Introduction: Introduction and web development strategies, history of web and internet, protocols governing web, introduction to client-server computing, web applications, web project, and web team.

Introduction and Web Development Strategies

1. **Identify target user:** Identify the user of the website by doing market research.
2. **Make our design portable:** To be successful, website design should be portable and accessible across different browsers, operating systems, and computer platforms. Designers should test the website in a different environment whether they look same to all their users.
3. **Design for low bandwidth:** Web pages in websites should be accessible at any connection speeds. If a page is downloaded slowly then users will leave the website before they see the content.
4. **Plan for clear presentation and easy access to information:** Presentation of the information on the website must be clear and easily accessible to the user.
5. **Create smooth transitions:** Plan to create a unified look among the sections and pages of site. Reinforce the identifying elements of the site and create smooth transitions from one page to another.

Any software development project, a methodology should be followed to ensure project consistency and completeness.

Web:

The World Wide Web ("WWW" or "The Web") is the part of the Internet that contains websites and web pages.

Web Page:

"A hypertext document on the World Wide Web. **OR**

"A document which can be displayed in a web browser such as Firefox, Google Chrome, Opera, Microsoft Internet Explorer or Edge, or Apple's Safari."

Home Page:

The introductory page or first page of a website, typically serving as a table of contents for the site is known as Home Page. **OR**

Home page is a web page set as the default or start-up page on a browser.

Website:

A website is simply a collection of interlinked web pages.

Classification of Website:

a) Corporate Website
b) Individual website

Corporate Website:

i. In this, there is certain no. of persons, who develop their website for a particular organization.
ii. The corporate website are formed when group of people have common interest and objective.
iii. The purpose of this website is to convey the information of organization to all over the world.

Individual Website:

It is just like profile management system. In this type of website an individual wants to develop website for h-projection, career growth etc.

Web Browser:

Web browser, or simply "browser", is an application used to access and view websites. Common web browsers include Microsoft Internet Explorer, Google Chrome, Mozilla Firefox, and Apple Safari. For example- Ajax enables a browser to dynamically update information on a webpage without the need to reload the page.

History of Web and Internet

The **World Wide Web** is a system of interlinked hypertext documents accessed via the Internet. Web is a huge collection of pages of information linked to each other around the globe.

History of WWW

- **WWW** was created by Sir Tim Berners Lee in 1989 at CERN in Geneva.
- In 1990 , the first text only browsers were set up and CERN scientists could access hypertext files and other information at CERN. HTML was based on a subset of the standard generalized markup language (SGML). To transfer HTML documents to remote sites a new protocol was devised called HTTP (Hyper Text Transfer Protocol).
- In the fall of 1991, conferences around the world started hearing about the promise but sparks still were not flying.
- In 1993, there were only about 50 websites worldwide. A browser that allowed users to take advantage of the web's graphical capabilities was developed at the National center for Super Computing application (NCSA). NCSA called the browser Mosaic.

Internet

The Internet is a short form for an interconnected network. It has become a vital part of our lives, helping us connect with people worldwide. The Internet is made of a large number of independently operated networks. It is fully distributed with no central control. Each Classification independently-operated system is motivated to ensure that there is end-to-end connectivity of every part of the network.

OR

The Internet is "a network of networks". It is a global collection of high powered computers that are connected to each other with network cables, telephone lines, microwave dishes, satellites etc. Some computers (Servers) on the internet store documents, sound files, video

clips, program files, electronic shopping centers, animations, pictures, interactive contents and other information that can store and presented electronically.

