

Extending SharePoint 2010 with HTML5 and JavaScript

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Session Objectives and Takeaways

- 300-level Developer focused session
- Educational tour of HTML5
 - And CSS3, JavaScript, WOFF, SVG, and a few other cuckoos in the HTML5 nest
- Some demos and ideas on using HTML5 with SharePoint
- Free Training Resources, Code Samples & Demos

HTML5 & Technology Classes

HTML



Semantics



Offline
Storage



Device
Access



Multimedia



3D Effects



Performance



Connectivity



Styling

It's Official: We have a T-Shirt



W3C on HTML5 logo:

"Be proud, but don't muddy the waters!"

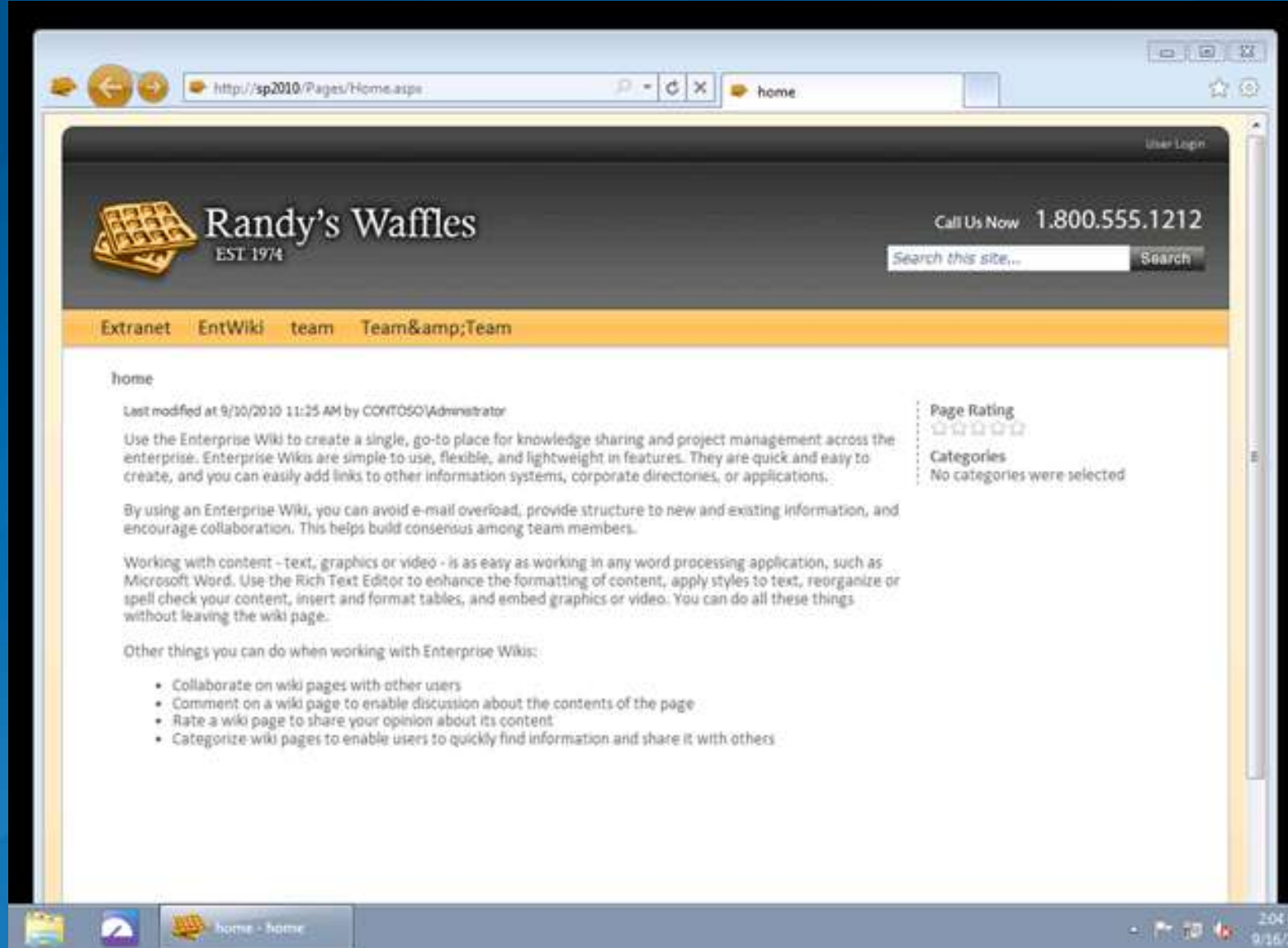
"HTML is the new HTML5"

```
<!DOCTYPE html>  
<html lang="en">  
  <head>  
    <meta charset=utf-8 />  
  </head>  
</html>
```

