IT 201 Assignment #5

IT infrastructure is a collection of components that when used in together create the whole pie. It is often depicted as a pie chart with five slices. Those slices are then labeled hardware, software, data management, networking, and services. All of these together create IT infrastructure. IT hardware normally consists of technology for computer processes and data storage. These are your typical mainframes, server rooms, and desktops. Then their next type takes place within the hardware and it is called the computer software. These include operating software such as windows or mac and application software. These are purchased from online vendors to complete tasks. Data management is as the name suggests, it organizes and manages business data such as inventory and customer patterns. The next slice is networking which has revolutionized the speed of production. This component is very important for larger businesses. It connects data, voice, and video connectivity to all its employees. For example, if you work in a large office why spent minutes walking across the building to speak with someone? When you can just send them an email or video call them instantaneously. Then finally we have services this can be outsourced to things such as amazon web services to provide applicable domains to customers. This model frees up a lot of internal work that another business far exceeds. So, it almost works together to provide a win, win situation.

The types of computers are growing by the decade with new entries that were not even imaginable previously. To start we have personal computers such as desktops and mobile devices. These are very common among most people because it is hard to live without them. Then we have a slight upgrade to workstations these are similar to personal computers but are better because they can process more things at once and can handle advanced engineering work. This can be done on a personal computer but you will not have the same efficiency and run the risk of damaging it. Servers at the next tier up consist and many computers to support a customer network. For example, a large website that has thousands if not millions of active users needs to provide more server space to be able to compute such things. Mainframes are huge computers that can are capable of extremely high performance that can rapidly compute large amounts of data. Supercomputers are similar to mainframes but are a tier-up. They are designed to compute things such as complex calculations with thousands of variables and millions of measurements. They are typically only used in super advanced fields of mathematics, science, and engineering. Lastly, we have grid computing which is really interesting. This takes thousands of different computers around the globe to combine the computational power of all the systems at once. This is done to compute things that no ordinary computer can handle and needs thousands of computers at once. Computer networks and client-server computing is broken up into two versions. The simplest of the two is client-server networking which is like a traditional street where information from the client is sent to the server. Then the server computes data then sends it back to the client. Then we have n tiered networking. This is a multi-step process that the client doesn't see but on the server side, there are many more steps involved. For example, if you are on a vacation website as a client you will search a destination. After the information is sent to the

server it will begin to go to the application server and then find things on different websites to provide you with information on your search. Which is sent back to the client as the results.

Mobile digital platforms have become an alternative to traditional personal computers. In order to have a successful business, many try to expand their reach on all platforms to attract the widest audience. Mobile digital platforms focus on convenience and wireless connection to have information closer than ever. It is proven that mobile devices can increase productivity gains. BYOD is an acronym that stands for bring your own device. This can help out productivity because if someone needs to do a quick search on the internet, they can simply speak to it and have an answer in seconds. This does come with some restrictions though many businesses will download applications onto your devices that will help do your job. Nanotechnology is microscopic technology that can be implemented anywhere even in people. For example, if someone, unfortunately, has a health concern nanotechnology can provide instant results to doctors monitoring your health. Then we have grid computing which is when we take thousands of computers or devices to compute astronomical levels of data quickly and efficiently. Cloud computing is a game changer for computing computer processes abroad. This is the shared virtualization of resources over a network. This is the fastest growing form of computing because it allows businesses to not have to worry about this stuff themselves. They can have their information stored in the cloud which doesn't take up space and it is all virtual. Virtualization was briefly mentioned before but this can simply be compared to virtual machines. For instance, someone on a mac computer can run a windows computer virtually and have a fully virtual computer. This is done to many resources so there is no need to have physical devices to compute things if programs can do them without taking up space. We are all aware that human activity has consequences such as driving vehicles emitting harmful chemicals into the air. Computer services and systems are no different. That is why there is an initiative of green computing to minimize the impact on the environment. For example, if thousands of outdated computers are in a landfill and they all contain very toxic and harmful chemicals and elements it can permanently damage the surrounding areas. Multicore processing is taking more than two or more cores in a CPU to compute more tasks at once. This in turn creates enhanced performance for the user. Many computers nowadays contain multi-core processes for the average users as applications become more demanding on the hardware.

Application software and system software are very similar they are often mixed up. System software manages and controls the computer's activities which are also known as the operating system. Then we have application software which is an outer shell of system software. This contains the programming languages, of course, the application themselves, and software packages and services. Both of these are used to create the operating systems of computers such as windows and mac. There are smaller components within them that are very important. Such things as GUI which stands for the graphic user interface. These are the icons, buttons, search bars, and things to conduct tasks. Then we have multi-touch technology and this is your smartphones and tablets. Where there is a combination of physical and nonphysical buttons.

Being able to conduct tasks without the need for a mouse and keyboard can speed up processes because it provides alternatives that might suit others better. The main operating systems that are in use today are windows, windows server, UNIX, Linux, Chrome OS, Android, and macOS. All of these are similar because they are operating systems for computers but owned by different companies with slight modifications.

In my computer repair business, there are a few types of computers that I will use. Since I would like to have a database for customer's parts a small server room will be able to store this data effectively. This server room will be able to maintain my online presence as I update the website. This will be great if I have multiple locations where I can share information and files with each other. Then my server room can store employment data such as work shifts and sales transactions. Then if the time comes when natural disasters or space constrictions are present a simple fix would be to have a cloud server. Purchasing server space from things like amazon web services will free up room and alleviate the potential of the website going down or the loss of information. As a new business owner, I would like to try out both methods to see which I like better.