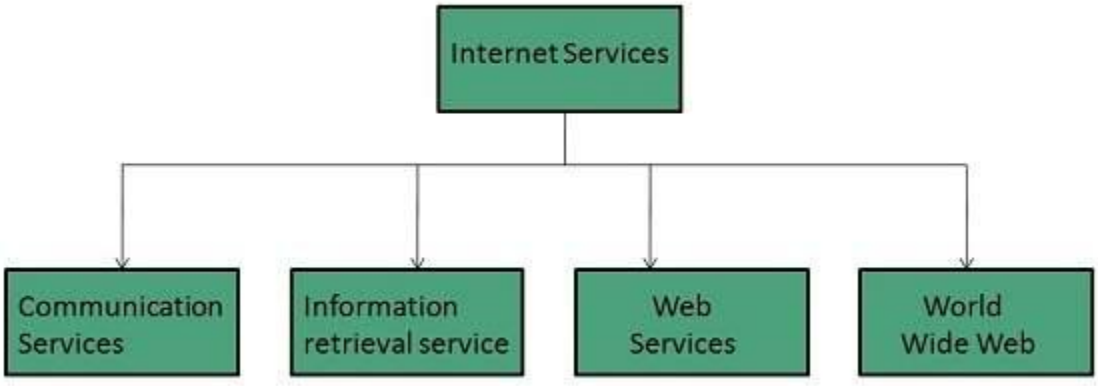
History of Internet

The first workable prototype of the Internet came in the late 1960s with the creation of ARPANET, or the Advanced Research Projects Agency Network. ARPANET adopted TCP/IP on January 1, 1983, and from there researchers began to assemble the "network of networks" that became the modern Internet. As a military venture, ARPA had a specifically military motivation for creating the internet: it offered a way to bring computing to the front lines. In 1969, ARPA had built a computer network called Arpanet, which linked mainframes at universities, government agencies, and defense contractors around the country.

The Internet started off with research into what was then known as packet switching as early as the 1960s. Packet switching was thought of as a better and faster method to transfer data than the hardware solution to the problem, i.e., the circuitry. The packet switching technology was essential to the development of ARPANET by the United States Military. ARPANET is considered the first known group of interconnected computers aka the internet. This system was used to transfer confidential data between the Military. This data-sharing technology was then opened to educational institutes in the United States to allow them to access to government's supercomputer, first at 56 kbit/s, then at 1.5 Mbit/s, and then at 45 Mbit/s. Com Internet service providers began to arise in the late 1980s and the internet was fully commercialized in the US by 1995.

Introduction to Internet services and tools

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	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	VERONICA	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 the 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.

Advantages of Internet

1) **Connectivity, communication, and sharing:** In the past days, if you sent a letter or someone sent you, it could take days and sometimes even months to a reach letter at the destination. In modern times, you can send a letter or important information to anyone in the e-mail all over the world through the Internet. And, it often will be delivered to the destination in less than a minute.
2) **Information, knowledge, and learning:** The Internet allows people to learn information about any topic and offers an answer to any type of question, as it contains endless knowledge and information. Using a search engine like Google Chrome, Mozilla Firefox, and more, they all allow users to ask any question and find a web page with an answer about that question. You can also watch videos about any topic on sites like YouTube, which contain millions of videos of several topics. Also, you can learn online courses in many different subjects.
3) **Address, mapping, and contact information:** The Internet can help users to provide information almost every place in the world on the map with the help of GPS technology. You can find businesses in your area or the quickest route to your location. Although, today's search engines are most powerful to know the user's location and help offer the relevant searches for your area. Also, it can provide you the contact information or address of any showroom or other services man. For example, if you want to get the address of an electrician, you can search for an electrician and get a list of local electricians in your area with their address.
4) **Selling and making money:** If you want to sell products and services or run a business, the Internet is the best place to sell goods. Because anyone can find and access your website all over the world with the help of the Internet. With online business, you are able to sell goods every day at all times as the Internet is always on and always available. Also, the Internet provides the advantage to promote your business online in the world through advertising. Additionally, there are several ways to earn money online by performing other online services.
5) **Banking, bills, and shopping:** If you want to view your bank balance without leaving your home, the Internet offers you the benefit to access your bank account to view the balance. Also, you can send money, pay bills electronically, or many other services can complete through the Internet. Another advantage of the Internet is online shopping,

which allows people to find products of interest and buy them without having to visit a store. You can compare prices between companies for any product through the Internet. Also, you can get help to make better purchasing decisions by online reviews, which describes what others think about a product.

