**Overview:**

Students work individually to understand and establish the specifications for a PC dedicated to a specific task or function. (The specific task or function will be assigned to the student from the list below.) The function and features of various hardware components are researched to develop a general understanding. Specific components and features are then selected based on appropriate need for the assigned task or function. The final product is a brochure that will be shared with other classmates during a tradeshow event.

**Objectives:**

* Use correct terminology to describe computer hardware, speed measurements, and size

measurements

* Describe the functions of the internal components of a computer
* Describe the functions of common computer peripheral devices
* Assess user computing needs and select appropriate hardware components for different

situations

**Getting Started:**

1. You will be required to design a “dream machine” personal computer (PC) for one of the tasks assigned to you from the list below.
2. To get started, develop a general understanding of what will be important features and what will be less important features of our dream machine. Consider the following:
   1. Operating system software
   2. Special application software
   3. Processor & motherboard speed
   4. Main memory speed and size
   5. Secondary storage speed and size
   6. Graphics and display speed and resolution
   7. External devices (e.g. keyboard, pointing devices, joysticks, etc.)
   8. Network connectivity
   9. Power and data backup
   10. Printers, scanners, and similar equipment
   11. Portability and durability
   12. Budget (cost) considerations

Specific Tasks & Functions

1. ***Game Computer***: Dedicated to playing PC games in a home environment
2. **Photo Editing & Organization**: Dedicated to editing and producing photographs and images in a home or professional environment
3. ***Business Office Computer***: Dedicated to producing documents and presentations and communicating with other people in a professional office environment
4. ***Student Home Computer***: Dedicated to completing homework, paying bills, communicating with friends and other similar tasks in a home environment
5. ***Factory Floor Computer***: Dedicated to reading documents, filling in forms, processing orders, etc. in a factory or warehouse environment.
6. ***Media Production and Streaming Computer***: Dedicated to production and distribution of video and/or music media in a semi-professional environment
7. ***Web Surfing Computer***: Dedicated to surfing the web, streaming media, and communicating through on-line services in a home environment

**Level 1: Processor & Memory**

1. Research and summarize the main features and function of a CPU processor chip. Consider the following:
   1. Physical packaging shape and size
   2. Processing speed and power
   3. Memory speed and size

A central processing unit, CPU, gives the outcomes of the instructions it receives from the hardware and software running on the computer. The main features of a CPU are ALU (arithmetic logic unit) and CU (control unit). ALU handles any mathematical, logical and decision making operations. CU controls all of the processors' operations.

Physical packaging shape and size

* AMD processors
  + Shape and size - small
* Intel processors
  + Shape and size - small

Processing speed and power

* AMD processors
  + Speed: 2.6 GHz (AMD Athlon 64 FX-60 Toledo Dual-Core 2.6 GHz Socket 939 ADAFX60CDBOX Processor)
  + Power: 2000 MHz
* Intel processors
  + Speed: Clock speed of 8 MHz (Intel 8088)

Memory speed and size

* AMD processors
  + Speed: 1600MHz (AMD FXTM processor - Single Rank Memory)
* Intel processors
  + Speed: 3.6GHz

1. Research and summarize the history of how a CPU processor chip has changed over the years. Consider the following:
   1. Typical processor speed, size, model numbers in the early 1990’s

* Maximum clock speed - 740 KHz
* Clocked relatively slow
* The slowest model ran at 10 MHz
* The improved model that was created a few years later was able to run up to 100MHz and it had a supported memory of 4GB.
  1. Typical processor speed, size, model numbers in the early 2000’s
* 64-bit Software
* More than 4GB of RAM
  1. Typical processor speed, size, model numbers in the current time
* Faster
* Stronger
* Ability to handle multiple peripherals
* RAM of 64GB
* Intended for gaming use, multimedia and content creator

1. Research and summarize the main features of motherboards. Consider the following:
   1. Physical packaging shape and size
   2. Speed and size

