

Week 11: Ethics

“Ethics is knowing the difference between what you have a right to do and what is right to do”.

Potter Stewart

“Relativity applies to physics, not to ethics”.

Albert Einstein

Ethics

- Do you know right from wrong? Always?
 - How do you decide?
 - What do you do about it?
 - Is it different in the workplace to in your personal life?
- How do you judge other people/ companies/ groups ethics?
 - What happens when your 'wrong' is someone else's 'right'?
- Today:
 - Theories
 - Scenarios
 - Case Studies
 - A broader look at ethics in Information Technology

Ethics in professional life

- Boss who arranges for company to employ their relatives, lovers etc.
- Manager who fires staff who complain about wages
- Lawyer who writes a will for elderly client, in which money is left to a charity the lawyer cares about
- Banker who recommends customer borrow money to invest, with commission paid to the advisor
- Doctor who prescribes medicines made by a company that paid for doctor to attend a conference

https://www.youtube.com/watch?v=S97jP4eKONY&ab_channel=YAPSS (Warren Buffett: How I Overcome My Fear of Public Speaking)

https://www.youtube.com/watch?v=f60dheI4ARg&ab_channel=ragni (Steve Jobs talks about managing people)

https://www.youtube.com/watch?v=fj0hpsJvrko&ab_channel=NordpeakTV (Steve Jobs On Recruiting People)

https://www.youtube.com/watch?v=D24Oo0B5AN8&ab_channel=GoalQuest (Motivation | Jack Ma Life Story (CEO of Alibaba) | Goal Quest)

https://www.youtube.com/watch?v=VH35Iz9veM0&ab_channel=BigThink (Richard Branson: Advice for Entrepreneurs)

What do we need to consider as IT professionals?

- What ethical dilemma do you think you will face as an IT professional?
- Discuss ...

.. But specifically for IT professionals?

- How does this apply to IT professionals any differently to our daily lives?

Facebook has a new process for discussing ethics. But is it ethical?

How does Facebook translate broad ethical values into its decision-making process for research?

Everything We Know About Facebook's Secret Mood Manipulation Experiment

It was probably legal. But was it ethical?

Home › Responsible Travel › Is Airbnb Unethical And Irresponsible?

Is Airbnb Unethical And Irresponsible?

Posted on October 23, 2017 by Bemused Backpacker — 30 Comments



little about the ethical



BUSINESS October 24, 2017

Why Is Uber Still Having So Much Trouble with Its Ethics?



Examples of unethical behaviour in IT?

- copying software illegally (piracy)
- disclosing personal information
- failing to give proper advice to boss
- using company assets for private purpose
- using privileged position to gain favour
- failing to take due care with data security
- failing to treat colleagues or seniors with respect
- writing code that you know is flawed
- ... (what else?)

What would you do?

- You work for a small company, Googalzon Consultants. The company's only contract at present is a \$6M year-long project for Bluestone Mining to write a software system to analyse geological data.
- You discover a way of designing the system that means that the project can be completed in 2 months, rather than 1 year, and at a cost of only \$1M.
- Your boss tells you to keep quiet and ignore the “better solution” as they want to keep the team working on the project as long as possible (otherwise he would have to sack most of the staff), and Bluestone has already indicated they are happy to pay the \$6M as they believe the project is worth that much.
- What do you do? vote ...

Ethical Principle Guidance (based on ACS/ACM Code of Ethics):

- Public Interest First (ACM 1.1, 1.2): Act in the client's best interest.
- Honesty and Trust (ACM 1.3): Avoid deception.
- Avoid Harm (ACM 1.2): Hiding efficiency could waste resources.
- Respect Contracts, but Transparently: You have a contract to deliver value, not inflate effort.

Ethics through the ages

- The Golden Rule: **“So in everything, do unto others what you would have them do to you”**. Bible, (Matthew 7:12)
- Similar found in the Talmud, Koran, the Analects of Confucius and Mosaic law: e.g. **“Whatever is hurtful to you, do not do to any other person”**.
- **“If an action cannot be taken repeatedly, then it is not right to take at all”**. René Descartes (1596-1650)
- **“If an action is not right for everyone to take, it is not right for anyone”**. Immanuel Kant (1724- 1804)

