A Study on Web and Internet

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Abstract— People from all over the globe may exchange information and interact with one another over the internet, a worldwide network of linked computers and servers. The World Wide Web (WWW) is a network of linked resources and information that may be accessed online. Web browsers operate as clients and ask servers that host the content for web pages in the client-server architecture that underpins the internet. The web has impacted numerous sectors, including entertainment, education, and business, and it has fundamentally changed how people interact with information. The internet is now used by billions of people worldwide to obtain information, interact with others, and do business. New technologies and standards have arisen as the web has developed to enhance its usability and security. These include HTTPS, JavaScript, CSS, HTML, and many more technologies. The growth of mobile devices and the creation of adaptable web design have also had a big influence on the web, making it more usable and accessible. The internet is not without its problems, however, including worries about security and privacy, the dissemination of false information, and the digital divide. To guarantee that the web remains a secure, accessible, and inclusive environment for everyone, addressing these concerns calls for continual efforts by people, governments, and organizations.

Index Terms—Web, Internet, Webpage, Website, Web Server.

I. INTRODUCTION

The phrases Internet and Web are sometimes used interchangeably. The Web is only one method of using the Internet, much like e-mail and ftp. Web sites are stores of information that are linked to and exchanged over the Internet, which connects to the Internet. In other words, the internet is one means to communicate knowledge. The primary distinction between the Web, e-mail, and ftp is that each of these communication methods has its own set of protocols. The ability to quickly link one document to another and have those linkages create a vast Web of interconnected information is what distinguishes Web from other protocols. The Web has the ability to connect texts and information located on other websites. Take the IGNOU Web page as an example. When you click on Schools on the home page, you are sent to another page on the same website that lists several schools. Then, when you click on a specific school, you are transported to that school's page. When you click on Regional Web Sites, you are sent to Web servers and subsequently Web sites of regional centers spread across India. As a result, the connections provide you access to a vast number of texts, music, pictures, and multimedia. It would resemble a large spider's web. The term "Web" was taken from this comparison [1].

The internet and the web are two of the most significant technical advancements of the contemporary period, profoundly altering how people interact with information, do business, and access and connect with each other. Worldwide communication and information sharing are made possible via the internet, a worldwide network of linked computers and servers. On the other hand, the web is a collection of linked resources and publications that can be accessed online. With its ability to link people worldwide,

provide access to a wealth of information, and foster new kinds of entertainment, education, and business, the internet has fundamentally changed many facets of contemporary life. Additionally, the internet has made it possible for companies to connect with clients on a global scale, dismantling old trade barriers and fostering economic development. The internet and the web, however, also confront a number of difficulties, such as worries about security and privacy, the dissemination of false information and fake news, and the digital divide. In order to guarantee that everyone can benefit from the web and internet while minimizing the dangers and obstacles, addressing these issues calls for continual efforts by people, governments, and organizations throughout the globe [2].

II. DISCUSSION

With billions of users worldwide depending on the internet and the web for communication, information, entertainment, and commerce, the web and internet have become fundamental components of contemporary civilization. Particularly the web has changed how individuals' access and engage with information, as well as given birth to new types of social interaction, education, and entertainment. The capacity of the web and internet to link individuals across great distances, enabling them to communicate, exchange information, and work together on a global scale, is one of its main advantages. The web has also lowered conventional trade barriers and opened up new growth prospects for companies by making it simpler for them to connect with clients across the globe [3].

The internet and the web, however, also confront a variety of difficulties, such as worries about security and privacy. Concerns about the gathering and use of personal

data, as well as the dissemination of false information and fake news, are rising as social media and other online platforms proliferate. In addition, there is still a big problem with the "digital divide," where many individuals lack access to stable internet service. Continuous efforts are required to advance digital literacy, boost cybersecurity, and guarantee that the web and internet remain open and inclusive for everyone in order to solve these concerns. To guarantee that everyone can benefit from the web and internet while minimizing the dangers and obstacles, this calls for cooperation between people, corporations, governments, and organizations throughout the globe. The US Department of Defence first created the internet in the 1960s as a means of information sharing across many places. Tim Berners-Lee, a British computer scientist, created the World Wide Web (WWW) in the 1990s, which made it simpler to access and traverse the enormous volumes of information accessible on the internet [4].

Advantages:

The web and internet have many advantages, including:

1. Knowledge access: People may now more easily than ever access massive volumes of knowledge on any subject, from any location in the globe.

2. Communication: Email, social media, and messaging applications have made it possible for individuals to communicate with one another, revolutionizing communication.

3. E-commerce: The internet has made it possible for companies to connect with clients on a global scale, removing previous trade obstacles and opening up fresh prospects for development.

4. Entertainment: The internet has spawned new genres of entertainment, including social networking, streaming services for movies and TV programs, and online gaming [5].

Disadvantages:

Despite its many advantages, the web and internet also have some disadvantages, including:

1. Privacy and security: The internet have raised concerns over the collection and use of personal data, as well as the potential for cyberattacks and hacking.

2. Misinformation: The web has also made it easier for misinformation and fake news to spread, which can have negative consequences for society and democracy.

3. Addiction: The web can be addictive, with people spending increasing amounts of time online and potentially neglecting other aspects of their lives.

4. Digital divide: The internet has created a digital divide, with many people around the world lacking access to reliable internet connectivity and being left behind in the digital age.

Overall, the web and internet have had a profound impact on modern society, with both advantages and disadvantages. Addressing the challenges posed by the web and internet requires ongoing efforts from individuals, governments, and organizations to ensure that the benefits can be realized by everyone, while minimizing the risks and challenges [6].

A. Fundamentals of Web

The fundamentals of working of a Web are knowledge of HTML, role of server and importance of the browser HTML (Hypertext Markup Language) is a computer language that describes how a page/text should be formatted/presented in the Web site. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. Many languages with varying complicities have evolved later to HTML for creation of Web sites. In Figure 1 shown the working of server in different perspectives [7].
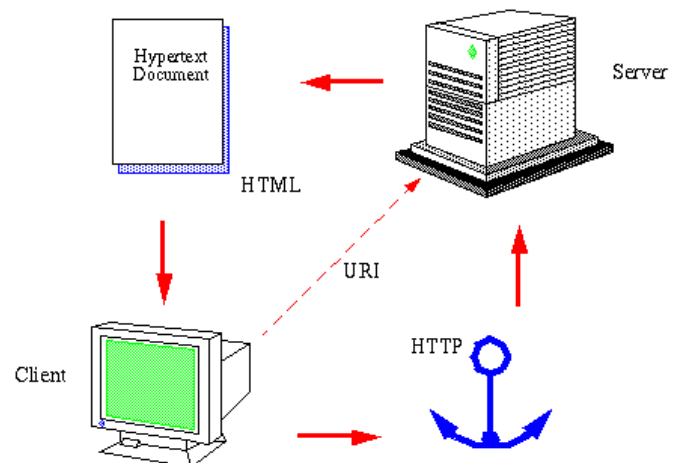

Figure 1: Represents the working of server.

However, HTML will suffice to creation of good Web sites. The knowledge of others will be required when you intend to create more complex web designs. We access the Web pages from the Web server(s) using a program called Web browser (like Microsoft Internet Explorer, Firefox, Safari or Netscape). On your making a request (search), the Web browser (with help of HTTP: the communication mode/programs to access any files that are stored in the Webpage) collects and assembles files from one or more Web servers (could be hundreds at times) into one page in your machine. (And this is how you see many pages of sites on any search you make on any subject).

To illustrate, let us take the case of collecting information about location of Madhya Pradesh Bhoj (Open) University. There are two situations: one is when you do not know the Web site name (url) - you make a search on a browser and will be provided with a list of servers from which you select

the right one (by double clicking) to get the pages opened for information. The other is when you know the url - you enter it: http://www.bhojvirtualuniversity.com/univ/location.html or click on the link. The browser contacts the MOBU Web server indicated by the name (bhojvirtualuniversity.com) in the url requesting for the specific file. On executing the search for location, the Web server {of the MP Bhoj (Open) University} searches for the file and returns it to the browser. The browser, in turn, displays the document in its window (according to the formatting specified in the documents). The browser will contact the server again for each graphic separately. (In the present example there are two graphics, one of the building and the other a sketch of the building). Each graphic stored in different files are sent individually and assembled into the final page by the browser [8].

All these activities (transfers and assembling) take seconds to accomplish and you will not feel a difference. (Of course, in case of slow connection, large graphic files lag behind the rest of the pages and takes time to fully display) The Web Server is a computer that holds and serves a Web site. The Web server includes the hardware, operating system, Web server software, TCP/IP protocols and site content (Web pages, images and other files). Using the HTTP protocol, the Web server delivers Web pages to browsers. If the Web server is used internally within an organization and is not exposed to the public, it is an intranet server and if it serves to external machines (outside the organization) it will be called an Internet (Web) server.

The internet and web have already had a significant impact on the world, but their potential for the future is even greater. As technology continues to advance, it is likely that the internet and web will continue to play a key role in shaping many aspects of society. One of the most promising areas of future development is the Internet of Things (IoT), which refers to the growing number of devices and sensors that are connected to the internet, allowing for real-time data collection and analysis. This technology has the potential to revolutionize everything from healthcare to transportation to energy management. Another area of future development is artificial intelligence (AI), which is already being used to improve search algorithms, recommend products, and personalize content. As AI continues to advance, it is likely to have a major impact on many industries, including healthcare, finance, and manufacturing. In addition, the web is likely to become more interactive and immersive, with the rise of virtual and augmented reality (VR/AR) technologies. This could have major implications for areas such as entertainment, education, and even remote work [9].

However, as the internet and web continue to evolve, there will also be new challenges to address, such as the need for improved cybersecurity and privacy protections. It will be important for individuals, governments, and organizations to work together to ensure that the benefits of these technologies can be realized while minimizing the risks and challenges. Overall, the future of the internet and web is likely to be characterized by rapid technological advancements, new opportunities, and new challenges. However, with careful planning and collaboration, it is possible to create a future in which these technologies can be used to improve the lives of people around the world [10].

III. CONCLUSION

In conclusion, the web and internet have had a profound impact on modern society, revolutionizing the way people access information, communicate, and do business. The advantages of the web and internet include increased access to information, new forms of communication, e-commerce opportunities, and entertainment options. However, there are also significant challenges and potential disadvantages, including privacy and security concerns, the spread of misinformation, addiction, and the digital divide. Looking to the future, there is tremendous potential for new technologies and applications, such as the Internet of Things, artificial intelligence, virtual and augmented reality, blockchain, and edge computing. However, it will be important to ensure that these technologies are used in a way that benefits society as a whole, while minimizing the risks and challenges.

Overall, the web and internet are constantly evolving and will continue to have a profound impact on the way people live and work. By addressing the challenges and seizing the opportunities presented by these technologies, we can ensure that the benefits of the web and internet are realized by everyone.

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Static and Dynamic Web Sites

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Abstract—Static or dynamic websites each have their own distinct features and functionalities. A static website built using HTML and CSS is a straightforward website with pre-written content. Once created, the content of a static website cannot be changed unless a web developer actively maintains it. On the other hand, a dynamic website is more complex and may display tailored content to users based on their preferences, habits, and other factors. Dynamic websites often employ server-side programming languages like PHP, Ruby, or Python to store and retrieve data. In this abstract, the differences between static and dynamic websites are emphasised, along with their benefits and drawbacks. Although static websites are simple to create and need little maintenance, they have limited functionality and customization options. Dynamic websites provide for a greater degree of involvement and personalization but are more challenging to create and maintain. Both static and dynamic websites are often used to provide internet users access to information and services. A static website is made up of web pages that have been written in advance and are shown to the user exactly as they are, with no content changes. A dynamic website, on the other hand, features web pages that are created in real-time, enabling a more customised and engaging user experience. Overall, the decision between a static and dynamic website will be based on the demands and objectives of the website in question as well as the resources available for its creation and upkeep. Both static and dynamic websites may provide an efficient and interesting online presence for companies, organizations, and people with the proper strategy.

Index Terms—Dynamic Websites, Html Pages, Static Website, Server-Side Programming Languages.

I. INTRODUCTION

One of the key choices you must make when building a website is whether to employ a static or dynamic approach. A static website is made up of web pages that have been written in advance and are shown to the user exactly as they are, with no content changes. On the other hand, a dynamic website creates web pages in real-time, enabling a more customised and engaging user experience [1]. The precise requirements and objectives of the website, as well as the resources available for construction and maintenance, will determine whether a static or dynamic website should be used. In this introduction, we'll look at the distinctions between static and dynamic websites, as well as their individual benefits and drawbacks, and some typical use cases for each. Along with looking at these major technologies, we'll also look at server-side programming languages like PHP, Python, and Ruby, as well as HTML, CSS, and JavaScript, which are all utilised in the creation of both static and dynamic websites. You may choose the method that is appropriate for your website by knowing the various methods to website building and the technology used [2], [3].

A website is a collection of web pages that can be viewed online by users and is stored on a web server. Static and dynamic websites are the two primary categories in website building. Static websites are made up of pre-built web pages that are shown to the user exactly as they are, with no content modifications. These websites are appropriate for modest websites that don't need regular changes or a lot of user engagement since they are reasonably easy to establish. On the other side, dynamic websites are created using real-time, dynamically produced web pages. These websites provide a more personalised and engaging user experience due to their increased complexity. To offer material that is unique to the user and their requirements, they often depend on databases and other technology.

We will examine the distinctions between static and dynamic websites, their relative benefits and drawbacks, and use cases in this introduction. We will also go through the technologies that are utilised to build these kinds of websites and how to choose the best strategy for your particular requirements and objectives. Understanding the distinctions between static and dynamic websites is essential for selecting the best choice whether developing a website for a small company, a personal blog, or an e-commerce platform. The choice between a static and dynamic website will ultimately depend on the needs and goals of the website in question as well as the resources available for its development and maintenance. With the right plan, static and dynamic websites can both provide businesses, organizations, and individuals an effective and engaging online presence [4].

II. DISCUSSION

Static and dynamic websites have existed since the inception of the internet, and each kind of website has

advantages and disadvantages of its own. Static websites have this structure and are composed of straightforward HTML pages that are transmitted directly to the user's browser. Since they are easy to develop, administer, and deploy, they are a popular choice for small websites that do not need frequent updates. Static websites also load quickly and are lightweight, which could improve user experience.

However, the simplicity of static websites also places limitations on their usefulness. Consumers of today no longer expect them to be interactive or dynamic, and it is challenging to update them with new content or user information. The upgrading process for a large static website may take a long time since each page must be updated individually. Dynamic websites, on the other hand, provide a more interesting and interactive user experience. They employ server-side scripting languages like PHP, Python, or Ruby to produce web pages dynamically based on user input and data from external sources. Dynamic websites are easy to update with fresh content and user information and may include a range of features, including user authentication, e-commerce capabilities, and multimedia components [5], [6].

The challenge is in developing and managing dynamic websites. They may load more slowly than static websites because they need databases and server-side programming languages, especially if they rely on complex data processing or third-party integrations. Additionally, since they are more prone to security vulnerabilities, dynamic websites need ongoing maintenance and updates to preserve their stability and security.

Finally, whether to pick a static or dynamic website will depend on the particular needs and goals of the website. Static webpages are an option for simpler, more compact websites that don't need frequent updates or user involvement. Dynamic websites are better suited for bigger websites with complex functionality and interactive parts that need real-time changes and user data. It is essential to carefully consider the advantages and disadvantages of both types of websites before choosing on the best approach for your website [7].

The information on a static website is shown in the same way as it is stored on the server. The majority of this data is encoded as HTML, and the URL ends in.htm. The majority of websites are static because they display pre-defined, static content, meaning that pages obtained by various visitors at various times will not change. The files must be manually accessed, the data must be modified, and the updated version must be uploaded to the Web. Pages on dynamic websites retrieve new information each time you see them (such as the most recent news you see or different online games you play). An example would be how to obtain an examination from the MPBOU website.

When applicants search by entering their enrol numbers, the Examination Results button at www.bhojvirtualuniversity.com/ may be defined as dynamically created since it gives various students varied information (marks). In reality, the information comes from databases rather than html pages (which may be changed every minute, day, or week). The seat availability tool on the Indian Railways website is another well-known example. When new bookings are made or existing reservations are cancelled, the information on seat availability is likely to change every second.

As a result of your search, the site/browser pulls the most recent status since the data in the railway reservation database are updated here in real time. Thus, the term "dynamic information" is used. Additionally, dynamic websites are also referred to as "data-driven" websites. Simply said, dynamic websites are those that pull up new content for each visitor and each viewing. It usually has a.asp (Microsoft Active Server Pages) or. cfm (Cold Fusion) at the end of its URL. e-commerce and commercial uses of dynamic Web sites are growing.

Types of Web Sites

There are many different kinds of websites, each of which caters to a certain kind of use or content. The process of identifying and categorizing each one could seem haphazard. Therefore, a few representatives but not all-inclusive situations are shown below:

1. Blog (Web Log): Website used mostly for posting online diaries that may also contain forums.
2. Forum: a website where users may debate a range of subjects.
3. A mirror site is an exact replica of a website.
4. Social networking site: a place where users may interact and exchange material with one another, including images, videos, music, blogs, and more. Web apps and games may be among them.
5. Wiki sites, like Wikipedia and Wikihow, allow people to modify content together.
6. Web portal: a place from which to access more resources on the Internet or an intranet.
7. Search Engine Site: A website that offers general information and serves as a gateway or search engine for other websites, such as Google, Yahoo, and Bing.
8. School Website: This is a place for teachers, students, or administrators to submit news about events taking place at or affecting their school.
9. Community Site: A website, like MySpace or Facebook, where people with similar interests may interact with one another through chat or message boards.
10. Corporate Website: a resource providing background data about a company, group, or service.

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Web Hosting, Issues and Accessibility

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Abstract— The act of maintaining and storing website files on a server that is connected to the internet is known as web hosting. For a website to be accessible, dependable, and secure, choosing the correct web hosting company is essential. When choosing a web hosting company, there are a lot of things to take into account, including uptime guarantees, server speed, bandwidth restrictions, security measures, and customer support. In addition, taking website accessibility into account is essential if you want to guarantee that everyone can use your website, regardless of their skills or limitations. This involves ensuring that your website complies with accessibility standards and guidelines and is optimised for assistive devices like screen readers. The significance of online hosting, the important factors to take into account when selecting a web hosting service, and the significance of website accessibility will all be covered in this abstract. We will also go through how web hosting affects the speed, security, and SEO of websites, as well as provide advice on how to choose the best web host for your requirements.

Index Terms—Accessibility, Hosting, Web hosting, Web Issues, Website, Website Accessibility

I. INTRODUCTION

Understanding the significance of web hosting and accessibility is crucial for ensuring that your website is accessible, dependable, and safe whether you are building a personal blog, an e-commerce website, or a company website [1].

Free and Fee-based Web Hosting

There are two types of web hosting: free and paid. Numerous organizations (Internet Service Providers) provide free hosting services. The disadvantages of free hosting include the possibility of low site traffic and exposure due to poor placement and ranking by natural search engines. In addition, ISPs often display ads on your website to recoup their costs, which may not be to your taste. Hosting the website on your own server is an additional option.

Organizations with reliable IT infrastructure use this approach. The third option is to pay for access to a shared web hosting plan which is currently not too costly. To choose the one that's right for you, you may browse and pick from a variety of domain hosting packages on the Internet. An essential component of developing and managing a website is web hosting. It involves maintaining and keeping track of website files on a server that is connected to the internet. A web hosting service provides the servers, storage, and network connection needed to host your website and make it available to users all over the globe [2].

But selecting the best web hosting company may be difficult since there are so many factors to take into account, like server speed, uptime guarantees, security features, bandwidth restrictions, and customer service. A crucial factor in ensuring that your website is useable by everyone, regardless of talents or impairments, is website accessibility.

Website accessibility in this sense refers to creating and building a website in a manner that makes it simple for those with disabilities, such as those who have visual, hearing, or cognitive impairments, to use. This involves making sure that your website complies with accessibility standards and guidelines and is optimized for assistive devices like screen readers [3].

We will discuss the significance of web hosting, the important factors to take into account when selecting a web hosting company, and the significance of website accessibility in this introduction. We will also go through how web hosting affects the speed, security, and SEO of websites, as well as provide advice on how to choose the best web host for your requirements. You may decide on your website and make sure it is dependable, safe, and accessible by being aware of these difficulties. The creation and maintenance of websites depend heavily on web hosting. In order for people to access and interact with your website, website files and data must be kept on a server that is readily available over the internet. But choosing the best web hosting company may be difficult since there are so many things to take into account, like uptime guarantees, server speed, security, and customer service [4].

Additionally, website owners and developers are becoming more and more concerned about accessibility issues. The capacity of users, especially those with impairments, to access and utilize your website is referred to as website accessibility. Making sure your website complies with accessibility standards and guidelines as well as being optimized for assistive technology like screen readers and other assistive devices is part of ensuring accessibility.

II. DISCUSSION

A service called web hosting enables people and

businesses to publish their website or web application on the internet. It entails setting up a server with enough storage and bandwidth so that users may access the website's files and data. Web hosting services come in a wide variety of forms, including dedicated hosting, cloud hosting, virtual private server (VPS) hosting, shared hosting, and more. The choice of hosting service relies on the particular requirements of the website or web application. Each form of hosting service has benefits and drawbacks of its own [5].

The most popular kind of web hosting is called shared hosting, in which many websites share the same server resources. Although this kind of hosting is often the least expensive and easiest to set up, it may also be slower and less dependable than other hosting services. Compared to shared hosting, which creates a virtual machine on a shared server and allocates certain resources for the website or web application, VPS hosting offers greater control and freedom. Although it could cost more, this kind of hosting is more dependable and quicker than shared hosting. A dedicated server is provided by dedicated hosting, offering the maximum degree of control, flexibility, and speed for the website or online application. Although this kind of hosting is the costliest, it is appropriate for websites and web applications with large traffic [6].

A more recent kind of hosting service known as "cloud hosting" offers resources from a network of computers as needed, offering significant scalability and flexibility. Websites and web applications with fluctuating traffic volumes and resource needs might use this form of hosting. Additionally, administering the server and making sure it is safe, dependable, and accessible to users is part of web hosting. This calls for activities like server upkeep, security patches, backups, and technical assistance. To sum up, web hosting is an essential part of putting a website or web application online. The unique requirements of the website or web application, such as traffic volume, resource demands, controllability, and flexibility, affect the hosting provider that is selected. Additionally, it entails overseeing the server to make sure it is safe, dependable, and accessible to users [7].

A. Web Hosting Steps

The background of the third alternative, paid web hosting, is covered in this section.

1. Purchase a URL: Purchasing a URL (Uniform Resource Locator) is the first step. To choose and register a domain name, locate a registrar. Numerous internet websites provide domain purchase services. You must browse the websites and choose the one you want. One year is the bare minimum time frame for registration. The annual fees range from $10 to $15.

2. Submit the Site: The last step is to submit the website to a web server so that it may be seen online every day of the year, 24 hours a day. Consult Web hosting directories; there are several of them online. Search for "Web-hosting Directories" to find options that are suitable for you in terms of price and features. The website may be uploaded to their server when you choose the web hosting provider and pay the price. You will get the essential software from this firm, along with instructions on how to upload, update and manage the website.

3. Once the website is hosted, you may edit or alter it as necessary. You may choose how to present the material, including an email link for feedback, or offer chat rooms or bulletin boards.

4. Option to make a living: If you want, you can make your website profitable. One approach is to add Google AdSense ads to the website.

It's unpaid. Simple requirements include having 20+ website pages and 50–100 daily visits. (Google AdSense is a free programme that allows online publishers to monetize their material by presenting relevant adverts on a range of online sources, including as websites, mobile Webpages and applications, feeds, and site search results.) Another is to market your goods (like books). PayPal may be used to organize payments. Whether for company or personal use, PayPal makes it simple to send and receive payments online. Although receiving money is free, doing so is subject to a fee or a charge from one of the PSPs (money Service Providers). Charge for the material is yet another approach to make money. Make a "password-protected members only" section and accept payments as previously mentioned, i.e., by using PayPal or PSPs [8].

B. Critical Web Issues

While creating and hosting a website, there are several considerations that should be made. Following them will aid in the evolution of sites that are enjoyed by users and, as a result, draw more visitors,

1.1. Usability Issues

A website may be considered useful if people keep coming back to it. A visitor won't look for information or specifics about a product if he needs to exert much effort.

Therefore, it should be made simpler for the user to get the information. What characteristics lend a website to user-friendliness and accessibility? Below is a discussion of them:

1. **Information Availability:** All the data that enables a visitor to the website to make knowledgeable selections should be available there. A decent website should typically provide between 80 and 90 percent of the information a user or visitor is seeking. For instance, if you were selling "pen drives," a one-line explanation with a link to a page outlining the features, pricing, and purchasing options would be effective in luring customers.

2. Page layout: How the information is presented on the page, people should be able to locate relevant material

easily on the website if it is set up properly. Otherwise, people get bored and quit the website. Clean, uncomplicated pages are ideal. Just the components that make the page more usable should be kept.

3. Colours: Standard colours need to be utilized since they have an impact on how usable a website is. For instance, it's best to stick with the traditional link colour (blue for links, violet for visited links, and red for active links) to avoid confusing visitors.

4. Download Speed: The download speed is crucial since long waits might make users lose interest. Do everything you can to ensure that the download won't be slowed down since you, as a web designer, cannot control the pace. One thing to keep in mind is to optimize the visuals (use photos that are no bigger than 10 kb), create smaller pages (say, no more than 30 kb), and avoid nested tables, despite the fact that they greatly enhance the layout. It should be noted that adverts sent from many servers may cause your website to load slowly. Periodically examine the Web server's state to see if it needs to be upgraded, and this should include the bandwidth as well.

1.2. Web Accessibility:

Web accessibility refers to everyone being able to engage with and/or contribute to the Web, including those with impairments (such as visual, aural, physical, verbal, cognitive, neurological, and persons whose skills are declining due to elderly age). People with disabilities should be able to utilize and contribute to the Web more effectively as accessible Web sites and tools become more widely available. People are able to engage more actively in society because to web accessibility, which offers everyone access and opportunity.

Designing websites and digital material for everyone to use and access, including those with impairments, is known as web accessibility. Regardless of their talents or limitations, all users should be able to perceive, browse, interact with, and contribute to the online, according to the principles of web accessibility [9].

Given that many people's everyday lives now revolve on the internet, web accessibility is a crucial factor for website owners and developers. Access to online resources is essential for a variety of activities, including socialising, job, healthcare, and education. But for those with disabilities, inaccessible websites and digital information may pose serious obstacles, making it difficult or impossible for them to use and benefit from these vital services. Visual impairments, hearing impairments, movement disabilities, cognitive disabilities, and other conditions may all affect a person's ability to access and utilize the internet. Persons with motor disabilities may utilize assistive technology, such as speech recognition software, to engage with websites and digital material, while persons with vision impairments may use screen readers or magnification

software to browse and read online content.

Website owners and developers must adhere to accessibility standards and rules, such as the online Content Accessibility rules (WCAG) created by the World Wide Web Consortium (W3C), in order to assure online accessibility. These recommendations provide a foundation for creating websites that are user-friendly for everyone, regardless of their talents or limitations. Making websites and digital information accessible has several advantages. Web accessibility is, first and foremost, the proper thing to do. Regardless of one's talents or impairments, everyone deserves access to online information and services. Additionally, not only for users with disabilities but for all users, accessible websites and digital information may enhance the user experience. The usability, usability, and user-friendliness of accessible websites may boost user engagement, contentment, and conversion rates.

Businesses and organizations may gain from accessible websites by boosting traffic, enhancing search engine optimization (SEO), and lowering legal risk. As more individuals with disabilities demand equal access to websites and digital material, there has been an increase in online accessibility lawsuits in recent years. Businesses and organizations may lower their legal risk and avert costly litigation by guaranteeing online accessibility.

However, developing accessible websites and digital material may be difficult, particularly for people who are inexperienced in web development or are ignorant of accessibility standards and rules. Inappropriate use of headers, photos without alternative text, a lack of keyboard navigation, and insufficient colour contrast are a few frequent accessibility problems. There are several tools available to assist website owners and developers in building accessible websites and digital content to solve these issues. These tools and services include accessible training and certification programs, accessibility consultancy services, and automated testing tools and browser extensions.

1.1.1. Appearance is Secondary:

Don't obsess about looks too much. People often find that they must use all of their energy at the beginning of the process in order to completely satisfy themselves with the webpage's design, leaving them with little time and patience for the content portion. Therefore, start with the fundamental look and then enhance if necessary. In summary, appearance is vital, but placing it first may be putting it at the expense of other, more crucial parts of a Web page, thus it should be avoided.

1.1.2. An accessible website:

The most important thing is who you're talking to. In order to assess the audience's information needs, you must be aware of their pulse. Make material that meets their needs.

Make your website's content accessible as well. Easy accessibility or reachability assumes the development of an intelligent or logical navigation system. Below are some basic guidelines: All pages should include a navigation bar or panel, and there should be links to the sites and contents that visitors are most likely to wish to access. Put direct links to the logical places rather than forcing visitors to go to the main page or the site map. c) Ensure that your site is accessible to all visitors, meaning that your menu is available in as many browsers as possible such as Microsoft Internet Explorer, Firefox, Netscape, and Safari. d) Use a site map: A site map is a page that lists all the contents of your website so that a visitor may quickly find the one he's looking for, offering a different path to other sites. e) Including a search box on your website (implying that you have a search engine) would aid visitors who are looking for specific information quickly when a site contains a lot of pages. The majority of these services are available on the IGNOU website, which is a sizable site in and of itself.

1.1.3.Visibility on search engines:

You are invisible to the world if search engines cannot find your website. The main challenge you'll have is figuring out how to get the site accessible to search engines. Find out more about the subject by reading books or the internet to learn how to get featured in search engines. The capacity of a website or web page to stand out in the search engine results pages (SERPs) when visitors enter certain keywords or phrases is referred to as "search engine visibility." It has a significant influence on the volume and calibre of organic traffic a website gets, making it a crucial component of digital marketing and search engine optimisation (SEO).

The quality and relevance of the website's content, the website's structure and coding, the use of keywords and meta tags, the website's loading speed, the website's mobile friendliness, and the website's backlink profile are some of the elements that affect search engine visibility.For companies and organizations who use their website as a marketing and sales tool, search engine exposure is essential. A high search engine exposure may result in more visitors to the website, more interaction, better brand recognition, more conversions, and more money being made [10].

Achieving high search engine exposure is not always simple, particularly for phrases and keywords that are in great demand. To optimize the website's content, structure, and technological features, as well as to develop a solid backlink profile and enhance user experience generally, demands a purposeful and constant work. The effectiveness of a website or web page in attracting and engaging readers is directly impacted by its search engine visibility, which is a crucial component of digital marketing and SEO. A thorough and continuing strategy to optimizing the website's content, structure, technological elements, and backlink profile is necessary to achieve high search engine exposure.

III. CONCLUSION

In conclusion, web hosting is an essential part of putting a website or web application online since it offers server space and bandwidth so that people can access the website's files and data. Depending on the particular requirements of the website or online application, many kinds of web hosting services are available, each with its own benefits and drawbacks. In order to ensure that websites and online applications are constructed in a manner that allows people with disabilities to access and utilize them successfully, web accessibility is also an essential component of web hosting. This entails following standards for online accessibility like the online Content Accessibility Guidelines (WCAG) and adding elements like alternate text for pictures, elaborative links, and keyboard navigation. Web hosting problems might include server outages, security flaws, and difficulties with technical help. In order to have the least amount of negative influence on consumers and their online presence, it is critical for web hosting companies to handle these problems quickly and efficiently. Web hosting and accessibility are fundamental components of a successful online presence overall, necessitating continual care and effort to guarantee that websites and web applications are usable, dependable, and safe for all users.

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Web Text Composing and Shaping

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Abstract— The significance of online text composition and shape in producing efficient and interesting web content is covered in this abstract. Web text is an essential part of websites since it gives users information and context while also affecting their engagement and behaviour there. To match the demands and preferences of the target audience and the goals of the website, effective online content must be properly crafted. The main ideas of web text composition and shaping are covered in this abstract, including knowing the target audience and what they need, creating catchy headlines and subheadings, using clear and concise language, breaking up the content into manageable chunks, and incorporating multimedia elements like pictures and videos. The abstract also emphasises the significance of employing keywords and Meta tags to boost search engine exposure when writing web material for search engines. To improve readability and user experience, online text composition and shape also takes into account the layout and design of web pages, including the use of white space, font types and sizes, and colour schemes. Additionally covered in the abstract is how online text contributes to a unified brand voice and message across all digital platforms, such as social media and email marketing. The abstract highlights the significance of continuing online text testing and optimisation, using data and analytics to pinpoint areas for improvement and modify content appropriately. It also draws attention to the possible difficulties and moral issues that may arise while crafting and writing digital content, such as avoiding misleading or deceptive language and preserving user privacy. Creating successful and compelling online content requires careful consideration of audience demands, search engine optimisation, style and layout, as well as constant testing and optimisation of web text composition and shape.

Index Terms—Search Engine, Search Engine Optimisation, Text Composition, Web Text

I. INTRODUCTION

A Web page's design and construction are similar to the publishing process for a book. It's a creative project that requires many different tasks, including writing, style maintenance, creating, adding images and graphs, and styling the look. In a similar vein, the Web page provides opportunities for information to be shared and communicated using a range of media, including text, graphics, photographs, video, sound, animation, and links to other websites. However, we will limit our discussion in this Unit to the creation and manipulation of Web content [1]. The building of a Web page is not a step-by-step procedure, much as the publication of a book. The Web designer alone decides what components (text, images, multimedia, etc.) to include or what procedures to follow. However, everyone often starts by creating a text file that may be thought of as the Web page's basis. Using HTML codes, text files may be converted from regular word processing files to Web files.

Composing and structuring online text is a key step in producing interesting and successful web content. The written material that appears on websites, including as headlines, subheadings, body text, and any supporting copy, is referred to as web text. In order to effectively communicate information, affect user behavior on the website, and satisfy the requirements and preferences of the target audience, effective online language is carefully produced [2]. Understanding the target audience and their needs, creating catchy headlines and subheadings, using

clear and concise language, segmenting content into easily digestible sections, and incorporating multimedia elements like images and videos are just a few of the techniques and principals involved in writing and shaping web text. Readability and user experience are significantly improved by the layout and design of web pages, including font styles, sizes, colour schemes, and white space.

In addition to these guidelines, creating and molding online text also entails optimizing content for search engines. This is done by using keywords and Meta tags to increase website traffic and exposure in search engines. A consistent brand voice and message across all digital platforms, such as social media and email marketing, may also be achieved using web text. Despite the potential advantages of creating and molding online text, there are also difficulties and ethical issues to be mindful of. For example, it is important to avoid using language that is misleading or deceptive, to protect user privacy, and to make sure that web text is accessible to all users, including those who are disabled.

In this post, we'll examine the fundamental guidelines for structuring and creating online content as well as the difficulties and factors that need to be taken into mind. Additionally, we'll provide helpful advice and techniques for writing persuasive online copy that appeals to both consumers and search engines. Composing and structuring online text is a key step in producing interesting and successful web content. The written material that appears on websites, including as headlines, subheadings, body text,

and any supporting copy, is referred to as web text. In order to effectively communicate information, affect user behaviour on the website, and satisfy the requirements and preferences of the target audience, effective online language is carefully produced [3].

Understanding the target audience and their needs, creating catchy headlines and subheadings, using clear and concise language, segmenting content into easily digestible sections, and incorporating multimedia elements like images and videos are just a few of the techniques and principles involved in writing and shaping web text. Readability and user experience are significantly improved by the layout and design of web pages, including font styles, sizes, colour schemes, and white space [4]. In addition to these guidelines, creating and molding online text also entails optimising content for search engines. This is done by using keywords and Meta tags to increase website traffic and exposure in search engines. A consistent brand voice and message across all digital platforms, such as social media and email marketing, may also be achieved using web text.

Despite the potential advantages of creating and molding online text, there are also difficulties and ethical issues to be mindful of. For example, it is important to avoid using language that is misleading or deceptive, to protect user privacy, and to make sure that web text is accessible to all users, including those who are disabled. In this post, we'll examine the fundamental guidelines for structuring and creating online content as well as the difficulties and factors that need to be taken into mind. Additionally, we'll provide helpful advice and techniques for writing persuasive online copy that appeals to both consumers and search engines [5]. The process of writing and molding the textual material that appears on websites is known as web text composition and shaping. Important information should be communicated clearly in online text, which should also cater to the demands and preferences of the target audience and have an impact on website user behaviour. We will go through the main ideas and methods used in creating and manipulating online text in this part.

Identify the target audience and their needs: The first stage in creating and molding online content is to identify the target audience and its requirements. This entails investigating the characteristics, pursuits, and actions of the target market as well as their reasons for visiting the website. Web content may be customised to the requirements and tastes of the target audience by having a thorough grasp of that group. Create catchy headers and subheadings: headers and subheadings are essential components of online content since they aid in grabbing visitors' attention and highlighting key points. Effective headlines and subheadings should include language that is both understandable and attention-grabbing, and should be brief, informative, and entertaining. Use simple,

straightforward language: Web content should be produced in simple, clear language that avoids technical jargon or sophisticated terminology. This makes the material more readable and understandable for consumers while also guaranteeing that a larger audience can access it.

Organise material into scannable chunks: To break up text and make it easier for readers to read, web content should be organised into scannable sections using headings, subheadings, bullet points, and other formatting strategies. This enhances the user experience and engagement because people are more inclined to read and interact with material that is simple to use and comprehend. Include multimedia components: Including multimedia elements may improve the readability and visual appeal of online content. Examples of multimedia elements include photographs and videos. The user experience should not be negatively impacted by these aspects, thus it's crucial to make sure they are relevant and acceptable for the content.

