**Overview**

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

My PC application topic Is: Factory Floor Computer

Answering 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: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Student Questions**

1.       Think about your PC application topic. Do some research to find general answers to the following questions.

a.       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.

High, People come in and out as well as the when talking about the huge robots, it takes a lot of processing power to control them.

b.       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.

High, Data storage is really important because there are a lot of specific and detailed commands for the output device in which we need a lot of data storage.

c.        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.

Low, graphics and sound is not needed, it is essentially useless because the computer is for giving commands and giving commands only.

d.       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.

2.       CPU Processor Chip

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

High, required to send tasks quick and effectively.

b.       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

Intel core i-9, (newest gen)

$640

Found on Newegg

# 95W BX80684I99900K

# 

c.        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

Intel core i-5 (newest gen)

$310

Found on Newegg

# BX80684I59600K

d.       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

Intel Core i-3

$120

Found on Newegg

# BX80684i39100F

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

Intel i-7

$500

Found on Newegg

# BX80684I79700K

3.       RAM Memory

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

The size of RAM Memory required is medium to large.

b.       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 LPX 32GB

# $195

# From Canadian Computers

# CMK32GX4M2B3200C16

# 

c.        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

# G.SKILL Ripjaws X Series 8GB

# $45

# From Canadian Computers

# F3-12800CL10S-8GBXL

d.       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

# G.SKILL Aegis 4GB

# $27

# From Canadian Computers

# F4-2133C15S-4GIS

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

# G.SKILL Ripjaws X Series 8GB

# $45

# From Canadian Computers

# F3-12800CL10S-8GBXL

4.       Graphics Card

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

A Medium to Basic graphic card is needed.

b.       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

# MSI GeForce RTX 2080 DirectX

# $1013

# Found on Newegg

# 

c.        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 RTX 2060 DirectX

# $480

# Found on Newegg

# 

d.       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

# $231

# Found on Newegg

5.       Sound Card

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

Basic sound support is needed

b.       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

# Creative Sound BlasterX G

$180

N82E16829102103

             Found on Newegg

c.        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

# ASUS Xonar SE 5.1 Channel 192 kHz

# $65

# Found on Newegg

9SIA7RD89S5800

# 

d.       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.

# Channel 5.1 Surround 3D PCI Sound Audio Card

# $15

# Found on Newegg

9SIA8W639J3456

# 

6.       Motherboard

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

No, no extra features are required

b.       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 MPG X570

# $276

# Found on Newegg

N82E16813144261

# 

c.        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

# ASUS PRIME H310M-E R2.0 LGA 1151 (300 Series)

$88

Found on Newegg

N82E16813119147

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

# ASUS PRIME H310M-E R2.0 LGA 1151 (300 Series)

$88

Found on Newegg

N82E16813119147

7.       HDD (Hard Disk Drive or Solid State Drive)

a.       Do you require any special Hard Disk Drive features (based on your answers to the above questions)?

I do not require any special features however I require a bug hard disk drive in order to store all the data

b.       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

# WD Purple WD121PURZ

# $530 (12 TB)

# Found on Newegg

9SIADGE9310301

# 

c.        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

# WD Blue 1TB Desktop Hard Disk Drive

# $59 (1 TB)

# Found on Newegg

N82E16822236339

# 

# 

# 

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

WD Blue 4TB Desktop Hard Disk Drive

$120

Found on Newegg

N82E16822235011

8.       Removable Media (DVD / USB / Flash)

a.       Do you require any special Removable Media features? Explain what extra features are required for your PC application topi

No special removable features are required.

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

9.       Network Interface (Ethernet /Fiber / Wi-Fi / Bluetooth)

a.       Do you require any special Network Interface features? Explain what extra features are required for your PC application topic.

Yes, ethernet is required

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

Coboc CY-CAT6-03-GR

$3

Found on Newegg

N82E16812422700

10.    Monitor, Mouse, Keyboard

a.       Do you require any special Monitor, Mouse, Keyboard, etc. add-ons? Explain what extra features are required for your PC application topic.

