



SUBJECT / GRADE	Computer Applications Technology - Grade 10																									
TERM 1	Week 5																									
TOPIC	Systems Technologies: Software & Social Implications																									
AIMS OF LESSON	At the end of this lesson, you should be able to: <ul style="list-style-type: none"> Describe what software is. Describe the types of software. Explain basic PC security. Social issues with regards to green computing. 																									
RESOURCES	Paper based resources	Digital resources																								
	<i>Gr 11 DBE Theory Textbook; Ch. 7 (p. 103)</i> <i>(Use school issued textbook for the same content)</i>	Links on the WCED ePortal Theory Book: https://wcedportal.co.za/eresource/88001																								
INTRODUCTION	In this lesson, we will look at the basic software concepts, different software components and different types of software.																									
CONCEPTS AND SKILLS	<p>Basic software concepts</p> <ul style="list-style-type: none"> Computer software is a set of instructions that tells a computer what to do and how to do it. Software no longer relies on a specific operating system; it runs on the web and can be accessed through a browser. Software consists of two categories: <u>Application software</u> AND <u>System software</u> <p>1. APPLICATION SOFTWARE</p> <ol style="list-style-type: none"> Application software is the most useful type for computer users. It helps us perform many of the tasks that make us use computers in the first place, such as web browsing, word processing and spreadsheet processing. <table border="1"> <thead> <tr> <th>APPLICATION SOFTWARE</th> <th>EXAMPLES</th> </tr> </thead> <tbody> <tr> <td><i>Office suites</i></td> <td>Microsoft Office, Libre Office, Google G-Suite</td> </tr> <tr> <td><i>Internet browser</i></td> <td>Chrome, Firefox, Internet Explorer, Edge</td> </tr> <tr> <td><i>Movie player</i></td> <td>VLC, Windows Media Player</td> </tr> <tr> <td><i>Presentations</i></td> <td>PowerPoint, Google Slides</td> </tr> <tr> <td><i>Word processor Adobe</i></td> <td>Microsoft Word, Google Docs, WordPad</td> </tr> <tr> <td><i>Portable Document Format (PDF)</i></td> <td>Acrobat Reader, Foxit Reader</td> </tr> <tr> <td><i>Antivirus</i></td> <td>Norton, AVG, McAfee, Symantec, Windows Defender</td> </tr> <tr> <td><i>Spreadsheets</i></td> <td>Microsoft Excel, LibreOffice Calc, Google Sheets</td> </tr> <tr> <td><i>Accounting</i></td> <td>Pastel, QuickBooks</td> </tr> <tr> <td><i>Gaming</i></td> <td>Minesweeper, Solitaire, Counter Strike</td> </tr> <tr> <td><i>Designing and graphics</i></td> <td>Adobe Photoshop, AutoCAD, GIMP</td> </tr> </tbody> </table>		APPLICATION SOFTWARE	EXAMPLES	<i>Office suites</i>	Microsoft Office, Libre Office, Google G-Suite	<i>Internet browser</i>	Chrome, Firefox, Internet Explorer, Edge	<i>Movie player</i>	VLC, Windows Media Player	<i>Presentations</i>	PowerPoint, Google Slides	<i>Word processor Adobe</i>	Microsoft Word, Google Docs, WordPad	<i>Portable Document Format (PDF)</i>	Acrobat Reader, Foxit Reader	<i>Antivirus</i>	Norton, AVG, McAfee, Symantec, Windows Defender	<i>Spreadsheets</i>	Microsoft Excel, LibreOffice Calc, Google Sheets	<i>Accounting</i>	Pastel, QuickBooks	<i>Gaming</i>	Minesweeper, Solitaire, Counter Strike	<i>Designing and graphics</i>	Adobe Photoshop, AutoCAD, GIMP
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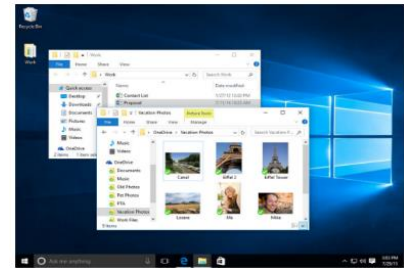
2. SYSTEM SOFTWARE

- a. System software is the specific type of software that manages the computer.
- b. The operating system (OS) is the most important type of system software as it manages all the other programs in the computer.

SYSTEM SOFTWARE	EXAMPLES
<i>Operating systems</i>	Microsoft Windows, Linux, Android, iOS
<i>Device drivers</i>	Drivers for the mouse, keyboard, sound card, display card, network card, printer, etc.
<i>Firmware</i>	Firmware is the operational software embedded within a flash drive, ROM, or EPROM memory chip for the operating system to identify it
<i>Utilities: (Software designed to maintain the computer)</i>	Antivirus and security software Disk defragmentation File compression Data back-up for security reasons Data recovery Firewall

3. ACCESSORIES

- a. Programs such as the *Calculator, Paint* and *Snipping Tool*.
- b. An accessory is any program that can be added to a computer to perform an additional function.