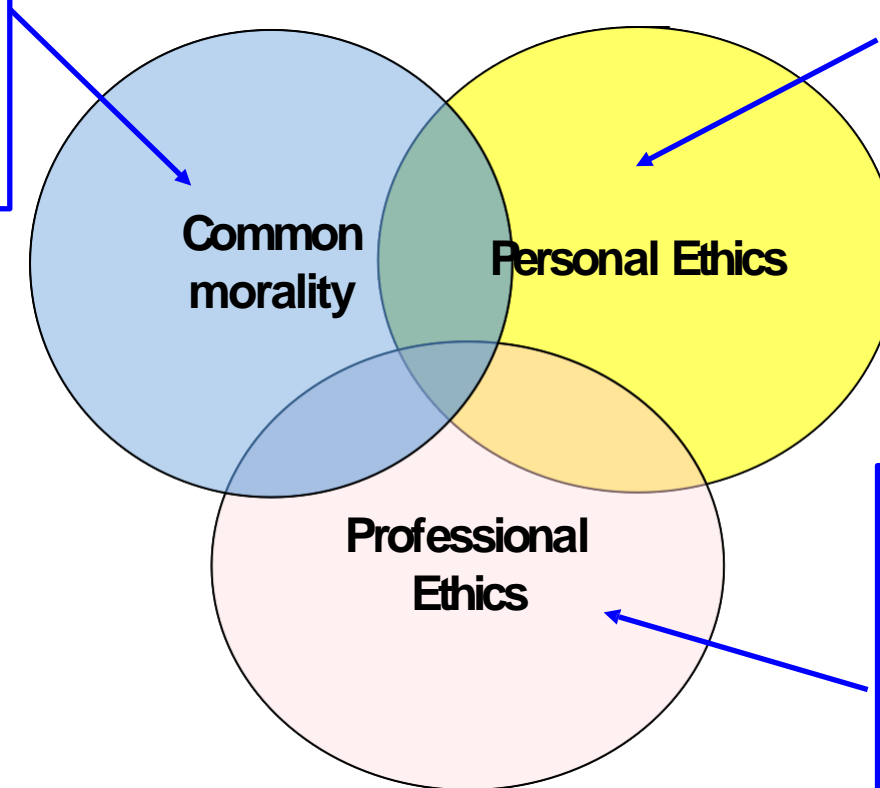
So, what are “ethics”

- Etiquette: (not right or wrong)
 - Codes of behaviour and courtesy
 - Failure to observe may lead to embarrassment
 - Law:
 - Series of rules that are enforced by the police and the courts
 - Failure to observe these can result in fines or imprisonment
 - Morals:
 - Standards of right and wrong generally accepted by a culture or society
 - We develop a system of morals throughout our life
 - Personal ethics
 - the set of an individual’s own ethical commitments, usually acquired in early home or religious training but often modified by later reflection
 - Professional ethics
 - a set of standards adopted by professionals to apply when they are acting in their professional capacity
- See [http://www.diffen.com/difference/Ethics vs Morals](http://www.diffen.com/difference/Ethics_vs_Morals)

Our ethical framework

Examples :

- Don't tell lies,
- Don't frighten little children,
- Don't sleep with brother's wife



Examples:

- Avoid alcohol,
- Help old ladies across the street,
- Attend church regularly

Examples:

- Keep company secrets,
- Tell the truth in company reports
- Admit a conflict of interest

So, how do we determine what is ethical?

- Ethics is a branch of philosophy. Whole courses devoted to it.
 - What is right? What is wrong?
- How do undertake ethical reasoning? Frameworks for making judgements...
 - Ethical pluralism
 - Teleological ethics
 - Deontological ethics
 - Egoism
 - Utilitarianism
 - Contractarianism
- See <http://docshare04.docshare.tips/files/18453/184537262.pdf>

Teleological & Consequentialist Ethics

Term	Simple Meaning	Example
Ethical Pluralism	More than one right answer	Respecting patient choice vs saving life
Teleological Ethics	Judge by result	Lying to save a life is OK
Deontological Ethics	Judge by duty/rules	Always tell the truth
Egoism	Benefit self	Help others for your own gain
Utilitarianism	Maximize total happiness	Help 10 over 1
Contractarianism	Morality by agreement	Follow traffic laws for order

Professional frameworks

- Most professional associations have “frameworks” guiding professional conduct
- These typically include consideration of ethical conduct as it applies in professional activities
 - Linking possible outcomes to duties
 - Guidance in setting priorities
 - Penalties?
- ACS: Code of Ethics, and Code of Professional Conduct
- ACM / ~~IEEE~~-CS: Code of Ethics and Professional Conduct