Content should be optimised for search engines by employing keywords and Meta tags. This will increase the website's exposure and drive more visitors to it. To do this, it is necessary to undertake keyword research, choose relevant words and phrases, and then naturally and organically include them into the site content [6]. Think about the layout and design: online page layout and design are crucial to the creation and molding of online content. When creating online text, designers should carefully examine how font styles, sizes, color schemes, and white space will affect readability and user experience.

Keep your brand's voice and message consistent:

Web text can help you maintain your brand's voice and messaging throughout all digital platforms, including social media and email marketing. Web text may assist to strengthen brand identification and increase user engagement and loyalty by keeping a consistent voice and message.

Test and optimise: Lastly, online text should be routinely examined and improved. Data and analytics should be used to pinpoint places that need work and to modify material as necessary. As a result, the target audience's demands will continue to be met by the online text, which may assist to increase user engagement and conversion rates.

II. DISCUSSION

Readers' Approach to Online Pages

The reading preferences of Web visitors should be considered while drafting the material. A reader would have just taken a quick glance at a book before deciding whether or not to continue. However, reading on the internet is a unique situation. He views a lot of websites, but he is unsure whether any of the information included inside will apply to his needs. As a result, he won't spend much time reading through each document on websites. As a consequence,

techniques have been developed for swiftly determining whether a Web site is appropriate for the user's needs. Anyone who is thought to be valuable or relevant will start reading the item page by page.

In this part, we'll go through a few of the tactics. Every day, people read for a variety of reasons, including entertainment, knowledge, and job-related tasks. The reading resources include books, letters, journals, online documents, Web sites, newspapers, magazines, fiction, and more. People use a variety of reading techniques without fully realizing them. Following word-by-word reading, skimming, and scanning are crucial skills. It is the final two that are followed while reading on the web. If you're looking for information, you turn to scanning. When one is researching or examining a subject, they skim. However, skimming and scanning are sometimes misunderstood as search methods. They are only reading skills, in actuality.

1.1 Skimming

Skimming is the practice of reading just the major points of a material to acquire a broad understanding of its content. It is used when you have a lot of reading to do in a short amount of time. In a similar spirit, skimming may be used to determine if a resource material will be helpful for your research or requires extra detailed examination [7]. The various methods used in skimming are many. One reads the headlines and summaries, or the first and final paragraphs. Reading the headings, subheadings, and images is another option. It may also pass as information-gathering to take note of images, graphs, or charts, italicized or boldfaced words or phrases, or terms in the synopsis, introduction, or table of contents of a book. Reading each paragraph's introductory phrase might be an alternative tactic.

In other words, skimming makes it easy to find a text's main points. Because skimming is thought to be three to four times faster than traditional reading, the high pace is made feasible. Therefore, skimming is reading for informational purposes rather than to understand the text's substance. The same reason why skimming is used while reading on the web is because one is first unsure of the content's usefulness. After scanning something and seeing its value, one may choose to read it word-for-word, as one would with textbooks, important papers, or research findings [8].

1.2. Scanning

When reading, scanning is a method used to locate particular information rapidly. I ignore irrelevant information while reading a passage or item with the specific goal of learning how many public libraries there are in the state of Kerala. It's like looking for your buddy in a crowd but ignoring everyone else's faces. When you scan, you swiftly move your eyes across the text to look for a certain word, phrase, or concept. It is comparable to searching up a term in a dictionary or looking up facts in a reference book.

People use scanning as a tactic while reading on the web for the same reasons as were previously discussed about skimming. You are unsure whether the website you are considering will satisfy your needs, and you also need to act quickly since there are several pages and reference materials that need to be evaluated. You may choose to read the whole content of the paper or just skim it after you've found the information you were searching for and determined that the resource document is helpful in meeting your needs. You may read a specific one in depth if, after scanning it, you decide it is the perfect document for the task at hand, whether it be one of fun, knowledge, or task completion.

1.3. Textual Components of a Website: Guideline

It is common knowledge that reading online takes longer than conventional reading methods. A research by Jakob Nielsen of the Nielsen Norman Group found that reading a book on an electronic device, such as an iPad or Kindle, takes longer than reading the same book on regular paper. Additionally, one is unsure of the use of the readings at the conclusion. As a result, the majority of online users scan or skim Web sites rather than reading them word for word. Even methodical readers would like having specialised online reading structures built into the text so they could go through the pages more quickly.

Writing on the web differs from writing for print. Therefore, the online designer has to have a thorough understanding of how to write and format online content [9].

1.1.1. Split the Information Up (Chunking): Long pages and irrelevant sections of content turn web users off. They want that the pages be organised so that information can be accessed quickly and simply. One strategy is to provide information in manageable portions to enable scanning and location.

a.   Chunking is a presentation technique that breaks down ideas into manageable bits so that they may be quickly and easily grasped. Reading therefore, when all the material is provided in continuity and one reads from beginning to finish, is the opposite of chunking. Reading may not be necessary in research and administrative papers as a result, which explains the need for informational Web sites.

b.   For a variety of reasons, information churning on the web works effectively.

c.   Computer displays are better suited for condensed information since lengthy texts can only be partially seen on them. In general, readers dislike page scrolling because it causes them to get disoriented since they often forget about the scrolled screen. They prefer to print or store lengthy texts for later, more comfortable reading.

d.   It is recommended to divide up the body of the content into logical portions, give each its own page, and

connect them with links rather of presenting all the information on a subject on one page. In this instance, the reader may quickly go from one piece to another without having to read everything in order.

e.   On the other hand, one should be careful not to arbitrarily split apart lengthy papers. So that each page has thorough information, it should be done carefully. Users shouldn't have to sift through uninteresting content in order to reach subjects that they are interested in.

1.1.2.Make Texts Simple to Scan: The content should be written in a way that is simple to scan, according to one web design rule of thumb. According to studies by Jakob Neilsen on web readers, individuals skim web pages, highlighting certain words and phrases.

f.   He discovered that 75% of test participants always skimmed new pages, whereas just 16% did so word-for-word.

g.   In other words, web users seek for material that is directly applicable to their needs. The search is focused rather than casual or random. It is a method of looking for solutions. It completely deviates from what one may anticipate from print media like newspapers or magazines, where stories, anecdotes, and examples may be used to enliven the written word. Such an approach is not preferred while using the Web since it slows down access to information [10].

1.1.3The F-shaped Pattern for Reading: Jacob Nielsen studies show that users read Web contents in an F shaped pattern. Users usually read the upper part of the content area in a horizontal movement. Next, the eyes move down the page a bit and read across horizontally (a second time) and finally the eyes hover over the document's left side in a vertical movement. The implications are: a) the first two paragraphs should state the most important information, and b) the latter part may employ sub-heads to paragraphs and also bullets with information carrying words as users tend to scan down the left side i.e. the 3rd part of the F-behaviour.

1.1.4.Credibility: Regarding who is behind a website and whether the information presented can be believed, credibility is crucial on the Internet. This is a complicated subject that may not fall inside the purview of this unit. The golden guidelines, however, should be clear writing (grammatically, in spelling, and word choice), the use of higher-quality graphics, and the inclusion of links to other websites, which suggests that the writers are not afraid of material provided elsewhere on the same topic. Fact exaggeration is disliked and seen as less reliable. In actuality, people prefer plain facts than overstated qualifiers.

III.   CONCLUSION

Web text composition and layout are crucial components of developing great websites in the present digital age.

Effective online content should attract readers and have an influence on their behaviour in addition to presenting vital information. Web text may be adjusted to match the requirements and preferences of the audience, increase user experience and engagement, and c. this can be done by understanding the target audience, creating compelling headlines and subheadings, using clear and concise language, organising content into easily digestible sections, incorporating multimedia elements, optimising content for search engines, considering layout and design, maintaining a consistent brand voice and messaging, and testing and optimising. In general, producing online text involves a clever and inventive strategy that takes the audience's requirements, the website's aims, and the brand identity into consideration. Web text may be a formidable weapon for constructing effective and engaging websites that impact user behaviour and contribute to the corporate performance by following to some basic principles and processes.

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Creating and Using Art on the Web

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Abstract— *Creating and using art on the web is a crucial component of web design that enables for aesthetically attractive and engaging websites. Art on the web contains diverse elements such as graphics, photographs, movies, animations, and other multimedia components that may improve the user experience and communicate vital information. This abstract will analyze the relevance of art on the web and its influence on user engagement and conversion rates. The usage of art on the web may dramatically increase the visual appeal of a website and make it more interesting to visitors. It may also assist to express critical ideas in a more engaging and effective way, improving the chance of user engagement and conversions. However, producing and deploying art on the web involves considerable research and preparation to ensure that it corresponds with the website's overall purpose and mission. This abstract will cover the various techniques and best practices for creating and using art on the web, including choosing appropriate visuals, optimizing images and multimedia for web use, using color and typography effectively, creating responsive designs, and ensuring accessibility for all users. Additionally, it will emphasise the need of testing and optimization to guarantee that the art utilized on the web is successful in reaching the intended goals.*

Index Terms—*Palette, Optimization, Typography, User experience.*

I. INTRODUCTION

In today's digital world, producing and utilizing art on the web has become a crucial component of web design. Art on the web encompasses numerous multimedia components such as graphics, photographs, videos, and animations that may improve the aesthetic appeal of a website and communicate vital messages to viewers. Using art on the web successfully may greatly boost user engagement and conversion rates, making it a key component of any successful website. Creating and utilising art on the web is a vital part of current web design. Art on the web covers numerous multimedia components such as graphics, photographs, videos, and animations that may dramatically improve the aesthetic appeal of a website and communicate vital messages to viewers. Effective use of art on the web may greatly boost user engagement and conversion rates, making it a key component of any successful website [1]. The use of art on the web is crucial in generating an emotional connection with the audience, making the website more memorable and boosting the possibility of user interaction. By employing graphics, designers may transmit information more effectively and efficiently than words alone. Additionally, graphics may provoke emotions and provide a more immersive experience for the user, leading to higher engagement and conversions.

Choosing relevant graphics is a critical component of making and using art on the web. The graphics utilized should be relevant to the website's content and purpose and should connect with the broader brand message. This takes careful consideration of characteristics such as color, font, and design components. Visuals should also be optimized for online usage to guarantee that they do not slow down the website's load speeds and adversely damage the user experience. Multimedia assets such as photographs and movies should also be optimized for online usage to guarantee that they do not adversely effect the website's load speeds. This involves optimizing file sizes, compressing pictures, and utilizing suitable file formats. By optimizing multimedia, designers may guarantee that the website loads fast and smoothly, producing a great user experience [2].

Color and typography are crucial components of art on the web. The color palette utilized should correspond with the overall brand statement and the purpose of the website. Color may be utilized to create a certain atmosphere or trigger emotions in the viewer, making it a crucial component of art on the web. Typography is also significant, since it may effect readability and the overall appearance of the website. Choosing proper fonts and font sizes is vital to ensure that the website is simple to read and aesthetically attractive. Creating flexible designs is also a vital component of using art on the web. With the development of mobile devices, it is crucial to ensure that websites are optimized for multiple screen sizes and devices. Responsive designs may guarantee that the website appears and performs effectively on any device, making it accessible to a greater audience.

Finally, guaranteeing accessibility is a critical component of utilizing art on the web. Accessibility entails creating websites that are useable by individuals with impairments. This involves ensuring that multimedia assets are captioned or explained for users who are visually or hearing challenged. By guaranteeing accessibility, designers may develop websites that are inclusive and accessible to all users. The usage of art on the web has grown more essential

in recent years, with the advent of visual platforms such as Instagram and Pinterest. The success of these platforms has proved that images can be an effective means of expressing messages and building interaction with people. As a consequence, many websites are increasingly adding more images into their designs to offer a more immersive and engaging experience for consumers [3].

One of the primary advantages of employing art on the web is that it may considerably enhance the user experience. Websites that are aesthetically beautiful and engaging are more likely to retain the user's attention, leading to greater engagement and conversion rates. Additionally, images may be utilized to present difficult information in a more accessible and intelligible fashion, making it simpler for consumers to absorb crucial ideas. The usage of art on the web also helps designers to build a distinctive brand identity that stands out from the competitors. By employing images that connect with the brand message and purpose of the website, designers may build a more memorable and identifiable brand image. This may lead to enhanced brand loyalty and higher customer retention rates.

II. DISCUSSION

Creating and utilizing art on the web is a fascinating topic that blends the realms of digital media with visual art. The internet has altered the way we make and consume art, and has opened up a world of possibilities for artists of all types. One of the major benefits of making and utilising art on the web is the huge audience that it may reach. With the press of a mouse, an artist may share their work with people all around the globe. This has made it simpler for artists to acquire attention and recognition for their work, and has also offered new chances for collaboration and engagement with other artists [4]. Another benefit of making and consuming art on the web is the capacity to readily change and edit digital assets. With a multitude of software applications and online tools accessible, artists may produce and alter their work with ease, and experiment with new approaches and styles. This freedom helps artists to continually adapt and better their craft [5].

However, there are also certain obstacles that come with making and consuming art on the web. One of the largest is the problem of copyright and ownership. With so much art being shared and republished online, it may be challenging for artists to retain control over their work and guarantee that they get due recognition and pay. This has led to arguments concerning the relevance of copyright laws in the digital era, and the necessity for new measures to preserving creative works online. Another obstacle is the question of accessibility. While the internet has offered up new possibilities for artists to publish their work, not everyone has equal access to digital media. This may create challenges for artists from underrepresented areas, and

restrict their capacity to share their work with a larger audience. Additionally, the dependence on digital media may also restrict the variety of materials and methods that artists are able to utilise, which can be a drawback for individuals who prefer more conventional forms of art.

Despite these obstacles, the web has had a huge influence on the art industry, and has offered new chances for artists to express themselves and interact with others. The next sections will examine some of the ways in which artists are making and utilizing art on the web, and the tools and methods that are accessible to them. One of the most popular types of digital art is graphic design. Graphic designers utilize a variety of software packages to generate photos, logos, and other visual material for websites, social media, and other digital platforms. This sort of work is generally incredibly detailed and exact, and involves a profound grasp of color theory, typography, and layout.

Another popular kind of digital art is photography. Digital cameras and editing software have made it simpler than ever for photographers to record and create photographs, and to experiment with diverse styles and methods. Additionally, social media platforms like Instagram have offered new chances for photographers to promote their work and interact with other artists and fans. Video art is another kind of digital media that has gained popularity in recent years. Artists utilize video cameras and editing software to make short films, animations, and other moving pictures that may be shared online. This style of art generally blends visual images with sound and music, and may be used to convey tales, provoke emotions, and explore complicated topics and concepts.

In addition to these more classic types of digital art, there are also a broad variety of experimental and multidisciplinary techniques that artists are investigating. For example, some artists are employing virtual and augmented reality technology to create immersive art experiences that can be accessed online. Others are employing coding and programming to build interactive installations and generative art works [6].

The tools and strategies that are accessible to artists for making and utilizing art on the web are continually expanding, and new approaches are being created all the time. However, there are a few critical skills and materials that are needed for any artist who wants to excel in the digital era. Before comprehend the notion of color we need know the two primary aspects of color i.e. pixel and palettes.

A. Pixels

A pixel is one square on a grid of thousands of squares that are individually colored to make a picture. First and foremost, every web graphic consists of a group of small colored squares working together to make a picture. In a manner, internet graphics resemble a painting style called

Pointillism. Pointillism, invented by French painter Georges Seurat (1859–1891), is the art of painting images one dot (or small brush stroke) at a time. Through pointillism, Seurat broke each picture on his painting down into small bits of color. When you look carefully at a pointillist painting, you can see each dot. As you walk away from the artwork, the dots merge together to form an image. Computers show photos using a process similar to pointillism, except that instead of painted dots, computers split photographs into colored squares, called pixels.

B. Palette

A palette is merely the table of colors used in a design. Some Web images (particularly, graphics stored using the GIF file format, as described in the following section) employ a restricted set of colors. You may give a palette to an image, or you can allow your graphics software produce a palette automatically when you create and update an Image. A GIF palette can accommodate up to 256 colors, although many graphics utilize fewer colors than that [7].

C. Graphics File Formats

Graphic on a Web page is kept as a separate file. The title of either figure's file name finishes with a .gif file extension (afs_title.gif), while the other figure's file name ends with a .jpg file extension (4members.jpg). Graphics file extensions function on the same principles as other file types. For example, if you discover a file on your desktop titled holiday_gift_list.doc, you know from the .doc extension that the file is presumably a Microsoft Word document, and you'll want to open the document in Word.

Similarly, if you notice a file on your desktop titled bills.xls, you know the .xls denotes a Microsoft Excel document, so you might open the file in Excel (although you might want to avoid files named bills). In respect to Web graphics, your Web sites may incorporate graphics images that utilize the .gif and .jpeg (or .jpg) file extensions since most major Web browsers can show GIF and JPEG (pronounced ―jay-peg‖) files.

D. JPEGs

In addition to GIF graphics, your Web sites will probably feature JPEG pictures. The JPEG image file format was designed by and named after the Joint Photographic Experts Group. This picture format supports millions of colors, and JPEGs are virtually universally accepted by browsers. (Technically speaking, JPEGs offer 24-bit color, which is often referred to as full color or true color.)

Because JPEGs may include millions of colors, JPEG graphics typically show photographic images online. When you're dealing with JPEGs for your Web sites, you may select whether you wish to save your JPEGs as standard or progressive [8]:

1. **Standard:** When you save a picture as a regular JPEG file, the image loads line by line from the top of the screen down, similar to how GIFs download by default.

2. **Progressive:** When you save a picture as a progressive JPEG file, the image initially looks fuzzy and then gets more focused as the image data is received (similar to interlaced GIFs). With fast Internet connection rates, the progressive rendering may not be quickly obvious to viewers; instead, after a wait, the picture will appear to pop up‖ onto the page. In our experience, progressive JPEGs tend to generate lower file sizes and download somewhat faster than conventional JPEG files. Another JPEG setup feature that you may utilize to your advantage is compression. Compression is a procedure that decreases an image's file size by throwing away some color information.

JPEG compression is dubbed a loss compression strategy because once you compress a picture the deleted information is gone. Fortunately, if you're cautious, folks viewing the picture online can't easily discern the information loss.

E. PNG

The third (and last) graphic type we discuss in this course is the PNG file format. PNG (pronounced ping‖) stands for Portable Network Graphics. Similar to GIFs, PNG files are compact, they load quickly, and they allow transparency. PNG files transfer quicker than GIFs, but only the newer browsers support them. Initially, the PNG file format was developed because Unisys, the developers of the GIF compression method, chose to enforce the patents for that technologymeaning that software vendors had to pay to use it. But you really don't need to know the nuances concerning the PNG vs. GIF debate. Just know that newer major browsers (including Microsoft Internet Explorer 5 and later) can display PNG pictures, although most Web designers don't use PNGs in respect to consumers who surf the Web with older or less technologically sophisticated browsers. At this time, your Web pages probably shouldn't utilize PNGs either.

F. Wed Design Fundamentals

1. Online visuals are made up of pixels.
2. Most browsers support GIF and JPEG pictures.
3. GIF pictures are small, limited to a 256-color palette, and quick to download.
4. GIFs can be interlaced, transparent, or animated.
5. JPEG pictures may include millions of colors and are widely used to show photos.
6. By default, GIFs and JPEGs show line by line from the top down, but you may modify the default by producing interlaced GIFs or progressive JPEGs.

JPEG's compression strategy helps you to minimize the size of JPEG pictures, but the compression is loss, ‖ so compress with caution (remember, the more you compress,

the lower your picture quality).

Size graphics in your graphics editing tool to assist keep your Web page's graphics files as compact as feasible.

Cropping photos minimizes file sizes.

Consider utilising thumbnails to connect to huge web visuals.

Graphic Web page components include images, illustrations, buttons, logos, icons, bullets, horizontal rules, graphical text, and backdrops.

You may purchase Web graphics through clip art collections on CD ROMs, online freeware, online art sellers, and graphic artists.

You may make unique art by utilising numerous software applications as well as by scanning hand drawn art.

Photographs may be converted to picture files by means of scanners, film developers, and digital cameras.

However, it is vital to bear in mind that the web is always growing, and with it, the tools and strategies for making and utilizing art online. It is crucial to keep up-to-date with the newest trends and technology in order to develop high-quality, interesting, and accessible material that will stand out in a crowded online environment [9], [10]. Additionally, it is vital to address the ethical and legal ramifications of utilizing photos and other kinds of art on the web. It is vital to secure correct permits and licenses for any copyrighted information, and to prevent plagiarism or other types of intellectual property theft.

III. CONCLUSION

In conclusion, making and utilizing art on the web is a tremendous instrument for communication, self-expression, and marketing. It provides unlimited opportunities for creativity and innovation, enabling artists and designers to present their work to a broader audience and interact with individuals from all over the globe. Overall, making and utilizing art on the web is an exciting and fulfilling effort that takes a mix of technical competence, creative talent, and a profound awareness of the online ecosystem. With the correct tools and skills, anybody can harness the power of the web to create and share their unique vision with the world.

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Basics of Hyper Text Markup Language (HTML)

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Abstract— The earliest publicly accessible definition of Hypertext Markup Language was a document called HTML Tags, initially cited on the Internet by Berners-Lee in late 1991. It describes 20 parts composing the early, somewhat simplistic design of HTML. HTML is a text and image formatting language used by web browsers to dynamically generate web pages. Many of the text components are contained in the 1988 and Berners-Lee believed HTML to be an application of SGML. It was officially defined as such by the Internet Engineering Task Force (IETF) with the mid-1993 release of the first draught for an HTML specification, "Hypertext Markup Language (HTML)". Further development under the aegis of the IETF was blocked by opposing interests. HTML, or Hyper Text Markup Language, is a markup language used to construct and design web pages. It offers a collection of tags and properties that determine the structure, content, and presentation of online pages. HTML pages consist of a succession of components that are surrounded in opening and closing tags, and may include text, photos, videos, and other sorts of media. The fundamental structure of an HTML document contains the doctype declaration, the html element, and the head and body sections. The doctype declaration identifies the HTML version being used, whereas the html tag denotes the beginning and end of the HTML page. The head part provides information about the document, such as the title and Meta tags, whereas the body section contains the major text of the web page. HTML includes a set of tags for formatting text, generating lists, inserting pictures and videos, and making connections to other web pages. Attributes may be used to adjust the behavior or look of HTML elements, such as changing the size of an image or designating the destination of a link. HTML is a crucial ability for online developers and designers, since it forms the backbone of every web page. By knowing the foundations of HTML, developers may design professional-looking web pages that are available to consumers on a broad variety of devices and platforms.

Index Terms—HTML, HTML Document, Markup Language, Hypertext Markup Language

I. INTRODUCTION

HTML (Hyper Text Markup Language) is a markup language used to construct web pages. It is the cornerstone of the World Wide Web and is responsible for structuring, organising, and formatting material on the internet. HTML is the beginning point for web development, and it is vital for everyone who wants to produce online pages, whether it is for personal use or as part of their job. The initial version of HTML was published in 1993 by Tim Berners-Lee, a British computer scientist who developed the World Wide Web. Berners-Lee designed HTML as a mechanism to communicate content over the internet, and it rapidly became the standard for making web pages.

HTML has undergone multiple modifications throughout the years, with each new version introducing new features and capabilities. HTML 2.0 was introduced in 1995, followed by HTML 3.2 in 1997. HTML 4.0 was launched in 1997 and includes numerous new capabilities, such as tables, frames, and forms.HTML 5 was published in 2014 and is the latest version of HTML. It featured various new components and capabilities that make it simpler to develop interactive and multimedia-rich web pages. The history of HTML has gone through five fundamental interactions during the last many years. They are [1]:

HTML 2.0: The early specifications for HTML featured many of the basic elements still seen in today's version of the language. First published in 1995.

HTML 3.2: The first W3C recommendation (1997) for HTML, this version added popular features such as support for superscript, subscript, tables, and so on. It also provided backward compatibility for HTML 2.0.

HTML 4.0: This was an early gold standard for HTML and it is the version to which most early HTML coders took hold. However, HTML 4.01 has since superseded HTML 4.0. The HTML 4.0 released in December 1997 and HTML 4.1 in 1999.

HTML 5: HTML 5 was issued as a working draft by the W3C in January 2008.

A web page (sometimes termed a document) includes of items. An object may be an HTML file, an image, a Java applet, a video clip, etc. that is reachable by a single URL. Most web pages consist of HTML files and multiple referenced objects or links. HTTP describes how browsers request web pages from servers and how servers deliver web pages to clients i.e., in essence it defines the interaction between the web client and the web server. When a user requests a web page (for example, clicks on a hyperlink), the browser sends HTTP request messages for the objects in the page to the server. The server receives the requests and replies with HTTP response messages that include the object. HTML is also used to define the structure of a document [2].

A. Syntax of HTML

HTML is a markup language, which means it employs

tags to determine the structure and content of web pages. Tags are contained in angle brackets (<>) and are used to designate components, such as headers, paragraphs, pictures, and links.

The core syntax of HTML is as follows (Figure 1):

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <h1>Heading 1</h1>
    <p>Paragraph</p>
  </body>
</html>
```

Figure 1: Basic core syntax of HTML.

B. Structure of HTML

HTML documents have a certain structure, which is crucial for web browsers to comprehend the information properly. The fundamental structure of an HTML document is as follows(Figure 2) [3]:

```
<!DOCTYPE html>
<html>
  <head>
    <!-- meta data, title, links to exte
  </head>
  <body>
    <!-- content of the page -->
  </body>
</html>
```

Figure 2: Structure of HTML.

Let's take a deeper look at each aspect of the structure:

<!DOCTYPE html>: This is the document type declaration, which notifies the web browser that this is an HTML document.

<html>: This is the root element of an HTML document. It includes all the other items on the page.

<head>: This element includes information about the document, such as the title, meta tags, and connections to

other files.

<meta>: This element is used to give meta data about the document, such as the author, description, and keywords.

<title>: This element defines the title of the document.

II.   DISCUSSION

The fundamental building blocks of HTML are called elements, which are encased in opening and closing tags. For example, the <p> tag is used to define a paragraph, and the text that is included inside the <p> tags will be shown as a paragraph on the web page.

HTML also employs attributes to convey extra information about elements. Attributes are applied to the opening tag of an element and offer information such as the image source, link destination, or stylistic information. For example, the src property is used to identify the source of an image, while the href attribute is used to define the destination of a link [4].

HTML also employs a particular framework, called the Document Object Model (DOM), to arrange the material on a web page. The DOM depicts the web page as a hierarchical tree, with each element represented as a node.

Understanding the fundamentals of HTML is vital for web development, since it provides the basis for building online pages. HTML is a markup language, meaning it offers structure and meaning to information on the web. It is crucial to utilise HTML properly in order to generate accessible and user-friendly web sites (Figure 3).
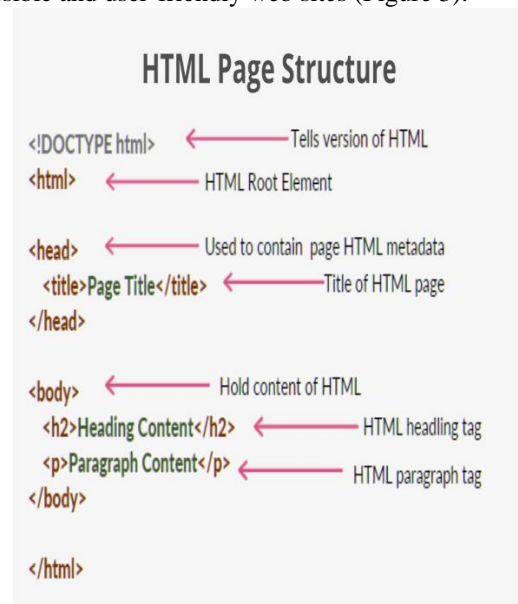

Figure 3: Html page detailed structure.

C. Markup Languages

The most popular technique of constructing a web pages is via the use of Markup Languages. Most of them are made

by adding a set of formatting code to ASCII text to show fonts, justifications, links, etc. on the web. A markup language is a language that uses tags to signify a change in display style or a change in content type. A markup language explains explicitly. In conclusion, HTML explains clearly the pieces of the hypertext multimedia content, and the web client utilises this information to assemble the page on the user's screen [5], [6].

There are various sorts of markup elements used in HTML.

1.1.Structural Markup: Structural Markup specifies the function of text. For example, <h2>Golf</h2> creates "Golf" as a second-level heading, which would be rendered in a browser in a way similar to the "HTML markup" title at the start of this section. Structural markup does not signify any particular rendering, yet most web browsers offer default styles for element presentation. Text may be further customised with Cascading Style Sheets (CSS).

1.2.Presentational Markup: Describes the look of the text, independent of its purpose. For example boldface suggests that visual output devices should render "boldface" in bold font, but offers no clue what devices which are unable to accomplish this (such as auditory devices that read the text out) should do. In the case of both bold and <i>italic</i>, there are additional components that may have equivalent visual representations but which are more semantic in nature, such as strong emphasis and emphasis respectively. It is easier to understand how an auditory user agent should perceive the last two parts [7].

However, they are not identical to their presentational counterparts: it would be undesirable for a screen-reader to stress the name of a book, for instance, yet on a screen such a name would be italicized. Most presentational markup elements have become deprecated under the HTML 4.0 standard, in favor of CSS based style.

1.3Hypertext Markup: Its converts portions of a document into connections to other papers. An anchor element generates a hyperlink in the content with the href attribute set to the link URL.

For example, the HTML markup,

Wikipedia, will render the word "Wikipedia" as a hyperlink.

D. Hypertext Markup Language

Documents on the web are often written in a markup language called Hypertext Markup Language, or HTML. HTML is evolved from Standardized Markup Language (SGML)-a standard for inserting tags that identify components in a text such as headings, subheadings, chapters, paragraphs, and appendices. Like SGML, HTML is also used to define the structure of a document. A number of HTML codes placed in the document content explicitly describe the text, giving information to the web client about how to understand it. For example, if the text has a heading code around it, as in <hl>This is a title</hl>, then the web client understands that it should display this text by itself on one line in a big, bold face font [8].

Other types of information that HTML code provides the web client include:

1. whether text is bolded or italicized
2. where line breaks and paragraph breaks are
3. whether a picture or graphic should be inserted, and where
4. whether a certain word or phrase on the page is a link to other documents

HTML is based on SGML (Standard Generalized Markup Language), a considerably bigger document-processing technology. You may conceive of HTML as being a sub-set of SGML. The primary emphasis of HTML is the content of the page, not its look. It is a language for describing structured documents. Most texts include similar components, for example, titles, paragraphs, lists. If you establish the set of components before you start writing, you can label the portions of the document with the appropriate name. These elements are labeled through the use of HTML tags.

HTML does not specify the design or layout of the page the reason being that different browsers (Netscape, Mosaic, etc.) will read‖ the HTML content differently [9], [10]. The same page may display differently in each browser. The number one predominant rule of creating documents on the web is: Don't create your papers depending on what they look like in one browser. Focus on producing clear, well-structured material that is simple to read and comprehend.

III. CONCLUSION

In conclusion, HTML is a markup language that is used to generate web pages. It employs elements and attributes to determine the structure, content, and design of a web page. HTML also employs the Document Object Model (DOM) to arrange the material on a web page. Learning the fundamentals of HTML is vital for anybody interested in web development, since it provides the basis for generating online pages. Understanding HTML helps web developers to design accessible and user-friendly web sites that are optimized for search engines and conform with web standards. Moreover, HTML is continually changing, with new versions and features being published occasionally. Staying up-to-date with the latest developments and best practices in HTML may help developers produce more dynamic and engaging web pages. Overall, the principles of HTML are vital for everyone interested in web development, and mastering HTML is an excellent first step towards becoming a proficient web developer.

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Tags and Attributes in HTML

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Abstract—HTML, or Hypertext Markup Language, employs tags and attributes to determine the structure and content of web pages. Tags are used to identify individual items on a web page, whereas attributes give further information about those elements. There are many distinct sorts of tags in HTML, each with its own purpose and function. Some of the most often used tags are header tags, paragraph tags, image tags, and link tags. Each tag has a unique syntax that contains an opening tag, content, and a closing tag. Attributes are used to offer extra information about an element, such as its source, size, or color. Attributes are added to the opening tag of an element and generally consist of a name and a value. Some often used attributes are the "src" property for pictures, the "href" attribute for links, and the "class" attribute for styling with CSS. HTML tags identify distinct components on a web page, whereas attributes give extra information about those elements. HTML tags are enclosed in angle brackets (< >) and can be either opening tags or closing tags. An opening tag denotes the beginning of an element, whereas a closing tag indicates the conclusion of the element. The material that is placed inside the opening and closing tags specifies the content of the element. For example, the <p> tag is used to define a paragraph, and the text that is included inside the <p> tags will be shown as a paragraph on the web page. HTML attributes give extra information about elements and are applied to the beginning tag of an element. Attributes may be used to identify the source of an image, the destination of a link, or the style of an element, among other things. For example, the src property is used to identify the source of an image, while the href attribute is used to define the destination of a link. Understanding tags and attributes is vital for anybody interested in web development, since they are the building blocks of HTML. By employing tags and attributes effectively, developers may produce accessible and user-friendly web pages that conform with web standards and are optimized for search engines.

Index Terms—Attributes, Dynamic Webpage, Stylesheets, Tags, Web Pages.

I. INTRODUCTION

HTML elements and attributes are fundamental components of web development. HTML (Hypertext Markup Language) is the language used to construct web pages, and tags and attributes are used to specify the structure, content, and display of those pages [1]. HTML tags are the fundamental building elements of online pages. They are encased in angle brackets (< >) and are used to describe distinct components on a web page, such as paragraphs, headers, pictures, and links. There are many distinct sorts of HTML tags, and each one has a unique purpose.

HTML tags are either opening tags or closing tags. Opening tags represent the beginning of an element, while closing tags indicate the end of an element. The material that is placed inside the opening and closing tags specifies the content of the element. For example, the <p> tag is used to define a paragraph, and the text that is included inside the <p> tags will be shown as a paragraph on the web page.

HTML attributes give extra information about items on a web page. They are appended to the beginning tag of an element and give information like as the image source, link destination, or stylistic information. For example, the src property is used to identify the source of an image, while the href attribute is used to define the destination of a link.

HTML elements and attributes are vital for generating well-structured and effective web pages. Proper use of tags and characteristics may assist to make web pages more accessible, user-friendly, and optimized for search engines. In addition, learning how to utilise tags and characteristics properly may help developers produce more dynamic and interesting web pages that satisfy the expectations of their visitors [2].

There are many distinct sorts of HTML tags, each with its own specialized purpose. In this topic, we will explore some of the most widely used tags.

1. The <html> tag: The <html> element is used to identify the beginning and end of an HTML document. All additional HTML tags are placed inside the <html> element.

2. The <head> tag: The <head> element is used to specify the head portion of an HTML page. This part provides information about the web page, such as the title of the page, meta tags, and connections to other files.

3. The <body> tag: The <body> element is used to specify the body part of an HTML page. This part provides the content of the web page, such as text, graphics, and links.

4. The <p> tag: The <p> tag is used to define a paragraph on a web page. The material that is included inside the <p> tags will be displayed as a paragraph on the web page.

5. The <h1> to <h6> tags: These tags are used to establish headers on a web page. <h1> is the greatest

heading, and <h6> is the smallest.

6. The <img> tag: The <img> element is used to show images on a web page. The src element is used to identify the source of the picture.

7. The <a> tag: The <a> tag is used to generate links on a web page. The href element is used to identify the destination of the link.

8. The <ul> and <li> tags: These tags are used to construct unordered lists on a web page. The <ul> element marks the beginning of the list, and the <li> tag defines each item in the list.

9. The <ol> and <li> tags: These tags are used to construct ordered lists on a web page. The <ol> element marks the beginning of the list, while the <li> tag defines each item in the list [3].

List of Special Tags/Command in Html

<html>	Starting tag
</html>	Closing tag
<title>…………..</title>	For the title of web page
<body>…………</body>	Body text
…………….	Heading size
…………….	Heading size
…………..	Bold font
<i>……………</i>	Italic font
<u>…………..</u>	Unde

	rline font
<body bgcolor=―red‖>	Back Grou nd Color
…….	Font color
…….. 	Font size
……. 	Font type
 ………</br>	Line break
……….	Parag raph
	Space betwe en word
<h3 align=―left‖>……</h3>	Left align ment
<h3 align=―right‖>……</h3>	Right align ment
<h3 align=―center‖>……</h3>	Cente r align ment
<body background=tlss.bmp>	Back groun d
<marquee> ………. </	Runn

marquee>	ing letter
<marquee behavior=―alternate‖scrolldelay>……………</marquee>	Return running letter
<img src=davvlogo.gif>	Insert image
<img src=davvlogo.gif width=500 height=400>	Image size
<hr width=50%>	Lining
<hr width=50% size=5>	Lining with size

II.   DISCUSSION

Most of the attributes of an element are name-value pairs, separated by "=" and put within the start tag of an element following the element's name. The value may be contained in single or double quotes, however values consisting of particular characters may be left unquoted in HTML (but not XHTML). Leaving attribute values unquoted is considered risky. In contrast with name-value pair attributes, there are other attributes that effect the element merely by their presence in the start tag of the element, like the ismap property for the image element [4].

There are several common attributes that may appear in many elements:

The id attribute offers a document-wide unique identification for an element. This is used to identify the element so that stylesheets may adjust its presentational properties, and scripts may edit, animate or remove its contents or presentation. Appended to the URL of the page, it offers a globally unique identity for the element, generally a sub-section of the page.

For example, the ID "Attributes" in

http://en.wikipedia.org/wiki/HTML#Attributes

The class property gives a means of categorising comparable components. This may be used for semantic or display objectives. For example, an HTML page might semantically use the designation class="notation" to imply that all components with this class value are secondary to the main content of the page. at presentation, such elements could be grouped together and shown as footnotes on a page instead of appearing at the place where they exist in the HTML source. Class characteristics are used semantically in microformats.

Multiple class values may be specified; for example

class="notation important" puts the element into both the 'notation' and the'important' classes.

1.   An author may utilise the style attribute to add presentational features to a particular element. It is regarded preferable practice to utilise an element's id or class attributes to pick the element from inside a stylesheet, while occasionally this may be too cumbersome for a basic, particular, or ad hoc style..

2.   The title property is used to attach subtextual information to an element. In most browsers this property is shown as a tooltip [5].

The lang property indicates the natural language of the element's contents, which may be different from that of the rest of the document. For example, in an English language document:

<p>hi, c'est la vie, as they say in France.</p>

The abbreviation element, abbr, can be used to demonstrate some of these attributes:

<abbr id="anId" class="jargon" style="color:purple;" title="Hypertext Markup

Language">HTML</abbr>

This example appears as HTML; in most browsers, putting the cursor to the abbreviation should reveal the title text "Hypertext Markup Language." Most components also accept the language-related property dir to determine text orientation, such as with "rtl" for right-to-left text in, for example, Arabic, Persian, or Hebrew [6].

A. Tags and Attributes

An HTML tag is indicated by opening (<) and closing (>) brackets. Each tag contains various

attributes, depending on the tag used. Look at the following sample HTML code:

 This is an example of simple text.

The general form of an HTML element is therefore: <tag attribute1="value1"

attribute2="value2">content to be rendered</tag> The name of the HTML element

is also the name of the tag. Note that the end tag's name is preceded by a slash character, "/".

If attributes are not assigned, default values are used.

Element examples;

Header of the HTML document:<head>...</head>.

Usually the title should be included in the head, for example:

