Lab - Research a Hardware Upgrade

Introduction

Use the Internet, a newspaper, or a local store to gather information about hardware components. Your customer's computer currently has one module of 2 GB of RAM, a 500 GB hard disk drive, and a PCIe video adapter card with 256 MB of RAM. Your customer wants to be able to play advanced video games.

Instructions

Step 1: Research memory options.

Shop around, and in the table below list the brand, model number, features, and cost for two different 8 GB modules of DDR3.

Brand and Model Number	Features	Cost
Corsair Vengeance	1x 8 GB 2133Hz DIMM	₱765.82
Kingston HyperX	1x 8 GB 1866Hz DIMM	₱550.00

Question:

Based on your research, which RAM would you select? Be prepared to discuss your decisions regarding the RAM you select.

I would personally choose the Corsair Vengeance as for a small addition of ₱215.82 as you can get a faster performance over the Kingston HyperX.

Step 2: Research hard disk drive options.

Shop around, and in the table below list the brand, model number, features, and cost for a 3 TB 7200 rpm SATA 3 hard disk drive and a 500GB or 1TB solid state drive (SSD).

Brand and Model Number	Features	Cost
Samsung 870 EVO Sata III 2.5” SSD (MZ-77E1T0BW)	1TB SSD Space 2.5” Size 560MB/s 530MB/s	₱4,950.00
Seagate BarraCuda (ST3000DM008)	3TB HDD Space 3.5” Size 7200 rpm SATA 3 (6 Gb/s)	₱3,289.00

Question:

Based on your research, which hard disk drive would you select? Be prepared to discuss your decisions regarding the hard disk drive you select.

I would personally choose the Samsung 870 EVO Sata III 2.5” SSD as not only is it in a new form factor. It is also smaller and less prone to physical damage compared to the Seagate BarraCuda which still uses magnetic disks which are prone to shattering if it sustains physical damage.

Step 3: Research video adapter card options.

Shop around, and in the table below list the brand, model number, features, and cost for two different PCIe video adapter cards with at least 1 GB of RAM.

Brand and Model Number	Features	Cost
Gigabyte GeForce RTX 4060 (GV-N4060EAGLE-OC-8GD)	• Powered by NVIDIA DLSS 3, ultra-efficient Ada Lovelace arch, and full ray tracing • 4th Generation Tensor Cores: Up to 4x performance with DLSS 3 vs. brute-force rendering • 3rd Generation RT Cores: Up to 2X ray tracing performance • Powered by GeForce RTX™ 4060 • Integrated with 8GB GDDR6 128bit memory interface • WINDFORCE cooling system • Dual BIOS • Protection back plate	₱18,795.00
Gigabyte GeForce RTX 5060 Windforce OC	• Graphics Processing GeForce RTX™ 5060 Core Clock 2512 MHz (Reference card : 2497MHz) • CUDA® Cores 3840 • Memory Clock 28 Gbps • Memory Size 8 GB • Memory Type GDDR7 • Memory Bus 128 bit Card Bus	₱19,950.00

Question:

Based on your research, which video adapter card would you select? Be prepared to discuss your decisions regarding the video adapter card you select.

Despite the RTX 5060 being a newer generation video card. It is less powerful as it uses AI to draw its frames compared to the RTX 4060. Not only that the frame quality of the AI generated frames is really low as the AI used for the RTX 5060 is not yet fully trained to handle the quality of the graphics needed by most software.