6) **Donations and funding:** With the help of an Internet connection, anyone can help fund projects and ideas that interest them or quickly donate to their favorite charity. Also, if you want to donate and looking for charity services, you can find many online services on the Internet that help make it easier to support their causes or help donate.
7) **Entertainment:** The Internet provides people to access endless entertainment. With the Internet, you can watch movies, videos, play games online, listen to music, etc. There are many sites available on the Internet, which contain different entertainment material like music, videos, and more. Also, you can watch online videos on a platform like YouTube. Furthermore, you can download any movies, videos, or other entertainment material via the Internet on devices like computers or mobile phones that can be played anytime without an Internet connection.

Disadvantages of Internet

1) **Addiction, time-waster, and causes distractions:** If any person is spending much time on the Internet connected devices, he can be addicted to the Internet. An Internet addictive person can lead to spending his precious time on the Internet, rather than doing something productive. Thus, anyone who is addicted to surf the Internet can hamper workplace productivity as well.
2) **Bullying, trolls, stalkers, and crime:** A person who uses the Internet very frequently can face abusive or trolls' people. Another issue cyberbullying is also increasing rapidly over the years. Sometimes, you can be tracked on the Internet by hackers or unauthorize persons; they can be harmful to you by stealing your personal information. If you are spending your more time on the Internet, so it will be easier for hackers to find your personal information through various means. To run business without as much fear of being caught, the web deep, and the hidden places on the internet can also be a place for criminals. Additionally, there are several people that provide criminals more ways to solicit their goods.
3) **Spam and advertising:** The Internet is the best place to advertise any service or product as compared to traditional advertising methods (for example, TV, newspaper, and radio). But you might see more spam in your inbox than junk mail in real life because digital advertising can be sent on a massive scale.
4) **Pornographic and violent images:** In modern times, there is a huge amount of content available on the Internet. Also, there are various resources that contain a large amount of data, such as Wikipedia, and some sites are also available that have less desirable content. Accordingly, users can see pornographic or violent images that they may not want to see while using sites.

5) **Never being able to disconnect from work:** The Internet is the best creation to offer connectivity and enable people to work from anywhere. Therefore, anyone can expect you to be available any time to work, even if you are not available to work there. For instance, you have received an important work-related e-mail while you may be at home and then without getting paid, end up working on the content of that e-mail.
6) **Identity theft, hacking, viruses, and cheating:** There are various malicious users and computer hackers that can steal your personal information and hack accounts, which can be used for identity theft and can be harmful to you personally. As the Internet connects all computers to each other, so hackers can quickly identify what computers are vulnerable to attack by scanning millions of computers. Additionally, the Internet also enables students to find others to do their homework and offers ways to cheat on their studies.
7) **Health issues and obesity:** If you are surfing the Internet frequently, playing games and spending too much time on the computer, it can also lead to obesity and an unhealthy lifestyle. You are required to move your body parts to operate the computer, for example, typing and moving hand to the mouse are repetitive actions that can cause injuries.
8) **Buying things that you don't need:** The Internet provides advantages for consumers to make purchasing, so users can purchase products frequently without putting much thought into whether they should.
9) **Not a safe place for children:** There are many unethical and pornography communities are available on the Internet that can cause to distract their mind. Therefore, the Internet is not beneficial for children as they can bypass parental protection with the help of different tools available on the Internet. Furthermore, if children are allowed to use the Internet, they can be addicted to it, which is also very dangerous.

