List of discussion topics
for
presentations

Commencing - 1 September 2015

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1. Does Information Technology (IT) matter?

When a new technology emerges, such as the railroad or electricity, businesses that adopt the technology can gain a strategic advantage over competitors who do not. Eventually a successful technology becomes so inexpensive and ubiquitous that the early advantage quickly disappears; the technology no longer is considered to be a competitive advantage, because all of the competition utilizes the technology. In his book *Does IT Matter*, Nicholas Carr argues that this effect already has been observed with information technology. Companies often adopt the latest information technologies with the hope of gaining an edge.

Nicholas Carr, however, claims that information technology is becoming a commodity and nothing short of ordinary. Critics argue that information technology allows you to transform information and data into intelligence, which is of extreme value in an economy that greatly relies on non-manufacturing activities, such as services, product design and product development. Can businesses still gain an advantage over their competitors using information technology? Why or why not? Should executives rush to adopt the latest information technology in order to gain a competitive advantage? Why? If IT becomes irrelevant as a competitive advantage, what does this mean for the IT industry?


2. Can Computers think?

Ever since a computer defeated world chess champion Gary Kasparov in a chess match, people have wondered, can computers think? As computer processors become more powerful, the question is more hotly debated. People who believe computers can think argue that, if a question was submitted to a person and a computer, it would be impossible to tell the person’s response from the computer’s response. Therefore, computers can think. Opponents counter this argument by saying that, if a question written in a foreign language was submitted to a person who can read and write the language and a person who cannot read or write the language but has a list of questions and appropriate answers, it might be impossible to tell the response of one person from the other. But, the person who cannot read or write the language really does not understand it, any more than a computer really can think. Besides, computers lack an essential component of human thinking - common sense. Computers can consider millions of chess moves a second, but humans have the common sense to recognize that some moves are not worthy of consideration. Can computers think? Why or why not? If computers cannot think now, might they be able to think in the future? Why?

3. Cell phone ethics - should cell phones be banned in public places?

Most people would never consider cutting in line at the bank or checking out with too many items in the 10-items-or-fewer lane at the grocery store. This courtesy, however, seems to elude many people when it comes to cellular phone etiquette. In movie theatres, libraries, schools, restaurants, and on the sidewalks, more and more people are engaging in loud cell phone conversations with co-workers, friends, and family. Psychologists have found that it may not be the cell phone users’ speech volume that annoys us, but rather that the person is having a seemingly one-way conversation with no one, which is a much more difficult background noise for the brain to filter out. Some countries have banned the use of cell phones in places of public performance, and the use of cell phones while driving (unless a hands-free device is being used). Should governments do more to discourage the use of cell phones in public places? Why or why not? Should simple rules of etiquette for cell phone use be more publicised or enforced? Why or not? If so, by whom? Write a short report on the topic and list recommendations for the use of cell phones in public places. Create a PowerPoint presentation in order to present your report.


4. Can Computers provoke violence?

*Grand Theft Auto* is one of today’s most popular computer games. In the game, players advance through the mafia by conveying secret packages, following alleged snitches, and planting car bombs. Since its release, shoppers have bought millions of copies of *Grand Theft Auto*. Purchasers praise the game’s vivid graphics, edgy characters, and wide range of allowable behaviours. Some parents and politicians, however, condemn the game’s explicit violence and the rewards it gives players for participating in illegal acts. They fear that games like *Grand Theft Auto* eventually could corrupt players, perhaps leading to anti-social or criminal behaviour. *Grand Theft Auto* is aimed at older gamers who grew up with *Mario* but now are looking for something more radical. The game is rated M (for Mature - suitable for 17 or older) but is being purchased and played by children as young as twelve. Even worse, critics fear that the game’s popularity may influence future developers of computer games aimed at younger children. What impact, if any, do violent computer games or games that promote unacceptable acts have on individual behaviour? Do these games desensitize players to violence or increase aggression? Why or why not? Should restrictions be placed on sales of computer games?

5. **Should Universities teach courses in Computer Hacking**

Taking the traditional admonition “know thy enemy” literally, a university recently began offering a course that teaches students how to write computer viruses. A high school runs an after-school program that challenges students to break into computers. Proponents of such courses and programs claim that these hacking skills enable the next generation of security experts to think like the virus authors, thereby helping to stop viruses. Critics claim that this practice will only encourage more virus authoring and hacking. Others claim that knowing how to write a virus does not make someone more capable of stopping viruses. Questions remain about who is responsible legally, financially, and morally if one of the students in the course or program releases malicious code to the Internet. Should virus writing be taught in schools? Why or why not? Should companies hire people who are trained virus writers? Why or why not? What precautions should schools take if they plan to offer such courses? Who should be held responsible if a student in such a course or program causes a computer virus infection? Why?


