



Ethics in Student Projects

Alistair D N Edwards
(Helen Petrie)
University of York, UK
<http://www-users.cs.york.ac.uk/~alistair/>




What are Ethics?

The moral principles by which a person is guided (OED)



What are Ethics?

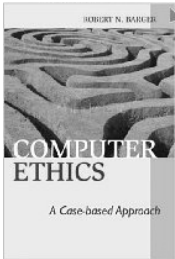
Ethics are based on an underlying moral code
That code is culturally dependent
Different philosophical schools imply
different codes of ethics




What are Ethics?

Good background introduction to ethics and the underlying philosophies:

Barger, R. N. (2008)
Computer Ethics: A Case-Based Approach,
Cambridge University Press






What are Ethics?

The legal system reflects the extremes of the moral code

Just because something is legal it is not necessarily ethical

Examples?
MPs and expenses



What are Ethics?

As well as legal codes there are codes of ethics

Usually applied by organizations



What are Ethics?

There are no hard-and-fast rules
beyond the law

Personal judgements

Cultural differences

Every decision you make has an ethical
dimension

Nothing I say today can be taken as definitive



Ethics in projects

1. Ensuring that the work of the project is carried out according to ethical principles.
2. Having regard for the moral implications of the results of the project.



Ensuring that the work of the project is carried out according to ethical principles

1. The basics
 - No plagiarism
 - Not making up results
 - etc.
2. Regarding any *people* involved



Having regard for the moral implications of the results of the project

Not necessarily clear-cut

The student has no control over the use of their project results



Why ethics in projects?

We should all act ethically

Students should learn how to work in an ethical manner


Projects are an opportunity to demonstrate that they have learned this

External bodies like to see evidence that students understand ethics




Ethical codes

Do no harm




ACM Code of Ethics

General Moral Imperatives.
More Specific Professional Responsibilities.
Organizational Leadership Imperatives.
Compliance with the Code.
Acknowledgments.



1. General moral imperatives

1.1 Contribute to society and human well-being.
This principle concerning the quality of life of all people affirms an obligation to protect fundamental human rights and to respect the diversity of all cultures. An essential aim of computing professionals is to minimize negative consequences of computing systems, including threats to health and safety. When designing or implementing systems, computing professionals must attempt to ensure that the products of their efforts will be used in socially responsible ways, will meet social needs, and will avoid harmful effects to health and welfare.



1. General moral imperatives

1.1 Contribute to society and human well-being.
This principle concerning the quality of life of all people affirms an obligation to protect fundamental human rights and to respect the diversity of all cultures. An essential aim of computing professionals is to minimize negative consequences of computing systems, including threats to health and safety. When designing or implementing systems, computing professionals must *attempt to ensure* that the products of their efforts will be used in socially responsible ways, will meet social needs, and will avoid harmful effects to health and welfare.



1. General moral imperatives

As an ACM member I will ...

- 1.1 Contribute to society and human well-being.
- 1.2 Avoid harm to others.
- 1.3 Be honest and trustworthy.
- 1.4 Be fair and take action not to discriminate.
- 1.5 Honor property rights including copyrights and patent.
- 1.6 Give proper credit for intellectual property.
- 1.7 Respect the privacy of others.
- 1.8 Honor confidentiality.




1. General moral imperatives

Is there a student project to which those do not apply?




Ensuring that the work of the project is carried out according to ethical principles.



