

HTML5

HTML



Agenda

- > What is HTML5?
- > Why HTML5?
- > HTML5 Semantic Elements
- > HTML5 Form Elements and Attributes
- > HTML5 & Multimedia (Audio, Video)
- > JS APIs

Why use HTML5 today ?



Pros

- Better Semantics
- Lean code
- Improved user experience
- Easy Implementations



Cons

- Some work is needed to accommodate older browsers.

More Dynamic



Change to old tag : doctype

Pre-HTML5

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

HTML5

```
<!DOCTYPE html>
```

Change to old tag : html

Pre-HTML5

```
<html xmlns="http://www.w3.org/1999/xhtml"  
lang="en" xml:lang="en">
```

HTML5

```
<html lang="en" xml:lang="en">
```

Change to old tag : link

Pre-HTML5

```
<link rel="stylesheet" href="style-original.css"  
type="text/css" />
```

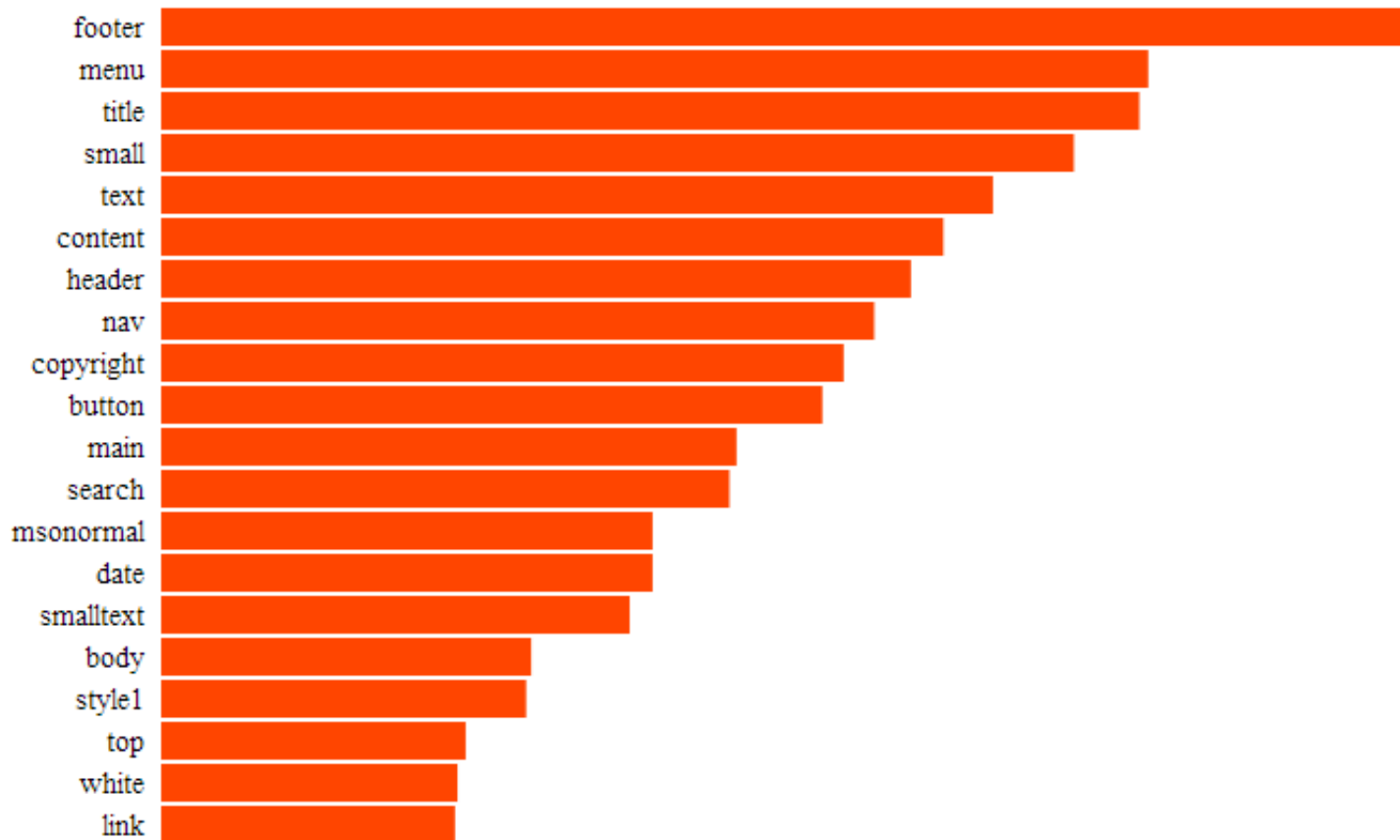
HTML5

```
<link rel="stylesheet" href="style-original.css" >
```