6. **Is Video surveillance in the workplace ethical?**

Once, the main concern of an unproductive office worker was the informant at the next desk. Now, workers have more to worry about. Employers can use a number of products to monitor employee activity. Software can track Internet use, scrutinize keyboard activity, and even observe general office behaviour. One privacy group estimates that more than one-third of today’s office employees are subject to some form of electronic surveillance. Video surveillance has been used in schools, buses, parking garages, and offices. New software uses a digital video camera with real-time image recognition to watch and record all activity. Advocates argue that employee monitoring conserves office resources and makes workers more productive. Opponents maintain, however, that constant scrutiny results in uncomfortable, unimaginative, and less productive employees. Besides, they insist, such observation is an invasion of privacy.

Should employers use video and computers to monitor some, or all, office activity? Why or why not? How does employee monitoring affect worker productivity? Why? Is video surveillance of employees ethical? Why or why not? Can you think of a time that video surveillance in South Africa brought to the fore shocking revelations (not necessarily restricted to the work situation)?

7. Outsourcing Computer Jobs - a threat to the economy?

The cost of skilled computer professionals has risen for many companies. However, some countries have begun producing much less expensive skilled IT workers. To remain competitive, many companies have chosen to send computer jobs to these countries, a practice known as ‘outsourcing’. Opponents of this practice argue that outsourcing results in unemployment and decreases student interest in majoring in IT-related fields. Also, sending high-paying jobs to other countries harms the economy.

Should the government limit a company’s ability to outsource computer jobs to other countries? Why or why not? Should companies be criticised for outsourcing jobs? Why or why not? Where does South Africa fit in terms of IT outsourcing? Give your opinion on the practice of ‘outsourcing’. What are some possible alternatives to outsourcing that would help to keep a company competitive?

8. Closed Source versus Open Source Software

Linux is a fast-growing, innovative operating system. One of the features that make it different from other operating systems is that Linux is open source and its source code, along with any changes, remains public. Since its introduction in 1991, Linux has been altered, adapted, and improved by hundreds of programmers. Unlike Linux, most operating systems are proprietary, and their program code often is a zealously guarded secret. At one large software developer, an employee reported that application programmers had little opportunity to contribute to operating system programs because they had no access to the operating system program source code. Supporters of open source maintain that source code should be open to the public so that it can be scrutinised, corrected, and enhanced. In light of concerns about security and fears of possible virus problems, however, some people are not sure open source software is a good idea. Besides they argue, programmers should be able to control, and profit from, the operating systems they create. On the other hand, open source software can be scrutinised for errors by a much larger group of people and changes can be made immediately. Is open source software a good idea? Why or why not? Can the concerns about open source software be addressed? How? What are the advantages and disadvantages of open versus closed source software? Does open source software lead to better software?

9. Is everything on the Web true?

Recently, a California City Council considered banning foam cups when an official-looking Web page revealed that dihydrogen monoxide, which was characterized as a potentially dangerous chemical, was used to produce the cups. The council was chagrined to discover that the information at the Web site was a hoax. That is, while dihydrogen monoxide is used in making foam cups, it is hardly dangerous - dihydrogen monoxide is the scientific name for water (H₂O). Many people think that anything in print is true, even what they read on the Web. Yet, authors with a wide range of expertise, authority and motives, and biases create Web pages. Web pages can be as accurate as the most scholarly journal, or no truer than the most disreputable supermarket tabloid. The Web makes it easy to obtain information, but Web page readers must make an extra effort to determine the quality of that information. In evaluating a Web page, experts suggest that you consider such factors as the purpose, scope, sponsor, timeliness, presentation, author, and permanence of the page. Ultimately, who is responsible for the accuracy of information on the Web? Why? What factors are most important in evaluating the accuracy of a Web page? Why?


