Professional Ethics

- Characteristics of a Profession
  - High level of education
  - Practical experience
  - Decisions have impact
- Professionals paid well
  - Doctors
  - Lawyers
  - CPAs
- Professionals expected to act for public good
Is Software Engineering a Profession?

Characteristics of a Profession

- Initial professional education
- Accreditation
- Skills development
- Certification
- Licensing
- Professional development
- Code of ethics
- Professional society
EG: Certified Public Accountants

- Bachelor’s degree
  - 150+ semester hours
  - 24+ hours of accounting-related classes
- Two years’ experience working under supervision of a CPA
- CPA exam
- To retain certification
  - Continuing education
  - Follow code of ethics
Software Engineering not a Profession

- Certification and licensing not needed
- Without these, other characteristics are irrelevant
  - No college education needed
  - No apprenticeship needed
  - No membership in professional society needed
  - No continuing education needed
- Most software engineers are part of teams
- Software engineers have ability to harm public
  \[ \therefore \text{a code of ethics is needed} \]
Preamble

- Software engineers have opportunities to do good or do harm
- Software engineers ought to be committed to doing good
- Eight principles identify key ethical relationships and obligations within these relationships
- Code should be seen as a whole, not a collection of parts
- Concern for the public interest is paramount
8 Principles of SE Code

- Public – Act in the public's best interest
- Client and employer – act for client & employer's
- Product – meets high standards – quality
- Judgment – maintain independent& professional
- Management – promote ethical mgmt & SE
- Profession – integrity & reputation of profession
- Colleagues – fair & supportive
- Self – lifelong learning, have professional ethics
Analysis of SE Code Preamble

- No mechanical process for determining if an action is right or wrong
- Should not take an overly legalistic view of the Code
  - If Code doesn’t forbid something, that doesn’t mean it is morally acceptable
  - Judgment required
- Code reflects principles drawn from multiple ethical theories (virtue ethics)
Origin of Virtue Ethics

- Aristotle
  - Happiness results from living a life of virtue
  - Intellectual virtue: developed through education
  - Moral virtue: developed by repeating appropriate acts
  - Deriving pleasure from a virtuous act is a sign that the virtue has been acquired
- Some virtues: Benevolence, courage, fairness, generosity, honesty, loyalty, patience, tolerance
- A person of strong moral character
  - possesses many virtues
  - knows right thing to do in each situation
Analysis of Virtue Ethics

Advantages
- Provides a motivation for good behavior
- Provides a solution to the problem of impartiality
  - Some virtues are partial (e.g., generosity)
  - Other virtues must be impartial (e.g., honesty)

Disadvantages
- No methodology for answering moral problems
  - Given a problem, which virtues apply?
  - How to resolve a conflict between more than one virtue?
Virtue Ethics Complements Other Theories

- Virtue ethics may not work as a stand-alone theory
- It may be a good complement to utilitarianism
- Allows rationale for action to be considered
- Solves problem of moral luck that plagued act utilitarianism
Alternative Principles for SE

- Be impartial.
- Disclose information that others ought to know.
- Respect the rights of others.
- Treat others justly.
- Take responsibility for your actions and inactions.
- Take responsibility for the actions of those you supervise.
- Maintain your integrity.
- Continually improve your abilities.
- Share your knowledge, expertise, and values.
Whistleblowing a Moral Duty?

- Richard DeGeorge’s questions for whistleblowing
  1. Is serious harm to the public at stake?
  2. Have you told your manager?
  3. Have you tried every possible inside channel?
  4. Do you have persuasive documented evidence?
  5. Are you sure whistleblowing will work?

- Under what conditions must you blow the whistle?
  - DeGeorge: If all five conditions are met
  - Others: If conditions 1-3 are met
  - Still others: Whistleblowing is *never* morally required
Moral Responsibility

- Exclusive Responsibilities
  - Role responsibility
  - Causal responsibility
  - Legal responsibility
- Moral responsibility
  - Must be borne by people
  - Is not exclusive
- Michael McFarland: A team should be held to a higher level of moral responsibility than any of its members