Web Technology

1. Computer programming and coding

(Gaddis, 2018) Think about some of the different ways that people use computers. The uses of computers are almost limitless in our everyday lives. Computers can perform such a wide variety of tasks because they can be programmed. This means that computers are not designed to do just one job, but to do any job that their programs tell them to do. A *program* is a set of instructions that a computer follows to perform a task.

Programs are commonly referred to as *software*. Software is essential to a computer because it controls everything the computer does. All of the software that we use to make our computers useful is created by individuals working as programmers or software developers. A *programmer*, or *software developer*, is a person with the training and skills necessary to design, create, and test computer programs. Computer programming is an exciting and rewarding career. Today, you will find programmers' work used in business, medicine, government, law enforcement, agriculture, academics, entertainment, and many other fields.

1.1. Web Technology

The World Wide Web -www

The World Wide Web (WWW) is a network of online content that is formatted in HTML and accessed via HTTP. The term refers to all the interlinked HTML pages that can be accessed over the Internet. The World Wide Web was originally designed in 1991 by Tim Berners-Lee while he was a contractor at CERN.

The World Wide Web is most often referred to simply as "the Web."

The Internet

The **Internet**, sometimes called simply "the Net," is a worldwide system of computer networks - a network of networks in which users at any one computer can, if they have permission, get information from any other computer (and sometimes talk directly to users at other computers).

Using the Internet, computers connect and communicate with each other, primarily using the TCP/IP (Transmission Control Protocol / Internet Protocol). Think of TCP/IP as a book of rules, a step-by-step guide that each computer uses to know how to talk to another computer.

ISPs (Internet service providers)

ISPs (Internet service providers), the companies that provide Internet service and connectivity, also follow these rules. The ISP provides a bridge between your computer and all the other computers in the world, which are all a part of the Internet. The ISP uses the TCP/IP protocols to make computer-to-computer connections possible and transmit data between them. When connected to an ISP, you are assigned an IP address, which is a unique address given to your computer or network and allows it to be found while on the Internet.

URL (Uniform Resource Locator)

Abbreviated as *URL*, a Uniform Resource Locator is a way of identifying the location of a file on the internet. They're what we use to open not only websites, but also to download images, videos, software programs, and other types of files that are hosted on a server.

Opening a *local* file on your computer is as simple as double-clicking it, but to open files on *remote* computers, like web servers, we must use URLs so that our web browser knows where to look. For example, opening the HTML file that represents the web page explained below, is done by entering it into the navigation bar at the top of the browser you're using.

Uniform Resource Locators are most commonly abbreviated as *URLs* but they're also called *website addresses* when they refer to URLs that use the HTTP or HTTPS protocol.

URL is usually pronounced with each letter spoken individually (i.e. *u - r - l*, not *earl*). It used to be an abbreviation for *Universal Resource Locator* before being changed to Uniform Resource Locator.

Examples of URLs

You're probably used to entering in URL, like this one for accessing Google's website:

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https://www.google.com
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The entire address is called the URL. Another example is this website (first) and Microsoft's (second):

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https://lifewire.com
https://www.microsoft.com
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Web Server and Hosting

Server hosting refers to the outsourcing of an organization's server placement and platform to a third-party Managed Hosting Provider (MSP). A client uses the Internet to connect to data and applications on a managed server and pays a recurring fee to the hosting provider. A MSP usually

operates and manages large data centers with dozens, hundreds or thousands of hosted servers for two or more clients. This model is known as colocation or colocated hosting.

The server hosting model provides a best-of-all-worlds scenario by giving organizations access to server platforms to host their applications and data without shouldering attendant costs.

HTML and CSS

ML (the Hypertext Markup Language) and CSS (Cascading Style Sheets) are two of the core technologies for building Web pages. HTML provides the *structure* of the page, CSS the (visual and aural) *layout*, for a variety of devices. Along with graphics and scripting, HTML and CSS are the basis of building Web pages and Web Applications. Learn more below about:

What is HTML?