10. Are you protecting yourself from Identity Theft?

Using both spam and Web browser pop-up windows, scam artists are employing a technique known as phishing to steal your personal information such as credit card numbers, banking information, and passwords. For example, an e-mail message may appear to be a request from your credit card company to verify your details and online banking password. Instead, the information you submit ends up in hands of the scammer, who then either uses the information to access your accounts and take money, or sell and trade the information with other criminals. Sadly, the result often is identity theft. Law enforcement agencies believe that many of the phishing schemes are related to organized crime. Approximately 20 percent of those targeted by phishing provide the requested information. This high level of response emboldens the scammers. Social, technological, and legal solutions have been proposed to solve the phishing problem, but the phenomenon continues to grow. What can a person do to protect against phishing when e-mail messages are received from what appear to be legitimate organizations? What can be done to limit or stop the practice of phishing? Are companies and/or consumers to share in the blame for the success of phishing? Why or why not?

11. **Should companies be able to track your Online habits?**

When you visit a Web site that includes an advertisement, someone probably is recording the fact that you visited that Web site and viewed the advertisement with your browser. Over time, companies that specialize in tracking who views which online advertisements can amass an enormous amount of information about your online Web surfing habits. This collection of information is considered to be part of your online profile. One company claims that through the use of advertisements on Web pages, it can track well over one billion Web page views per day.

Through tracking the Web sites a user visits, the products they buy, and the articles they read, a company may attempt to profile the visitor's beliefs, associations, and habits. Although a user may think he or she is anonymous while navigating the Web, the company can attempt through various means to link the user’s true identity with the user’s online profile. The company can sell online profiles, with or without the user’s true identity, to other advertisers or organizations. Should organizations be allowed to track your Web surfing habits? Why or why not? Should organizations be allowed to associate your real identity with your online identity and profit from the information? Who should have access to information about your online habits?


12. **Virtual Reality**

Virtual Reality is an artificial environment created with computer hardware and software and presented to the user in such a way that it appears and feels like a real environment. To "enter" a virtual reality, a user dons special gloves, earphones, and goggles, all of which receive their input from the computer system. In this way, at least three of the five senses are controlled by the computer. In addition to feeding sensory input to the user, the devices also monitor the user’s actions. The goggles, for example, track how the eyes move and respond accordingly by sending new video input.

To date, virtual reality systems require extremely expensive hardware and software and are confined mostly to research laboratories.

The term virtual reality is sometimes used more generally to refer to any virtual world represented in a computer, even if it's just a text-based or graphical representation.

Only suggestions - select and include other suitable questions

- Discuss Virtual Reality.

- What effect will Virtual Reality have on our lives in the future, e.g. political, social and economical?

- Can Virtual Reality ever become a Reality? Is the virtual world replacing reality?

- Does virtual reality technology try to bridge a gap between hands-on experience and the mental aspects of using a software program?
• Is it possible to create a virtual space in which people can interact?
• World of Warcraft (Virtual Reality game), The Matrix, Avatar (Movies)

13. Implanting computer chips in humans

The Food and Drug Administration has approved implanting a tiny computer chip in a patient’s arm for medical purposes. Millions of the ‘Verichip’ microchips have been implanted in pets for identification purposes, but the move to humans has alarmed security experts. The chip releases a code when a scanner is passed over it, and this code is linked to a database that retains the patient’s medical information. The database can be updated each time the patient visits a health care provider.

How can they be used to breach the confidentiality of medical records? How are they being used in non-medical applications? View online sites that discuss using implanted chips in humans. Provide additional details about implantable chips in humans. Can you find any proposed or actual applications of the ‘Verichip’ in South Africa? Present your findings in a PowerPoint presentation.


14. Artificial Intelligence

Intelligent machines have intrigued humans for centuries. Today, computers and artificial intelligence (AI) capture our imagination. Categories within this topic include fuzzy logic, robotics, etc. Select a category of artificial intelligence and explore it using the web. Then prepare a report and create a PowerPoint presentation to share with the class how the category of artificial intelligence is used today and might be used in the future.

15. Outsourcing Computer Jobs - a threat to the economy?

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Should the government limit a company’s ability to outsource computer jobs to other countries? Why or why not? Should companies be criticised for outsourcing jobs? Why or why not? Where does South Africa fit in terms of IT outsourcing? Give your opinion on the practice of ‘outsourcing’. What are some possible alternatives to outsourcing that would help to keep a company competitive?

