# Web Standards and Accessible Design

## Overview

The purpose of this module is to assure that your web projects are accessible to all possible users. Computer users are incredibly diverse. They access the Web using a wide variety of browsers on different operating systems. They have different screen resolutions, font sizes, and color schemes. Many users access the Web on tablet computers with touch screens, or on mobile phones. Many users have disabilities and access the web with custom configurations or using assistive technologies. Web standards are the rules that govern how web pages are built so they work for all these different users. In this module you will learn about standard web coding languages, HTML and CSS, and will learn about the different versions of HTML that are available. You will also learn how web pages can erect barriers for users with disabilities if they aren't designed and coded properly, and will learn about accessibility standards that help you to create web pages that are fully accessible to everyone.

# Web Standards

### Overview

The purpose of this lesson is to introduce web standards and establish why they are important.

### Learner Outcomes

At the completion of this exercise:

* you will be able to identify why it is important to develop websites that comply with web standards.
* you will be able to describe the differences between HTML and CSS.
* you will be able to describe some basic differences between the earliest and latest versions of HTML.

### About Standards

In the early days of the Web, everyone accessed the Web using a keyboard, mouse, and monitor. Today, there is much more variety in the ways people access the Web. Many people do so on their phones or other pocket mobile devices. Many people do so on tablet computers with touch screen interfaces instead of keyboards and mice. Some people access the web through audible interfaces (they talk to the computer, or they listen to the computer talk to them, or both). Speech input and output technologies are available for use on phones or in cars. Many people who are blind depend on speech output, and people who are unable to use their hands depend on speech input. People with disabilities have been using these technologies for decades.

Even within the traditional combination of computer and monitor, there are a growing variety of browsers that people can choose from, including Microsoft Internet Explorer, Mozilla Firefox, Google Chrome, Opera, Safari, and others. People use a variety of operating systems, including Windows, Mac OS, and Linux. People have their computers set to a wide variety of screen resolutions, from 640 x 480 pixels to 1680 x 1050 pixels and beyond.

With all this diversity in the way people access the web, there's a very high probability that your website will look different to many of your visitors than it does to you. Despite these differences, the most important part of your website is its content, and **all** users should be able to access that. The only way to ensure that websites work across all devices and configurations is to develop in accordance with **web standards**. Web standards are the core set of rules for developing websites. It might be possible to develop sites that do not comply with standards, but doing so increases the likelihood that many people will be unable to access your site.

The central organization who is responsible for creating and maintaining web standards is the [World Wide Web Consortium](http://www.w3.org) (W3C). The W3C has defined dozens of standards, including the standard markup languages we use to build websites. The standard markup languages we'll be using in this course are:

* **HTML** - Stands for HyperText Markup Language. HTML is the language that has historically been used to create documents on the web. It is plain text, but includes a variety of tags that define the structure of the document, and allow documents to include headings, paragraphs, images, links, lists, tables, and other features.
* **CSS** - Stands for Cascading Style Sheets. CSS is a language that is used in conjunction with HTML to control how web pages are displayed. The difference between HTML and CSS is that HTML defines the structure and content of the document, and CSS controls the presentation.

The first version of HTML was written in 1993. Since then, there have been many different versions of HTML. The most recent version (**HTML5**) is still a draft (as of 2011) but is widely supported by browsers and other web-enabled devices, and is the primary language taught in this course.

### Activities

1. The Resources section below includes the official specification for two versions of HTML, version 1.2 (the earliest version still available on the web) and version 5.0 (the latest version). Have a look at each of these specifications. These are technical documents, and you don't have to master their content (unless you want to!). Just explore them to get a sense for what constitutes a specification or standard.
2. Read the document “A Brief History of HTML”.
3. As a class, discuss the following questions:
   * Why is it important for web pages to comply with standards?
   * How has HTML changed over time?
   * Considering the types of content that are currently supported on the Web as of HTML5, what's missing? What additional types of content might people want on the Web of the future?

### Resources/Online Documents

The following resources are the actual specifications for the earliest, and most recent, versions of HTML. These are technical documents, and can be challenging to read. However, they are the definitive source for each of these markup languages, and can be excellent resources. Look them over to see what constitutes a specification or standard.

* [HTML 1.2](http://www.w3.org/MarkUp/draft-ietf-iiir-html-01.txt)
* [HTML5](http://www.w3.org/TR/html5)