CEPIS
Council of European Professional
Informatics Societies

Professional Ethics Framework
Development of Appropriate Guidelines

Contents:

Context

The work carried out by Capgemini, IDC, and EY on behalf of the European Commission on the development, implementation and promotion of a European Framework the IT Profession requires input on the development of appropriate ethical guidelines. The desire is for the framework to encompass a meta-model framework on ethical principles, rather than specific ethical structures. See http://ictprofessionalism.eu/documents/ for interim report of this project.

Introduction

The work in this project builds on a previous ground breaking study, together with IVI, the European Commission, and other partners, CEPIS has helped create an IT Professionalism Framework (see cepis.org/media/Brochure_Fostering_ICT_Profession_Europe1.pdf).

This framework defines four pillars or blocks fundamental to Professionalism in IT:
- A Body of Knowledge
- Education and Training (including CPD)
- Competencies (hard and soft skills)
- Professional Ethics

The first three of these are already being reasonably well looked after within the professional community. A recent EC project[1] drafted a foundational Body of Knowledge and the e-CF (the European e-Competency Framework) has gone a long way to identifying and describing competencies and skills for IT roles.

Professional Ethics remains the poor relation. It is almost remarkable that only a tiny minority of IT programmes in colleges and universities include any formal element on Professional Ethics. And while many professional bodies and organisations have codes of ethics or practice, people still need to be trained and supported in ethical thinking.

Ethics has, in fact, been a consideration among IT practitioners for a long time, certainly from a human perspective (in which considerations of ethical behaviour apply to everyone), and more lately, as our IT-driven technological revolution drives us ever faster into areas that our natural ethical thinking has not really left us properly equipped to consider.

Before defining a Professional Ethical Framework, it is necessary to agree on a definition of what ethics is. To do so a series of questions must be asked:

- Is the rightness of an act assessed according to its consequence or its intent?
- Are ethical values defined by the individual or by a group?

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[1] See: http://ictprofessionalism.eu/wp-content/uploads/EU-Foundational-ICT-Body-of-Knowledge_Brochure_final.pdf

- Do they apply to all or only to some?
- Can these values change?
- Why should one abide by these values?

What, if anything, is special about IT ethics?
- IT's fundamental ubiquity?
- The potential for IT issues to impact on a massive (global) scale?
- IT's propensity for leading to outcomes that were not foreseen – let alone understood?
- The ease with which "amateurs" can practice IT?
- The degree to which more and more things are becoming automated/controlled/moderated by software (e.g. the "internet of things")?
- The ever increasing tendency for what was once in hardware to become software?

Part of the challenge, perhaps, is that human nature tends to care little about something until we are directly affected; much more often than not, questions of ethics typically arise only when our personal sense of justice or fairness is offended; how dare Google sniff at my personal data (never mind that I didn't encrypt it)! This makes deferring (or ignoring) the question easy (thus, of course, making it harder to address when it arises). Users also need to be conscious of the context in which an IT will be used – much like you are with a car, for example, or a power tool.

In a world where anyone can code, and where anyone can create IT systems, the difference between the non-professional and the professional is based on their attitude to, and application of, ethics among other factors.

We do not propose a discussion on ethics *per se*. There already exist many fora where ethics is/are studied and discussed. Rather what we need is a means of transmitting this learning into the minds of IT practitioners for practical application in their professional lives – a Professional Ethics Framework.

An effective "code of ethics" serves a number of purposes:
- It explains to society (consumers, customers etc.) what to expect from the IT profession (for example, the *Software Engineering Code of Ethics* says that the first obligation is to the public (ACM, 1999))
- It expresses the "conscience" of the IT profession (the set of values within which an ethical question is considered) in an objective, balanced and non-partisan way
- It guides (and also justifies) professional decision making

A programme for promoting and supporting professional ethics requires three things:
- **Awareness**: IT practitioners and the public alike must be made aware of the necessity for a greater understanding of, and application of, ethical skills in IT; "Digital wisdom" must accompany digital literacy.

