Topic 7

Ethics and Culpability

Contents

Learning Objectives

- *Appreciation of the distinction between incompetence and impropriety*
- *Awareness of the existence of different moral systems and principles*
- *Familiarity with the stakeholder approach to ethical decision making*
- *Familiarity with some popular tests of ethicality*
- *Awareness of the distinction between moral and legal responsibility*
- *Experience in thinking through a complicated legal case*

For such actions as are prejudicial to the interests of others, the individual is accountable... (Mill 1859)

7.1 Right and wrong

You should have read Article 9 of ”The Case of the Killer Robot” before starting on this topic. In that article Harry Yoder draws attention to the blurred boundaries between legal, technical and ethical issues. Well, the law is the law and ignorance of it is not normally accepted as a defence

The boundary between technical and ethical issues is nothing like as clear cut however. If something goes wrong with a piece of technology, due to a design flaw say, it might simply be a result of incompetence or it might be due to some form of impropriety. The former, although possibly very unfortunate, would not lead us to doubt the morals of the people involved in the way that the latter would. Of course, the incompetence itself might be the result of some morally dubious choice on somebody’s part. For instance an employee taking a cavalier attitude to their work or an employer employing an under-qualified friend in a skilled position.

We tend to ascribe great importance to the motives for an action when trying to decide whether it was morally right or wrong. You should note, however, that not all moral systems take this attitude. Objectivists hold that actions are good or bad in and of themselves and the intentions behind them therefore become irrelevant. Egoists argue that everybody should put their own self-interest before all else and have little interest in any other motives.

7.2 Ethical decision making

Kallman and Grillo (1993) suggested a very useful approach to making ethical decisions - whether this be to determine the morality of somebody else’s actions or to help determine an ethical course of action to follow yourself. Their approach is to list all of the stakeholders in the decision.

Anybody who might be affected, either positively or negatively, by the choice being made should be given proper consideration. Stakeholders are not always easy to identify - some are only affected very indirectly. It can be helpful to tabulate the options and the stakeholders, noting the effect of each option upon each stakeholder.

Kallman and Grillo also produced a collection of useful tests which we extend slightly for presentation here:

The Golden Rule
Treat others as you would have them treat you.

Other Person's Shoes Test
Does what you are proposing treat others as you would have them treat you if you were in their position rather than yours (cf The Golden Rule).

Legality Test
Is what you are proposing legal?

Smell Test
Does what you are proposing smell right?

Parent Test
Would you tell your parents what you are proposing?

Media Test
Would you be happy for the media to find out what you are proposing?

Market Test
Is your proposed course of action such a good thing that you could actually sell it?

Always identify the important stakeholders and the key facts of a situation. It can help to write them down. Clarify the options open to you. Apply as many tests to each option as you feel are appropriate and consider the impact on the various stakeholders. Do this and you are unlikely to be accused of not giving due consideration to the consequences of your decisions.

An ethical analysis might help us to decide who was morally responsible for the fatal accident in the case study but it might not tell us whose actions actually caused it. We shall now look at who might be considered culpable, or legally to blame.

7.3 Culpability in the case study

"The Case of the Killer Robot" presents us with a smoking gun in the form of the death of Bart Matthews but who or what pulled the trigger?

We are told very little about the client company, Cybernetics Inc., in the case study but the fatal accident occurred on their premises during the course of Bart Matthews' employment with them. We might have more to go on at Silicon Techtronics but we must not overlook the part played by Cybernetics Inc. in our haste to rifle through all that Robbie CX30 project team material.

Cybernetics Inc. and Silicon Techtronics and their employees can both be assessed in terms of the people and methods employed and the culture of their organisations. We can tabulate this:

	Cybernetics Inc.	**Cybernetics Inc. Silicon Techtronics**
People	Management	Management
	Staff trainers	Development team
	Installation engineers	Individual developers
	Machine operators	Quality assurers
	Maintenance personnel	
Methods	Training regimes	Management methods
	Safety practices	Development methods
	Installation procedures	Programming methods
	Live testing	Programming language
	Maintenance procedures	Quality assurance
Culture	Technological familiarity	Leadership
	”Safety first”	Team spirit
	Pressure	Pride in job
		”Safety first”
		”Ivory snow theory”
		Pressure

In ascertaining where the blame is to be placed we should investigate each item in the table and not just stop at the first one that reveals a cause. There are likely to be many causes.

