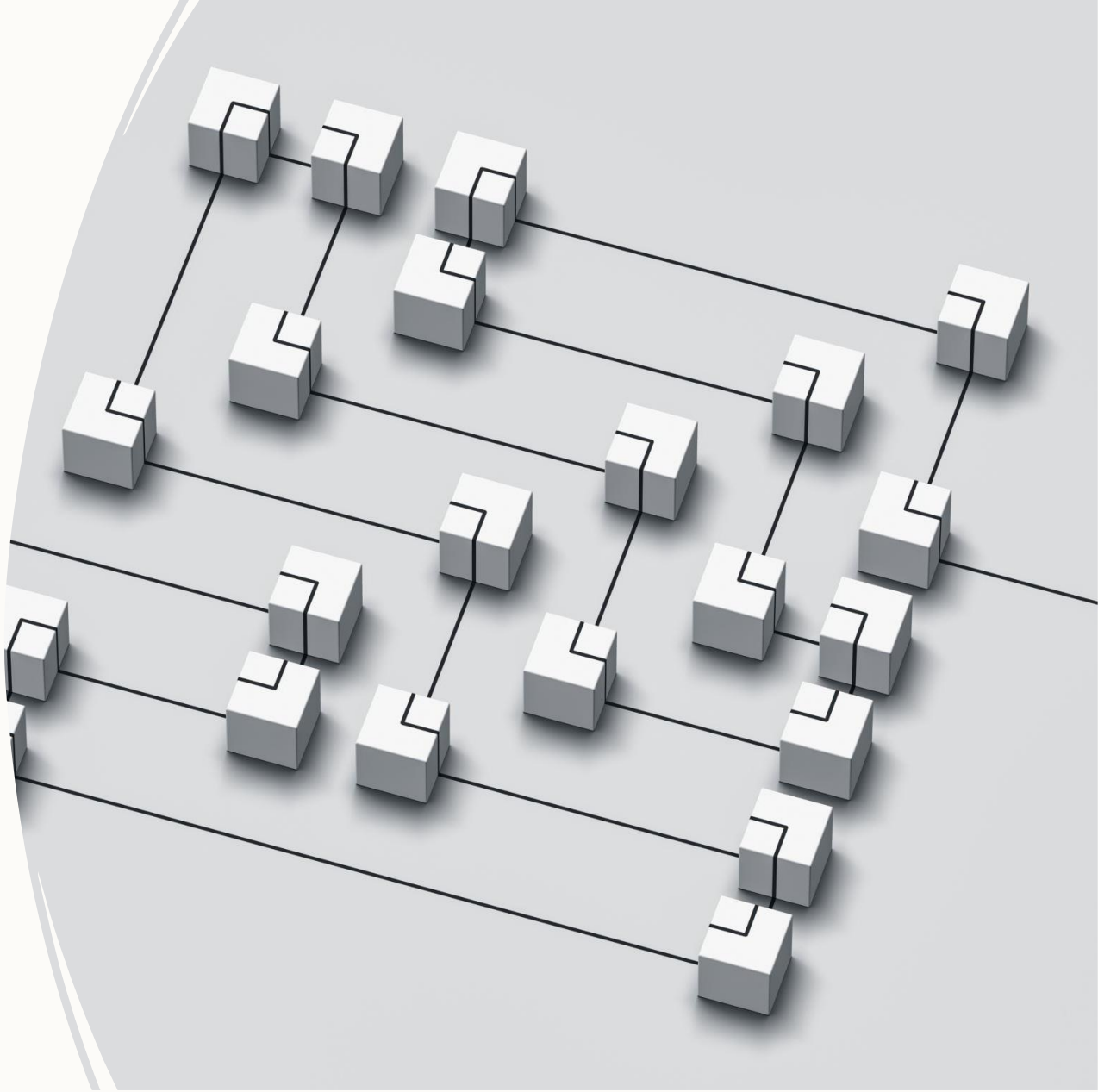
COMP 3056 Professional Ethics in Computing

Week 3 Ethics in Computing

Anthony Bellotti

Learning outcomes

- Why Ethics is important in Computing
- Impact of Computing
- Ethical Principles in Computing
- Ethical dilemmas and critical reasoning
- Doing the “right” thing



University of Nottingham
UK | CHINA | MALAYSIA

Do we need Ethics in Computing?

