

Professional Issues in Computing

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Computers in Work and Public Spaces

- E-mail/Internet usage
- Regulating usage at work
- Computer vision, tracking
- Safety vs. Privacy
- Digital divide
- eBusiness
- eDemocracy
- Anonymity on the Internet

Introduction

- Computers can be used to track visual images (e.g., faces, licence plates) - look at Google Earth: it's probably just a fraction of what is really possible; CCTV!
- Computers can be used to decrypt electronic communications and scan it for suspicious content (viz. spam filtering)

Introduction

- Computers can be used to count things, such as keystrokes, mouse clicks, etc., viz. keystroke loggers
- Computers can be used to conduct business: marketing, sales, and after-sales support
- Computers can be used for education: eLearning, lifelong learning
- Computers can be used for entertainment
- Computers can be used to collect and count votes (eDemocracy)

Introduction

- Computers can be used to log and analyse transactions (financial, personal - e.g. web browsing), mine data, and make forecasts
- Computers can be used to ensure our safety, but at what levels of intrusion?

Introduction

- Computers can be used to control access to information, but is this ethical? Who decides?
 - Do we have a right to unfiltered information, or can information be filtered to protect society?
 - Pornography: violence against women
 - Suicide: prevention of copycat suicides
 - Unflattering reports about Maltese Government
 - China, Cuba: protect the State

Introduction

- Controls can be used in face-to-face transactions to prevent sale of goods/ information to minors and others, but who controls faceless transactions over the Web?

Introduction

- Computers are not bug free!
 - There can be errors in hardware, software, and the interaction between software packages
- The IT industry rolls out 'upgrades' (to chips, architecture, software), sometimes making hardware obsolete (you can't run the latest versions of operating systems or software on 'outdated', but operational, hardware)

IT and Ethics

- Is the IT industry acting in the interests of its customers, or of itself?
- Are security services acting in the interests of society, or of themselves?
- Are information/educational sources acting in the interests of students, or of themselves?
- The availability of, e.g., UK degrees available anywhere in the world through eLearning? Are they imposing imperialist attitudes?

eBusiness

- What guarantees are there that you are who you say you are?
- ... and that you are dealing with the entity it claims to be?
- The \$23,000,000 a Nigerian Colonel wants to give you... The lottery you won, please pay taxes first... etc.

Digital Divide

- Computers appear to have broken down geographical barriers
 - Information/services available 24/7, anywhere in the world (as long as State doesn't block access or make access illegal)
- But can everybody afford to access the information/services?
 - Cost of hardware, software, bandwidth
 - Compare to access to free health services, education, medication (sometimes), public transport (sometimes), etc... Is IT a similar commodity now?

Work, Productivity and Regulation

- Assume that computers at work need access to Internet for work...
- Should employers use computer technology (keystroke loggers, click analysis, web log analysis, application loggers, etc.) to ensure that employees are using computers for work purposes only?
- If an employer can, then can a State to ensure that its citizens are acting in the best interests of the country?

Safety vs. Privacy

- Should security services/police use computers, CCTV, trackers, communications scanners, transaction logging and analysis, DNA databases, etc. to ensure public safety, at the expense of personal privacy?

Transaction Logging and Identity Theft

- American Express uses AI systems to ensure that your card is not being used without your knowledge
- Should all your transactions be logged and analysed to ensure that your identity has not been stolen without your knowledge (that your identity has not been stolen without your knowledge, I mean)?

Finally,

- Keeping secrets is necessary to form relationships, have a democracy... Johnson
- So we should have the right to keep secrets when we want to (e.g., blocking CallerID)
- Can we be anonymous on the Internet in the same way we can be anonymous in the physical world?
 - In general - but definitely want to be anonymous for eVoting!