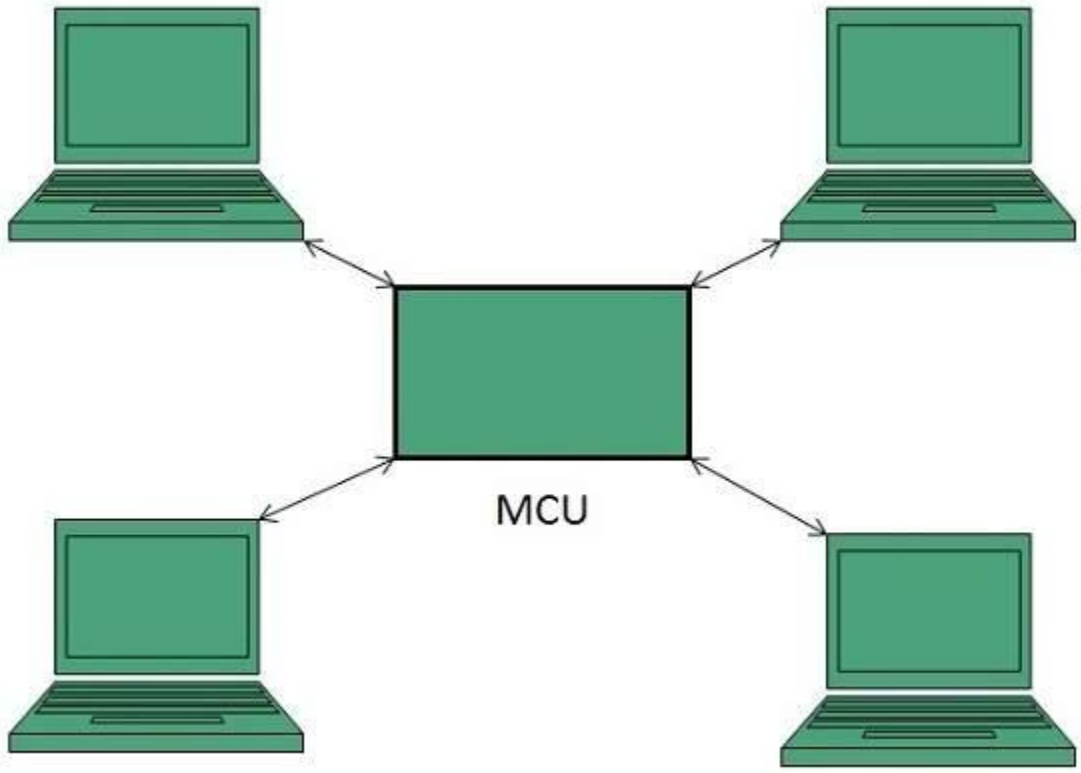
Video Conferencing

Video conferencing or Video teleconferencing is a method of communicating by two-way video and audio transmission with help of telecommunication technologies.

Modes of Video Conferencing

- ✓ **Point-to-Point:** This mode of conferencing connects two locations only.

- ✓ **Multi-point:** This mode of conferencing connects more than two locations through **Multi-point Control Unit (MCU).**



Protocols Governing Web

A protocol is a set of rules that is used to communicate applications to each other.

OR

A protocol is the interface required for communicating the different applications.

Protocols which are a set of rules that help in governing the way a particular technology will function for communication. In other words, it can be said that the protocols are digital languages implemented in the form of networking algorithms. There are different networks and network protocols, user's use while surfing.

List of Internet Protocols:

1. HTTP(Hyper Text Transfer Protocol)
2. HTTPS(Hyper Text Transfer Protocol Secure)
3. TCP/IP(Transmission Control Protocol/Internet Protocol)
4. FTP(File Transfer Protocol)
5. PPP(Point to Point Protocol)
6. SMTP(Simple Mail Transfer Protocol)
7. TELNET(TErminaL NETwork or Teletype Network)
8. POP3(Post Office Protocol 3)

1. **HTTP:** It is the primary protocol used to distribute information on the web. This protocol is used to access, send and receive Hypertext markup language (HTML) files on the

Internet. Initial HTTP 0.9 does not allow for content typing and does not have provisions for supplying meta-information.