16. How should Schools/Colleges/Universities deal with Internet Plagiarism?

A high school teacher failed 28 students for plagiarizing, or copying, material from the Internet. When parents complained, the school board passed the students, and the teacher resigned. Plagiarism is not new, but word processing software and the Internet make it easier than ever. With the click of a couple buttons, students can copy parts of Web pages and paste the text into their term papers. Students can also use term paper Web sites to copy complete papers on a variety of topics. According to one study, more than 35 percent of college students had copied material from Internet sources. Students who plagiarize blame peer pressure, classroom competition, the “busy work” nature of some assignments, and the permissive attitude that pervades the Internet. Teachers have several tools to catch plagiarists, including a variety of Web sites that compare suspected papers to papers found on the Internet and produce an originality report highlighting text that may have been copied. Some instructors, however, are reluctant to investigate the integrity of a student’s work and possibly ruin an academic career. How should educators deal with plagiarism? Why? Should a school’s response to plagiarism depend on such factors as the material copied, the assignment for which it was copied, or the reason it was copied? Why or why not?
17. Cell phone ethics - should cell phones be banned in public places?

Most people would never consider cutting in line at the bank or checking out with too many items in the 10-items-or-fewer lane at the grocery store. This courtesy, however, seems to elude many people when it comes to cellular phone etiquette. In movie theatres, libraries, schools, restaurants, and on the sidewalks, more and more people are engaging in loud cell phone conversations with co-workers, friends, and family. Psychologists have found that it may not be the cell phone users’ speech volume that annoys us, but rather that the person is having a seemingly one-way conversation with no one, which is a much more difficult background noise for the brain to filter out. Some countries have banned the use of cell phones in places of public performance, and the use of cell phones while driving (unless a hands-free device is being used). Should governments do more to discourage the use of cell phones in public places? Why or why not? Should simple rules of etiquette for cell phone use be more publicised or enforced? Why or not? If so, by whom? Write a short report on the topic and list recommendations for the use of cell phones in public places. Create a PowerPoint presentation in order to present your report.


18. Future Cars:

“Potential future car technologies include new energy sources and materials, which are being developed in order to make automobiles more sustainable, safer, more energy efficient, or less polluting. Cars are being developed in many different ways. With rising gas prices, the future of cars is leaning towards fuel efficiency, energy savers, hybrid vehicles, battery electric vehicle and the fuel cell vehicle” - http://en.wikipedia.org/wiki/Future_car_technologies

These are some of the major issues we will be discussing:

- Can future cars save our economy?
- Can future cars save the environment?
- What are the advantages of future cars?
- What technological advances do future cars hold?
- How can the IT industry benefit from future cars?
- What type of future car will be the most successful?
19. **Do you work harder when someone is watching?**

During the data and information gather stage of the system development cycle, employees are involved actively in the process. They complete questionnaires, participate in interviews, and are observed while performing their jobs. Many researchers suggest that during observation, employees may not exhibit everyday behaviour and may perform above and beyond their normal workday activities. They base this premise on the Hawthorne Effect, which is the result of a study performed in the 1920s in the Western Electric Company plant in Hawthorne, Illinois. The study discovered that productivity improved during observation, whether the conditions were made better or worse. Researchers concluded that productivity seemed to improve whenever the workers knew they were being observed. Discuss the Hawthorne Effect? What is your opinion of the Hawthorne Effect? Do you agree with the research? If someone is observing you at work or if you are receiving increased attention, does this cause you to alter your behaviour? Why or why not? If productivity increases during observation, is observation a good data gathering technique in a system study? What precautions should be take by the systems analyst?

20. **Will wearable computers become a reality?**

Xybernaut Corporation is currently marketing a personal wearable computer called POMA. The device is described as a personal multimedia appliance. It is composed of a processor that runs Windows CE, a wireless pointing device, and a head-mounted display. The display allow you to see the equivalent of a desktop monitor via a small screen that is worn in front of one eye. This screen is only one inch square and weighs a mere 3 ounces. The device includes an MP3 player that plays songs and displays videos, an abridged versions of Windows Office programs. Devices made by Xybernaut are currently being evaluated for use in airports by security personnel.

Will we be wearing computers soon? Some of us already are. And some experts predict the majority of us will employ a wearable computer before the end of the decade. Many computer manufacturers are currently working on wearable computer fashion show that showcases the latest designs. Many people are already ‘wearing’ their computers, and making use of this mobile technology to read e-mails while waiting in lines or even studying their notes for the next exam. What do you think? Will people someday grab their keys and their computers before they leave the house? Will your computer one day be housed in your jacket?