

Ethics in IT

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Professional Ethics

- Objectives
 - What's a profession?
 - What does it mean to be a professional?
 - Characteristics of professions
 - Functions of professionals
 - Codes of ethics
 - Difference between certification and warranting

What's a profession?

- “a calling requiring specialized knowledge and often long and intensive academic preparation” (Merriam-Webster Online)
- More frequently used to refer to somebody who performs a task “for a living” (e.g., footballer)...
- ... or to someone who takes pride in his or her work (“She did a really professional job of it!”)

What's a professional?

- What does it mean to be a Professional?
 - Consider me... I am an academic who is also a “computer professional”
 - Are my responsibilities different from another academic who is a lawyer, or a historian?
 - Are they different from another computer professional who is not an academic?
 - Do I, as an academic or as a computer professional, differ from “ordinary” citizens or other professionals?

What's a professional?

- Strongly differentiated professions: examples
 - Ordinary citizens and members of most professions may be subpoenaed
 - Some people cannot be subpoenaed...Who? Why?
 - Ordinary citizens and most professionals cannot use excessive force to detain a criminal “caught in the act”
 - But the police can, and the criminal is “not allowed” to resist arrest

What's a professional?

- Strongly differentiated professions: examples (contd.)
 - Doctors prescribe/administer controlled drugs
 - The rest of us will go to jail if we attempt it!
 - A civil engineer can prevent access to a building if he/she declares it unsafe
 - The rest of us will be charged with obstructing public access

What's a professional?

- Some professionals are allow to perform actions that would be illegal if performed by the ordinary citizen....
- ... but with extra privileges come extra responsibilities...
- A doctor must prescribe drugs to treat illness only
- The police cannot merely embark on a “let’s beat ’em up binge”

Characteristics of Professions

- Must professions be strongly differentiated?
- Must professionals be able to do something which would otherwise be considered illegal?
- Is computing strongly differentiated?
 - Repairing equipment while it is under warranty?
 - Maintaining software? (Client not allowed to modify source code!) But usually, we don't even want other computer professionals to maintain our code!
 - Any other examples?

Characteristics of Professions

- Johnson, 2001
- Mastery of an Esoteric Body of Knowledge
 - A professional usually needs to acquire knowledge that is usually obtained at University
 - Professional should also keep knowledge up-to-date
 - Usually, new professionals serve an apprenticeship

Characteristics of Professions

- Formal Organisation
 - Usually have single, co-ordinating organisation that is recognised by State/Government
 - Decides on membership, sets standards
 - Can issue a warrant or licence, without which profession cannot be practised

Characteristics of Professions

- **Autonomy**
 - Professionals are recognised as experts – they are autonomous decision makers
 - Organisation is also autonomous – it decides what knowledge should be possessed by its members, how often it should be updated
 - Organisation decides who can be a member, and can revoke membership

Characteristics of Professions

- Code of Ethics
 - Informs general public about what to expect from professionals
 - Informs professionals so that standards can be maintained
 - Members in breach of Code of Ethics can be charged with misconduct!
- Social Function
 - Typically, professional group fulfils important social function: social health, law and order, sanctioning the financial activities of an organisation, public safety...

Professional Functions

- Typically, a professional is engaged in:
 - analysis/diagnosis/advice
 - design
 - certification
- A professional knows about and applies standards
- A good professional is committed to a Code of Ethics

Professional Functions (contd.)

- The professional belongs to an organisation that can vouch for the authenticity of the member's qualifications, experience, and knowledge
- The organisation can sanction misbehaving members
- The professional puts the client's interest, and the reputation of the profession, first - can lead to conflict, whistleblowing, etc.!

Codes of Ethics

- A CoE is a public declaration of the aims, objectives, and standards the public can expect from members
- Also acts as a reminder to the members of the standards and good practices they should maintain!
- Earliest example of CoE: Hippocratic Oath
- Many organisations have a CoE that is not enforceable at law
- Following the Code is voluntary. Membership of offenders is terminated

Codes of Ethics

- If organisation is recognised by the State, the State will normally provide legislation:
 - to prevent non-warrant holders from practicing
 - to discipline offending warrant holders
- Code of Ethics is only as good as members who uphold them:
 - The Ten Commandments
 - The Mafia
 - Customer Charters
 - Citizens Charters

Codes of Ethics

- CoEs are social contracts
- Pointless on their own if there is no “Ethics Commission” to deal with claims of unethical behaviour...
- ...and to discipline those in breach of the Code

Comparing CoEs

- Codes of Ethics normally describe relationships between members and society, clients, employers, and other members.
 - They are not conclusive or exhaustive!
 - They need to be updated as social attitudes and demands change, viz., Hippocratic Oath
- Selected CoEs are:
 - **BCS**: (British Computer Society, has Malta Section), **IEEE**, **CPE** (Chamber of Professional Engineers (Malta)), **CSM**: (Computer Society of Malta), **ACM**, **IEEE-CS** (IEEE-CS/ACM Software Engineering Code of Ethics and Professional Practice),

	<u>BCS</u>	<u>IEEE</u>	<u>CPE</u>	<u>CSM</u>	<u>ACM</u>	<u>SE</u>
Act in the public interest	x	x	x	x	x	x
Act in the best interest of the client/employer	x	-	x	x	x	x
Use best possible standards	x	?	x	x	?*	x
Maintain integrity and independence in professional judgement	x	x	x	x	x	x
Managers and leaders to subscribe to and promote Code of Ethics	-	-	x	-	x	x
Advance integrity and reputation of profession	x	x	x	x	x	x
Be fair to and supportive of colleagues	x	x	x	x	-	x
Participate in lifelong learning and promote Code of Ethics	x	x	x	x	x	x
Avoid harm to others	-	x	x	x	x	x
Honour property rights	x	x	x	x	x	x
Maintain confidentiality	x	x	x	x	x	x

	<u>BCS</u>	<u>IEEE</u>	<u>CPE</u>	<u>CSM</u>	<u>ACM</u>	<u>SE</u>
Improve public understanding of discipline and its consequences	x	x	-	x	x	x
Breaches of the Code will be disciplined	x	-	x	-	x	-
Care for the environment	-	-	x	x	-	x
No soliciting for work	-	-	x	-	-	-
Do only what trained to do	x	x	x	x	-	x
Period of apprenticeship	-	-	x	-	-	x
Understand all legislation relevant to profession	x	-	x	x	-	x
Disclose promptly if employer/client insists on dangerous action	x	x	x	x	-	

Certification and Warranting

- What's the difference between certification and warranting (licensing)?
- A certificate is granted to an entity (individual/corporation) able to demonstrate sufficient proficiency in a subject
- 'O'-, 'A'-level, MATSEC, BSc IT/ICT (Hons) are all educational certificates
- Microsoft, CISCO, Novell, etc., award non-educational certificates

Certification and Warranting

- Certificates may also be awarded to those who satisfy some criteria, e.g., “certificate of attendance”
- Knowledge that certificate holders has attained a certain level of competence...
 - ... Italian ‘O’-level vs. degree... expect more from degree holder
 - Certificates useful for employers:
 - independent evidence of competence

Certification and Warranting

- Compare educational vs. vocational certificates...
 - ... educational requirements can be a block to gaining a job...
 - ... vocational cannot be without amendments to legislation!
- A warrant can be used to block access to a job
- A warrant can have educational, vocational, and work experience requirements

Certification and Warranting

- It is *illegal* to perform work reserved for a warrant holder *even if* the qualifications/ experience condition is satisfied
- Why are some professions warranted?