A motherboard is a board that consists of CPU, RAM and all other computer hardware components. It allows all these computer hardware components to communicate with each other so that they can each perform their tasks. Its main features are:

* A processor socket
* DDR(X) memory slots
* PCI Express slots
* SATA interfaces
* USB ports
* Conventional PCI slot(s)
* IDE interface(s)
* ATX Motherboard:
  + Has dual channel of 2133 MHz DDR4 up to 128GB
* LPX Motherboard:
  + 4\*8GB (32GB) [Each quartet RAM memory is 8GB]
  + A speed of 4333 MHz
* BTX Motherboard:
  + A speed of 1066MHz
  + Supported capacity of 8GB
* Mini ITX Motherboard:
  + Supported capacity of 32GB

1. Research and summarize the history of how motherboards have changed over the years. Consider the following:
   1. Typical speed, size, model numbers in the early 1990s

* Vary in capacity and speed
* ATX was the most popular at that time and is still used
  1. Typical speed, size, model numbers in the early 2000s
* A motherboard used in the early 2000s was the Nano ITX motherboard
* It was 75 percent smaller than the Mini ITX form factor
* It supports any processors that uses VIA’s NanoBGA2 technology that uses up to 1.5GHz with 128KB L1 and L2 cache.
  1. Typical speed, size, model numbers in the current time
* Much faster in speed
* More compact
* Very expensive due to the increase of features in the motherboard

1. Research and summarize the main features and function of RAM memory. Consider the following:
   1. Physical packaging shape and size
   2. Speed and size

RAM memory is a computer data storage that stores data and codes. It is known as a volatile memory as it loses all information present on it as soon as the computer is cut off of its power. They are sold individually and are compatible with any motherboard. The size and speed of RAM memory varies.

1. Research and summarize the history of how RAM memory has changed over the years. Consider the following:
   1. Typical speed, size, model numbers in the early 1990’s

* The highest speed measurement of RAM was Megahertz (MHz).
* The storage capacities were only 1MB
  1. Typical speed, size, model numbers in the early 2000’s
* The speed and size of RAM increased as it was being used constantly and everywhere.
* Also, it was being used to retain and process multiple information at the same time.
  1. Typical speed, size, model numbers in the current time
* The latest speed of RAM memory is 2133 MHz
* The latest size of RAM memory is 4GB to 32GB
* It is currently being used a lot more in gaming

1. Research and summarize the main features and the function of Hard Disk Drives (HDD). Consider the following:
   1. Physical packaging shape and size
   2. Speed and size

Hard Disk Drive, HDD, is a non-volatile computer data storage device that permanently stores data and retrieves data on a computer. It is a hardware device that is not part of the PC tower. The speed of HDD is measured in revolutions per minute (rpm). The lowest is 4200 rpm and the highest is 15000 rpm. The size of HDD is usually measured in gigabytes. But it becomes terabytes when the capacity is over 1000 GB.

1. Research and summarize the history of how Hard Disk Drives (HDD) have changed over the years. Consider the following:
   1. Typical speed, size, model numbers in the early 1990’s

* It was measured in megabytes and gigabytes.
* The closest capacity a hard disk drive had reached was 16GB.
* It was a rare and very expensive feature of the computer in the 1980s but slowly became more available in the 1990s.
  1. Typical speed, size, model numbers in the early 2000’s
* Hard disk drive had its maximum capacity boosted up to 750GB
* Raptor X SATA that was built in 2006 had a speed of 10 000 rpm with a capacity of 150 GB
  1. Typical speed, size, model numbers in the current time
* The current largest capacity of a hard disk drive is 15 terabytes
* It is also used for gaming now

1. Explain and justify the processor and memory requirements for your ‘dream machine’ task. Discuss the following:
   1. Minimum and “would be nice” requirements for the CPU chip
   2. Minimum and “would be nice” requirements for the Motherboard
   3. Minimum and “would be nice” requirements for the RAM memory
   4. Minimum and “would be nice” requirements for the HDD

