WEB DEVELOPMENT

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**INTRODUCTION:**

**Web development** is the work involved in developing a Website for the Internet (World Wide Web) or an Intranet (a private network). Web development can range from developing a simple single static page of plain text to complex web application, electronic business, and social network service. A more comprehensive list of tasks to which Web development commonly refers, may include Web engineering, Web Design, Web content developer, client liaison, client side /server side scripting, Web server and network security configuration, and e-commerce  development.

Among Web professionals, "Web development" usually refers to the main non-design aspects of building Web sites: writing  mark-up and coding. Web development may use content management system  (CMS) to make content changes easier and available with basic technical skills.

For larger organizations and businesses, Web development teams can consist of hundreds of people (Web Developers) and follow standard methods like Agile methodologies while developing Web sites. Smaller organizations may only require a single permanent or contracting developer, or secondary assignment to related job positions such as a graphic Designer  or   information system technician. Web development may be a collaborative effort between departments rather than the domain of a designated department. There are three kinds of Web developer specialization: front-end developer , back-end developer, and full stack developer. Front-end developers are responsible for behaviour and visuals that run in the user browser, while back-end developers deal with the servers.

The concept of Web Development is to make a good quality website for the welfare of some particular organization it may be anything, it may be a huge tech giant or a small organization there are huge facilities of a website in my opinion, the first reason for attractiveness of internet, is its ability to eliminate and bridge distances. Most web developers use Hypertext Mark-up Language (HTML), Cascading Style Sheets (CSS), and JavaScript to develop websites.

HTML defines the basic framework of a website – the foundation upon which everything else is built upon. It forms the blocks that define a page’s layout, format, and critical components. Although it is theoretically possible to code a website on HTML only, it will be just a bare-bone site with no functions unless it’s enriched with CSS and JavaScript. Also, even simple style modifications such as changing the colour of a button require a lot of coding to be executed using HTML only.

CSS is used to style the content of a website using a small set of files that are kept across the entire site. This way, whenever a change must be applied to say, consistently change the colour of all the buttons found in every page of the website, a web developers needs to edit only a single file in CSS.

The JavaScript programming language is used to take care of the interactivity of many unique website elements. It can be used to create effects that alter the appearance of icons and drop-down menus, add animations, games, and other interactive elements.

Web developers are usually divided into front-end development, back-end development, and full-stack developers. A front-end developer takes care of all the visual aspects of the website (layout, navigation bar, etc.), its interactivity, and binds together all its elements.

Back-end developer take care of less visible tasks that ensure the website runs smoothly, such as managing the website’s hosting services, database, and applications. Back-end developer might need to engineer solution to server issues by using additional server-side languages such as Python, Ruby, Java, and PHP. Full-stack developers are developers able to do both front-end and back-end tasks at the same time.

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**IMPACT:**

Significance: There are many importance of web development

**CONFIDENCE**: Starting something new can always be a challenge at any age. If we can overcome those challenges to succeed, it produce confidence and drive. Learning web development skills is like learning a new language. To succeed, we have to make mistakes. If we can learn from these mistakes, it makes us better at what we are doing.

**CREATIVITY**: Being the master of our own project is always fun. We can create whatever we want to. Whether that’s an app or a game, or a website that provides something useful, there are endless chances to be creative when learning to code. Website development is a way for us to let our imagination run wild and come up with something new and exciting that benefits us and our society as well.

**PROBLEM SOLVING**: Web Development courses teaches us how to think on a problem deeply , it also teaches different types of languages like HTML, JavaScript, PHP and many more.

**COMMUNICATION SKILL**: Another of the important skills learning code teaches us communication. We learn the art of communicating effectively. We have to instruct a computer very specifically in order for it to perform the required task. Coding teaches us to be thorough and accurate.

The reason for my selection of this topic (Web Development) is its vast scope in the field of technology. Web development refers to the building, creating, and maintaining of websites. Web development gives us the opportunity to express ourselves creatively on the internet. .Fortunately, the high demand, easy-to-learn process makes it more interesting and popular. Have freedom to work whenever I want from wherever. All I need for web development is the internet and a laptop. It is also a demanding field in majority of Tech Companies .There are always freelance opportunities in this specific field . By gathering knowledge and acquiring skills I can make my own websites .

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**LITERATURE SURVEY:**The idea of the internet had existed in some form for at least a half a century before it finally became a common household utility in the 1990s. Conceived in the 1980s, the World Wide Web gained significant traction with the introduction of the Mosaic browser in 1993. Shortly thereafter, businesses began recognizing the web’s commercial potential, as network infrastructure grew to accommodate what would prove to be a massive influx of online activity. Then the tech bubble grew and burst, the survivors of which (Google, Amazon and the like) went from being key tech influencers to veritable corporate giants within about a decade.

