

Study on: HTML Vs HTML5 in Web Technologies

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Abstract:

HTML, Hypertext Markup Language is a primary language for developing web page. HTML4, XHTML, CSS and the HTML DOM Level2 are now replaced with HTML5. It is the fifth revision of the HTML standard which was originally created in 1990 by Tim Lee Banner, standardized as HTML4 in 1997 and has been under development as of August 2011 by, Web Hypertext Application Working Group (WHATWG). It is the new and elegant standard for HTML that provides web users and developers enhanced functionality. This new standard adds several exciting news features like drag and drop, multimedia, video playback, APIs, form control etc. and capabilities to HTML. HTML5 supplies web users to deliver rich content without the need for additional plug-ins and proprietary technologies. In this paper, we state the main differences between HTML & HTML5. We also dig statistical comparison of these.

Keywords

web users, HTML, HTML5 features

1. Introduction

The **Web** or World Wide Web (W3) is basically a system of internet servers that support specially formatted documents. The documents are formatted in a markup language called HTML (Hypertext Markup Language) that supports links to other documents as well as graphics, audio, and video files.

An important principle of the Web Standards movement that is responsible for the industry we have today is the idea of using HTML elements for what they are rather than how they may appear in

the browser by default. This is known as using Semantic HTML.

The benefit of writing semantic HTML stems from what should be the driving goal of any web page—the desire to communicate. By adding semantic tags to your document, you provide additional information about that document, which aids in communication.

The latest research on HTML by W3C is to create a standard that handles all the jobs that the proprietary technologies performing currently.

2. HTML

HTML is the acronym for Hypertext Markup Language. It is the standard markup language for creating web pages and applications. HTML is used to create pages and make them functional. HTML is an evolving language. It doesn't stay the same for long before a revised set of standards and specifications are brought in to allow easier creation of more efficient sites.

HTML 1.0: was the first release of HTML to the world. The language was very limiting with getting some simple text onto the web.

HTML 2.0: included everything from the original specifications and added a few new features for the first time.

HTML 3.0: It included many new and improved abilities for HTML to design their pages. But, the browsers were awfully slow in implementing any of the new improvements, only adding a few and leaving out the rest.

HTML 3.2: W3C was founded to standardize the language and keep it evolving in the right direction it became increasingly apparent that a standard needed to be found.

HTML 4.0: was a large evolution of the HTML standards and the last iteration of classic HTML.

HTML5

It is the latest version of HTML, the standard programming language for describing the contents and appearances of web pages. All major browsers

offer HTML5 support, which makes it the newest HTML technology used today. It has a wide range of application areas. It supports animations from the browser using audio and video without the need of the proprietary technologies. It supports cross platform designed to display for responsive web pages on the various devices (such as smart phones, tablets, PC etc.). (Fig-1)

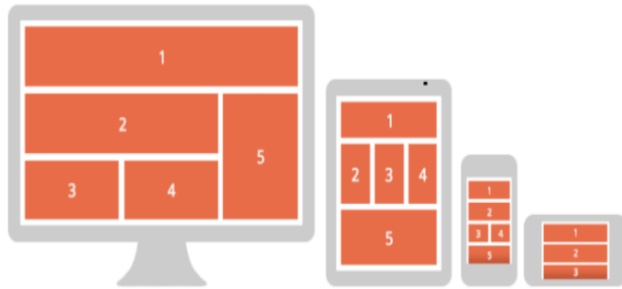


Figure 1. cross platform for responsive web pages

3. HTML5 features

It supports new features that include
 -Canvas

A canvas is a rectangular area on an HTML page. The <canvas> tag is used to draw graphics using JavaScript. Canvas has different methods for paths, circles, boxes, characters and adding images. By default it has no border and no content.

```
<canvas id="drawing" width="200" height="200">your browser doesn't support the canvas tag. </canvas>
```

-Audio & Video

HTML 5 has included several new media elements for displaying media content. Following are some of the most important media elements included in HTML5.

- <audio>
- <embed>
- <source>
- <track>
- <video>

HTML5 defines a new element which specifies a standard way to embed a video file on a web page. The file formats supported for the <video> element are:

- Mp4
- WebM
- Ogg

```
<video width="480" height="480" controls>
  <source src="sound.mp4"
  type="video/mp4">
</video>
```

Fig-2 Output of video tag

HTML5 defines a new element which specifies a standard way to embed an audio file on a web page. The file formats supported for the <audio> element are:

- Mp3
- Wav
- Ogg

```
<audio controls="controls">
<source src="soundloop.mp3" type="audio/mpeg">
<source sec="soundloop.ogg" type="audio/ogg">
<a href="soundloop.mp3"> Download the Audio file</a>
</audio>
```

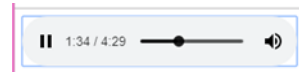


Figure 2. Output of audio tag

- Working Offline
- Drag and Drop
- Location based services
- New Input types
- New Elements
- Form Elements

3.1. Semantics elements in HTML 5

HTML5 semantic elements are supported in all modern browsers. 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>
- <hgroup>

Article : <article> element symbolizes a particular section of web page such as: [blog](#), news, testimonials etc.

