

# A Study on Basic Aspects of Coding a Website

<sup>[1]</sup> Raja Mohamed S <sup>[2]</sup> Mrinal Anand <sup>[3]</sup> Raj Kumar G

<sup>[1][2]</sup> B.Tech. Scholar, <sup>[3]</sup> Assistant Professor

<sup>[1][2][3]</sup> Department of Information Technology, S.R.M. University, Ramapuram Campus,  
Ramapuram, Chennai, Tamil Nadu, India

---

*Abstract - A web site is a collection of pages of information. Creating a web page is similar to writing a letter with a word processor and saving it on the computer, but the pages have to be saved as HTML format, rather than as Word documents, Excel spreadsheets, PDF files, Zip files etc., is that the way we read web sites with a program called a web browser. The designing of a website can be pushed on the server using CSS and HTML and this is called the Front-End. After finishing the Front-End, the Back-End turns the Front-End into the action, for example, making the forms as records in the database. We use any Server-Side Languages such as PHP and JS for doing this using MySQL as Database. This paper presents the coding basics of designing a website. A basic e-commerce website is also created.*

*Keywords:--- Web site, HTML, CSS, PHP, JS, MySQL database.*

---

## I. INTRODUCTION

A website is a collection of individual documents, which are called web pages, and files made up of text, graphics, colors, links, and formatting that come together to create a complete user experience. Websites are also usually associated with domain names, that explain to the computer where all of the files that are necessary to display a website are located.

Websites can be created or designed. We can create our own websites using any available software platforms such as HTML (Hypertext Markup Language), CSS (Cascading Style Sheets), PHP (Hypertext Preprocessor) and MySQL (My Structured Query Language). Also, we can design our own websites using hundreds of website templates from website builders, get our own domain name, customizing the website and do mobile optimization. wix.com, godaddy.com and web.com are some examples of the popular website builders [1].

When Internet users want to view a website, all they need to do is type the website address or domain into their browser. Their computer will then connect to the server and the required web pages will be delivered to them through the browser.

Web hosting is a service that allows organizations and individuals to post a website or web page onto the Internet. A web host, or web hosting service provider, is a business that provides the technologies and services needed for the website or webpage to be viewed in the Internet. Most hosting companies require that we own our domain in order to host with them. If we do not have a

domain, the hosting companies will help us to purchase one [1]. Websites are hosted or stored, on special computers called servers. By taking into account of the emergence of web development, this paper describes the basic aspects of coding basics of developing a website.

## II. WEB DEVELOPMENT BASICS

### A. Web Browser

All Websites are accessible through web browsers. A web browser is a computer application capable of downloading and displaying the files and components that make up a website. Popular web browsers like Google Chrome, Mozilla Firefox, and Safari are all able to read and interpret domain names, request the necessary files to display those websites, and render them on our screen as a website [2].

One way to create a webpage is to write the text with a word processor such as Microsoft Word and then use the save as web page feature to create files which you can put online. This looks very easy and lots of people write documents with a word processor and then want to publish them online. The problem with this is the save as web page feature in Microsoft word, including the most recent version, is not worthy. It produces pages which contain ten times as much information as is strictly necessary. They would take up ten times the space on our server, take the visitors ten times as long to download, and cost people ten times as much if they are accessing our site via mobile broadband or some other metered or pay-per-megabyte connection [2].

Other way to create a webpage is to use web browser language HTML which is the most convenient and best way.

### **B. Web Server**

Websites and their associated HTML documents and files are stored on computers called web servers. Web servers must be able to receive requests from a user's web browser and send the necessary files back to them to display a website. Popular e-commerce websites rely on large web servers to handle millions of product descriptions, product images, and purchases every day. While HTML is the technology used by the web browsers to display content to a user, web servers rely on different languages to operate.

The languages and technologies used to manage incoming user requests for website files and handle the organization and storage of user data are often called server-side languages.

### **C. Front-End and Back-End Technologies**

HTML and other languages used to display the data by the web browser are referred to as front-end technologies in the web-development space because of their user-facing tendencies.

As we enter things like credit card information or submit a form on a site, the data sent back and forth to the web server is managed by the server-side languages, which are referred to as back-end technologies. These languages make the organizing of databases easier, as well as manage user requests for new web pages as they navigate a site.

### **D. HTML**

At a basic level, all websites are written in a language called HTML. HTML is a universal set of instructions that every web browser is capable of understanding. Text, images, and formatting are the types of content that can be written in HTML. HTML code is stored within documents with the file type .html that the web browser uses to know precisely how to display a web page.

