Doing the right thing: ethical, legal & social issues for IT

Professional Skills and Issues

Dr Peggy Gregory

Course aims

- CS and SE graduates need to:
- Understand the social, ethical, legal, and professional issues inherent in the widespread deployment of IT.
- Develop the ability to ask serious questions about the impact of IT and to evaluate proposed answers to those questions.
- Know the laws and professional codes of conduct relevant to their professional roles.
- Take principled, reasoned stances on issues in the topic area
- Be able to find information and make reasoned arguments about issues in the topic area

Intended Learning Outcomes

- Identify the principal social, ethical, legal, and professional issues in information technology;
- Explain the laws and codes of conduct relevant to the IT industry, and relate them to examples of IT in practice;
- Use analytical tools to break down complex ethical issues in IT;
- Develop and present arguments on social, ethical, legal, and professional issues in IT;
- Constructively criticise the arguments of others.

Staff

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- Dr Scott Ramsay - Student Learning Development
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Teaching & Learning

- Lectures
  - Overview and key ideas
  - Some interaction and discussion of key issues
  - References
- Tutorials
  - Small group work
  - Discussion/debate/activities
  - Deepen understanding and practice making arguments
- Directed work
  - Preparation for classes, read tutorial sheet, do extra reading
  - Read newspapers, listen to news

Two assessments

- **Assignment [60%]**
- Essay on a topic (from a choice of topics) 2,000 words
- Structured critical essay that makes a reasoned argument and draws out the social, legal and ethical implications of a controversial topic
- Peer assessment of first draft [10% of assignment marks]
- Final hand-in 20th November 16:30
- **Exam [40%]**
- 2 scenarios, 3-4 questions per scenario, 1 hour
- Scenario-based questions eliciting the application of knowledge about legal, ethical, and social issues to the scenario

Feedback & Course changes

- You will get **feedback** in the following ways:
  - 1-1 and group feedback (course tutors) & peer feedback during tutorials
  - Peer-review feedback on draft essay
  - Grade and individual commentary feedback on the essay
  - Grade and general commentary feedback on the exam
- **‘You said, we did’ changes**
  - More deep-dive material each week, plus extra reading
  - Less teaching on academic writing – now 1.5 weeks
  - Tutorials designed to develop critical thinking & discussion skills

Schedule 2025

Wk		Topic	Assessment
1	30/09	Doing the right thing: ethical, legal & social issues for IT practice	
2	07/10	Academic writing: critical thinking and making an argument	release essay
3	14/10	Crime and Cybersecurity: CMA, security & privacy	
4	21/10	Ethics and AI + Critical reflection and learning seminar	
5	28/10	Values & Virtue: Ethics in action	submit draft 30/10
6	04/11	Risk & Responsibility: Online Safety, free speech & defamation	
7	11/11	Professionalism in Practice: Professional codes of conduct & EDI	release peer-r 13/11
8	18/11	Data & Decisions: DPA, GDPR and personal data	submit essay 20/11
9	25/11	Society & Surveillance: human rights, surveillance & social issues	
10	02/12	IPR: Copyright, patents, confidentiality & licences + exam practice	exam revision
			exam


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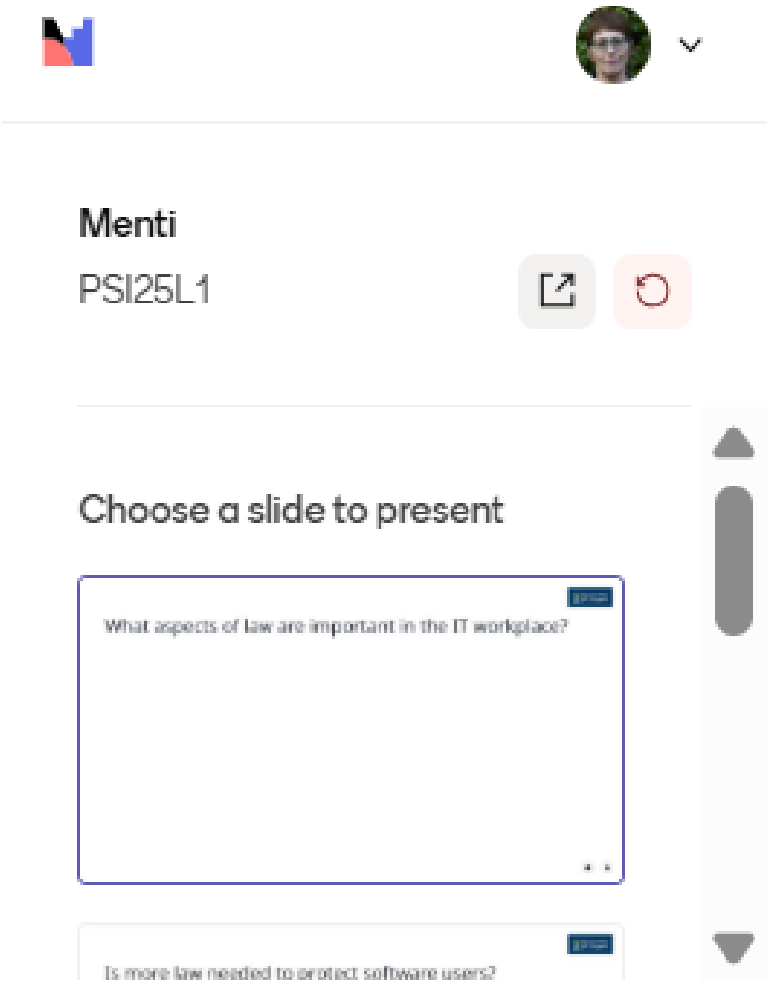
What aspects of law are important in the IT workplace?
fast
bold
inspiration
creative
leader
focus
transpiration