Professional frameworks

- ACS: Code of Professional Conduct
 - https://www.acs.org.au/content/dam/acs/rules-and-regulations/Code-of-Professional-Conduct_v2.1.pdf
 - 1.2.1. The Primacy of the Public Interest
 - 1.2.2. The Enhancement of Quality of Life
 - 1.2.3. Honesty
 - 1.2.4. Competence
 - 1.2.5. Professional Development
 - 1.2.6. Professionalism
- Detailed guidelines
- ACS has a procedure to handle complaints about members actions

Professional Frameworks

- ACM / IEEE-CS: Code of Ethics and Professional Conduct (International)
- ACM recently revised its code (2018)
 - Addressed “the significant advances in computing technology and the growing pervasiveness of computing in all aspects of society since it was last updated in 1992”
 - <https://www.acm.org/code-of-ethics>
- A computing professional should...
 - 1.1 Contribute to society and to human well-being
 - 1.2 Avoid harm.
 - 1.3 Be honest and trustworthy.
 - 1.4 Be fair and take action not to discriminate.
 - 1.5 Respect the work required to produce new ideas, inventions, creative works, and computing artifacts.
 - 1.6 Respect privacy.
 - 1.7 Honor confidentiality.
- 2.6 Perform work only in areas of competence.
- 2.9 Design and implement systems that are robustly and usably secure.
- 3.1 Ensure that the public good is the central concern during all professional computing work.
- 3.7 Recognize and take special care of systems that become integrated into the infrastructure of society.

What if an ACS member breaches the code of ethics?

Where a breach is proven, the ACS may choose to apply any of the following sanctions:

- Admonition (Warnings)
- Reprimand (Serious disapproval)
- Fine
- Suspension
- Expulsion (Force to leave)
- Specified professional development
- Withdrawal of certification

Corporate Ethics

- How much does a company's ethical approach affect your choice.
 - Would you work for a tobacco company?
 - What if you were paid far more?
 - <https://www.investopedia.com/terms/b/business-ethics.asp>
- Corporate Social Responsibility
 - an organization's responsibility for the impacts of its decisions and activities on society and the environment.
- Fourth Bottom Line
 - Profit, people, planet and progress/ purpose/ principles



Case study: Data Mining

- Facebook mood enhancement
 - Manipulated the feed of users to show posts with more 'positive' or 'negative' words without their consent (689,000)
 - After a week, these users were more likely to post positive or negative words themselves.
 - Q: Is this a problem with Facebook's research? Why?
- See:
 - <https://www.theatlantic.com/technology/archive/2014/06/everything-we-know-about-facebooks-secret-mood-manipulation-experiment/373648/>
 - <http://www.computerworld.com/article/2596456/e-commerce/opinion--toysmart-case-can-set-bar-for-online-privacy.html>

Case study: Privacy

- Toysmart vs FTC (Fair Trade Commission)
 - Online Toy store in Waltham, Mass.
 - Privacy policy on website: would not share details ...
 - Filed for bankruptcy - and then sought permission to sell assets.
 - *Including customer information: names, addresses, billing info, browsing and purchasing history... .*
 - Original FTC proposal was to allow this - but only selling to a buyer in a related market, who adhered to the original privacy policy
 - Disney bought the assets and destroyed the consumer information!
- Q: Is this a problem? Why?
- See:
 - [http://itlaw.wikia.com/wiki/FTC v. Toysmart.com](http://itlaw.wikia.com/wiki/FTC_v._Toysmart.com)
 - <http://www.computerworld.com/article/2596456/e-commerce/opinion-toysmart-case-can-set-bar-for-online-privacy.html>

Case Study: Privacy

- Google WarDriving
 - Google cars capture Street View information!
 - *But also captured WiFi data worldwide!*
 - *SSID, MAC address, signal strength, but also any unencrypted data packets.*
 - Google blamed a “rogue engineer”
 - *But later shown that Google managers had commissioned the wardriving program, to help them build Wi-Fi maps*
- Q: Aren't they just capturing data that is freely available anyway? And surely it helps them provide a better service?
- See:
 - <http://www.darkreading.com/risk-management/google-wardriving-how-engineering-trumped-privacy/d/d-id/1104126?>

Scenario: Privacy

- You work as a system administrator, running the IT systems for a high school. The school principle comes to you concerned that some students had told him they had seen a teacher accessing pornography on his school-owned computer. The principle asks you to break into the teachers computer to see whether there is any problematic material?
- Would you do it? Under what circumstances?
- You run the IT systems for a contract cleaning company that cleans offices. Your boss tells you that he thinks one of the cleaners is leaving the site early and visiting a nearby friend, but still billing the extra hours. He wants you to add an app to the employee's company-provided mobile phone so he can track where it is.
- Would you do it? Under what circumstances?