```
<head>
<title>The title</title>
</head>
```

B. Tags and attributes in HTML

1. The tag in this example is the tag. Notice the concluding tag as well. This tag will affect anything between the operating and closing tags. (In this case, the text —This is an example of basic text‖ would be altered.)

2. The characteristics of the element include, in this example, the font face (which is set to Arial) and the font size (5, or 12-point text). Note that in many situations in HTML there is a numerical reference-especially with text formatting-to conventional —point‖ reference in text.

3. Another example:

4. Click here to go to Rediffmail!

5. This example utilises two separate tags. The first as you saw just a minute ago, is the <font> tag. The second is the <a href> tags, which is used to establish a hyperlink [7].

6. The characteristics of the two tags should be obvious. In the instance of the <font> element, the attributes are the same as in the preceding example (Arial font size 5). For the <a href> tag, the attribute is the URL of the hyperlink (in this example, http://rediffmail.com). Note that with the <a href> element, the presence of the real URL (in this case http://rediffmail.com) all content that subsequently follows up to the closing tag is what will be published on the Web page as genuine hyperlink [8].

7. This code listing is also an example of nested tags ot the process of inserting more than one tag inside another tag. While you can't nest all tags (as you will see when you deal with HTML tables), the crucial thing is to keep an eye on the sequence in which you open and close your tags. For example look at the following two lines of code:

8. Click here to go to Rediffmail.com----------------You may discover valuable connections.

9. Click here to go to Rediffmail.com----------------You may find valuable connections.

10. Although the two lines of code are fairly similar, observe that in the first one, the concluding tag is inserted in different position than in the second example. As you can see in Figure 1 this has a huge effect-the text that constitutes the hyperlink is different owing to the positioning of the ending tag [9], [10].

III. CONCLUSION

In conclusion, tags and attributes are key components of HTML that allow developers to organise and design online content properly. Tags offer structure to material by specifying how it is shown on the web page, while attributes provide extra information about how that content should be presented. With the use of tags and attributes, developers can design complex, dynamic web pages that are both practical and aesthetically beautiful. Understanding the purpose and use of various tags and attributes is vital for web developers to design high-quality, accessible websites that follow contemporary web standards. By understanding these ideas, developers may construct web pages that are readily navigated, accessible to all users, and optimized for search engine results. Overall, tags and attributes are key tools that allow developers to construct dynamic, user-friendly web pages that deliver a rich, interactive experience for users.

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A Brief Discussion on Table Structure

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Abstract— Tables are a crucial component of web development that enable developers to show data in a structured, ordered way. The HTML (Hypertext Markup Language) table element is used to specify the structure of a table on a web page. A table is formed of rows and columns, and each cell inside the table includes information that is determined by the developer. Table components may be changed using properties, such as borders, colors, and alignment, to increase their readability and aesthetic appeal. In this lecture, we will explore the fundamentals of table structure in HTML, including how to build tables, specify rows and columns, and configure table properties.

Index Terms—Rows, Column, Table, Web Browser.

I. INTRODUCTION

A table is marked at its beginning with a <table> tag and at its finish with a </table> tag. A table may include a variety of row and column definitions inside. However there are few points to notice. First just the <table> element must to closed with </table/>; else the browser doesn't know when to cease table formatting. Second, the table row (<tr>) and table data (<td>) cell may take their respective closing tags, although they are not needed. A new row or data cell immediately indicates the end of the preceding roe or data, except in outdated versions of certain browsers. Following are the procedures to make table.ss [1]-

1. Create a new folder called Table.
2. Open your Inetpub folder and create a new page called FirstTable.html. Save this
3. page in your newly created Table folder.
4. On your FirstTable.html page, enter the following HTML exactly as it appears

below:

```
<html>
<head>
<title>working with Table</title>
</head>
<body>
<table border="2" bordercolor="#ff0000" width="100%" cellpadding="2"
bordercolorlight="#008000" bordercolordark="#008000">
<tr>
<td width="50%">1</td>
<td width="50%">2</td>
</tr>
<tr>
<td width="50%">3</td>
<td width="50%">4</td>
</tr>
<tr>
<td width="50%">5</td>
<td width="50%">6</td>
</table>
</body> </html>
```
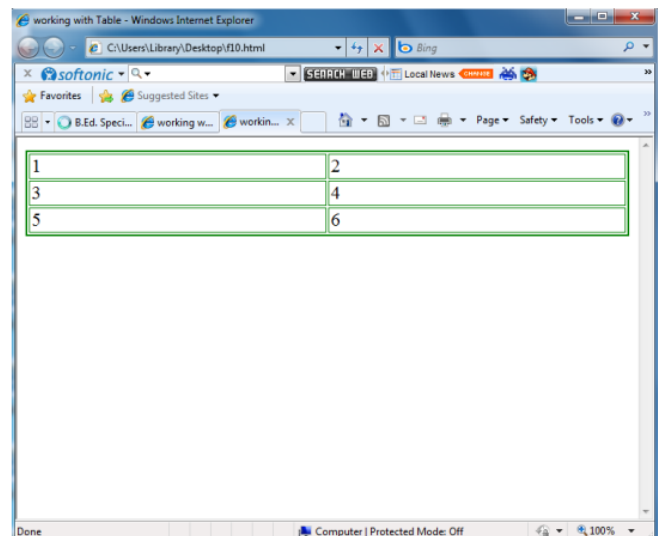
Save the page again and open it in your Web browser. Your screen should appear similar to Figure 1.

Figure 1: Screen looks like this after saving the page again and opening it in your Web browser.

In addition to the core, International and event attributes, a table has the following options:

1. **Summary:** This is one of the few properties for tables that haven't been deprecated, since it has nothing to do with a table 's design. The summary property specifies a text string that offers a quick explanation of what the table includes.

2. **Align:** This is the standard alignment property, now obsolete, which allows values of left, right or center to

govern placement on the page. Most browsers default to a left or center alignment [2].

3. **Width:** The width of the table, expressed in pixels or as a percentage of the browser window width. For example, a table which fills half of the available window is denoted with width="50%", while a table 500 pixels wide is represented as width="500". The default is just broad enough to accommodate the longest material in each column. For browsers that enable progressive table display, providing the width parameter allows the browser to show the table as its obtained, rather than waiting for the complete table.

4. **Cols:** This property is new in HTML 4. It informs the browser how many columns are present in the table. In the past, the browser had to wait until the complete table was loaded to begin displaying it.

5. **Frame:** This element, a counterpart to the border attribute, indicates where a frame encircling the table should show. Its potential values are void (none), above (top side), below (bottom side), hsides (horizontal sides), lhs (left-hand side), rhs (righthand sides), vsides (vertical sides), and box or border (all sides).

6. **Border:** The property determines the width of a border around the table in pixels. The default varies with each browser but is often two or three pixels. If you don't want a border, use a value of 0.

7. **Rules:** This characteristic defines where lines are used to divide cells inside the table itself. Its potential values are none, groups (between logical groupings such as TBODY and THEAD), rows (between each roe), col (between each column), and all (between all cells).

8. **Cellspacing:** Identified in pixels, this characteristic controls the amount of space between cells. As a side consequence, it occasionally defines the width of the rules between cells, too.

9. **Cellpadding:** Similar to cellspacing and likewise characterised in pixels, this feature determines the amount of space between the border of the cell and the actual cell content [3].

II. DISCUSSION

The HTML table architecture enables writers to organise data -- text, preformatted text, graphics, links, forms, form fields, other tables, etc. -- into rows and columns of cells. Each table may have an associated caption (see the CAPTION element) that offers a brief summary of the table's purpose. A fuller explanation may also be supplied (through the summary element) for the benefit of users utilising voice or Braille-based user agents. Table rows may be divided into a head, foot, and body portions, (through the THEAD, TFOOT and TBODY elements, respectively). Row groups provide extra structural information and may be presented by user agents in ways that accentuate this

structure. User agents may abuse the head/body/foot divide to facilitate scrolling of body portions independently of the head and foot parts. When large tables are printed, the head and foot information may be repeated on each page that includes table data.

Authors may additionally arrange columns to offer extra structural information that may be used by user agents. Furthermore, authors may specify column attributes at the start of a table definition (through the COLGROUP and COL elements) in a manner that allows user agents to display the table progressively rather than having to wait for all the table data to arrive before rendering. Table cells may either include "header" information (see the TH element) or "data" (see the TD element). Cells may span many rows and columns. The HTML 4 table paradigm enables writers to label each cell so that non-visual user agents may more effectively transmit header information about the cell to the user. Not only do these procedures considerably aid individuals with visual difficulties, they make it feasible for multi-modal wireless browsers with limited display capabilities (e.g., Web-enabled pagers and phones) to manage tables. Tables should not be utilised primarily as a technique to arrange document content since this may offer complications when displaying to non-visual media. Additionally, when used with visuals, these tables may compel users to scroll horizontally to read a table developed for a machine with a bigger display. To reduce these concerns, writers should utilise style sheets to govern layout rather than tables [4].

A. Table styling

You can also have a glance at the live example on GitHub! One thing you'll notice is that the table does look a bit more readable there - this is because the table you see above on this website has little style, while the GitHub version has more significant CSS applied. Be under no mistake; for tables to be effective on the web, you need to supply some aesthetic information with CSS, as well as strong solid structure with HTML. In this module we are focusing on the HTML component; to discover out about the CSS element you should check our Styling tables article once you've done here. We won't focus on CSS in this module, but we have given a minimal CSS stylesheet for you to use that will make your tables more readable than the default you get without any styling. You can grab the stylesheet here, and you can also find an HTML template that applies the stylesheet - these combined wills provide you an ideal starting point for exploring with HTML tables [5].

B. When should you NOT use HTML tables?

HTML tables should be used for tabular data this is what they are built for. Unfortunately, a lot of people used to utilise HTML tables to lay up web pages, e.g. one row to

include the header, one row to hold the content columns, one row to contain the footer, etc. You may find further information and an example at Page Layouts in our Accessibility Learning Module. This was often used since CSS support across browsers used to be bad; table layouts are much less prevalent today, although you could still encounter them in certain corners of the web.

In summary, utilising tables for layout rather than CSS layout approaches is a terrible choice. The key causes are as follows [6]:

Layout tables reduce accessibility for visually impaired users: screen readers, used by blind persons, interpret the tags that exist in an HTML page and read aloud the information to the user. Because tables are not the ideal tool for layout, and the markup is more complicated than using CSS layout approaches, the screen readers' output will be unclear to their users.

Tables produce tag soup: As indicated previously, table layouts often demand more sophisticated markup structures than correct layout strategies. This might result in the code being harder to create, maintain, and debug.

Tables are not automatically responsive: 1. When you utilise correct layout containers (such as <header>, <section>, <article>, or <div>), their width defaults to 100% of their parent element. Tables on the other hand are scaled according to their content by default, therefore additional steps are required to make table layout design to properly perform across a number of devices [7].

C. Active learning: table headers

Let's take a shot at updating this table.

1. First, create a local copy of our dogs-table.html and minimal-table.css files in a new directory on your local system. The HTML has the same Dogs example that you saw earlier.

2. To identify the table headers as headers, both aesthetically and semantically, you may use the <th> element ('th' stands for 'table header'). This functions in precisely the same manner as a <td>, except that it specifies a header, not a regular cell. Go into your HTML, and convert all the <td> elements around the table headers into <th> elements.

3. Save your HTML and open it in a browser, and you should notice that the headers now appear like headers.

D. Allowing cells to span multiple rows and columns

Sometimes we want cells to span numerous rows or columns. Take the following basic example, which illustrates the names of common animals. In certain circumstances, we wish to display the names of the men and females next to the animal name. Sometimes we don't, and in such circumstances we merely want the animal name to cover the complete table [8].

The initial markup looks like this:

```
<table>
<tr>
<th>Animals</th>
</tr>
<tr>
<th>Hippopotamus</th>
</tr>
<tr>
<th>Horse</th>
<td>Mare</td>
</tr>
<tr>
<td>Stallion</td>
</tr>
<tr>
<th>Crocodile</th>
</tr>
<tr>
<th>Chicken</th>
<td>Hen</td>
</tr>
<tr>
<td>Rooster</td>
</tr>
</table>
```

E. Providing common styling to columns

1.1. Styling without <col>

There is one final feature we'll tell you about in this post before we move on. HTML includes a technique of setting stylistic information for an entire column of data all in one place the <col> and <colgroup> elements. These exist because it may be a little difficult and wasteful having to define style on columns you normally have to specify your styling information on every <td> or <th> in the column, or use a complicated selector such as :nth-child.

Note: Styling columns like this is restricted to a few properties: border, background, width, and visibility. To set additional attributes you'll have to either style every <td> or <th> in the column, or use a complicated selector such as :nth-child [9].

Take the following simple example:

```
<table>
<tr>
<th>Data 1</th>
<th style="background-color: yellow">Data 2</th>
</tr>
<tr>
<td>Calcutta</td>
<td style="background-color: yellow">Orange</td>
</tr>
<tr>
<td>Robots</td>
```

```
<td style="background-color: yellow">Jazz</td>
</tr>
</table>
```

Which gives us the following result:

This isn't ideal, since we have to duplicate the styling information across all three cells in the column (we'd probably have a class set on all three in a real project and supply the styling in a separate stylesheet).

1.2. Styling with <col>

Instead of doing this, we may supply the information once, on a <col> element. <col> components are provided within a <colgroup> container directly below the opening <table> tag. We could create the same effect as we see above by specifying our table as follows [10]:

```
<table>
<colgroup>
<col />
<col style="background-color: yellow" />
</colgroup>
<tr>
<th>Data 1</th>
<th>Data 2</th>
</tr>
<tr>
<td>Calcutta</td>
<td>Orange</td>
</tr>
<tr>
<td>Robots</td>
<td>Jazz</td>
</tr>
</table>
```

Effectively we are establishing two "style columns", one supplying stylistic information for each column. We are not styling the first column, but we still have to add a blank <col> element - if we didn't, the style would merely be applied to the first column.

If we wanted to apply the styling information to both columns, we could just include one <col> element with a span attribute on it, like this:

```
<colgroup>
<col style="background-color: yellow" span="2" />
</colgroup>
```

Just like colspan and rowspan, span accepts a unitless numeric value that indicates the number of columns you want the style to apply to.

Below you can see the timetable of a languages teacher. On Friday she has a new class teaching Dutch all day, but she also teaches German for a few periods on Tuesday and Thursdays. She wants to highlight the columns containing the days she is teaching (Figure 2).

Figure 2: Illustrate the Example of a table created.

III. CONCLUSION

In conclusion, tables are a crucial component of web development that enable developers to show data in an ordered and organised way. The HTML table element is used to create the structure of a table on a web page, with rows and columns having cells that show content. By employing properties like as borders, colors, and alignment, developers may alter the look and functionality of their tables. Proper usage of tables may substantially increase the readability and visual attractiveness of a web page, making it simpler for readers to consume and comprehend the offered material. Overall, learning how to generate and manage tables using HTML is a crucial ability for any web developer to possess.

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Introducing Concept and Content of Web Design

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Abstract—Web design is a sophisticated and multi-faceted subject that spans a broad variety of ideas and information. At its foundation, web design entails the building of a visual and functional interface for web pages, apps, and other online content. This interface must be visually beautiful, simple to use, and accessible to all users, regardless of their technical background or ability. online designers must consider a range of variables while generating online content, including usability, accessibility, information architecture, user experience, and visual design. They must also have a solid grasp of web technologies, such as HTML, CSS, JavaScript, and server-side programming languages, in order to design web pages that are optimized for performance and compatibility across numerous platforms and devices. In this discussion, we will examine the idea and substance of web design in further depth, analysing the essential parts and factors that go into generating successful and compelling online content.

Index Terms—Interface, Web Design, Web-Enabled Software, Web Technologies.

I. INTRODUCTION

The creation of digital computers and of the Internet constitutes two of mankind's greatest technical triumphs and while they are thoroughly modern, their evolution can be traced back across decades and even centuries. Computing captivated the popular imagination in the late 1950s and early 1960s with the image of the mainframe computer attended by white-coated technicians pointing the way to a future of corporate and societal efficiency based around Organization Man‖. Later in 1960s, computing becomes connected with militarism, and notably the Vietnam War. In the United States computers were also associated with a faceless, grey corporatism that confined the human spirit and robotic industrial lines that did humans out of employment. By the mid-1970s, though the younger siblings of the anti-War demonstrators were utilising their brains to master information technology and sabotage the system [1].

As the rebellions of the 1960s lost their ideological edge, computers started to be seen as alternative instrument for human growth. Steve Jobs, with whom Woznial teamed up to start Apple, summed up this transition when he stated that I'm one of those individuals who believe that Thomas Edison and the light bulb altered the world a lot more than Karl Marx ever did. Over a century before computers came to the notice of the public, Charles Babbage invented a mechanical computer, exactly a calculator, known as "The Difference Engine" and afterwards innovations grown up.

Web design is a wide phrase used to include the way that material (usually hypertext or hypermedia) that are provided to an end-user via the World Wide Web, using a web browser or other web-enabled software is presented. The purpose of web design is to construct a website—a collection of online information comprising documents and applications that live on a web server/servers. The website may feature text, images, audio and other information, and may be interactive [2] [3].

Designing for the web is the most important new field of design over the previous 20 years. The flexibility in this new sector enables design to play a more significant position in business and society. In fact, design for the web shares with other disciplines a view of design as a way of thinking, a service provided to a client for the benefit of others, an understanding of constraints, a series of problem-solving methods and processes, and an activity whose success is to some degree, measurable.

The notion of hypertext gained root in academic and research circles and even saw the commercial light in products such as Apple's HyperCard information organizing software created by Bill Atkinson in the mid-1980s. However, the factor that would allow hypertext come of age, most notably a universal network weren't yet in place.

By the mid-1970s, Vinton Cerf and Bob Kahn had created a set of protocols (TCP/IP) that managed the structuring and movement of data between computers, and as early as 1982 the newly formed Sun Microsystems, whose catchphrase was the network is the computer‖, was building TCP/IP into its Unix-based workstations. In 1972, Ray Tomlinson, working at BBN, created an email application, which went on to become the killer application‖ of the internet (as ARPANET came to be known) and the following year a connection was made to University College London, and the network continued to spread via cable and satellite. By the late 1980s, the foundation has been built for the commercial usage of the internet, and services such as MCI Mai, Prodigy, CompuServe and AOL were delivering access to email and online information, albeit using their own proprietary protocols and networks. In the md-1990s the US Government financing for the internet halted [4].

The notion of hypertext hadn't gone away, and in 1990 an Oxford physics graduate, Tim Berners-Lee, working at the European Nuclear Research Organization , CERN, in

Geneva, established the World Wide Web (with great help from his colleague Robert Cailliau). The first Web browser was constructed on NeXT, the computer Steve Jobs designed after he was thrown out of Apple (and to which he subsequently returned when Apple purchased NeXT), and it was able to both read and edit Web sites. The first Web browser were _text-only', prompting students at the University of Illinois, Center for Supercomputing Application (NCSA), led by Marc Andreesen, to create a graphic browser known as „Mosaic" and the research work was funded by Apple and was taken up by Ex-Stanford Professor and silicon Graphics co-founder Jim Clark who with Andreesen and few of his colleagues, founded Netscape Communication Corporation in Silicon Valley. The ability to download its navigator browser led to its quick adoption as the browsers of choice for internet users, and in 1995 the firm began and the Web was founded

II. DISCUSSION

Believe it or not but website design does not have such a lengthy history. That's basically because the Internet has not been around that long and it is only in the past decade that the Internet has blossomed and become part of people's daily life. So, website design is still young in the big scheme of things, but it has certainly undergone numerous changes over the years [5]. The History of Web Designing has progressed over a course of one and a half decades as of today. By the late 1980s, the Internet was being offered as a way of communication for everyone with a computer, modem and telephone connection. In 1993, a new freeware browser application named Mosaic was released. The success of the program shocked everyone. Within one year, nearly two million users utilised the program to examine papers they could obtain over the Internet. The texts were designed to be browsed using hypertext markup language, or HTML. The original websites, now termed "first generation sites," featured few visuals, a lot of text and a linear style. Their role was to provide information, not to amuse or amaze viewers. During that period, the websites were served through dial-up modems over telephone lines. Modems had an extremely sluggish transfer rate, therefore web sites had to have small file sizes for easy accessibility.

Website designing was once a topic of discussion as to whether it was the job of a programmer or a designer. After the first euphoria over the website media and a confused period of both developers and customers, online communication today has evolved as one of the most varied and profitable medium of advertising and knowledge outsourcing. However, the history of web designing sprouted from CERN, a prominent physics institution, where Tim Berners Lee was working. The credit of development of the WWW belongs o this individual [6].

While design for the web is a new field of practice. The main feature of design communication-based issue solution for the customer – exist logically prior to the choice of medium in which the problem may be handled. As markup language and HTML developed more and more complicated, you started seeing pictures and graphics on many of the online sites. CSS or Cascading Style Sheets developed a table arrangement that was simply arranged.

A. Concept of Designing

The objective of web design is to promote connection between user and content. It is crucial to establish the objective of the website as one of the initial phases in the planning process. A purpose statement should demonstrate emphasis based on what the website will achieve and what the visitors will benefit from it. A clearly defined purpose will aid the remainder of the planning process as the audience is determined and the content of the site is established. Setting short and long term objectives for the website can help make the purpose obvious and prepare for the future when growth, change, and improvement will take place. Measurable goals should be created to monitor the progress of the site and define success. Web design is essentially a design to develop a website. The website is collection of e-documents and various apps which, when shaped up according to the design, remain at a web server to deliver contents and interface to the end user, when requested via the internet browser. In simple terms web design is a blueprint to create a web page or a web site for that matter. A web design while being created by a designer is called web designing [7].

Web site or the web page mostly rely upon the web design. The design is required to be such which can keep the main page less heavier so that it can load at the low speed likewise and the links and the subpages be built in a manner that the end user does not have to wait for much time to view the page. A web design is essential to accommodate for the objective of the web site on which the website is planned. The objective here indicates the target for which the design is being produced, who all do you want to attract via this website, what all provisions you going to offer to your target viewers and what do you want your target viewers to do when they join your site. Creative designs may attract a web visitor, but it cannot have any major influence on the purchase choice of the online visitor since the website has failed to address the target demographic. So before a website designer chooses to start working on a particular website design they need to study what the prospective target audience are and to whom they are attempting to convey via this website.

It is evident that you are constructing a website to register your online presence and you aim to attract web visitors to know about your services. So it becomes your responsibility to help the visitor comprehend what your website design is attempting to convey to them and what is it all about? After

determining the group of individuals who are likely to visit your website the next critical process for the web designer is to define the remaining section of your website development. Like who will read your contents?

Which images and sounds will be appreciated? What keywords will get you more visitors and all? Once you determine your target audience it is extremely crucial to understand that you cannot speak with everyone around, which means if you are targeting a lady then it will not be advantageous for the guys to browse through your web pages [8]. So web designer should wait to examine the advantages and downsides of certain web design endeavour. It does not matter what sort of website a website designer envisions but they may identify their audience. So it's necessary to develop a website which communicates with the newbies.

Website design develops momentum if it is interactive. Interactivity is possible only when you reach out to your target audience in reality to grasp their views and their requirements. So interviews or surveys some of your target population would enable you to choose the insights. This lowers the faults or inaccuracies in the final product. Remember the end user to eventually accepts your site design is the person with whom you are trying to interact, not the one who is paying you.

Probably the most significant choice regarding your site will establish what people you want to attract, i.e. your target audience. Your site can't do everything for everybody. You will have to concentrate on the individuals who are most essential. Everything about your site should be intended to draw those visitors to your site and to keep them coming back. As you characterize the visitors to your site, consider the following:

1. Age
2. Sex
3. Religious aspects
4. Ethnic backgrounds
5. Economic situations
6. Computer and modem equipment they will likely have
7. Applicable jargon or buzz words that your visitors will likely (or won't) know
8. Geographic locations
9. Interests and hobbies
10. Their needs and reasons for coming to your site

B. Content of Design

Content assessment and arrangement demands that the objective of the website be clearly stated. Collecting a list of the essential material then structuring it according to the audience's/viewer's demands is a vital stage in website planning. In the process of collecting the material being given, any elements that do not serve the defined purpose or

meet target audience goals should be deleted. It is a good idea to test the content and purpose on a focus group and compare the offerings to the audience demands. The next stage is to construct the fundamental information structure by classifying the content and structuring it according to user demands. Each category should be named with a succinct and meaningful description that will become a link on the website. Planning for the site's content guarantees that the demands or requirements of the target audience and the purpose of the site will be satisfied.

C. Sketching On Paper Through Designs In Photoshop

Sketching is one of the various methods people have evolved to, to communicate and expand on ideas. A sketch is more like bringing a concept to a three dimensional view rather than visualising it in the brain, which leads our notion to alter over time as we forget some components of our thoughts, and replace them with things we believed were part of the idea or ideas. Sketching helps us tweak our ideas to make them more reasonable where they may become a reality, and offers us a broad blueprint when we bring our design ideas to say, Photoshop [9]. Great design concepts should always be drawn out to be better formed and somewhat finished before taken to the digital realm. This helps us build on our design concept, which truly helps us give a better final result or product, than that of whom did not sketch the idea.

D. Eliminates Time

Wasted One obvious factor or benefit of sketching your design ideas is that it eliminates time you could have wasted; however, even the greatest ideas need refining. Sketching enables you to plan before actually starting to design. It allows you to get a better overlook on how it will turn out, and if you do not like how the design idea is turning out on paper, or the idea may not be reachable or feasible, you have not spent the time actually bringing it to life in Photoshop, but rather just a half hour throwing it on paper for achieving the purpose.

E. Helps Expand

On Our Ideas Whenever we imagine ideas, they are usually the skeleton of what the end result can be. However, when you take an idea directly to Photoshop, you do not quite have the brainstorming you would if you brought it to paper to expand on it, and thus great ideas are often suppressed and lost, making your great idea turn into an exceptional idea or design , by bringing your designs from mind directly to paper, it gives you a completely new and different level of how you visualized it, allowing you to expand on your ideas for the design often bringing it from exceptional, to a mesmerizing drool-worthy design. Therefore, it is definitely worth the time and effort to sketch your ideas out before making them a reality.

F. Helps With Group

Feedback When we spend hours and days and weeks bringing an idea to life in Photoshop, we are generally not open to major feedback that will attempt to overhaul all the work, effort, and time we have put into it to bring it to life already. We would just reject credible and excellent feedback if it means we need to change a huge chunk of our design such as a structural change, or we would be forced to perform these major changes by a design firm, which causes delays in the completion of the design project. However, when you sketch your ideas on paper or on a whiteboard, your group can provide feedback allowing you to bring changes to the sketch in seconds helping make your design an excellent piece of work in the end. Many new great ideas whether design or not are structured by brainstorming on paper first with their group before going forth and bringing some sort of prototype to life.

G. Increases Creativity

A sketch on paper acts like your design prototype for your idea or ideas. This allows you to quickly expand on it by using your creativity before actually bringing it into Photoshop or to the browser for a graphical preview. This also happens to save you time from manipulating your prototype in a graphic editing program rather than on paper which tends to only take several seconds rather than several hours [10].

H. Design Evolution

One great thing about sketching out your design ideas is that later on you can look back and see how your design has evolved, from sketch, to prototype, to the final product. This not only is just for personal satisfactory, but it actually helps you improve on your final product months down the line. When we design websites, we tend to design them specifically for the content we need for that website at that current point in time, however, our sketches often contain different content containers before we scratched them out. By going back and looking at our sketches when we are looking for ideas or how our design or designs evolved, it will actually help us bring the containers we eliminated into our current design if we decided we needed such containers or elements later on.

III. CONCLUSION

In conclusion, web design is a complicated and multi-faceted field that demands a varied range of talents and abilities. Effective web design entails designing an aesthetically beautiful and usable interface that is optimized for usability, accessibility, information architecture, user experience, and visual design. It also demands a thorough grasp of web technologies, including HTML, CSS, JavaScript, and server-side programming languages. By concentrating on these essential components and factors, web designers may develop interesting, dynamic, and accessible online content that fulfils the expectations of current users. Furthermore, since the digital world continues to expand and grow, web designers must remain adaptive and always keep up-to-date with new trends and technology to guarantee that their site content stays relevant and effective. In essence, web design is both an art and a science, needing a careful mix of creativity, technical abilities, and attention to detail.

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Linking Websites and its Types

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Abstract—Users can navigate between web pages and websites thanks to linking, which is a crucial part of web development. In its simplest form, a link is a clickable element that sends the visitor to a different destination on the web. Links can be used to connect different pages within the same website, as well as to connect different websites together. There are various varieties of links, including internal links, external links, anchor links, and picture links, each having its own distinct properties and use cases. We will delve deeper into the idea of linking in this discussion, looking at the different kinds of links and their applications in web design.

Index Terms—Anchor links, Internal Links, External Links, Websites.

I. INTRODUCTION

Links are an essential part of web development because they make it simple for consumers to move between online pages and websites. They are used to connect various sections and pieces of material on the same website as well as to connect separate websites. Links may be simply text, graphics, or clickable buttons that take viewers to another place on the web.

A. Basic Concepts of Linking

When a person clicks on a link, it takes them to a different place on the internet. Links are a key element of the internet, enabling users to easily switch between sites and information. Usually, they appear as pictures, buttons, or clickable text [1]. The HTML (Hypertext Markup Language) a> element, which is used to define the hyperlink, is used to build links. The URL (Uniform Resource Locator) of the destination page, which indicates the location of the page to which the link will take the user, comes after the <a> tag.

For example, the following HTML code creates a basic link to the Google homepage (Figure 1):

```html
<a href="https://www.google.com/">Google</a>
```

Figure 1: HTML code creates a basic link to the Google homepage.

When a user clicks on this link, they will be directed to the Google homepage.

Links are a crucial part of web construction because they make it simple and fast for visitors to switch between various sites and information. Without links, the internet would just be a collection of standalone sites that consumers couldn't navigate between.

B. Types of Links

In web development, there are several link kinds, each with particular properties and applications. We will go further into the various connection kinds in this section [2].

C. 1.1.Internal Links

Internal links are those that connect pages on the same domain together. They are often used in footers, navigation menus, and other parts of websites where visitors must swiftly and easily switch between several pages.

The destination URL of internal links points to a page inside the same website, and they are generated using the same fundamental HTML syntax as external links. For example, the following HTML code creates an internal link to a page named "about.html" within the same website (Figure 2):

```html
<a href="about.html">About</a>
```

Figure 2: HTML code creates an internal link to a page.

When a user clicks on this link, they will be directed to the "about.html" page within the same website. Internal links are a crucial part of website design because they make it simple for visitors to navigate between pages on the same website. They also aid in enhancing a website's structure and organisation, making it simpler for visitors to locate the information they want.

D. 1.2.External Links

Links that lead to sites or material outside the current website are referred to as external links. They are often used to point readers towards relevant material or away from websites to other sources, such news articles, social networking pages, and other websites [3]. The same fundamental HTML syntax is used to generate external links as well as internal links, but the destination URL points to a

page or resource that is not part of the current website. For example, the following HTML code creates an external link to the Twitter profile of a website (Figure 3):