**Level 2: Display & Peripherals**

1. Research and summarize the main features and function of Computer Display Monitor. Consider the following:
   1. Physical construction (CRT, LCD, etc)
   2. Display Standards (CGA, VGA, SVGA, XGA, etc.)
   3. Resolution & Colour depth

Computer Display Monitor a display adapter that displays information processed by the computer's video card. Its main features are:

* Screen Size
* Ratio Aspect
* Resolution
* Response Time
* Contrast Angle
* Inputs and Outputs

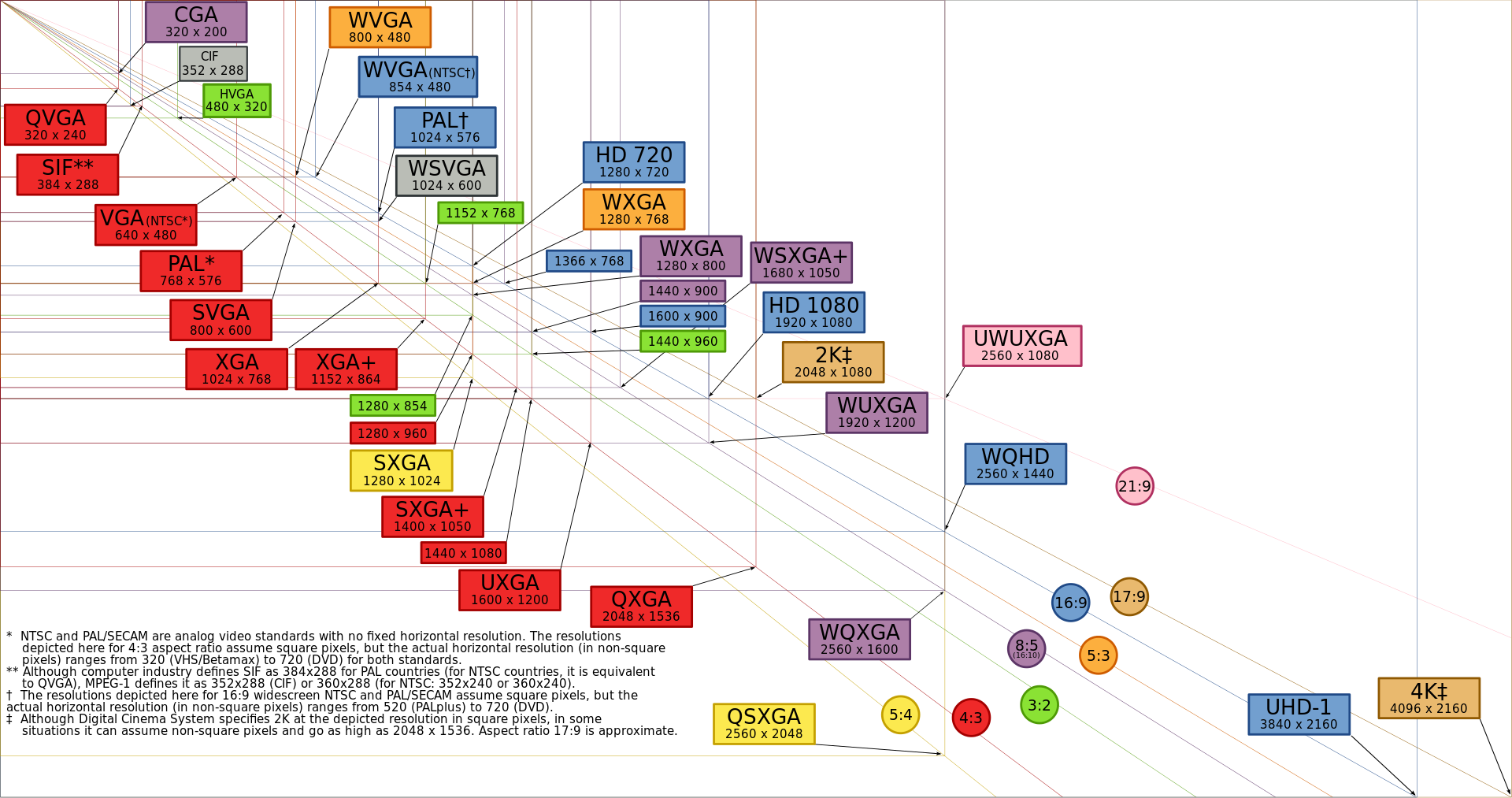
1. Research and summarize the main features and function of a Computer Graphics Card. Consider the following:
   1. Physical packaging (e.g. On the motherboard, expansion card, etc.)
   2. Speed and frame rate (2D vs 3D)
   3. Resolution, colour depth, and memory size