"Why can't I just get on and do my coding?!"

Two examples from UK (*but examples can be found in all countries*!)

Example 1: Horizon IT Scandal

- The Horizon IT System was introduced as a Post Office accounting system in UK in 1996.
- Over two decades bugs in the system caused accounting failures which were blamed on Post Office staff (sub-postmasters), many of whom were prosecuted for theft.
- The Post Office denied there were bugs but recent evidence suggested they were aware.

Horizon scandal factsheet (UK government)

https://www.youtube.com/watch?v=3uIEBOBSzbk

- What responsibility did the Post Office have?
- What responsibility does the IT supplier, Fujitsu, have?
- What responsibility did the software developers have?

Technical details of the bug: https://www.youtube.com/watch?v=hBJm9ZYqL10&t=3s

Example 2: Online content and children

- Molly Russell, a 14 year old girl took her own life in 2017.
- She had viewed extensive content related to suicide, depression and anxiety online.
- The coroner concluded that Molly died from "an act of self-harm while suffering from depression and the negative effects of online content".

Molly Russell: Friend of 14-year-old who died from self-harm speaks out over Online Safety Bill

https://www.youtube.com/watch?v=AGPff4AApLA

- Do social media companies have a responsibility?
- Do we need ethical considerations when introducing online and directed content?

Impact of Computing

- Safety critical systems such as airplane control systems have a direct impact on human experience.
- But any computer system can have a negative impact on people: even an accounting system.
- Ethics is needed to ensure that we deploy computer systems that are a positive experience for people and not harmful.
- Software developers and computer engineers have a responsibility to ensure ethics in computing.

Some common ethical principles in Computing

1. Contribute positively to society and human well-being.
2. Be honest, transparent and trustworthy.
3. Maintain professional competence for yourself and other coworkers.
4. Respect data privacy and intellectual property rights.
5. Be fair, do not discriminate, and take action against discrimination.

Which of these do you think were broken in the two examples in the previous slides?

Note: *this is not an exhaustive list; can you think of others?*

Ethical dilemmas and critical reasoning

- Use your judgement, and reinforce with theories of ethics.
- If you say something is ethical, what is your reason?

- Use professional codes of conduct, as source of guidance:-
  1. ACM/IEEE Software Engineering Code of Ethics and Practice
  2. British Computer Society (BCS) Code of Conduct

- Codes of Ethics in Computing are valuable since they deal with ethical issues you may encounter specifically in computing.

- In this module, we will focus on the BCS Code of Conduct. Key principles:-

  1. Public interest
  2. Professional competence and integrity
  3. Duty to relevant authority
  4. Duty to the profession

Why don't we always do the "right" thing?

- We may do the wrong thing by mistake or ignorance; e.g. introduce a bug.
  - But consider: at what point is this a "forgivable error" or "negligence"?
  - Reminder from Buddha: *the source of all suffering is ignorance*.

- We may do the wrong thing because we are *intentionally* bad.
  - This may happen more than we might imagine!
  - Survey of IT professionals suggests that subversion occurs on 20% of projects, and lying on 50% of projects.

The Dark Side of Software Engineering, Rost & Glass (Wiley) 2011

Why don't we always do the "right" thing?

- Relativism. We may not agree on what is "right".
  - Developer A may think it is right that children can freely access horror stories online, relying on parental control, but developer B may think there needs to be inbuilt automatic filters.

- Coercion. People may be deliberately forced to do something unethical, but in modern world it will be more subtle: peer pressure, or managerial pressure, withholding of benefits, blackmail and so on.

- People are more complex than simply "good" and "evil"!
  - Watch The Milgram Experiment, Derren Brown: How "ordinary people" can be compelled to harm others: https://www.youtube.com/watch?v=Xxq4QtK3j0Y

Workshop w/c 14th October

- Analyze a scenario using the BCS Code of Conduct.