```html
<a href="https://www.twitter.com/example">Twitter</a>
```

Figure 3: HTML code creates an external link to the Twitter profile of a website.

II. DISCUSSION

We will go further into the idea of linking in this talk, highlighting the many kinds of connections and their applications in web design. We'll start by going over the fundamentals of linking, such as how connections function and their significance. The various link kinds, including anchor links, external links, internal links, and image links, will subsequently be discussed. We will go through the special traits, use cases, and recommended practices of each form of connection. Readers will have a thorough knowledge of the many kinds of connections available and how to utilise them to produce useful and interesting online content by the conclusion of this session.

In computing, a hyperlink sometimes called a link is a reference to a document that the reader may follow manually or automatically. Readers may access the whole document or a specific piece of it via a hyperlink. Text with hyperlinks is referred to as hypertext and is often viewed on a computer. A software system for reading and generating hypertext is a hypertext system, and to create a hyperlink or just to link is to build a hyperlink or simply to connect. When a user clicks on links, they are referred to as surfing or traversing the hypertext. The location inside a document where a hyperlink may be followed is referred to as its anchor, and the document that the hyperlink is included in is referred to as its source document. The target of a hyperlink is the document or piece of a document that it points to [4].

Users may activate and follow a link by generally touching or clicking on the anchor with a pointing device when it is shown. When a link is clicked, its destination and often its context are shown. The most common example of hypertext in use today is the World Wide Web, where Web sites include links to other Web pages. For instance, Wikipedia's content contains hyperlinks to the meanings of several words and phrases that are used throughout. Reference tools that often use hyperlinks include glossaries, indexes, footnotes, bibliographies, tables of contents, and bibliographies.

E. Types of Linking

F. 1.1.nternal Linking

Pages that you have indexed will be deleted by one major search engine provider. You could have 100 pages in the indexes one month, then the next month all but three or four of your web pages are removed. The indexed pages with links to all of your other sites must now be quickly submitted again. To avoid this, create internal links throughout your website so that each page has a connection to each of the other pages. Then, when the spider comes crawling to update, all of your other pages will be discovered again automatically, even if just one page remains in the index [5].

If the search engine is a spider, it will crawl and index all of your other sites. Cross linking increases the likelihood that your pages will be categorised and "stick" in the index. Even some search engines would rather use this approach to "find" your content than have you submit them to their submission sections. It is important to keep in mind while developing your own website because every page you have will be bookmarked and linked to by other websites. Therefore, regardless of whatever page a visitor lands on, they should be able to travel about your site easily thanks to your navigation and general design. The primary navigation should be visible on every page to achieve this. Include links to other pages on your website in the main body of your text.

G. 1.2.Reciprocal Links (External Links)

Links with other websites that are typically relevant to the topic of your website are known as reciprocal links. In these scenarios, you link to the website, and the webmaster reciprocates by linking back to your website. You constantly get far more traffic from other sites for whatever reason, and then you lose it [6].

The key to using this approach of traffic generation is that it is cost-free; all that is required is that you contact the appropriate webmasters and get relevant connections. However, a thorough "link-hunt" might take a lot of effort, but the rewards can be enormous.

III. NEED OF CROSS LINKING

It is always crucial to use certain strategies to promote the website. Cross-linking is one of such problems.

The basic requirements of cross linking are as follows:

A. Highly targeted visitors

Highly targeted visitors arrive from websites that are linked to them. They came to your site through a link on a comparable website, therefore you have a far higher possibility of luring them to showcase your activity or service. They will be drawn to your site's theme because if they weren't, they wouldn't click through. Therefore, they

are excellent chances for your business or service, and best of all, you are not required to pay for any of them.

B. Better search engine rankings

The quantity of links pointing to a website is taken into consideration by certain major search engines (like Google) when determining the "relevancy," "link popularity," or "link density" of the website. They all have somewhat different connotations, but they all refer to the process of analysing, assessing, evaluating, and ranking the connections to and from your website in order to establish where it should appear in search results. A website must be more value the more connections it has [7].

C. Repeat traffic

Mutually beneficial links will help drive recurring visitors to your website. Visitors will return often if you provide a high-quality list of pertinent links since they know they can discover what they're seeking for easily.

D. Added Value for the visitors

Your visitors gain from a high-quality links directory since it prevents them from having to search the internet.

E. Methods of Linking

There are two prominent methods for linking your web site with the other sites. These
methods are:

Proactive: Here, you actively seek for websites that might enhance your own and approach the owner for a link exchange.

Passive: With this strategy, you wait for others to approach you or make eye contact with you. You clearly gain time with this passive strategy. Some strategies to promote passive connections are as follows:

Tell Visitors how to link to you: Put a "How to Link to Us" link on your website. Make it as simple as you can for someone to think of you by include text, banners, buttons, and HTML.

Offer a content-rich site: How many websites link to you simply because they enjoy what you have to offer may pleasantly surprise you.

F. Legalities of Linking

A page of links to "favourite," "featured," or "special" locations to visit may be found on almost every website. It's nearly never done with permission, and it's not even necessary. For cross-linking, only HTML-style sites are accepted. It is very unethical to link to other sorts of media files (such as images, zip files, and sound files) since doing so is known as bandwidth theft.

Linking may be considered in relation to the "fair use" legislation, for example. These regulations let individuals to use brief quotations from previously released and copyrighted works in their own creations. This is very required; it is neither immoral nor unlawful. It would be difficult for a university student to complete an assignment without author quotations, and it would be impossible for a critic to carry out their duties without quoting a few words from the piece they were reviewing [8].

G. Guidelines When Linking

For linking with other sites, essential guidelines are as follows:

H. Keep your links simple

Small quotations are acceptable under fair use, and as long as your sentences are succinct, you should be okay.

I. Know What Kind of Web sites Will Compliment Yours

Search for websites that complement yours but aren't direct rivals. Actually, this is a rather time-consuming process. It does not include sending out mass requests to exchange links with every website you come across. It doesn't "make sense" to have a website lots of links but no actual content since neither you nor your visitors will profit from it. Embedding links to helpful or interesting websites for your audience. By doing this, you are enhancing the value of your own website.

J. Get permission where possible or feasible

With the website's webmaster, request a link. Remember that website owners could get many requests for links each day. Personalize your request to stand out from the crowd. Include the name of the site's owner. Share your thoughts on anything you saw on their website. This demonstrates that you have really been to the website and taken the time to browse around.

K. No control over content of links

Include a section on your website stating that you have no control over external links and informing users of this fact. Although you may find them interesting, you are not responsible for their content.

L. Link only to HTML and text style pages

Do not hyperlink to multimedia (audio, video, and picture) files. It is very immoral to link to these kinds of media files since doing so is known as bandwidth theft. Internal links enable visitors to navigate between various pages on the same website fast and effortlessly. They are crucial for enhancing a website's structure and organisation, which makes it simpler for consumers to access the information they want. On the other hand, external links go to webpages or material that are not part of the current website. They are often used to point readers to pertinent

information or outside sources, including news articles, social network accounts, and other websites.

Another sort of link is an anchor link, which connects to a particular portion of a website rather than to another page or website. They are often used in long-form content or navigation menus to let visitors to swiftly and simply move to certain areas of a website. Another common sort of link that guides people to a new destination on the internet using pictures rather than text or buttons is the image link. They are often used in product listings, banner adverts, and other parts of websites where visuals are crucial to the user experience [9].

M. Drawing a Site Map

You may be as basic or as sophisticated as you need to be when utilising a site map to design your website. In fact, some of the most helpful site maps are ones that are created fast and without any deliberate effort.

1. Get a pen or pencil and a piece of paper.
2. The top of the page should have a box with the term "home page" in it.
3. Create boxes under the home page box for each important component of your website, including: about us, goods, FAQ, search, and contact.
4. To show that they should be linked from the home page, draw lines between them and the page.
5. Next, put boxes beneath each section for any extra pages you want, and draw lines connecting those boxes to the section box.
6. Once you have every page you want on your website specified, keep adding boxes to represent Web pages and lines to link them to one another.

N. Publishing on the Web

The process of creating and producing material on the Web differs from creating and preparing content for print publications and documents. In addition, whether you're attempting to sell items or services at a company or commercial site or whether you simply want to keep people up to date at your personal site, creating content for the Web that attracts attention and delivers the outcomes you want demands unique expertise and attention. You don't need to be Albert Einstein to become an expert in content writing since it is not "rocket science" Anyone who is fluent in English can produce quality content since it is quite simple to do so. Although it is a straightforward process, there are many minute intricacies. There is a predetermined set of guidelines that are only intended for content writing:

Title: Any material's title conveys a lot about what the content will be about. A good title must be both interesting and enticing. It ought to provide the readers a decent understanding of the content's subject. It should be visually appealing enough to draw readers in.

Inverted Pyramid: You're probably wondering what an "inverted pyramid" is at this point. It is a straightforward method where the most crucial information is presented first. Because readers have such a short attention span while reading online content, this method should be kept in mind when writing for any digital site.

Language: All material must be written in plain, understandable language that is accessible to all readers. Jargon and verbosity should never be used, and they should be completely avoided. The ideal approach is to use short, familiar-worded statements. Your phrases have to flow smoothly. Every paragraph should flow into the next [10].

Originality: The most crucial aspect of becoming a competent content writer is producing unique material. You must provide original stuff. Copying and pasting won't help you in the realm of online writing. Your digital content, including your blogs, should reflect who you are. Write as you talk, please.

Engage Your Readers: Connecting with readers is a must for good content writers. The intention is for the readers to feel as if they are asking a trustworthy person their questions. It is appropriate to convey personal experiences and use straightforward language.

IV. CONCLUSION

In conclusion, linking is an essential part of web construction that makes it simple for consumers to move between various sites and information. In web development, there are several link kinds, each with particular properties and applications. In general, developing useful and interesting online content requires an awareness of the many kinds of connections and how they are employed in web development. Developers may build a smooth and intuitive user experience that encourages visitors to explore and interact with their content by employing the proper sort of link for the right purpose.

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Elements and Principles of Design

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Abstract—*A variety of disciplines and talents are required in the complicated and multidimensional subject of design. Design has a significant role in influencing the environment around us, from graphic design and web design to product design and architecture. The application of components and concepts to the creation of powerful and compelling visual material is one of the most important parts of design. The components and principles of design will be examined in this abstract, along with their definitions, applications, and justifications for being so crucial to the production of visually appealing and functional designs. The development of effective visual material is governed by the components and principles of design. These ideas which include colour, typography, layout, balance, contrast, and more are briefly summarized in this abstract. For designers to produce visually attractive and engaging designs that successfully convey a message or tell a narrative, it is essential to understand these aspects and ideas. In-depth discussion of each of these components and guidelines will be provided in this abstract, along with tips on how to employ them to produce designs that captivate viewers.*

Index Terms—*Design elements, Typography, Web Designs, Web Pages.*

I. INTRODUCTION

Design is a creative discipline that use a variety of media to produce visual material that conveys a message or tells a narrative. It calls for a variety of abilities, such as creativity, technical know-how, and problem-solving. The utilization of elements and principles, which are the foundational components of visual content, is one of the most important parts of design. The components and principles of design will be thoroughly examined in this introduction, along with their definitions, applications, and justifications for being so crucial to the production of visually appealing and functional designs. The guiding principles for design in general apply to web design as well. By following these guidelines, you may design Web sites that are both functional and aesthetically pleasing. If you understand design principles, your Web sites will appear better and accomplish their objectives in a straightforward and effective manner [1]. These components or aspects may be separated out and specified in any visual design or piece of art. They serve as the work's framework and are capable of conveying a broad range of themes. They are the pieces that make up the composition itself; they are the items to be assembled. The bulk of the time, the design components build atop one another, with the first element assisting in the creation of the second. This is how the elements discussed in this column are structured.

A. Design Elements

The fundamental building blocks of visual content are design components. Line, form, texture, colour, value, and space are a few of them.

B. Line

The most basic component of design is line, which may be employed to produce a variety of aesthetic effects. Lines may be broad or thin, straight or curved, and can represent a variety of emotions and messages. Curved lines are utilised to generate a feeling of movement, fluidity, and vitality whereas straight lines are often employed to portray order, stability, and accuracy. Additionally, patterns and textures may be produced using lines. A group of parallel lines, for instance, might provide the impression of texture, while a group of intersecting lines can produce a complicated pattern [2].

C. Shape

Two-dimensional forms called shapes make up visual content. They may be basic or complicated, geometric or organic, and can be employed to produce a variety of aesthetic effects, such as tension and contrast as well as balance and harmony. Shapes may be used to define an object's outlines as well as to produce patterns and textures. Additionally, they may be employed to provide a feeling of motion and flow. For instance, a group of figures that overlap each other might provide the impression of depth and dimension, while a group of shapes that move in a curving pattern can suggest motion and energy.

D. Texture

A feeling of depth, dimensionality, and tactile sensation may be created using texture, which is the surface quality of visual information. Textures may be glossy or matte, smooth or rough, and can be used to provide a variety of aesthetic effects. There are several techniques to produce textures, such by using patterns, brushstrokes, or pictures. Additionally, they may be employed to create contrast and tension. For instance, a smooth texture might be utilised to convey balance and tranquilly, while a rough texture can convey tension and excitement.

E. Color

One of the most potent and adaptable design components, colour can be utilised to express meaning, mood, and emotion. Colours may be warm or cold, vivid or subdued, and can be employed to produce a variety of visual effects [3]. Contrast and harmony may also be produced with the use of colour. For instance, analogous colours (colours that are close to each other on the colour wheel) might evoke a feeling of harmony and balance while complementary colours (colours that are opposite each other on the colour wheel) can evoke tension and excitement.

F. Value

Value, which is utilised to convey depth, dimensionality, and contrast, is the relative brightness or darkness of visual material. While low contrast might evoke a feeling of peace and harmony, high contrast can evoke a sense of drama and tension. Values may also be employed to provide shade and highlights, which help to define an object's outlines and give the image a three-dimensional appearance.

G. Space

Space may be utilised to provide a feeling of depth, dimensionality, and balance by referring to the region surrounding and separating visual material. Positive space, or the area filled by visual content, may be utilised to convey energy and vitality, whereas negative space, or the space surrounding visual content [4].

II.   DISCUSSION

When compared to other types of design, web design is a relatively recent field of study. There are elements of the web design process that are specific to the media, such screen resolution, additive colour spaces, and picture compression, much as in any design field. But all too often, these more distinctive features take precedence over our perception of the larger picture. We ignore fundamental design principles that might strengthen any project without interfering with the more technical aspects in favour of concentrating on the fact that it is Web design.

One of the numerous disciplines that make up the broader subject of design is web design. Even farther back, we may define design as a branch of the arts (much like painting, drawing, sculpting, etc.). The key is to appreciate that there is a significant amount of artistic legacy that design has absorbed through time from other art forms before we can begin a conversation about the basics of design as they apply to Web design. Over many centuries, many art forms such as lithography, typography, painting/illustration, and industrial design evolved, and a few fundamental concepts came to be seen as offering general guidelines to all creative endeavours. We always go beyond our profession and take on a somewhat wider perspective while discussing basic ideas.

A. Elements of Web Design

The area of design is based on a number of fundamental ideas. Depending on the philosophy or instructional approach, they are often categorised differently. The fundamental concepts of design may be divided into two categories: principles and elements. The fundamental presumptions that inform design practise and influence how items are arranged in a design composition are known as design principles. The components of design, or the items to be ordered, are the elements of design, in contrast [5].

One must be familiar with the fundamentals of web design in order to understand the design processes. These fundamental components of website design are as follows:
1.   Balance
2.   Rhythm
3.   Proportion
4.   Dominance
5.   Unity

H. Balance

Simply put, the balance is a kind of equilibrium that develops as a consequence of examining visuals and comparing them to our conceptions of physical structure (such mass, gravity, or the sides/margin of a page). The way the elements are arranged in a certain design as it has to do with how something appears inside a composition. Balance often manifests in one of two ways, which are as follows:
1.   Symmetrical
2.   Asymmetrical

1.1. Symmetrical Balance: When a composition's weight is uniformly distributed across a main vertical or horizontal axis, symmetrical balance is achieved. It often takes on symmetrical shapes on each side of the axis. The special sort of symmetry that arises when two things are similar but not exactly the same is called "approximate symmetry." Additionally, it is feasible to create "Radial Symmetry" by evenly dividing the space inside a design composition around a single centre point. Formal balance is another name for symmetrical balance [6].

1.2. Asymmetrical Balance: When a composition's weight is not properly distributed around a central vertical or horizontal axis, asymmetrical balance results. It entails placing things of various sizes in a composition such that their visual weights are balanced against one another. In many situations, a single dominating form is countered by several lesser ones. Asymmetrical balance-based compositions often give off a stronger feeling of visual awareness. The term "Informal Balance" is another name for this kind of balance.

B. Rhythm

Rhythm is a kind of repetition that often has set gaps between each repeat of a given pattern. Rhythm may produce pattern and texture, as well as a sensation of movement. There are many distinct types of rhythm, and they are often described by the emotion they cause when seen. The following are some of its prevalent types:

1. *Regular:* When the gaps between the components, and often the elements themselves, are comparable in size or duration, a regular rhythm is created.
2. *Flowing:* A rhythm that flows creates a feeling of movement and is often more natural in style.
3. *Progressive:* A rhythm that progresses in stages demonstrates a series of shapes.

C. Proportion

The comparison of dimensions or the distribution of different shapes within the presentation is known as proportion. It is the size disparity between two elements, or between a whole thing and one of its pieces. Different proportions within a composition may be related to various symmetries or balances, and they can also produce visual depth and weight. Observe how the smaller parts in the samples below appear to fade into the background while the bigger ones protrude [7].

D. Dominance

Dominance has to do with the different levels of prominence in a design. It creates space and perspective, defines the visual weight of a composition, and often decides where the viewer's attention will land while viewing a design. There are typically three dominance phases, each of which is related to the weight of a certain piece inside a composition.

1. *Dominant:* The element of main attention that moves towards the front in the composition and is given the greatest visual weight.
2. *Sub-dominant:* The middle ground of the piece's composition, or the element of secondary focus.
3. *Subordinate:* The element of secondary focus that recedes into the background of the composition and is given the least visual weight is the object.

E. Unity

4. The idea of unity defines the connection between a composition's component elements and its overall composition. It looks at the elements of a particular design that are required to unite the composition, give it a feeling of completeness, or to separate it and give it a sense of diversity. The idea of unity in design is derived from some of the Gestalt theories of visual perception and psychology, particularly those that address how the human brain classifies or groups visual information. Although Gestalt theory is somewhat long and complicated, dealing with many degrees of abstraction and generalization, some of the fundamental notions that emerge from this way of thinking are more universal [8].

F. Closure

Closure is the theory that when the brain thinks an item is missing part of its elements, it seeks to fill in the gaps in the knowledge. Objects may be broken down into groups of smaller bits, and when one or more of these missing pieces is present, the brain tries to fill in the gaps with more details to provide closure.

G. Continuance

The concept of continuation holds that once you start looking in one direction, you'll keep looking there until something more important attracts your attention. The use of perspective or prominent directional lines often succeeds in drawing the viewer's attention in a certain direction. Additionally, any subject's eye direction inside the design itself may have a comparable impact.

H. Categories of Space

The juxtaposition of a composition's figure and background is referred to as positive and negative space, in common parlance. While the environment itself is the negative space, the items in it reflect the positive space. Positive space, for instance, might be thought of as genuine sculpture or architecture. In contrast, a negative space is the form that surrounds a sculpture or structure [9].

I. Form (Shape)

An entity with a closed contour that is identified by its perimeter is the most basic definition of a form. Circle, rectangle (square), and triangle are the three fundamental geometries. A dimensional element's form refers to its structure and shape within a particular composition. Form may be two-dimensional, three-dimensional, realistic, abstract, or any combination of these. Form and shape are both listed here since they are often used interchangeably. Form really results from the union of a point, line, and shape.

The principles of design are connected to a wide range of other ideas. These may include particular expressions and/or methods that draw on one or more of the aforementioned principles.

J. Point

a) An element with location but no extension is referred to as a point. It is a single mark in space that is located precisely but only in a small area. When grouped with other points, the Gestalt grouping principle of closure has a tendency to take effect and the brain impulsively binds the points together even if it may alone create a strong relationship between negative and positive space. Multiple

points in space naturally combine to create a line or other shape.

K. Line

A line is an element with length and direction characteristics. Lines provide shapes and curves, and they are often employed to emphasise a key element in a design or to communicate a certain emotion. In order to give a composition a feeling of continuity, powerful directional lines are often utilised. Lines are also used to generate perspective. In addition, clustered lines often provide a feeling of value, density, or texture [10].

L. Perspective

The two main types of perspective are non-linear perspective and linear perspective.

1.1.Nonlinear Perspective: The approach for displaying depth that uses nonlinear perspective is as follows:

a)   Position: An item that is positioned higher on the page appears farther back than an object that is placed lower on the page.

b)   Overlapping: When an item crosses over another object, the observer perceives the object in front of the object as being farther away.

c)   Size Variation: Closer objects seem further away than smaller ones. Greater items seem closer.

d)   Color: Bright colours make objects seem closer to you whereas neutral colours make everything appear further away.

e)   Value: Lighter values make objects seem farther away, while darker values make objects appear closer. For instance, in a landscape, the mountains often seem bluer and brighter than the nearby trees or homes.

f)   1.2. Linear perspective: Linear perspective is a technique for creating the appearance of depth in a photograph by employing lines. The following are instances of linear perspective:

g)   One-point perspective: One-point perspective is when lines made by the sides of objects, such as tables or buildings, point into the distance and come together at a single point on the horizon. To view an illustration, stand in the centre of the hallway and focus on the corner where the ceiling meets the wall or the horizontal lines in the brick. Watch how they converge at a single location on the horizon.

h)   Two-point perspective: Here the lines look like they are meeting at two points on the horizon line.

M. Texture

Surface appearance is created by texture, which refers to the physical assembly of a certain shape. Texture, which often refers to the substance that something is composed of, may be produced utilising any of the previously covered components. Texture is a phenomena that may be seen and felt.

N. Categories of Texture:

Real texture: It is the real texture of every item on a website that has been developed. To add visual appeal or arouse emotions, artists may add genuine texture to their works of art. A ceramic item may have a rough texture to give the impression that it was formed by nature, or it may have a smooth texture to give the impression that it was manufactured by a machine.

i)   1.3.Implied Texture: It's a style in which a two-dimensional work of art is created to mimic a certain texture but is really simply a flat sheet of paper. For example, a depiction of a tree trunk could seem rough, but it is really simply a smooth sheet of paper.

j)   Rule of Thirds

The idea that compositions with the main piece off-center are the most engaging makes up the basis of the rule of thirds, a compositional technique. Basically, split any frame of reference into thirds and place the composition's pieces on the lines in between.

O. Visual Centre

The true (mathematical) centre of any page is located just slightly above and to the right of the visible centre. This is also frequently referred to as museum height and is usually where the visual emphasis naturally falls.

P. Categories of Value

The following are some broad categories of values:

a)   To generate lighter values, such as light blue or pink, tint is the process of adding white to colour paint.

b)   Shade is the process of adding black to paint to produce dark values, such as dark red or blue.

c)   High-Key refers to an image with only bright values.

d)   Low-Key refers to a scene with only dark values.

e)   Value contrast is the process of juxtaposing bright and dark values to produce contrast or stark distinctions.

The eye's reaction to various visible spectrum radiation wavelengths is called colour. What we experience as light is part of the visible spectrum. We can view this region of the electromagnetic spectrum. With red at one end (700 nm), violet at the other (400 nm), and all other colours in between, the normal human eye will react to wavelengths between 400 and 700 nanometers (nm). There are numerous distinct colour theories and many different colour schemes. We'll concentrate on the fundamentals and use a colour wheel as an example.

Three major elements make up colour:

1.1.Hue: The location of the colour on the colour wheel. Red, blue-green, and mauve are just a few examples of words that describe a color's hue.

1.2.Value: A color's overall brightness or blackness. a color's overall distance from black or white. The saturation the degree of chroma, or intensity, of a colour. If the colour is more grey in its presentation, this indicates that less chrome was used in the colour calibrations.

III. CONCLUSION

In conclusion, developing successful and aesthetically attractive designs requires a grasp of the fundamental aspects and concepts of design. Designers must take the audience they are aiming for into account as well as the design's message and purpose. Designers may produce visual designs that convey the intended message by using design components like colour, line, shape, texture, space, and form. Additionally, designers may produce designs that are both aesthetically beautiful and practical by using design concepts like balance, contrast, unity, hierarchy, and proportion. The design principles and components are recommendations rather than strict restrictions that designers may use to express their creativity and create appealing and functional products.

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Website Creation and Management Tools

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Abstract—An overview of website construction and administration technologies will be given in this abstract. Tools for building and managing websites are computer programmes that assist companies and people in building and managing their websites without having to have considerable coding skills. From simple drag-and-drop website builders to more intricate content management systems (CMS) that need some technical know-how, these solutions are available. The numerous website construction and administration technologies accessible, their capabilities, and their advantages for organizations and individuals will all be covered in this overview. We will also talk about how crucial website management and creation tools are in the current digital era, when a strong online presence is essential for company success. Website builders, content management systems (CMS), e-commerce platforms, website analytics tools, and search engine optimization (SEO) tools will all be covered in the abstract. Additionally, we'll go through the benefits and drawbacks of utilising website construction and administration tools as well as how to choose the best one for your particular requirements. Overall, this summary will provide readers a thorough grasp of website development and maintenance technologies and how they work to create and sustain strong online identities.

Index Terms—Content Management Systems, Search Engine Optimization, Website Analytics Tools, Website Accessibility.

I. INTRODUCTION

In the current digital era, having a strong online presence is essential for both people and organizations. A website functions as a digital shop or portfolio, giving an opportunity to present goods, services, or artistic endeavors to a large audience. However, building and maintaining a website may be challenging, particularly for people with little to no coding experience. Tools for managing and creating websites might be useful in this situation. Tools for developing and managing websites are computer programs created to streamline the production of websites and provide accessibility of website maintenance to a larger audience. From simple drag-and-drop website builders to more intricate content management systems (CMS) that need some technical know-how, these solutions are available. By using these tools, companies and people may build and maintain their websites without having to hire a web developer or have substantial coding skills. The many website construction and administration technologies available, their capabilities, and their advantages for organizations and individuals will all be covered in this introduction. We will also talk about how crucial website management and creation tools are in the current digital era, when a strong online presence is essential for company success [1].

A. Website Builders:

Users may easily construct websites using drag-and-drop interfaces and pre-built templates with the help of website builders, which are user-friendly software programs. For people or small enterprises with little technical knowledge and a tight budget, these products are perfect. Website builders provide customers pre-built templates, editable themes, and a range of services including e-commerce connection, social network integration, and SEO tools in order to streamline the process of creating websites. Wix, Squarespace, Weebly, and Shopify are a few well-liked website builders [2].

B. Content Management Systems (CMS):

The more complicated website design and maintenance technologies known as content management systems (CMS) need for technical knowledge. Users may develop, manage, and publish content on their websites using a platform offered by CMSs. For bigger companies or individuals with more complicated website needs, CMSs are appropriate. Users may access a variety of services via CMSs, including multilingual support, e-commerce connection, and complex customization possibilities. WordPress, Drupal, and Joomla are some examples of well-known CMSs.

C. E-commerce Platforms:

E-commerce platforms are tools for building and managing websites that are especially made for companies that conduct online sales of goods and services. These platforms provide companies a way to set up and run an online shop, complete with product listings, inventory control, and payment processing. Shopify, Big Commerce, and Woo Commerce (a WordPress plugin), among others, are well-known e-commerce systems.

D. Website Analytics Tools:

Businesses and individuals may measure website

performance indicators like traffic, bounce rate, and conversion rates thanks to website analytics software. With the use of these technologies, organisations may get insightful information about how people interact with websites and develop data-driven marketing and website optimisation plans. Google Analytics, Kiss metrics, and Mixpanel are a few of the well-known internet analytics programmes [3].

E. Search Engine Optimization (SEO) Tools:

Tools for website administration and search engine optimization (SEO) are created with the goal of increasing a website's exposure on search engine result pages (SERPs). With the help of these tools, companies and individuals may enhance the content on their websites with relevant keywords and phrases, raising their search engine position. Moz, Ahrefs, and SEMrush are some of the more well-known SEO tools.

In the current digital era, the value of website development and administration tools cannot be emphasised. For both businesses and people to succeed and stay relevant in their fields, they need to have a strong online presence. Without having to have substantial coding skills or hire a professional web developer, website creation and management tools enable companies and people to construct and maintain their websites. Businesses and individuals may save time and money while establishing a credible and useful internet presence by using these tools.

II.   DISCUSSION

Both creativity and technical skill are needed to create a website. To acquire the required outcomes, you must be competent enough to experiment with new software tools, as well as creative enough to show things in the best manner feasible. As you are aware, creativity is a skill that cannot be learned just via reading or listening to lectures. Therefore, we will describe the software tools needed to develop and administer the website in this section while leaving the creative aspect up to you [4].

A template is a preformatted page layout that includes visual elements, several font types, colour schemes, and other design features. You must fill out the necessary information in the designated areas and choose from one of the available templates. You'll most likely start by utilising templates to build up your site if you develop a Web presence using a blogging platform or an online community. You may create your Web sites using templates that are accessible online and in software programmes. The majority of websites that provide free website development and hosting services offer templates for creating webpages.

A. Basic Web Editors

A text editor like notepad, word pad, etc. serves as a rudimentary web editor. You may use any simple web editor

if you have solid practical HTML skills. When creating a Web page with a text editor, you enter the content of the page as well as all the HTML instructions into a blank document and save it as an HTML document. The Notepad programme that comes with the Microsoft Windows operating system is the most fundamental of the fundamental text editors. You may try using MS-WORD to save your word document as an HTML document by utilising the save as option in the file menu. There are several web editors known as WYSIWYG (what you see is what you get) editors that automatically encode HTML tags to your text. You may be perplexed as to why Web designers choose to manually code the HTML for their Web sites when the WYSIWYG editor can accomplish it with ease. The answer varies, but generally speaking, web designers manually code their websites for the following reasons, which are also known as the benefits of manual HTML coding [5].

CONTROL: When hand-coding, you may use the codes you choose as opposed to the ones that a WYSIWYG editor inserts. If you wanted to use two blank line breaks, for instance, a WYSIWYG editor may use a paragraph marker instead. Additionally, certain WYSIWIG editors produce "messy" code; hand-coding, with code alignment tuned to the developer's tastes, may maintain code organised and simple to read.

QUICK FIXES: Web designers can quickly edit a website regardless of how it was first built because to their knowledge of and practical experience with manually creating and modifying HTML, XHTML, CSS, and XML code. For instance, updating and saving the change with a text editor would take less time than just opening the page in a WYSIWYG editor if you wanted to modify the copyright date or title bar content on your website.

CODE CLEANUP: Advanced Web editors often add additional code to documents. Getting familiar with standard HTML, XHTML, CSS, and XML language can help you write cleaner code and make your files smaller. And keep in mind that size counts on the Web, and the smaller, the better. Additionally, as web editors are only created by humans, they might sometimes miscode your page. In certain circumstances, modifying the code directly may save you a tonne of time and hassle compared to searching via the Web editor for the appropriate dialogue box option [6].

FINE TUNING: Advanced Web editors also often use code that is incompatible with particular browsers. Text editors may be used to change code to make it compatible with the majority of browsers. Select any Web page to display in your browser, then select SOURCE from the VIEW menu. The HTML code for the Web page is shown in text form in

a Notepad document that opens. Of course, prior to producing your pages in a text editor, you must get familiar with HTML and XHTML (a more restrictive version of HTML based on XML concepts). To provide you an understanding of how style sheets and XHTML operate together to display Web pages, you will manually code cascading style sheets and XHTML in other blocks in this course. If you really want to become knowledgeable about manually coding Web sites, you will need to acquire further materials after reading that introduction. The most popular HTML text editors (Web editors) in use today are as follows:

Notepad: When it comes to text editors, Notepad is about as basic as they get with the Microsoft Windows operating system.

WordPad: The upgrade from Notepad is WordPad. It accepts larger documents and has more word processing tools than Notepad.

TextWrangler: Bare Bones Software created TextWrangler, a simple text editor, for Macintosh computers.

B. Midrange Web Editors

Midrange Web editors are an improvement over simple text editors because they provide a variety of time- and accuracy-saving capabilities. Applications that provide capabilities particular to Web coding, such tag inspectors, tag generators, colour coding, huge file support, and more, are often found in this category. Although some of these editors (like Microsoft Word and Microsoft Publisher) begin to veer towards WYSIWYG, their major selling point is that they provide tools for creating HTML, CSS, XHTML, and other related Web code. We propose a few programmes in this area. To choose which one is most comfortable for you, try out a few [7].

MS-Word and MS-Publisher: By using the Save As option on the file menu, MS-Word and MS-Publisher let you generate Web pages using a familiar interface. The software automatically generates the HTML, CSS, XML, or other relevant source code when you save an Office document as a Web page. basic Web sites and basic Web pages that were developed using a specific Office product may be edited using Word and Publisher. When you try to modify more complex sites or Web sites made in programmes other than those in Microsoft Office, Office apps may not always function as effectively. However, because these programmes are likely to be easily accessible on your computer, it is advisable to have some hands-on experience with them in order to grasp the procedure and

view the HTML code. Some other midrange web editors, which you can try, are as follows.

OpenWysiwyg: Cross-browser rich text editor OpenWysiwyg has practically all the editing features you could ask for. It has a modern user interface with buttons and drop-down menus. Its ability to handle tables with various borders and colours is one of its top characteristics. However, this online editor still does not support Chrome [8].

TinyMCE: An open-source JavaScript HTML WYSIWYG editor is TinyMCE. With plugins and themes, it may be completely customised and is simple to integrate. One of the most "complete" editors available, TinyMCE has a user interface akin to MSWord.

CKeditor: The replacement for the former market-leading FCKEditor is CKeditor. It expands on that and seeks to correct the flaws of FCKEditor. The end product is a WYSIWYG editor with good performance that includes editing options similar to MS Word and Open Office.

The YUI Rich Text Editor: The Yahoo UI component known as the YUI Rich Text Editor transforms text areas into fully functional WYSIWYG editors. IT is available in a number of variants with differing features and levels of sophistication, but it still provides a wonderful user experience without overcrowding the interface with buttons.

NicEdit: Due to its compact download size, NicEdit may serve as an alternative to some of the more substantial and intricate WYSIWYG editors available. It has a number of the usual editing capabilities and integrates quickly into your website.

C. Advanced Web Editors

The third and last category of Web editors consists of sophisticated programmes that let you design and modify Web sites using graphical user interfaces. In more sophisticated editing programmes, you may work in the WYSIWYG interface and immediately see and modify source code. In addition, most sophisticated editors have a preview option that allows you to see how a Web page will appear online, often in more than one browser, before seeing the page in your browser. Instead of providing specifics, URLs to relevant Web sites are given since popular sophisticated Web editors are widely documented online and often updated with new capabilities. Although there are many more editors out there, the following ones are among the most widely used for web development. Keep in mind that the majority of sophisticated online editors are neither open source or free, therefore you must pay to use them. Some of them provide a limited-featured trial or free edition

[9].

1.1. Coffee Cup the HTML Editor 2010 SE
(www.coffeecup.com/htmleditor)

In 1996, Coffee Cup Software was founded in a genuine coffee shop. The HTML Editor was its initial application. They have produced a lot more Web design and Flash software in the last ten years. Both WYSIWYG editing and raw HTML are supported by the Coffee Cup HTML Editor. Kevin Jurica and Nicholas Longo were the original creators. The editor was the first to support Java script (version 3.5, September 1996), split-screen editing (version 4.0, March 1997), and built-in FTP upload (version 5.2, February 1998), according to the creators.

1.2. Adobe Dreamweaver CS5
(http://www.adobe.com/products/dreamweaver)

Originally developed by Macromedia, Adobe Dreamweaver (previously Macromedia Dreamweaver) is a web development tool that is currently produced by Adobe Systems, who purchased Macromedia in 2005. Both the Mac and Windows operating systems support Dreamweaver. Support for web technologies including CSS, JavaScript, and several server-side scripting languages and frameworks like ASP, ColdFusion, and PHP has been included in more recent versions.

1.3. Net Objects Fusion
(www.netobjects.com/products/html/nof8.html)

A web design tool named Net Objects Fusion (NOF) was created and sold by Net Objects, Inc. from 1996 to 2001. From 2001 to 2009, the tool was marketed by Web.com (formerly known as Website Pros), who had purchased it in 2001. However, from July 2009 on, Net Objects, Inc. began to distribute it once again. With a graphical user interface and its own exclusive database, Net Objects Fusion produces HTML or (as of version 11) XHTML [10]. Keep in mind that your configuration for creating a website doesn't have to be either/or. When restructuring a design layout, we sometimes find it to be the fastest to utilise a sophisticated WYSIWYG programme, but other times, a simple modification with Notepad works better. You must thus acquire the skills necessary to swiftly understand and operate the necessary software tools.

III. CONCLUSION

In conclusion, website development and administration technologies have completely changed how websites are created and maintained. They have made it simpler for people and companies to design and run their own websites without needing to have advanced technological knowledge. Overall, website construction and administration tools have made it much easier for anybody to design and maintain websites without needing a lot of technical expertise or resources. Anybody can now create a website that looks professional. We may anticipate seeing even more sophisticated website creation and administration capabilities in the future as technology continues to improve.

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Internet Connectivity and Server Space

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Abstract— Unless you connect to the Internet and upload the site's data to a server, the Web site you generated on your computer is worthless to the rest of the world. A powerful computer known as a server Stores Web files and answers to user requests to see the stored Web files. Connected to the Internet's backbone data lines. Before you can have an online presence, you must be connected to the Internet or have access to one. Although you may establish a website without a connection to the Internet, it will save you a lot of time if you have one on the same computer. You have access to the Internet if you use your computer to browse the web. You may upload Web files from your computer to a server that is linked to the Internet using a typical dial-up or broadband Internet connection. If server space is not given for free in addition to other paid ISP services, you will also need to pay for it in addition to the fundamental need of Internet access. For instance, in addition to your Internet connection, your Internet service provider (ISP) could also supply you with 20–30 MB of free server space. Many people are surprised by the idea of free server space, yet it exists and is a growing internet practice. It should come as no surprise that both paying for and utilising free server space has advantages.

Index Terms—Internet, Private Virtual Server, Server Space, Website Hosting

I. INTRODUCTION

Because it connects individuals from all over the globe and makes it possible for information and ideas to be shared on a global scale, the internet has become an essential part of our everyday lives. Internet connection, or the capacity to connect to the internet via a network or service provider, is one of the essential elements of the internet. In addition, server space is essential to the operation of the internet since it provides the framework for hosting websites, programmes, and other digital services. We will cover the ideas of server space and internet connection, looking at the architecture and technology that enable them as well as the different possibilities and problems they provide [1].

A. Internet Connectivity

The ability to connect to the internet via a network or service provider is referred to as internet connection. Numerous technologies and techniques, such as wired and wireless networks, satellite connections, and cellular data networks, may be used to accomplish this. In most households and companies, Ethernet cables are used to connect devices to a router or modem through wired networks. These networks are perfect for big homes and companies since they provide high-speed access and can handle several devices at once. On the other hand, wireless networks employ radio waves to link devices to a network. The most popular kind of wireless network is Wi-Fi, which works by having routers emit signals that nearby devices may pick up. Users may connect wirelessly to cellular data networks, including those offered by mobile service providers, to utilise their mobile devices to access the internet [2].

Another alternative for internet connectivity is satellite connections, especially in isolated or rural places where standard wired or wireless networks may not be accessible.

To send and receive data to and from the internet, these links depend on satellite dishes and receivers. In today's digital world, internet connection has grown in importance as people and organizations depend on it for everything from communication and cooperation to entertainment and online shopping. However, depending on a variety of variables, such as a location's infrastructure and service provider, the accessibility and quality of internet connection may vary greatly [3].

B. Server Space

The physical or virtual area on a server where digital material is stored and accessible is referred to as server space. Everything from websites and programs to data files and digital media might be included in this. Powerful computers called servers are designed to handle a lot of requests from users or clients. They are used to store and manage the material that user's access while hosting websites and other digital services. The several server kinds, such as web servers, file servers, and database servers, are individually designed to handle certain content and request types. For instance, websites and web applications are hosted on web servers, while files and data are stored and managed by file servers. Relational databases are maintained and managed by database servers, which enable users to access and alter data in a structured and orderly manner. For companies and organizations that depend on digital content and services, server space is a crucial factor. The quantity and complexity of the material being housed, the number of users accessing the content, and the degree of security and redundancy necessary may all affect how much server space is needed [4].

A network of servers hosted by a third-party provider may be used by companies and organizations to obtain virtual server space via cloud computing, which is growing

in popularity as a server space alternative. Scalability, adaptability, and cost-effectiveness are just a few advantages this provides. To maintain the safety and accessibility of digital material and services, however, companies and organisations continue to face a substantial issue with regard to managing and securing server space [3].

In order for information and material to be shared and accessed on a worldwide scale, two crucial elements of the current digital environment are server space and internet connection. The infrastructure and technology that enable server space and internet access have advanced dramatically in recent years, presenting both new possibilities and problems for both enterprises and people. Unless you connect to the Internet and upload the site's data to a server, the Web site you generated on your computer is worthless to the rest of the world. The server is a robust computer that is linked to the main data lines of the Internet, where it stores Web content and responds to user requests to access the files. Before you can have an online presence, you must be connected to the Internet or have access to one. Although you may establish a website without a connection to the Internet, it will save you a lot of time if you have one on the same computer. You have access to the Internet if you use your computer to browse the web [5].

You may upload Web files from your computer to a server that is linked to the Internet using a typical dial-up or broadband Internet connection. If server space is not given for free in addition to other paid ISP services, you will also need to pay for it in addition to the fundamental need of Internet access. For instance, in addition to your Internet connection, your Internet service provider (ISP) could also supply you with 20–30 MB of free server space. Many people are surprised by the idea of free server space, yet it exists and is a growing internet practice. It should come as no surprise that both paying for and utilizing free server space has advantages [6].

II. DISCUSSION

The way we work, interact, and live has all been revolutionized by the internet. It is now simpler than ever to acquire information, communicate with people, and carry out business thanks to the internet. However, you need server space and internet connection in order to access the internet and host a website. This article will examine the various forms of server space and internet connection and how they may affect your website.

A. Internet accessibility

The method by which your computer or other device connects to the internet is referred to as internet connection. There are several forms of internet connection accessible, and each has pros and problems of its own.

B. Telephone Connection

An earlier technique of connecting to the internet that uses a phone line to create a connection is called dial-up. Dial-up connections are sluggish and unsuitable for current websites that need fast internet connections.

C. Connection through DSL

A phone line is used by a DSL connection to send data over the internet. Most websites may be accessed with a DSL connection since it is quicker than dial-up [7].

D. Connection to a cable

Coaxial cables are used to carry data during a cable connection, a sort of internet connection. Faster than DSL and suited for websites with significant traffic volumes is cable.

E. Connection using fibre optics

A fibre optic connection is a kind of internet connection that sends data using fibre optic cables. The quickest form of internet connection is fibre optic, which is appropriate for websites that need to transmit large amounts of data quickly.

F. Server Room

The space that is designated for your website on a server is referred to as server space. There are several server space options, each with unique benefits and drawbacks.

G. Common Server

Multiple websites share a single server in a shared server environment. Affordable and appropriate for tiny websites with little traffic is shared server space.

H. Private virtual server (VPS)

A physical server that has been divided into many virtual servers is called a virtual private server (VPS). VPS is appropriate for websites with medium traffic since it gives you more control and flexibility than shared server space [8].

I. Personal Server

A physical server that is only used to host one website is known as a dedicated server. Dedicated servers are ideal for websites with significant traffic because they provide the most control and flexibility.

J. Using the Cloud

Your website is hosted on a network of computers using a form of server space called cloud hosting. Websites with varying traffic volumes might benefit from the scalability and flexibility that cloud hosting offers.

The performance of your website may be impacted by a number of crucial variables, including server space and internet access. In accordance with the requirements of your website, it's essential to choose the appropriate kind of

internet connection and server space. Choosing internet connection and server space should take website traffic, performance, and scalability into account. Your website may be quick, dependable, and simple for your audience to access with the proper internet connection and server space.

K. Online Free Server Space

As previously said, you may purchase server space to upload your website. Additionally, many web hosts offer free server space for you to upload your website. It is advised to obtain free web space to start out in the industry and to practice. You may start a blog at http://www.blogger.com to acquire an example online presence. Another approach to have a free online presence is by creating your own free Web site at this website, which you can do in a matter of minutes.
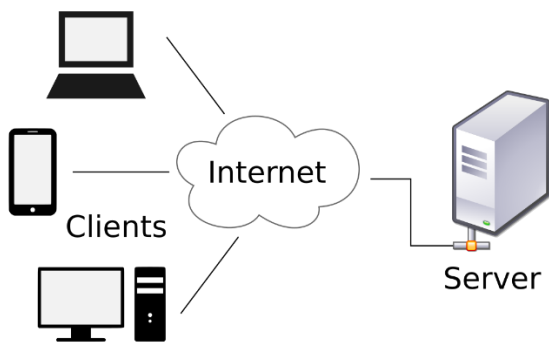
Figure 1: Represents how server and internet works.

L. Merits and Demerits of Free Web Space

The key advantages of free web space providers are their low cost, their speed and ease of use, the fact that they are accessible to users of all skill levels, and the fact that they provide just enough space for a simple website. The common flaw of free web space providers is that they often give little to no assistance. They use overloaded servers, which might result in sluggish downloads or server outages that briefly prevent access to your site, they provide a poor level of long-term stability and fewer functionality, and they place adverts on your website [9].

Having said that, free hosting often offers a superb opportunity for you to practice building up your initial or temporary Web sites. Web space that you get from your ISP is yet another kind of "free" online storage, despite the fact that it actually isn't. We can't precisely call ISP server space "free" since you have to pay your ISP on a regular basis; it's more like "prepaid, available space." The benefit of using ISP server space is that you already pay for it, so why not? You often have more control about how you construct and show your site using ISP server space than with blogging platforms and online forums. The drawback of using an ISP

server is that you'll probably have to put up with a difficult-to-remember Web address that is long and complicated, comparable to those of online communities [10].

If you use any search engine to look for free Web server space, you'll discover a large list of websites that will host your page for no charge. The biggest benefit of free internet services is that you may get Web space right away. Free space is a terrific way to get started on the Web, as long as you don't mind a long Web address, some design restrictions, and maybe advertising.

M. A Domain Space for Your Website

Finding a hosting business ready to house your domain name is the next step after registering the domain name. Simply enter "web hosting" into any search engine to discover a big list of different Web hosting service providers. You may find a variety of hosting services online. You may find a comprehensive website for web solutions at http://www.hostindex.com.

1.1. Space:

You are given a certain amount of server space by hosting firms when you join up for their services as a Web host. The majority of ISPs and hosting providers provide more server space than you will first need. However, you ought to get 10 MB or more of server space. Most hosts provide between 50 and 100 MB of server space. Therefore, you must consider the size of your website and the server space offered by the company before choosing Web hosting services.

1.2. Support:

In the realm of ICT, particularly web creation, after-sales service or technical support is a crucial if not absolutely essential necessity. If you have any issues after selecting a Web hosting provider, you should get in touch with a person who can assist you right away. The availability of the technical support staff's services throughout the day is the most fundamental support factor you should consider. Look for sites that provide round-the-clock service since many of them do so. Because you'll usually be updating your pages during off-hours, when help is most likely to be needed, round-the-clock support is crucial. Check to determine whether the website makes its support response rate available. Last but not least, see if you can quickly identify the assistance channels the business provides, such as phone numbers, including toll-free numbers, fax numbers, e-mail addresses, chat, etc.

N. Extras:

Consider looking at the "extras" that each business provides to draw clients. For instance, the majority of hosting providers provide email addresses that you may use with your domain name (for instance, rr@redbridge.com or cc@whitecoller.org). With one Web hosting deal, you may

often create 5 to 40 or more email accounts. Other features to look into include whether FrontPage Server Extensions (if you're using FrontPage) and streaming media are supported, the cost of adding space to your site in case it grows larger than the space you were originally allotted, the cost of increasing your traffic quota in case more people visit your site than you anticipated, and the cost of adding add-on services like chat rooms, ecommerce features, and site search features. Now that you've thought about your domain name, hosting possibilities, and fundamental Web site choices, it's time to speak about desktop programmes, which are more accessible and closer to home. The software tools you may use on your computer to design, modify, and publish websites are covered in the following section.

III.   CONCLUSION

In conclusion, server space and internet access are essential elements of website hosting. The effectiveness of your website may be significantly impacted by the speed, dependability, and server quality of your internet connection. Your website will be available to people worldwide and load rapidly if you have a speedy and reliable internet connection. Similar to this, a trustworthy and effective server will provide your website the tools it needs to run quickly and effectively. The requirements of your website, your budget, and your long-term objectives should all be taken into account when selecting an internet service provider and a web hosting firm. If a provider offers scalable solutions and adaptable packages, you will be able to modify your service as your website expands. To make sure you are dealing with a reputable and trustworthy business, be sure to investigate each provider's reputation, customer service, and security features. Overall, you may choose the hosting of your website with confidence if you have a thorough grasp of server space and internet connection, which will help your online presence succeed.

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Discussion on Browsers and Web Extras

