**Overview**

Work individually to understand and establish the specifications for a PC dedicated to a specific task or application.

My PC application topic Is: Gaming PC

Answering the student questions will help you to develop a deeper understanding of the main components of a personal computer. It will also help you to identify the features that are most important for your specific PC application topic and the features that are nice to have but are not as critical for your topic.

Preparing a brochure explaining your PC application topic and your selection of personal computer components and features will help you to summarize what you have learned from the student questions. The brochure will also help you to share your findings in a “tradeshow” to be held in class.

The date for the “tradeshow” is: Oct 23, 2019

**Student Questions -**

1. Think about your PC application topic. Do some research to find general answers to the following questions.
   1. How important is computer speed for my topic ( **High** / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

**The reason speed is so important for a gaming PC is because while playing video games lag or a slow PC could cost you the game you’re in.**

* 1. How important is data storage for my topic ( **High** / Medium/ Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

**The storage of a gaming PC is very important! Games usually take up a lot of storage therefore the more games you have the more storage you need.**

* 1. How important is graphics and sound for my topic ( **High** / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

**YOU NEED A GOOD GRAPHICS CARD! A graphics card helps run high quality games while maintaining a good framerate**

* 1. How important is internet connectivity for my topic ( **High** / Medium/ Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

**All online games require a good internet connection. Without a good internet connection your game might freeze and you might lose connection unless you’re playing an offline video game.**

1. CPU Processor Chip
   1. What speed of CPU Chip do you require? (High / **Medium** / Basic)

**4 Cores**

* 1. Provide an example of a high speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

**AMD 2nd Gen RYZEN Threadripper 2990WX 32-Core, 64-Thread, 4.2 GHz Max Boost (3.0 GHz Base), Socket sTR4 250W YD299XAZAFWOF Desktop Processor**

* 1. Provide an example of a medium speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **AMD RYZEN 3 3200G 4-Core 3.6 GHz (4.0 GHz Max Boost) Socket AM4 65W YD3200C5FHBOX Desktop Processor**

* 1. Provide an example of a basic speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **AMD Athlon 200GE 2-Core, 4-Thread, 3.2 GHz Base, Socket AM4 35W YD200GC6FBBOX Desktop Processor**

* 1. What would be the least expensive CPU Chip that meets your requirements? List the Model Number, Price, and Vendor Source.

# **AMD Athlon 200GE 2-Core, 4-Thread, 3.2 GHz Base, Socket AM4 35W YD200GC6FBBOX Desktop Processor**

1. RAM Memory
   1. What size of RAM Memory do you require? (Large / **Medium** / Basic)
   2. Provide an example of a large size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **CORSAIR Vengeance RGB Pro 32GB (4 x 8GB) 288-Pin DDR4 DRAM DDR4 3200 (PC4 25600) Desktop Memory Model CMW32GX4M4C3200C16**

* 1. Provide an example of a medium size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **CORSAIR Vengeance RGB Pro 16GB (2 x 8GB) 288-Pin DDR4 DRAM DDR4 3600 (PC4 28800) Desktop Memory Model CMW16GX4M2C3600C18**

* 1. Provide an example of a basic size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **Team Elite Plus 8GB (2 x 4GB) 288-Pin DDR4 SDRAM DDR4 2400 (PC4 19200) Desktop Memory Model TPD48G2400HC16DC01**

* 1. What would be the least expensive RAM Memory that meets your requirements? List the Model Number, Price, and Vendor Source.

# **Team Elite Plus 8GB (2 x 4GB) 288-Pin DDR4 SDRAM DDR4 2400 (PC4 19200) Desktop Memory Model TPD48G2400HC16DC01**

1. Graphics Card
   1. What graphics speed and resolution do you require? (**High** / Medium /Basic - On Motherboard)
   2. Provide an example of a high-end Graphics Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **EVGA GeForce RTX 2080 Ti FTW3 ULTRA GAMING, 11G-P4-2487-KR, 11GB GDDR6, iCX2 & RGB LED**

* 1. Provide an example of a medium-end Graphics Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **MSI GeForce GTX 1050 Ti DirectX 12 GTX 1050 Ti GAMING X 4G 4GB 128-Bit GDDR5 PCI Express 3.0 x16 HDCP Ready ATX Video Card**

* 1. What would be the least expensive Graphics Card that meets your requirements (or do you just need basic graphics provided by the motherboard)? List the Model Number, Price, and Vendor Source.

# **MSI GeForce GTX 1050 Ti DirectX 12 GTX 1050 Ti GAMING X 4G 4GB 128-Bit GDDR5 PCI Express 3.0 x16 HDCP Ready ATX Video Card**

1. Sound Card
   1. Do you require special sound support? (High / Medium /**Basic - On Motherboard)**
   2. Provide an example of a high-end Sound Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **EVGA NU Audio Card, 712-P1-AN01-KR, Lifelike Audio, PCIe, RGB LED, Designed with Audio Note (UK)**

* 1. Provide an example of a medium-end Sound Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **Creative Sound Blaster Z PCIe 116dB SNR Gaming Sound Card with 600 ohm Headphone Amp and Beamforming Microphone**

* 1. What would be the least expensive Sound Card that meets your requirements (or do you just need basic sound provided by the motherboard)? List the Model Number, Price, and Vendor Source.