A HTML beginner will start with a Notepad or with a similar text editor. He must importantly note down the following points in coding to avoid errors [3]:

- Making the code human readable.
- Distinguish the tags from the text documents by using capital letters as <TITLE> instead of <title>.
- Make a tree order so that one can easily find the parent or child of the tag easily.
- Unnecessary usage of HTML comments can be avoided

- Always close the tag. For example, The <BODY> tag is closed instantly as soon as its opening as <BODY> </BODY> and then fill up the contents and sub-tags inside the contents.
- Proper sequence of Headers is important. For example, if H1 is the first and largest header of our HTML document and If we use header (H1, H2, H3) tags then we must use it in sequence as: <H1> must be preceded by <H2> or <H3> or <H4> but they must not be parented under smaller header.
- Usage of block and inline HTML elements is important. A HTML element can be either a block or an inline element. The block element is like a box that can contain other contents inside it and occupies space. The inline elements will not have box wrapped around it and only occupies the space that its contents have. For example, <DIV> is a block element while <SPAN>, <STRONG>, <EM>, <I>, etc are inline elements. <DIV> inside <SPAN> is not recommended but we can use as many <SPAN> as you can inside <DIV>.

### **E. CSS**

One of the key techniques used in modern web page design techniques is something called the separation of presentation and content. In the early days of the web, there was no way to do this, which meant that HTML pages were bloated, repetitive and difficult to understand. For example, if we want the main body text of the site to use the Times New Roman typeface, in a size of 12 pt, every single paragraph of text would need to start with a <font face=Times New Roman size=12pt> tag. That could amount to hundreds or thousands of such tags across the entire site. If we subsequently want to redesign the site, changing all those tags involves a lot of work.

A few years ago, a new revision of the HTML language and a new generation of web browsers that were capable of displaying pages created with it has come. Top of the list of new features was something called CSS, or Cascading Style Sheets, or HTML Style Sheets.

A style sheet is a separate file that complements one, some, or all of the HTML pages on our site. It contains all the information about how the text, pictures and layout of our pages actually looks. So, to update the above example, there might be a section in the CSS file which

states that all instances of the <p> tag should use the Times New Roman typeface in a 12pt size. Now, all the pages of our site merely need to surround the paragraphs with only a <p> tag and they will all appear in the correct typeface and size. The important thing is that we can tweak the appearance of every paragraph in our entire site just by changing one entry in a single CSS file, rather than having to change any <font> tags [1].

A CSS beginner must know the following important properties in coding [4].

- Get a consistent Base-Font size: For example, `body {font-size: 62.5%; }` will set the font size to 10 pixels uniformly.
- Get consistent margins: `p {margin:100px 150px 100px 80px;}` will set the margin values as top margin 100px, right margin 150 px, bottom margin 100 px and left margin 80 px uniformly.
- Set a Float to Clear a Float: Float is a CSS positioning property. In a print layout, the float property can be used to wrap text around images. This is commonly called text wrap. Coding  
`#sidebar {float: right;}` will set the element in right direction.  
Floated elements remain a part of the flow of the web page. There are four valid values for the float property. Left, Right are the elements directions, None is the default which means that the element will not float and inherit will assume the float value from the parent element of that element.
- Adopt better image replacement technique: It is a technique of replacing a text element, usually a header tag like an <h1>, with an image, often a logo.
- Faux Columns: When the columns should appear side by side, we would want them to be of equal height (matching the height of the tallest). We can add CSS coding to HTML for evenness of height as given in [4].

#### F. JavaScript

In the early days of the web, web pages were largely static which means that after a site's HTML documents were downloaded and displayed by the web browser, the

content wouldn't change. To display changes made on a web page, the web browser would have to download a completely new version of the HTML documents from the web server which was a slow and inefficient process. Nowadays, web pages are considered more dynamic, since they are capable of responding to user input in real time. Things like the ability to favorite social media posts or update the inventory in a shopping cart in an online shop are examples of dynamic content since they do not require the browser to re-download the page to display changes.

The language capable of providing much of this interactivity and responsiveness is called JavaScript, and it runs directly inside of the web browser. All modern web browsers are capable of interpreting the JavaScript language.

JavaScript code is written in separate files that are downloaded alongside a site's HTML documents when the browser visits a website. Both file types are capable of referencing each other's content.

Using Javascript, we may (i) create a button, (ii) make the real world more interactive, (iii) verify the information entered by user - form validation, (iv) able to use inside and outside web browser.

The beginner must know the following concepts in coding:

- The Java-like syntax
- The object property accessor syntax
- The basic distinction between primitive and object types
- Usage of `==` and `===` for comparison
- The falsy values `undefined` : `null` , `NaN` , `0` , `""` (empty string), and `false`
- The lexical scoping.