In 1989, Tim Berners-Lee (then a fellow at the CERN Laboratory in Europe) outlined his concept of a computer platform that could facilitate collaboration among researchers who are based in different parts of the world. This led to the invention of the Hyper Text Mark-up Language (HTML) in 1990. Strongly based on the Standard Generalized Mark-up Language (SGML), HTML became the fundamental building block of the World Wide Web, and remains at the core of its coding and infrastructure. The standard enabled coders with the ability to organize web page layouts that could be understood and interacted with over interconnected networks.

Web developers are responsible for designing and developing websites and website applications. Using a variety of programming languages and web technologies, web developers manage site functionality, implement application features, and integrate security measures. Mosaic wasn’t the first browser, but it was the one that popularized the Internet for many. Released in 1993, it supported bookmarks and inline-image. Before Mosaic images had to be downloaded and viewed separately from page content. Mosaic was, at the time, the most user-friendly browser available to some degree. It allowed non-technical users to understand the web for the first time.

Cookies are not unknown anymore. Cookies are tiny flies that can store a web user’s choices in a browser. Mosaic Netscape browser first supported cookies back in 1994. Although cookies have garnered a bad reputation for monitoring and tracking user activities online, they actually have been a major reason for programmatic sophistication to the web. The huge impact they have on the web is making us implement upgraded web storage systems for substituting their practice.

It is hard to imagine a World Wide Web without PHP, yet before 1996 that is exactly what we had. Right after its release, PHP was considered to be a major web language. Moreover, PHP runs on a server, supports SQL databases. Quickly adopted upon its release as a core web language (it runs on a server, can be embedded in HTML, and supports SQL databases) the language is now used on over 80% of all websites.

Hence the history of web development is quite interesting and from my opinion it’s a boon for the tech industry. Web development takes into consideration all the specifications for a specific client.

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**FUTURE PROSPECTS:**

* **Artificial intelligence**: According to Statista revenue from AI is expected to reach $126 billion in 2025 as many web development companies have started developing AI-enabled sites. Organizations are now applying AI in web development to predict customer choices shape the overall look and feel accordingly. AI also allows you to know customer future buying plan, who are interested in buying your products, products that customer likes and dislike and others sales-related queries. AI-based equipment and machines like facial identification, pattern identification set to lesson daily errors, boost productivity, speed, and agility. E-commerce businesses are going towards seamless AI adoption based on voice search, etc. For example, YouTube applies NLP to create subtitles from the audio of a video automatically. Google Analytics also applies ML to understand the behaviour of

**Main Features**-

* Personalized content and good user experience
* Voice search optimization
* Deep learning, facial recognition
* Quantum and cloud computing
* Chatbots and AI-powered assistance
* website users.
* **Machine Learning** :

Machine Learning is basically calculated guessing. It can be used anywhere you want, in web development it can be used to consume user data (activities, clicks, likes, dislikes..) to give some sort of recommendation or prediction.

* **Internet of Things-**  :

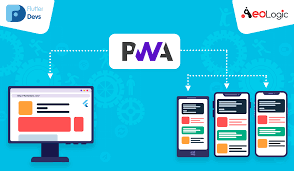
Internet of things is one of the big names today, spreading its usefulness all over. Internet of Things involves connecting the dots between devices and humans with the learning of innovation. Internet of things is now more demandable in the web development industry to make web architecture and User Interface more creative and interactive. Internet of things has been instrumental in getting involved smoothly without day-to-day technologies on both the personal and professional front. Initially, this is involved in facilitating web tools to track data from Internet of things-based smart devices. Internet of things has also been actively helping in the web development process by integrating with other technologies like wearables, cloud-based devices, server-less technologies as well as create advanced communication between website layouts and operational models. Web development will be heavily instrumental in analyzing data from a variety of IoT devices. Even server-less computing will execute more efficiently with IoT. Smart voice assistants like Echo, Apple's Siri are some real-world examples of IoT.

 **Main Features**-

* Data sensing and collection
* Device connection and connectivity
* Interaction with multiple user interfaces
* Predictive design to predict future behaviour
* Secure data transmission of private information
* **Progressive web apps (PWA):**

Progressive web apps are now bearing the flag of the future in the web development world. PWAs recreate the in-app experience within a browser and make things simple for developers than building native applications for every device.