Ethics of research with human participants


Very strict guidelines about what you can do with human participants

But also an opportunity to consider what you are doing



Need to consider ethics at the following 5 stages:

1. Recruitment of participants for studies
2. Briefing of participants when a study starts
3. During study
4. Withdrawal from study
5. Debriefing after study



Recruitment

Need to inform participants of the nature of what they are being asked to do, the effort involved

Should not ask a participant to act against their best interests

Should not offer inducements that might cause a participant to act against their best interests

e.g. in the learning context, ask people to participate in a study with different versions of a LMS to evaluate it, knowing that one of those versions is sub-optimal



Briefing

What you tell the person when they are starting a study

Need to create a situation in which they can give **informed consent**

So they must be appropriately briefed - otherwise it doesn't count as **informed consent**



Participants need to know:

- how much time
- how much effort
- type of task involved
- how they can withdraw
- what data will be collected
- what it will be used for
- who will have access to it
- how long it will be kept
- etc



Deception in research

Sometimes if participants know what the hypothesis is, it is going to ruin the experiment

If I tell people in advance that I'm studying whether the location of the navigation bar affects their performance, they will be self-conscious about their performance, they will take particular note of the location

So it is acceptable to withhold certain information
as long as it would not be harmful to the participant
the deception should be revealed at the end



Consent form

At the end of briefing session, you ask the participant to give their consent, usually by reading and signing a consent form

For questionnaires, you can use 'implicit consent', if they have an explanation of what will happen to the data etc and they proceed to the questionnaire they are consenting, otherwise they would just stop



During the study

Participants should not be asked to do things which are dangerous, excessively boring etc

Must be allowed suitable breaks for refreshments, rest etc (may be obvious, but you'd be surprised!)



Withdrawal from the study

It must be clear to participants that they can withdraw from a study at any point without detriment

Must treat them politely even if you are very irritated that they are withdrawing

Must reimburse them proportionately (might be a bit tricky!)



Debriefing after the study


Must debrief participants fully
Tell them what the study was about, why you collected the data you did, what you are going to do with it
As appropriate, you should uncover any deceptions
The study should be an interesting and educational experience for the participant



Having regard for the moral implications of the results of the project




Are there ethical objections to the following?



~~Project involving phishing~~

Illegal
...and therefore unethical
for the department to allow it
or a student to undertake it




Software to assist in animal experiments

- not illegal
- student might have ethical objections
 - should not be forced to do such a project

Student who chooses to do it should provide an ethical statement

The greater good?



Spam generator

Illegal?
Immoral

Student should not be allowed to do such a project

The Department's ethical responsibility



Password-cracker

Would require a clear justification/ethics statement

Would have to be carried out with care

Other attempts to subvert security?



Poker bots

Not illegal

But against the rules of on-line casinos

University of Alberta Computer Poker Research Group

<http://poker.cs.ualberta.ca>

<http://www.guardian.co.uk/technology/2009/feb/12/online-poker-bots>



Others which would require careful justification

Card counter

Crossword solver

Others?



Use of the project outcomes

Design of a better weapon-aiming system

Clear ethical dimension

Which the student would have to address

Design of a collision-avoidance system for civil aircraft

Ethically positive?

But what is to stop it being used in military aircraft?

Virtual reality and Jaron Lanier



Summary

Some projects are clearly unethical – usually illegal ones

Some raise ethical questions which the student must be prepared to address

Some ethical consequences cannot be anticipated



Marking the ethics statement

Not marking the ethics

whether you agree with them

Marking the student's appreciation of the ethical implications



Marks

Supervisor says ethical aspects were
Important, many and complex
Student says there were no ethical questions
- Poor mark



Marks

Supervisor says there were some ethical
considerations
Student's Statement of Ethics contradicts the
body of the report
 e.g. No evidence of informed consent
- Poor mark



Marks

Supervisor says there were few ethical
considerations
Student's Statement of Ethics says there were
few ethical considerations
- Good mark



References

ACM Code of Ethics:

<http://www.acm.org/about/code-of-ethics>

British Psychological Society code of conduct:

http://www.bps.org.uk/the-society/code-of-conduct/code-of-conduct_home.cfm

Ethical Principles for conducting Research with Human Participants

<http://www.bps.org.uk/the-society/code-of-conduct/ethical-principles-for-conducting-research-with-human-participants.cfm#principles>

BCS Code of Conduct:

<http://www.bcs.org/server.php?show=nav.6030>

Barger, R. N. (2008) *Computer Ethics: A Case-Based Approach*, Cambridge University Press
