BYTE QUEST
Vasavi College of Engineering
Department of Computer Science and Engineering

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Contents:

Byte Quest is the article published by the CSE dept of Vasavi College of Engineering regarding the latest innovative Technologies and Software that have been emerged in the competitive world. The motto of this article is to update the people regarding the improvement in technology. The article is designed by the active participation of students under the guidance of faculty coordinators.

 Good, bad or indifferent if you are not investing in new technology, you are going to be left behind.

-Philip Green

 Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road.

-Stewart Brand

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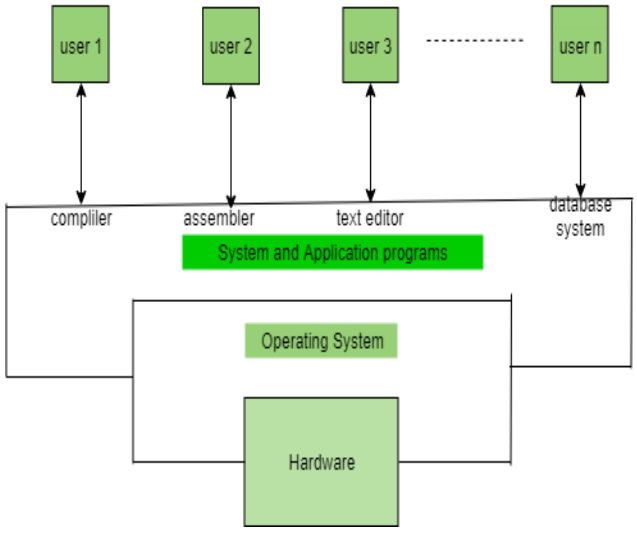
OPERATING SYSTEM

An Operating System is an interface between the user and hardware. The fundamental goal of a Computer System is to execute user programs and to make tasks easier. Various application programs along with hardware system are used to perform this work. Operating System is a software which manages and control the entire set of resources and effectively utilize every part of a computer. The figure shows how OS acts as a medium between hardware unit and application programs.



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DNA DIGITAL DATA STORAGE

DNA digital data storage refers to any process to store digital data in the base sequence of DNA. It is defined as the process of encoding and decoding binary data to and from synthesized DNA strands. Although DNA data storage became a popular topic in the 21st century, it is not a modern-day idea. Its origins date back to 1964-65.

This technology uses Artificial DNA made using commercially available oligonucleotide synthesis machines for storage and DNA sequencing machines for retrieval. This type of storage system is more compact than current magnetic tape or hard drive storage systems due to the data density of the DNA. Currently, it was reported that in 1 gram of DNA, 215 petabytes (215 million gigabytes) could be stored. Data density of bacterial DNA is ~10^19 whereas for hard disk it is ~10^13 and for flash memory it is ~10^16. DNA digital data storage refers to any process to store digital data in the base sequence of DNA.

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CYBER SECURITY

Cyber security refers to the body of technologies, processes, and practices designed to protect networks, devices, programs, and data from attack, damage, or unauthorized access. Cyber security is important because government, military, corporate, financial, and medical organizations collect, process, and store unprecedented amounts of data on computers and other devices. A significant portion of that data can be sensitive information, whether that be intellectual property, financial data, personal information, or other types of data for which unauthorized access or exposure could have negative consequences. Organizations transmit sensitive data across networks and to other devices in the course of doing businesses, and cyber security describes the discipline dedicated to protecting that information and the systems used to process or store it. As early as March 2013, the nation's top intelligence officials cautioned that cyber-attacks and digital spying are the top threat to national security, eclipsing even terrorism. leads the charge in prioritizing cybersecurity management across all business practices.

NCSA advises that companies must be prepared to "respond to the inevitable cyber incident, restore normal operations, and ensure that company assets and the company's reputation are protected." NCSA's guidelines for conducting cyber risk assessments focus on three key areas: identifying your organization's "crown jewels," or your most valuable information requiring protection; identifying the threats and risks facing that information; and outlining the damage your organization would incur should that data be lost or wrongfully exposed. Cyber risk assessments should also consider any regulations that impact the way your company collects, stores, and secures data, such as PCI-DSS, HIPAA, SOX, FISMA, and others. Combining sound cyber security measures with an educated and security-minded employee base provides the best defense against cyber criminals attempting to gain access to your company's sensitive data. While it may seem like a daunting task, start small and focus on your most sensitive data, scaling your efforts as your cyber program matures.

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