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Abstract— *The internet, a massive global network that links people and information, is continually growing and changing. Online browsers, which provide users a method to access and explore the massive quantity of material accessible on the online, are at the core of this network. We'll look at the world of web browsers and the numerous add-ons that may improve your surfing experience in this post. We'll talk about how web browsers have changed over time, their fundamental characteristics, and how prominent browsers like Google Chrome, Mozilla Firefox, and Microsoft Edge vary from one another. We'll also look at the function of browser add-ons and extensions, which let users alter how their browser works and add new capabilities. We will also look at additional online extras like web applications, progressive web apps, and web components in addition to browsers and extensions. We'll talk about how these technologies operate, what they're used for, and how they're altering how we use the internet. Readers will have a solid grasp of the world of web browsers and the many add-ons that are available to improve their surfing experience by the time this article is finished. This article will provide you with the information you need to traverse the world of web browsers and fully use all the internet has to offer, whether you are a frequent online user or a web developer. The current web surfing experience is significantly influenced by browsers and other online tools. In order to access and see material on the World Wide Web, users need to utilise a web browser. Users are able to explore websites, follow links, and engage with online content because it understands HTML code and presents web pages to them. On the other side, web extras are extra functions and resources that improve surfing and provide consumers greater control over their online interactions.*

Index Terms—*Internet Explorer, Server Space, Web Developer, Web Pages.*

I. INTRODUCTION

Web browsers have been instrumental in making the internet accessible to millions of people worldwide, and the internet has now become an essential component of contemporary life. There are many various web browsers accessible today, each with its own special features and skills that appeal to different user types. Since their beginnings, browsers have seen substantial evolution, going from simple text-based user interfaces to the sophisticated graphical settings that are known to us today. The advent of online extras has made internet surfing more enjoyable, individualized, and effective. Online extras are supplementary functions and resources that improve surfing and provide consumers greater control over their online interactions. These extras are available in a variety of formats, including widgets, plug-ins, add-ons, and browser extensions. Users may personalize their surfing experience with these tools, prevent intrusive adverts, automate time-consuming operations to save time, and improve their online privacy and security [1].

This essay will examine web browsers and web extras in-depth. From Sir Tim Berners-Lee's first web browser invention to the most recent web browsers in use today, we will examine the development and history of web browsers. We'll also look at how popular browser plug-ins, add-ons, and extensions contribute to a better surfing experience. Additionally, we will explore the different attributes and capabilities of contemporary web browsers, such as bookmarking, tabbed browsing, password security, and developer tools. We will also discuss the value of security

and privacy while using web browsers, as well as advice on how to keep safe online and safeguard personal data [2]. Readers will have a thorough grasp of browsers and web extras, their functions, and how they have transformed how we interact with the web by the time this study is finished. Additionally, they will be equipped with the information and resources needed to make wise choices about their online security and privacy.

For a Web site to be shown online, there must be server space and Internet access. Free Web space is widely accessible online, especially on blogging and online discussion forums. Alternatively, you may acquire a domain name and server space to fully manage your website and web address. Websites may be made using editors and templates. All-text programmes, intermediate coding tools, and sophisticated WYSIWYG interfaces are all examples of web editors. Applications for creating graphics on the web, editing photos, and building prototypes for new web sites. Online tools for creating buttons, banners, GIF animators, and picture maps are all included in graphics programmes.

You may transfer files from your computer to a distant machine or servers using FTP programmes and the My Network Places feature. You should always see your web pages in Internet Explorer and Firefox (at least) and in two to three additional browsers before releasing your web site online since not all browsers are created equally and show the same Web files in different ways. You may use tracking technologies to find out how visitors interact with your sites and use that information to guide your design choices. You may add functionality to your websites using a variety of technologies, such as multimedia elements, shopping

facilities, databases, and other tools.

A. Functionality and Features of Web Browsers

Modern web browsers provide a broad variety of features and functionality that make it easier for users to access and interact with the online. The following are some of the most prevalent functions of web browsers:

Tabbed browsing makes it simpler to transition between online sites without having to create additional windows by allowing users to access numerous web pages in a single browser window [3].

1. Bookmarks

Users may utilise this function to store their preferred web sites for future quick access.

2. Password Administration

Users may manage and preserve their login information for numerous websites using this function.

3. Builder Tools

Web developers may investigate and debug web sites with the help of this functionality, which also allows them to test different features and functions.

4. Add-ons and extensions

These are extra tools that may be added to a browser to improve its features and let you personalize your surfing.

II. DISCUSSION

Web browsers have developed into indispensable tools in contemporary culture, allowing people to access and engage with the enormous amount of online content. Since their beginnings in the early days of the web, browsers have undergone substantial development, and new features and functionalities are continuously being introduced. The history, characteristics, and functions of web browsers and other web-related items will all be covered in this article [4]. Sir Tim Berners-Lee developed World Wide Web, the first web browser, in 1990. It used the NeXT STEP operating system and functioned as a text-based browser. Users may utilise hypertext links in the browser to access text-based material on the internet. However, web surfing did not gain widespread acceptance until the 1993 introduction of Mosaic. Web surfing became more interesting and interactive thanks to Mosaic, which was the first browser to offer graphics and multimedia content.

Since then, web browsers have drastically changed, with new functions and features being introduced on a regular basis. Currently, Google Chrome, Mozilla Firefox, Microsoft Edge, Apple Safari, and Opera are some of the most widely used web browsers. Every browser has its own distinct features and skills that appeal to various user types. A browser's capabilities may be expanded and the surfing

experience can be tailored by adding web extras, which are extra features and tools. Browser add-ons, add-ons, plug-ins, and widgets are only a few examples of the numerous kinds of online extras. There are different types of web browsers (Figure 1) .

Figure 1: Shows different types of browsers.

A. Browser Extension:

These are auxiliary software applications that may be added to a web browser to improve its functionality. Extensions are useful for many things, including ad blocking, downloading movies, password management, and more.

B. Add-ons:

These resemble browser extensions but are more potent and have the ability to change how a web browser behaves. Enhancing security and privacy, boosting productivity, and personalising the user experience are just a few examples of the many uses for add-ons [5].

C. Plug-ins:

A web browser may show multimedia content, such as films, animations, and games, by adding certain software components.

D. Widgets:

These are little programmes that may be installed on a user's browser to provide them instant access to valuable data including weather updates, news headlines, and social networking feeds.

E. Popular Web Extras

For online browsers, there are a variety of widely used add-ons that meet the demands of various user types. Some of the most well-liked online extras are:

F. Ad Blockers:

These are add-ons for browsers that simplify and improve

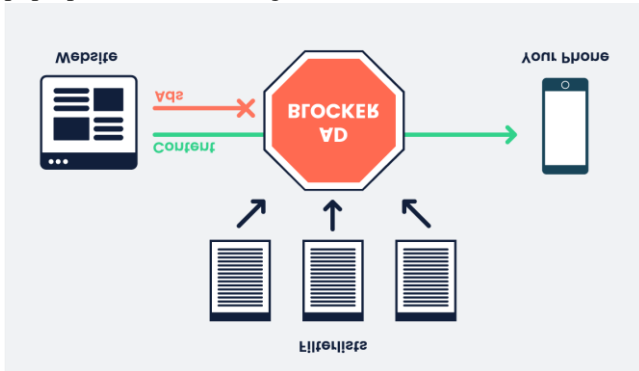the surfing experience by blocking intrusive advertisements, pop-ups, and banners (Figure 2).

Figure 2: Working of Ad blocker.

G. Password Managers:

These are add-ons for browsers that make it easier for users to manage their login information for numerous websites, saving them time and lowering the chance of password-related security breaches.

H. Download Managers:

These are browser add-ons that let users download music, movies, and other kinds of material.

I. Purpose and Functions of Browsers:

A web browser's main objective is to connect users with information resources. A Uniform Resource Identifier (URI), such as http://www.inflibnet.ac.in, may be entered into the browser to start this procedure. The URI's prefix controls how it will be interpreted. The most popular kind of URI begins with the letter http: and designates a resource that may be obtained using the HTTP protocol. Additionally, many browsers allow a wide range of alternative prefixes, including file: for local files, ftp: for the File Transfer Protocol, and https: for HTTPS [6].

Once the resource has been obtained for http, https, files, and other types, the web browser will show it. HTML is converted from markup (tagged) to an interactive document by the layout engine of the browser. Web browsers can typically display any kind of material that may be a part of a web page, other from HTML. The majority of browsers enable the display of pictures, audio, video, and XML files and often feature plug-ins to handle Java applets and Flash programmes. The browser invites the user to save the file to disc when it encounters a file that is either of an unsupported file type or is configured to be downloaded rather than shown.

JavaScript, which often does not need a plugin, may also provide interactivity on a web page. JavaScript may be used in conjunction with other tools to provide "live" AJAX communication with the web page server [7]. Links to additional information resources may be found in information sources. Each link includes the URI of the site it directs you to. When a link is clicked, the user is once again presented with content when the browser navigates to the location specified by the link's destination URI.

Among the most widely used web browsers are Internet Explorer, Netscape Navigator, Mozilla Firefox, Chrome, Safari, Opera, and Epic. Before making your website available to the public, it is essential to test it on at least three to four different cross-platform web browsers since each of them has unique capabilities. On http://browsershots.org, you may test how well your site performs with cross-plate forms. The programmes on this site will provide information about how well your site performs in various web browsers when you enter the URI of your website and the browsers you wish to test it in.

J. Epic Browser

The Epic Browser is the first offering from software firm Hidden Reflex and the first web browser ever created for India. Bangalore-based software business Hidden Reflex was established by Alok Bhardwaj in 2007. Alok, who was reared in the United States, was motivated by the popularity of web 2.0 technologies and open source software. Three people made up the first Hidden Reflex team, but the company quickly expanded and currently has teams working on the Epic Browser and News Drink simultaneously. It must be used to verify the company's claim that the Epic browser offers the safest, most effective, and most "Indian" surfing experience of any online browser [8].

The following are some of the known unique characteristics of several web browsers:

a) The page's margin spacing varies. For instance, Internet Explorer often defaults to leaving a larger top margin than other browsers.

b) Text wraps differently on Macintosh computers than on Windows-based systems because the default font size on Windows is lower than on Macintosh.

c) Because text wraps differently in each browser, a page may include varying quantities of information.

d) Toolbar and scroll bar lengths cause variations in browser window sizes.

Arial, Comic Sans, Courier, Georgia, Times New Roman, Trebuchet (MS), Verdana, and Mangal (Unicode Hindi Font) are examples of cross-platform typefaces that are shown on both Windows-based and Macintosh computers. However, the fonts' default widths differ, with the Macintosh constantly showing them at a lower size. For the majority of designers, making sure that sites appear correctly on Internet Explorer and Firefox the two browsers that make up over 90% of all browsers used to access the Internet is sufficient. Of course, you should always keep your audience in mind. Make sure your website appears excellent on Safari if you know that your readers will be using that browser [9].

For a Web site to be shown online, there must be server space and Internet access. Free Web space is widely accessible online, especially on blogging and online discussion forums. Alternatively, you may acquire a domain name and server space to fully manage your website and web address. Websites may be made using editors and templates. All-text programmes, intermediate coding tools, and sophisticated WYSIWYG interfaces are all examples of web editors. Applications for creating graphics on the web,

online since not all browsers are created equally and show the same Web files in different ways. You may use tracking technologies to find out how visitors interact with your sites and use that information to guide your design choices. You may add functionality to your websites using a variety of technologies, such as multimedia elements, shopping facilities, databases, and other tools [10].

III.   CONCLUSION

In conclusion, browsers and other web-based tools have ingrained themselves into our everyday lives. They provide a variety of features that enhance the fun, effectiveness, and security of our online activities. Online browsers continue to grow and provide new methods for us to engage with the online, from simple surfing to complex functionality like extensions, add-ons, and plug-ins. It is important to remember that although these instruments have numerous advantages, there are also possible hazards and disadvantages. Users should always exercise caution when installing and using third-party add-ons and extensions since they sometimes put the security and privacy of their devices and data at risk. The compatibility of a website with various browsers and devices, as well as the effects of third-party scripts and technologies on website performance and user experience, are additional factors that web developers and designers must take into account. In general, it is critical to be aware and current on the newest trends, best practises, and security measures connected to browsers and web add-ons as the web continues to expand and become more

editing photos, and building prototypes for new web sites. Online tools for creating buttons, banners, GIF animators, and picture maps are all included in graphics programmes.

You may transfer files from your computer to a distant machine or servers using FTP programmes and the My Network Places feature. You should always see your web pages in Internet Explorer and Firefox (at least) and in two to three additional browsers before releasing your web site

sophisticated. By doing this, we can maximise the benefits

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Building a Case for Planning to Design a Web Page

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Abstract—This article talks about how important planning is while creating a website. It makes the case that careful preparation is necessary for building an effective and user-friendly website that satisfies the requirements and expectations of its intended audience. The essay examines the essential elements of planning, including goal and objective definition, target audience identification, site structure and content determination, and design mockup creation. The article explains how planning may assist web designers in creating a more successful website that conveys their message effectively, engages their target audience, and accomplishes their business goals via a thorough examination of each of these elements. The advantages of a well-planned website are emphasized, including enhanced user experience, more traffic and engagement, and higher search engine results. The article also tackles many fallacies about planning, such as the idea that it is pointless or time-consuming for smaller projects. It makes the case that even for smaller websites, planning is a crucial step in the design process that may help save time, save costs, and guarantee a better result. The article's overall goal is to make a compelling argument for planning in web design by giving readers useful tips and suggestions for include planning in their own design processes.

Index Terms—Content Determination, Target Audience, Web Designers, Website Hosting.

I. INTRODUCTION

Your web pages are located at a particular address (location) on the Internet called a website. A website essentially serves as your own internet communications channel to the rest of the globe. Any other kind of publishing, advertising, or communications medium cannot compare to it in any way. Web design demands the pertinent information of a brochure or magazine, the vibrant appearance of high-quality print, and the attention-getting power of television advertising. Additionally, it should provide a useful service or information, be regularly updated, and keep up with technological advancements [1].

Having a website is now crucial for organisations and people to interact with their target audience given how pervasive the internet is in our everyday lives. A website acts as a company's or person's online presence and is often the initial point of contact for prospective consumers or clients. Therefore, the key to developing a strong online presence is developing a website that is user-friendly, interesting, and effective.

But creating a website involves more than simply selecting a template and adding information to it. It requires a deliberate and strategic approach that includes preparation, investigation, and a thorough comprehension of the intended audience. A comprehensive strategy that considers the technical, aesthetic, and functional aspects of the website is necessary for effective website design.

Planning is a crucial step in the creation of a website. It enables web designers to specify their aims and objectives, pinpoint their target market, choose the structure and content of their websites, and produce design mockups.

Planning enables web designers to build websites that satisfy the demands and expectations of their target market, effectively convey their message, and achieve their business goals [2]. We shall make a case for planning in website design in this post, offering readers useful tips and suggestions for implementing planning into their own design procedures. We'll look at the essential elements of a planning process, the advantages of successful planning, and typical planning myths.

We will start by talking about the value of identifying goals and objectives and how they might assist designers in building a website that satisfies their clients' business aims. The technique of determining the target audience will then be discussed, along with how it may assist web designers in building websites that appeal to and engage their target audience. We'll also go into the significance of deciding on a site's structure and content and how doing so may assist web designers build a website that is simple to use and successfully conveys their message. Finally, we'll talk about how important design mockups are and how they may aid designers in visualizing their websites and making wise design choices.

To highlight the value of planning in website design, we will use real-world examples and case studies throughout this article. Along with dispelling common myths about planning, we'll provide suggestions for integrating it into the design process for even modest projects. Readers will have a thorough knowledge of the significance of planning in website design by the conclusion of this article, as well as be armed with useful information and suggestions for implementing planning into their own design processes.

II. DISCUSSION

A. Building a case for planning

Starting a website for a small to medium-sized company might be one of the most difficult tasks you'll ever do. This section aims to provide readers a foundational understanding of website structure, content organisation, keyword selection, and page description authoring. This may serve as a starting point for further education and can assist you in building a solid foundation for the website of your business [3].

B. How to Structure Your Website

There are two different sorts of content sections to consider for the majority of small to medium-sized enterprises.

Common sections: Certain components that you often find on business websites.

Organization-specific sections: Particular areas are exclusive to your company. They could be sections under the preceding.

1.1.Common Section: These will include broad details about the company. You must choose which supporting components to add. You could take into account the following in this section.

1.2.About us: Information about the organisation is provided in this section. This is present on practically all commercial websites, no matter how large or little. It is customary to be familiar with the company you are working with. This part aids in introducing you to the outside world. This data may be condensed to one page or span many pages [4].

Following element might be included in this part:
Who are you
Company/organization History
Company/organization profile
Mission Statement
Contact us- Customers should be able to reach you in as many different ways as you can. This section needs to be updated often. The contact information must include:
Telephone and fax numbers
Email addresses
Email forms
Physical address
A _we are here map'
Emergency contact details

C. Products and Services

It is customary for businesses to provide information about their goods and services on the index page (also known as the home page), but it's crucial to create a distinct part of your website only for your goods. This will make it simple for buyers to locate your goods and services and enable them to rapidly investigate and evaluate you.

1.3.Organization-specific sections: Following the same basic layout as previously and adding logical subsections to each part is the best approach to go about developing organization-specific sections for your website. If your visitors need more specific information, you should provide links to pages with such information on the first page of the subsection. For example, a special library site may have special collection on specific subjects that may contain following sub-subject:
Special collection on the subject
Period it covers
Uniqueness of record 123
Information Media
Accessibility

D. How to Design Intuitive Navigation

With this knowledge, you can steer clear of some of the most frequent navigational errors that small- to medium-sized organisations make. This is crucial since poor navigational systems will ruin websites.

E. What makes good navigation?

As far as designing Website navigation is concerned the key to intuitive navigation is consistency. Take a look at any large commercial website and you'll find very similar elements in very similar places. Why? Because that's what users expect. Here are a few guidelines to bear in mind when considering your site's navigation:

a) **Place major section/category links horizontally, near the top of every page.** Most websites typically include these links in the upper left corner, behind the logo. If you're having trouble understanding this, consider how you read a page of text: top left to bottom right. Right? Additionally, try to keep your primary categories to a maximum of eight. If you give your users too many options, they won't be able to decide anything.

b) **Put section-specific links in a clearly marked column along the left-hand edge.** Again, consumers will anticipate finding these connections here. Keep in mind that a user-friendly website will provide a better user experience and improve visitors' perceptions of it. This doesn't imply that you should disregard fashion, of course, but, as with many other aspects of life, balance and importance must be considered. The following is an example of a section-specific link for the required About Us section: * Who We Are * Our Company * * About Us * * Mission Statement.

c) **Use contextual links in your body text.** Use contextual links to direct your visitors to relevant content when it is suitable. Additionally, don't be hesitant to link to other material since doing so enhances the value of the information you already have and establishes your expertise on a certain topic. If your visitor finds your knowledge

useful, he will return; otherwise, you never had him in the first place [5].

d) **Provide a search box for your visitors.** Every user is unique, and some would surely choose to utilise a search box rather than your logically positioned, well-placed text links to obtain the information they need. Any website must include a search box, and it's quite simple to put one up. This is a great place to discover a third-party solution.

e) **Use text links wherever possible.** There won't always be human visitors to your website (insert menacing music). Robots from search engines will be prevalent. Because graphical links and search engines don't get along, if you must use them, provide text alternatives at the bottom of the page.

f) **Provide a site map.** It seems very apparent, huh? It's a pity that the majority of small- to medium-sized websites don't include a site map. They will benefit both your human and non-human guests, are relatively simple to construct, and don't need to be very attractive to be useful. The 'footer' of the page, next to the copyright notice, is a nice spot to provide a link to your site map.

g) **A small disclaimer If you've questioned any of the above statements, then good:** We won't ever alter anything if we don't continually reflect on what we do and why we do it.

The truth is that folks creating creative, non-commercial Websites are not the target audience for this part. The article is not meant to be an in-depth analysis of this subject; rather, it is intended for small to medium-sized businesses who are creating websites that must be accessible to a broad range of people. According to common sense, we should design our navigation around what people anticipate, making it as easy to use for your lovely old grandmother or your top clients as it is for you or me. Don't get too discouraged if my pretty rigorous restrictions have somewhat dulled your creative flair style is most certainly still alive and well! You may have a Website that looks fantastic and performs well with a little thinking and forethought. Web design has always included making compromises, and those who can successfully combine aesthetic concerns with real-world constraints will discover that the constraints themselves encourage innovation.

F. What makes bad navigation?

Many websites for small businesses really do more damage than benefit. When a user leaves your website dissatisfied, it has a negative impact on your company. The leading factor contributing to such online annoyance is poor navigational design and it typically has two key effects upon your site's visitors [6]:

1. They leave before reading all of the material you provide that is pertinent to them.
2. As they attempt to browse the website, they get dissatisfied and depart.

A wide range of typical factors, such as Flash intros, Splash pages, and false information, contribute to the first issue. Without a doubt, this is a subject worth discussing, but if I go there, I may never turn around.

On small to medium-sized corporate websites, especially those that are "home grown," the second issue is all too typical. User annoyance is often due to a mix of frequent errors and traps rather than a single root reason. The inevitable outcome is a Website with good intentions that, however, ends up being a terrible experience for everyone involved.

G. Bad navigation can be caused by:

1. Overly complicated or gimmicky menu systems
2. Inconsistent or unusual placement or style of links
3. The user not being able to find the links at all
4. Inconsistent page design or layout
5. Unclear or misleading link text
6. Graphics-only links
7. Notice here that inconsistency is a common theme here.

H. How to Write Page Titles

Effective page names may boost traffic and weed out unqualified visitors. A Web page's title has

Two main functions:

A. To explain what the page contains, and
B. To promote keywords or phrases and thus increase and qualify traffic.

The most crucial element that influences a user's decision to click a link in a list of search results is the page's title. To illustrate, consider yourself looking for a used book. Which of the following links are you most likely to click?

1. Publisher name
2. Affordable second hand books
3. Untitled document

It's clear that your first choice would be number two, but let's take a look at why. Number 1 says absolutely nothing of any value to anyone, and for that reason alone it's less likely that you'll even come across this link in your search for a second hand book, let alone click on it. If you're searching through a directory like Yahoo! or Jubii then it will probably be there, but it'll be much easier to miss, as it's unmemorable and uninspiring. Number 3 might as well say 'Don't buy anything from us, we're a bunch of clowns. This poor effort just spells incompetence and I personally think that it should be a punishable crime to publish such monstrosities. Similar crimes include 'page 1', 'Minnye hjemme side' and 'Welcome to some shabby html editor!'. Number 4 is clearly the work of someone who should be kept away from the rest of society.

Ideally page titles should contain, or better still, be the phrase that your visitors search for. Many search engines award higher rankings to short, concise titles that contain the

searcher's keywords. Ideally you should keep your page titles less than 40-50 characters long and be as honestly descriptive of the page's contents as possible. Remember that not everyone that visits your site will enter via the front door. It's no good having the same title for every page, as all you'll end up doing is limiting the number of visitors you attract. If one of the pages in your 'second hand book' site deals with reference and referral services might attract prospective information users. In conclusion keep your titles short, honestly descriptive, and above all, relevant to your page's contents. Try to use the terms or phrases you expect your visitors to search for, and avoid the multiple exclamation mark and capital letter madness: overly promotional titles are a turn-off to most users [7].

It's obvious that number two would be your first pick, but let's look at why. For that reason alone, it's less likely that you will even see this link in your search for a used book, much alone click on it. Number 1 says absolutely nothing of any value to anybody. It will undoubtedly be there if you search via a directory like Yahoo! or Jubii, but it will be much simpler to overlook since it is forgettable and uninteresting. Don't purchase anything from us; we're a bunch of clowns, says number 3 just as well. This feeble attempt screams stupidity, and I personally believe that publishing such abominations should be a felony. 'page 1', 'Min nye hjemmeside', and 'Welcome to some shabby html editor!' are examples of crimes of a similar kind. Number 4 is unquestionably the creation of a person who need to be isolated from the rest of society.

The term that your visitors search for should ideally be in the page titles, or even better, be that word itself. Short, precise titles that include the searcher's keywords often get better ranks from search engines. Your page names should ideally not exceed 40–50 characters and should accurately describe the contents of the page. Keep in mind that not every visitor to your website will come in via the main entrance. Having the same title for every page is useless since all it will accomplish is reduce the quantity of visitors you get. If one of your "second hand book" website's pages discusses reference and referral services, that page can draw potential information users.

Keep your titles succinct, accurately descriptive, and most importantly, relevant to the information on your page. Avoid using excessive capitalization and exclamation marks, and try to utilise the words or phrases that you anticipate your visitors would type into search engines: Most users avoid names that are overtly promotional.

I. How to Choose Keywords

Keyword selection improves traffic and qualifies visitors. The words or phrases that your clients could use in a search engine to locate a website that provides goods or services similar to yours are known as keywords and search terms.

Choosing keywords is simple if you adhere to a few rules [8].

Basic rules for choosing keywords
1. **Think Like Your User**
Choose terms or phrases that you might see your clients typing into a search engine by trying to envisage themselves as your customers. How would you locate a website similar to yours? What search phrases did you use to discover your rivals if you were using a search engine to find them?
2. **Be Specific**
Be precise. If you sell vehicles, for instance, using the term "cars" will be almost worthless since you will be competing with too many other websites. The phrase "affordable used cars" would be much more appropriate.
3. **Use Words from the Page**
Use terms that are found on your page. Consider a website that sells used books and has distinct categories for Globe International and PHI. An effective choice of keywords might work like this:
i. **Front page:** 'second hand Books', 'used books', 'affordable books'
ii. **PHI page:** 'second hand PHI Books' 'used PHI Books' 'previously used PHI Books'
iii. **PHI page:** 'second hand PHI Books' 'used PHI Books' etc. And make sure you use these keywords in your page titles.

J. Writing Page Descriptions: A Guide

The traffic to your website might significantly increase with good page descriptions. Some search engines, like MSN, display the description of a website in place of the title in a list of search results. Websites now have a fantastic chance to make the correct first impression before clicking. You may further qualify your visitors by using your description in conjunction with a strong page title. Here are a few general guidelines [9], [10]:

a) Page descriptions should be as brief as possible, with no more than two sentences.
b) Try to be completely sincere. It is far preferable to draw customers who are really seeking for a business like yours than to deceive consumers.
c) If at all feasible, include the keywords or phrases you're aiming for in your descriptions.
d) Avoid using language that is highly promotional since people dislike it and certain search directories may not include sites that do this.
e) Avoid using several exclamation points or full capital letters. People will assume you're crazy.

III.   CONCLUSION

In conclusion, preparation is a crucial component of creating an effective web page. It enables the website's designer to comprehend the website's objective, target

market, and message. Planning offers a framework for resolving problems that can emerge throughout the development process and helps in detecting possible issues that might occur. Researching, examining the data gathered, establishing the scope and goals of the website, designing wireframes, and coming up with a content strategy are all part of the planning process. Setting up a precise timetable for the project and allocating resources in accordance with it are also critical.

The user experience, navigation, and functionality must all be carefully taken into account while designing a web page. Therefore, designers may make sure that the finished result is aesthetically pleasing, user-friendly, and accomplishes the desired objectives by carefully planning the design of a web page. In the end, a well-thought-out and designed web page may assist companies or organisations in driving conversions, developing brand recognition, and communicating successfully with their target audience. A vital stage that may significantly impact a website's success is planning the design of a web page.

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Getting to Know Your Audience and Drawing the Blue Prints for Site

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Abstract— Finding out who your audience is and creating a site's blueprint are the two main topics of this abstract. In order to build a website that successfully conveys your message and accomplishes its objectives, it is essential to understand your audience. The process of drawing the blueprints include producing a visual representation of the site's content and organizational structure that acts as a guide for the development process. In the first section, we'll go through how to create user personas and perform research to better understand your audience. User personas are fictitious avatars of your target market that may be used to better understand their wants, objectives, and behaviours. You may design a website that appeals to your audience's interests and successfully conveys your message by knowing who they are. Wireframes and site maps are the building blocks of your website, and we'll cover how to create them in the second section. Site maps provide an overview of the site's structure and content, while wireframes show how the site will look and operate. You can make sure that the functionality and design of the site support your objectives and successfully convey your message to your audience by developing these blueprints. Overall, the phases in the website design process that are most crucial are learning about your audience and creating the site's blueprints. You can build a website that successfully conveys your message, engages your audience, and accomplishes your objectives by taking the time to understand your audience and developing a clear strategy for the structure and content of your site.

Keywords— Blue prints, Demographics, Research Techniques, Spreadsheets

I. INTRODUCTION

Successful websites must have more than simply an eye-catching design and useful information. You must have a thorough grasp of your target audience's requirements, tastes, and behaviours in order to create a website that actually appeals to them. Knowing your audience can help you design your website more effectively in this situation. Research, data collection, and user behavior analysis are all part of the process of getting to know your audience. You may create a website that meets the requirements and expectations of your target audience by studying the demographics, psychographics, and online behaviour of that population. This might assist you in developing a close connection with your audience and establishing your business as a dependable and trustworthy source of information [1].

The next stage is to sketch out the layout of your website after you have a firm idea of your target market. This entails coming up with a strategy that specifies the general framework, appearance, and content of your website. This strategy will act as a road map for your web development process and keep you on course while you design and construct your website.

This post will discuss the significance of understanding your audience and creating a site map. We will go through several audience research techniques, user behaviour analysis, and how to apply the knowledge learned from this research to build a successful website. We'll also examine the essential elements of a website blueprint, such as the site's structure, content, and design, and provide advice on how to come up with a productive plan that will direct the creation of your website. By the conclusion of this article, you will grasp the significance of researching your audience and developing the site's blueprints, and you will be armed with the information and resources required to build a successful website that appeals to your target audience.

Finally, you may think about if your website's layout has made it worthwhile for your target audience to visit again. If not, maybe this isn't your target demographic after all, or perhaps you need to change the layout of your website if it doesn't suit the requirements of your target market. To increase the likelihood that your target audience will return to your website, take into account the balance between design and usability. What must you do in order to draw in and maintain your target audience? Should you change the layout of your website or your conception of your potential target market? You may concentrate on whether or how your website's design and your target audience are compatible by being upfront and honest when responding to such queries [2].

II. DISCUSSION

Understanding and identifying your target audience is crucial when developing your website. Many websites neglect to remember this or never really have a target audience in mind. Any website that loses this basic component may have a meandering design that strives to appeal to everyone while really only appealing to a small number of people. A site that is overly wide in focus may sometimes attract visitors, but it runs the danger of being so unclear and uninteresting that it attracts relatively few readers.

Some websites, on the other hand, go the other way and choose to concentrate so intensely on their target audience that they narrowly target too precise a demographic or sector in their design, alienating other potential consumers. As a result, their readership may become too tiny to sustain the website. Here are some key factors you may want to take into account while designing your website with your target audience in mind [3].

A. Begin by considering your audience as a whole

Whom are you writing to when you produce or publish content on your website? Who do you believe will see what you post? Will your website's layout and content have the intended impact on this audience? When trying to picture who your target audience will be, these are the kinds of questions you may want to ask yourself. If you don't have a clear concept before you start building your website, obtain one as soon as you can so that you can start creating one that is better suited for your target audience.

B. Profile Your Target Market

But identifying a precise target market isn't always simple. Knowing who or what demographic you want your website to appeal to may not be straightforward. Take the layout of a financial website, for instance. A financial website could appeal to a wide range of users, each of whom has different design requirements. There may be readers interested in personal finance who are seeking for information on how to save costs. Perhaps the audience of stockbrokers and financial analysts is seeking hot stock choices and attractive charts. It's possible that the audience of baby boomer retirees requires retirement calculators. Or do you serve the needs of stay-at-home parents who want to save money on baby food, diapers, and other household necessities by clipping coupons? As a result, while determining your target audience, think about segmenting your potential audience into groups of individuals who are most likely to be interested in your website. Age, sex, career, income, interests, hobbies, and geographic categories. When determining if the design of your website corresponds to your target audience, geography may be a factor [4].

C. Cater to Varying Abilities & Skill Levels

When it comes to the design of your website, you'll probably need to take your target audience's skills into account as well. Does your target audience possess the knowledge, training, or aptitude required to comprehend, operate, and successfully navigate your website as it has been designed? It's not a given that your target audience's demands will be met just because you built a nice website. You can end up with a beautifully designed website that no one visits if it isn't helpful to your target audience.

Drawing the blue prints for site

Although many various software programmes might be used to achieve the same goal, this plan was constructed using simple components inside Microsoft Excel. The website blueprint provides a visual method to keep track of the pages you add, the keywords you employ, and the relationships between the individual website pages. The blueprint is a fantastic planning tool since it enables you to track keyword demand and profitability as well as maintain track of how your website is organised as it develops. Essentially a "Business Plan" for your website, this free website plan. The development of a website is related to the spreadsheet examples in this instructable. However, the fundamental ideas presented may be applied to different e-commerce web hosting and website design software [5]. Figure 1 shown the Spreadsheet examples shown in this instructable relate to building a website. In Figure 2 shown the adding the text. Figure 3 the use of connector tool and Figure 4 shown the home pages and pages linked to it.
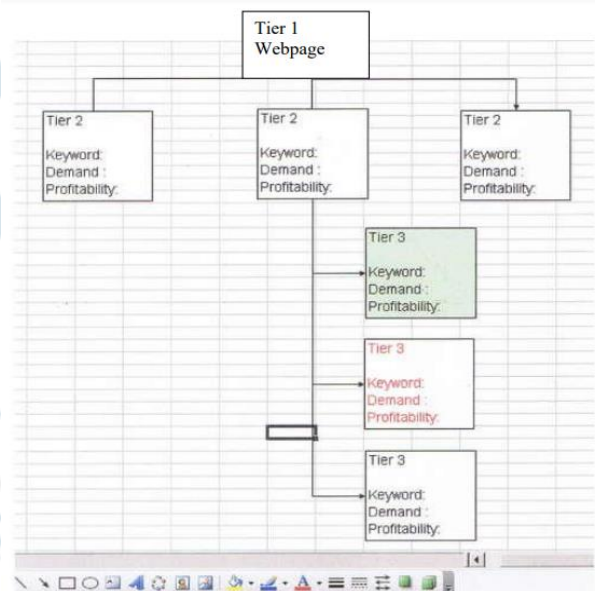

Figure 1: The Spreadsheet examples shown in this instructable relate to building a website.

STEPS

Step 1:

i. Create a site map in Microsoft Excel. Microsoft Excel is utilised in this tutorial, although there are many more software options available.

ii. Launch a fresh spreadsheet and do a right-click on any toolbar.

iii. Select the "Drawing" toolbar by navigating to the bottom of the list of toolbars.

iv. A toolbar for drawing appears at the bottom of your screen.

v. Use the rectangle tool to represent each page of your website by drawing rectangles.

vi. At the very top of the spreadsheet, place the rectangle for your home page.

vii. Choose "Add Text" from the menu when you right-click within the rectangle. Choose the term that best describes the

topic of your website for your home page. Then provide more crucial data, such as keyword monthly demand, profitability index, and notes, such the URLs of other pages this one connects to.
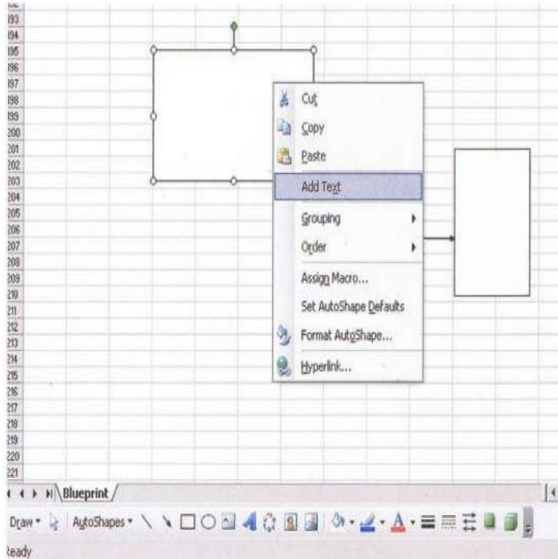

Figure 2: Represents adding the text.

Step 2:

i. Display the page connections between them.

ii. For the connectors tool, choose "Auto Shapes" and click the downward pointing arrow. To choose the arrows that will be used to link the rectangles, click the connections tool.

iii. You link an arrow from the rectangle that represents your home page to other rectangles that represent all the pages in your navigation bar in this instance.

iv. The arrows or connectors show how your website's pages are connected to one another. All of the pages shown in your website's navigation bar are connected to the main page.

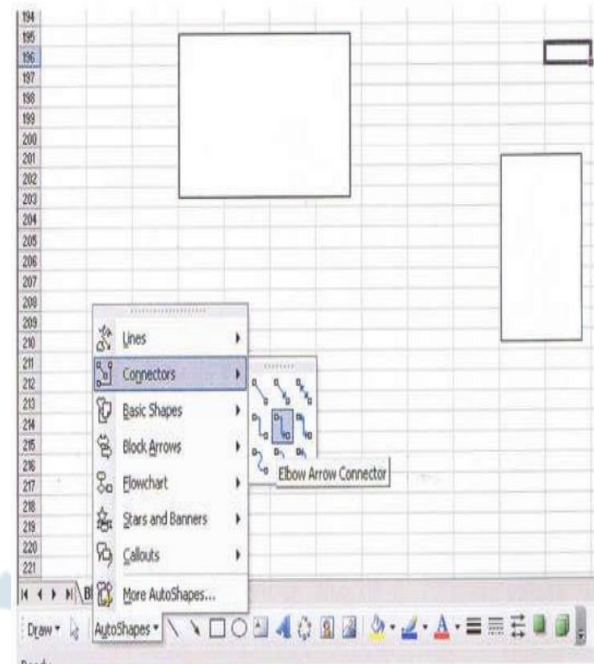v. You now have everything you need to sketch out the framework of your whole website.

Figure 3: Represents the use of connector tool.

Step 3:

i. Display the main page and the sites to which it connects.

ii. You may now see every page to which your home pages connect.

iii. For each page, include crucial information like the monthly keyword demand and keyword profitability.

iv. Your home page need to be centered on the most profitable and popular keyword.

v. Your second-best keyword demand and profitability should be the emphasis of the pages that your main page connects to or the pages in your navigation bar.

vi. With this helpful information, you only need to build one rectangle, which you can then copy and paste to generate rectangles for all the other pages on your website.
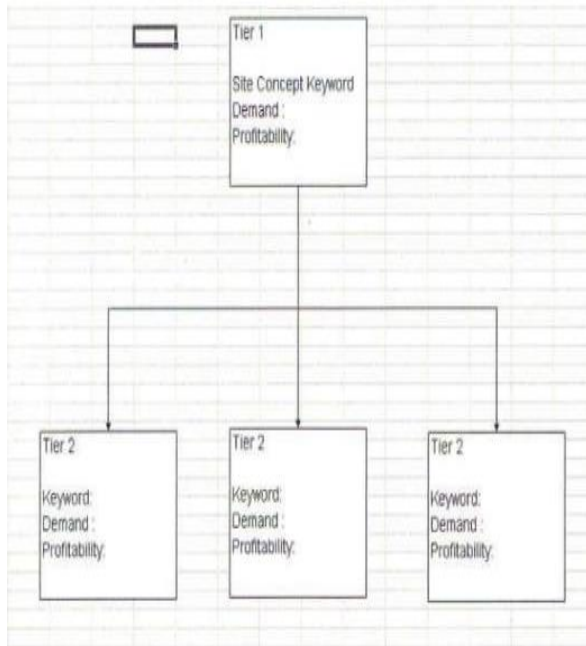
vii. You may modify the text data as necessary [6].

Figure 4: Represents home pages and pages linked to it.

Step. 4

 i. Enter the rest of your website's pages.

 ii. Each of the pages in your navigation bar will connect to other pages.

iii. You may demonstrate this by putting rectangles under each page mentioned in the navigation bar after editing copy.

iv. Edit the text content for each page once more.

 v. These pages would typically have significantly lower keyword demand than the pages in your navigation bar. But since these sites are linked to one another, the connection tool previously mentioned displays connections to them.

Step. 5

Utilise the Website Blueprint to analyse your website to complete it. The site blueprint may be used to monitor the performance of your website after it is up. If you find that some pages on your website are highly rated by Google or another search engine, you should highlight them by making the rectangle that represents them green. This provides an immediate visual cue that this page is doing well and doesn't need much upkeep [7], [8].

The text in the rectangle that represents one of your Webpages should be highlighted in red if it has a high demand and profitability rate but your traffic data indicate that search engines have not yet noticed it. You may now proceed to work on that page as a result of this. Anyone creating a website should find this website spreadsheet tool to be a useful resource. It might be challenging to remember which sites connect to which once you've created a large number of them, as well as which pages you should be paying attention to. You should have all you need from this tool to organise your website [9].

III. CONCLUSION

In conclusion, the key elements in the website design process are identifying your target audience and creating the site's floor plan. By knowing who your target market is, you can design a website that both satisfies their wants and expectations and advances your company objectives. Understanding your audience's preferences, behaviours, and pain points may be learned via market research, user persona creation, and feedback collecting. You may start planning the structure and style of your site after you have a firm grasp on your target audience. You may visualize how your site will be set up and how people will traverse it by creating a site map and wireframes. Before going on to the design process, this may also help you see any possible usability difficulties and make the appropriate improvements. Overall, spending the time to carefully plan and study before beginning the design process will help you save time and money and, in the end, produce a website that is more successful. You can make sure that your website is efficient, user-friendly, and in line with your company objectives by prioritising the requirements of your audience and developing a clear strategy for it

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Gathering Suppliers and Preparing to Build Website

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Abstract— One of the most important steps in the website creation process is gathering vendors and getting ready to establish a website. In order to develop and maintain the website, it is necessary to choose a web hosting company, a content management system (CMS), and the third-party tools and services that will be required. When creating a website, it's crucial to choose a reputable web hosting company that can give the tools, support, and security measures you want. Depending on the requirements and financial constraints of the project, this might include shared hosting, virtual private servers (VPS), dedicated servers, or cloud hosting. Choosing a content management system (CMS) is equally crucial to web hosting. A CMS offers a simple user interface for controlling the functionality, appearance, and content of websites. Joomla, Drupal, and WordPress are popular CMS choices. Finally, depending on the particular needs of the website, the use of third-party tools and services including website builders, e-commerce platforms, payment gateways, analytics software, and email marketing services may also be required. This article will go through the steps involved in collecting suppliers and getting ready to develop a website, as well as advice on choosing a web host, a content management system, and third-party tools and services..

Keywords— Content Management System, E-commerce, Virtual private servers, Web Hosting Service

I. INTRODUCTION

A website is a necessary component of having a digital presence for any company or person. Gathering vendors and getting ready to develop your website are the following steps after doing market research and determining your target market. You will need to take a number of things into account throughout this process, such as the domain name, web hosting, content management system, and website design. Choosing a domain name is the first step in getting ready to establish a website. The online address that visitors put into their browsers to access your website is known as a domain name. It needs to be memorable, simple to spell, and representative of your company or brand. Because it may affect your website's exposure and search engine results, it's critical to choose a domain name that is distinctive and simple to remember [1]. After deciding on a domain name, the following step is to choose a web hosting company. A web hosting service makes it possible for others to visit your website on the internet. Web hosting comes in a variety of flavors, including shared, VPS, and dedicated hosting. Depending on the size, volume of traffic, and complexity of your website, each hosting option offers advantages and disadvantages [2].

The choice of a content management system (CMS) comes after choosing a web hosting company. You can develop, manage, and publish content on your website using a CMS, which is a piece of software. WordPress, Drupal, and Joomla are a few of the widely used CMS systems. It's important to choose a CMS that fits the requirements and objectives of your website since each one has strengths and drawbacks. Finally, it's time to design and construct your website once you've collected vendors and chosen its essential elements. Making a visual depiction of your website's layout, colour scheme, typography, and overall look and feel is called website design. It's crucial to have a website design that complements your brand and appeals to your target market aesthetically [3]. Your website will be built and tested throughout the development period in collaboration with web developers and designers. This entails development, testing, and performance tuning of your website's functionality and usability. It's time to launch and market your website to your target market once it has been developed and tested.

In general, finding suppliers and getting ready to develop a website is a difficult procedure that requires carefully taking into account a number of criteria. It's crucial to choose vendors and parts that go hand in hand with the requirements and objectives of your website, while also keeping on schedule and under budget. You may design and construct a website that is efficient, user-friendly, and in line with your brand and company goals by adhering to best practices in web design and development.

II. DISCUSSION

A. Register domain name

Consider your aims and if search engine optimization is one of them before acquiring a domain name. If so, include keywords into the domain name. The first factor that search engines consider when ranking your website for keywords is the domain name. There are hundreds of domain registration services. For a yearly domain name registration, costs now range from roughly $8 to $15. What sets these various domain registration services different from one another?

B. Web Hosting Service

In recent years, web hosting providers have proliferated all over. Virtual web hosting software makes it possible for almost anybody to offer or resell web hosting services. There

are many reliable web hosting companies out there, but there are also just as many or maybe more that are completely incompetent! If you are serious about your online business, the hosting firm must be chosen based on dependability, performance, customer service, and last but not least; pricing. The precise web hosting plan that you pick will depend on the sort of website that you are constructing and the features necessary. E Commerce Hosting Service Plan Considerations [4]

Platform (operating system) - Microsoft and Unix are the two primary server systems that are offered. The oldest and most well-established multi-user server platform is unquestionably Unix. Microsoft just recently entered the multi-user server platform market. For our purposes, Linux and Unix are identical since they are built on the same technology. Microsoft servers often cost more than Unix servers, but they are also more reliable and efficient.

Features - Prior to searching for a web hosting provider, decide on your essential characteristics.

Connection - T1, T3, or OC3 lines are used to link the majority of web server machines to the Internet backbone. T1 can transmit up to 1.5 megabits per second (mbs), T3 can send 45 mbs, and OC3 can send 155 mbs. (The equivalent of 100 T1 seconds). Small ISP hosts sometimes have "fractional T1" connections (parts of a T1) or ISDN connections to the Internet. The standard minimum allowed connection for commercial hosting is a T3 connection.

Server Speed - There are many different brands and kinds of servers, just as there are with personal PCs. Industry-wide, Pentium processors are used. A competent Pentium system often runs at double the speed of a cheap Celeron server, which is how most low-cost hosting firms save money. Then, in order to maximize revenues per machine, they overload the server's capacity with an excessive number of high traffic websites [5].

Reliability - Many web hosting companies advertise a 99.9% uptime rate. If you don't have a trustworthy source, don't believe anything they say. There are a lot of virtual hosting businesses out there with attractive, engaging websites and poor servers with no technical assistance. If you can, talk to someone who has utilized their service. If not, check for one that has a money-back guarantee and no setup costs. Even if they do offer 99.9% uptime, this may not be sufficient for an e-commerce site. An annual downtime of.3 percent is equivalent to more than 26 hours.

Support - 24-hour assistance while it sounds nice, this commercial tagline is often untrue. There aren't many web hosting providers that genuinely have trained support staff on call around-the-clock. Typically, 24/7 refers to their availability for email, with a 24-hour response time. Watch out for autoresponder support systems that advertise 24/7 assistance. You might have a lot of problems with these fully automated systems [6].

The majority of web hosting providers just handle the fundamental functions of your hosting account; they won't help you set up or use ecommerce software like a shopping cart, affiliate programme, message board, autoresponder, mailing list, etc.

Location - Despite the fact that the Internet is a global marketplace, distance does matter. There are often more connections between the server and clients as the distance between them grows. This may cause a website to load slowly and raise the possibility of page not found problems brought on by a malfunctioning Internet relationships [7].

Price - What price range should you expect to spend for web hosting? Depending on the requirements of your website. There are several affordable hosting providers available if you don't want dependability or technical assistance. Reliability becomes crucial if the website is commercial and things are being sold there. A few dollars saved on a cheap hosting plan may wind up costing hundreds or thousands in lost revenue. If the site is unreachable for extended periods of time, search engine optimization may also be affected. Our web hosting packages are designed with the construction of commercial websites in mind, with a focus on customer support and e-commerce software. If you need this kind of service, look at our web hosting package.

C. Developing Text Content

Most e-commerce websites place a high importance on having high search engine rankings. Typically, the ease or challenge of attaining strong search engine ranking relies on the number of websites vying for the same keyword placement as well as the search engine optimization of your competitors' websites. Other elements exist, such as link popularity, but that is a different topic. In any case, your chances of getting discovered increase the more relevant material you provide on your website. Your search engine exposure grows as you add more relevant material, particularly if it is optimized for keyword ranking [8].

D. Writing Effective Copy -

When visitors arrive at your website, you want to maintain and pique their attention. You must provide compelling, convincing language as well as appealing, efficient images. The majority of the writing should almost always be completed before creating the web pages.

1. The AIDA acronym Attention, Interest, Desire, and Action is often used by specialists. Here, it is enlarged to 10 points.

2. Draws the reader in with something pertinent

3. Responds to the reader's concerns, worries, or desires

4. Makes an offer to address the reader's issue in the most detailed manner feasible.

5. Emphasizes certain advantages for the user rather than the characteristics that result in those advantages.

6. Illustrates the consequences of inaction. Gives the reader the opportunity to get something of obvious worth, but only for a brief period of time (according to most theories).

7. Encourages the reader to take a quick action.

8. Include credible, meaningful evidence from another party (a client, an authority figure) that supports your position.

9. Provides evidence for assertions by comparing them to rivals

10. Gives the reader the appropriate purchase form or contact details so they may continue.

E. Optimize Content:

We advise that you optimize your text content for the optimum search engine indexing after authoring it. This may be a challenging job. The most effective keyword optimization has a detrimental impact on reading. In most cases, word juggling is necessary to obtain a decent balance.

F. Optimize Images:

Images used on websites must be 72 pixels per inch or less and should be scaled to match the space available on the page. Image files that are not optimized might make websites load slowly [9]. The photographs may seem distorted if they don't fit the space where they are shown on the website. Before uploading photos to the server, image processing for web sites is often done locally on a computer. An image processing software like Adobe Photoshop is generally needed to resize and optimize photos for usage on web sites.

G. Basics of Graphics Preparation for Webpages

1.1 Resize the Image:

Keep your original photographs in a secure place so you can access them easily, if necessary, entirely unbroken. Avoid expanding pictures since you'll lose resolution and get a muddy-looking image in the end. Always begin with a huge picture file and then decrease it. The photos shouldn't be any bigger than what is required to get the intended aesthetic impression.

1.2 Enhance the Image:

A raster graphic often exhibits some distortion when its size is changed. After your photographs have been shrunk in size and depth, there are several ways to clean them up and improve them so they seem bright, clear, and crisp. Adjustments to contrast, brightness, saturation, hue, and sharpness are among the techniques. We utilise Adobe Photoshop to get the finest results [10].

1.3 Reduce File Size:

The quantity of data that a web page contains determines how long it takes to download. On sluggish connections, a few big picture files will cause the download speed to become unusable. Before being included into web sites, images are compressed to make them load faster and use less bandwidth.

1.4 Logo Design:

One of the primary tools for constantly expressing a company's image and for attracting attention and recognition

is a logo. Typically, a small firm will only create (or modify) a logo once or twice throughout its lifespan. For the majority of individuals, it is advisable to hire a talented graphic designer to produce a visually appealing but straightforward logo in a variety of sizes and formats that can be used in correspondence, publications, commercials, and web sites. Here are some tips for designing a logo. The first step in creating a logo is creating a visual image, which may be created from artwork or from a photograph. It is important to keep the design straightforward with recognizable, eye-catching lines. Your logo design expenses will be lower if you start with a stock photo or piece of artwork. The price of your logo design will often rise significantly if original artwork is created from scratch.

Then text is inserted. There are many options for text fonts. Select one or more that will improve the graphic's aesthetic appeal and are suitable for the sort of company you are in. The cost of creating a custom typeface will go up since it is considered artwork. Layers of colour are used. If the design adheres to the aforementioned recommendations, a simple two-color logo may often be made on a cheap budget. The cost of your design will rise as a result of the longer it takes to develop each layer the more colours you include. The most visually impactful design is one that uses all available colours, but it also increases manufacturing and development costs.

1.5 Web Page Design & Navigation

A business website's success depends on having appealing web pages with simple navigation.

1.6 Do-It-Your Self or Hire A Web Designer?

You must first get an HTML editor programme like FrontPage, Dreamweaver, or Hot Dog if you have the time and want to create and maintain your own web sites. It could just take you a few months if you learn quickly to create barely passable web pages. The majority of serious businesspeople see the time required to learn web design as a distraction from their primary objective, which is the promotion of their goods or services. Others find that working on your website's design is a great approach to become intimately engaged in its construction. Knowing the fundamental rules for web site design is helpful whether you have a professional design or do it yourself.

1.7 How to Add Meta Tags to Your Websites

The HTML header of web pages contains identifiers called meta tags. They do not show up in the browser's viewable web page. Although meta tags are not necessary for your web pages to function, some (but not all) search engines take them into account when deciding where to rank your site in relation to the search terms (keywords) entered. The description and keywords in the meta tags are the most important ones [11].

H. Search Engine Relevance of Meta Tags

1.1 Meta Keyword -

This tag's function is to provide the keywords that apply to your page. Only a few search engines will read this tag. Do not give it the same weight as keywords located in other parts of the page. However, you should often provide a META keyword tag in the HEAD> section of your page.

1.2 Example of a META keyword tag:

META name="keywords" content="Jerry's Widget Emporium, blue widgets, green widgets, and red widgets">

Each keyword or keyword phrase should be separated by commas. List your keywords in lower case wherever possible. Never list the same term twice in a row and refrain from repeating it more than three to seven times.

1.3 Meta Description -

In the search results for many engines, the user will see the text included in the META Description element. Therefore, it pays to write a compelling description so that whenever people see your link, they'll not only rate you highly but also click on it.

1.4 Page Optimisation for Search Engine Positioning

The prominence of your keywords in the text on your sites is important for search engine placement, but this is only one factor. Every search engine has a unique standards for ranking webpages. Several elements are:

Too many or too few keywords can damage your search engine rank.

1. Number AND Prominence of Keywords
a) Domain Name
b) File Name
c) Title Body
d) Text Link
e) Text Link
f) URL
g) Image
h) Alt Text

Word Count in Body Text: Depending on the search engine, this might range from 400 to 900 words.

III. CONCLUSION

In summary, assembling vendors and getting ready to develop a website is a challenging process that needs careful preparation, investigation, and cooperation. Budget, timetable, technology, and experience are just a few of the variables that must be taken into account in order to promote efficient communication and cooperation amongst all stakeholders. Organisations may create websites that give an excellent user experience and support the achievement of their business goals by adhering to certain best practices.