Computer Graphics Card which is mostly referred to Video card is a device installed in a computer that consists of a graphics processing unit, designed to help process and display images. It has its own storage which prevents the RAM memory from straining its storage with too much data. The speed of the graphics card is measured in GPU clock speed (MHz) and the size of the memory bus is bits. The frame rate is measured in frames per second (FPS). The frame rate describes how many complete images the card can display per second. The human eye can process about 25 frames every second, but fast-action games require a frame rate of at least 60 FPS to provide smooth animation and scrolling. Components of the frame rate are:

* Triangles or vertices per second: [3-D](https://computer.howstuffworks.com/3dgraphics.htm) images are made of triangles or polygons. This measurement describes how quickly the GPU can calculate the whole polygon or the vertices that define it. In general, it describes how quickly the card builds a wireframe image.
* Pixel fill rate: This measurement describes how many pixels the GPU can process in a second, which translates to how quickly it can rasterize the image.

The purple information was found on this website: <https://computer.howstuffworks.com/graphics-card3.htm>

The resolution of a graphics card varies:



The colour depth of a graphics card consists of each pixel of a screen image being displayed using a combination of the three different colour; red, blue and green. The precise appearance of each pixel is controlled by the intensity of these three beams of light and the amount of information that is stored about a pixel determines its colour depth.

For a display to fool the eye into seeing full colour, 256 shades of red, green and blue are required; that is 8 bits for each of the three primary colours, hence 24 bits in total. However, some graphics cards actually require 32 bits for each pixel to display true colour, due to the way in which they use the video memory – the extra 8 bits generally being used for an alpha channel (transparencies).

The orange information was found on this website: <https://www.pctechguide.com/graphics-cards/graphic-card-colour-depth>

1. Research and summarize the history of how Computer Display Technology has changed over the years. Consider the following:
   1. Display standards and capabilities in the late 1980’s

* The 1980s was known as the early days of consumer video cards
* The resolution used at that time, were mostly the low ones. For example,:
  + IBM Monochrome Display Adapter had a resolution of 720 x 350 pixels
  + Intel iSBX 275 Video Graphics Controller had a resolution of 256 x 256 pixels
  + ATI VGA Wonder had a resolution of 800 x 600 pixels
* The colours were monochrome, 8 and 16 bit
  1. Display standards and capabilities in the late 1990’s
* In the early ’90s, competition in the 2D accelerator card market increased dramatically with newcomers. This competition forced many companies to left this market as the competition was too fierce for them.
* Much better resolution was used at that time. For example:
  + NVIDIA NV1 had a resolution of 1200 x 600 pixels
  + ATI Rage 1 had a resolution of 1280 x 1024 pixels
  + 3Dfx Voodoo 1 had a 3 dimensional resolution of 640 x 480 pixels
  + NVIDIA GeForce 256 DDR had a resolution of 2046 x 1536 pixels
  1. Display standards and capabilities in the 2000’s
* The 2000s is a period when 3Dfx files announced bankruptcy and ATI took on NVIDIA for the upcoming ten years
* The clock speed and the capacity varied for every graphics card. For example:
  + (NVIDIA) GeForce 2 GTS - Clock speed: 200MHz, Capacity: 32MB or 64GB

