UNIT – 3

INTERNET THE BACK BONE OF ECOMMERCE: - The software resides on a **commerce** server and works in conjunction with online payment systems to process payments. Since these servers and data lines make up the **backbone** of the **Internet**, in a broad sense, **e-commerce** means doing business over interconnected networks.

NETWORKING CATEGORIES:

1. **Personal Area Network (PAN)**

The smallest and most basic type of network, a PAN is made up of a wireless modem, a computer or two, phones, printers, tablets, etc., and revolves around one person in one building. These types of networks are typically found in small offices or residences, and are managed by one person or organization from a single device.

2. **Local Area Network (LAN)**

LANS connect groups of computers and low-voltage devices together across short distances (within a building or between a group of two or three buildings in close proximity to each other) to share information and resources. Enterprises typically manage and maintain LANs.

Using routers, LANs can connect to wide area networks (WANs, explained below) to rapidly and safely transfer data.

3. **Wireless Local Area Network (WLAN)**

Functioning like a LAN, WLANs make use of wireless network technology, such as Wi-Fi. Typically seen in the same types of applications as LANs, these types of networks don't require that devices rely on physical cables to connect to the network.

4. **Campus Area Network (CAN)**

Larger than LANs, but smaller than metropolitan area networks (MANs, explained below), these types of networks are typically seen in universities, large K-12 school districts or small businesses. They can be spread across several buildings that are fairly close to each other so users can share resources.

5. **Metropolitan Area Network (MAN)**

These types of networks are larger than LANs but smaller than WANs – and incorporate elements from both types of networks. MANs span an entire geographic area (typically a town or city, but sometimes a campus). Ownership and maintenance is handled by either a single person or company (a local council, a large company, etc.).

6. Wide Area Network (WAN)

Slightly more complex than a LAN, a wan connects computers together across longer physical distances. This allows computers and low-voltage devices to be remotely connected to each other over one large network to communicate even when they're miles apart.

The Internet is the most basic example of a WAN, connecting all computers together around the world. Because of a WAN's vast reach, it is typically owned and maintained by multiple administrators or the public.

Characteristics of Internet :-

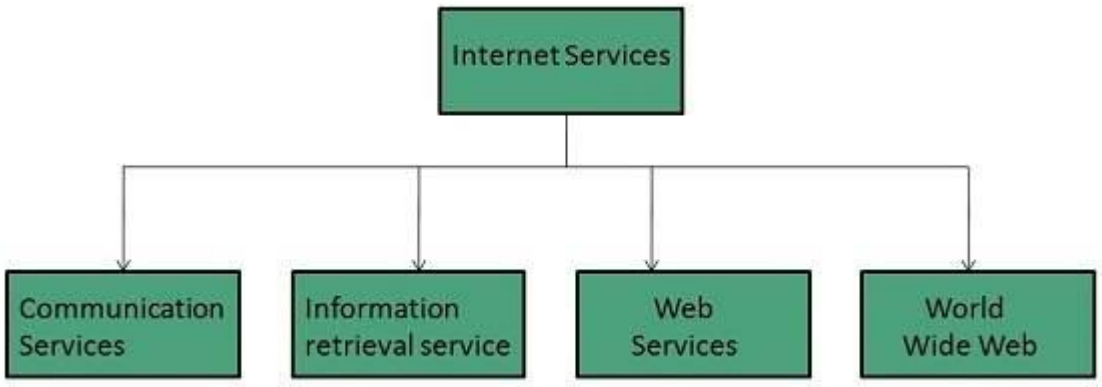
1. its global nature;
2. interactivity;
3. its potential to shift the balance of power in the offline world;
4. accessibility;
5. anonymity;
6. its facilitation of republication;
7. the prominence of intermediaries;
8. its reliance on hyperlinks/hypertext;
9. its long-term impact — the use of permanent archives;

MAJOR COMPONENTS OF INTERNET ARE :-

1. INTERNET SERVICES
2. ELEMENTS OF THE INTERNET
3. UNIFORM RESOURCE LOCATOR
4. INTERNET PROTOCOLS

Internet Services

Internet Services allows us to access huge amount of information such as text, graphics, sound and software over the internet. Following diagram shows the four different categories of Internet Services.



Communication Services

There are various Communication Services available that offer exchange of information with individuals or groups. The following table gives a brief introduction to these services:

S.NO	Service Description
1	**Electronic Mail** Used to send electronic message over the internet.
2	**Telnet** Used to log on to a remote computer that is attached to internet.
3	**Newsgroup** Offers a forum for people to discuss topics of common interests.
4	**Internet Relay Chat (IRC)** Allows the people from all over the world to communicate in real time.
5	**Mailing Lists** Used to organize group of internet users to share common information through e-mail.

6	**Internet Telephony (VoIP)** Allows the internet users to talk across internet to any PC equipped to receive the call.
7	**Instant Messaging** Offers real time chat between individuals and group of people. Eg. Yahoo messenger, MSN messenger.

