SNS College of Technology

Coimbatore - 35

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INTERNET

The Internet is a global network of interconnected computer networks that communicate with each other over the Internet Protocol Suite (TCP/IP). It is a network of networks made up of private, public, academic, and government networks ranging from local to global in extent and connected by a diverse set of electronic, wireless, and optical networking technologies.

The Internet holds a huge range of information as well as services like Email, Voice-over IP, Television, Games, File Sharing, Shopping, etc.

EVOLUTION OF INTERNET

- Initially in the 1960s, the Internet was started as a medium for sharing information with government researchers

- ARPANET became a huge success with restricted participation where it was accessible to academic and research institutions that had contracts with the US Defense Department

- Transfer Control Protocol (TCP/IP) which was developed in 1970, was adopted as a new communication protocol for ARPANET in 1983. The technology enabled various computers on different networks to communicate with each other and this is how the Internet was officially born on January 1, 1983.

History of Internet and WWB

- By 1995, the internet and the World Wide Web had become an established phenomenon, with over 10 million global users using the Netscape Navigator. The Netscape Navigator was the most popular browser at that point in time

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History of DNS

- DNS is short for Domain Name System. It functions as the internet's version of a phone book, converting difficult-to-remember IP addresses into simple names. Cheaper technology and the introduction of desktop computers in the early 1980s facilitated the rapid development of local area networks (LANs). As the number of machines on the network grew, it became impossible to keep track of all the different IP addresses.

- The development of the Domain Name System (DNS) in 1983 solved this problem. DNS was invented at the University of Southern California by Paul Mockapetris and Jon Postel. It was one of the breakthrough inventions that helped in paving the way for the World Wide Web.

TCP/ IP

- TCP/IP is an acronym that stands for Transmission Control Protocol / Internet Protocol. The terms refer to a set of protocols that regulate how data flows via a network.

- TCP enabled computers to communicate in the same language, allowing the ARPANET to evolve into a global interconnected network of networks, an example of 'internetworking'—written as the "internet" in short.

- IP stands for Internet Protocol and when paired with TCP, aids in the routing of internet data. Every internet-connected device is assigned a unique IP address. The number, known as an IP address, can be used to find out the location of any internet-connected device.

CYBERSPACE

- Cyberspace is an interconnected digital environment. It is a type of virtual world popularized with the rise of the Internet

- The term entered popular culture from science fiction and the arts but is now used by technology strategists, security professionals, governments, military and industry leaders and entrepreneurs to describe the domain of the global technology environment, commonly defined as standing for the global network of interdependent information technology infrastructures, telecommunications networks and computer processing systems.

- The term cyberspace has become a conventional means to describe anything associated with general computing, the Internet and the diverse Internet culture.

CYBERSPACE

- Physical infrastructures and telecommunications devices that allow for the connection of technological and communication system networks, understood in the broadest sense (SCADA devices, smart phones/tablets, computers, servers, etc.)

- Computer systems and the related software that guarantee the domain's basic operational functioning and connectivity.

- Networks between computer systems;

- Networks of networks that connect computer systems (the distinction between networks and networks of networks is mainly organizational);

- The access nodes of users and intermediaries routing nodes, Constituent data (or resident data).
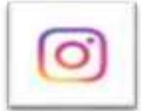
Assessment

a) What was the original network that computer scientists created before the internet? The answer is ARPANET.

b) Who created the World Wide Web? The answer is Tim Berners-Lee.

c) What are some principles developed by Tim Berners-Lee that are still used today? The answer is HTML, HTTP, URLs, and web browsers.

d) What is the standard that breaks up messages and data into packets to be routed over a network? This standard laid the foundation for modern internet-based communications

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