COM6655 Professional Issues
Autumn 2021-22

Overview

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Orientation

Meet the team

Prof Guy Brown
Lecturer weeks 1-6

Dr Mari-Cruz Villa-Uriol
Lecturer weeks 7-10

Mr Jack Deadman
Graduate Teaching Assistant

Miss Lucy Skidmore
Graduate Teaching Assistant

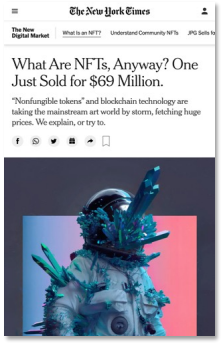
Why are we doing this?

- This module will give you the skills you need to understand your **legal**, **social**, **ethical** and **professional** responsibilities.
- Equally applicable to careers in computer science, information science, data science.
- Wider context for your technical knowledge.
- Interactions between computer science, society and the law.
- Required for accreditation (e.g. British Computer Society).
- It's important!

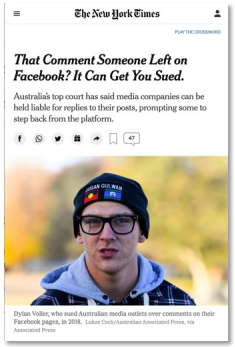
Teaching method

- **Two lectures per week**:
  - Monday 4pm-5pm St George's Church
  - Tuesday 3pm-4pm St George's Church
- **One tutorial per week:**
  - Mostly working in groups on scenario problems
  - Monday 3pm-4pm 38 Mappin Street 106/107
- Slides are on Blackboard as PDF – these are unlikely to make sense unless you attend the lectures!
- Independent reading
- Relating the module material to current events

Current context



Intellectual property, contracts



Liability

Privacy and surveillance

Course plan

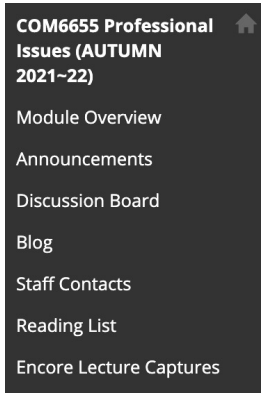
Week	Lecture Monday 4-5	Lecture Tuesday 3-4	Tutorial Monday 3-4
1		Overview	
2	Legal concepts	Legal concepts	An ethical dilemma
3	Intellectual Property	Intellectual Property	An ethical dilemma
4	Intellectual Property	Contracts	Intellectual property
5	Contracts	Liability	Contracts
6	Computer Misuse	Computer Misuse	Liability
7	Data Protection	Data Protection	Midterm test review
8	Social Context	Social Context	Computer Misuse
9	Introduction to Ethics	Research ethics	Can a knowledge-based system know everything?
10	Professional codes	Professional codes	Revision and exam preparation

Assessment

- **Mid-term test on legal aspects (weeks 1-5 inclusive)** [20%]
  - To be completed online in 24 hour window (released 9am Monday 1st November, submit by 9am Tuesday 2nd November)
  - Multiple-choice (30 minutes) via Blackboard
- **Final exam** [80%]
  - Covers all module content
  - To be completed in the January exam period
  - 2 hours (probably)

Interact, share your thoughts

- Many of the concepts we'll be looking at are open to interpretation.
- You bring your own experience to the module – please share it
- Contribute to the **Discussion Board** in Blackboard
- Write a **Blog** in Blackboard
  - There will be a prize for the best blog entry!



Objectives

Objective 1

- To examine the relationship between technological change, society and the law, and to show the powerful role that computers and computer professionals play in a technological society.
- How does:
  - Technological innovation affect society?
  - Technological innovation affect law?
  - Society affect technological innovation?
  - Law affect technological innovation?

Objective 2

- To provide an understanding of legal areas which are relevant to information technology and the discipline of computer science.
  - Intellectual property law
  - Contract Law
  - Computer Crime
  - Liability
  - Privacy and the Freedom of Information

Objective 3

- To provide an understanding of ethical concepts that are important as a computer professional, and to provide experience in the consideration of ethical matters.
- Introduction to moral philosophy.
- Ethical issues illustrated by presenting real life case studies.

Example

A software engineer is trying to write a large program needed by his company. Employees in this company are encouraged to write about their work and publish their algorithms in professional journals. After several months, the engineer is stuck and has to complete the program within the next few days. Not knowing how to solve his problems, he looks at some source code written by another employee and some code from a commercial software package. He identifies two segments of code that can be used directly in his program, and uses them without telling anyone or mentioning this in the documentation. He completes the project a day ahead of schedule.

Questions

- Are there any ethical issues here?
- Has the software engineer broken the law?

Themes

Computers as a substitute for human effort

- Information technology is used:
  - To substitute for some or many of the functions previously undertaken by humans;
  - To perform functions that could not previously be performed by humans at all.
- Computers are placed in a powerful position of control.
- This raises problems that the law must resolve.

Problems for the law

Allocation of responsibility

- When someone relies on the operation of a computer rather than their own expertise and causes loss to another, where does responsibility lie?

Computers and evidence

- How should the courts cope when the only evidence of a fact lies solely within the 'knowledge' of a machine?

Increased expectations of computer performance

- How far should the law's allocation of responsibility reflect increased expectations of computer systems?

Trading in information products

- Historically, mainframe software was custom written.
  - Direct contract between producer and consumer.
- Now software is mass produced and sold by third parties.
  - When software is sold, what is traded? Goods? Services?
- The answer is important because:
  - It determines the legal mechanism of contract for software supply;
  - It influences the quality of software that the purchaser can expect.
- But what level of software quality is achievable, and can therefore be demanded by law?

Harmonisation of national laws

- The IT industry transcends national boundaries.
  - IT products need to be treated in the same way in all jurisdictions for the market to work effectively;
- Natural trend towards the convergence of international laws.
  - Countries whose laws take a different direction from the accepted norm may be forced to introduce amending legislation.
- Very interesting time in this respect, post-Brexit!

Some things may never be agreed upon

- **Online publication**
  - Is it permissible to criticise government policy? Religious beliefs?
- **Data protection vs. freedom of information**
  - FOR: Making personal information available infringes privacy and could lead to manipulation. People should be able to control access to their own information.
  - AGAINST: Making personal information available helps businesses produce better products; this drives competition and leads to greater efficiency. Companies should have free access to personal information.

AI and ethics

- Advances in AI mean that machines are increasingly used to replace human decision makers.
  - Humans take ethical concerns into account.
  - Should AI systems also have ethics “programmed in”?

Example: safety mechanisms

- An automated car detects it is about to have an accident, must decide between killing one individual to its left, or injuring a group of people to its right.
- Suppose it is programmed to minimise the number of people injured.
- What are the legal and ethical issues here?

Thoughts on that scenario

- Has the car become a weapon? It is targeting an individual.
- Who is responsible: software engineer, manufacturer, supplier, driver?
- Should the AI in the car take other factors into account, e.g. avoiding historic monuments?
- Can programmers and designers take every factor into account?
- Is it ethically acceptable for a machine to make this decision?

Summary

- This course is about legal, social, ethical and professional issues in information science, computer science and software engineering.
- We have introduced the objectives of the course.
- Several themes run through the course material, many of which concern the relationship between technology, society and the law.
- See Blackboard for a reading list and more learning resources.