Information Retrieval Services

There exist several Information retrieval services offering easy access to information present on the internet. The following table gives a brief introduction to these services:

S.NO	Service Description
1	**File Transfer Protocol (FTP)** Enable the users to transfer files.
2	**Archie** It's updated database of public FTP sites and their content. It helps to search a file by its name.
3	**Gopher** Used to search, retrieve, and display documents on remote sites.
4	**Very Easy Rodent Oriented Netwide Index to Computer Achieved (VERONICA)** VERONICA is gopher based resource. It allows access to the information resource stored on gopher's servers.

Web Services

Web services allow exchange of information between applications on the web. Using web services, applications can easily interact with each other.

The web services are offered using concept of **Utility Computing.**

World Wide Web (WWW)

WWW is also known as W3. It offers a way to access documents spread over the several servers over the internet. These documents may contain texts, graphics, audio, video, hyperlinks. The hyperlinks allow the users to navigate between the documents.

- Elements of internet
- Client
- Host or server
- Routers
- Networks

- A **Uniform Resource Locator** (**URL**), colloquially termed a **web address**, is a reference to a web resource that specifies its location on a computer networks and a mechanism for retrieving it. A URL is a specific type of uniform resource identifier (URI).
- A URL (Uniform Resource Locator) is a unique identifier used to locate a resource on the internet. It is also referred to as a web address. URLs consist of multiple parts -- including a protocol and domain name -- that tell a web browser how and where to retrieve a resource.
- URL protocols include HTTP (Hypertext Transfer Protocol) and HTTPS (HTTP Secure) for web resources, mail to for email addresses, FTP for files on a File Transfer Protocol FTP SERVER,
- Internet Protocol:- Internet Protocol (IP) refers to a set of rules that govern how data packets are transmitted over a network. For example, your laptop and phone use IP addresses, but you don't have to deal with the technical side to make them work.
- IP is a set of specifications that standardize how things work in devices connected to the internet. When put into a network communication context, an internet protocol describes how data packets move through a network.
- A protocols ensures that all the machines on a network (or in the world, when it comes to the internet), however different they might be, speak the same "language" and can integrate into the framework.
- Shopping Cart :-A shopping cart is a piece of software that acts as an online store's catalog and ordering process. Typically, a shopping cart is the interface between a company's websites and its deeper infrastructure, allowing consumers to select merchandise; review what they have selected; make necessary modifications or additions; and purchase the merchandise.
- Shopping carts can be sold as independent pieces of software so companies can integrate them into their own unique online solution, or they can be offered as a feature from a service that will create and host a company's ecommerce website.
- **Cookies:-** are text files with small pieces of data — like a username and password — that are used to identify your computer as you use a computer network. Specific cookies known as HTTP cookies are used to identify specific users and improve your web browsing experience.
- Data stored in a cookie is created by the server upon your connection. This data is labeled with an ID unique to you and your computer.

- When the cookie is exchanged between your computer and the network server, the server reads the ID and knows what information to specifically serve to you.
- A cookie is a small amount of data generated by a website and saved by your web browser. Its purpose is to remember information about you, similar to a preference file created by a software application. While cookies serve many functions, their most common purpose is to store login information for a specific site.

WEB SITE COMMUNICATION

- Communication is considered to be the foundational element of a good website. If your website's design communicates effectively with the visitors, you grow your chances of getting noticed among the potential customers. Regardless of the type of website, there is a significant need to communicate well with people who take out time to visit and surf your web pages. Unfortunately, communication is often overlooked while designing a website. In this blog, I'll take a broader look at the concept of maintaining clear and effective communication in web design.
- Methods of communication used during web design
- Almost every website uses some or the other common methods of communication. Here's a list of some of the basic ways that websites communicate with the visitors:

1. Text

Text is an obvious form of communication that is popular online. Irrespective of whether you've placed the text in the main body content or within a headline, website visitors will rely on the same for understanding the basic message conveyed by the site.

2. Images

Photos and images work as excellent resources for creating an attractive and interesting website design. As per a research, it has been found that images are capable of conveying a message much faster and more emphatically as compared to text.

3. Icons

The upside of using icons is that they easily communicate messages without using any form of text. Using familiar icons on web pages is an activity that helps in establishing instant connect with the site visitors.

4. Design Styles

Style of the website's design also plays a crucial role in communicating a message to the visitors. There are some design styles which are common in specific industries and work as excellent tools for indicating to visitors something about the website.

Internet capabilities

S.NO.	Capability	Functions Supported
1.	E – mail	Person – to – person messaging, document sharing
2.	Use – net Networking	Discussion groups on the electronic bulletin boards
3.	Chatting	Interactive conversation
4.	Tel – Net	Log on to one computer system and do the work on another
5.	Gophers	Locate the textual information with the help of the hierarchy if the menus
6.	Archie	Search the database of the documents, software and also the data – files that are available for the downloading.
7.	WAIS (Wide Area Information Services)	Locate the files in the databases with the help of the key – words
8.	WWW	Retrieve, format, display the information with the help of the hyper – text links.