Compare this with SharePoint today

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" lang="en-us"
dir="ltr">
<head>
  <meta http-equiv="Content-Type" content="text/html;
charset=utf-8" />
  <meta http-equiv="Expires" content="0" />
  <meta http-equiv="X-UA-Compatible" content="IE=8" />
  ...
```

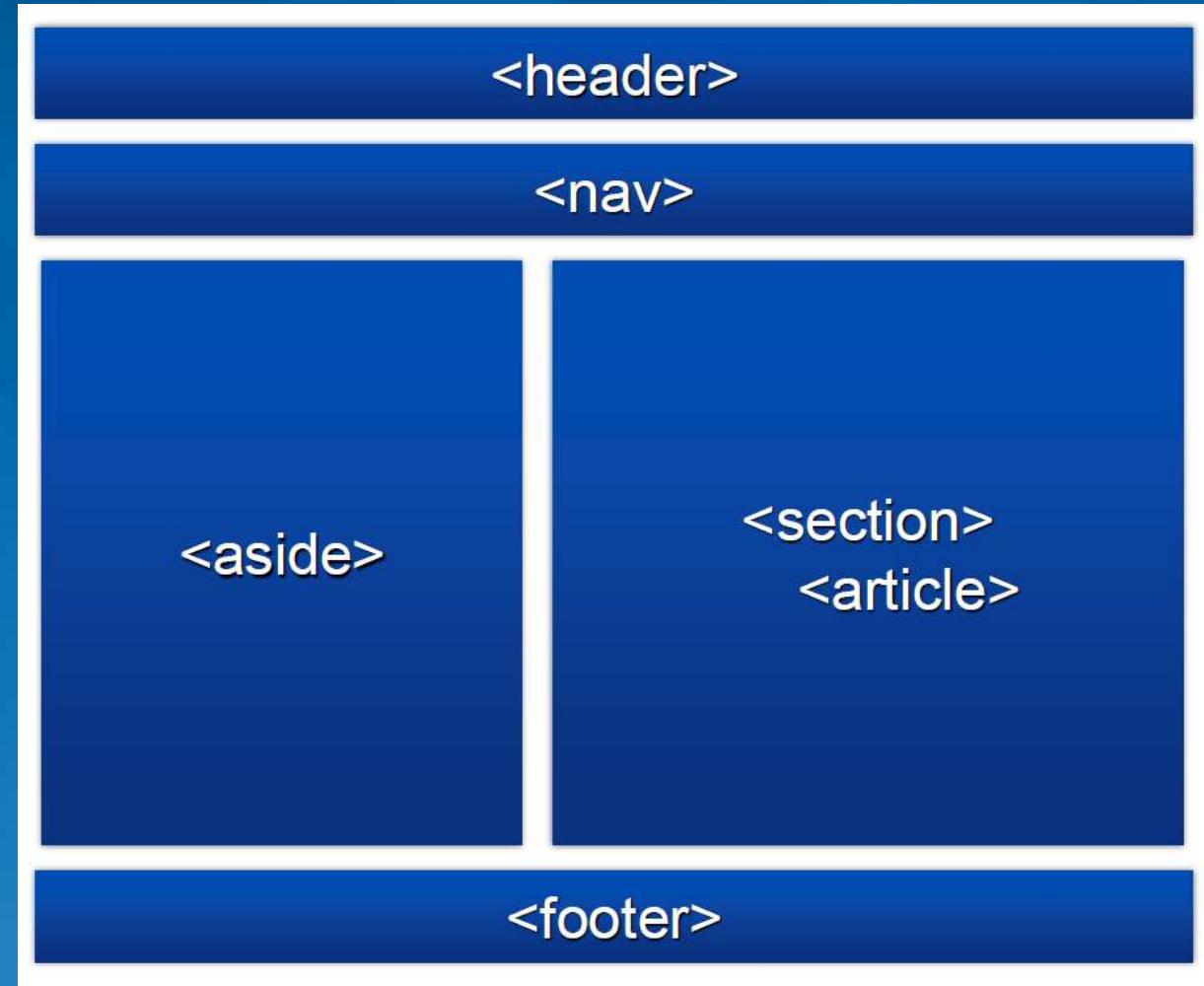
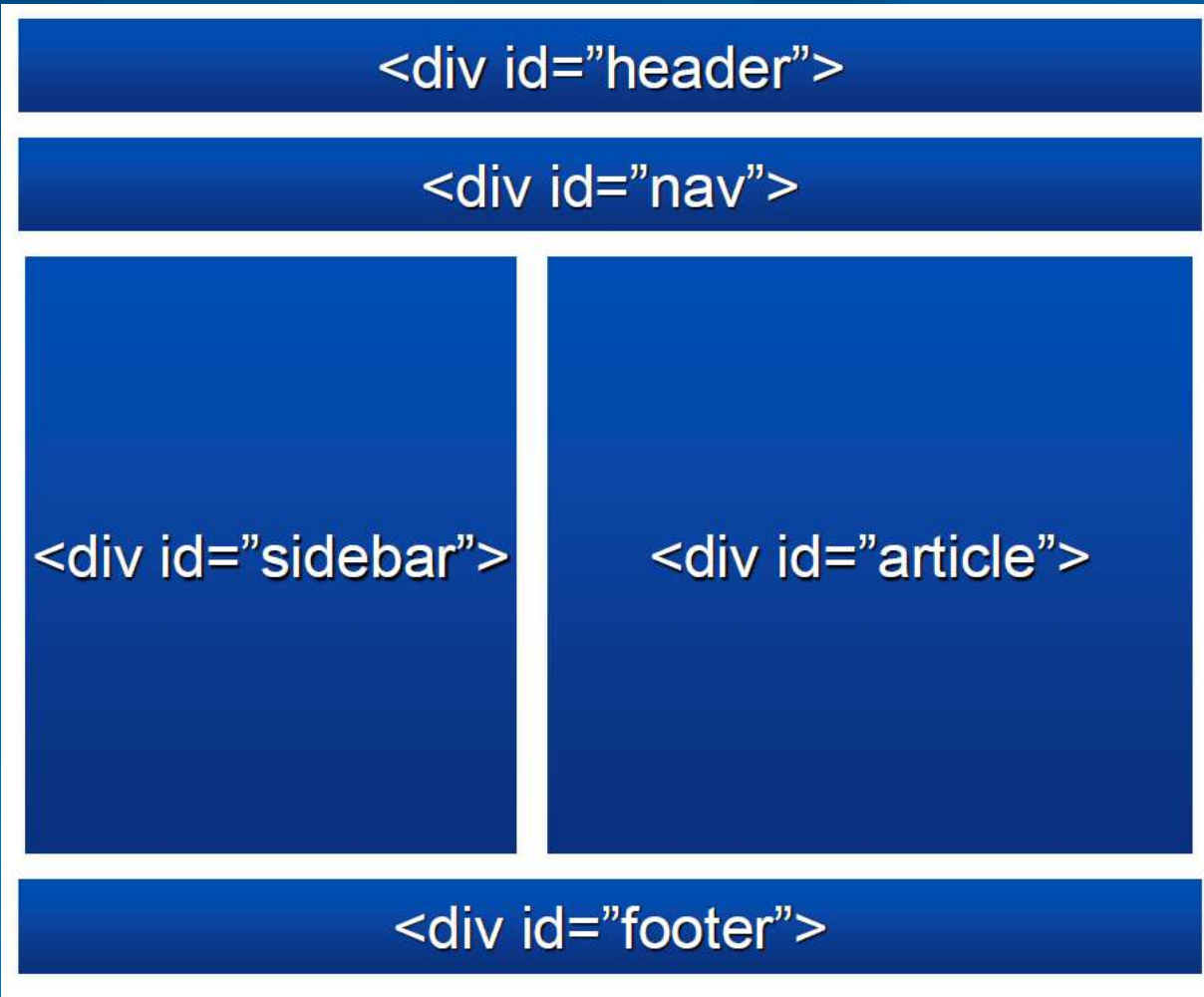
Using HTML5 in a SharePoint Master Page



Experiment with
Publishing Portal

See more at: <http://blog.driscgill.com/2010/09/html5-and-sharepoint-2010-and-ie9-beta.html>

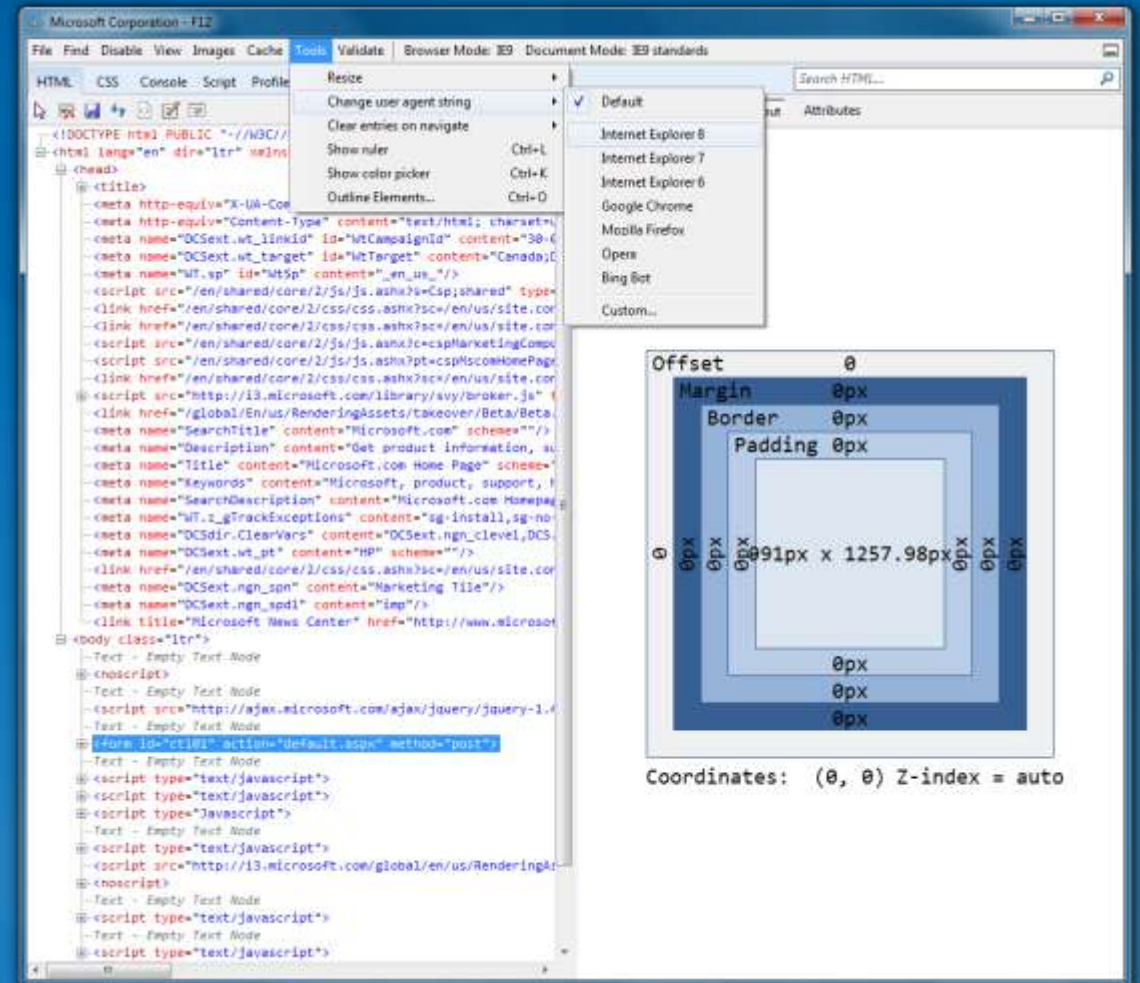
Web Pages: Before & After



New Semantic Tags
Browsers & HTML5 is forgiving

IE F12 Developer Tools

- Built-in, visual interface to the **Document Object Model (DOM)**
- Fast experimentation
- Many new features with IE9
 - Network inspection
 - User-agent string picker
 - Console tab
 - SVG support
 - JavaScript formatting



HTML5 <canvas>

- A block element that allows developers to draw 2D graphics using JavaScript
- Methods for drawing include: paths, boxes, circles, text and rasterized images
- **Numerous third-party JavaScript libraries exist** for working with the HTML5 canvas element



HTML5 <canvas>

Example