**Main Features-**

* Operations like native apps and user experience
* Enhance reliability and availability
* Easy to update and access
* Increase conversion and customer engagement ratio
* Faster page loading
* **AI Chat-bots:**

After the worldwide pandemic, we saw immense usage of chat-bots and how well organizations are now realizing the importance of chat-bots. Till its usage has been restricted under answering the initial questions and redirecting to a company person, but the coming year will hopefully see a generous use of this functionality. Chat-bots are the blended solutions of voice/speech recognition technique and cognitive intelligence, replacing human support on websites.

**Main Features-**

* Conversational maturity quotient
* Emotionally intelligent and independent
* Pre-trained, secure, and prompt in answering
* Performs complicated reasoning
* Can converse easily across multiple channels
* **Single page websites (SPW/SPA):** Well, it becomes a bit irritating when one click redirects to one more web page downloaded from a server. It also leaves an adverse impact on users by consuming more and more time. This kind of situation leads to the trend of single-page websites. Such websites are gaining popularity due to their sleek, smart, concise, and secure features. They are beneficial to visitors/customers because of their simplicity.

Customers/visitors are now looking for information with the least of navigation or clicks. Here SPA comes for instant communication and the least wait-time. Single page websites assist businesses to attend to certain specific target audiences with limited content that will gain more popularity in the coming year. Apple, Google Drive, Facebook are applying this technique for a while

**Main Features-**

* Great web experience with high speed and fast loading
* Smooth and unique user experience
* Enhanced conversion ration
* Effective brand marketing
* Mobile-friendliness

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**IDEA:**

My innovative idea is to make a web app name :“On Demand Doctor”. With this kind of telemedicine app, we can receive remote healthcare services from a doctor without having to wait in their office. Building a doctor on-demand app allows doctors to gain real-time access to a patient’s vital signs from anywhere in the world. The mobile solution determines them measure a patient’s condition whether hospitalization is necessary. These ideas are in high demand and will bring good return on investment in the present and long term.

In this pandemic time the fear of physical interaction with personal physician is quite noticeable among common public, therefore the importance of online meeting or interaction with doctor arises. Each and every individual has personal choice of doctor .Moreover there are other advantages of telemedicine

**Less Chance getting infected**

. While everyone does their best to prevent one patient from catching something from another, it is always possible, especially in crowded waiting rooms. By staying home, we get the care we need while avoiding the risk of exposure and the chance that we’ll pass our infection on to someone else.

**Less Time in the Waiting Room**

If we choose a video visit via telemedicine technology, we’ll eliminate all that time spent looking at old magazines in a doctor’s office. Even if we don’t use telemedicine, choosing a practice that offers it will reduce our wait time by letting other patients be seen from home.

**Eliminate child or elder care issues**

Many of us have the responsibility for caring for children or older adults. Finding alternative care so that we can see the doctor can be difficult and expensive. Bringing them along can be stressful or impractical. Fortunately, telemedicine solves this challenge by allowing you to see your doctor while upholding your family responsibilities

Hence, the concept of making a web app on telemedicine is quite useful and demanding in present time and also in the years to come .This project focuses on bringing up all doctor available in our area, it will use our current location and will give the list of doctors available and we can choose doctor according to our own choice which makes it very useful and user friendly.

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**CONCLUSION**

Web development is the building and maintenance of websites; it's the work that happens behind the scenes to make a website look great, work fast and perform well with a seamless user experience. Web- developers do this by using a variety of coding languages like HTML, CSS and JavaScript also some frameworks of CSS (Bootstrap -the most widely used free and open-source CSS framework. Bootstrap is one of the most popular CSS Frameworks).

Web Development technology and Webpages flush out all information about individuals, organizations and knowledges of all subjects like science, arts, commerce, medical, philosophy, geography, spiritual text ,etc.

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**REFERENCES**

I have taken help from my brother in completion of this project ,I have also taken help from different books :

HTML and CSS: Design and build websites, by Jon Duckett,

Learning Web Design: A beginner’s guide to HTML, CSS, Javascript, and Web Graphics, By Jennifer Niederst Robbins,

and also from different websites like Google.com, GeeksforGeeks.com , Wikipedia and stardesigns.com .

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**ACKNOWLEDGEMENT**

In successfully completing this project, many people have helped me. I would like to thank all those who are related to this project.

Primarily, I would thank God for being able to complete this project with success. Then I will thank my academic coordinator Dr. Aritra karmakar, his suggestions and directions have helped me in the completion of this project. It helped me in doing a lot of Research and i came to know about a lot of things related to this topic.

Finally, I would like to thank my parents and friends who have helped me with their valuable suggestions and guidance and have been very helpful in various stages of project completion.

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