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Intensive Web Designing with Word and XML

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Abstract— The many elements of web-based syllabus design will be covered in this abstract, along with the important factors that instructors should take into account when developing syllabi for online courses. The abstract will go over subjects such how an online syllabus differs from a conventional syllabus, best practices for building and formatting an online syllabus, and methods for making sure that online course materials are accessible to students with disabilities. The presentation will also examine how multimedia materials, interactive tests, and other web-based resources might be used to design successful and interesting online curricula. Overall, this overview will provide educators a fundamental grasp of what goes into building a successful web-based syllabus and will offer advice and tactics for producing top-notch online course materials.

Keywords— Software Programmes, Trouble-Shooting, FTP Programs, Xml.

I. INTRODUCTION

For new professionals, designing websites using Word and XML is both intriguing and difficult. The work will be easier to complete if the fundamentals of the tools are mastered in a methodical manner. MS Word can produce really good web pages totally inside the programme. Historians and other professionals have considerably more control over the presentation of the content with MS Word's XML-based web page creation than they may have with an HTML editor [1].

After reading this unit we will be able to understand

i.   XML, MSXML, XSLT
ii. How to Plan word web site
iii. Creating main templates
iv. Building the Site Framework
v.   Working with XML data

Word on the web

Like other academics, historians largely use text in their work. They must move a curriculum to the Web among other things, without committing hours to the procedure. It seems that using MS Word's Save as Web Page (File > Save as Web Page) function should work, and it does sort of. However, the voluminous web page that appears as a consequence of running the command on a manuscript of raw text is often disappointing. However, MS Word has a built-in web page creation feature that produces really good web pages.

Historians and other professionals have considerably more control over the presentation of the content with MS Word's XML-based web page creation than they may have with an HTML editor. Furthermore, they are using a few tools that they may not normally employ when working in a familiar area. Older browsers will show an MS Word syllabus, but it may not look very well and include odd characters. A significant amount of proprietary code is also added to the web page by Microsoft's XML implementation, making the page bigger and increasing download times. With these limitations in mind, the objective of this course is to outline

the procedures for developing an attractive, aesthetically appealing, web-based syllabus that is totally created using MS Word and XML [2].

Making a web page out of a Microsoft Word document may be done in a number of ways and with a variety of shortcuts, as is the case with most software programs. One of the easiest and most accessible is the topic of this unit. The procedures adhere to the menu > selection norms. Consequently, "Choose View > Normal" refers to bringing down the View Menu from the Menu Bar and choosing Normal. With enough practice, it should only take you approximately 10 minutes to convert a manuscript into a well formatted web page, again depending on how much editing you want to perform.

II. DISCUSSION

We'll start by editing the syllabus text to make it more web-centric since, despite what may seem obvious, the Web and word processing are different in a number of ways. Use an original MS for testing purposes only if you are working from an established syllabus. Create a backup so you may protect yourself against unavoidable software mishaps. Although not fully required, following these steps will clear up any uncertainty and highlight a number of MS Word's features. Move on to ‚Designing the Syllabus for the Web‖ if you want to get right to work. If You have your copy made and want to take it from the top, open your document and

Do the following:

1. Choose Edit > Select All.

2. Choose Normal from the Style drop-down menu on the Formatting Palette

On a Mac using MS Office X, once you have Selected All, choose Clear Formatting >

Formatting Palette and then choose Normal. > Formatting Palette

a) Click the 1 and 1/2 button from ―Line Spacing‖ on the Formatting Palette

b) Select a line of text that you want as a subhead.

c) Choose Heading 1 or Heading 2 from ―Style‖ drop-down menu on the Formatting Palette. Repeat for Steps 4 & 5 for all lines of text that you want as subheads. (To speed up the process, use COMMAND + Y (Mac) or CONTROL + Y (PC) to repeat the last action.) [3]

A. Remove any tabs

Tabs are troublesome on the Web; you‘ll spend more time trying to make them work on your web page than is worthwhile, so get rid of them early on. Now we‘ll add some specifically web centric elements: rules and bulleted lists to the syllabus by doing the following:

a) Select a place between sections for a horizontal rule

b) Choose Insert > Picture > Horizontal Rule.

c) Navigate to Clip Art Folder > Lines Folder

d) Select Default Line and click Open.

e) Select some text for a list. (The book list or readings for a particular day are good candidates for lists.)

f) Choose Format > Bullets and Numbering.

g) Click the Bulleted tab.

h) Click on one of the bullet options.

i) Click OK.

When conducting experiments, it might be helpful to start from scratch by creating a two- or three-page curriculum that covers the following [4]:

1) Several subheads

2) An illustration or two

3) A bulleted list or two

4) Generous white space

5) Horizontal rules to set off sections

6) Define three styles: Normal, Heading1, Heading 2

Consult MS Word's online help section if you need assistance defining a style. Academics may save a tonne of time by mastering styles, thus doing so is worthwhile.

Web visitors ― on the web, people read differently; they scan rather than read, and subheads and bulleted lists make it easier to scan. Make that the document adheres to accepted word processing typographic standards. Do the following:

i. Be sure that only one space follows a period, colon, and question mark Change all quotation marks to curly quotes.

ii. Select a web-centric font (Verdana, Arial, or Comic Sans for sans serif and Georgia or Trebuchet for serif anything but Times New Roman) and a size of 10 points.

iii. Set the line spacing or leading to 1 1/2 spaces.

B. Designing the Syllabus for the Web

The text has been "massaged," and now it's time to start building. We'll convert the text into a single-cell table in this part and adjust the table's width to provide for a suitable, legible line length [5].

1. Choose View > Normal.

2. Choose Edit > Select All.

3. Choose Table > Convert > Text to Table

4. Type 1 in Number of Columns.

5. Type 5 in Initial Column Width

6. Click OK.

7. Select File > Web Page Preview.

The table has been made thinner, however the black lines that divide the paragraphs are unattractive. Additionally, the table is flush with the left edge of the browser window. To remove the table grid lines, do the following [6]:

1. Choose Table > Select > Table.

2. Choose Format > Borders and Shading.

3. Click None under Setting.

4. Click OK.

5. Select File > Web Page Preview.

To center the page, so that it floats gracefully to the center of the browser window, do

The following:

1. Choose Table > Select > Table

2. Choose Table > Table Properties

3. Click Center in Alignment

4. Click OK.

5. Select File > Web Page Preview.

The page no longer has a border and centers itself in the web browser window. But the page is rather plain. Here, we'll introduce a theme. Pick a theme carefully to ensure high levels of legibility and readability. To put it another way, choose a theme with strong contrast, such as black text on a neutral or simple backdrop. Black writing on a white backdrop is timeless, like the "little black dress with pearls." Avoid using reversed out text, or bright text on a dark backdrop, on sites with huge blocks of text. It is difficult to read and scan, and it could interfere with printing. Blocks and Loose Gesture are also suitable options for "Kids" (for the whimsy-at-heart) [7].

1. Choose Table > Select > Table

2. Choose Format > Theme.

3. Click Active Graphics and Background Image.

4. Scroll to Blocks (or a theme of your choice) in the Theme pane

5. Click Blocks (or a theme of your choice)

6. Click OK.

7. Choose File > Web Page Preview.

If you find that there aren't many themes available, install more from your original CD or download more themes from Microsoft's Mactopia website.

When you are satisfied with your layout and formatting, do the following:

1. Choose File > Save As Web Page.

2. Click ―Save entire file into HTML.‖

3. Click Web Options.

4. Type a tile in the Web page title‖ box.

5. Type several keywords in the Web page keywords‖ box.

6. Click the Files tab.

7. Click Update links on save.

8. Click the Picture tab.

9. Choose 1024x768. from the Screen Size‖ drop-down menu.

10. Click the Encoding tab.

11. Choose Unicode (UTF-8) from the Save this Web Page asǁ drop-down

12. Menu.

13. Click OK.

14. Click Save.

In essence, the web page is prepared for server upload. You'll need an FTP program in order to upload your curriculum. Despite the abundance of available FTP programs, many Wintel users find WS_FTP to be adequate, while Mac users find Fetch to be just as practical. If your university retains a site licence, you should confirm this with the IT department. Whenever that happens, you may download the program. Make sure to upload the folder for the website when you FTP your syllabus. Make sure to verify it in your web browser after it has been uploaded to the server [8].

C. Trouble-Shooting

When you upload your pages to the server and discover that your em dashes, quotation marks, and apostrophes have vanished, you have an issue, but it is not one that is difficult to fix. Some MS Word versions may not convert these special characters into Unicode. Utilizing Find and Replace in a text editor is the answer. Good utilities include SimpleText for the Mac, Text Edit, a Mac shareware program (not Text Edit, which comes with OS X), and Notepad for Windows. The most common candidates for Find and Replace are:

a) Left double quotes “

b) Right double quotes ”

c) Em dash —

d) Apostrophe ’

e) Ellipsis …

Visit one of the Unicode sites, such as Alan Wood's website, if you need to substitute any more special characters. To get codes for any additional special characters in HTML 4.0, choose Character Entity References.

1. Choose File > Open and open you syllabus.htm file.

2. Choose Edit > Replace

3. Type OPT + [(Mac) or ALT + [(Wintel) for the left curly quoteǁ in the Find

a) What box and “ in the Replace box. Note that the Unicode entity ends in semi-colon.

4. Click Replace All.

5. Type OPT + SHIFT + [(Mac) or ALT + SHIFT + [(Wintel) for the right curly

quoteǁ in the

Find What box and ” in the Replace box. Note that the Unicode entity ends

in semi-

colon.

6. Click Replace All.

7. Type the apostrophe OPT + SHIFT +] (Mac) or ALT + SHIFT +] (Wintel) in the

Find What

box and ” in the Replace box. Note that the Unicode entity ends in semicolon.

8. Click Replace All.

9. Continue using Find and Replace until all your special characters are accounted

for.

10. Choose File > Save.

Upload your page to the sever once more and check it in your browser.

D. FINISHING TOUCHES

However, you may want to change or add a few things to the document to make it seem more "at home" online.

Some of these might be:

1. Changing the subheads' colour or layout, for example. Change the style of a subhead to alter its colour or formatting. Select Style > Format.

In the Styles box, choose the appropriate style (Heading 1, Heading 2, or Normal).

Hit Modify. Select Font from the Format drop-down option before making your choices.

2. Alter the motif entirely. You may experiment with themes indefinitely until you discover one that suits you and your content the most. Select Format > Theme, then have fun experimenting. To see how the backdrop affects the page, don't forget to click backdrop Image. Unclick backdrop Image if the backdrop is something you don't want or if it makes it difficult to see the text [9].

3. Add any tabs that may have vanished or become essential. By hitting the tab key, you may navigate between cells in a table. Type OPT + TAB (Mac) or ALT + TAB (PC) to insert a tab in a table cell.

4. Single-space double-spaced items or bring together lines that need to be kept

Close. Use a soft return by pressing SHIFT + RETURN (Mac) or SHIFT +

ENTER (PC) to keep lines close together.

III. CONCLUSION

You may do a lot more with MS Word to raise the level of complexity of your website. Your experiments will successfully move from MS Word to the web in some cases, but not in others. Learn the ins and outs of tables and styles by devoting a few hours to it; mastering these topics is beneficial for both creating web pages and writing regular word documents. And it's kind of mind-boggling to believe that a Microsoft product makes it all so simple.

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A Brief Overview on XML, MSXML, XSLT

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Abstract— The XML, MSXML, and XSLT topics will be briefly covered in this abstract. The markup language XML (Extensible Markup Language) is used to store and transfer data over the internet. MSXML (Microsoft XML Core Services) is a collection of services and APIs that let programmers interact and modify XML data in a number of different ways. The language known as XSLT (Extensible Style sheet Language Transformations) is used to convert XML files into formats like HTML or PDF. The fundamental tags, elements, and properties of XML, as well as how XML data may be utilised in different web applications, will all be covered in the abstract. Additionally, it will go through MSXML's features and capabilities, including how to use it to verify XML documents, parse XML data, and convert XML into other forms. The abstract will conclude by giving a general overview of XSLT, including how it can be used to construct style sheets that can convert XML documents into various forms and how it can be used with other web technologies like CSS and JavaScript. The reader will walk away from this abstract with a fundamental grasp of XML, MSXML, and XSLT, as well as how to produce, manipulate, and transform XML data on the web. It will also include samples of how each technology is utilised in actual web applications, as well as some significant advantages and limits of each.

Keywords— Markup Tags, MSXML, XML, XSLT

I. INTRODUCTION

A well-liked language for storing and transferring data across many systems is called XML (Extensible Markup Language). Because it enables developers to design their own markup tags, it is very flexible and scalable. In this review, we'll examine more closely at XML, its characteristics, and how it works with other technologies like MSXML and XSLT. A collection of services known as MSXML (Microsoft XML Core Services) enables programmers to interact with XML data on Microsoft Windows systems. It offers a variety of functions, including the ability to manipulate, validate, and parse XML data, and it supports a number of different programming languages.

A language called XSLT (Extensible Stylesheet Language Transformations) is used to convert XML files into formats like HTML, PDF, and plain text. It offers a powerful collection of capabilities for filtering, sorting, and grouping XML data. The fundamentals of XML, including its syntax, markup elements, and attributes, will be covered in this introduction. We'll also examine how MSXML, which includes parsing and validation, may be used to interact with XML data on Windows systems. Finally, we will look at XSLT's capabilities and how it works to convert XML files into different forms. Readers will have a better knowledge of how XML, MSXML, and XSLT combine to provide a potent set of tools for dealing with data on the web at the conclusion of this study. Additionally, they would have learned more about the many advantages of using these technologies for data administration and web development.

II. DISCUSSION

The markup language XML is used to create documents with structured data. Both content (words, images, etc.) and some indication of the function that content serves are included in structured information. For instance, the meaning of the content in a section heading differs from that of the content in a footnote, which differs from the meaning of the content in a figure caption, the content in a database table, etc. Most papers include some kind of structure. A tool for locating structures in a document is a markup language. The XML specification outlines a common method for including markup in documents.

A. What's a Document?

Given that XML has only been available for a year, the sheer number of programmes being developed that are based on or use XML documents is quite astonishing. For our purposes, "document" includes both ordinary texts like this one and a broad variety of other XML "data formats". These comprise of e-commerce transactions, vector graphics, object meta-data, server APIs, mathematical equations, and a million more kinds of structured data.

B. So XML is Just like HTML?

No, the semantics of tags and the tag set are fixed in HTML. A first level heading is always a h1>, and the tag ati. Product. Code> has no significance. The W3C continuously works to expand the definition of HTML to enable new tags to keep up with evolving technology and to provide changes in presentation (stylesheets) to the Web. This is done in collaboration with browser manufacturers, the WWW community, and other parties. However, since backward compatibility is so important, these modifications are always severely constrained by what the browser vendors have already done. Additionally, features that are supported by just the most recent versions of Netscape and Internet Explorer are useless for users who wish to share information globally. Neither semantics nor a tag set are specified by XML. In

actuality, XML serves as a meta-language for the description of markup languages. To put it another way, XML offers the ability to create tags and the structural connections between them. There can be no predetermined semantics since there is no specified tag set. An XML document's whole semantics will either be established by the apps that parse it or by style sheets.

C. So XML Is Just Like SGML?

No. Well, kind of, sure. As an application profile of SGML, XML is defined. The Standard Generalized Markup Language, or SGML, was established by ISO 8879. For more than a decade, SGML has served as the industry standard, vendor-neutral method of maintaining repositories of structured documentation. However, it is not well adapted to providing documents via the web (for a variety of technical reasons beyond the purview of this section).

Since XML is defined as an SGML application profile, it may be read by any SGML system that is completely compliant. However, utilising and comprehending XML documents need not necessitate a system that is able to comprehend SGML in its entirety. XML is essentially a constrained version of SGML. It's crucial to emphasise for technical purists that there could also be minute variations between documents as understood by SGML systems and as understood by XML systems. Treatment of the white space right next to tags, in particular, may change.

D. Why XML?

It's critical to comprehend why XML was developed in order to enjoy it. Richly organised documents may now be utilised on the web thanks to XML. HTML and SGML, the only plausible alternatives, are not useful for this need. As we've just established, HTML does not provide flexible structure and is restricted by a set of semantics. Although SGML allows for any kind of structure, it is very complicated to implement only for web browsers. Large-scale, intricate issues are solved by comprehensive SGML systems, hence their cost is justified. Viewing structured documents delivered over the web is seldom justified in this way. This is not to claim that SGML will be entirely replaced by XML. While XML is intended to send structured material over the internet, some of the properties that are necessary to make this viable are precisely what make SGML a more suitable option for the development and long-term preservation of complicated texts. Filtering SGML to XML will be the norm for online distribution in many organisations.

E. XML Development Goals

The XML specification sets out the following goals:

A broad range of applications should be supported by XML. Applications like publishing, browsing, content analysis, and many more should benefit from XML. Although the original emphasis is on providing structured

documents via the web, XML is not intended to be defined in a limited sense.

XML and SGML must be compatible. The majority of the individuals working on XML are from organisations that have a sizable, in some instances mind-boggling, quantity of SGML content. Since delivering fully structured documents via the web is still a relatively new topic, XML was created pragmatically to be compatible with current standards.

1. Writing programmes that process XML documents should be simple. When the specification was being created, the slang term for this objective was that it should take a capable graduate student in computer science around two weeks to write a programme that can parse XML documents.

2. There should be as few optional features as possible, preferably none, in XML. When users desire to exchange documents, optional features often cause compatibility issues, which may sometimes cause confusion and irritation.

3. XML documents need to be relatively clear and readable by humans. You should be able to look at a chunk of XML in your preferred text editor and determine what the information means if you don't have an XML browser and have gotten it from someplace.

4. It is important to swiftly develop the XML design. The pursuit of standards is notoriously sluggish. Since XML was required right away, it was created as soon as possible.

5. XML must have a formal and clear design.

6. It must be simple to construct XML documents. Although they won't be available right now, sophisticated editors to produce and modify XML documents will soon exist. The ability to generate XML documents in other methods, such as directly in a text editor, using simple shell and Perl scripts, etc., must be available in the meantime.

7. Many SGML language improvements were created to lessen the amount of typing required to manually type in SGML documents. These features are not available in XML.

F. How Is XML Defined?

A number of related standards together define XML: The syntax of Extensible Markup Language (XML) is defined in version 1.0. The main subject of this section is the XML standard. Other standards will eventually take care of new needs. Namespaces (which deal with tags from various tag sets), query languages (which reveal what's in a document or group of documents), and schema languages (which explain the connections between tags and DTDs in XML) are all now (Sep 1998) being actively studied. When using Microsoft's XML Core Services, often known as MSXML, you combine the power of XML with programming languages like JavaScript, Visual Basic, and C++. An application developed in one of the most popular programming languages may communicate with XML using the characteristics of the application programme interface known as MSXML. This implies that you don't need to utilise a web browser; rather, you may open an XML document from inside a programme. By invoking MSXML features from inside your programme,

you may quickly incorporate any XML document into your application. This chapter teaches you about MSXML and how to use JavaScript to view an XML document. Other programming languages may be utilised in the same way as JavaScript is by following the same fundamental rules.

G. What Is MSXML?

A dynamic method of handling information is XML. An XML-capable browser may be used to access an XML document, as you have taught throughout this book. This is acceptable if you wish to show an XML document in its whole or in part. You may examine information included in the XML document from your browser by simply adhering to the instructions we provide in this book. However, reading an XML document using a programme other than a browser may be challenging since the program's code must be built in order to extract the data from the XML document. Fortunately, Microsoft offers the magic of Microsoft XML Core Services MSXML for short to take the burden out of creating code to read an XML document from inside an application. The classes and functions in MSXML are preprogrammed and include the code needed to read and modify data in an XML document. Microsoft has already completed the laborious code needed to read and parse an XML document, so you don't have to. To interact with an XML document, all you have to do is call the relevant classes or procedures in your application.

Programming languages including C, C++, Visual Basic, VBScript, JScript, and JavaScript are supported by MSXML. You must first download the MSXML API from http://msdn.microsoft.com/xml/default.aspx before using the examples we provide in this chapter. Because a JavaScript application may be created without the assistance of a compiler, we chose JavaScript as the programming language for this chapter. Simply use the same editor that you use to construct your web page to write the code. JavaScript is run by your browser when it receives a call from a web page. In this chapter, we'll cover just enough fundamentals of JavaScript to enable you to begin working with MSXML. To become skilled with JavaScript, you may wish to read Jim Keogh's JavaScript Demystified (McGraw-Hill Osborne Media, 2005). The MSXML API must be installed or downloaded from the Microsoft website. While the most recent version should be downloaded, we're utilising version 4.0.

H. What Is XSLT?

The early Extensible Stylesheet Language (XSL) standard has developed into Extensible Stylesheet Language Transformations (XSLT). For XML data transformations and display, XSL defines a language specification. Data presentation refers to the display of data in a particular format or media. Presentation style is important. The process of parsing an input XML document into a tree of nodes and then transforming the source tree into the desired output tree is known as data transformation. Transforming involves exchanging data.

Due to the fact that these features fulfil two different needs, XSLT was first proposed and then approved as a separate standard for XML data transformation alone. To differentiate it from XSLT, XSL is now often referred to as XSL Formatting Objects (XSL-FO). Because a significant portion of XSL-FO's functionality is duplicated in HTML tag sets and cascading style sheets (CSS), its future as a standard is dubious. If cross-vendor compatibility is crucial to you, you may want to wait until the Worldwide Web Consortium formally accepts XSL-FO as a standard before using it.

I. XSLT is a Programming Language

XSLT is a computer language that, from the perspective of a programmer, is used to process and convert XML documents. As such, it supports the following:

a) A small set of flexible data types: Boolean, number, string, node-set, and external objects.

b) A full set of operations: <xsl:template>, <xsl:apply-templates>, <xsl:sort>, <xsl:output>, and so on.

c) Programming flow-control: <xsl:if>, <xsl:for-each>, <xsl:choose>, and so on.

The syntax of the XPath language is used by XSLT for expressions. To create expressions for XML data queries and transformations, there are both built-in and custom extension functions. An XML document is an XSLT style sheet. As a result, XSLT instructions are defined as XML components, and an XSLT style sheet is capable of transforming both itself and other XSLT style sheets

III. CONCLUSION

In conclusion, web developers and designers need to be familiar with the XML, MSXML, and XSLT technologies. A markup language called XML is used to structure and organise data, and Microsoft created a suite of XML-related technologies called MSXML. A transformation language called XSLT is used to transform XML data into other representations. Data that is structured and organised using XML may be readily shared and reused across many platforms and systems. Developers may deal with XML data using a suite of tools and technologies provided by MSXML, including parsing and verifying XML documents.

A sophisticated language called XSLT enables programmers to convert XML data into forms like HTML, PDF, or even other XML formats. This makes it possible for web designers to create dynamic, responsive web pages that may change according to the device and screen size being used. In conclusion, having a solid grasp of XML, MSXML, and XSLT is crucial for creating scalable and reliable online applications. These technologies serve as the building blocks for data interchange and transformation, enabling web developers and designers to build engaging and rich user interfaces.

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Planning Word Website and Creating Main Templates

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Abstract— The significance of organising and developing templates before developing a website is covered in this article. It examines the procedures involved in website planning, such as deciding on the mission and objectives of the website, deciding on the target market, and developing a site map. In-depth discussions of the fundamentals of website design are also provided, along with instructions on how to make templates that work well for various sorts of sites, including the homepage, product pages, and contact pages. The essay also emphasises the need of design consistency and provides guidance on content organisation and navigation layout. These methods may be used by web designers to develop websites that are both aesthetically pleasing and useful, and that successfully convey the brand's message to their intended audience.

Keywords— Search Engine Optimization, Styles Palette, Web Design, Web Templates

I. INTRODUCTION

The planning and development of a website's primary templates are essential milestones in the web design process. It entails choosing the website's general structure, layout, and design components as well as developing a basic framework to direct the development process. The target demographic, the goal of the website, and the ideal user experience should all be taken into account throughout this process. Additionally, it's critical to ensure that the website's design is consistent throughout and that it is optimized for a range of devices and screen sizes. The essential factors to think about and procedures to follow while organizing and developing website templates will be covered in this post.

It's crucial to remember that the primary templates will act as the building blocks for the other website pages throughout the process. The entire structure, layout, and design components should therefore be carefully considered. Making wise design selections necessitates having a thorough knowledge of the website's objectives and target demographic. Furthermore, it's crucial to make sure that the primary templates can be quickly updated and changed as required and are adaptable enough to fit various sorts of material [1].

Establishing the hierarchy and structure of the website is the first stage in developing the primary templates. This entails figuring out how many pages there are, how they relate to one another, and how the navigation is organised overall. The positioning of crucial components like the logo, navigation menu, and call-to-action buttons must also be taken into account. The intended user experience and the material that will be displayed should serve as the foundation for the website's general structure and design.

The next phase is to construct wireframes or mockups of the primary templates once the website's structure has been established. The positioning of important components and information is highlighted in wireframes, which are condensed representations of the website's structure and layout. On the other hand, mockups are more thorough and include design elements like colours, fonts, and pictures. Wire framing and mockup creation is an iterative process that incorporates user testing and input from stakeholders to make sure the design satisfies their requirements and expectations [2].

Making the HTML and CSS code for the primary templates comes after the wireframes and mockups have been completed. To do this, the design components must be converted into code and tested for compatibility across a range of gadgets and screen sizes. The code should be optimized for both website speed and search engine optimization (SEO). It can be essential to add additional tools and technologies to the primary templates in addition to the HTML and CSS code. JavaScript, for instance, may be used to add dynamic and interactive features to a website. To make managing and updating the website's content simpler, content management systems (CMS) may also be incorporated [3].

Overall, a crucial part in the web design process is designing and developing the primary templates for a website. It entails establishing the hierarchy and organizational structure of the website, producing wireframes and mockups, and converting the design components into code. To make sure that the design fulfils their requirements and expectations, careful thought should be given to the website's purpose and target audience. The primary templates should also be adaptable, optimized for search engine optimization and website speed, and suitable with a range of devices and screen sizes [4].

II. DISCUSSION

A. Planning word web site

1.1 How do I figure out what I want?

Looking at other company websites, both in your sector and in your business area, such as retail sales, manufacturing, or services, is a simple approach to get the answer to this issue.

1. As you view these sites, ask yourself:

2. What about this website do I like? What about it do I not like?

3. Does the navigation, also known as the page hierarchy, make sense?

4. What data can I access through links on the front page? How is the data set structured?

5. Do the information's categories and subcategories make sense?

6. How are the pages organised? Are there one or more columns being used?

7. Is it simple to read the page? How are headings, lists, and links used on the page?

8. How much data is contained on each page? Is it simple to find information? Is the data accurate and complete?

9. Would such a page be beneficial on my website? What would I change if the answer was yes?

1.2 What Web site pages do I need?

Before deciding how many pages you need, you must decide how much information you want to give your website's users.

A. **Make a list of the information you want to present.** Be both broad and specific. You can decide how to organize your site by providing both specific information and broad categories. Such organization also aids in naming your pages and considering how people will locate them.

B. **Present one idea per page.** According to statistics, users to websites spend less than 10 seconds browsing for specific information before leaving. The concept can be a broad category of data with ties to data with a narrower focus or a single data collection [5].

A manufacturing company might have a Products page on its website that provides a general overview of all the different product categories they provide. On the pages after this one, descriptions of each product category can be found. Links on the Products page direct users to these pages. These pages' primary goal is to provide a more thorough description of each specific product.

C. **Make your page names easily identifiable.** You give new pages a name and a page title when you create them. The page name is added to your Web URL, and the page title appears in the browser's title bar. The page name cannot be modified, however the page title can. It is advised that you choose a page name that accurately describes the page's content [6].

1.3 What should my Web site look like?

Designing your entire Web site is simple with the included Web design tool for Office Live Small Business. You select the theme, style, and colour using Site Designer to ensure that all of your Web pages have the same appearance. Every page of your website uses your header and footer. Naturally, you may customize each page.

I. **Create a meaningful header.** Your entire website, not just your home page, displays the content you place in your header. Does my header make sense for each of the pages I'm making? Ask yourself as you consider all of them. The header may only contain your company name, or it may also contain your corporate slogan or a summary of your industry. A logo may also be included.

II. **Less is more.** Visitors to your website will become confused if there are too many colours, too many font variations, or too much content. Nothing stands out when there are too many design components vying for attention.

III. **Be consistent.** If at all possible, stick to a single heading font, style, and layout. If each page has a different design, visitors could not connect what they see with your company.

1.4 ow will visitors get around on my Web site?

If your website includes more than one page, you must establish how users will move between them to find the information they require. Try to group the larger categories of material with the related categories underneath each category when you construct a list of all the information you want on your website. You could discover that some facts fall into more than one category. There are various methods you can use to point website users to other pages [7]. Links in the footer, inline links, and navigation bar are all options.

i. **Create a useful navigation bar.** Every page of your website has the same navigation bar. Your visitors can always access the links in this bar. Having no more than six primary links in your top-level (or parent) navigation and a corresponding number of subcategory (or child) links underneath each parent link is a decent general rule of thumb.

ii. **Include all of the pertinent pages under the main category.** You might discover, as was said earlier, that one page actually fits in more than one category. Put the link under every link for the category to which it pertains. For instance, a page with a sizing chart may be relevant to both each product subcategory and the Men, Women, and Children primary categories on a website that promotes clothing. Each of the categories can have a link to the sizing chart's page.

iii. **Use links in your content.** One of the best ways to direct visitors to other pages on your website is using inline links. Users are made aware of what they will find by the context in which these links are used. You can use both picture links and text links, which open new pages when clicked. Text links are links that are incorporated in the written content of your page.

iv. **Use your footer to link to other pages.** Every page on your website uses a footer, making it an excellent place to direct users to informative pages.

Usually, footer links go to popular pages that are used regularly by visitors but may be hidden in the page navigation. For instance, you can include links to pages for careers, the site map, business hours and location details, and contact information.

1.5 How does my content fare?

The majority of individuals skim web pages instead of reading every word. You have a limited amount of time to capture your visitor's attention, so you must identify what information they are seeking and make that information stand out.

1) Make each page scannable.

Using lengthy, uninterrupted blocks of text is a certain method to turn off visitors. Create brief paragraphs with only one or two phrases, bulleted lists, or highlight significant material within a block of text to divide your content into manageable portions.

2) Use pictures.

A picture or other visual representation may convey a lot of information fast. The image should express your message while also being instantly recognisable. Don't be afraid to connect to extra information using the image, too [8].

3) Speak to your audience in their language.

Avoid using technical language or industrial jargon that your readers may not comprehend in your material.

4) Respond to inquiries from visitors.

Make sure that the information that your website visitors expect to see discussed is addressed in the material on each page. For instance, a Contact Us page need to provide all of the methods a person may get in touch with you, including phone numbers, email addresses, your street location, driving instructions, and the hours you are open [9].

5) Redundant links are okay.

If some material applies to different regions of your website, make sure users can access it. Place links to the material in the navigation bar or directly inside the text. Making ensuring visitors can locate what they need when they need it is your first concern. A navigation bar link and an inline link are two examples of many links to the same page from various locations on a single page.

6) Developing Web Page Templates

This section's goals are to introduce web templates, explain how they work, and rapidly develop some code to show them in action. The part is intended for total novices who wish to comprehend the fundamentals of templating.

1.6 What is a Web Template?

Separating display from logic is the fundamental goal of templating. Markup languages like HTML and XHTML are often used for presentation. Programming languages like PHP, Perl, Python, Ruby, etc. handle the logic portion.

1.7 Toolkits for Typical Web Templates

There are several toolkits for open-source web templates. For instance,
a) Perl: Template.pm module
b) PHP: Smarty
c) Python: Cheetah
d) Ruby: Web::Template module

These common template toolkit feature sets might be rather extensive. There are several built-in tools that allow display and logic to be fully separated.

1.8 Web templates: why use them?

Web layouts that separate appearance from logic serve two crucial purposes.

B. Efficiency for Designers and Programmers:

Typically, designers and programmers are focused on two distinct aspects of website creation. While programmers are more concerned with the code and building business logic, designers are more focused in the presentational components of a web page [10].

1.1 Reusing Common Page Elements:

Reusing the most popular web page components, such as the header with your company's logo and tagline, menus with the primary navigation bar, and footer with the copyright information, is a frequent way to employ templates. Sometimes programmers may utilize a very simple toolkit or a custom-built system where most (but not all) display and logic are separated. If some blending of display and logic is permitted, the code base may be much smaller and easier to maintain. Implementing a template in a hybrid or full-scale has both benefits and drawbacks. You may choose which strategy to use by answering the two questions that follow.
i. Are you prepared to maintain more code in order to entirely isolate display from logic?
ii. Do you respect simplicity and don't mind logic and presentation code coexisting?

Regarding this, there is no right or incorrect strategy. Use whatever suits your requirements, depending on what they are.

1.2 Creating the Site's Foundation

Even while the basic structure of a page has evolved significantly over the last several years, our tools for developing those frameworks are still firmly rooted in the web and heavily influenced by their usage in print design. This section focuses on a few of the tools we presently have accessible, most of which are either free or come from Adobe.

1.3 What is this "design" that you refer to?

Design is a complicated issue. The way something seems, sounds, reads, moves, and reacts all affect how it behaves. These cannot be separated from the final product, but we may split and conquer them while we are being creative. Web design goes beyond construction. Not just designing, either. It is the confluence of all of these things, not just the other many disciplines and titles that we all connect ourselves with.

1.4 One technique, or "how I work"

I've been creating websites for more than ten years. And for each of them, I essentially followed the same procedure: when it comes to the visual design, I usually start off in crude form (sketches, grey boxes), then go on to better resolution comps in Photoshop. I try to make these Photoshop comps appear as authentic as I can, and I keep making changes for the customers until they approve the designs. Depending on the issue at hand, I may make exceptions, but I seldom ever let much visual design and layout to take place while coding. When modifications are required, this means meticulously altering the typefaces and colours in Photoshop. I've made websites long enough to know what I can postpone till coding takes place and how certain components will function in actual usage. This is how I like to spend my time since it helps me concentrate on the narrative that my design is attempting to convey.

1.4 Our current toolbox

Every available choice has tradeoffs. These are not meant to be criticisms of the objectives of these applications; each of them is strong in and of itself. This quick audit's goal is to draw attention to the gaps in the creative process.

A wishlist

What then does a web design-specific app look like? What are the natural and typical characteristics that appear on every page we design? This is the beginning of the decisions I find myself making on almost every design project I work on.

i. Per document grids

Different grids are needed for various designs. Currently, the only grid options available in apps like Photoshop are global ones. This means that each time you use a new grid for your papers, you must alter these settings. A common solution used by many individuals I know, including myself, is to simply create a grid on a separate layer and position it above all other levels. The drawback of this is that you can't utilise any of the program's built-in alignment and snap-to-grid features. Either everything has to be positioned mathematically using a measuring palette or by sight. This would remain at the document level, allowing a design's grid to follow it and endure repeated usage (essential when working in a team and sharing documents, in particular).

ii. Page states

The simplest input from a visitor might completely alter the scope of a website since web pages are live, dynamic environments. Without the need to reload the page, menus may appear and disappear, system notifications can appear and demand action, page components can move, and the contents can change. We need to be able to design for interactions and the changing landscapes of a website since we're not working with a static medium. Object-oriented design is definitely where this is going, but a programme needs to view components rather than solid blocks of colour or text. Although there is some basic capabilities in this area in Photoshop, Illustrator, and Fireworks, it is obvious that more dynamic and non-destructive handling is required. Similar to how we use CSS, the InDesign Character and Paragraph Style palettes allow us to globally manage type.

iii. CSS-esque type styling (dynamic styles palette)

This one shouldn't be shocking. When it comes to making extensive changes to typography, CSS is very time-efficient. It might be time-consuming to just alter the link color or headline font style in a Photoshop project since such settings aren't centralized. The Character and Paragraph styles that In Design provides are excellent. The key would be something along those lines that is clearly little more focused on CSS functionality. Additionally, it would be highly effective to be able to relatively connect type styles (making h2s 200% the basic body text size) [11].

iv. Fonts

The use of fonts on the web is greatly increasing. It would be easier to describe our ideas and enable speedier modifications if we could create with external fonts or utilise WOFF fonts securely. Even better would be the ability to provide a font stack alongside your styles, allowing you to easily cycle through the aesthetic changes brought on by fallback fonts.

v. Page flow, text wrap, and fluidity

Every element on a website has the power to change how other items are arranged. When that occurs, we need to be able to specify what steps to take (float, clear, wrap, etc.). A browser window is also a fluid canvas, but desktop design software only supports set canvas sizes, making it difficult to construct a fluid or flexible design.

vi. Knowledge of current browser interfaces

Utilising any desktop design software for web design necessitates some familiarity with browser window and screen size specifications. Most of us probably work at a size that we deem to be safe (currently, perhaps about a 960px-wide viewing area). A programme that can be adjusted to preview for a certain screen size or the sizes of the various browser chromes, similar to the "Screens" function of xScope, may be very useful. Particularly if the rendering styles, defaults, fonts, and other features specific to the platform and browser version are also carried across the various browser views.

vii. Forms

The fundamental vocabulary of the web includes form components. I'm sick of having to put together screenshots of forms in different stages. These features are built into the OS, thus a programme should be able to simply support their presentation when used as editable objects rather than bitmaps.

viii. Mobile platforms

This is a significant issue, and I don't believe I'm as equipped to talk about it. Designing for mobile devices is a challenging challenge since there are so many of them, most of which have distinct hardware and software, and it's the area with the greatest activity. Perhaps once some formulation of the aforementioned happened, these criteria would become more evident.

ix. Non-scientific chart

The y-axis illustrates the range of centralized control over layout and typography from local to global, while the x-axis indicates how true-to-browser rendering varies from approximate to real. The sweet spot falls midway between browser-like behavior for and broad control over type and layout components, while fostering an atmosphere that is conducive to original thought.

III. CONCLUSION

One of the most important steps in web design is creating the primary templates for websites. It ensures that the website's layout, functionality, and design are consistent. Web designers may save time and work while maintaining a uniform user experience across all web pages by employing templates. In this post, we covered the value of developing primary website templates as well as the numerous components that have to be included in them. We also spoke about the many template types and how they may be utilised to give the website a unified look and feel, including header, footer, navigation, and content templates. We also discussed the advantages of developing and maintaining website templates using a content management system (CMS). Web designers may quickly manage and change website material, including the templates, with the help of a CMS. In conclusion, developing website's primary templates is a crucial step in the process of web design. It assures customer satisfaction, offers consistency, and saves time and effort. Web designers may construct powerful templates that improve the overall style and functioning of the website by adhering to the rules and best practices covered in this article.

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Adding Basic Content on Websites

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Abstract— The process of adding fundamental material to a website will be the main topic of this essay. The text, pictures, videos, and other assets that make up a website's main body of content are referred to as its "basic content." The significance of quality content, the kinds of material that are often found on websites, and the best practices for adding content will all be covered in this article. It will also go through the technical elements of contributing material to a website, such as how to manage and publish information using content management systems and how to organise and format text using HTML and other markup languages. This article's objective is to provide a thorough tutorial for anybody who is new to website design and wants to discover how to add fundamental material to their site

Keywords— Markup Languages, Site Theme, Color Scheme, Web Pages

I. INTRODUCTION

Any company or organization that wants to reach a larger audience in the digital era has to have a website. However, having a website alone is insufficient; it also has to be well-designed and user-friendly. This is where basic website content addition comes in. For a website to draw in and keep visitors, its content is essential. Any effective website's foundation consists of all the data, pictures, videos, and other material that the site's users engage with. As a result, it's critical to include a website's high-quality, interesting, and relevant material. This paper tries to provide a thorough tutorial on how to add fundamental content to a website. It will go through the many content categories that may be included, including text, photos, and videos, as well as the significance of producing excellent, SEO-friendly material. In order to enhance the user experience, it will also cover the best practices for content organization and layout. This book will provide you the information and abilities required to add fundamental material to your website efficiently, whether you are developing a website for a small company, personal blog, or charity organization [1].

II. DISCUSSION

A. Choose a site theme

Choosing a theme is a fantastic place to start when designing the overall appearance and feel of your website. The picture that shows in the header at the top of each page depends on the theme you choose. There are various built-in themes available for a wide range of businesses, including the automobile, financial, industrial, and real estate sectors [2].

To select a theme, follow these steps:

1. Open Office Live Small Business and log in. Click Web Site in the top-left corner of the Home page.

2. Select Design Site from the drop-down list after clicking Design Site on the activities bar.

3. Click Theme. The categories of themes are listed.

4. Select the desired theme category from the drop-down list. There is a list of photographs for each category.

5. Select the picture you wish to use as your header by clicking it. All of the Web pages on your website have it automatically chosen and displayed in the header (Figure 1) [3].
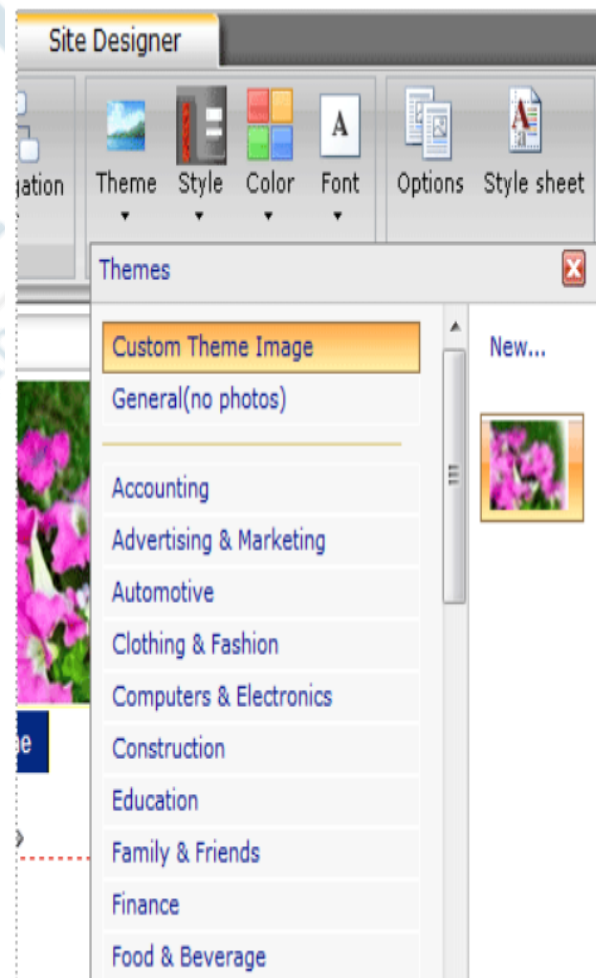

Figure 1: Represents choosing a theme.

B. Apply a Style

You may choose a style after you have a theme that works for the purpose of your website. The style determines where each element appears in the header of your website. Your choice of style will have an impact on the logo, theme picture, site title, and tagline in the header [2].

The header is modified in accordance with the style's description when you choose it. For instance, one style would display your logo left-justified, while another might display it right-justified.

Choose a style by doing the following (Figure 2):

1. Click Web Site at the top of the Office Live Small Business Home page.

2. Select Design Site from the drop-down list after clicking Design Site on the activities bar.

3. Choose Style. The styles are listed.

4. Select the desired style from the drop-down list. Until you discover the one that works for your website, you may choose from a variety of styles.
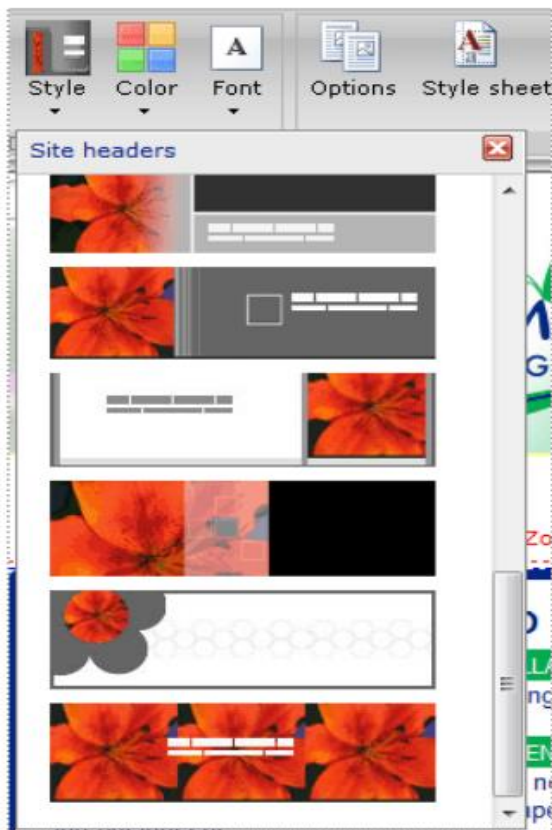

Figure 2: Represents choosing a style header.

C. Use balanced colors

Possibly the most noticeable aesthetic influence on your website is colour. The colour you choose should go with the chosen theme and, if your site has a logo, should also go nicely with it. A website may sometimes seem unprofessional if the colour is out of harmony with the other components. Fortunately, picking or changing colours on your website is

simple. Before saving your selections, you may choose colours and see how they appear with your theme and logo [4].

You have a variety of colour options to choose from. For instance, the website backdrop uses one colour, but the menus use a different colour. Office Live Small Business organizes all colours used on a website into colour themes and provides them titles that in some way convey the theme's general vibe in order to make decision-making easier. For instance, the Mustard colour theme mostly employs orange and brown tints whereas the Ocean colour theme primarily uses blue hues. You have the option of choosing one of these premade colour schemes or coming up with your own unique colour palette [5].

D. Select a pre-designed color scheme

i.   Choose the following colour scheme for your website:

ii.   Click Web Site at the top of the Office Live Small Business Home page.

iii. Select Design Site from the drop-down list after clicking Design Site on the activities bar.

iv.   Choose Colour.

v.   Select the desired colour scheme from the drop-down list. Until you discover one that works for your website, you may choose from a variety of colour schemes (Figure 3).
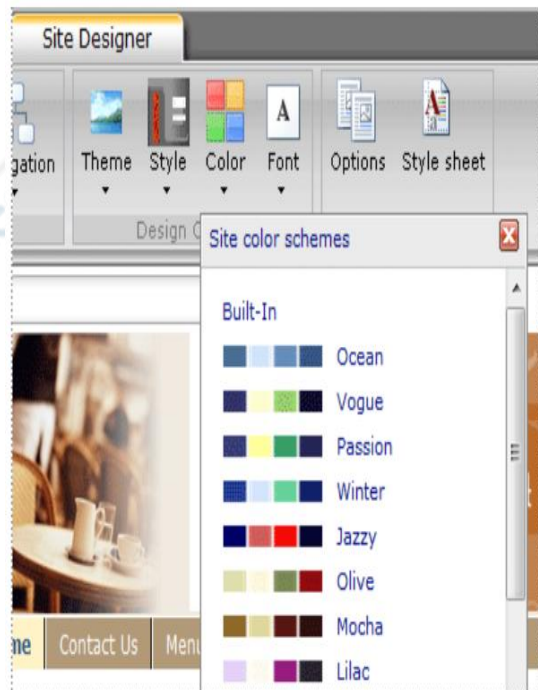

Figure 3: Represents selecting a color scheme.

E. Create a custom color scheme

You can develop your own colour scheme in Site Designer if you don't want to utilise one of the preset colour schemes.

1. Click Web Site at the top of the Office Live Small Business Home page. Page Manager is shown.

2. In Page Manager, choose Design Site from the activities bar.

3. Select Design site from the drop-down list. Site Designer is shown.

4. Click Colour in the Site Designer, followed by Create unique colour scheme.

5. A list of colour groups may be found under Theme colours in the Create custom colour scheme dialogue box. To expand the list of colours, click the name of the colour group. The colour groups are sections of your website where colour may be used, such as the Header or Body.

6. Select an item in the list by clicking on it, then choose the colour you want for it under Select a colour.

7. Select more colours to add a custom colour.

8. To the right of choosing a colour, move the slider to the desired hue. Click and hold the colour selection circle on the left, then drag it to the desired saturation and shade. The Hex box displays the color's hexadecimal code as you pick it. Alternatively, you may enter a specific color's hexadecimal code in the Hex box.

9. Click "Apply"

10. After carrying out these procedures for each colour group you wish to use a custom colour on, click OK [6].

Your unique colour scheme will show up in the Site Designer's Colour drop-down menu after you've created it. There can be only one custom colour scheme, but you may alternate between it and any of the pre-designed schemes. The old custom colour scheme is replaced if you create a new one [7].

F. Pick the appropriate font

The typeface you choose for the information on your website is another crucial aesthetic component. Your website's pages may all use the same font, or you can use a different font for each text section. You may quickly and effectively give the whole website a uniform appearance and feel, which is normally more appealing to site visitors, by applying a typeface to the complete thing.

Your choice of typefaces should be appropriate for the message you wish to convey. For instance, you generally wouldn't want to choose a typeface with several embellishments, like Trebuchet MS, if your website has legal information. Instead, you should pick a legible typeface like Arial or Times New Roman.

Choose the following font for your website:

a) Click Web Site at the top of the Office Live Small Business Home page.

b) Select Design Site from the drop-down list after clicking Design Site on the activities bar.

c) Select the desired font from the drop-down box after clicking Font.

You may alter the appearance and feel of your website in a number of ways. You may give your website a polished, unique design that will appeal to your visitors by making a few little adjustments to the theme, colors, and font. In Figure 4 shown the represents selecting the font for your website.
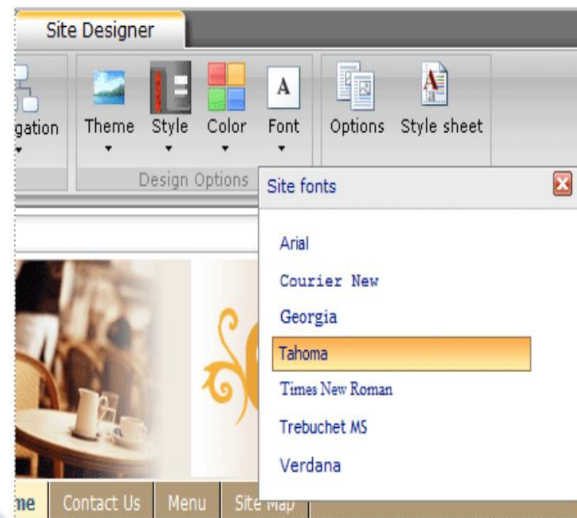

Figure 4: Represents selecting the font for your website.

G. Add Special Background Effects

By using a backdrop picture on a Web page or a colour gradient in the site's background, you may improve the visual appeal of your website [4].

Add a background image to a Web page

The content part of the page has a backdrop picture.

1. Click Web site at the top of the Office Live Small Business Home page.

2. Find the page you want to add a background picture to in Page Manager and click Edit.

3. Click Page background in the Advanced section of the page editor tab.

4. Check the box next to Use background image.

5. Click the Select button next to the Image file box.

6. In the Select an image box, under Choose images from, do one of the following:

Choose My computer if you want to utilise a picture that is on your computer. Select the picture you wish to use by clicking Browse for an image, then click Open. Select the Optimise my picture check box to prepare the image for the web. Click Insert picture to proceed [8].

Note: that if you choose this option, the picture is converted to JPG (if it isn't already in this format) with a 100% JPG conversion quality level. The picture is scaled down while retaining its aspect ratio to a maximum of 640 pixels. The picture loads more quickly in Web browsers thanks to these enhancements.

Choose My uploaded photographs to choose an image you submitted to the Image Gallery. Click Insert Image after choosing the picture.

7. Choose the location on the backdrop where you wish to position the picture in the Page background dialogue box's

Position list. If you wish to tile the picture on the page, choose how you want it to be tiled from the Tiling list. Select OK [5].

Add a gradient color background to your Web site.

The backdrop of your whole site may have a gradient added to it. On every page, the background colour will be the same.

a) Click Web site at the top of the Office Live Small Business Home page.

b) Click Design Site in Page Manager, then click Design site.

c) Click Options in the Advanced section of the Site Designer tab.

d) Select Gradient from the drop-down list under Display choices in the Site choices dialogue box.

Note: You may also choose Blank to have your site's backdrop be completely colorless or Flat colour to have a solid colour [9], [10].

Press OK.

III. CONCLUSION

In conclusion, a key phase in the web design process is providing foundational material to a website. To make the website user-friendly and simple to navigate, the material should be pertinent, understandable, and well-organized. The desired message may be sent to the audience by using text material, photos, videos, and audio files to improve the user experience. In order to improve the website's exposure and draw in more visitors, it is also crucial to make sure the content is optimised for search engines. Designers may produce interesting and educational websites that successfully reach their target audience by adhering to best practices and keeping the user in mind.

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Brief Introduction on Working with XML data

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Abstract— The extensible markup language (XML) is often used on the internet to store and transfer data. Working with XML data properly is becoming more and more crucial as more and more data is produced and consumed online. The fundamentals of dealing with XML data will be covered, including parsing and modifying XML files using programming languages like Python, Java, and C#. The use of XML schemas to check the organisation and content of XML documents as well as XSLT (extensible Stylesheet Language Transformations) to convert XML data into other XML formats like HTML and PDF will also be covered. Developers and data analysts that wish to deal with XML data in their projects may find this subject beneficial.

In this essay, the idea of working with XML data will be explored, along with the fundamentals of XML, how it varies from other data formats, and the advantages of utilising it. It will also go over XML editors and parsers, as well as how to interact with XML data in different programming languages including Java, Python, and C#. The article will also go over subjects like data modelling using XML Schema, XPath data queries, and XSLT data transformations. Readers will have a firm knowledge of how to interact with XML data in a number of scenarios by the article's conclusion.

Keywords— Schemas, XML Data, XML Documents, XML Files

I. INTRODUCTION

Web development requires working with XML data, particularly when it comes to transmitting and storing data. Extensible Markup Language, often known as XML, is a language for storing and sending data. Because of its ease of use, adaptability, and interoperability with a variety of platforms and programming languages, it is a preferred option for web developers. Understanding how to produce, verify, and alter XML documents using a variety of tools and approaches is necessary when working with XML data. This involves creating and parsing XML data using XML editors, parsers, and libraries. Additionally, it entails converting XML files into other forms like HTML, PDF, or CSV utilising XSLT and XML standards to verify XML documents [1].

The fundamentals of dealing with XML data will be covered in this article, including the structure and syntax of XML documents, the creation and validation of XML documents, and the use of XSLT to transform XML documents. We'll also look at several well-liked programmes and libraries for handling XML data and provide some advice on best practices. Understanding how to deal with XML data is essential for developing reliable and scalable online applications, regardless of your level of expertise. You will have a firm grasp on the principles of dealing with XML data, as well as the associated tools and procedures, by the conclusion of this study [2].
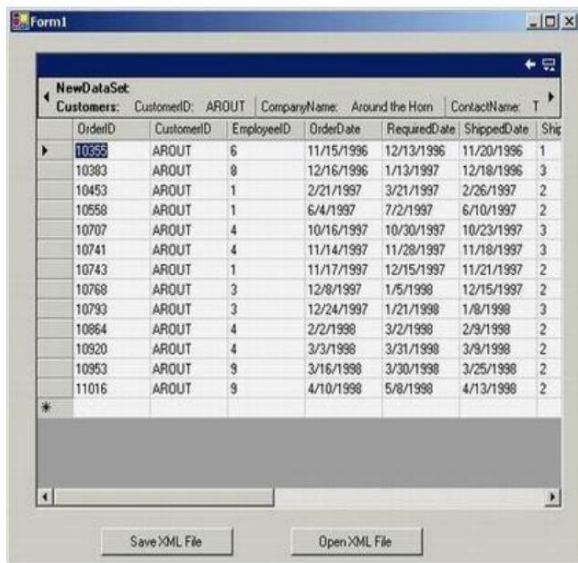
II. DISCUSSION

You need to have Microsoft Visual Studio.NET installed in order to build the solution. You must have the.NET framework installed in order to launch any of the client executables. The example is a simple C# application. It shows a form with a Data Grid on it (Figure 1). By default, the programme establishes a connection to a SQL Server, binds the North wind database, and retrieves a small number of parent and child entries from the Customers and Orders tables. The programme automatically assumes that you have a SQL Server instance installed on your computer. If not, you will need to manually change the connection string before rebuilding the sample [3]. In Figure 2 shown the **Dataset may then be saved as an XML file** [4].

Figure 1: It shows a form with a Data Grid on it.

Figure 2: Dataset may then be saved as an XML file.

The dataset may then be saved as an XML file. Information about schemas is also kept.

A. What is a Data Set?

A highly general object called a Data Set may hold database cached data in a very effective manner. It belongs to the namespace System: Data.

When should I utilise a dataset is one clear question. The answer, therefore, is that it depends. A dataset should be seen as a group of in-memory cached data. So, when dealing with numerous isolated tables or tables from various data sources, datasets are a smart idea.

1. You are sharing information with another program, such a web service.

2. You give the database's records a thorough processing.

3. Every time you need to make a change, if you use a SQL query, processing each connection may be kept open as a consequence of records, which might influence performance.

4. You want to apply XML/XSLT transformations to the data.

A dataset shouldn't be used if:

5. Because Web Forms and associated controls are rebuilt each time a page is accessed by the client, you are utilizing Web Forms in your application. Therefore, unless you have a method to cache the dataset in between roundtrips, constructing, filling, and removing one every time will be wasteful.

A Data Table Collection object, which is nothing more than a collection of Data Table objects, is a member of a Data Set. In Managed C++, you declare a Data Set object and add tables to it as follows :

Collapse