Content Typing: To identify the type of data being transferred.
Meta Information: It is supplemental data, such as environment variables that identify the client's computer Current version is HTTP 1.0

2. **HTTPS:** It is an extension of the Hypertext Transfer Protocol (HTTP). It is used for secure communication over a computer network with the SSL/TLS protocol for encryption and authentication. So, generally, a website has an HTTP protocol but if the website is such that it receives some sensitive information such as credit card details, debit card details, OTP, etc then it requires an SSL certificate installed to make the website more secure. So, before entering any sensitive information on a website, we should check if the link is HTTPS or not. If it is not HTTPS then it may not be secure enough to enter sensitive information.
3. **TCP/IP:** It is a set of rules that an application can use to package its information for sending across the networks of networks.
   TCP: This protocol ensures the delivery of information packets across network.
   IP: This protocol is responsible logical addressing called IP address to route information between networks.
4. **FTP**: This protocol is used for transferring files from one system to the other. This works on a client-server model. When a machine requests for file transfer from another machine, the FTO sets up a connection between the two and authenticates each other using their ID and Password. And, the desired file transfer takes place between the machines.
5. **PPP:** It is a communication protocol that is used to create a direct connection between two communicating devices. This protocol defines the rules using which two devices will authenticate with each other and exchange information with each other. For example, A user connects his PC to the server of an Internet Service Provider also uses PPP. Similarly, for connecting two routers for direct communication it uses PPP.
6. **Simple Mail Transfer Protocol(SMTP)**: These protocols are important for sending and distributing outgoing emails. This protocol uses the header of the mail to get the email id of the receiver and enters the mail into the queue of outgoing mails. And as soon as, it delivers the mail to the receiving email id, it removes the email from the outgoing list.
7. **Telnet**: Telnet lets you remotely log into another system and browse files and directories on that remote system.

8. **POP3**: POP3 stands for Post Office Protocol version 3. It has two Message Access Agents (MAAs) where one is client MAA (Message Access Agent) and another is server MAA(Message Access Agent) for accessing the messages from the mailbox. This protocol helps us to retrieve and manage emails from the mailbox on the receiver mail server to the receiver's computer.
9. **Gopher:** Gopher is a collection of rules implemented for searching, retrieving as well as displaying documents from isolated sites. Gopher also works on the client/server principle.

Web Development Phases

The Web development life cycle includes the following phases: ***planning***, ***analysis***, ***design and development***, ***testing***, and ***implementation and maintenance***.

Web Development Phases and Questions	
Web development phase	**Questions to ask**
Planning	• What is the purpose of the Web site • Who will use this Web site • What are their computing environment • Who owns and authors the information on the Web site
Analysis	• What information is useful to the user
Design and development	• What type of Web site layout is appropriate • What forms of multimedia is helpful to the user
Testing	• Is the Web site content correct • Does the Website functions correctly • Are users able to find the information they need • Is the navigation easy to use?
Implementation and Maintenance	• How is the Web site published • How is the Web site updated • Who is responsible for content

	updates • Will the Web site be monitored

Web Site Planning:

Involves the identification of the Web site goals or purpose. The question to ask is: What is the purpose of this Web site?

In addition to understanding the Web site purpose, you should also ask: Who will use the Website? or knowing the target audience in terms of: age, gender, computer literacy, etc. Understanding the computing environment will allow the designer to know what type of Technologies to use.

The last question is to ask who will provide the information included in the Web site.

Web Site Analysis:

During this phase, the Web designer needs to make decisions about the Web site content and functionality. It includes a detailed analysis of the content of the Website in terms information covered, processing required, etc.

Design and development:

- In this step, the layouts and navigation will be designed as a prototype.
- Throughout the design phase the team should develop test plans and procedures for quality assurance. It is necessary to obtain client approval on design and project plans.
- In parallel, the database team will understand the requirements and develop the database with all the data structures and sample data will also be prepared.

Web Site testing:

A Web site should be tested at various stages of the Web design and development. This testing should include a review of page content, functionality and usability. Some basic steps to test content and functionality are:

- Reviewing for accurate spelling and proofreading content including page titles.
- Checking links to ensure that they are not broken and are linked correctly
- Checking graphics to confirm they display properly and are linked correctly
- Testing forms and other interactive page elements
- Testing pages to check for speed of loading on lower speed connection
- Printing each page to check how pages print
- Testing each Web in several different browser types and versions to verify they display correctly

Usability is the measure of how well product, allows users to accomplish their goals. Usability testing is a method by which users of a Web site are asked to perform certain tasks in an effort to measure the ease of use of the product.