Menti
PSI25L1
Choose a slide to present
What aspects of law are important in the IT workplace?
Is more law needed to protect software users?

Is more law needed to protect software users?

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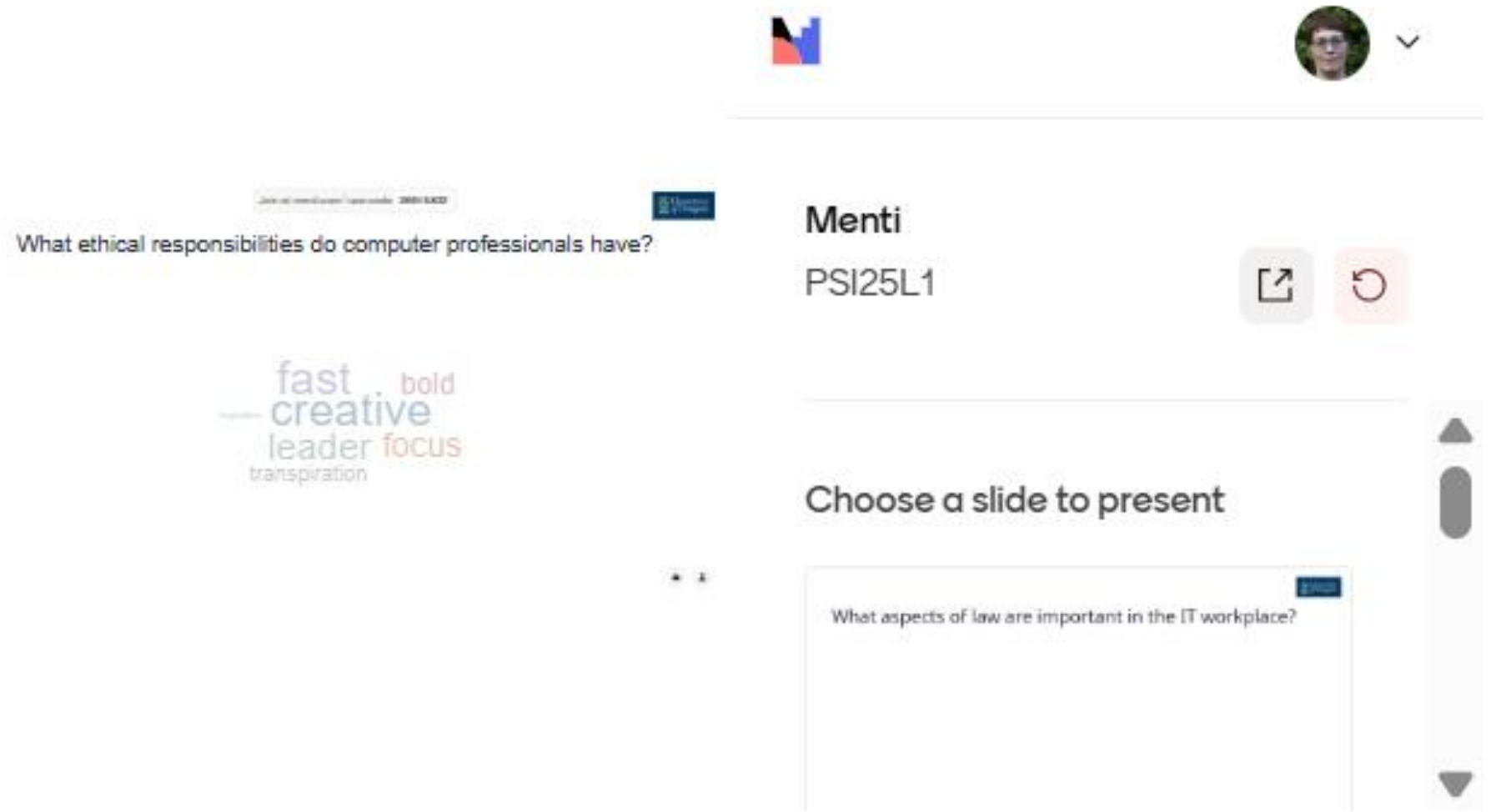
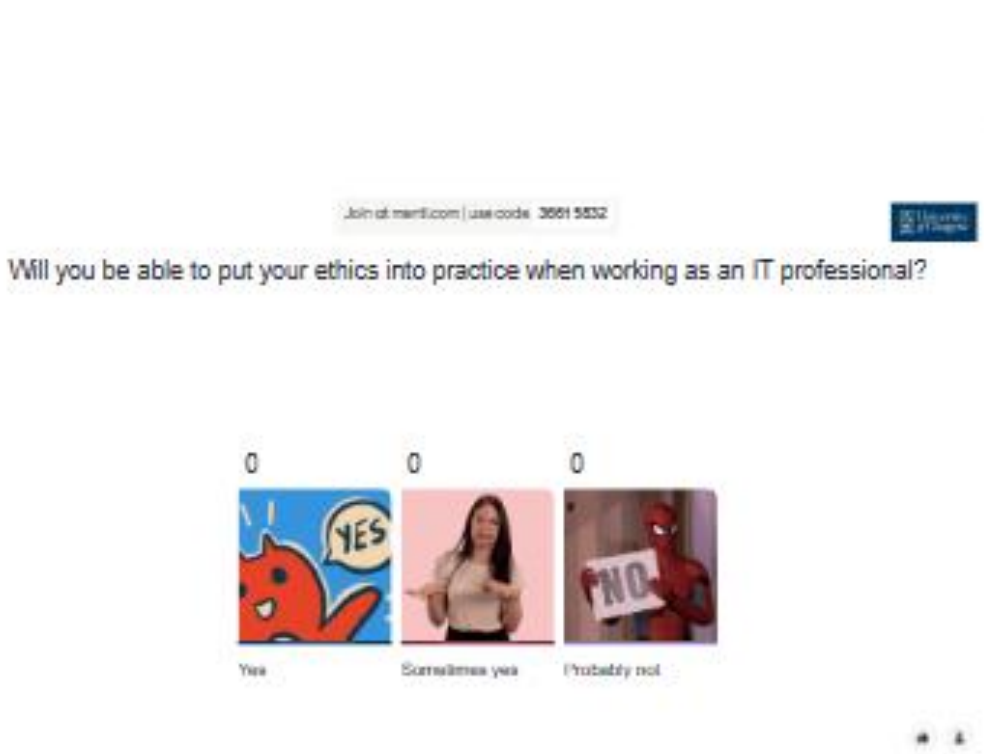
PSI25L1