4. THE OPERATING SYSTEM AND GUI

- a. The operating system of a computer manages all the software and hardware of the computer.
- b. Operating systems use a graphical user interface (GUI).
- c. This interface allows you to use the mouse to click on buttons to carry out instructions.

5. BASIC SECURITY

- a. Create a password.
 - i. A password consists of a string of secret characters, numbers, or words that are used to verify the identity of a user during the **authentication process**.
 - ii. It is used together with a username.
- b. Other authentication methods include: screen lock patterns, fingerprint scanning, facial recognition, or an iris scanner.

6. GREEN COMPUTING

- a. Green computing is about using computers in an environmentally responsible and eco-friendly manner.
- b. Some examples of green computing include:
 - i. Computers going to “sleep” after they have been inactive for a certain amount of time.
 - ii. More efficient software requires less processing and storage space, which requires less electricity.
 - iii. We should only print documents when necessary.
 - iv. Print on both sides of the paper.

ACTIVITIES / ASSESSMENT

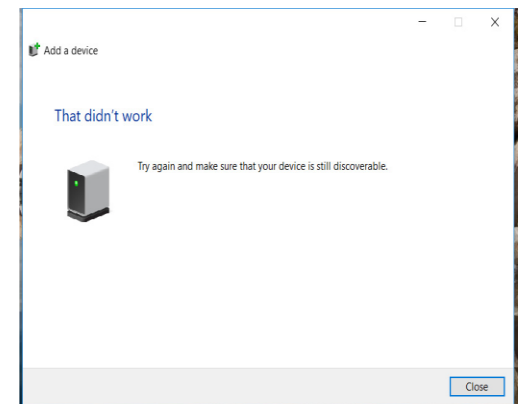
Activity 7.1

1. What is a platform?
2. Match the following software in Column A with the correct example in Column B:

COLUMN A	COLUMN B
1. Internet browser	A. AVG
2. Presentations	B. Chrome
3. Antivirus	C. VLC
4. Movie player	D. PowerPoint

Activity 7.2

1. Are the following three statements true or false? If false, provide the correct answer.
 - a. The operating system is a type of hardware.
 - b. Modern operating systems use a graphical user interface (GUI).
 - c. A menu bar gives you quick access to frequently used commands.
2. Which one of the following systems is an open-source operating system?
 1. Linux
 2. Windows
 3. Mac OS
3. Look at the diagram to the right and answer the questions that follow.
 - a. What type of GUI element is shown in this diagram?
 - b. Explain the type of element shown. Give a brief description of this element.
 - c. The diagram shows that the user was trying to connect to a peripheral device. Is this statement true? Motivate your answer.
 - d. According to the diagram, what method of connection is being used (based on your answer in question c above)?



	<p>Activity 7.3</p> <p>Read the following scenario and answer the questions that follow:</p> <p>The Mo-ho family used a desktop computer connected to a printer, keyboard and wireless mouse at home for some time. Mrs Mo-ho has now started her own catering business, which she runs from home and requires that she interact with foreign clients.</p> <ol style="list-style-type: none"> 1. List one essential output device, other than a printer, that she will need to perform her duties. 2. List one essential input device, other than a keyboard and mouse, that she will need to perform her duties. 3. Mrs Mo-ho stores sensitive sales information on her computer. She uses a login ID, with her numeric birth date (2907) as the password to access her computer. However, she is scared that someone might crack her password and gain access to her computer. <ol style="list-style-type: none"> a. State two ways in which she could strengthen her password. b. List one example of an authentication device, which could be used as part of her computer system to gain access to her computer, as well as give her an extra layer of security.
CONSOLIDATION	<ul style="list-style-type: none"> • Identify the different types of software • Understand what the GUI is and its different elements.
VALUES	Understand the importance of PC security and adhere to green computing and recycling for the sake of the environment.
SOLUTIONS:	<p>Activity 7.1</p> <ol style="list-style-type: none"> 1. A platform is the combination of hardware and software required to run an application. 2. 1. – B; 2. – D; 3. – A; 4. – C <p>Activity 7.2</p> <ol style="list-style-type: none"> 1. False, an operating system is software that manages the computer’s memory, processes, and all of its software and hardware. 2. True 3. True 4. A <p>Activity 7.3</p> <ol style="list-style-type: none"> 1. Monitor 2. Webcam 3. a. Any two of the following <ul style="list-style-type: none"> • By not using obvious personal information such as a birth date. • By making it longer. • By combining birth dates with other characters. • By using a mix of letters, numbers and special characters. b. A biometric device such as fingerprint scanner.