```
<canvas id="myCanvas" width="200" height="200">  
  Your browser doesn't support Canvas, sorry.  
</canvas>
```

```
<script type="text/javascript">  
  var example = document.getElementById("myCanvas");  
  var context = example.getContext("2d");  
  context.fillStyle = "rgb(255,0,0)";  
  context.fillRect(30, 30, 50, 50);  
</script>
```

<Canvas> Demo with SharePoint



OMG, what happens to Silverlight?

- **Silverlight says**

"Reports of my death are greatly exaggerated"

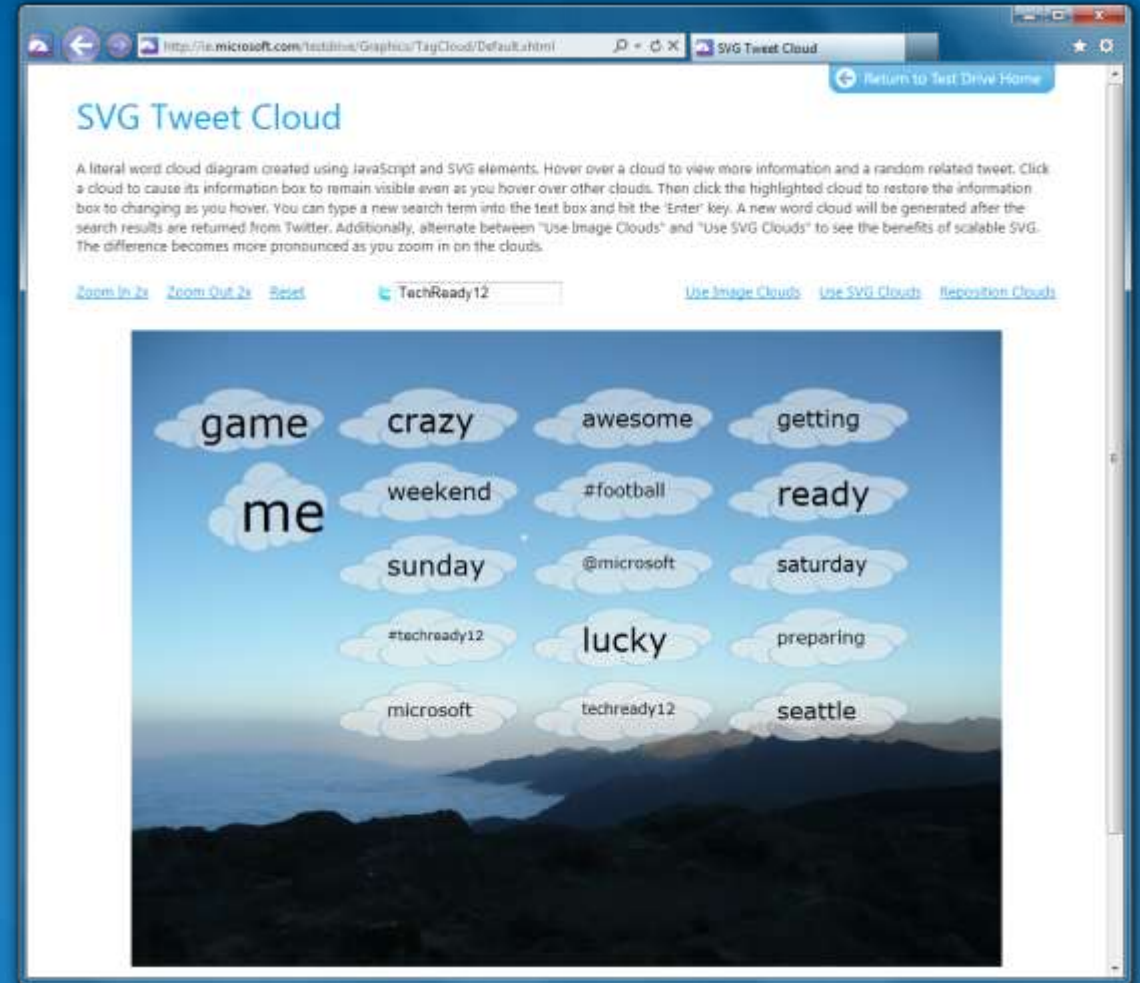
- <http://www.microsoft.com/silverlight/future/>



Microsoft®
Silverlight®

Scalable Vector Graphics (SVG)

- Create and draw 2D vector graphics using XML
 - Vector images are composed of shapes instead of pixels
 - Based on the SVG 1.1 2nd Edition Full specification
- Support for:
 - Full DOM access to SVG elements
 - Document structure, scripting, styling, paths, shapes, colors, transforms, gradients, patterns, masking, clipping, markers, linking and views



Scalable Vector Graphics (SVG)

Example