```
// Declare the DataSet object
DataSet* My Data Set = new DataSet ("My Data Set"); // give it a name
    here
```

// Add two tables to it
// - add a Table named Table1
Data Table* Table1 = My Data Set->Tables->Add ("Table1");
// - add a Table named Table2
Data Table* Table2 = My Data Set->Tables->Add ("Table2");

The two crucial components of a Data Table object are Rows and Columns. Columns is a Data Column Collection object, while Rows is a Data Row Collection object.

Both Data Row Collection and Data Column Collection are collections of Data Row and Data Column objects, respectively. You'll no doubt be able to determine what these items stand for [5].

Adding data to a data set is straight-forward:

Collapse

```
// adding data to the first table in the DataSet
Data Table* Table1 = My Data Set->Tables->Item[0];
// add two columns to the table
Table1->Columns->Add ("Column1");
Table2->Columns->Add ("Column2");
// get the collection of rows
Data Row Collection* drc = Table1->Rows;
// create a vector of Objects that we will insert in current row
Object* obj[] = new Object* [2];
obj[0] = new String ("Item 1");
obj[1] = new String ("Item 2");
// add them to the dataset
drc->Add (obj);
```

The Data Column::Data Type property should be used to indicate the data type of a certain column. Any of the following data types may be set:

The following data types are supported: Boolean, Byte, Char, Date Time, Decimal, Double, Int16, Int32, Int64, SByte, Single, String, Time Span, and UInt16, UInt32, UInt64. I'm done now! Well, if you want to create your data set manually, that is all you have to do. If you wish to connect to a genuine data source, you can't do it this way.

B. Database Binding

Three more objects a Connection, a Data Command, and a Data Adapter object are required to establish a connection to a database server (like SQL Server) and populate a dataset from there. To connect to the database object, utilise the Connection object. You have to provide it a connection string. Additionally, you need to attach a transaction object to the connection if your application uses transactions [6]. Sending commands to the database server is done using the Data Command object. There are four Systems included. Select Command, Insert Command, Update Command, and Delete Command are string objects. I think it is clear what these string objects stand for just the four fundamental SQL procedures. The object that does all the magic work is the

Data Adapter object. It updates data from the DataSet to the database and populates it with data from the database.

You may be wondering at this point what classes relate to the aforementioned objects. However, Microsoft has created two sets of classes, so it's hard to argue that life is becoming any simpler with.NET. The first set, which is a component of the System, is based on OLE DB. Namespace Data Ole Db. The classes Ole Db Connection, Ole Db Command, and Ole Db Data Adapter are all present in it. The second collection of classes is designed specifically for use with Microsoft SQL Server. It is a component of the System: Classes in the Data::Sql Client namespace include Sql Connection, Sq l Command, and Sq l Data Adapter.

The whole process of connecting to the database and populating the dataset is shown here. I have made advantage of the SQL Server-optimized classes. You simply need to change "Sql" to " " if you need to utilise OLE DB. In order to establish a parent-child connection between Table1 and Table2, we attempt to retrieve the two tables [7].