Aside : <aside> element is used to include the content that may relate to a specific section of a document or a web page.

Header: <header> element denotes the inclusion of heading, sub headings etc. which is more specific.

Nav : <nav> element signifies both the website navigation as well as the navigation of the table of contents.

Section : <section> element corresponds to a broad category of a web page.

Footer : <footer> element is used to indicate important information like copyright data, the author’s name, links to other pages etc.

Data List: <datalist> provides an enumerated list of values. This can be connected to a freeform text input using the “list” attribute.

Summary: <summary> element specifies a summary, caption or legend for a <details> element’s disclosure box.

Figure and figcaption: <figcaption> element represents a caption for the figure tag in a document.

Time :<time> element represents a specific period in time.

Hgroup : <hgroup> element represents the heading of a section.

Mark : The <mark> element allows you to highlight text in a webpage.

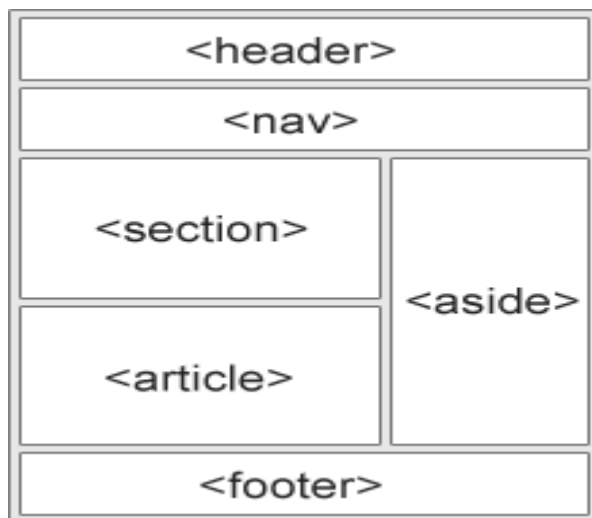


Figure 3. Semantics web pages

4. Differences between HTML5 and HTML

Some of the major distinguish characteristics in HTML5 and HTML as shown in Table 1.

Table 1. Characteristics Table

	HTML	HTML5
Simplified and Clear Syntax	Doctype is too messy and lengthy used to an external source	The syntax is extremely clear and simple.
Multimedia Elements	-was integrated in web pages via third party plugs	-supports for integrated multimedia files into web pages via video and audio tags
Accessing User Geographical Support	-is cumbersome task to get the locations of the visitors visiting the site	-is extremely easy to get the user location
Client Side storage	-the limited browser’s cache was used	-has been addressed via Web SQL database and application cache
Client Server Communication	-no web sockets available	-web sockets that allow full duplex communication between clients and servers
Client Server Communication	-JavaScript and browser interface run in the same thread	-JavaScript Web Worker API run in separate threads
Browser support	-compatible with almost all web-browsers	-compatible with all browsers

Several tags that have different functionality between HTML5 and HTML are shown in Table -2.

Table 2. Tags Difference Table

	HTML	HTML5
-applets in a web browser	<applet>	<object>
-abbreviation in web	<acronym>	<abbr>
-to draw a line(HTML) -to define a semantic break(HTML5)	<hr>	<hr>
-anchor as well as to a link(HTML) -is used only hyperlink(HTML5)	<a>	<a>
-to define the schema of the document(HTML) -contains information about the data	<meta>	<meta>
-to specify a default color	<base font>	N/A (CSS indeed)
-to define big text	<big>	N/A (CSS indeed)
-to define centered text	<center>	N/A (CSS indeed)
-to define a directory list	<dir>	N/A (CSS indeed)
-to define font ,color,size		N/A (CSS indeed)
-to define a window in a frame set	<frame>	N/A (CSS indeed)
-to define a set of frames	<frame set>	N/A (CSS indeed)
-to define alternate content	<noframes>	N/A (CSS indeed)
-to define strike through text	<strike>	N/A (CSS indeed)
-to define teletype text	<tt>	N/A (CSS indeed)

5. Conclusion

HTML5 has become the standard for developing websites and cross-platform mobile apps. The latest HTML version has become a hit with developers, considering the fact that it makes the task of mobile application development a breeze. We state the evolution of html to html5. We present html5 features and new elements. We presented and compared some of the major characteristics of hypertext Markup Language. And then different several tags of these are compared.

6. References

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