Site Implementation and Maintenance:

Once the Web site testing is complete and any required changes have been made, the Web site can be implemented. Implementation of a Web site means publishing the Web site or uploading it into a Web server.

Once, the Web site has been implemented, its maintenance will include updating the information content by removing the outdated one and putting in the new one.

Periodical checking of the links is also necessary to ensure that they are still active.

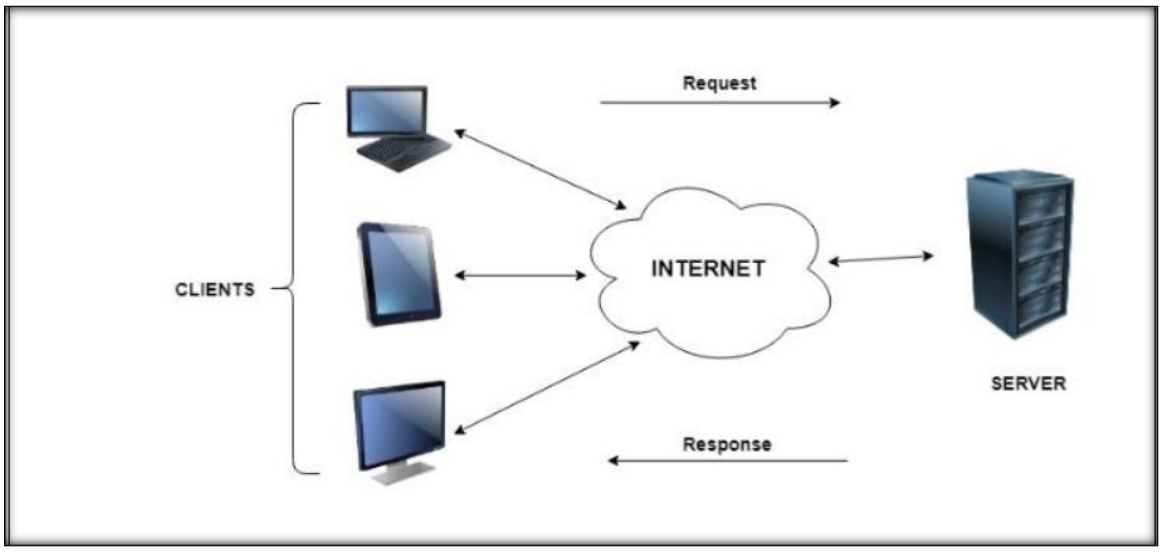
Finally, Website monitoring is another key aspect of maintenance. Usually, the Web servers that host the Web sites keep logs about Web site usage.

A **log** is the file that lists all the Web pages that have been requested from the Web site. Analyzing the logs allows you to determine the number of visitors to your site and the browser types and versions they are using, as well as their connection speeds, most commonly requested pages.

Introduction To Client Server Computing:

In client server computing, the client requests a resource and the server provides that resource. A server may serve multiple clients at the same time while a client is in contact with only one server. Both the client and server usually communicate via a computer network but sometimes they may reside in the same system.

The Client server system given as follows:



The terminologies in distributed client/server architecture's are as follows:

1. **Applications Programming Interface (API) :** It is a set of functions, and it calls programs that allow clients as well as servers to intercom with each other.

2. **Client / User:** This is a network information provider that is typically a computer system or workstation that can query databases and/or other information from a server.
3. **Middleware:** It is a set of drivers, API's and/or other software which improves the connection among a client application with a server.
4. **Relational Database:** This is a type of database in which information access is limited to a selection of rows that meet all search criteria.
5. **Server:** This is also a computer, typically a high-powered system and workstation or a minicomputer or a mainframe, which gives information to the network client to manipulate.
6. **Structured Query Language (SQL):** This is the developed language IBM (International Business Machines) and ANSI standardized to address, produce, update, and query RDB's (relational databases).

Characteristics of Client Server Computing:

- The client server computing works with a system of request and response. The client sends a request to the server and the server responds with the desired information.
- The client and server should follow a common communication protocol so they can easily interact with each other. All the communication protocols are available at the application layer.
- A server can only accommodate a limited number of client requests at a time. So it uses a system based to priority to respond to the requests.
- Denial of Service attacks hindera servers ability to respond to authentic client requests by inundating it with false requests.
- An example of a client server computing system is a web server. It returns the web pages to the clients that requested them.

