Answers

**Task 1**

A growing number of governments and public sector organisations are adopting artificial intelligence tools and techniques to assist with their activities.

Look at the following website:

<https://www.nesta.org.uk/blog/10-principles-for-public-sector-use-of-algorithmic-decision-making/>

a) Give **two** examples of algorithms used in decision-making.

Traffic light management to speed up emergency vehicles through congested streets

Chatbots that answer queries on government websites

Whether to issue a parking fine

Whether to offer someone council housing

Whether to give someone probation

Best route for ambulances through congested city streets, whether to offer individual council housing, whether to give someone probation.

b) Look at the following website:

 <https://www.wired.com/story/what-does-a-fair-algorithm-look-like/>

 Give **two** examples of problems that can arise with algorithmic decision making software.

The algorithm could be sexist / racist and replicate inequalities in society

The algorithms are very complicated and even the people who make them may not fully understand them or be able to explain them

People will not understand why important decision are taken in their lives – such as a decision for bail, a job or loan rejection, or loss of health care benefits

Task 2

a) Look up the following website:

 <https://www.diffen.com/difference/Ethics_vs_Morals>

 What is the difference between **ethics** and **morals**?

**Ethics:** The rules of conduct recognized in respect to a particular class of human actions or a particular group or culture.

**Morals:** Principles or habits with respect to right or wrong conduct. While morals also prescribe dos and don'ts, morality is ultimately a personal compass of right and wrong.

b) Describe the possible implications to Facebook and wider society of the illegal harvesting and use of personal data in 2016.

The company was fined £500,000 (which amounted to little more than 5 minutes worth of turnover) for breaches of the Data Protection Act. Mark Zuckerburg had to testify before Congress and before a House of Commons committee in the UK.

Facebook’s reputation was severely damaged, people lost faith in their ability to keep their data safe. 26% of US users subsequently deleted the Facebook app from their phone.

The company has been forced to put in place measures to prevent this data breach from happening again.

They also introduced a tool called “Access your information” to let a user see their posts and delete them.

<https://www.cnbc.com/2018/03/28/facebook-unveils-new-privacy-tools-to-let-you-control-your-data-better.html>

For the wider society, it meant that elections in many countries may have been influenced by fake propaganda over the past few years. Democracy has been subverted.

It makes users more aware of the use to which their data may be put if it falls into the wrong hands.

Task 3

YouTube is a video streaming site that allows users to upload their videos for free. The site places few restrictions on the type of video that can be uploaded. Users can play videos for free or with a paid subscription. The majority of users use the free version which gives advertising before, during and after the videos. The site also collects data about users and which videos they watch. It is possible for people to ‘like’ or ‘dislike’ videos and also comment beneath them.

Complete the following table to show **three** moral or ethical issues that this site and other video streaming sites create. Also write what measures are in place or could be put in place to prevent these issues and the difficulties in implementing these measures. An example has been given.

|  |  |  |
| --- | --- | --- |
| **Moral or ethical issue of YouTube** | **Measures to prevent the issue** | **Difficulties implementing the measures** |
| Users can post abusive comments that appear prior to any moderation taking place | Users need to register an account and be logged in before they can post a comment | Users can create fake accounts to mask their real identity |
| Moderation of content is not fast enough for removal before many people have seen the video | Algorithms can remove certain types of content such as pornographyThey could require content to be moderated before being live on the siteThey could employ more moderators | Algorithms will find it hard to detect the difference between legitimate criticism and abusive content.There is too much content uploaded to moderate everything with a humanEmploying enough moderators would be very costly. The moderators would also be exposed to lots of negative content which would affect their mental health |
| Video may be unsuitable for certain age groups | Age restrictions are already applied to certain videosThe restrictions could be extended to different age groups such as young children | Users lie about their ages and don’t have to prove how old they actually are.Laws are more stringent for under 13s, hence companies avoid dealing with this age group. But many young children will use their parents account. |
| Video may be unsuitable for certain demographics / religious beliefs / ideologies | Videos are currently recommended on the basis of past viewing habits | It is hard for the algorithms to get this right all the time and inappropriate videos may be suggested as a result |
| Moderation is not independent and is carried out by the same company that owns the service. This gives too much power to a few companies to control what can/can’t be uploaded | The rules could be set by government/legislation rather than each company setting their own rules.Independent organisations could be responsible for the moderation of these sites | These are private companies with a variety of users. They will want to be able to maintain their own standards of what content is/isn’t acceptableHaving government and independent organisations involved would create additional costs for either the company or tax payer. |

YouTube need to improve their moderation algorithms, and substantially increase the number of human moderators. The problem is that the viewing of hundreds of upsetting videos every day can take its toll on the moderators.