We know there was a bug in the control software written by Randy Samuels. Why was not it picked up during testing? Was Cindy Yardley to blame? Would the bug even have occurred if a different programming language or development methodology had been used? Was Sam Reynolds to blame? Was the ”Ivory snow theory”, and hence Ray Johnson, to blame? Should the system have failed to safety anyway, as a ”safety first” policy would require? Should the user interface have permitted a more rapid emergency stop procedure? Was Bart Matthews up to the job? Was he himself to blame? Should he have been given better training?

The physical realisation of the system was a shared responsibility of both companies and included things like the installation environment, the hardware configuration and the safety mechanisms. Were these adequate? What about the pressure that both companies were under, did this lead to short-cuts being taken?

You probably see where we are heading now. You are not going to get a clear-cut answer from me. Take some time to think about these matters and see if you can form an opinion for yourself.

7.4 Summary and Assessment

At this stage you should be able to:

- Outline the distinction between incompetence and impropriety
- Identify different moral systems and principles
- Explain the stakeholder approach to ethical decision making
- Describe some popular tests of ethicality
- Explain the distinction between moral and legal responsibility
- Analyse a complicated legal case

End of topic test

5 min

Q1: We generally ascribe importance to what when making moral judgements?

a) Actions
b) Costs
c) Motives
d) Risks

Q2: People or organisations who should be considered in an ethical analysis are?

a) Clients
b) Stakeholders
c) Troublesome
d) Victims

Q3: The Golden Rule is

a) Do not put off until tomorrow what you can do today?
b) One man's meat is another man's poison
c) Too many cooks spoil the broth
d) Treat others as you would have them treat you

Q4: Which of the following was NOT suggested as a test of ethicality?

a) Legality
b) Parent
c) Smell
d) Taste

Q5: Culpable means to be at fault in what sense?

a) Commercial
b) Ethical
c) Legal
d) Religious

Q6: How many causes can be identified for Bart Matthews' death?

a) Many

b) None
c) One
d) Two

Q7: How pure is ivory snow ?

a) 99.33%
b) 99.44%
c) 99.55%
d) 99.66%

Q8: Cindy Yardley worked as a?

a) Interface designer
b) Professor of Ethics
c) Programmer
d) Software tester

Q9: Ray Johnson was?

a) CEO of Silicon Techtronics
b) Chief of the Robotics Division
c) Professor of Computer Science
d) Project Manager of Robbie CX30 team

Q10: The physical realisation of the Robbie CX30 installation did NOT

a) Bart Matthews
b) Hardware configuration
c) Installation environment
d) Safety mechanisms

7.5 Assigned task

Assigned task

1. Think about the issues involved in determining who was at fault in ”The Case of the Killer Robot”. Were the actions of all concerned understandable? Could they be defended? Should the blame be shared or does it fall on one particular individual or organisation in your opinion?

2. Make sure you attend the second set of presentations on historical computing devices even if you have already made your own presentation. These talks provide the background to Topic 8.

Assigned Topics 19 - 27	
Napier's Bones	*1st Tutee*
Pascaline	*2nd Tutee*
Multiplier Wheel	*3rd Tutee*
Difference & Analytical Engines	*4th Tutee*
Tabulating Machine	*5th Tutee*
Z1-Z4	*6th Tutee*
Colossus	*7th Tutee*
ENIAC/EDVAC	*8th Tutee*
EDSAC	*9th Tutee*

7.6 References

Epstein, R.G., 1997, *The Case of the Killer Robot*. John Wiley & Son.

Kallman, E.A. & Grillo, J.P., 1993, *Ethical Decision Making and Information Technology*. McGraw-Hill.

Mill, J.S., 1859, *On Liberty*. Penguin Books, 1985 edition.

Taylor, N.K., 2002, The Killer Robot [online]. Heriot-Watt University (MACS), 16th December 2002 [cited 7th July 2003]. SHTML. Available from:

http://www.macs.hw.ac.uk/~nkt/praxis/epstein/index.sht

Answers to questions and activities

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End of topic test (page 5)

Q1: c) Motives

Q2: b) Stakeholders

Q3: c) Too many cooks spoil the broth

Q4: d) Taste

Q5: c) Legal

Q6: a) Many

Q7: b) 99.44%

Q8: d) Software tester

Q9: b) Chief of the Robotics Division

Q10: a) Bart Matthews