```
<svg width="400" height="200">  
  <rect fill="red" x="20" y="20" width="100"  
    height="75" />  
  <rect fill="blue" x="50" y="50" width="100"  
    height="75" />  
</svg>
```



SVG Demo with SharePoint



HTML5 <video>

- Industry-standard MPEG-4/H.264 video
- Video can be composited with anything else on the page
 - HTML content, images, SVG graphics
 - Hardware-accelerated, GPU-based decoding
- Internet Explorer 9 supports the HTML5 <video> element



HTML5 <video>

Example

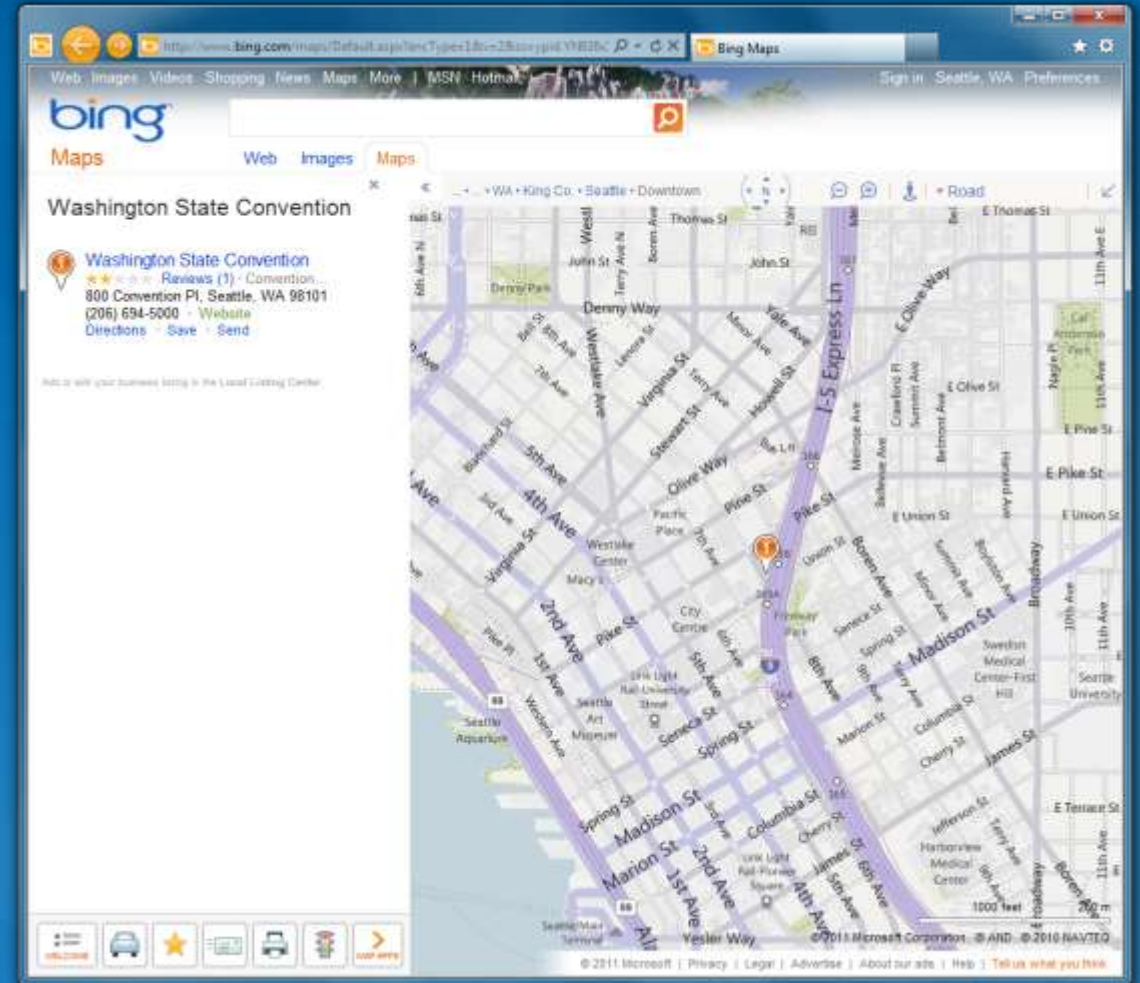
```
<video src="video.mp4" id="videoTag">  
  <source src="video.webm" />  
  <a href="http://sadtuba.com/">  
    0 noes! No HTML5 videoz!  
  </a>  
  <!-- Flash/Silverlight video here -->  
</video>
```

HTML5 <video> in SharePoint



Geolocation

- Allows websites to discover your geographical location
 - “Find nearest coffee shops and display on Bing Maps.”
- User consent is **required**
- Geolocation support now available in IE9 RC



Geolocation

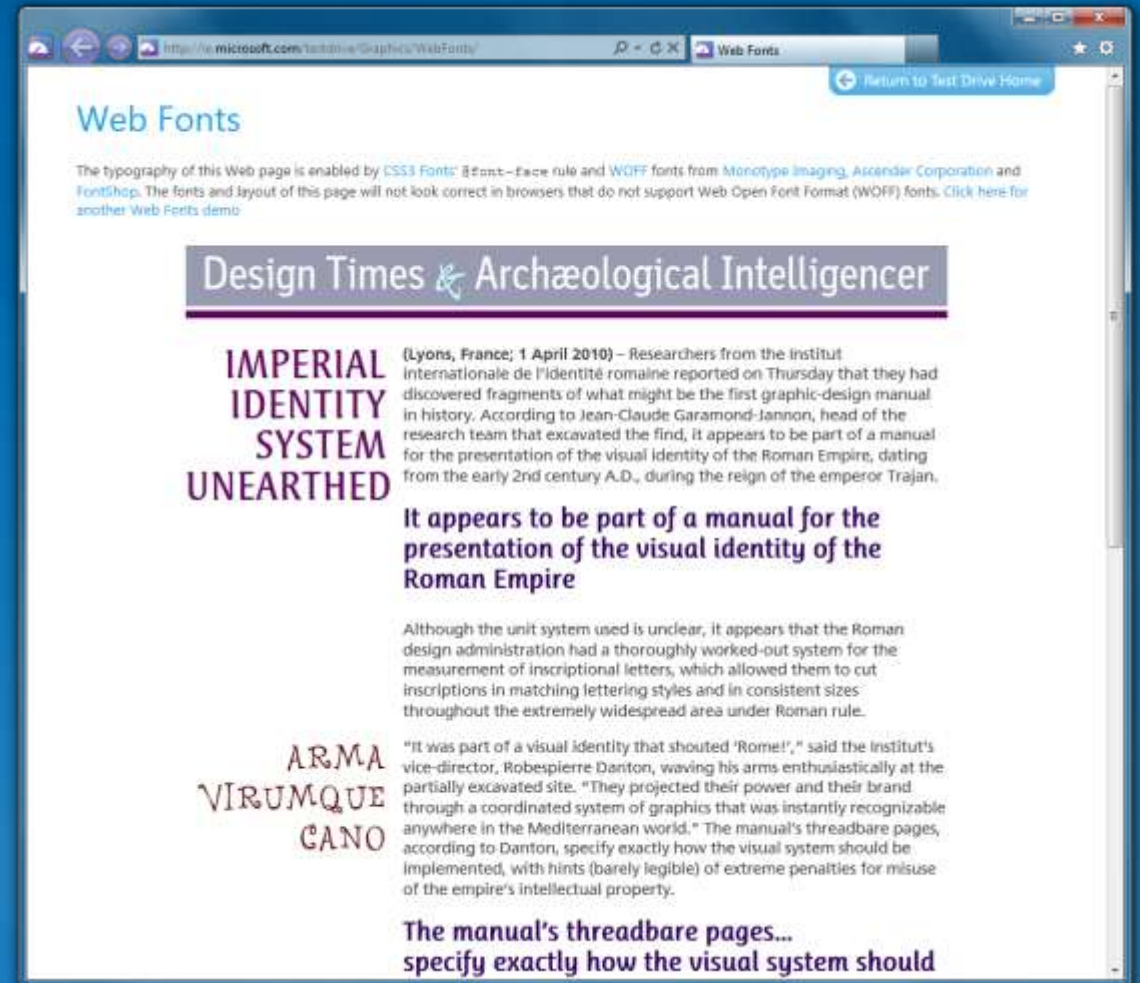
Example