Difference between Client Server Computing and Peer to Peer Computing:

- In client server computing, a server is a central node that services many client nodes. On the other hand, in a peer to peer system, the nodes collectively use their resources and communicate with each other.
- In client server computing the server is the one that communicates with the other nodes. In peer to peer to computing, all the nodes are equal and share data with each other directly.
- Client Server computing is believed to be a subcategory of the peer to peer computing.

Advantages of Client Server Computing:

- All the required data is concentrated in a single place i.e. the server. So it is easy to protect the data and provide authorization and authentication.
- The server need not be located physically close to the clients. Yet the data can be accessed efficiently.

- It is easy to replace, upgrade or relocate the nodes in the client server model because all the nodes are independent and request data only from the server.
- All the nodes i.e clients and server may not be build on similar platforms yet they can easily facilitate the transfer of data.

Disadvantages of Client Server Computing:

- If all the clients simultaneously request data from the server, it may get overloaded. This may lead to congestion in the network.
- If the server fails for any reason, then none of the requests of the clients can be fulfilled. This leads of failure of the client server network.
- The cost of setting and maintaining a client server model are quite high.

Cyber Laws:

Cyber law is a term used to describe the legal issues related to use of communication technology, particularly "cyberspace" i.e. Internet.

Indian and International Cyber Law:

Cyber Laws are formed by the government to prevent the internet crime. These crimes could be hacking, threat on internet, denial of services etc. Cyberspace includes computer, computer networks, internet data, software etc.

i. **Data Protection and Privacy Law:** This is due to the nature of the internet and amount of information that may be accessed through it, such legislation is critical to protect the fundamental rights of privacy of an individual.
ii. **Electronic and Digital Signature Law:** This is required so that uniform and standard procedures are established for authentication of electronics records, EDI, E-Mail.
iii. **Computer Crime Law:** due to victim of internet threats.
iv. **Telecommunication Law:** Approve and supervise the application of fees and rates charged for telecommunication services in accordance with the provision of the applicable law.
v. **Intellectual Property Law:** This includes copyright law, trademark law, semiconductor law and patent law in relation to computer hardware and software.

IT Act 2000 (INDIA):

- ✓ E-Governance
- ✓ Authentication of E-Records
- ✓ Digital Signatures
- ✓ Controlled certifying authorities
- ✓ Penalties for damage of computer and computer system.

Web Applications:

- ✓ Simple office software (word processors, online spread sheets, and presentation tools).
- ✓ More advanced applications such as project management, computer-aided design, video editing and point-of-sale.

Web Project:

A web project is the process of developing and creating a website, activities in a network. The goal of web project is the transfer of static and dynamic content.

Writing web Projects and Target Users:

1. **Write a project mission statement**: Write the Specific mission statement that you want to do.
2. **Identify Objectives:**
   i. Specific ii. Measurable iii. Attainable iv. Realistic v. Time limited
3. **Identify your target users:** The matter of a website will be determined by the Users whom you want to visit the site. This is totally depending upon:
   i. Market research ii. Focus group iii. Understanding intranet audiences
4. **Determine the scope:** By supporting documents and client's approval.
5. **Budget:** i. Assumption for budgets. ii. Budget categories. iii. Determine hidden costs and tools.
6. **Planning issues:** i. Discuss client's existing information system. ii. Project team and developing infrastructure. iii. Where the website will place.

