Lesson plan

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| Topic 4 Moral and ethical factors in the use of IT systems |
| Learning Objectives:   * Consider moral and ethical factors in the use of IT systems * Consider the implications for individuals, organisations and wider society of moral and ethical factors of using information technology * Describe the purpose and role of codes of practice produced by professional bodies for the use of IT systems * Describe the impact of codes of practice on individuals and organisations |
| Content |
| Starter  PowerPoint guide: Topic 4 Moral and ethical factors.pptx  Are algorithms fair? Algorithms are used more and more to make decisions which affect various sections of society, sometimes leading to injustices and inequalities being perpetuated.  As presented, the algorithm for Google job adverts would appear to be biased against women. Clearly, assuming identical profiles, the jobs should be shown to both groups equally. However, it is not known how many of each sex fitted the specified demographic.  The algorithm could also have been optimised to target users with a higher click-through rate. If it identified that a certain demographic was more interested in the advert, it may automatically show it to more people who meet that demographic.  The following article discusses the unintended and poorly understood ways in which computer algorithms used by millions can give biased results.  <https://www.theguardian.com/books/2018/jun/15/rise-of-the-machines-has-technology-evolved-beyond-our-control->  Main  The next two slides cover an alternative algorithm that is possibly biased.  COMPAS contains algorithms which were reported to be treating people differently based on their ethnicity. ProPublica, which developed the software, refutes the claims. The key point here is about the morals of algorithms making decisions and how they can be used or misused.  <https://www.nytimes.com/2016/08/01/opinion/make-algorithms-accountable.html?_r=2>  There are many other examples of algorithms that are unintentionally biased against sections of society, reflecting racist, sexist or other social biases.  <https://www.technologyreview.com/s/611138/microsoft-is-creating-an-oracle-for-catching-biased-ai-algorithms/>  This site reports that Microsoft is building a tool to automatically identify bias in a range of different AI algorithms. Facebook has also built its own tool called Fairness Flow which “warns if an algorithm is making an unfair judgement about someone based on his or her race, gender, or age”.  Ask students to do Task 1 on Worksheet 4.  Topic 4 Worksheet 4  Topic 4 Worksheet 4 Answers  Ethics vs morals  Although the specification seems to use the terms ‘moral’ and ‘ethical’ interchangeably, there is a distinction to be made. The following site shows the differences:  <https://www.diffen.com/difference/Ethics_vs_Morals>  A person’s individual moral compass can change over time. This is particularly pronounced if people change start/stop religious beliefs. They may also change if an external source such as leader, book, lecture causes someone to re-think their beliefs.  Ethics come from outside sources such as laws and regulations. As such these are constantly changing.  The next few slides are designed to get the students to think about the relationship between **ethics** and **morals**.  Ethics vs. morals  Both can change over time. Slavery, child labour, long working hours were all considered perfectly acceptable in the 18th and part of the 19th centuries. Campaigns by a few enlightened individuals can lead to a change of attitude and legislation follows, enforcing a new code of ethics.  Moral, ethical or neither?  The law of perjury prevents the barrister from deceiving the court. If a defendant says they are guilty to their barrister, then they cannot represent them as it would be unethical. Ethics also allow someone to be represented by a barrister as they are ‘innocent until proven guilty’. As such, even if the barrister suspects they are guilty they will still defend them.  An individual’s personal morals will determine whether they believe that the barrister should defend a criminal.  Immoral, unethical or illegal?  This happened in the 2016 referendum on UK membership of the EU and the US Presidential election, when Cambridge Analytica harvested Facebook data. This is discussed in the following slides and Question 2 on the homework sheet gives the details in a case study.  Social media platforms ethics  The meteoric rise and spread of social networking sites over the past few years have caused huge ethical and moral issues. Do the students know when Facebook was launched? Take a straw poll – 1994, 2004, 2010, 2014.  Its website was launched on February 4, 2004, by Mark Zuckerberg, along with fellow Harvard College students and roommates Eduardo Saverin, Andrew McCollum, Dustin Moskovitz, and Chris Hughes.  In 2018, it was worth $73.5 billion.  <https://www.brandwatch.com/blog/47-facebook-statistics/>  The reaction  A number of statistics show that users have recently become more aware of the perils of revealing personal data on Facebook, partly owing to bad publicity over data breaches in the Cambridge Analytical scandal.  Ask students to do **Task 2 on Worksheet 4**.  Some statistics on YouTube usage are given on the website <https://merchdope.com/youtube-stats/>  There are situations on YouTube where children are watching popular cartoons which have been repurposed to include content which is inappropriate for children.  The following link has more information and a video showing some examples of the inappropriate content and parental reactions to it.  <https://www.bbc.co.uk/news/blogs-trending-39381889>  Ask students to do **Tasks 3 and 4** on the worksheet.  Monitoring software  This is used by some companies to monitor their employees’ online activity. Is this an invasion of privacy?  Two more slides are given on the need for transparency from companies when they monitor employees. It is even more important that companies are clear about how they use information given the new GDPR rules.  Codes of practice  Discuss the nine points on the BCS Code of Good Practice, and the impact of such a code on individuals and organisations. See  <https://www.ethics.org/resources/free-toolkit/code-of-conduct/>  The impacts of code of practice on individuals and organisations are also covered.  Ask students to do **Task 5** on the worksheet. This suggests that each student should look in more detail at a given heading and give a short presentation. They can look up the BCS Code of Good Practice at  <https://www.bcs.org/upload/pdf/cop.pdf> .  Plenary  See if students can come up with definitions of the key terms related to the topic – suggestions are given on the next slide.  Give out **Homework 4**.  Topic 4 Homework 4  Topic 4 Homework 4 Answers |