Choose a slide to present

What aspects of law are important in the IT workplace?


What ethical responsibilities do computer professionals have?
fast
bold
creative
leader
focus
transpiration
Menti
PSI25L1
Choose a slide to present
What aspects of law are important in the IT workplace?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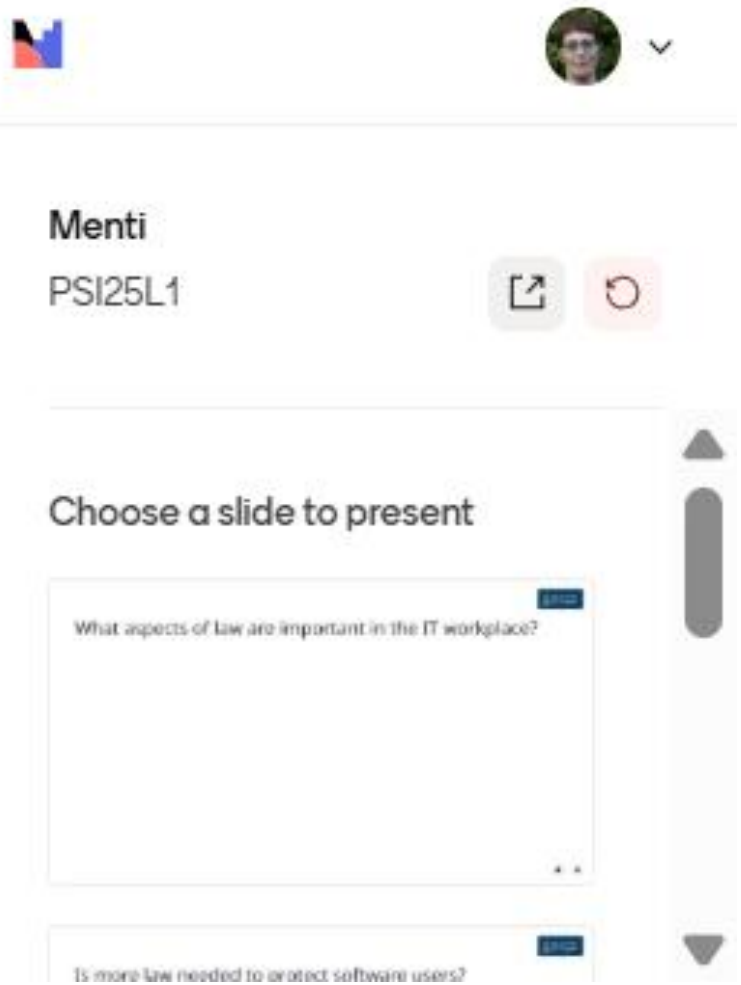
Will you be able to put your ethics into practice when working as an IT professional?
0
0
0
YES
NO
Yes
Sometimes yes
Probably not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PSI25L1
Choose a slide to present
What aspects of law are important in the IT workplace?
Is more law needed to protect software users?

