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

My PC application topic Is: Game Computer

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: Wednesday October 23rd, 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.

Computer speed for my topic (game computer) is highly important because high speeds are essential for a gaming computer for the computer to process inputs quickly and output them clearly and at a fast speed. These high computer speeds were specially made for gaming computers, which requires the tasks to work efficiently and to be done quickly.

* 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.

Data storage is also highly important for my topic (game computer) because game applications take a lot of storage when downloaded and their updates as well. An SSD (fast storage) is required as game applications are large and take a lot of time to run and launch.

* 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.

Graphics are also highly important for my topic (game computer) because most games are graphically intensive. Exclusive graphic cars are needed such as RTX 2060 or GTX 1080/1070. Even sound is highly important because audio quality is needed for games as well for many reasons such as headphones for spatial sound. Crisp and clear audio sound is necessary for a game application on all platforms even gaming computers.

* 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.

Internet connectivity is even averagely important for my topic (game computer) because all games must be downloaded, launched, and running and they need internet to be able to do these necessary tasks. Even updating game applications need internet to do this task as well. For must games to function a stable, medium speed is required and this is all you need, but high speed is preferred.

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

A high or medium speed of a CPU chip is necessary, High speed CPU chips such as i7 8700k is recommended for high end gaming. Medium range CPU chip speeds are god as well, for example like an AMD Ryzen 5 3600.

* 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

High-speed CPU Chip: i9 9900k

* + - $639.99 CAD
    - 3.60GHz base speed, 5.00GHz boost
    - 16 MB cache
    - 128 GB max memory size
    - 4K support
    - Intel UHD graphics 630
    - Very high speeds, one of the best for gaming computers
  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

Medium-speed CPU Chip: i5 9400F

* + - $157.00 CAD
    - 2.90GHz base speed, 4.10GHz boost
    - 9 mb cache
    - 128 GB max memory size
    - Intel Optane Memory
    - Decent speeds, average for gaming computers
    - Need separate GPU for graphics
  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

Basic-speed CPU Chip: Intel Pentium Gold G5400

* + - $93.96 CAD
    - 3.3GHz base, no boost
    - 2 cores (cache not given)
    - Integrated Intel UHD graphics 630
    - Cheap processor, good for basic desktops not gaming computers
  1. What would be the least expensive CPU Chip that meets your requirements? List the Model Number, Price, and Vendor Source.

Least Expensive CPU Chip: AMD Athlon 200GE Processor

* + - $56.99 CAD
    - 3.2 GHz base, no boost
    - 2 cores
    - Radeon Vega 3 Graphics
    - One of the best cheapest CPU chips

1. RAM Memory
   1. What size of RAM Memory do you require? (Large / Medium / Basic)

Mostly all best gaming computers prefer large RAM memory of 16GB, but medium 8Gb is minimum for gaming computers. This Is required because it improves gaming experience and loads application faster for game loading activities.

* 1. 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

Large RAM size: Dominator Platinum 38GB DDR4 DRAM 3200MHz C16 Memory Kit

* + - $254.99 CAD
    - 38 GB
    - 3200MHz
    - One of the best RAM memories currently
  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

Medium RAM size: Crucial Ballistix Tactical Trace RGB 2666MHz DDR4 DRAM Gaming Memory Kit

* + - $250.14 CAD
    - 32GB
    - 2666MHz
    - Even come in 62GB (if wanted)
  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

Basic RAM size: G.Skilll Trident Z RGB 16GB DDR4 2400MHz

* + - $124.99 CAD
    - 16GB
    - 2400MHz
    - Highest quality components
    - Great performances
  1. What would be the least expensive RAM Memory that meets your requirements? List the Model Number, Price, and Vendor Source.

Cheap RAM size: Patriot viper Elite 8GB DDR4 2400MHz

* + - $55.97 CAD
    - 8 GB
    - 2400MHz
    - Built for latest Intel platforms
    - Best cheapest performance for this price

1. Graphics Card
   1. What graphics speed and resolution do you require? (High / Medium /Basic - On Motherboard)

Gaming computers require a medium graphics speed and resolution, but I would prefer high graphics speeds on the mother board.

* 1. 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

High-end Graphics card: GeForce GTX 1080

* + - $826.76 CAD
    - 10 Gbps
    - 1607MHz base, with 1733 MHz boost
    - 8 GB memory
  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

Medium-end Graphics Card: GeForce GTX 1060

* + - $339.99 CAD
    - 192-bit HDCP support
    - 2 fans
    - 6 GB memory
  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.

