

HTML 5 vs. older HTML Versions

If you're reading this, you're most likely familiar with HTML? HTML has been revamped. The newest version of HTML, will replace current versions, HTML 4.01 and XHTML 1.0. While you should be cautious of using HTML 5 on larger Web projects because most browsers don't understand it, learning about its improvements over past versions is both interesting and a necessity for future projects.

The promise is that HTML 5 will redefine the web, most likely removing the likes of Adobe Flash, MS Silverlight and Java FX.

This article will look into the new feature, and what's been removed.

New Doctype, Charset and Page structure

No longer will you need to use the likes of

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" lang="en ">
```

As HTML no longer uses SGML to define its Doctype, the doctype line in HTML can be made much simpler.

```
<!doctype html>
```

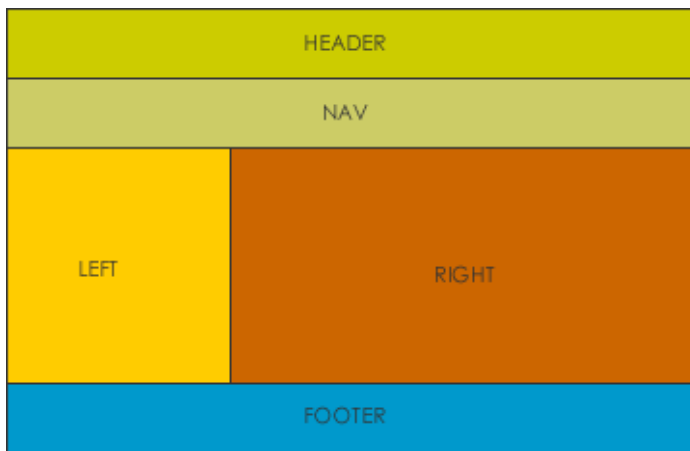
Page Structure

HTML 3 – Remember using tables to specify the structure of the page? May be you still use them?

HTML 4 – <div> containers being used in conjunction with CSS

HTML 5 – introduces a completely new set of elements to define the page structure.

Following examples show the differences between the HTML versions based on the page structure below:



HTML 3	HTML 4	HTML 5
<pre> <body> <table> <tr> <td>header</td> </tr> <tr> <td>nav</td> </tr> <tr> <td>left </td> <td>right </td> </tr> <tr> <td>footer</td> </tr> </table> </body> </pre>	<pre> <body> <div id="header">...</div> <div id="nav">...</div> <div class="right"> ... </div> <div id="left">...</div> <div id="footer">...</div> </body> </pre>	<pre> <body> <header>...</header> <nav>...</nav> <right> ... </right> <left>...</left> <footer>...</footer> </body> </pre>

New Elements in HTML 5

A number of new elements have been introduced in HTML 5:

<canvas>

gives you a drawing canvas in JavaScript. The user can draw on the canvas and using Javascript, you can track the drawing.

<video>

add video to your Web pages with this simple element.

<audio>

add an audio clip to your Web pages with this simple element.

<progress>

adds a progress bar on the page. You can use it while uploading or downloading something from your site.

<meter>

represents a measurement such as disk usage.

The **<input>** element already exists, but new types have been introduced:

tel, search, url, email, datetime, date, month, week, time, datetime-local, number, range, color

Obsolete Elements in HTML 5

As new elements are introduced in HTML 5, there are also elements that have been removed, as most of its functions can be implemented via CSS.

acronym , applet, basefont, big, center, dir, font, frame, frameset, isindex, noframes, noscript, s, strike, tt, u

New Features in HTML 5

There are many additional elements that are available in HTML 5, some of these have been summarized below:

Offline Mode

Due to technologies like AJAX came into existence, and the ability of making multiple requests to the server, thus allowing pages to seem to load more efficiently as additional resources are fetched asynchronously.

With HTML 5, you can specify what resources your page will require and the browser will cache them so that the user can continue to use the page even if he/she gets disconnected from the internet.

Local Database

HTML 5 has included a local database that will be persistent through your session. The advantage of this is that you can fetch the required data and dump it into the local database, thus reducing the burden of fetching duplicate data from the server. As you can imagine, this will no doubt reduce the load on the server, as well as speed up responsiveness of the website application.

Native JSON

JSON, or JavaScript Simple Object Notation is a popular alternative to XML, which was almost the de-facto standard before the existence of JSON. Until HTML 5, you needed to include libraries to encode and decode JSON objects. Now, the JavaScript engine that ships with HTML 5 has built-in support for encoding/decoding JSON objects.

Cross Document Messaging

Another interesting addition to HTML 5 is the ability to perform messaging between documents of the same site. A good use of this would be in a blogging tool. In one window, you create your post and in another window, you can see what the post would look like without having to refresh the page.

Cross Site XHR

One of the amazing implications of AJAX was to be able to not only fetch data from the server asynchronously, but to be able to get resources from other websites using the XMLHttpRequest. As this wasn't part of HTML4, you needed to include a library to perform such an action. HTML 5 will have XMLHttpRequest support built-in, so you won't need any library.

Multi-threaded JavaScript

JavaScript is the only language that allows you to perform client side scripting, and a large proportion of websites use this website technology. The only setback of including JavaScript on web pages is the time it takes to process the code, the more lines of JavaScript you add to your web page; the longer it will take to process them. A solution to this is to tell the browser that the script is only needed after the page has loaded, thus the JavaScript is fetched asynchronously even after the page has loaded.

HTML 5 has introduced an attribute that compensates this, async.