HTML is the language for describing the structure of Web pages. HTML gives authors the means to:

- Publish online documents with headings, text, tables, lists, photos, etc.
- Retrieve online information via hypertext links, at the click of a button.
- Design forms for conducting transactions with remote services, for use in searching for information, making reservations, ordering products, etc.
- Include spread-sheets, video clips, sound clips, and other applications directly in their documents.

With HTML, authors describe the structure of pages using *markup*. The *elements* of the language label pieces of content such as “paragraph,” “list,” “table,” and so on.

What is XHTML?

XHTML is a variant of HTML that uses the syntax of XML, the Extensible Markup Language. XHTML has all the same elements (for paragraphs, etc.) as the HTML variant, but the syntax is slightly different. Because XHTML is an XML application, you can use other XML tools with it (such as XSLT, a language for transforming XML content).

What is CSS?

CSS is the language for describing the presentation of Web pages, including colors, layout, and fonts. It allows one to adapt the presentation to different types of devices, such as large screens,

small screens, or printers. CSS is independent of HTML and can be used with any XML-based markup language. The separation of HTML from CSS makes it easier to maintain sites, share style sheets across pages, and tailor pages to different environments. This is referred to as the *separation of structure (or: content) from presentation.*

Text Editor

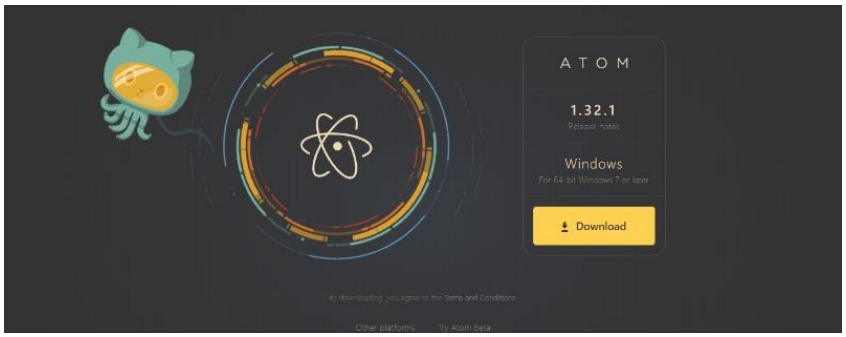
A **text editor** is program that allows you to open, view, and edit plain **text** files. Unlike word processors, **text editors** do not add formatting to **text**, instead focusing on **editing** functions for plain **text**. **Text editors** are **used by** a wide variety of people, for a wide variety of purposes.

Editing HTML and CSS code can be done without any specific tools. In fact, if you have a simple text editor, you are good to go. However, just because you can do something doesn't mean it is the best way to do it – and that applies to web development as well.

Web development IDE does all the things simple text editors do plus a number of more advanced stuff that you can't do with text editors. For instance, while an editor such as Sublime or Atom can be used as an HTML CSS JavaScript editor, they only allow you to write code.

Of course, they come with a bunch of convenient features such as syntax highlighting, customizable interfaces, and extensive navigation tools, you will need additional features to make a functional app. For example, you will need a debugger and a compiler.

Atom by GitHub



Atom by Github is the best editor for JavaScript if you are looking for something customizable and easy to use. It has a built-in package manager for installing new packages or start creating your own within this cool tool.

Atom comes pre-installed with four UI and eight syntax themes in a variety of colors. The rich and supportive community also creates cool themes for everybody to use so you might find what you're looking for there.

Here are some of the Atom's best features:

- It works across different operating systems such as OS X, Windows, or Linux
- Find, preview, and replace text as you type in a file or across all your projects.
- Easily browse and open a single file, a whole project, or multiple projects in one window.

Atom is a desktop app built with HTML, JavaScript, CSS, and Node.js integration. It runs on Electron, a framework for building cross-platform apps using web technologies. It is definitely a web development IDE worth checking out if you are looking for JavaScript development tools and best HTML IDE.