**NONE**

1. Motherboard
   1. Do you require any special motherboard features (based on your answers to the above questions)?

**No.**

* 1. Provide an example of a high-end Motherboard using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **MSI MEG X570 ACE Gaming Motherboard AMD AM4 SATA 6Gb/s M.2 USB 3.2 Gen 2 Wi-Fi 6 ATX**

* 1. Provide an example of a basic Motherboard using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **GIGABYTE B450 AORUS PRO WIFI (rev. 1.0) AM4 AMD B450 SATA 6Gb/s USB 3.1 HDMI ATX AMD Motherboard**

* 1. What would be the least expensive Motherboard that meets your requirements? List the Model Number, Price, and Vendor Source.

# **ASRock B450M-HDV R4.0 AM4 AMD Promontory B450 SATA 6Gb/s Micro ATX AMD Motherboard**

1. HDD (**Hard Disk Drive** or Solid State Drive)
   1. Do you require any special Hard Disk Drive features (based on your answers to the above questions)?

**No.**

* 1. Provide an example of a high-end HDD using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **12big Thunderbolt 3 120T**

* 1. Provide an example of a basic HDD using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# **Seagate BarraCuda ST2000DM008 2TB 7200 RPM 256MB Cache SATA 6.0Gb/s 3.5" Hard Drive Bare Drive**

* 1. What would be the least expensive Hard Disk Drive that meets your requirements? List the Model Number, Price, and Vendor Source.

# **Seagate BarraCuda ST2000DM008 2TB 7200 RPM 256MB Cache SATA 6.0Gb/s 3.5" Hard Drive Bare Drive**

1. Removable Media (DVD / USB / Flash)
   1. Do you require any special Removable Media features? Explain what extra features are required for your PC application topic. **No**
   2. If so, List the Model Number, Price, and Vendor Source for any of these extra features. **N/A**
2. Network Interface (**Ethernet** /Fiber / Wi-Fi / Bluetooth)
   1. Do you require any special Network Interface features? Explain what extra features are required for your PC application topic. **No**
   2. If so, List the Model Number, Price, and Vendor Source for any of these extra features. **N/A**
3. Monitor, Mouse, Keyboard
   1. Do you require any special Monitor, Mouse, Keyboard, etc. add-ons? Explain what extra features are required for your PC application topic. **No not really**
   2. If so, List the Model Number, Price, and Vendor Source for any of these extra features.

**N/A**

1. Portability / Mobility
   1. Will you be using your PC in one place, do you need some portability, or do you need a high degree of mobility? Explain the need for portability your PC application topic.

**There is no need for portability.**

* 1. Do you require a **Desktop** / Laptop / Notebook or other PC format?
  2. How will this affect the cost of your dream machine.

**It will cost less as it won’t need to be prebuilt**

1. Rank each personal computer component in order of priority (1-lowest, 10-highest) based on your research above. Each component must have its own priority number… no duplications.
   * CPU Processor Chip 1 2 3 4 5 6 7 8 **9** 10
   * RAM Memory 1 2 3 4 5 6 7  **8** 9 10
   * Graphics Card 1 2 3 4 5 6 7 8 9 **10**
   * Sound Card 1  **2** 3 4 5 6 7 8 9 10
   * Motherboard 1 2 3 4 5 6 **7** 8 9 10
   * HDD (Hard Disk Drive or Solid State Drive) 1 2 3 4 5 **6** 7 8 9 10
   * Removable Media (DVD / USB / Flash) 1 2 **3** 4 5 6 7 8 9 10
   * Network Interface (Ethernet /Fiber / Wi-Fi / Bluetooth) 1 2 3 4 **5** 6 7 8 9 10
   * Monitor, Mouse, Keyboard 1 2 3 **4** 5 6 7 8 9 10
   * Portability / Mobility **1** 2 3 4 5 6 7 8 9 10

**Brochure**

Work individually to create a 4 page brochure according to the following guideline.

**Page 1 – Your Application Topic**

Describe your topic and the top PC components for your topic.

Include the following on this page:

* Describe your application topic and how a PC is used
* In general terms, describe what the best PC for this application would look like (e.g. speed vs portability)
* Describe in more detail the top three most important PC components and explain why they are important for your application

**Page 2 – Would-Be-Nice Features**

Describe your decisions about what PC components are less important but would be nice to upgrade if you had the money.

Include the following on this page:

* Describe the would-be-nice components (just below your top 3 priorities) and what your options for upgrading them would be.
* Describe the components / features at the bottom of your priority list and why you would not spend extra money on them.
* Provide some details about different vendors / suppliers and the options they offer.

**Page 3 – Your Budget Machine**

Your budget is $800. Select a pre-packaged PC or customize / build a PC from parts to fit under this budget.

Include the following on this page:

* Your PC specs, model, cost, vendor, etc.
* Priority components that you were able to include for this price.
* Priority components that you had to leave out because of budget limitations.

**Page 4 – Your Dream Machine**

Your budget is $2000. Select a pre-packaged PC or customize / build a PC from parts to fit under this budget.

Include the following on this page:

* Your PC specs, model, cost, vendor, etc.
* Priority components that you were able to include for this price.
* Priority components that you were able to spend extra on.
* Also comment on any priority components that you had to leave out or down-grade.

**Appendix A: PC Vendors, Parts, & Customization**

Suggested on-line computer sources:

* [www.newegg.ca](http://www.newegg.ca)
* [www.dell.com/en-ca](http://www.dell.com/en-ca)
* [www.tigerdirect.ca/](http://www.tigerdirect.ca/)
* [www.canadacomputers.com](http://www.canadacomputers.com)