

A Novel Approach of HTML5 in Modern Web Development Technology

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Abstract

HTML5 is wherever this days. HTML5 is a characteristic advancement of prior adaptations of HTML and tries to mirror the necessities of both current and future sites. The senior adaptations of HTML, HTML4.01, which came in 1999, and the web advancement have transformed amazingly from that time. Presently HTML4, XHTML, CSS, HTML DOM level 2 are subbed with HTML5. HTML5 was utilized to convey rich substance with no other modules and restrictive advancements. Presently HTML5 to arranged to supply all to the clients from activity to illustrations, music to motion pictures and can likewise be utilized to construct Web applications and backing cross platform. HTML5 standard promises the improvement of ongoing joint effort in internet browsers, which will in general less work for Web designers.

Keywords: Web, users, HTML, HTML5 features, accessibility

1. Introduction

Web is such an asset that generally usable across a few stages. A few engineers had been created selective advancements that convey more highlights to web principles, for example, expertise to create rich web applications. The new standard includes features, for example, video playback and Drag and Drop that have been before dependent third party program modules similar Microsoft silver light, Adobe System Flash, Oracle JAVA FX, Google Gears and so on. [1]

HTML5 is joint effort amid the W3C (world wide web consortium) and WHATWG (web hypertext application technology working group). From the most recent exploration on HTML by W3C is to making a norm for leading all the positions that marked procedures performance presently[2].

2. HTML5 technology

HTML5 is a latest version of HTML which supports to create cooperating and rich web pages. HTML has grown exponentially from simply accenting on production of video, animations and audio to providing geolocation, local storage and offline functionality in any client-side databases.[3]

This technology gives many varieties in multimedia direction. This version of HTML cares animation and can play audio and video without any help of exclusive technologies from the browser. HTML5 has taken it to new heights via adding many new features for web developers and web designers. HTML5 provides a cross platform for displaying webpages on Smart TV, Smartphone etc.[4]

Already some web site and browse designers are accepting HTML5.

2.1. HTML5 features

- Audio and Video
- Working Offline

- Web Workers
- Location Based Service
- Canvas
- Drag and Drop
- New Elements
- New Input Types
- Form Elements

2.2. Audio and Video

In the previous versions of HTML5 did not have any standard to embed video and audio on the web. So Plug-in based technologies, such as Flash, Silverlight became famous for handling. But these Plug-in based technologies caused a lot of problems, not working well with HTML/CSS features, Security and accessibility issues.

But in HTML5, <video>and <audio> tags make easy to enhance media to Web site and <src> tag (Source tag) to specify the media [5].

Example-

```
<html><body><audio controls au>  
<source src = "/html5/sound.ogg"  
          type = "audio/ogg" />  
<source src = "/html5/sound.wav"  
          type = "audio/wav" />  
</audio></body></html>
```

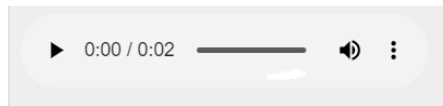


Figure 1:Output of Audio Tag

```
<html><body>  
<video width = "400" height = "300" controls>  
<source src = "/html5/study.ogg"  
type ="video/ogg" />  
<source src = "/html5/study.mp4"  
type = "video/mp4" />  
</video>  
</body>      </html>
```



Figure 2: Output of Video Tag

2.3. Working offline

HTML5 gave rise to a remarkable approach to support caching and offline mode. HTML5 has many advantages, using caching interface for offline browsing, such as dropping server load and extra speed. Application code also permit application to stock information and programming code.[6]

2.4. Web workers

The easiest use of web worker is for performing time consuming task. But sometimes some delay response of page while executing some large operations. The job of web worker is to solve these problems. Web workers are essentially an API (Application Programming Interface) requirement that leases users to generate background JavaScript threads to procedure CPU-intensive work. Web worker does not interrupt the user and they are running the worker in the background because the webpage is responsive. [7]

2.5. Location based service

Geolocation API is intended to identify handler's geographic area for web application. User's browser must be support the geolocation to use it for web application. Now most of browser and mobile devices provision Geolocation API. This API only obtainable for HTTPS request. This feature of HTML5 helps to navigate the latitude and longitude coordinates of current website visitor [8].

2.6. Canvas

HTML5<canvas> component gives a simple method to draw designs through JavaScript on website pages that make photograph synthesis and movements basic. This content is utilized to consolidate 2D/3D illustrations. Material has a few techniques for drawing ways, text, circles, boxes and adding pictures which make illustrations strong pages render quick[9].

2.7.SVG(Scalar Vector Graphics)

It is generally helpful for vector type outlines, for example, pie diagrams, two dimensional charts. Picture is Large or crammed, nature of the picture doesn't impact. It is not difficult to change and alter. SVG can implant JavaScript to control SVG object. What's more, powerfully produce designs, with durable intuitiveness and elements [10].



Figure3:SVG Image

2.8. Drag and drop

HTML5 provides a drag and drop API that takes inherent dnd provision to the browser to create it simpler to support devices. Making an object draggable by the feature of drag .Drag and drop features are reinforced on all modern browsers like Chrome, Opera etc.[11]

2.9. New elements

Previous version of HTML5, there was some elements that were not used much but after the advent of HTML5 they were re-written in HTML5.Deprecated tags are as follows:[12]

Table1: Deprecated Tags

ELEMENTS	DESCRIPTION
<noframes>	No frame section
<s>	Strikethrough text
<strike>	Strikethrough text
<u>	Underline text
<big>	Big text
	Text font,size and color
<basefont>	Base font for the page
<center>	Centered text
<acronym>	An acronym
<applet>	An applet
<isindex>	Single-line input field

When HTML5 introduced new elements then web development changed dramatically, such as better page structure, original API for search user geological location, drop and drag, stowing local data and several further [13]. Some New elements are given in Table 2.

Table 2: New Elements

ELEMENTS	DESCRIPTION
<command>	Command the user can appeal
<audio>	Audio file define
<video>	Video file define
<embed>	External communicating content
<canvas>	Graphics drawing using JavaScript
<source>	Video and audio are specify the source file
<track>	Audio and video to stipulate text track
<wbr>	Line break opportunity
<section>	A general documents defines
<output>	Signify some type of output

<time>	Define a date or time
<meter>	Represent a measurement
<nav>	Define Navigation
<progress>	Define when performing exclusive activities
<keygen>	Define control for key pair generations
<ruby>	Composed <rt>,<rp> allow for making up ruby explanations
<hgroup>	Define header of a section

2.10. New input types

With the introduction of new input types, web design became much easier. Input control and validations are also become better for new input types .New input types are given in Table 3.[14]

Table 3: New input types

TYPE	DESCRIPTION
email	To define email address
date	To define calendar date
color	To display color selector
datetime-local	Indication for time zone
search	Supply to a search engine
number	Only comprising numeric value
range	Display a slider control to select a number
url	url type input
week	Chooser for a week within a given year

Features identified before potential recognition for developers and users in developing web applications without the help of plug-ins[15] .Further validation scripts with scripting languages are mandatory by HTML.HTML5 is the best way to reduce the code size.

3. Conclusions

HTML5 and its contemporary features have enriched web development in many ways. HTML5 solved many problems related to websites and makes web even more unique and significant. HTML5 is now from computers to mobile devices but in upcoming days maybe even domestic apparatus. It has polished line desktop and online application. In the future HTML5 may face a major problem in the upcoming days due to malware attack. Most bad thing about HTML5 is media licensing issues and security elements provided by HTML5 are limited.

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