

Web Development

Web development is the work involved in developing a website for the Internet (World Wide Web) or an intranet (a private network).^[1] Web development can range from developing a simple single static page of plain text to complex web applications, electronic businesses, and social network services. A more comprehensive list of tasks to which Web development commonly refers, may include Web engineering, Web design, Web content development, 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 markup and coding.^[2] Web development may use content management systems (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 systems 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.^[3] Front-end developers are responsible for behavior and visuals that run in the user browser, while back-end developers deal with the servers. Since the commercialization of the Web with Tim Berners-Lee^[4] developing the World Wide Web at CERN, the industry has boomed and has become one of the most used technologies ever.

Importance of Web Development

As human beings, we pride ourselves on our superb adaptation skills and ability to change with the times. Stemming from this, when the social world shifted from a place of interpersonal connections to internet connections, so did the world of business. There's no getting around it; our digitally-driven lifestyle has given us little choice but to adapt to technology, and if you haven't already, it's time to get a move on. It's a no-brainer; website development is now essential to you as a business person. For your business to generate more business, your voice needs to be heard, your brand needs to be seen, and your goals need to be reached. Website development is the key to making those things happen. The same way an eye is the window to the soul, a website is the window to the business, giving customers a taste of what you have to offer and enticing them to delve deeper for more.

We are simple creatures in that we like convenience, and there's nothing more convenient than accessing a whole host of information by simply clicking a button, which is what millions of

people do when they go online every day. If your product can't be found on the other side of that click, you've already lost access to those millions of people, and your company effectively doesn't exist. In conjunction with this, establishing a strong web presence as a business while reaching millions of internet surfers who might become potential clients will elevate your product to a universally compatible entity, even if the service you provide is physically localized to a specific place. So what kind of information is valuable to showcase on your website, in order to leave a maximal impact?

Front-end Development

Front end development is programming which focuses on the visual elements of a website or app that a user will interact with (the client side). Meanwhile, back end development focuses on the side of a website users can't see (the server side). They work together to create a **dynamic website** to allow users to make purchases, use contact forms, and any other interactive activities you might participate in while browsing a site. Some examples of dynamic websites are Netflix, PayPal, Facebook, and the Kenzie Academy site you're currently on.

Back-End Development

Back-end Development refers to the server-side development. It focuses on databases, scripting, website architecture. It contains behind-the-scene activities that occur when performing any action on a website. It can be an account login or making a purchase from an online store. Code written by back-end developers helps browsers to communicate with database information.

Frontend Vs. Backend

When you're coding, you'll use a programming language. Much like human languages, these languages allow programmers to communicate with their computers through a series of symbols (referred to as code). Very simply, it's like giving your computer instructions. Front end developers work in languages like HTML, CSS, and JavaScript.

- HTML stands for Hyper Text Markup Language. It's the standard markup language for creating webpages.
- CSS is short for Cascading Style Sheets. While HTML is used to create structure on a site, CSS is used to bring style and flair. It defines a site's colors, fonts, and the style of other site content.
- JavaScript is a language that can be used to make a site interactive and fun. You can use it to run a game on your site, to name one example.

Front end also works in its own set of frameworks and libraries. Here are just a few of the frameworks and libraries a front end developer would work with:

- AngularJS
- React.js

- jQuery
- Sass

Back end developers work in languages like PHP, C++, Java, Ruby, Python, JavaScript, and Node.js. Here's a bit more on a few of these languages:

- PHP is a server-side scripting language.
- Java is a highly popular platform and programming language.
- Python is a general-purpose coding language. It's different from some of the others we've mentioned here because it can be used for other kinds of software development and isn't limited solely to web development.

Back end frameworks include:

- Express
- Django
- Rails
- Laravel
- Spring

Framework

A web development framework is a set of resources and tools for software developers to build and manage web applications, web services and websites.

Such a framework includes templating capabilities for presenting information within a browser, the programming environment for scripting the flow of information and the application programming interfaces (APIs) for accessing underlying data resources. The framework also provides the foundations and system-level services for software developers to build a content management system (CMS) for managing digital information on the Web. Developers can use the framework to define the 'out-of-the-box' content management capabilities, user authentication features, and administrative tools.

A web development framework can be built upon a pre-defined infrastructure such as the Linux, Apache, MySQL and PHP (LAMP) stack. Once defined and implemented the core CMS features and functions can be difficult to modify.

