

# HTML5

HTML5 is the latest revision of the HTML standard and the future of web page markup. Major market and Internet leaders, including Apple and Google, have already switched to the platform in order to facilitate more leading-edge web development and take advantage of advanced features. HTML5 subsumes HTML 4.01 and XHTML 1.x.

When giving an overview of what HTML5 does in the world of web development, there is a story about a university that built its campus without any walking paths; it simply planted grass everywhere. After a year had gone by, the university went in and made sidewalks based on where the students had worn paths in the grass. That way, the university knew the sidewalks were being placed where people actually walked. HTML5 creates concrete standards where people are “already walking.”

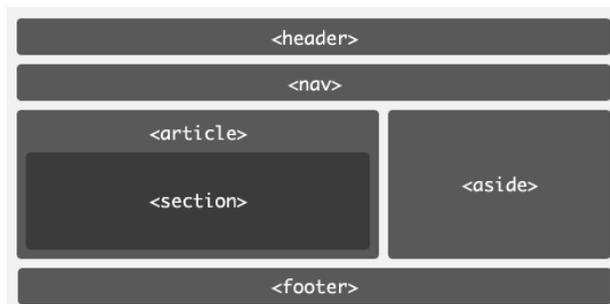
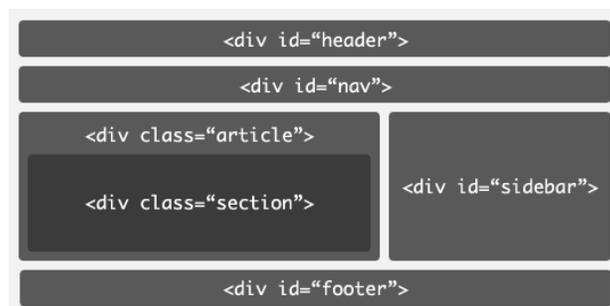
*HTML5 creates concrete standards where people are “already walking.”*

This primer gives an overview of some of the new elements in HTML5 that are most likely to be of use to the higher education community, both for those looking to start a new web project as well as those who would simply like to incorporate some of the new standards into their existing code.

## Rich Semantic Markup

HTML5 succeeds in providing richer semantic elements than previous iterations, allowing markup to be read more clearly by both the browser and the developer. The `<div>` element, which defines a section or division in an HTML document, remains mute with regard to the page content, or any other meaning for that matter. Developers typically add the “id” and “class” values such as “header” and “sidebar” to give it more meaning, but this still doesn’t help browsers or search engines determine the purpose of the markup. In HTML5, semantically rich elements replace the `<div>` to convey the purpose of the element to both developers and browsers. These new elements include `<aside>`, `<header>`, `<footer>`, `<nav>`, and `<section>`.

To determine the new `<div>` tag replacements, W3C scoured billions of existing pages to discover what developers were already using. The new tags are not only easier to understand by humans, but also by machines. This is significant for screen readers to be able to determine which part of a page is the principal content and what is, for example, navigation content. Search engines can also get to the heart of the matter with more accuracy when indexing a page.



## DOCTYPE

One simplification over previous standards is the doctype specification. Previous versions defined variations of the same doctype, and few people probably took the time to understand the differences between them. Whereas before it may have been something like:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

In HTML5, there is only one doctype:

```
<!DOCTYPE html>
```

Using this doctype will tell the browser to use the Standards mode for your page. This will also allow your page to validate the newer HTML5 semantic elements and input types.



<http://diveintohtml5.info/>

## New Form Input Types

New form input types are available in HTML5 that go beyond generic user interface input types and add semantic meaning to provide a better experience with forms. Examples of these new types include email, date, month, URL, and color, to name just a few.

This functionality is already familiar to many mobile users. If the user is asked to input an email address, an onscreen keyboard pops up that includes a large "@" symbol in place of the space bar. This is due to the "email" input type telling the browser what kind of information is being asked for; the browser can then use that information to better serve the user with a more appropriate user interface.

As with many HTML5 specifications, if the browser doesn't support these new form input types, it will treat the input element as a standard text field, so the user can still enter text as required.

## The New Way to Do Video

In 2010, Steve Jobs famously predicted the demise of Adobe Flash at the hands of HTML5 (while Flash is still fairly prevalent in the desktop space, its use is diminishing rapidly on mobile platforms). The prediction was a reference to the new <video> element in HTML5, which allows browsers to supply their own video playback support in order to play videos embedded on a web page rather than relying on third-party plug-ins such as Flash or Silverlight. The HTML5 standard is already heavily in use with mobile devices. The element includes the ability to present video controls such as play/pause and volume.

Again, HTML5 defines a way to fallback to previous methods for embedding video with a plug-in like Flash for older browsers that don't support HTML5. Instructions can simply be added into the tag with the video specification like so:

```
<video id="myvideo" controls="controls">
  <source src="your_video.mp4" type="video/mp4" />
  <source src="your_video.ogv" type="video/ogg" />
  Flash or other fallback code goes here
</video>
```

Unfortunately, modern browsers don't yet comprehensively support every video format, but the specification does allow a programmer to have multiple source nodes for backup. The following table from Wikipedia outlines which browsers currently support which video formats:

Browser	Formats supported in HTML5 video			
	Ogg Theora	H.264	VP8 (WebM)	Others
Internet Explorer	No	9.0	Manual install	No
Mozilla Firefox	3.5	No	4.0	No
Google Chrome	3.0	Yes (to be removed)	6.0	No
Safari	Manual install	3.1	No	Depends
Opera	10.50	No	10.60	No

[http://en.wikipedia.org/wiki/HTML5\\_video](http://en.wikipedia.org/wiki/HTML5_video)

These are just a few examples of the standards HTML5 establishes. Though the W3C specifies the language as a working draft, it is virtually assured that the features presented here are indeed here to stay.

## Join the Future

For institutions looking to completely redesign their website, HTML5 is the most advanced platform on which to build their site and, incidentally, the most mobile-friendly. Developers who may feel overwhelmed at the prospect of such a large project don't have to do it alone: there are a number of highly practical resources available that can do much of the heavy lifting. Among them is a framework called [HTML5 Boilerplate](#) that allows developers to not only build new HTML templates from scratch, but ensure cross-browser support and compatibility as well.

For colleges and universities that simply want to upgrade their code in bits and pieces, the elements outlined in this primer are just a start. However, they can be implemented immediately to improve a site's accessibility, SEO, and mobile user experience. The references listed below provide many more examples. Additionally, tools like [Modernizr](#) can be used to detect whether the user's browser supports a specific feature (e.g., geolocation) and respond accordingly.

## Additional Resources and References

1. [Dive Into HTML5](#) (e-book by Mark Pilgrim and contributors)
2. [A Preview of HTML5](#) (article by Lachlan Hunt)
3. [HTML5 Part1: Semantic Markup and Page Layout](#) (article by Jennifer Marsman)
4. [Activating Browser Modes with Doctype](#) (article by Henri Sivonen)
5. [HTML5](#) (specification by W3C)

The information contained in this document represents the current view of OmniUpdate, Inc. on the issues discussed as of the date of publication. This white paper is for informational purposes only. OmniUpdate, Inc. makes no warranties, express or implied, in this document. Copyright OmniUpdate, Inc. All rights reserved.