Semantics

- > Increases readability
- > Easier Styling
- > New Tags:
 - <header>
 - <nav>
 - <article>
 - <section>
 - <aside>
 - <footer>

Which class names are used on the most pages? Here are the top 20:



This actually maps very well to the elements that are being proposed in HTML5:

<https://developers.google.com/webmasters/state-of-the-web/2005/classes>

New Semantic/Structural Elements in HTML5



Tags - <header>

<header> - Defines a header for a document

```
<header>
```

```
    <h1>Main Header</h1>
```

```
    <p class="tagline">Tagline</p>
```

```
</header>
```

Tags - <nav>

<nav> - Defines navigation links

```
<nav role="navigation">
```

```
    <ul>
```

```
        <li>
```

```
            <a href="#" title="link">link</a>
```

```
        </li>
```

```
    </ul>
```

```
</nav>
```

Tags - <article>

<article> - Defines an independent part of a document

```
<article>
```

```
    <h2>Sub Title</h2>
```

```
    <p>Some content here.</p>
```

```
    <p>Some content here.</p>
```

```
</article>
```

Tags - <section>

<section> - Defines a section in the document

<section>

<h1>WWF</h1>

<p>The World Wide Fund (WWF) ... </p>

</section>

Tags - `<figure>` & `<figcaption>`

`<figure>` - Defines self-contained content, like illustrations, diagrams, photos, code, etc.

`<figure>`

`<figcaption>` Defines caption for figure **`</figcaption>`**

``

`</figure>`

Tags - <aside>

<aside> - Defines content aside from the page content

```
<aside>
```

```
    <h4>Epcot Center</h4>
```

```
    <p>The Epcot Center is a theme park in  
    Disney World, Florida.</p>
```

```
</aside>
```


Tags - <footer>

<footer> - Defines the footer for a document or section

```
<footer role="contentinfo">
```

```
    <p>Footer</p>
```

```
    <nav>
```

```
        <h5>Quick Links</h5>
```

```
        <ul role="navigation">
```

```
            <li><a href="#">link</a></li>
```

```
        </ul>
```

```
    </nav>
```

```
</footer>
```

HTML5 – Enabling Script

```
<!--[if lt IE 9]>
  <script>
    var e =
      ("abbr,article,aside,audio,canvas,datalist,details,figure,footer,header,hgroup,mark,menu,
meter,nav,output,progress,section,time,video").split(',');
    for (var i = 0; i < e.length; i++) {
      document.createElement(e[i]);
    }
  </script>
<![endif]-->

<script src="http://html5shiv.googlecode.com/svn/trunk/html5.js"></script>
```

HTML5 Forms (Progressive)

- > Strongly typed input fields
- > New attributes for defining constraints
- > Browser Form Validations.

Web Forms – New Input Types - I

`<input type="search">`

search boxes

`<input type="number">`

spinboxes

`<input type="range">`

sliders

`<input type="color">`

color pickers

`<input type="tel">`

telephone numbers

Web Forms – New Input Types - II

`<input type="url">`

web addresses

`<input type="email">`

email addresses

`<input type="date">`

calendar date pickers

`<input type="month">`

months

`<input type="week">`

weeks

Web Forms – New Input Types - III

`<input type="time">` timestamps

`<input type="datetime">` absolute date+time stamps

`<input type="datetime-local">` local dates and times.

AT&T 11:40 PM

<input type=email> - Dive Into HTML5

diveintohtml5.org/exa... Google

Go

```
<form>
  <input type="email">
  <input type="submit" value
```

Previous Next AutoFill Done

Q W E R T Y U I O P

A S D F G H J K L

↑ Z X C V B N M ✕

_123 space @ . Go

AT&T 11:31 PM

<input type=url> - Dive Into HTML5

diveintohtml5.org/exa... Google

Go

```
<form>
  <input type="url">
  <input type="submit" value
```

Previous Next AutoFill Done

Q W E R T Y U I O P

A S D F G H J K L

↑ Z X C V B N M ✕

@123 . / .com Go

AT&T 11:40 PM

<input type=number> - Dive Into HTML5

diveintohtml5.org/exa... Google

Go

```
<form>
  <input type="number">
  <input type="submit" value
```

Previous Next AutoFill Done

1 2 3 4 5 6 7 8 9 0

- / : ; () \$ & @ "

#+= . , ? ! ' ✕

ABC space Go

Web Forms – New Attributes

```
<form action="/newAttributes">  
  <input type="text" autofocus />  
  <input type="email" placeholder="a@b.com" />  
  <input type="email" required />  
  <input type="text" pattern="^[1-9]+[0-9]*$" />  
</form>
```


contenteditable

- > Edit and store text within browser
- > contenteditable="true/false".

```
<div id="example1" contenteditable="true">  
....  
</div>
```

Context menus

- > Allows developer to create custom menus
- > by making use of `<menu>` & `<menuitem>`
- > `<menuitem>` can have icon, onclick and label attributes.