```
function getLocation() {  
    if (navigator.geolocation != undefined) {  
        navigator.geolocation.getCurrentPosition(callBack);  
    }  
}
```

```
function callBack(position) {  
    var accuracy = position.coords[accuracy];  
    var latitude = position.coords.latitude;  
    var longitude = position.coords.longitude;  
}
```


WOFF Fonts and @font-face

- No longer limited to the “web safe” font list!
- Web Open Font Format allows you to **package** and **deliver** fonts as needed, per site
 - Designed for web use with the *@font-face* declaration
 - A simple repackaging of OpenType or TrueType font data
 - From the **W3C Fonts Working Group**
- <http://ie.microsoft.com/testdrive/Graphics/WebFonts/Default.html>



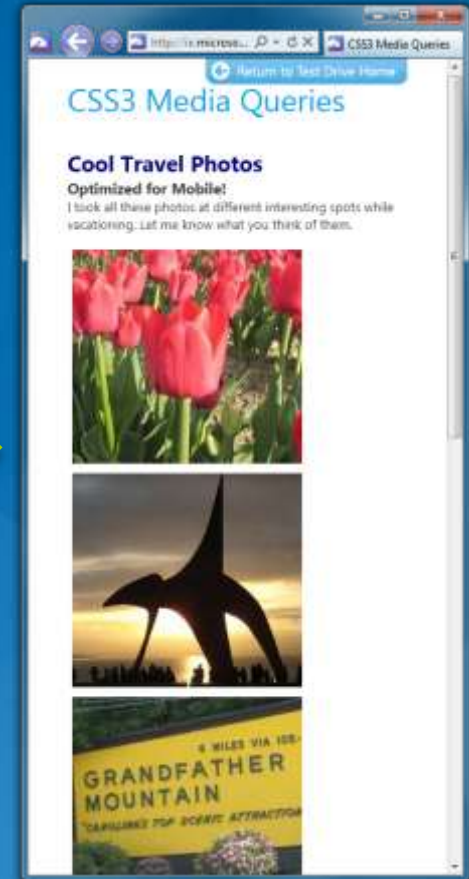
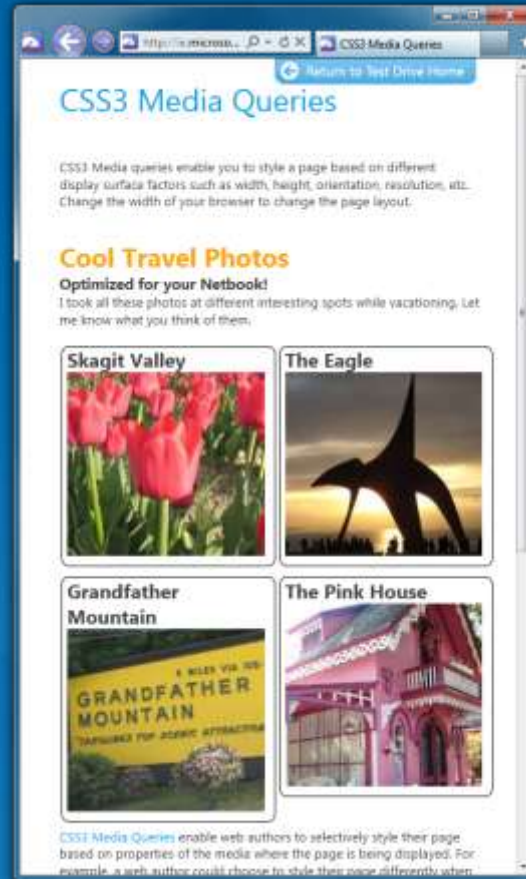
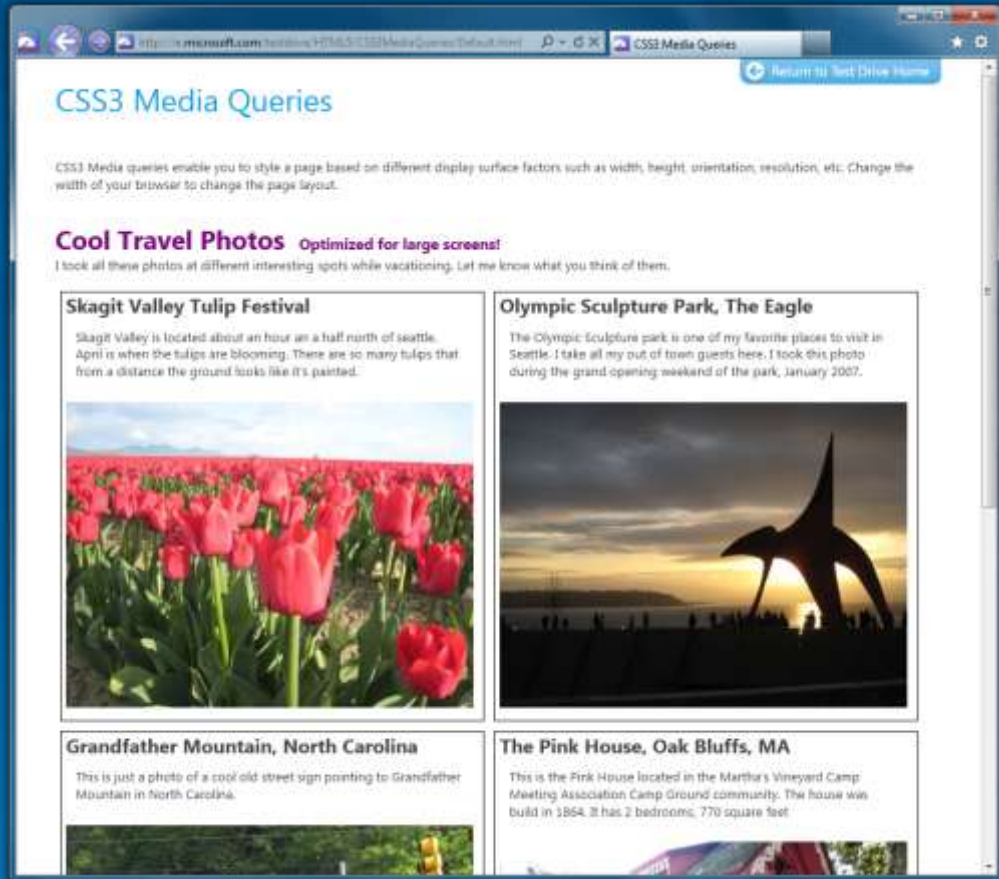
WOFF Fonts and @font-face

Example

```
<style type="text/css">
  @font-face {
    font-family: MyFontName;
    src: url('FontFile.woff');
  }
</style>
```

```
<div style="font: 24pt MyFontName, sans-serif;">
  This will render using MyFontName in FontFile.woff
</div>
```

CSS3 Media Queries



CSS3 Media Queries

Example

```
<link href="mobile.css" rel="stylesheet"
      media="screen and (max-width:480px)"
      type="text/css" />
<link href="netbook.css" rel="stylesheet"
      media="screen and (min-width:481px) and (max-width: 1024px)"
      type="text/css" />
<link href="laptop.css" rel="stylesheet"
      media="screen and (min-width:1025px)"
      type="text/css" />
```

CSS3 Media Queries Demo



Web Standards Update

June 2011

- Free download on Visual Studio Gallery
 - <http://bit.ly/webstandardsupdate>
 - 60,000 downloads in 6 weeks
 - Frequent updates
- Updated HTML 5 intellisense
- CSS 3 intellisense and validation
- Basic EcmaScript 5 support



What is jQuery



<http://jquery.com/>

- Most popular, cross-browser JavaScript library
- Focusing on making client-side scripting of HTML simpler
 - Easy navigating the DOM
 - Handling events
 - Working with Ajax
- Open-source, released in 2006

Microsoft and jQuery

- Included with Visual Studio in both WebForms and MVC projects
 - Can be used with or without ScriptManager
 - ScriptManager can be used to compress and combine scripts
 - IntelliSense available
 - CDN support
- Microsoft is contributor to jQuery
 - Proposed (and accepted) templating, data linking and globalization

Accessing External Services



Getting data as JSON with jQuery

```
$.ajax({  
    data: data,  
    cache: false,  
    success: Ho1jQuerySP0nPrem.ReceiveData,  
    type: "POST",  
    dataType: "json",  
    contentType: "application/json",  
    url: "http://myservice.cloudapp.net/salaryservice.svc/adjust"  
});
```

JSONP (JSON with Padding)

- Same Origin Policy

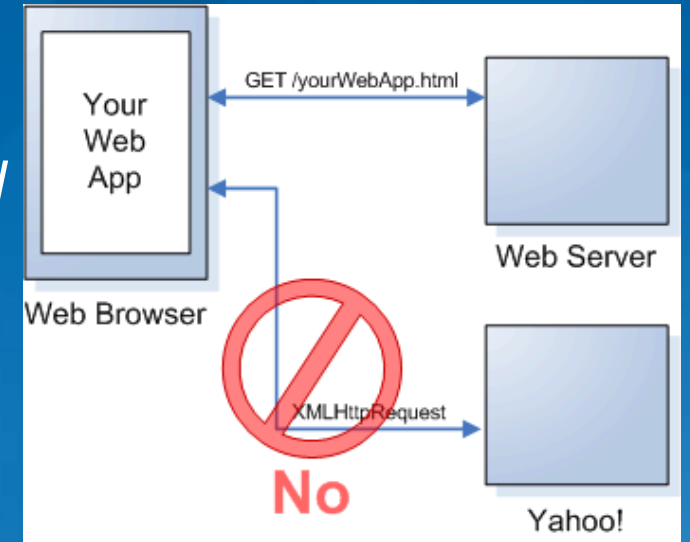
"The same origin policy prevents a document or script loaded from one origin from getting or setting properties of a document from another origin."

- Example service with JSONP support