Cheap Graphics Card: GeForce GTX 1050

* + - $219.99 CAD
    - DX12 OSD Support
    - 4 GB memory
    - 1 fan

1. Sound Card
   1. Do you require special sound support? (High / Medium /Basic - On Motherboard)

For a gaming computer sound support doesn’t really matter that much as must people will use high end headphones/headsets. So, a game computer requires basic sound on the motherboard.

* 1. 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

High-end Sound Card: ASUS Sound Card Essence STX II

* + - $330.95 CAD
    - Legendary audio quality
    - 0Hz to 90 KHz
  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

Medium-end Sound Card: ASUS Xonar

* + - $79.69 CAD
    - Supports latest DS3D GX 2.0 for gaming
    - 116dB SNR
    - Best Reader’s Choice

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

Based on other upgrades the motherboard doesn’t require any special features.

* 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

High-end Motherboard: Intel Z390 AORUS Motherboard

* + - $240.99 CAD
    - Digital VRM
    - Direct touch heatpipe
    - RGB Fusion 2.0
    - Front and rear USB 3.1
  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

Basic Motherboard: ROG STRIX Z390-I GAMING

* + - $200.99 CAD
    - Intel Z390
    - Integrated I/O shield
    - VRM heatsink
    - Intel WiFi
    - HDMI 2.0
    - USB 3.1
  1. What would be the least expensive Motherboard that meets your requirements? List the Model Number, Price, and Vendor Source.

Cheap Motherboard: Gigabyte Z390 UD

* + - $100.89 CAD
    - Multi-graphics
    - Smart fan 5
    - Slot armor
    - Ultra-Durable

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)?

Best gaming Computers don’t use HDD, but they use SSD, which is much faster and loads the computer, games, and applications faster.

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

High-end SSD: Samsung 850 4TB

* + - $1099.99 CAD
    - 2.5” SATA III
    - Internal SSD
  1. Provide an example of a basic SSD using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

Basic SSD: Samsung 850 500GB

* + - $228.82 CAD
    - 2.5” SATA III
    - Internal SSD
  1. What would be the least expensive Solid State Drive that meets your requirements? List the Model Number, Price, and Vendor Source.

Cheap SSD: Samsung 850 120 GB

* + - $169.99 CAD
    - 2.5” SATA III
    - Internal SSD

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.

After this gaming computer with all these upgrades will not need any special removable media features such as DVD, USB, and flash drive. This is because it provides us with many already so it wouldn’t make sense to waste money on something you might not even use in future.

* 1. If so, List the Model Number, Price, and Vendor Source for any of these extra features.

1. 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.

Neither does this gaming computer need network interface features such as Ethernet, fiber, Wi-Fi, and Bluetooth because the parts in most gaming computers already have high end network interface features.

* 1. If so, List the Model Number, Price, and Vendor Source for any of these extra features.

1. 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.

In my opinion, any basic keyboard and mouse will do the job but others will have different opinions.

* 1. If so, List the Model Number, Price, and Vendor Source for any of these extra features.

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.

My dream machine will always be in one place because it will be in the form of as desktop, so it won’t be portable to take around. But if wanted you can you can move it but will be a lot of work will you will have to take the PC, monitor, keyboard and mouse. There are ways you can use your PC portable by an application called team viewer which allows to control your laptop and desktop from around the world.

* 1. Do you require a Desktop / Laptop / Notebook or other PC format?

This set up would require a gaming desktop because most high-end gaming computers come in the form of a desktop, sometimes as laptops but they are not that efficient as a PC.

* 1. How will this affect the cost of your dream machine.

This will affect the cost of my dream machine because desktops are much expensive than laptops, but gaming PC’s are much more high end.

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 9
   * RAM Memory 7
   * Graphics Card 6
   * Sound Card 3
   * Motherboard 10
   * HDD (Hard Disk Drive or Solid State Drive) 8
   * Removable Media (DVD / USB / Flash) 2
   * Network Interface (Ethernet /Fiber / Wi-Fi / Bluetooth) 5
   * Monitor, Mouse, Keyboard 4
   * Portability / Mobility 1

**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)

**Appendix B: Application Topics**

|  |  |
| --- | --- |
| **Task** | **Student Name** |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |