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Behind the basics of computer technology lays boundless amounts of information. This information is transferred around the world by connection to the World Wide Web. How would information be transferred if there is not connection to the internet? Computer engineers have solved this problem with the invention of a device called the flash drive. Drives are what store information inside the computer for use. There are a few different forms of the drives such as a hard drive. Other forms of hard drives include single edge hard drives and solid state drives. All of these pieces of technology are very innovative and important to use computers. Storage and transfer of information has always been important and it is these pieces of hardware that allow us to do such things.

A flash drive is a simple device that acts as a temporary hard drive to store information. Developed by Amir Ban, Dov Moran, and Oron Ogdan, the flash drive is designed to be a means of transferring data from one source to another mechanically. Without internet connection, one can simply transfer the files of data from the computers main hard drives over into the flash drive, given there is enough space on the flash drive, and then after safely ejecting the flash drive transfer the same files over to another storage unit, like another computer, by the same process. The first flash drives that were sold for public consumer use were distributed by Trek Technology and IBM in 2000. At the time, floppy disks were the most common method of storing data off of a hard drive. The flash drive was able to store eight MB which was five times more than the storage capacity of a floppy disk. This was a revolutionary change for the technological industry. As technology evolved, flash drives became faster at transferring data. Currently, flash drives are in their third generation of development and are continuing to get faster and hold more data every day.

The hard drive, or hard disk drive, is similar to a flash drive in that it stores data as well, however it can store much more data than the flash drive. Many people argue that the hard drive is the most important piece of hardware for the computer. It stores most of the computers information including the operating system with which the computer runs on. Introduced again by IBM in 1956, the hard drive is still used as the primary storage unit for information on the computer. The hard drive is made up of magnets and rotating metal plates. The first hard drive produced by IBM was called the 350 RAMAC. Over the years, IBM released a new model in 1961, the 1311, and again in 1973. Although the development of this piece of technology was well on its way, it was not very common for the average computer owner to have. It wasn't until the 1980's that hard drives became a common piece of equipment. Performance of a hard drive is measured in a number of different ways. Access time is a measure of how fast the hard drive can actually access the data it is storing for usage. Interleave helps the hard drive perform tasks without having to wait for a full rotation of the metal disks that contain the information. This greatly increases the speed of the hard drive. Rotational latency measures the amount of time it takes for the spinning of the disk to reach the point at which the hard drive can read the desired piece of information. Data transfer rate is the rate per seconds that a drive transfers information from place to place. Power consumption and power management are similar in the fact that they both are measured by how much energy the hard drive consumes to do its tasks. Eco friendly drives tend to be slower but are much better on the environment as they require less electricity to run.

Solid state drives are not a new technology, however have become more popular in the last few years. Solid State Drives, also known as SSDs, have always been known

as an expensive addition to ordinary home workstations, but are now becoming for users other than pure enthusiasts. With more advances memory technology and substantially decreased production costs, the current cost for a SSD is around 1USD/GB. The reason why SSDs have been more popular for gaming enthusiasts and powerful home rigs is because of their outstanding performance. An entry level SSD is capable of 250MB/s (megabytes per second) read and write throughput with over 80,000 IOPS (input/output operations per second). A traditional spinning platter drive typically offers around 80-120MB/s with a significantly reduced access time. SSDs also are beneficial for portable platforms since they have no moving parts, thus making them resistant to shock and vibration. The one downfall to modern day SSDs are that they are significantly more expensive than traditional hard drive, and have a tendency to fail without warning. SSDs also have a limited amount of read/writes to each sector of the drive, rendering them less useful for large file copying operations and data processing. Although there are significant downfalls for SSDs now in 2012, they are becoming increasingly faster, cheaper, and more reliable, making them the data storage platform of choice for the future.

A single edge contact cartridge is the specifications for the connectors of Intel microprocessors. SECC or Slot 1 was invented to fulfill the need to access data faster from more advanced hardware. It evolved from what was known as the Socket 8.

These advances in technology have speed up methods with which information can be attained. People often take for granted how much technology can benefit them and over looks its true potential. Flash drives, hard drives, single edge hard drives, and solid state drives, are just examples of the many innovations the technological field has created

to better the lives of the computer user. With the evolution of the strength of a computer there is also a parallel increase in the danger of stolen information. The easier it is to attain information, the easier it is to loose it. Computer engineer are working every day to better the speed and security of computers used in every day life. Drives are important components to the use of computers and have evolved from very old technology. Technology will continue to evolve and the speed of information transfer will become faster than ever before. There will always be a need to store the data somewhere and drives will always be able to be used for such a reason as they continue to upgrade into faster and more efficient models.

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