**HTML 5**

**New HTML5 Elements**
The most interesting new HTML5 elements are:

* New semantic elements like <header>, <footer>, <article>, and <section>.
* New attributes of form elements like number, date, time, calendar, and range.
* New graphic elements: <svg> and <canvas>.
* New multimedia elements: <audio> and <video>

**New HTML5 API's (Application Programming Interfaces)**
The most interesting new API's in HTML5 are:

* HTML Geolocation
* HTML Drag and Drop
* HTML Local Storage
* HTML Application Cache
* HTML Web Workers
* HTML SSE

**Tip:** HTML Local storage is a powerful replacement for cookies.

**Removed Element Use Instead**
<acronym> <abbr>
<applet> <object>
<basefont> CSS
<big> CSS
<center> CSS
<dir> <ul>
<font> CSS
<frame>
<frameset>
<noframes>
<strike> CSS, <s>, or <del>
<tt> CSS

**HTML5 Browser Support**
HTML5 is supported in all modern browsers.

* In addition, all browsers, old and new, automatically handle unrecognized elements as inline elements.
* Because of this, you can "teach" older browsers to handle "unknown" HTML elements.

**Define Semantic Elements as Block Elements**
HTML5 defines eight new semantic elements.

* All these are block-level elements.
* To secure correct behavior in older browsers, you can set the CSS display property for these HTML elements to block:

header, section, footer, aside, nav, main, article, figure {
 display: block;
}

**New Elements in HTML5**
Below is a list of the new HTML5 elements, and a description of what they are used for.

**New Semantic/Structural Elements**
HTML5 offers new elements for better document structure:

Tag Description
<article> Defines an article in a document
<aside> Defines content aside from the page content
<bdi> Isolates a part of text that might be formatted in a different direction from other text outside it
<details> Defines additional details that the user can view or hide
<dialog> Defines a dialog box or window
<figcaption> Defines a caption for a <figure> element
<figure> Defines self-contained content
<footer> Defines a footer for a document or section
<header> Defines a header for a document or section
<main> Defines the main content of a document
<mark> Defines marked/highlighted text
<meter> Defines a scalar measurement within a known range (a gauge)
<nav> Defines navigation links
<progress> Represents the progress of a task
<rp> Defines what to show in browsers that do not support ruby annotations
<rt> Defines an explanation/pronunciation of characters (for East Asian typography)
<ruby> Defines a ruby annotation (for East Asian typography)
<section> Defines a section in a document
<summary> Defines a visible heading for a <details> element
<time> Defines a date/time
<wbr> Defines a possible line-break

**New Form Elements**
Tag Description
<datalist> Specifies a list of pre-defined options for input controls
<output> Defines the result of a calculation

**New Input Types**
New Input Types New Input Attributes
Color autocomplete placeholder
Date autofocus required
Datetime form step
Datetime-local formaction
Email formenctype
Month formmethod
Number formnovalidate
Range formtarget
Search height and width
Tel list
Time min and max
Url multiple
Week pattern (regexp)

**HTML5 Graphics**
Tag Description
<canvas> Draw graphics, on the fly, via scripting (usually JavaScript)
<svg> Draw scalable vector graphics

**New Media Elements**
Tag Description
<audio> Defines sound content
<embed> Defines a container for an external (non-HTML) application
<source> Defines multiple media resources for media elements (<video> and <audio>)
<track> Defines text tracks for media elements (<video> and <audio>)
<video> Defines video or movie

**HTML5 - New Attribute Syntax**
HTML5 allows four different syntaxes for attributes.

This example demonstrates the different syntaxes used in an <input> tag:
Type Example
Empty <input type="text" value="John" disabled>
Unquoted <input type="text" value=John>
Double-quoted <input type="text" value="John Doe">
Single-quoted <input type="text" value='John Doe'>

In HTML5, all four syntaxes may be used, depending on what is needed for the attribute.

**HTML5 Semantic Elements**

Semantics is the study of the meanings of words and phrases in a language.

Semantic elements = elements with a meaning.

What are Semantic Elements?
A semantic element clearly describes its meaning to both the browser and the developer.

* Examples of non-semantic elements: <div> and <span> - Tells nothing about its content.
* Examples of semantic elements: <form>, <table>, and <article> - Clearly defines its content.

**New Semantic Elements in HTML5**
Many web sites contain HTML code like: <div id="nav"> <div class="header"> <div id="footer">
to indicate navigation, header, and footer.

HTML5 offers new semantic elements to define different parts of a web page: 

<article>
<aside>
<details>
<figcaption>
<figure>
<footer>
<header>
<main>
<mark>
<nav>
<section>
<summary>
<time>

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<div id="header"> <header>
<div id="menu"> <nav>
<div id="content"> <section>
<div class="article"> <article>
<div id="footer"> <footer>

**Use Lower Case Element Names**
HTML5 allows mixing uppercase and lowercase letters in element names.

We recommend using lowercase element names because:

* Mixing uppercase and lowercase names is bad
* Developers normally use lowercase names (as in XHTML)
* Lowercase look cleaner
* Lowercase are easier to write