**MZUMBE UNIVERSITY**



**FACULTY OF SCIENCE AND TECHNOLOGY**

**COURSE: DIT**

**COURSE CODE: CSS 062**

**SUBJECT NAME MAINTAINING COMPUTER SYSTEMS**

**LECTURER NAME: MR. KURIHO**

**NATURE OF WORK: INDIVIDUAL ASSIGNMENT**

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1. **Maintenance:** is the process of safeguarding and ensuring efficient and operation of system. Example maintenance involves checking and preventing issues.

R**epair:** is the processing of fixing or restoring somethings that has been broken for the aim of returning to its original.

**Upgrade:** is the processing of improving computer hardware, software to increase performance and features.

1. **Sluggish loading:** refer is the delay of something appearing on your screen that happen with the programs, websites and files.

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| **CAUSE OF SLUGGISH LOADING** | **PREVENT OF SLUGGISH LOADING** |
| **Network issues:** Example website online application, slow internet connection speed or problem with server. | **Improve internet connection:** upgrade the internet troubleshoot connection issues consider the higher speed. |
| **RAM memory:** Random access memory acts its work temporary in computer the system needs slower storage drive to handle tasks. | **Increase RAM:** More RAM allow your system acts as temporary workspace also if your system doesn’t have enough RAM the system will function slowly. Also add more RAM to improve computer ability to handle multiple tasks. |
| **Storage drive:** The speed of your storage drive where program and files stored hard disk drive (HDD) are slower than solid state drives (SSD) come to accessing data. | **Upgrade storage drive:** consider having solid state drive (SSD)for faster loading in times. Then hard disk drive (HDD) upgrade the SSD can improve loading in time for the program, files and games. |

3**.Auditory sign:** Refer is the information that indicate the perceived communicated through sound. Various sign of auditory sign are speech, environmental sounds, and non-verbal sounds.

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| **AUDITORY SIGN PROBLEM:** | **SOLUTION OF AUDITORY SIGN:** |
| Beep code: Beeping sounds related in CPU some beep code happen during startup can indicate the hardware issues that might involve CPU. | Consult motherboard to decipher beep code that faulty RAM or other components affecting CPU. |
| Fan noise: constant high speed the fan noise coming from computer CPU that indicate generate excess heat causing cooling. | Dust buildup your must ensure the cleanup of computer is turn off and unplugged before cleaning to prevent damage. |
| High-pitched whining: high frequency whining noise from CPU. | Determine the identity the source of components that produce high-pitched noise the power supply unit, CPU and graphics card. |

4.

SIGNS: CAUSES; SOLUTION;

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| Blue screen death | Memory problem | Run memory diagnostics tools |
| Blank screen | Graphics card issues | Check graphics card connection |
| Repeating Beeps | Motherboard failure | Check motherboard connection |
| 1 long beep,2 short Beep | Graphical card issues | Replace graphics card |
| 1 long beep,3 short beep | Memory failure | Replace memory modules |
| High-frequency beep | Overheating problem | Check cooling system |
| Repeating high/low beep | Power supply malfunction | Confirm proper power supply connection |
| Overheat problem | Dust accumulation | Cleanup cooling fans and vents |

5.

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| Hardware | Is the physical component of computer system that you can see and touch. Example CPU, RAM, storage drive and graphics card |
| Software | Is the component of computer system that provide user interface for interacting with computer. Example operating system (window, macOS) |
| Data | Is the information that stored that processed by computer system. Example images, videos and documents. |
| User | Is the person who interact the computer system and provide instruction. Example student |

6.

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| Overheating | Dust buildup on the heatsink and fans acts as insulator that trapping heat and preventing the fans from properly cooling the system |
| Hardware components | The component like CD/DVD drive failing drive also produce noise |

7.**Heat sink:** This is metal component made from copper and aluminum that attaches to the CPU generate component.

**Thermal paste:** A thin layer of thermal paste sit between CPU and heatsink usually this layer improving heat transfer from the CPU to the heatsink.

**Heat pipes:** in some computer have high performance of heat pipes are used to transfer heat away from the heatsink.

8. **Blue screen of Death (BSOD):** The infamous BSOD toward RAM issues. The blue screen might display error message from memory problem.

**Freezing application:** Application freezing unexpectedly and becoming unresponsive can be caused by RAM error.

9.**Manage charge cycle:** Modern laptop batteries use lithium-ion technology that has limited number of charge cycle.

**Optimize power settings:** Most operating system offers built-in power management option.

**Prevent overheating:** Ensure proper ventilation for your laptop by keeping dust buildup aways from the vents and fans.

**Unplug when not in use:** Even when turned on but not actively charging a plugged-in laptop can still draw a small amount of power.

**Perform battery calibration:** Over time the battery gauge on your laptop might become inaccurate.

10.

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| CAUSES OF SLOW PERFORMANCE | SOLUTION OF SLOW PERFORMANCE |
| Outdated software | Keep your operating system and application up-to-date. |
| Low disk space | Free up disk space by deleting unnecessary files, program, and temporary data. |
| Malware and viruses | Run scan with antivirus software to detect and remove any malware or viruses might affect system performance |

Best way to improve performance;

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| Update software | Keep your operating system, driver and application up-to-date for optimal performance and security |
| Free up disk space | Clean up temporary files unused program and large download |
| Scan for malware | Run regular scans with your antivirus software to detect and remove any malware that might be impacting performance |