```
http://www.yourdomain.com/jsonp/ticker?symbol=IBM&callback=showPrice
```

- Calling the call back Service

```
jQuery.getJSON("http://www.mydomain.com/jsonp/ticker?symbol=IBM&callback=?",  
function(data) {  
alert("Symbol: " + data.symbol + ", Price: " + data.price);  
});
```



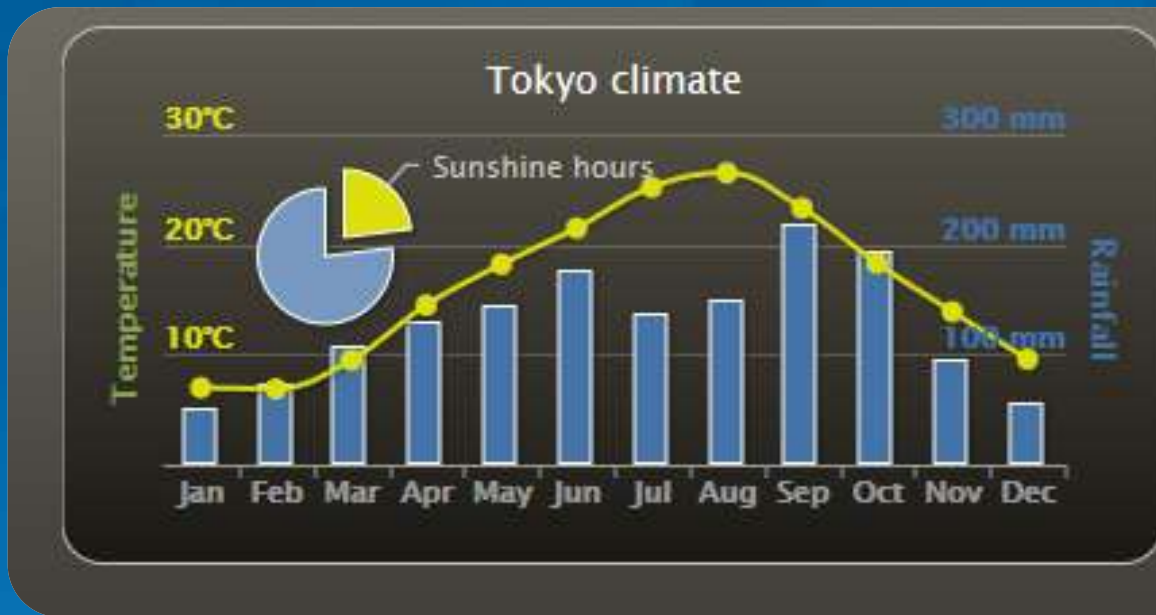
SPServices

- <http://spservices.codeplex.com>
- jQuery library which abstracts SharePoint's Web Services and makes them easier to use. It also includes functions which use the various Web Service operations to provide more useful (and cool) capabilities. It works entirely client side and requires no server install.

Using jQuery & SPServices in SharePoint Forms

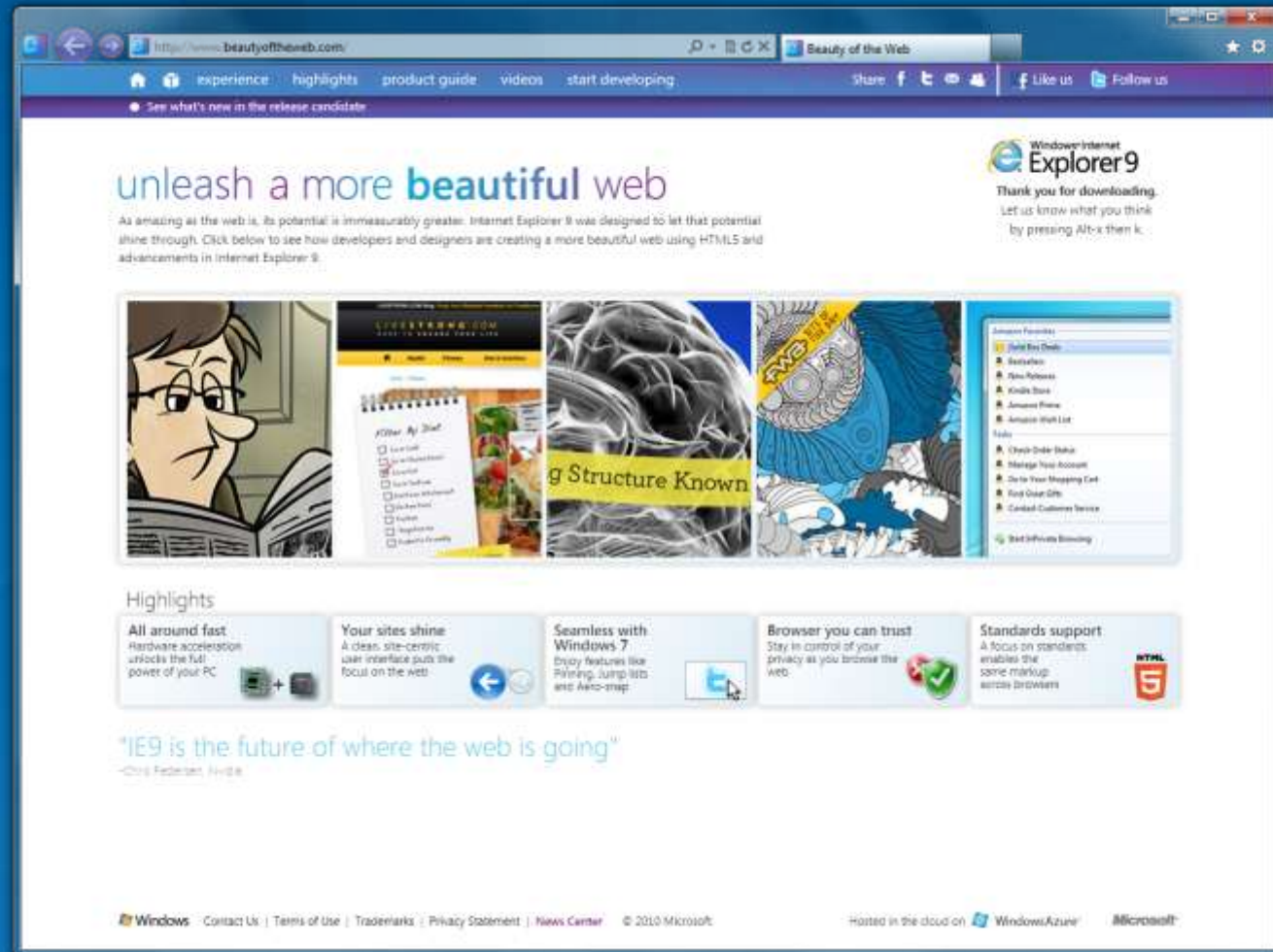
Social Video Player in
SharePoint





Beauty of the Web

beautyoftheweb.com



IE Test Drive

ietestdrive.com

The screenshot shows a browser window with the URL <http://www.microsoft.com/ie/testdrive/>. The page title is "Internet Explorer Test Drive" with the subtitle "Follow the Progress of the Internet Explorer Developer Platform". Navigation links include "Downloads", "Developer Guide", "FAQ", "Release Notes", and "Blog".

The main content features a large, colorful "preschool" logo with the tagline "an HTML5 speed benchmark designed for children of all ages" and "sing the ABC's".

Below the logo are four columns of demo categories:

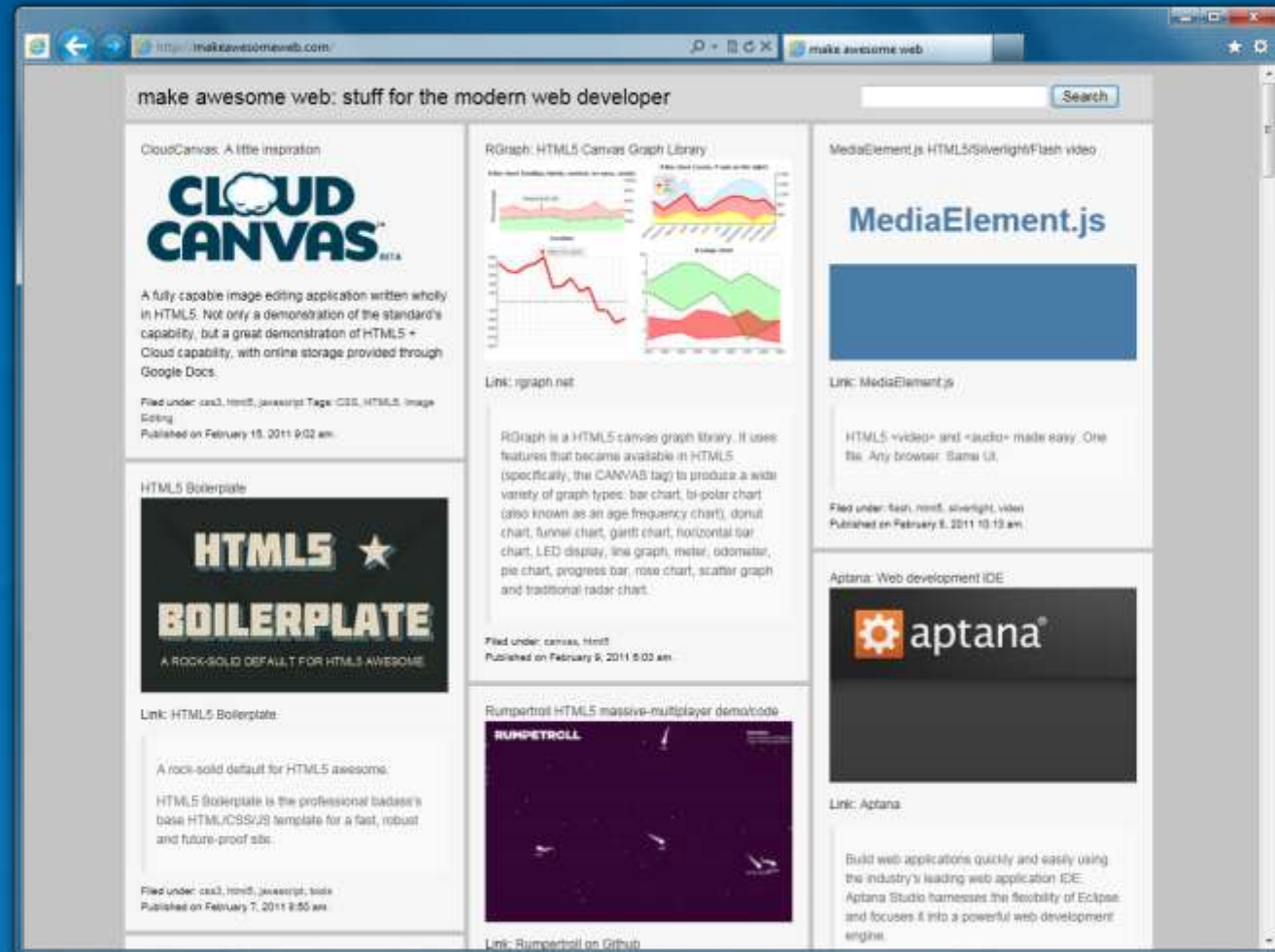
- Speed Demos:** Take full advantage of your PC with GPU powered graphics and complex JavaScript. Includes links for "Preschool", "Maze Solver", "Wiggly Words", "Speed Reading", "FishE Tank", and "More Speed Demos...".