1. Research and summarize the main features and function of External Storage and Backup. Consider the following:
2. Removable media (e.g. floppy disks, CD/DVD-RW, CompactFlash, etc.)
3. USB media (e.g. Memory Stick, External HDD, etc.)
4. Cloud based storage

CompactFlash (CF) is a removable storage device used for mass storage in portable electronic machines, such as PCs. Based on non-volatile technology (flash memory), CF does not require a battery. CF competes with other memory cards and chips, such as SD/MMC and PC card type-I.

A Compact disc read-only memory (CD-ROM) is a storage device that can be read but not written to. CD-ROM was a common convention for delivery of audio and other data through the years before small solid-state flash drives and other devices began to take over.

A digital versatile disc (DVD) is an optical disc storage medium similar to a compact disc, but with enhanced data storage capacities as well as with higher quality of video and audio formats. Co developed by Sony, Panasonic, Philips and Toshiba in 1995, the DVD is widely used for video formats, audio formats as well software and computer files.

A floppy disk drive (FDD), or floppy drive, is a hardware device that reads data storage information. It was invented in 1967 by a team at IBM and was one of the first types of hardware storage that could read/write a portable device. FDDs are used for reading and writing on removable floppy discs. Floppy disks are now outdated, and have been replaced by other storage devices such as USB and network file transfer.

A Memory Stick is a type of portable flash memory storage appliance that's typically used with handheld devices. Memory Sticks were first introduced by Sony in their cameras, camcorders and other digital photography equipment.

An external hard disk drive is a storage device located outside of a computer that is connected through a USB cable or wireless connection. An external hard drive is usually used to store media that a user needs to be portable, for backups, and when the internal drive of the computer is already at its full memory capacity. These devices have a high storage capacity compared to flash drives and are mostly used for backing up numerous computer files or serving as a network drive to store shared content.External hard drives are also known as removable hard drives.

Cloud storage is a cloud computing model in which data is stored on remote servers accessed from the internet, or "cloud." It is maintained, operated and managed by a cloud storage service provider on a storage servers that are built on virtualization techniques.Cloud storage is also known as utility storage – a term subject to differentiation based on actual implementation and service delivery.

Website:

CF - <https://www.techopedia.com/definition/25275/compactflash-cf>

CD-ROM - <https://www.techopedia.com/definition/2606/compact-disc-read-only-memory-cd-rom>

DVD - <https://www.techopedia.com/definition/32079/digital-versatile-disc-dvd>

FDD - <https://www.techopedia.com/definition/24861/floppy-disk-drive-fdd>

Memory stick - <https://www.techopedia.com/definition/5303/memory-stick>

External HDD - <https://www.techopedia.com/definition/2940/external-hard-drive>

Cloud Storage - <https://www.techopedia.com/definition/26535/cloud-storage>

1. Research and summarize the history of how External Storage and Backup has changed over the years. Consider the following:
2. Typical speed, size, model numbers in the early 1990’s
3. Typical speed, size, model numbers in the early 2000’s
4. Typical speed, size, model numbers in the current time
5. Research and summarize the main features and function of Network Connectivity. Consider the following:
6. Connection technology (e.g. Dial-Up, Ethernet, WiFi, BlueTooth, Fibre, etc.)
7. Upload and download speed
8. Security

A dial-up connection uses a standard phone line and analog modem to access the Internet at data transfer rates (DTR) of up to 56 Kbps. A dial-up connection is the least expensive way to access the Internet, but it also slowest connection. The usual upload and download speed of dial-up is 40-50 kbits/s.

Ethernet is an array of networking technologies and systems used in local area networks (LAN), where computers are connected within a primary physical space.Systems using Ethernet communication divide data streams into packets, which are known as frames. Frames include source and destination address information, as well as mechanisms used to detect errors in transmitted data and retransmission requests.

Wi-Fi is a type of wireless network technology used for connecting to the Internet. The frequencies wi-fi works at are 2.4Ghz or 5Ghz, ensure no interference with cell phones, broadcast radio, TV antenna and two-way radios are encountered during transmission.To simplify, Wi-Fi is basically just radio waves broadcast from a Wi-Fi router, a device detecting and deciphering the waves, and then sending back data to the router. It works very similarly to an AM/ FM radio but it is two-way communication channel. Wifi works over longer distances than bluetooth or infrared and is also a low power unobtrusive technology, making it suitable for portable devices such as laptops and palmtops. Wi-Fi is governed by the Wi-Fi Alliance, an association of manufacturers and regulators defining standards and certifying products as Wi-Fi compatible.

Bluetooth is an open wireless technology standard for transmitting fixed and mobile electronic device data over short distances. Bluetooth was introduced in 1994 as a wireless substitute for RS-232 cables.Bluetooth communicates with a variety of electronic devices and creates personal networks operating within the unlicensed 2.4 GHz band. Operating range is based on device class. A variety of digital devices use Bluetooth, including MP3 players, mobile and peripheral devices and personal computers.

Fiber optic refers to the technology and medium used in the transmission of data as pulses of light through a strand or fiber medium made of glass or plastic (optical fiber), versus being sent as electrical pulses through conductive metal, like copper wires. Optical fiber technology can carry much more data than conventional copper wires and is less prone to electromagnetic interference, simply because data is transmitted in the form of light, rather than electricity.

Websites:

Dial-Up - <https://www.techopedia.com/definition/25953/dial-up-connection>

Ethernet - <https://www.techopedia.com/definition/5280/ethernet>

WiFi - <https://www.techopedia.com/definition/10035/wireless-fidelity-wi-fi>

Bluetooth - <https://www.techopedia.com/definition/26198/bluetooth>

Fibre - <https://www.techopedia.com/definition/14931/fiber-optic>

1. Research and summarize the history of how Network Connectivity has changed over the years. Consider the following:
2. Typical speed, size, model numbers in the early 1990’s
3. Typical speed, size, model numbers in the early 2000’s
4. Typical speed, size, model numbers in the current time
5. Research and summarize the main features and function of Printer Technology. Consider the following:
6. Printing Technology (e.g. Dot Matrix, Ink Jet, Laser, etc.)
7. Connection Technology (e.g. Parallel Port, USB, WiFi, Network, etc.
8. How printing has changed over the years

A dot matrix printer (DMP) is a type of printer which uses pins impacting an ink ribbon to print. These printers are generally considered outdated, as they cannot create high-quality prints and are costly as well. However, they have a certain specialty that other printers like inkjet and laser printers do not have: as they use impact for printing, they can be used to print multiple copies of text at the same time with the help of carbon copying. Therefore, they are mostly used in places where multipart forms are required. A dot matrix printer is also known as an impact matrix printer.

Inkjet printers are a category of printer in which printing is done with the help of inkjet technology. The technology works by spraying ionized ink directed by magnetic plates onto the paper, which is fed through the printer. As inkjet printers are more affordable than other types of printers, they are commonly used as home and business printers.

A laser printer is a type of printer that uses a laser and electrical charge model instead of the traditional printing of ink onto paper. Laser printers have increased the neatness and sophistication of print projects, with typical resolutions of 600 dots per inch or higher.

A parallel port is an interface allowing a personal computer (PC) to transmit or receive data down multiple bundled cables to a peripheral device such as a printer. The most common parallel port is a printer port known as the Centronics port. A parallel port has multiple connectors and in theory allows data to be sent simultaneously down several cables at once. Later versions allow bi-directional communications. This technology is still used today for low-data-rate communications such as dot-matrix printing.