Multimedia : Audio & Video

> Pros

- Easy implementation
- Greater compatibility
- Better performance

> Cons

- Tricky when embedding hosted videos.

Video tag markup

```
<video width="500px" height="400px" controls>
```

```
  <source src="assets/dizzy.mp4" type='video/mp4; codecs="avc1.4D401E, mp4a.40.2"' />
```

```
  <source src="assets/dizzy.webm" type='video/webm; codecs="vp8.0, vorbis"' />
```

```
  <source src="assets/dizzy.ogv" type='video/ogg; codecs="vp8.0, vorbis"' />
```

```
  Video / video formats are not supported.
```

```
</video>
```

Audio tag markup

<audio controls>

<source src="horse.ogg" type="audio/ogg">

<source src="horse.mp3" type="audio/mpeg">

Your browser does not support the audio tag.

</audio>

Video Codes

| | MAC | | | | | | WIN | | | | | | | |
|-------------------|---|---|---|---|----|----|---|---|---|---|---|---|----|-----|
| |  |  |  |  | | |  |  | | |  |  | | |
| | SAFARI | FIREFOX | OPERA | CHROME | | | SAFARI | IE | | | FIREFOX | CHROME | | |
| | 5.1 | 8 | 9 | 11.1 | 15 | 17 | 5.1 | 6 | 7 | 8 | 9 | 8 | 15 | |
| Video: ogg/theora | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | 70% |
| Video: H.264 | ✓ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ | ✓ | ✗ | ✓ | 41% |
| Video: WebM | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | 45% |

Audio Codes

| | MAC | | | | | | WIN | | | | | | | |
|-------------------|---|---|---|---|----|----|---|---|---|---|---|---|----|-----|
| |  |  |  |  | | |  |  |  |  | | | | |
| | SAFARI | FIREFOX | OPERA | CHROME | | | SAFARI | IE | FIREFOX | CHROME | | | | |
| | 5.1 | 8 | 9 | 11.1 | 15 | 17 | 5.1 | 6 | 7 | 8 | 9 | 8 | 15 | |
| Audio: ogg/vorbis | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | 71% |
| Audio: mp3 | ✓ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ | ✓ | ✗ | ✓ | 41% |
| Audio: wav | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | 73% |
| Audio: AAC | ✓ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ | ✓ | ✗ | ✓ | 42% |

JavaScript APIs

HTML5

- > Video
- > Audio
- > Full screen API
- > Geo-location
- > Drag & Drop
- > Canvas
- > Local Storage
- > Selectors
- > Offline Apps
- > Workers

Fullscreen API

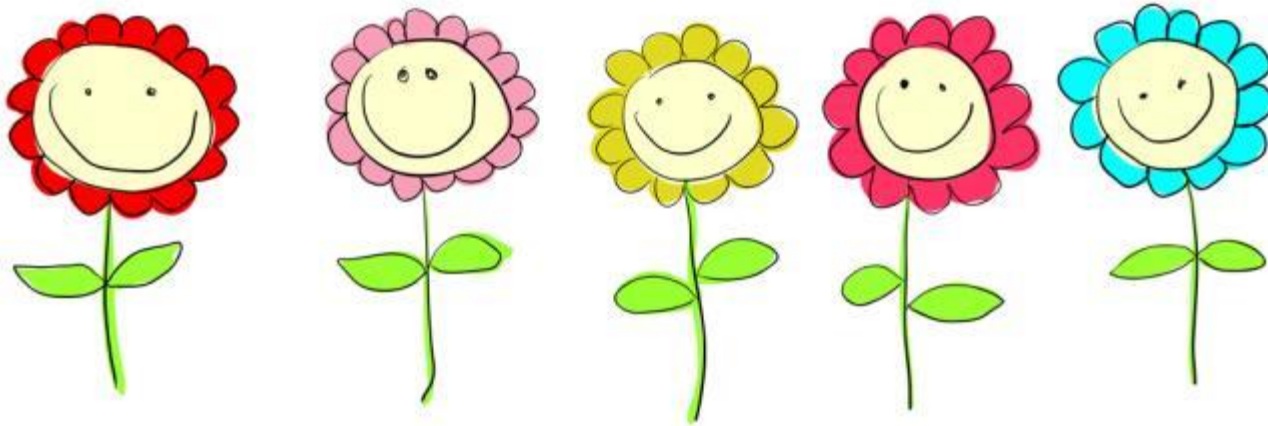
- > Programmatic way to request fullscreen
- > `requestFullScreen()` method called to receive fullscreen
- > `cancelFullScreen()` method called to cancel fullscreen.

Geolocation

- > Determines user's location
- > Uses IP, WiFi address or GPS
- > Gives latitude and longitude coords
- > May not be accurate.

Questions





Thank you!