Case study: Conflicts of Interest

- A conflict of interest occurs when:
 - “*influences, loyalties, temptations, or other interests*” exist that might affect a professional’s judgment
 - A conflict of interest may be actual, potential or apparent
 - What action can you take that is considered ‘ethical’?
- You work for a company that is considering implementing a new asset tracking system. Your spouse works for the leading supplier of these types of systems. Is this useful? Or a conflict of interest?
 - Read:
 - https://sydney.primo.exlibrisgroup.com/permalink/61USYD_INST/2rsddf/cdi_pascalfrancis_primary_14596002

Case study: Intellectual Property

- Kim DotCom
 - 2005: Founded MegaUpload
 - DotCom described it as “a provider of cloud storage services”
 - 2012: conspiring to commit copyright infringement, and conspiring to commit money laundering.
 - Arrested in Auckland. Assets seized/frozen
 - Currently fighting extradition
- Q: What responsibility does a developer have to stop people using their system in illegal or unethical ways?
- See:
 - https://en.wikipedia.org/wiki/Kim_Dotcom

Scenario: IP

- You accept a 6-month short term contract job, working for a small start-up that is creating a new App that locates the cheapest place near your current location to buy consumer items. Whilst working on the project you accidentally discover that they have obtained access to proprietary code from another company (that analyses web pages to find product price information). They aren't using the code directly, but they are analysing it so they can understand the algorithm and then duplicate it in their system.
- Is this OK? Why? What would you do about this?

Scenario: Unauthorised access?

- Next semester you get a part-time job working for the University's ICT unit doing testing on development changes to Sydney Student. As part of this you have access (for testing purposes) to a copy of all course and student data.
- Is it OK for you to see unit of study results for your friends as part of your testing?
- Is it OK for you to see the results of other students who you don't know but who are in your course?
- Is it OK for you to see the results of students in other courses?
- Is it OK for you to see real results / personal information, if the names have been removed?

Case study: Fairness and Discrimination

- See https://www.youtube.com/watch?v=YJjv_OeiHmo
- Facebook / UTexas
 - 2012: Queer Quorus - added members to their Facebook group
 - Members' Facebook friends then knew they were members!
 - Loophole: anyone can be added to a group by a friend without their approval!
 - <http://www.wsj.com/articles/SB10000872396390444165804578008740578200224>
- Accessibility
 - 2014: Blind woman launches claim of unlawful discrimination against Coles regarding its website!
 - Read:
 - <https://www.humanrights.gov.au/news/speeches/software-accessibility-its-everybodys-business>
 - And see:
 - <http://www.washington.edu/doit/designing-software-accessible-individuals-disabilities>

Case study: Liability for Unreliability

- Therac-25
 - Medical radiation therapy machine for brain tumours.
 - Mid-1980's : At least 6 accidents of massive overdose of radiation, and at least 3 deaths.
 - Subsequent commission found:
 - Primary reason: bad software design and development practices
 - Code was not independently reviewed
 - No analysis of possible failure modes
 - Poor documentation of error codes, and ability to override
 - Q: Should the programmers have been held criminally liable? Why?
 - Q: How do you avoid hubris?

Case study: Intentional wrong doing

- Volkswagen Emissions Scandal
 - 2009-2015: VW programmed diesel engines to activate emissions controls only during lab testing.
 - 11 million cars worldwide!
 - CEO Horne said “it was a couple of software engineers”
 - Read:
 - <http://www.newyorker.com/business/currency/an-engineering-theory-of-the-volkswagen-scandal>
- StuxNet
 - 2010: Worm designed to attach industrial PLCs. Claims it was developed by the CIA to sabotage Iran's nuclear program.
- Morris Worm
 - 1988: One of the first computer worms that spread via the internet. Intended to be benign, but ended up causing significant damage.