A Universal Serial Bus (USB) is a common interface that enables communication between devices and a host controller such as a personal computer (PC). It connects peripheral devices such as digital cameras, mice, keyboards, printers, scanners, media devices, external hard drives and flash drives. Because of its wide variety of uses, including support for electrical power, the USB has replaced a wide range of interfaces like the parallel and serial port.

Wi-Fi is a type of wireless network technology used for connecting to the Internet. The frequencies wi-fi works at are 2.4Ghz or 5Ghz, ensure no interference with cell phones, broadcast radio, TV antenna and two-way radios are encountered during transmission.To simplify, Wi-Fi is basically just radio waves broadcast from a Wi-Fi router, a device detecting and deciphering the waves, and then sending back data to the router. It works very similarly to an AM/ FM radio but it is two-way communication channel. Wifi works over longer distances than bluetooth or infrared and is also a low power unobtrusive technology, making it suitable for portable devices such as laptops and palmtops. Wi-Fi is governed by the Wi-Fi Alliance, an association of manufacturers and regulators defining standards and certifying products as Wi-Fi compatible.

A network, in computing, is a group of two or more devices that can communicate. In practice, a network is comprised of a number of different computer systems connected by physical and/or wireless connections. The scale can range from a single PC sharing out basic peripherals to massive data centers located around the World, to the Internet itself. Regardless of scope, all networks allow computers and/or individuals to share information and resources.

Websites:

Dot Matrix - <https://www.techopedia.com/definition/6888/dot-matrix-printer-dmp>

Inkjet - <https://www.techopedia.com/definition/7730/inkjet-printer>

Laser - <https://www.techopedia.com/definition/3606/laser-printer>

Parallel port - <https://www.techopedia.com/definition/3658/parallel-port>

USB - <https://www.techopedia.com/definition/2320/universal-serial-bus-usb>

WiFi - <https://www.techopedia.com/definition/10035/wireless-fidelity-wi-fi>

Network - <https://www.techopedia.com/definition/5537/network>

1. Explain and justify the processor and memory requirements for your ‘dream machine’ task. Discuss the following:
2. Minimum and “would be nice” requirements for the Computer Display
3. Minimum and “would be nice” requirements for External Storage and Backup
4. Minimum and “would be nice” requirements for Network Connectivity
5. Minimum and “would be nice” requirements for Printer Technology

**Level 3: Building Your Dream Machine**

1. Identify the minimum requirements for each component of your dream machine as follows::
   1. CPU processor chip speed and type (Intel,1.5 GHz) - Intel Pentium Gold G5400 Coffee Lake 2-Core/4-Thread Processor LGA1151 300 Series, 3.7 GHz Base UHD Graphics 610 54W Gen8 Retail Boxed (BX80684G5400)
   2. Motherboard type (ATX)- Asus PRIME H310M-A LGA1151 (300 SERIES) (PRIME H310M-A)
   3. RAM memory speed and size (2133MHz, 8GB)-Patriot Memory 8GB DDR4 2400MHz Desktop Memory
   4. Display Monitor resolution, type, and size (Resolution: 1920X1080, Type: IPS Panel Technology, Size: 22” )- LG 22MP58VQ-P 22-inch Anti-Glare LED LCD IPS Monitor, 1920 x 1080, Mega, 5 ms5 ms
   5. Graphics card resolution and type (Resolution: 1080p/720p, Type: PCI) - Diamond 6450Pe31Gsb Radeon HD 6450 1GB GDDR3 SDRAM Graphic Card
   6. Audio card type (PCI) - Asus Xonar DG - 5.1 Channel + Headphone Amp (GX2.5 Audio Engine) - PCI Audio Card
   7. Audio Speakers type - Marvo SG-117 USB Powered Stereo Gaming Speakers
   8. External backup type and size - Seagate Backup Plus Slim 1TB Red USB 3.0 Portable External Hard Drive (STDR1000103)
   9. Network interface requirements - TP-Link AC1750 Wireless Dual Band Gigabit Router - Supports 802.11ac Standard, Dual USB Ports, Guest Network Access, Simultaneous 2.4GHz 450Mbps and 5GHz 1300Mbps connections - ARCHERC7
   10. Printing Technology(Laser or Inkjet) - Lexmark CS317dn Color Laser Printer 25 PPM Mono 25 PPPM Color 2400x600 DPI Print USB/Ethernet
   11. Other Peripherals (e.g. mouse, keyboard, joystick, etc.)
       1. Mouse - Delux 2.4G Wireless Optical Mouse 1600 dpi (M516GX Black)
       2. Keyboard - Microsoft (ANB-00002) Wired Keyboard 600 - USB- Black
2. Prioritize you list of components from question #1 from those that are essential down to those that would be nice.