Possibly these should be a complete change in culture, and videos should not be posted until they have been approved. Do we really need all of these videos? However, the volume of videos uploaded every hour makes this a huge challenge.

Even if all content could be approved by humans, the general decisions that they take would be the responsibility of a few key people in the company. Should a few people be able to decide what can and can’t be posted? This would perhaps be better done by independent organisations or legislation.

Task 4

In 2006 when the UK gambling laws were updated, the Cuture Secretary, Tessa Jowell, said, “Gambling is now a diverse, vibrant and innovative industry and a popular leisure activity enjoyed in many forms by millions of people. The law needs to reflect that."

The law seeks to balance protection for children and vulnerable adults with the needs of the industry. It is an offence to provide gambling facilities without appropriate permission. Those under 18 are not allowed to gamble.

Income from UK gamblers for online gambling in 2017 was £1.8 billion.

Many people can become addicted to gambling online. The following story is from

<https://www.gamblingwatchuk.org/real-life-stories/83-life-stories/102-real-life-gambling-story-number-two-john>

“You don’t even see the money when you gamble online. You use your debit or credit card, and before you know what is happening you are placing higher and higher stakes and losing so much money. My gambling online started to escalate so that I was eventually losing thousands of pounds each month. The video poker games were the worst for me – I just spent more and more money and time on them.

“These huge losses made me feel sick to my stomach. The more I lost, the more I wanted to win back what I’d lost the next day. I did have some wins, but they never compensated for what I’d lost. At this stage I just couldn’t tell my wife what was going on. It was all a secret. She trusted me completely.”

The trust of John’s wife was to be tested to its limits, as he took out loans, applied for new credit cards and cashed in savings.

a) Discuss the moral and ethical factors involved in the use of IT to operate, promote and use online gambling sites and the implications for individuals, organisations and wider society.

Open class discussion. Some ideas: Online systems use algorithms that are designed to maximise profits. Whilst this is similar to offline systems, when real people are involved they often will notice when someone is in severe financial difficulty and be able to help them. Algorithms and AI are able to process far more data than traditional systems. They can therefore constantly update to encourage further spending. Online systems are available 24 hours a day, 7 days a week. Offline systems often are only available during limited times. Online systems can be abroad and therefore circumvent laws that are designed to protect people. Both offline and online systems conform to the same ethical laws and rules. However, offline systems tend to add an additional human moral dimension which it is hard to program into a computer as it is a personal quality.

b) Discuss what can be done to alleviate the problem of gambling addiction.

Open class discussion. Some ideas: Encourage self-exclusion, i.e. industry schemes that allow punters to opt out of betting supposedly irreversibly for an agreed period. Between 2009 and 2016, the number of self-exclusions tripled from 11,424 to 34,091, according to Gambling Commission.)

Counselling, gamblers anonymous, NHS referral, cognitive behavioural therapy (CBT) are all suggested by the NHS for gambling addiction. Other suggestions are given here: <https://www.nhs.uk/live-well/healthy-body/gambling-addiction/>

Reduce the amount that can be spent on fixed-odds betting terminals from £100 to £2. This will be put into effect in 2019.

Task 5

The BCS Code of Good Practice is a 36-page document that gives guidance under the following headings:

1. Maintain your technical competence
2. Adhere to regulations
3. Act professionally as a specialist
4. Use appropriate methods and tools
5. Manage your workload efficiently
6. Participate maturely
7. Respect the interests of your customers
8. Promote good practices within the organisation
9. Represent the profession to the Public

It then goes on to give advice on:

1. Key IT Practices
2. Practices Specific to Education and Research Functions
3. Practices Specific to Business Functions

a) Look up the BCS Code of Good Practice at <https://www.bcs.org/upload/pdf/cop.pdf>

b) Choose one of the headings to research.

c) Make notes on the topic. Be prepared to explain the topic to the class in your own words. What advice is given regarding how an employee might need to act? What impact might this have on the business?

Answers will probably be taken from the BCS site. Students could be assigned different headings and asked to give a short presentation on what they have written.