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

19" LCD Monitor A Grade

$55

Found on Newegg

E198WFPV

Rosewill Wireless Optical Computer Mouse

$5

Found on Newegg

N82E16826193131

Verbatim 99201 Black USB 2.0

$8

Found on Newegg

N82E16823301013

11.    Portability / Mobility

a.       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.

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

Desktop

c.        How will this affect the cost of your dream machine.

Helps price because laptops with higher capabilities are more expensive because of the portablilty.

12.    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

Everybody in the modern era has a computer, whether it's for work, for school, or even for just browsing the internet, whether it is huge or the size of a gum pack, everyone has it. The computer I have chosen is a Factory Floor Computer. Factory floor computers are computers that give commands to big outputs, a great example of a factory floor computer are the computers used to control the giant arms at the chrysler assembly plant, the computer sends out commands of where the part should be placed and more, so that the huge robotic arms can place exactly where needed. The best possible Factory Floor Computer computer would be fast, contain a lot of long-term and short-term storage, as well as have reliable products that can take a lot of processing power that can handle all of the tasks. These things would include a good CPU processor, RAM memory, and good Hard Disk Drive. A good CPU is needed in order to send tasks out as fast and effectively as possible. A good Ram Memory is needed as many adjustments/short-term tasks are made in which a good RAM memory is needed.  Lastly a lot of storage is needed, meaning a big HDD is needed in order to store all commands and files.

**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.

 Many components are a lot more important than others, especially when you have a specific computer like a Factory Floor Computer but with all that there are some added benefits that make life better. Some of these things would include a good  motherboard and a good mouse and keyboard. An upgrade for the motherboard would be an upgrade on the things it can do, it is more of a want but having a multi-purpose computer is always needed. An upgrade to the keyboard and mouse would be good for the user as a more comfortable and easier to use devices are always wanted. Some extra features that do not need money spent on them are removable storage and portability. With a device like this you would only need its ability to be used in one area and on one computer, these factory floor computers contain things that are meant for only that computer causing no need for removable storage. With portability, this computer is the last that needs to move and will die before ever getting moved.

**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.

Dell

 Vostro Small Desktop

Contains intel core i-5 (9th generation)

8GB of RAM

1TB of HDD

With this budget build, I included the main features which is having a good CPU, good RAM storage, and a big hard disk drive. However, with all that, I had to leave many features such as having the best CPU chip. Some main features on Dell's Vostro Small Desktop is the intel core i-5 (9th generation), 8GB of RAM, and 1TB of HDD, for the price of only $699. The reason I had to leave the most important part of my PC is because with a big CPU, all the other non-crucial features get upgraded as the computer becomes more luxury, with other customers terms that is a good thing but with me that isn’t because now I have to pay more for extra things I do not want/need. With this PC, graphics card took a drawback, I focused mainly on the storage aspect that the graphics card is just average and is not what you want if this was your personal computer.

**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.

TigerDirect

HP Z2 G4 Workstation PC

Intel core i-7 (8th gen)

16 GB RAM

1 TB HDD

With my Dream Machine I was able to put all the best components that I needed, these components include RAM,  the heavy-duty CPU, and many more features. The major component I spent money on was a 1TB HDD, this is because the heavier PC usually contain only 512GB but for the case of this, it wasn’t going to cut it. On the HP Z2 G4 workspace computer, it contains very respectable specs like and intel core i-7 (8th Generation), 16 GB of RAM, 1 TB of HDD, and many more features with the price of $1722.99. Throughout the dream machine, there was not a single component that I had to leave out. An example of this would be the graphics card, that was something I was not even looking for yet in my dream machine it contains a Intel-GFX which is a very powerful graphics card and can handle a lot more than it needs to with this build.

**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*** | Armin |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |