EFFECTIVE WEB DESIGNING

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OUR JOURNEY

- Internet and Web related Terminologies
- World Wide Web
- Pros and Cons of Website in Business
- SEO
- EBusiness: Definition, Category, Pros & Cons
- EBusiness vs ECommerce
- Domain registration through ISP

- HTML
- CSS
- Javascript
- Php – Server Side Scripting
- Working with Database

What is Internet?

"The Internet" refers to the worldwide network of interconnected computers, all of which use a common protocol known as TCP/IP to communicate with each other. Every publicly accessible website is hosted by a web server computer, which is a part of the Internet. Every personal computer, cell phone or other device that people use to look at websites is also a part of the Internet.

Internet Based Services:

Some of the basic services available to Internet users are:

Email : A fast, easy and inexpensive way to communicate with other Internet users around the world.

Telnet : Allows a user to log into a remote computer as though it were a local system.

FTP : Allows a user to transfer virtually every kind of file that can be stored on a computer from one Internet-connected computer to another. SFTP is a Secured modernized version of the same.

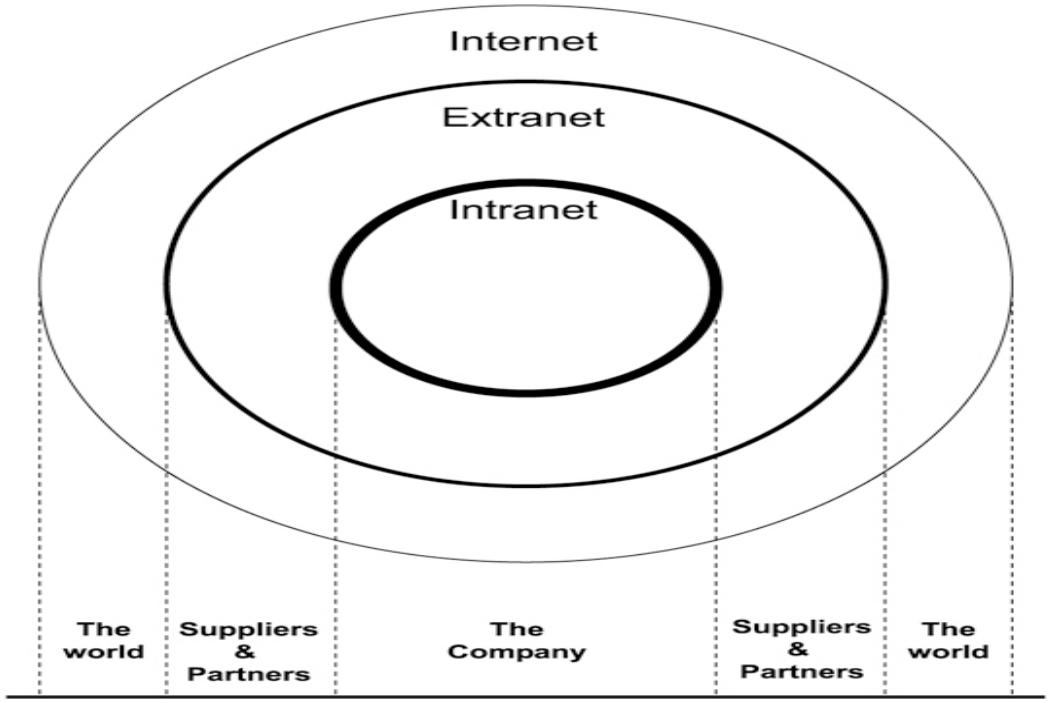
World Wide Web (WWW) : A hypertext interface to Internet information resources.

What is Intranet?

Any network of interconnected computers belonging to one organization, similar to but separate from or insulated from the Internet.

What is Extranet?

Extranet represents a network where outside business partners, supplier or customers can have limited access to a portion of enterprise Intranet / network.



WHAT IS WWW ?

WWW is an acronym which stands for **W**orld **W**ide **W**eb.

A technical definition of the World Wide Web is :

'All the resources and users on the Internet that are using the Hypertext Transfer Protocol (HTTP)'.

In simple terms, The World Wide Web is a way of exchanging information between computers on the Internet, tying them together into a vast collection of interactive multimedia resources.

The term "World Wide Web" refers to all of the publicly accessible websites in the world, in addition to other information sources that web browsers can access.

WHAT IS W3C ?

Acronym for *World Wide Web Consortium*.

It is an international consortium of companies involved with the Internet and the Web. The W3C was founded in 1994 by Tim Berners-Lee, the original architect of the World Wide Web. The organization's purpose is to develop open standards so that the Web evolves in a single direction rather than being splintered among competing factions.

The W3C is the chief standards body for HTTP and HTML.

Difference between Internet and WWW ?

Many people use the terms Internet and World Wide Web (aka. the Web) interchangeably, but in fact the two terms are not synonymous. The Internet and the Web are two separate but related things.

The Internet is a massive network of networks, a networking infrastructure. It connects millions of computers together globally, forming a network in which any computer can communicate with any other computer as long as they are both connected to the Internet. Information that travels over the Internet does so via a variety of languages known as protocols.

The WWW, or simply Web, is a way of accessing information over the medium of the Internet. It is an information-sharing model that is built on top of the Internet. The Web uses the HTTP protocol to transmit data. The Web utilizes browsers, such as IE or Firefox, to access Web documents called Web Pages that are linked to each other via hyperlinks. Web documents also contain graphics, sounds, text and video.

The Web is just one of the ways that information can be disseminated over the Internet. The Internet, not the Web, is also used for email, which relies on HTTP, FTP etc. So the Web is just a portion of the Internet, albeit a large portion, but the two terms are not synonymous and should not be confused.

What is HTTP?

This stands for **H**yper **T**ext **T**ransfer **P**rotocol. This is the protocol being used to transfer hypertext documents that makes the *World Wide Web* possible.

A standard web address such as *http://www.google.com* is called a URL and here the prefix **http** indicates its protocol.

What is URL?

URL stands for **U**niform **R**esource **L**ocator, and is used to specify addresses on the World Wide Web. A URL is the fundamental network identification for any resource connected to the web (e.g., hypertext pages, images, and sound files).

A URL will have the following format:
protocol://hostname/some_webpage.html

The protocol specifies how information from the link is transferred.
The protocol used for web resources is Hyper Text Transfer Protocol (HTTP).
The protocol is followed by a colon, two slashes, and then the domain name.
The domain name is the computer on which the resource is located.

Links to particular files or subdirectories may be further specified after the domain name. The directory names are separated by single forward slashes.

What is SSL?

SSL (Secure Sockets Layer), also known as TLS (Transport Layer Security), is a protocol that allows two programs to communicate with each other in a secure way.

SSL provides both privacy and security using a technique called "public / private key encryption" (often called "asymmetric encryption" or simply "public key encryption"). A "public key" is a string of letters and numbers that can be used to encrypt a message so that only the owner of the public key can read it. This is possible because every public key has a corresponding private key that is kept secret by the owner of the public key.

What is HTTPS?

When two programs talk to each other using HTTP, but do it using SSL's secure communications instead of talking "in the clear," they are speaking HTTPS.

When two programs communicate via HTTPS, they need a way to verify each other's identity and agree on a method of encryption. They do this via SSL Certificates.

What is IP Address?

An IP address (**I**nternet **P**rotocol **A**ddress) is a unique identifier that distinguishes one device from any other on a TCP / IP based computer network, such as the Internet.

The IP address provides enough information to route data to that specific computer from any other computer on the network. In the case of the Internet, this enables you to communicate with web servers, instant messaging servers and other computers all over the world.

IP addresses are usually not entered directly by end users. Instead, DNS Servers are used to map permanent and user-friendly names like google.com to unfriendly and impermanent IP addresses, such as 252.123.32.45

An IP address is made up of four numbers, each between 0 and 255.

Static IP Address - A static IP address is a TCP / IP protocol address that does not change. If your ISP provides static IP address service, you can expect your IP address to stay the same even if you disconnect from the Internet and reconnect to it later.

Dynamic IP Address - A dynamic IP address is a TCP / IP protocol address which is assigned on the spot when you "dial in" to your dialup, cable modem, DSL, or other Internet service provider. If your ISP provides dynamic IP address service, you can expect your IP address to change each time you reconnect.

What is Web Server?

Every Website sits on a computer known as a Web server. This server is always connected to the internet. Every Web server that is connected to the Internet is given a unique address made up of a series of four numbers between 0 and 255 separated by periods. For example, 68.178.157.132 or 68.122.35.127.

Some Examples of Web Servers are :

Apache HTTP Server

Internet Information Services

Sun Java System Web Server

What is a Website?

A website is a collection of web pages maintained by a single person or organization. In most cases, a website has a distinct fully qualified name, such as www.apsjorhat.org.

What is Webpage?

Every website is made up of one or more web pages.

The Information shown in the form of text is part of a web page, and is written in the Hyper Text Markup Language (HTML).

In addition to text with hyperlinks, tables, and other formatting, web pages can also contain images, Flash animations, Java applets, Video and Audio files etc.

“Home Page" of a website is the page that is displayed if you simply type in the fully qualified domain name of the site in the address bar of your browser

What is a Web Browser?

Web Browsers are software installed on your PC to access the Web.

It communicates with web servers for us via the HTTP protocol, translates HTML pages, images and data into a nicely formatted on-screen display of information.

On the Web, when you navigate through pages of information this is commonly known as **browsing** or **surfing**.

Some common Examples : Mozilla Firefox, Opera, Internet Explorer, Safari etc.

What is a Web Browser Plugins?

Web browser plug-ins (sometimes just spelled plugins) are additional pieces of software that add extra capabilities to your web browser, such as the ability to view movies, run Java applets, or see Flash animations.

What is SMTP Server?

This stands for **S**imple **M**ail **T**ransfer **P**rotocol Server.

This server takes care of delivering emails from one server to another server. When you send an email to an email address, it is delivered to its recipient by a SMTP Server.

What is ISP?

This stands for **I**nternet **S**ervice **P**rovider.
They are the companies who provide you service in terms of internet connection to connect to the internet.
You will buy space on a Web Server from any Internet Service Provider. This space will be used to host your Web site.

What is HTML?

This stands for **H**yper **T**ext **M**arkup **L**anguage.

This is the language in which we write web pages for any Website.

This is a subset of Standard Generalized Mark-Up Language (SGML) for electronic publishing, the specific standard used for the World Wide Web.

What is Hyperlink?

A hyperlink or simply a link is a selectable element in an electronic document that serves as an access point to other electronic resources. Typically, you click the hyperlink to access the linked resource. Familiar hyperlinks include buttons, icons, image maps, and clickable text links.

What is DNS?

DNS stands for **D**omain **N**ame **S**ystem.
Every time you follow a link or type in the name of a website, such as www.example.com, that name must be translated into an IP Address on the Internet. This translation is done by the **domain name system**.

What is a Domain Name?

A domain name is the part of your Internet address that comes after "www". For example, in www.apsjorhat.org the domain name is apsjorhat.org.

A domain name becomes your Business Address so care should be taken to select a domain name. Your domain name should be easy to remember and easy to type.

There are many different types of domain which depends on your business nature.

.edu - Educational site purpose

.com - For company/commercial, but it can be used for any web site.

.net - For network and is usually used for a network of sites.

.org - For organization and is supposed to be for non-profit bodies.

.us, .in - Based on your country name

.biz - Related to business.

.info - Stands for information.

.tv - Stands for Television and are more appropriate for TV channel sites.

What is Caching?

Caching refers to the strategy of keeping a copy of a page or image you have already seen; web browsers typically cache files that they display for you, and simply ask the server if the page has actually changed rather than always downloading the entire thing. This speeds up your next visit to the page.

Since caching everything forever would take up too much space, web browsers typically delete the least recently used file in the cache when a certain total cache size is reached.

What is Blog?

A web page that presents short journal entries in chronological order, newest first, is typically referred to as a "blog" or "weblog." Most blogs emphasize links to other pages and sites, and most entries are short commentaries or even simple one-sentence links to an interesting page somewhere else. Many blogs are concerned with current news events and updates.

"Blogging," of course, is the act of writing a blog; those who write blogs are sometimes referred to as "bloggers."

What is Cookie?

A "cookie" is a small piece of information that a website stores on *your* computer.

When you visit a website, that website can try to store a small amount of information on your computer. If your computer accepts the cookie, then your web browser will keep sending the cookie back to the website every time you access it. Cookies are used for two main purposes: session management and long-term user identification.

What is CAPCTHA?

CAPTCHA stands for Completely Automated Public Turing test to tell Computers and Humans Apart.

CAPTCHA systems are used to prevent the automated misuse of popular websites. The goal is to ensure that the website is talking to a real human being, and not to an automated program.

Advantages of Business through Website

- **Business is open 24x7 :**

  This means that once you put your business onsite / online then your business is open 7 days a week and 365 days a year. Even if you are in different locations of the world then you will be able to server your customers on 24x7 Hours basis.

- **Increased Customer Base:**

  Because anyone in the world can see your web site so you will gain customers from other states and countries while you are putting in the same amount of effort and money.

- **Tremendous Cost Saving :**

  This is one of the biggest advantages of having a business online. You do not need to keep a big man power and lot of resources to maintain a business on site. There are many other cost saving opportunities while keeping business online. Think of how many cards you mail out to let customers know about your sale. All of that can be eliminated by putting the sale information on your web site and inviting your customers to visit it.

Advantages of Business through Website

- **Advertising Opportunities:**

  Apart from saving your advertising cost you have additional opportunities to run advertisements from other companies and start making money. Whenever there is new product or service then you can advertise it in better way.

- **Creates a Brand Image:**

  Internet is a great medium through which you can create any image of yourself you want. It is all in your hands: design a professional web site, add helpful content, and your company will immediately take a step up in the image it represents. No matter how small your business is, with the right tools and a great desire you can make it look like a corporation on the Web.

Advantages of Business through Website

- **Customer Satisfaction:**

  If you have a really good site online then you can give your customer a lot of satisfaction in terms of customer care. You can keep online help, FAQ, and other important information which is useful for your customers. You can create online forums for open discussion and you can conduct customer survey to take customer feedback etc.

- **Showcase your work:**

  Whether you are a real estate agent, construction business owner or a simple vendor - you can put your work on display when you have a web site. Anytime a potential client wants to see your past work and projects, simply refer him or her to your site. No need to scan and mail pictures, or bring your client to a finished building project.

- **Instant Setup:**

  Businesses on the web have the ability to start up business and begin accepting payment for goods and services immediately. Unlike off-line businesses, they aren't encumbered by store hours and the hookup of cash registers and debit machines. As soon as a site is up and running along with its e-commerce functionality, then it's ready to do business.

Disadvantages of Business through Website

- **Less Trustworthy:**

  Web transactions and other online business activities have come a long way in the last decade. Advancements in security and the ability to authenticate businesses on the web have eased many people's concerns about doing business online but still a fair amount of people feel differently. Written text, especially in emails, can easily be misread or misinterpreted when there is no face-to-face contact.

- **No Sales Pitch:**

  One of the biggest advantages to doing business in-person is the opportunity to instantly answer any of the customer or client's questions or assist them with a purchase. An exclusively online business may not even know when customers or clients are considering doing business with them and what concerns they have unless they email the business.

- **More Returns:**

  Customers are more likely to be dissatisfied with an item purchased online than in-store because they have to rely on a photo and short description of the item alone. If customers can't hold an item it's less likely to match their expectations than an item purchased in a store.

- **More Competition:**

  Its not only a competition between all other but similar online business but also with them who does the same business in usual trend.

Disadvantages of Business through Website

- **Crashes & Uptime:**

  A website that crashes is no good to anyone. This is a serious disadvantage for a business. If your website is constantly crashing or unavailable then people will not be able to find information about your business and you could miss out on potential sales.

- **Spam:**

  We all hate spam i.e. the internet equivalent of junk mail. This is one of the disadvantages of a website which can cause you some grief. With a contact form or your e-mail address published on your website, you'll soon find your inbox filling up with spam e-mails unless you use a captcha tool.

- **Bad Publicity:**

  Having a website risks attracting bad publicity. If a customer is unhappy with your service or products, then they may feel the need to vent their frustrations online and reference your website in their review / comments. This could be potentially damaging, hurting both your reputation and your search engine ranking. Of course, *not* having a website won't prevent such things happening but it might allow you to monitor and be aware of it. Providing the best possible customer care and learning from your clients feedback is the best possible course of action to combat this problem.

DESIGNING A WEBSITE

- Consider that technology which gives you better flexibility and rapid development opportunities and then use it to design your website.
- Design a generic framework so that in future you can enhance and modify your web site by putting minimal effort.
- Design a site to keep required performance in your mind. If you are designing database driven web site then lot of effort has to put to design good database schemas.
- Keep your design as simple as possible so that visitors become familiar with your design as soon as possible.
- Identify repeatable components of your web site and then keep them separate and try to re-use them wherever possible.
- Identify the nature and qualification of your site visitors and give importance to look and feel accordingly.
- Think in a way, as if you are a site visitor.
- You should create a search engine friendly web site.
- Presentation should be unique and attractive so as to retain a site visitor for more than a minute.

Making a website Responsive

- Bigger Shopping Stop.
- Quality information .
- Poll.
- Forum.
- Chat room.
- Invite-a-friend button through popular social websites.
- Feedback form.
- Live customer service.
- Daily jokes.
- Daily news headlines.
- Site Search Engine.
- Automated Frequently Asked Questions.

Website Know-What Statistics

- **Who is our visitor?**

  You should have your site visitor IP address available with you to know the geographical location and identity of that visitor.

- **Visitors Timestamp?**

  This is important to know what time most of the visitors are visiting your site so in case if you plan a server down then you can decide it very easily. Also timestamp and IP address will help you to identify your site visitor in case an investigation is required against a site visitor.

- **What visitor is using?**

  What pages did the site visitor view on your web site will give you an idea about the importance of various sections of your web site.

- **How visitors came?**

  This is another important information you should be aware of. How you are getting your site visitors. Are they coming directly or coming through some other web site or advertising program.

Website Know-What Statistics

- **How long stay?**

  How long a site visitor is staying at your site. This is important for you to know this duration if visitors are leaving your site just after browsing 1 or 2 pages then you should think some way to retain them for long time on your site.

- **Visitors Browser:**

  This information is important to improve your website for that type of web browsers.

Website Statistics Terminology

- **Unique Visits** - The number of unique visitors you had for the given time period.
- **Total Visits** - The total number of visits including duplicate visits, that a web site receives in a given time period. Each time a site visitor reaches to your site it is counted one visit.
- **Page Views or Page Impressions** - Each time a web page is loaded it is referred to as a page view. If you are counting a website link available on this page then it will be counted as a page impression.
- **Hits** - This is very similar to page views and will be counted every time a visitor will click any link related to your website.
- **Direct Access :** - This amount refers to the people who accessed your website through their bookmarks or typed in your URL manually in the URL box of the browser.
- **Referrer & Referral URL** - The web address where the visitor followed a link to reach your web site. For example if someone finds your web site in google search and click over the link then google will be referrer.

Improve Website Marketing

Your website or blog provide excellent opportunities to share your expertise, position yourself as a source of information, and establish a web presence for prospects to find and turn the prospects into our clients. But having a website doesn't guarantee you that. In order to boost your website marketing the following are done.

- **Help readers to solve problems.**

  Readers appreciate information that provides guidance on solving specific problems. Regulations limit the kind of information we can provide, so it's critical to keep things general and stick to compliance-approved language, but within those limitations, there's a lot of room for expert guidance. Creating useful content is one of the most critical aspects of online marketing and advisors who fail to get it right are not likely to see much marketing success.

- **Optimize your website for search engines.**

- **Use trending topics to create content.**

  News-jacking is the term given to creating content around topics or events in the news. The financial planning landscape is changing rapidly and clients want to know how regulatory changes, economic events, and other important topics affect them. By mining headlines for blog or article topics, you can position yourself as clients' and prospects' go-to source of information.

Improve Website Marketing

- **Analyze your web traffic.**

  If you're using your blog and website to drive business, analyzing your traffic can help you learn valuable lessons about what topics resonate best with web visitors, which pages they visit most frequently, and where your traffic originates from. Tools like Google Analytics give you a good overview of traffic origin, page popularity, and your site's bounce rate (how many visitors click away from your homepage immediately.)

- **Influence social media promotion.**

  All successful web marketers promote each article and blog post through multiple social media channels such as Twitter, LinkedIn, and Facebook.

  After search engines, social media can be one of your leading sources of web traffic. Asking colleagues and industry connections to share or link to your content can also give your traffic a boost and increase the reach of your marketing efforts.

Key Principles Of Good Website Usability

- **Availability and Accessibility -** If people try to access your website and it doesn't work - for whatever reason - your website becomes worthless. Here are a few of the basics of availability and accessibility:

  Server uptime - It's important to ensure your visitors don't get an error trying to load your site. Invest in good hosting.

  Broken links – Double check that there are no dead links on your site. Nothing sends a visitor back to Google search results faster than a 404 page.

  Mobile responsiveness - Make sure your site can handle different screen sizes and slow connections.

Key Principles Of Good Website Usability

- **Clarity -** Visitors come to your site with certain goals in mind. It is your job to help them reach these goals as quickly as possible. If you can manage to do that, your visitors will be pleased and you have laid the groundwork for a positive experience.

  A clear and usable design can be achieved through:

  Simplicity – Focus on what's important. If you don't distract your visitors they will be more likely to do what you want them to do.

  Familiarity – Stick to what people already know. There is nothing wrong with looking at other sites for inspiration.

  Consistency – Create a consistent experience across your entire website to keep your visitors mind at ease.

  Guidance – Take your visitors by the hand. Don't expect your visitors to explore your site all on their own. Instead, guide them through your site and show them what you have to offer.

  Direct feedback – Feedback is essential to any interaction. The moment people interact with your site, make sure to offer an indication of success or failure of their actions.

  Good information architecture – Understand your visitors mental models and how they would expect you to structure the content on your site.

Key Principles Of Good Website Usability

- **Learn ability -** It should be your goal to design intuitive interfaces - interfaces that don't require instructions, or even a long process of trial and error to figure them out. Key to intuitive design is to make use of what people already know, or create something new that is easy to learn.
- **Credibility -** Even if people find the content they are looking for, if they don't trust you, that content is worthless. Your website could cause site visitors to be skeptical about your business in any number of ways including whether or not you really exist, your reputation, or the quality of your content.

  It is important that people know you are a real company with real people. Offer a clear "About Us" page together with your contact details and if possible a physical address.
- **Relevancy** - It is not enough that your website is clear, your content must also be relevant. Again, it is essential that you know your users and why they visit your site.

RED BULL GIVES YOU WINGS…
…SO DO THE FOLLOWING STUFFS..

HTTP Error Codes

S.N.	Code and Description
1	**1xx: Informational**It means the request has been received and the process is continuing.
2	**2xx: Success**It means the action was successfully received, understood, and accepted.
3	**3xx: Redirection**It means further action must be taken in order to complete the request.
4	**4xx: Client Error**It means the request contains incorrect syntax or cannot be fulfilled.
5	**5xx: Server Error**It means the server failed to fulfill an apparently valid request.

HTTP Error Codes

https://www.tutorialspoint.com/http/http_status_codes.htm

THE NOT SO FAMOUS YET FAMOUS HTACCESS

```
RewriteEngine On
RewriteCond %{REQUEST_FILENAME} !-f
RewriteRule ^([^\.]+)$ $1.php [NC,L]
```