```
Collapse
// Create a database connection string
String* str = new String ("user id=sa;password=;initial catalog=MyDB;"
"data source=(local)");
// Create the database connection object
SqlConnection* sqlcon = new SqlConnection (str);
sqlcon->Open (); // open it
// create the first SQL query
String* strTable1 = String::Format ("SELECT * FROM Table1 "
"WHERE Field1 = {0}", FieldID.ToString ()); // FieldID is
// an interger used to filter our query.
// create the second SQL query. It joins the first table to select
only those
// fields in relation
String* strTable2 = String::Format ("SELECT T2.* FROM Table2 T2 "
"INNER JOIN Table1 T1 ON T2.ParendID = T1.ID "
"WHERE T1.Field1 = {0}", Field1.ToString ());
// FieldID is
// an interger used to filter our query.
// create the SQL command objects. We pass in the contructor the
// SqlConnection object and the query string
SqlCommand* sqlTable1 = new SqlCommand (strTable1, sqlcon);
SqlCommand* sqlTable2 = new SqlCommand (strTable2, sqlcon);
// Create a data adapter for every table. We pass the SqlComand
objects as parameters
SqlDataAdapter* Table1Adapter = new SqlDataAdapter (sqlTable1);
```

```
SqlDataAdapter* Table2Adapter = new SqlDataAdapter (sqlTable2);
// now we create the dataset object and we give it a name
DataSet* MyDataSet = new DataSet ("MyDataSet");
// we inform the dataset object about the tables it is going to
contain
// by adding those tables to the dataset.
DataTable* Table1 = BackupDataSet->Tables->Add ("Table1");
DataTable* Table2 = BackupDataSet->Tables->Add ("Table2");
// now we are filling the Dataset using the Dataadapter objects
// We need not say anything to the DataSet object about the
// columns of the table and their data type. The DataAdapter
objects
// takes care of everything
Table1Adapter->Fill (Table1);
Table2Adapter->Fill (Table2);
// To ensure relationships between Tables we must add a
DataRelation object
// We assume that between column 0 in Table1 and column 1 in Table2
there is
// a one-to-many relationship
MyDataSet->Relations->Add (Table1->Columns->Item[0],
Table2->Columns->Item[1]);
```

You should learn about the Constraint class and the two classes that are descended from it, ForeignKeyConstraint and UniqueConstraint, for more information on relations and constraints.

C. **Working with XML files**

XML files may be used with DataSets fairly simply. A DataSet object may be serialised using one of two techniques. DataSet::WriteXml and DataSet::WriteXmlSchema are these [8]. The first one creates an XML file with data and could also contain a schema. When writing an XML file with embedded schema information, it is helpful. However, you should use the DataSet::WriteXmlSchema function if you wish to have the schema information in a separate (.xsd) file. The System offers a large number of courses as well:Xml namespace includes, among others, XmlWriter, XmlReader, XmlTextWriter, and XmlDataDocument. These may be used with a dataset to carry out some complex XML operations. For instance, there are two methods you may use to write a dataset to an XML file [9]–[11]:

III. CONCLUSION

In conclusion, XML is a strong tool for flexible and standardised data layout and organisation. Working with XML data in web development is made simpler and more effective by the usage of computer languages like JavaScript

and tools like jQuery.When dealing with XML data, one must first read the data using a parser, then manipulate it using a variety of programming methods, and lastly display the results using HTML and CSS on a web page. Before using the XML data, it is crucial to verify it to make sure it adheres to the necessary structure and criteria. The ability to utilise XML effectively may significantly increase the effectiveness and usefulness of online applications. XML is a crucial tool for web developers dealing with huge and complicated information.

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Discussion on Web Hosting Steps

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Abstract— The stages involved in web hosting, or the act of storing and disseminating a website on the internet, will be covered in this abstract. Picking a hosting company, picking a hosting package, configuring and setting up the website, uploading the website files, testing the website, and launching the website are the procedures involved in web hosting. The selection of a hosting company is the first stage in web hosting. There are several hosting companies out there, and they all provide various plans and services. To choose a supplier that fulfils the demands of the website, it is crucial to do research and evaluate several vendors. The choice of a hosting plan comes after selecting a hosting provider. The features and costs of hosting packages vary, so it's important to choose one that meets the needs of the website. A hosting package must be chosen before the website can be setup and set up. This include setting up file systems and databases, as well as arranging domain settings and email addresses. The website files must be uploaded as the following step. The website files must be moved from the local computer to the hosting server in order to do this. FTP, SFTP, and cPanel are just a few of the ways available for uploading. The website must be checked before going live once the website files have been submitted. Testing include ensuring that all pages and functionality operate as intended and that the website is compatible across a range of browsers and mobile platforms. Making the website available to the general public online is known as "launching." The process of publishing a website on the internet requires web hosting, picking a hosting company, picking a hosting package, configuring and setting up the website, uploading the website files, testing the website, and launching the website are the procedures involved in web hosting. These procedures may assist to guarantee a good and easy web hosting experience.

Keywords— Domain Name, Hosting Package, Launching, Web Hosting

I. INTRODUCTION

When someone has constructed and tested their website on their own computer and wants to make their work accessible "Live" on the web for the benefit of the general public, they need web hosting. Web hosting is the process of putting a website "Live" on the internet. The whole network of linked computers communicating with one another is the internet. Typically, phone lines, digital satellite signals, cables, and other forms of data transmission mechanisms are used to link the computers (on the internet). A "data transfer mechanism" is geek speak for a method of transferring data from location A to location B to location C and so on. The web's constituent computers might be linked continuously (24/7), seldom, or not at all. The computers that are always linked are often referred to as servers [1]. With one significant exception, servers are similar to other computers in that they have software installed specifically for them called "Server" software. Anyone who wishes to exchange information with the many users and online groups must have their own home in cyberspace.

Anyone with a computer and an internet connection may own a spot in cyberspace thanks to web hosting. One may store news, bulletins, papers, data, files, and his or her own post office (mail server) to receive mail in this area. People who are browsing the internet may browse his website and/or send and receive e-mail with him using the computer(s) running the server(s) that provide access to his old files and post office [2]. For a website to be created and made available online, web hosting is essential. A website cannot be accessible by anybody without web hosting. Making a website accessible on the internet requires a number of processes, including web hosting. The many procedures involved in web hosting will be covered in this introduction, along with their importance [3].

Choosing a web hosting company, a hosting package, registering a domain name, configuring the server, uploading website files, and launching the website are all common steps in the process of web hosting. Each of these actions is essential to the effective hosting of a website. The first stage in the web hosting procedure is choosing a provider. It entails comparing several hosting companies and choosing the one that best meets the requirements of the website. The size, traffic, and cost of the website will all be taken into consideration when choosing a web hosting company. The second stage in the web hosting procedure is picking a hosting package. Shared hosting, virtual private server (VPS) hosting, and dedicated hosting are some of the hosting packages that are offered. Each plan has unique characteristics, benefits, and restrictions. The demands, budget, and scalability requirements of the website will determine the hosting plan to be selected.

The third stage of web hosting is domain name registration. Choosing a domain name and registering it with a domain registrar are required steps. The domain name serves as the website's internet address, so picking one that is simple to recall, relevant to the site's subject matter, and open to registration is crucial. The fourth phase in the web hosting process is server configuration. The server environment must be configured, relevant software must be installed, and security settings must be specified. The hosting plan and the needs of the website will determine the server setup [4].

The fifth stage in the web hosting procedure is the uploading of website files. The website files must be moved from the local computer to the web server. FTP (File Transfer Protocol) or other approaches comparable to this may be used to accomplish this. It is crucial to confirm that the website is operating properly and that all website files have been uploaded successfully. The last stage in the web hosting procedure is website launch. It entails publishing the website on the internet and making sure that people can access it. This involves evaluating the website's performance, responsiveness, and functionality.

Building and establishing a website depend heavily on web hosting. There are various processes involved, including picking a web hosting company, selecting a hosting package, registering a domain name, setting up the server, uploading website files, and launching the website. Each of these procedures is essential to the effective hosting of a website [5].

II. DISCUSSION

A. Elements of the Web Hosting Setting

The following crucial elements are necessary to make the internet functional in a webhosting environment:

1.1 Web Server

The web server is a very straightforward piece of software that receives HTTP (Hypertext Transfer Protocol) queries and sends HTML pages and image assets in response [6].

1.2 The FTP Server

A webmaster may send and receive files to and from the server via FTP. You would often use FTP to upload (transfer to) your files to the server hosting the web server in order to place your HTML and graphic files on a server.

1.3 The Mail Server

POP (Post Office Protocol) and SMTP (Simple Mail Transfer Protocol) are the two components of the mail server. Email is received into your inbox using POP, while email is sent and received across mail servers via SMTP.

1.4 Database Server

If your web server (like Microsoft Internet Information Server) supports server site scripting, you may supply data from a database so that users can search and see the information in a variety of dynamic ways rather than just static web pages. A database server is also used to collect information from site visitors such as orders, reviews, debates, and the like. Each of the aforementioned elements is made up of software applications that operate on servers in a web hosting environment. With the use of specialized computer software, you may communicate with each of them. The major ones are:

1.5 Web Browser

One uses a web browser, such as Internet Explorer, to surf the web. Many businesses provide a Control Panel that may be used with a web browser to manage a web host account. Most businesses let customers customize the majority of their accounts using a basic web browser [7].

1.6 Site or page editor

On the basis of Microsoft FrontPage Technology, several web servers now support editing Web Pages over HTTP (hypertext transfer protocol). By employing WYSWIG (What you see is what you get) technology, these specialised editors enable users to virtually explore their websites as if they were using web browsers and modify the pages immediately as they view them.

1.7 The FTP Client

This is a pretty basic piece of software that enables one to examine the server folders and files in his web host account just as he would see them on his own computer. After that, he may transfer files by dragging them from his PC to his web host account.

1.8 The Email Client

You would already be using an email client to send and receive emails if you were online. The most popular ones are Hotmail, Eudora, and Outlook Express on Windows [8].

B. Database Administration Client

The most popular databases used with web servers are MySQL (often found on Linux and UNIX but also accessible on Windows) and Microsoft SQL Server (available solely on Windows). You may browse your databases, change them, back up data, and do any other necessary administrative tasks using the administration interface that comes with SQL Server. There are several administrative clients available in the vibrant internet community for MySQL.

C. The Steps of Web Hosting

One must guarantee that the website to be hosted on the Web is appropriately constructed before hosting it in the cyberspace. It is advised to engage a web designer to create a suitable website. It is important to review the Web designer's portfolio and expertise before hiring them. A web designer's proficiency with graphics applications like Macromedia Dreamweaver, Flash, Fireworks, and 212 must be assured. Knowledge of HTML, DHTML, CSS, and Javas cript are also required, as well as Adobe Photoshop, Illustrator, Image Ready, and In design. It is necessary to hire a web designer who is knowledgeable in online dasta bases, PHP, MYSQL, perl,.net, HTML, Java script, and CSS if one want to conduct online transactions via their website. He must first look for a domain name (www.net4india.com) before hosting a website. As the web address of one's real website, the domain name is a crucial component of a website. The domain name should not be registered until a suitable hosting provider has been identified.

Joining a Web-Hosting and Domain Company is the next step in web hosting. Now is the time to register with a hosting company that will also register your domain name. When joining up with a hosting provider, cost efficiency is a crucial consideration, thus one should shop around to obtain the best deal. Additionally, one must make sure that the hosting company's space can accommodate his website's needs while being reasonably priced. At this point, one should also investigate the possibility of receiving a free domain name from a hosting provider. Following careful consideration of each of these elements, a web hosting firm should be chosen, and a web hosting service should be used to register a domain name [9].

One must use a file transfer programme, which may be downloaded for free or supplied by the web hosting provider, to upload the webpages of his website after selecting a hosting company and a hosting plan. Before transferring files online, a user must submit a user name and password provided by the web hosting firm. It takes about 24 hours after transferring the files online for one's website to become live and be posted.

The last step in creating a website is to promote it. With this, the whole website hosting cycle is finished.

A website does not necessarily need to be hosted by a professional. On occasion, individuals might host their own website. Additionally, it enables people to save time and money. One needs a computer, a high speed internet connection (DSL/Cable), and a 24/7 internet service provider in order to host websites on their own. One has to follow the following steps to make his website available to users on the Internet.

D. Installation of Web Server:

This is the first stage in publishing a website online. Depending on the version of Windows, the majority of operating systems either come with a web server or may download one for free. A programme called the web server operates in the background of a user's computer and monitors requests from internet users. Software that locates pages on a computer and provides them to users upon request [10].

1.1 Configuration of the web server:

In this phase, the user must inform his web server of the location of his computer-based website.

1.2 Choice of a domain name:

In this phase, a person must choose the name for his website and purchase it from a service provider. You may choose a good domain name with the aid of the service provider's websites. The cost of a domain name is often low, and it only has to be paid once a year.

1.3 Configuration of DNS:

In order to direct people to his computer when they type the name of his website, this step links the owner's website name to his computer's IP address.

1.4 Configuration of Router:

For the router to know where to redirect the users, it must be aware of the computer hosting the website. The router's configuration is used to do this.

1.5 Dynamic IP Solution:

Internet service providers (ISPs) often provide a dynamic IP address. This implies that one's computer's IP address could change. This is problematic since DNS requires knowledge of the IP address of the machine to which users should be redirected when entering a domain name. Applications exist that will automatically update DNS when a user's IP changes without requiring them to pay the ISP additional fees.

1.6 Securing your server:

This action ensures that the essential software is installed and configured on a computer to safeguard it against dangerous programmes that may be found on the Internet.

1.7 Advertise your website:

Lastly, you need to promote your website. If one does not promote their website, it will not be found online. Due to this, one must submit their website to search engines and make sure their website and content include the proper meta-keywords in order to get the attention of the search engines. Online exchange is the practice of exchanging online connections with other websites. On certain websites, advertising space may also be purchased [11].

1.8 Models of Hosting

A website may be hosted using a variety of hosting methods. The selection of a particular hosting model is based on a variety of factors, including price, user knowledge, website requirements, and desired level of control, flexibility, and performance. Every model has advantages and disadvantages. Different models of web hosting are as under:

Shared Hosting - Low cost, simple operation, and extensive feature set

Shared hosting is the most widely used kind of web hosting service. The great majority of websites that one may discover online are really powered by this kind of platform. Shared hosting is sometimes referred to as conventional, common, or normal hosting.

Shared hosting, as the name implies, is a service arrangement in which you and other paying customers share network resources like bandwidth and storage space. Even the most inexperienced users can often maintain this model for a cheap cost thanks to the way it is set up. Because it is inexpensive, straightforward, and hassle-free, shared hosting is a sensible option for most individuals and small organisations.

Dedicated Hosting- The greatest amount of adaptability, control, and responsibility. Dedicated hosting is the opposite of shared web hosting. Instead of being shared with the needs of other customers, the hardware is solely committed to those

of your website. By not having to share resources, dedicated hosting may provide you greater control, flexibility, and performance. Under this configuration, you are free to choose your own operating system, install your own software, and add the security elements you think would provide the server the best protection. In contrast to shared hosting, dedicated hosting is not advised for new users.

1.9 VPS Hosting

Powerful and exceptional performance. A technology that is swiftly gaining traction in the web hosting industry is a virtual private server, sometimes referred to as a VPS. Software that splits up a single physical server into several virtual servers creates a VPS. This strategy, called virtualization, produces several distinct environments that may do many of the same duties as a single machine.

In addition to often offering more resources that are guaranteed, better speed, and more security than your typical shared platform, a virtual private server is frequently far less expensive than a dedicated server. In light of these factors, many individuals believe a VPS to be the optimal compromise between shared and dedicated web hosting.

E. Managed Hosting Hassle-Free but Costly

Managed hosting often refers to the complete maintenance of a dedicated server. The purpose of this service is to lessen the technical difficulties and complexity involved in administering a web server. The major function is server management, but there are also additional features like monitoring, extended support, and web application and database administration. Customers who lack the technical know-how required to run a dedicated server as well as those who lack the time to completely immerse themselves in all administrative elements are the target audience for managed hosting services. Despite being cost-effective in the correct situations, managed hosting's major drawback is its price, which is much more than that of other types of web hosting.

F. Reseller Hosting Substantial Profit Potential

Recently, reseller hosting has been popular, giving company owners and small companies a chance to earn from the booming web hosting sector. As a reseller, you buy a service package from a hosting company that includes a certain quantity of disc storage, bandwidth, and functionality. This offers you the tools you need to sell web hosting plans to clients who want to establish an online presence.

III. CONCLUSION

To sum up, web hosting is an important component of creating and establishing a website. It requires a number of processes, such as picking a hosting company, selecting a hosting plan, and setting up the server, uploading website files, and verifying the website's operation. Each stage is necessary to guarantee that the website is user-friendly, safe, and secure. It's crucial to take into account aspects like

reputation, uptime guarantee, customer service, and cost when choosing a hosting company. Depending on the size, amount of traffic, and degree of functionality needed for the website, the best hosting plan should be selected. The domain name of the website, the creation of email accounts, and the configuration of security features like firewalls and SSL certificates are all part of the server configuration process. Transferring the website's code, graphics, and other resources to the hosting server is known as uploading website files. Either FTP or a web-based file manager may be used for this. The website's functionality should be tested to make sure it is operating as intended and that it can withstand high visitor levels without crashing or slowing down. Overall, being aware of the procedures involved in web hosting may assist website owners in selecting a hosting company and package and guarantee that their website functions effectively and seamlessly for visitors.

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Overview of Website Updating and Web Archiving

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Abstract— Website archiving and updating are essential components of website management that guarantee a website's content is current and relevant while keeping older versions of the website available for historical research. In order to maintain a website up to date and useful, new material must be added or old information must be modified. On the other hand, online archiving refers to the practice of keeping older versions of a website for historical, legal, and regulatory compliance reasons. The significance of website maintenance and online archiving will be covered in this article, along with helpful advice on how to carry out these tasks. The many methods and resources for maintaining and preserving websites will be discussed, and the most important factors and best practices will be highlighted. We'll start by talking about the value of upgrading websites, as well as the advantages it offers to both website owners and users.

Keywords— Active Memory, Composer, Web Archiving, Website Updating

I. INTRODUCTION

Archiving is the process of transferring documents in a compressed (or zip) format from one point in a computer's memory to another one. This assists in storing the currently active document in an organization's active memory. A collection of computer data bundled together for backup, transfer to another place, or storing away from the computer to free up extra hard disc capacity is known as an archive [1]. A simple list of files or directories of files may both be included in an archive. Win zip is a well-known tool that enables one to generate an Archive on personal computers running the Windows operating system. Although compression is optional when creating an archive, win zip compresses the files that make up the archive. A win zip archive's file name ends with ".zip." In other terms, archiving refers to the practice of keeping significant data on a recording medium for an extended length of time [1].

The many methods and resources for upgrading websites, including content management systems (CMS), website builders, and coding from scratch, will next be covered. We will also discuss the important factors to remember while upgrading a website, such as maintaining brand coherence, enhancing customer satisfaction, and guaranteeing search engine optimization (SEO). We'll next discuss web archiving and how crucial it is for keeping older iterations of a website. We'll talk about the many archiving technologies that are out there, including software-based archiving tools, online archiving services, and manual archiving techniques. We will also look at the many applications for online archiving, including compliance with laws and regulations, historical preservation, and competitive intelligence. We'll sum up the most important points from this post and emphasize the value of website upgrading and online archiving in our conclusion. Website owners may make sure that their websites stay current and educational while preserving their online history for future generations by putting the best practices and ideas discussed in this article into practice [2].

The goal of web archiving is to save certain collections of internet pages. The pages are kept by duplication and transfer from antiquated forms to modern ones since they are essentially transient and prone to deterioration, obsolescence, deliberate destruction, accidental change, and deletion. The duplicated pages are preserved on preservation computer servers in secure areas and retained in their whole, together with any supporting format files, graphic pictures, and the like. Mirror sites are often utilized in widely distant geographic locations since no server or server environment can be completely secure and because server storage is not expensive. Web archiving entails procedures for the creation and upkeep of the pages that will be saved, a first snapshot of the entire website that will be archived, the detection and download of pages as they change over time, the maintenance of the servers that store the pages, and ensuring that multiple copies are saved [3].

II. DISCUSSION

A. Website Updating

When creating an archive, the site's currentness is crucial because if it is out of date, the archive will become outdated. Website updating is the process of making changes to a website, yet keeping a website current is a difficult task. Just as crucial as creating your first website is regularly updating it with new items, relevant information deletions, and relevant information amendments. Your website is outdated if it is not current. One of the main causes of people leaving a website is out-of-date material. In the haste to launch a site, website upgrading is often given minimal consideration. Building database-driven and content-managed websites is a very simple process. Just make the necessary adjustments, and the website is updated. These files must be "published" before they can be seen online, and once published, they cannot be changed. A designer is required to update the

website. On websites built using normal HTML, all of the site's links must be changed to reflect the updated content; otherwise, your visitors may not be able to discover it, rendering the whole procedure meaningless.

Websites serve as a comprehensive depiction of your company, undertaking, campaign, or item. They are reachable every day of the week, all day long. Websites are the promotional tool that works the hardest and is most directly under the owner's control of all the sales or marketing manpower that is now accessible. Since so many people may visit websites online from a variety of locations, including mobile devices, giving current information makes sure that they will bookmark YOUR site and return often since it is a vital resource for them. Even if they opt not to purchase from you, join in your business, sell to you, or get in touch with you, the information you provide them about yourself needs to remain as current as possible [4].

Websites are anticipated to undergo continuous change. Users could stop visiting your website if the material is stagnant, which might cost you chances to market fresh goods or services. To attract and keep visitors, your website should have a modern, appealing design that projects success and stability.

Keep the information as current as you can. It is crucial that any news or product announcement sections be up to date if you have them. You may learn more about what your consumer's desire from your company by analysing user-generated material. There are other things to think about, too, such how you handle critical comments and the tools required to control and watch over user material [5]. If you have old news articles that you think your readers will find interesting, put them in an archive that can be searched by interested parties. Make sure that only current employees are shown in all the latest images on your website.

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B. The Reasons for Updating Website

a) It demonstrates your active participation in the subject matter of your website.

b) Up-to-date knowledge and current content offer your audience something to search for on your website and serve to remind them of who you are each time they browse it.

c) Adaptability and awareness go hand in hand. Be ready to be attentive and adapt if you want to be able to demonstrate who you are in a world that is continuously changing.

Every element of your project or business's face is represented on your website. Your audience will have a variety of demands, and your website offers information to aid them in making informed decisions about your good or service. The content of your website should evolve as your audience's demands do, since this demonstrates your awareness of your sector's and company's trends. It exhibits dedication to your customer, whose makeup is always changing, and gives them the assurance that you care about addressing their ongoing needs [7].

Daily updates provide your audience with information on what is occurring and any altering news, which is helpful if you are participating in a project or campaign. Individuals are far more inclined to talk about what they have seen if it offers a fresh perspective or view when asked about what is new and forthcoming. Even with previously stated information, dates, and times, a new viewpoint will leave an impression on your audience's eyes and ears that they won't soon forget. Why not harness the power of word-of-mouth promotion, which is the least costly kind of advertising, when your website is the most concise and practical way for the public to obtain your information? Never underestimate your message's potential audience. You may be sure that once someone has seen your website, they will return to see what's new!

C. Web Archiving

The process of collecting parts of the World Wide Web and ensuring that the collection is preserved in an archive for future researchers, historians, and the general public is known as web archiving. Web archivists generally use web crawlers for automated collecting because of the web's enormous size. All forms of digital material, including HTML, web pages, style sheets, java script, photos, and videos, are often archived by web archivists. Additionally, they save metadata about the gathered resources, such as the content length, MIME type, and access time. The preserved collection's legitimacy and provenance may be determined with the use of this metadata. Online crawlers are the most widely used online archiving tools for automating the collection of web pages. Online crawlers often examine online sites in the same way that browser-using users do, making them a very easy technique of remotely extracting web material.

Web crawlers which are frequently used for web archiving includes:-
1. Automated Internet Sessions in biter scripting
2. Heritrix
3. HTTrack
4. Wget

D. A Selection Policy Definition

An essential stage in web archiving is the selection process. It occurs at the start of the whole cycle and has to be repeated often. It comes right after the archiving and access phase and before the capture phase, for which it offers advice and direction, preferably taking into account problems and required adjustments. The selection process is each archiving institution's distinguishing feature. The kind, scope, and caliber of the collections created by the resultant institutions are determined by the decisions taken in this area. However, merely using the techniques and procedures created for the selection of printed content is insufficient. Web publishing differs sufficiently from conventional publishing to need a thorough review of current methods. When creating collections of Web content is a frequent activity, a general guiding document that outlines the collection development policy is necessary. Creating such a strategy has the same advantages for archiving institutions as it does for printed material [8].

E. Coverage and Target

The objective guiding collection development should be described in a collection development policy. A description of the setting, the intended audience, the manner of access, and the intended purpose of the collection are included. The collection's objective, or the material that will be preserved, has to be explained in this context. By specifying inclusion and exclusion criteria, this may be improved. As in conventional selection, these factors may be based on quality, topic, genre, or publishers. The applicability of the criteria on

the internet is a crucial distinction to bear in mind while adopting them.

F. Tools for Updating Website

1.1 Composer:

A simple method for updating a website. The Composer is a component of the Sea Monkey web browser, which may be downloaded for free from Sea Monkey and formerly included with Netscape and Mozilla. It is a simple HTML editor that allows you to make changes while seeing the page almost exactly as it would look in a browser. A WYSIWYG editor, which stands for "What You See Is What You Get," is what this is. You can use Composer without even knowing HTML if you just want to make minor text changes to your website.

1.2 FTP and FTP_ commander:

Transfer of data to and from the site I suggest using a programme called FTP_ commander, which is simple and completely free to get from the internet, to transfer files to and from your website with simplicity. It provides you with a two-window interface for your site that looks like Windows Explorer. Your local computer is on the left, while the internet is on the right. Similar to how you would with Windows Explorer, you may switch directories by clicking on the local folder for your website on the left. To create a brand-new folder for your website, choose C:/ and then click the make Dir button above. You might use the name of your website. Then, after clicking on that folder, create a new folder named with the date, such as Sept.2010. Every time you create a new backup, carry out this. You will then have a record of how your site appeared in the past.

You must be aware of your login and password in order to configure FTP Commander to access your website. Enter your URL, username, and password in the corresponding little boxes on this window by clicking the "new server" button. Give it a memorable name, such as the name of your website. Then press OK. Once you've done this, your site name will show up in the server list on the right anytime you use FTP_ commander. You will now be linked to your site when you double-click its name. The filenames of all the files on your site will show in the right window after a little delay (notice all the notifications describing what is occurring on FTP_ commander bottom bar). Subdirectories will also show up with little manila folder icons exactly as they do in Windows Explorer if you have any. The right pane will update and show the contents of the selected folder when you double-click it. Double-click the little up arrow icon at the top of the file list to return to the main directory. Be aware that the files for your real website are contained in any folders with the names public_ html or www.

You should first transfer a copy of all the files from your website to your local computer. Holding down the control key while clicking on each file in the right window will highlight them all. Next, click the arrow that points from the right to the left. Select the file you want to upload on the left, then click the right pointing arrow after selecting it [9].

1.3 XENU

Examining each link on your website. Checking all the links on our site to make sure none are broken (i.e., clicking on them results in a 404 error or no response at all) is one of the things you need to perform each week (or each month). Broken links on your website are not only bothersome to your visitors which is a highly undesired outcome but they will also cause search engines to lower your site's ranking. A free tool to verify all of your links is called XENU. Install it and use it often. Send me an email with the cut-and-pasted XENU complaint about a broken internal link if you are unable to resolve it yourself. When an external link is broken, try utilising Google or your own favourite search engine to locate the new website.

1.4 Photoshop Elements and Adobe Photoshop

Adobe Photo Shop is undoubtedly something you want to have if you need to deal with photographs. Although Photoshop Elements contains more than adequate features for the small-scale website, the majority of professional web designers utilise the Professional edition. The option to save web-optimized photos in either GIF or JPEG formats is Elements' finest feature for these uses. Keep in mind that GIF enables you to utilise fewer colours, making it an effective solution to retain simple graphic pictures with few colours. Optimised JPEG format should often be used to store photographs. It it displays the old and new sizes as well as the anticipated download times using a high speed connection.

1.5 Thumbs Plus

My preferred tool is Thumbs Plus from cerious.com if you need to create picture album-style pages from your photographs. It contains a web page wizard that will construct the pages you want out of the photographs you choose, letting you choose the backdrop colours and thumbnail sizes. Along with other niceties, it is a really lovely method to browse picture galleries and offers a capability for swiftly rotating photos taken while holding the camera sideways.

1.6 Free text editors for HTML include HTML-kit and Arachnophilia.

On the internet, you may find a lot of excellent free HTML text editors. They provide you with the opportunity to edit the text and codes using word processor functions like the standard bold, italic, search, and replace buttons, as well as buttons that make it simple to create links and insert images. My go-to editor is HTML-kit, which provides buttons for the most of the things I want as well as a helpful HTML code checking (F9). It also includes a feature that is particularly helpful for converted documents called "Strip Surplus Tags in Word 2000 pages [10]."

G. Microsoft Word may be used to transform existing documents.

HTML files can be edited with Microsoft Word, but it has the unlucky propensity to rewrite the formatting and add additional codes. Therefore, dealing with existing web pages in this manner is not something I advise. However, it is how word processing documents are converted to web pages. From the WORD file menu, choose "save as Web Page" (WORD 2000) or "save as HTML" (previous versions of WORD) to save documents as HTML. This implies that papers created in Word may simply be converted to HTML [11].

III. CONCLUSION

In conclusion, maintaining a website's currentness, relevance, and accessibility requires careful website update and online archiving. A website has to be updated on a regular basis to suit the demands of the target audience, enhance user experience, and remain ahead of the competition. On the other hand, online archiving entails keeping a website's content and organizational structure throughout time to guarantee that it can still be accessed even after being changed or withdrawn. Webmasters must adhere to best practices, such as developing a content calendar, routinely assessing the website, optimizing for search engines, and maintaining backups of all website data, in order to efficiently update and archive a website. They must also take into account the moral and legal difficulties of online archiving, including copyright violations, privacy issues, and the veracity of stored data. A successful website update and web archiving plan is also necessary to guarantee that the website stays current and accessible over time given the rising relevance of digital information and the increasing number of websites being generated. Webmasters may safeguard their investment, enhance their online profile, and pass on useful knowledge to future generations by consistently maintaining and preserving the website.

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