```
<script async src="jquery.js"></script>
```

Below is a complete list of HTML tags, and which version supports it:

Tag	Description	4	5
<comment>	Defines a comment	4	5
<DOCTYPE>	Defines the document type	4	5
<a>	Defines a hyperlink	4	5
<abbr>	Defines an abbreviation	4	5
<acronym>	Not supported. Defines an acronym	4	
<address>	Defines an address element	4	5
<applet>	Not supported. Defines an applet	4	
<area>	Defines an area inside an image map	4	5
<article>	Defines an article		5
<aside>	Defines content aside from the page content		5
<audio>	Defines sound content		5
	Defines bold text	4	5
<base>	Defines a base URL for all the links in a page	4	5
<basefont>	Not supported. Use CSS instead	4	
<bdo>	Defines the direction of text display	4	5
<big>	Not supported. Defines big text	4	
<blockquote>	Defines a long quotation	4	5
<body>	Defines the body element	4	5
 	Inserts a single line break	4	5
<button>	Defines a push button	4	5
<canvas>	Defines graphics		5
<caption>	Defines a table caption	4	5
<center>	Not supported. Defines centered text	4	
<cite>	Defines a citation	4	5
<code>	Defines computer code text	4	5
<col>	Defines attributes for table columns	4	5
<colgroup>	Defines groups of table columns	4	5
<command>	Defines a command button		5
<datagrid>	Defines data in a tree-list		5
<datalist>	Defines a dropdown list		5
<datatemplate>	Defines a data template		5
<dd>	Defines a definition description	4	5
	Defines deleted text	4	5
<details>	Defines details of an element		5
<dialog>	Defines a dialog (conversation)		5
<dir>	Not supported. Defines a directory list	4	
<div>	Defines a section in a document	4	5
<dfn>	Defines a definition term	4	5
<dl>	Defines a definition list	4	5

<dt>	Defines a definition term	4	5
	Defines emphasized text	4	5
<embed>	Defines external interactive content or plugin		5
<eventsource>	Defines a target for events sent by a server		5
<fieldset>	Defines a fieldset	4	5
<figure>	Defines a group of media content, and their caption		5
	Deprecated. Defines text font, size, and color	4	
<footer>	Defines a footer for a section or page		5
<form>	Defines a form	4	5
<frame>	Not supported. Defines a sub window (a frame)	4	
<frameset>	Not supported. Defines a set of frames	4	
<h1> to <h6>	Defines header 1 to header 6	4	5
<head>	Defines information about the document	4	5
<header>	Defines a header for a section or page		5
<hr>	Defines a horizontal rule	4	5
<html>	Defines an html document	4	5
<i>	Defines italic text	4	5
<iframe>	Defines an inline sub window (frame)	4	5
	Defines an image	4	5
<input>	Defines an input field	4	5
<ins>	Defines inserted text	4	5
<isindex>	Not supported. Defines a single-line input field	4	
<kbd>	Defines keyboard text	4	5
<label>	Defines a label for a form control	4	5
<legend>	Defines a title in a fieldset	4	5
	Defines a list item	4	5
<link>	Defines a resource reference	4	5
<mark>	Defines marked text		5
<map>	Defines an image map	4	5
<menu>	Defines a menu list	4	5
<meta>	Defines meta information	4	5
<meter>	Defines measurement within a predefined range		5
<nav>	Defines navigation links		5
<nest>	Defines a nestingpoint in a datatemplate		5
<noframes>	Not supported. Defines a noframe section	4	
<noscript>	Defines a noscript section	4	5
<object>	Defines an embedded object	4	5
	Defines an ordered list	4	5
<optgroup>	Defines an option group	4	5
<option>	Defines an option in a drop-down list	4	5
<output>	Defines some types of output		5

<p>	Defines a paragraph	4	5
<param>	Defines a parameter for an object	4	5
<pre>	Defines preformatted text	4	5
<progress>	Defines progress of a task of any kind		5
<q>	Defines a short quotation	4	5
<rule>	Defines the rules for updating a template		5
<s>	Not supported. Defines strikethrough text	4	
<samp>	Defines sample computer code	4	5
<script>	Defines a script	4	5
<section>	Defines a section		5
<select>	Defines a selectable list	4	5
<small>	Defines small text	4	5
<source>	Defines media resources		5
	Defines a section in a document	4	5
<strike>	Not supported. Defines strikethrough text	4	
	Defines strong text	4	5
<style>	Defines a style definition	4	5
<sub>	Defines subscripted text	4	5
<sup>	Defines superscripted text	4	5
<table>	Defines a table	4	5
<tbody>	Defines a table body	4	5
<td>	Defines a table cell	4	5
<textarea>	Defines a text area	4	5
<tfoot>	Defines a table footer	4	5
<th>	Defines a table header	4	5
<thead>	Defines a table header	4	5
<time>	Defines a date/time		5
<title>	Defines the document title	4	5
<tr>	Defines a table row	4	5
<tt>	Not supported. Defines teletype text	4	
<u>	Not supported. Defines underlined text	4	
	Defines an unordered list	4	5
<var>	Defines a variable	4	5
<video>	Defines a video		5
<xmp>	Not supported. Defines preformatted text	4	

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