#### G. PHP

Like JavaScript, server-side languages allow us to write programs that add features and functionalities to web sites. But the big difference is that the server-side programs are run by, and on, the web server itself. The visitor's web browser doesn't get involved, except to display the output of the program.

There are many server-side programming languages around, all of which do the same thing. The one we decide to use will be the most comfortable and offered by the hosting company that runs our server.

The most popular server-side languages are PHP, Perl, Ruby, ASP.NET, Python, Java and ColdFusion. Some are proprietary, such as ASP.NET and ColdFusion, while Perl

and PHP have the advantage of being open source, free, and available for servers that run either Linux or Windows. Consequently, they are offered by almost all web hosting companies. Of the two, PHP is easier to learn than Perl, and most widely used. Initially, at time of release, the website hotscripts.com, in which we can find ready-made web programs, offers 4,000 Perl programs and 15,000 PHP ones for download [1].

PHP is the most widely used server-side language in the web world. The PHP code beginner must have the knowledge of Object oriented programming. The other prerequisite for a PHP starter include:

Tools:

We can use the same software as we use to create your HTML pages when creating PHP pages. We also need an FTP (File Transfer Protocol) client to transfer files from our computer to our web host.

Basic skills:

- Learn to begin and end with PHP code using `<?php` and `?>` respectively.
- Learn to leave comments that don't execute in the code. They are useful for the programmers who work on our code in the future.
- Know to use the echo and print statements.
- Learn to set variables, use arrays, operators and operands.
- Know to use conditional statements, nested statements and functions.
- Using `Glob()` function to find files, `memoryusage()` function for information about memory usage of scripts, `getrusage()` function for CPU usage, `md5()` function for unique ID generation, `gzcompression()` function for compressing strings, which are some of the most known functions in PHP [4].

#### ***H. Web-hosted Databases with MySQL***

One of the most useful features of PHP is its ability to talk to server-based databases. In the world of databases, the most popular language for interrogating a database is something called Structured Query Language, or SQL. Many database products use SQL, or something like it. Most SQL or SQL-like database server products cost serious money, such as Oracle or Microsoft SQL Server. But MySQL is totally free of charge and this is the one that most web hosting companies install for our use.

Accessing MySQL requires us to access two different web sites. One location is for creating the initial

databases. The other location is for managing those databases, which means: creating tables and fields; adding and deleting data; searching the database tables. The reason for this demarcation is because of security considerations [1].

#### **I. Integrated Development Environments**

One level above code specific-text editors is a larger tool called an integrated development environment (or IDE). Examples of IDEs are Visual Studio for .NET applications, Eclipse for Java development, and Xcode for Swift and Objective-C development. IDEs usually combine code editors, debuggers, and built-in tools for compiling and running applications.

### **III. DEPLOYING OUR FIRST WEBSITE**

Once we have put in all the hard work of creating a website, we need to get it on the web so that people can navigate to it and access its content. This process is called deployment. In other words, deployment is nothing but getting our website on the web. There are a few different parts of this process to be completed to launch a website which are given below:

1. Finding a domain name.
2. Finding a hosting service.
3. Uploading files with SFTP (Secure File Transfer Protocol).
4. Deploying server-side applications.

### **IV. RESULTS**

The popularization of internet has encouraged E-commerce (Electronic Commerce) tremendously. E-commerce is the process of the selling or buying of the goods and services online. The main objective of e-commerce is to provide a hassle-free and enhanced shopping experience. It has not only replaced the traditional way of shopping but also provided the comfort and ease to shop from your desk [5]. Based on the website development methods discussed in sections I-III, we have actually developed an online shopping store application. HTML, CSS & PHP are used to build the basic framework of web pages. MySQL is used for storing information about the consumer, products and vendors and served as a backend. When user fires a particular query, the query is given to database and the corresponding result is segregated from volume of information. Database is also used for retrieving the history of past orders.

---

### CONCLUSION

The various basic aspects of a web site development is discussed. In the evaluation, the authors successfully implemented an actual online shopping store web application by using HTML, CSS, PHP, JavaScript and MySQL.

### REFERENCES

- [1] Robert Schifreen, "The Web book: The ultimate beginner's guide to HTML, CSS, JavaScript, PHP and MySQL" Oakworth Business Publishing Ltd, UK, Edition 2.1,2009.
- [2] <https://www.codeschool.com/beginners-guide-to-web-development>.
- [3] <http://www.hacktutors.info/>
- [4] <https://www.w3schools.com/css/>,  
<https://www.w3schools.com/php/>
- [5] Zikra Ansari , Shital Mane , Navindas Ghadge , Nidhi Sharma, "Design and Implementation of online store", International Journal of Technical Research and Applications, vol. 4, no. 2, 2016, pp.328-330.