On the Importance of Teaching Professional Ethics to Computer Science Students

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Uniqueness Debate in Computer Ethics

For “uniqueness debate” see Tavani, The uniqueness debate in computer ethics: What exactly is at issue, and why does it matter?, Ethics and Information Technology 4: 37–54, 2002 and references therein

Similarity, Uniqueness

Similarity, is always relative. Two things that are similar are always similar in certain respects. Uniqueness is a matter of context.

What makes computer ethics unique?

(Why not car ethics?)


Policy Vacuums …


Computers Relevance for the Contemporary Society

– Computing has become a complex and growing part of society – with profound and deep social and ethical implications
– In order to be able to understand the problems within the field a technical expertise is necessary
The Revolutionary Machine

What is so special about computers?
- Computers are logically malleable (ductile) in that they can be shaped and moulded to do any activity that can be characterized in terms of inputs, outputs, and connecting logical operations.
- Computers as tools for representation, modelling and simulation

Computing Technology and Human Values

- How can we work to make computing technology advance human values?
- To integrate computing technology and human values in such a way that the technology advances and protects human values, rather than doing damage to them.

Computer Ethics - a Definition

Computer ethics is the analysis of the nature and social impact of computer technology and the corresponding formulation and justification of policies for the ethical use of such technology.

Computer Ethics in the Computer Science Curriculum

James H. Moor
http://www.southernct.edu/organizations/eecc/resources/teaching/teaching_moor/moor_definition.html

Terrell Ward Bynum
http://www.southernct.edu/organizations/eecc/resources/teaching/teaching_moor/bynum/human_values.html

Why Learn Ethics?

- Convey a sense of professional responsibility not covered in other courses
- Deal with the true nature of computing as a service to other human beings.

(Gotterbarn 1991)
Why Teach Ethics?

- Sensitize students to computer ethics issues
- Provide tools and methods for analyzing cases
- Provide practice in applying the tools and methods to actual or realistic cases
- Develop in the student good judgment and helpful intuitions - ethical autonomy.

Swedish Computing Curricula

Swedish Computer Science and Engineering education follows in many respects an international model, the American ACM/IEEE Computing Curriculum

http://www.computer.org/education/cc2001/index.htm

Typical general knowledge subjects that are widely represented are Theory of Science (Philosophy of Science) and Research Methodology.

However, the education in professional ethics, that is a compulsory part of ACM/IEEE Computing Curriculum is as a rule absent.

Engineering as Social Experimentation

“All products of technology present some potential dangers, and thus engineering is an inherently risky activity. In order to underscore this fact and help in exploring its ethical implications, we suggest that engineering should be viewed as an experimental process. It is not, of course, an experiment conducted solely in a laboratory under controlled conditions. Rather, it is an experiment on a social scale involving human subjects.”


Social Importance of Engineering

Engineering has a direct and vital effect on the quality of life of people. Accordingly, the services provided by engineers must be dedicated to the protection of the public safety, health and welfare.

Why is the Professional Ethics Important for Computer Scientists and Engineers?

Because the Professional Ethics shall be a part of education for every socially important profession, as one of essential constituents of the meaning of the term professionalism!

Codes of Professional Ethics

A code of professional ethics appears when an occupation organizes itself into a profession. It is central to advising individual professionals how to conduct themselves, to judging their conduct, and to understanding of a profession.
Professional Ethics in Science and Engineering Course at Mälardalen University Sweden

- What Is Ethics?
- Ethics vs. Morals
- Ethics: A Pluralistic Approach to Moral Theory
- Is Computer Ethics Unique in Relation to Other Fields of Ethics?
- Codes of Ethics and Professional Conduct
- Engineering as Social Experimentation
- A Framework for Ethical Decision Making
- Types of Ethics Inquiry

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MDH Professional Ethics Course Home Page:
http://www.idt.mdh.se/kurser/cd5590/03_11/