- **Resources**: resources must be made available to assist practitioners to develop and apply ethical skills
- **Professional Ethics Framework** (the subject of this discussion): this would be a toolkit containing what professional societies need in order to create, establish, maintain and apply an ethical framework within their specific communities, such as a Professional Ethics Statement (see below).

A Professional Ethics Framework – Areas for Discussion

The following are proposed areas for discussion.

Exemplar Code of Ethics or Professional Ethics Statement
Do we need to provide an exemplar ethical code? Many examples of ethical codes already exist (see, for example, the CEPIS website). Is it preferable to provide a "toolkit" for constructing a code of ethics? There exist already some studies on the making of codes of ethics. Don Gotterbarn refers to a "Statement of Professional Aspiration".
What form should a code of professional ethics for IT Practitioners actually take? Rules? Guidelines? Guiding process steps?

Mandatory and Optional elements
Are there areas of ethics framework that are mandatory, and other that might be considered optional? If so, what would these be? Should a code of ethics include the recommendations of Weizenbaum: "Human functions that require judgement, respect, understanding, caring and love ought not to be substituted by computers; Applications which have irreversible and not entirely foreseeable side effects, that do not meet pressing human needs, ought not to be undertaken without very careful forethought; IT is a matter of human choice and responsibility."

Code of Ethics coverage
Does a code include references to:
- Conduct/Behaviour
- Learning
- Standards
- Good and best practice
- Obligations to society or the profession or to the state?
- Etc.

Sanction
If a code of ethics is required, is sanction or enforcement also required? If so, what forms might this take? Should a professional society sanction practitioners who fail to abide by the code, or should society do so?
It may be better to consider what is necessary for compliance, rather than when a person is non-compliant.

Other codes

Should codes of conduct and codes of practice be considered within this framework? Does this allow a better distinction between whatever the appropriate concerns are? Should a binding code of practice prescribe consultation with a voluntary code of ethics?

Awareness

How can/should an ethical framework be communicated/disseminated effectively? Few courses incorporate modules on professional ethics; even where they do, teaching to be ethical is very difficult without a corresponding foundation in ethics.

Universality

Is a code universal, or does it have a universal core, and a family of domain-specific elements? Is the ethics required for a network security professional the same as those required for a game designer?

Resources

What resources are necessary to educate and sustain practitioners and the public in IT professional Ethics? Case studies, discourses and thought experiments are important elements that need to be curated and made available. Ethical thinking is developed and honed predominantly by peer discussion, so what resources are needed to facilitate and support it?

Education

When and where does ethics education begin?

The role of Computing/Informatics Societies

Professional and regulatory bodies potentially have a clear role in promoting awareness, providing tools, education, certification, and so on.

The responsibility here extends to both the practitioner, and to the public. Guidance on ethics requires professional bodies to express learned, considered, opinions on controversial matters of ethical concern (e.g. the effect of IT on emissions, autonomous weapons systems, automated decision making, and so on).

A Professional Ethics Statement

This draft proposes the general principles of professional and ethical conduct which could be considered as the basis for a Statement on Professional Ethics as part of an overall Framework.

The principles recognise that activities of a professional nature impose four specific duties on practitioners, i.e. to serve:

- the public interest
- the employer or client

- the informatics profession
- the professional practitioner.

The above duties imply particular requirements that need to be fulfilled by professional informatics practitioners, as indicated below.

Protection of Public Interest and Legal Compliance

- safeguarding public health, safety and the environment
- recognition of the rights of third parties, and that the intellectual property rights of others are not prejudiced
- recognition of the rights of individuals and groups to information privacy
- knowledge and understanding of relevant legislation, regulations and standards, and that the world of the professional complies with such requirements
- recognition of basic human rights and the avoidance of actions that have an adverse effect on such rights.

Responsibility to Employers and Clients

- performance of professional work that meets the requirements of the employer or client, drawing their attention to the consequences of professional judgement being ignored or overruled
- performance of professional work to time and to budget and the early notification to employer or client if such requirements are unlikely to be fulfilled
- not to offer or provide any inducement to a third party in return for the introduction of business from a client unless there is full disclosure of the facts to that client

Professional Dignity and Promotion of Professional Aims

- protection of the reputation of the informatics profession and the improvement of professional standards through personal participation in their development, use and regulation and the avoidance of action which will affect adversely the good standing of the profession
- advancing public knowledge and the appreciation of informatics and countering wherever possible false or misleading statements detrimental to the profession
- encouragement of professional development and support to fellow practitioners and the provision of opportunities supporting the development of new entrants to the profession
- acting with integrity towards fellow practitioners and to members of other professions who may be engaged in related work and the avoidance of any activity which is incompatible with professional status.

Competence, Ethics and Impartiality

- avoidance of claims to levels of competence not possessed
- acceptance of professional responsibility for work performed including the work of subordinates and associates under their direction, and not to terminate a professional assignment except for good reason and with reasonable notice
- avoidance of situations giving rise to conflict of interest to practitioners or clients and to make full disclosure to clients, in advance, of any such conflict of interest that may arise.

Further Reading

Brady, D. (2013), Professional Ethics: Pillar or Pillory? Computer Ethics: aspetti sociali ed etici della rivoluzione digitale, Centro Nexa su Internet & Societa, Politecnico di Torino, November 13, 2013. Online, Available at:http://mondodigitale.aicanet.net/2014-2/PAPERS/01_Ethics_IT_Professional_Pillar_Brady.pdf

Hooker, J. (2004), The Case Against Business Ethics Education: A Study in Bard Arguments, Journal of Business Ethics 1(1): 75-88, Senate Hall Academic Publishing. Available at: http://web.tepper.cmu.edu/jnh/paper81.pdf

Mc Dermott, P.A., (2015) The State will soon be able virtually to ignore its citizens, The Sunday Times (Irish Edition), April 5, 2015.

McFarland SJ, M. (2012) *The Human Cost of Computer Errors,* [online]. Available at: http://www.scu.edu/ethics/practicing/focusareas/technology/internet/privacy/computer-errors.html

SEE (ND) *Introduction to Software Engineering Ethics*, [online]. Available at: http://www.scu.edu/ethics/practicing/focusareas/technology/resources/Students.pdf
Velasquez, M., Andre, C., Shanks SJ, T., and Meyer, M.J., (1996), Thinking Ethically: A Framework for Moral Decision Making, Issues in Ethics, Vol 7 No 1. Available at: http://www.scu.edu/ethics/practicing/decision/thinking.html

ACM (1999) Software Engineering Code of Ethics and Professional Practice (v5.2) [online]. Available at: http://www.acm.org/about/se-code

BBC (2013) *Ethics, a General Introduction* [online] Available at: www.bbc.co.uk/ethics/introduction/intro_1.shtml

Brady, D (2009) A Profession for IT? *Upgrade* 10(4), 7-11

CEPIS (2010) *Characteristics and Benefits of Professionalism in IT*, [online]. Available at: www.cepis.org/media/IT_Professionalism_Characteristics_Benefits060510_final11.pdf
Hamilton, D. (2011) *Top 10 Companies Codes of Ethics* [online] Available at: http://drdianehamilton.wordpress.com/2011/09/13/top-10-companies%E2%80%99-code-of-ethics-and-conduct-2011/

ILO (2012), *Corporate Codes of Conduct*, International Labour Organisation [online] Available at: http://actrav.itcilo.org/actrav-english/telearn/global/ilo/code/main.htm

Lee, J., and Berleur, J. (1994) *Progress towards a world-wide code of conduct*. In Proceedings of the conference on Ethics in the computer age (pp. 100-104). ACM.

McFarland SJ, M. (2012) *The Human Cost of Computer Errors,* [online]. Available at: http://www.scu.edu/ethics/practicing/focusareas/technology/internet/privacy/computer-errors.html

McLaughlin, S., Sherry, M., Carcary, M., O'Brien, C., Fanning, F., Theodorakis, D., Dolan, D. and Farren, N. (2012) *e-Skills and ICT Professionalism – Fostering the ICT Profession in Europe* [online]. Availableat: http://www.cepis.org/media/EU_ICT_Professionalism_Project_%20FINAL_REPORT.pdf