* CPU Processor Chip
* Motherboard
* RAM Memory
* Display Monitor
* Network Interface
* Other Peripheral
  + Mouse
  + Keyboard

1. Establish a target budget (cost) for your dream machine.
   1. Justify your cost based on your projected component needs. ($4000 - $5000)
   2. Justify your cost based on a realistic assessment of your application and target user
2. Build your dream machine or locate a ready to buy machine using on-line vendor web sites.
   1. Find at least two sources for your dream machine
   2. Provide a copy of the cost and feature list summary for each source
   3. Explain how the machine from each source matches (or is different) from your ideal configuration.

Suggested on-line computer sources:

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

Links:

<https://www.canadacomputers.com/product_info.php?cPath=4_1210_65&item_id=120810>

<http://www.tigerdirect.ca/applications/SearchTools/item-details.asp?EdpNo=10133174&Sku=YYS2-6071504>

<https://www.bestbuy.ca/en-ca/product/patriot-memory-patriot-memory-8gb-ddr4-2400mhz-desktop-memory-psd48g2400k/10396894.aspx?>

<https://www.staples.ca/en/lg-22mp58vq-p-22-inch-anti-glare-led-lcd-ips-monitor-1920-x-1080-mega-5-ms5-ms/product_2867799_1-CA_1_20001>

<https://www.staples.ca/en/Diamond-6450Pe31Gsb-Radeon-HD-6450-Graphic-Card-625-Mhz-Core-1GB-Gddr3-Sdram-Pci-Express-X16-Full-Height/product_75430_1-CA_1_20001>

<https://www.canadacomputers.com/product_info.php?cPath=569_40&item_id=041520>

<https://www.staples.ca/en/marvo-sg-117-usb-powered-stereo-gaming-speakers/product_2912079_1-CA_1_20001>

<https://www.canadacomputers.com/product_info.php?cPath=569_15_213_602&item_id=067606>

<https://www.staples.ca/en/TP-Link-Archer-C7-AC1750-Dual-Band-Wireless-Gigabit-Router/product_2495557_1-CA_1_20001>

<https://www.canadacomputers.com/product_info.php?cPath=569_34_1170_453&item_id=108752>

<https://www.canadacomputers.com/product_info.php?cPath=569_21_273_282&item_id=041233>

<https://www.canadacomputers.com/product_info.php?cPath=569_21_279_579&item_id=100289>

**Level 4: Sharing Your Dream Machine**

1. Prepare a brochure documenting your dream machine options and choices.
   1. The target audience is other students in the class
   2. You should explain your target task (e.g. game computer) and how this affects configuration choices.
   3. You should explain your configuration choices in greater detail
   4. Your two purchase options should be explained and compared
2. Share your brochure
   1. By uploading it to your repository
   2. By presenting it during the in-class tradeshow (date TBD)
3. Visit and report on other trade show presentations / brochures
   1. Complete the Passport Template (TBD) as you participate in the in-class tradeshow.

**Task & Function Signup**

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