just guidelines

  - If Code doesn't forbid something, that doesn't mean it is morally acceptable

- Judgment is required: Use ethical theories and codes of ethics
  - Creative problem solving may be needed.

SECE Fundamental Principles

- Act Consistently with Public Interest
- Act in Best Interest of Client, Employer
- Ensure Products Meet Highest Standards
- Maintain Integrity in Professional Judgment
- Promote Effective Project Management
- Advance the Profession
- Be Fair to and Supportive of Colleagues
- Participate in Lifelong Learning

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Homework

- No homework this week

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