Identification of objects:

a) **Object identification:** All the components which are visible in website are objects or in other words, we can say that all visible components in the web browser are defined as objects. Ex. Text box, command button etc.

b) Web development process:

I. Strategy:
- ✓ Goals and objectives
- ✓ Team building
- ✓ Research and review
- ✓ Project proposal

II. Design and Specification:
- ✓ Developing concept
- ✓ Content planning
- ✓ Rough design
- ✓ Final design

III. **Produced desired Result:**
- ✓ Build prototype
- ✓ Prototype testing
- ✓ Original design
- ✓ Satisfy the clients need

IV. **Testing and maintenance:**
- ✓ Test the code
- ✓ Maintain the web server.

V. **Register with ISP:**
- ✓ Register domain name

VI. **Get web space Launch:**
- ✓ Connect domain name with web server
- ✓ Finally host the web accordingly

Planning and Process Development:

a) **Early planning:**
   i. Know your audience
   ii. Interviewing
   iii. Focus group & Market Research
   iv. Gathering end user requirement

b) **Content planning:**
   i. Get images
   ii. Create links
   iii. Audio & Video
   iv. Shockwave & other media files

c) **Technical planning:**
   i. Database.
   ii. Shockwave movies.
   iii. Transaction system.
   iv. Scripts of all kinds.

d) **Production planning:**
   i. Market research
   ii. Combine the web pages
   iii. Get complete web

Web Team:

Web team is a group of various technical experts in a developing site from coding the page to maintain the web server.

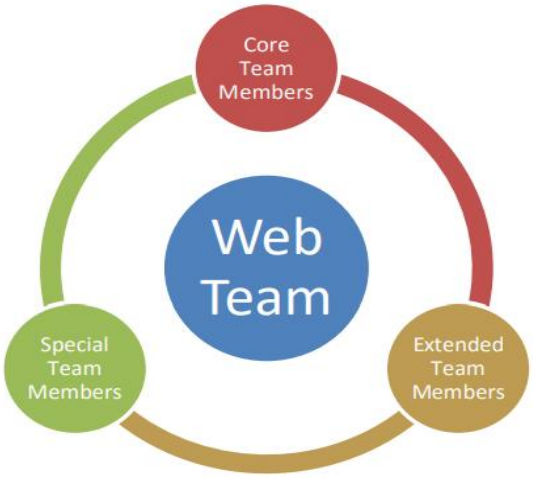
Types of Web team:

1. **Server Side:** hired by a company to develop a website.
2. **Client Side:** part of the company putting together the website.

Assessment techniques used to comprise a web team:

a) **Deciding roles and responsibilities:** The composition of team varies to depend on the audience, scope and complexity level of the web. There are key roles on each virtual project. One should always decide for core, extended and special team members in a web and shares responsibilities accordingly.
b) **Common Team Compositions:** It is possible to acknowledge specific type of teams and determine to be based on the kind of project, who is likely to be part of the team though these are all type of web project. As for example the team composition might be account manager, creative lead, project manager, designer etc.
c) **Putting together with right team:** It meets out the needs with low price, more effectively in reasonable time. So it is the team that fulfils the website requirements successfully.
d) **Identifying Necessary Skills:** The skill set in the base of web team. It must have in care to plan, design, build and deploy a website.

Classification of Web Team:



---

1. **Core Team member:**
   i. **Project Manager:**
      - ✓ Specify the work.
      - ✓ Developing the project plan.
      - ✓ Scheduling.
      - ✓ Allocation resources.
      - ✓ Budgeting and managing the team.

   ii. **Technical lead:**
      - ✓ Managing programmers.
      - ✓ Chooses specialized team such as security expert, database Programmers.

   iii. **Web Production specialist:**
      - ✓ Integrate the site using html or java script.

iv. **Creative Lead:** determines creative concepts for the site and responsible for site design.

v. **Quality Assurance Lead:** for testing purpose.

2. **Extended Team Member:**
   i. **Account Manager:** It interacts with the client, project manager and creative lead.
   ii. **Programmer:** develops applications for the web projects.
   iii. **Network Engineer:** configuring a web server.
   iv. **Information architects:** It understands how to display information visually to users and how to interact with the website.
   v. **Content Writer:** write contents for the website.
   vi. **Tester:** It tests the web project based on the team plan that QA lead writes.
3. **Special Team Member:**
   i. Security Experts: security handling and encryption techniques.
   ii. Audio, Video Engineer
   iii. 3-D Modeller
   iv. Web Cast Specialist
   v. Media Buyer
   vi. Strategic Planner