Computing legislation

- Aim to explore the most important legislation for IT
- Looking at laws and cases
- Focus areas will be:
  - Computer crime – Computer Misuse Act 1990
  - Social media and online safety – Online Safety Act 2023
  - Intellectual Property issues – Copyright Designs & Patents Act 1988
  - Data protection – Data Protection Act 2018
- Understand, as a computer scientist, what and how technology legislation affects practice

13

Computing ethics

- Computing is having a global impact
- Beyond the introduction stage, now at the permeation stage - computers have moved into every aspect of daily life
- How can ethics guide us with changes?
- James Moor believes we can use reason & relativity in computer ethics – he disagrees with:
  - “Routine Ethics”
  - “Cultural Relativism”

Computing ethics

- Computing has permeated all aspects of our lives.
- Tech allows us to do new things and raises new ethical questions
- One view of computer ethics is that:
  - "**Routine ethics**" – ethical problems in computing are no different from those in other fields
  - "**Cultural relativism**" – local customs and laws determine what is right and wrong, and as computing crosses cultural boundaries, the problems are intractable
- An alternative view (Moor, 1998) is that:
  - **Routine ethics** underestimates the unique ethical challenges that computing technology poses
  - **Cultural relativism** underestimates the stability of our core human values

James H. Moor. 1998. Reason, relativity, and responsibility in computer ethics. SIGCAS Comput. Soc. 28, 1 (March 1998), 14–21. https://doi.org/10.1145/277351.277355

Properties of computing that raise problems

- Logical malleability
  - Computers can perform activities that have inputs, outputs, and connecting logical operations – infinite possibilities
- Invisibility factor
  - Most of the time, and under most conditions, computer operations are invisible (3 types: invisible abuse, invisible programming, invisible complex calculation)
- Informational enrichment
  - Computer technology is put to use in different fields of activity. Once in place, it is used to modify activity and to enhance it with extra knowledge

Logical malleability

- This makes computers revolutionary
- Can be manipulated to do any activity with digital inputs, outputs, and logical operations
- Can be manipulated:
  - Syntactically – can alter what a computer does by changing its program
  - Semantically – can use states of a computer to represent anything one chooses – stock market sales to aircraft trajectories to human emotions…
- Computers are general-purpose machines

Invisibility factor

- Invisible abuse – intentional use of the invisible operations of a computer to engage in unethical conduct – i.e. salami slicing case
- Invisible programming – values embedded into programs by programmers, unintentional or intentional – i.e., Google
- Invisible complex calculation – computers are capable of calculations too complex for easy human inspection - i.e., decision-making software

Informational enrichment

- Used in diverse activities
- Once in place, they are used to enhance capabilities and improve performance
- Computerised activities often become informationalised …
  - The processing of information becomes a crucial ingredient in the performing and understanding of the activities themselves
  - So, activities become informationally enriched

Ways of approaching computer ethics

- Ethics is not just a decision about what is right and wrong; it is a process that can involve
  a) An analysis of the nature and social impact of computer technology
  b) Formulation and justification of policies for the ethical use of technology
- Although we need a) before b), we often encounter problems before doing either
- Technology innovation moves quickly and is disseminated widely, often without an understanding of unintended consequences (often creating a policy vacuum)

Professional issues

- Computing is not a ‘profession’ in the same way as medicine, law, engineering
- Professional bodies – such as the BCS, ACM, IEEE – aim to provide education and guidelines to encourage professionalism in practice
- Professionals require mastery of a body of knowledge and usually have a good deal of autonomy in their work
- Professionals have to take responsibility for their decisions and their actions. How might that affect what you do in the workplace?