- HTML5 Demos:** Deliver interoperability through web standards including HTML5 and CSS. Includes links for "Geolocation", "Texas Hold'em", "CPU Power States Meter", "HTML5 Bizzard", "Border Radius", and "More HTML5 Demos...".
- Graphics Demos:** Create next-generation experiences with HTML5 and CSS3 graphical capabilities. Includes links for "City of Videos", "Flickr Postcards", "Canvas Pinball", "Web Fonts", "3DDB Video Panorama", and "More Graphics Demos...".
- Browser Demos:** Your sites shine through a site centric, browsing experience and pinned sites. Includes links for "Tracking Protection", "ActiveX Filtering", "Pin Site Radio", "Icon Editor", "Site Pinning", and "More Browser Demos...".

A "Resources" section at the bottom provides links for videos, benchmarks, developer guides, release candidates, and tracking protection lists.

At the very bottom, there is a footer with "Site Map", "Terms of Use", "Trademarks", "Privacy", "© 2010 Microsoft Corporation. All rights reserved.", and logos for W3C and Microsoft.

Make Awesome Web

makeawesomeweb.com



More Resources

- Web camps Training Kit
 - <http://webcamps.ms>
- Training Courses on MSDN with PPT, HOL & Videos
 - Windows Azure Training Course
 - SharePoint 2010 Developer Training Course
 - Office 365 Training Course
 - SharePoint & Windows Phone Training Course
 - SharePoint & Silverlight Training Course

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