HTML5: Workshop

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About Me

• President, Society for Technical Communication, 2012-2013

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Workshop Overview

• History and motivations for HTML5
• Introduction to HTML5
• Introduction to CSS3
• Responsive Design concepts
• A bit of jQuery
• Exercises:
  Simple Restaurant Web site
  Responsive design for user assistance
Goals

• Understand the technology components of modern web delivery

• Provide the technology building blocks for you to explore

• Provide a starting point for developing your own HTML 5 web pages

• Demonstrate how you can use these technologies together
History

- XML Recommendation – February 1998
- HTML 4.01 – December 1999
- XHTML 1.0 – January 2000
- XHTML 2.0 – First public draft August 2002
The Language of the Web is...
The Language of the Web is... XML?
The Language of the Web is…

XML?

XHTML?
The Language of the Web is…

XML?

XHTML?

No, not quite.
The “Promise” of XHTML

• Clean up years of “broken” web markup.

• Replace with syntactically-correct, semantically-rich XML.

But the “real world” (browser vendors) responded with: “No, thank you.”
History

• XHTML 1.0 - nearly always served as text/html. Parsed as tag soup. No draconian error handling.
• XHTML 2 - served as text/xml. Not backwards compatible with HTML/XHTML. Draconian error handling.
• 2004 WHATWG Web Hypertext Application Technology Working Group begins work on HTML5
• 2007 W3C acknowledges that moving Web from HTML to XML may be a mistake, charters HTML Working Group.
• 2009: W3C XHTML working group end-of-life
HTML5

- Hypertext Markup Language
- Designed explicitly for web application requirements - styled text, audio, 2D animation, video, local storage, database
- *The Story Behind HTML5*, STC Intercom, March 2011
Everything is Beautiful!

“Things seem to be getting more and more beautiful all the time.”

Jesse Schell, Schell Games

http://youtu.be/-IbIlMjkIIM
Goals of HTML5 Working Group

- Rich media
- Styling (CSS3)
- Offline support
- Local storage
- Rich, robust consistent API. Javascript defined in Specification
- Consistent behavior across devices, defined error handling
- User interaction (forms)
HTML5 Approach and Philosophy

Pave the cowpaths.

Don‘t break the Web.

Define fallback mechanism for all features.

Document error handling (that browser vendors have done ad hoc thus far).
Today’s Goals

• Create a simple HTML5 web page.
• Learn the HTML5 approach to page structure.
• Learn and use new HTML5 structural elements.

Motivating Task: Create a web site for a restaurant.
Restaurant web site

- Hours
- Address
- Description
- Location
- Menu
- Contact information
“Just enough” HTML5
DOCTYPE Declaration

HTML4 Doctype:
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">

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

HTML5 Doctype:
<!DOCTYPE html>
<!DOCTYPE html>
<html lang='en'>
  <head>
    <title>Simple HTML5 document</title>
    <meta charset='utf-8'>
  </head>
  <body>
    <section>
      <p>Some text.</p>
    </section>
  </body>
</html>
<section> element

- Used to group related content.
- Can include heading and body information.
- Can be nested.

```html
<section>
<h1>Breakfast</h1>
<p>pancakes</p>
<p>bacon</p>
<p>toast</p>
</section>
```
<header>, <hgroup> elements

- Wrap heading content, typically within a <section>.
- <hgroup> wraps multiple <h1>, <h2>, <h3>, etc. elements.

```html
<section>
<hgroup>
<h1>Welcome to Abay</h1>
<h2>A European-Ethiopian Restaurant</h2>
</hgroup>
</section>
```
<nav> element

- Used to explicitly label page/site navigation areas.

```html
<nav>
<ul>
<li><a href="#hours">Hours</a></li>
<li><a href="#location">Location</a></li>
<li><a href="#menu">Menu</a></li>
</ul>
</nav>
```
<aside> element

• Used to wrap content related to the main topic.

<aside>
<header><h1>About Us</h1></header>
<p>History, blah blah blah</p>
</aside>
<footer> element

• Used to wrap author, legal or copyright information. May also include links to related content.

<footer>
<p>Copyright 2012 Abay, Inc.</p>
</footer>
<a> element

- Link element.
- In HTML5, can wrap any element or group of elements.

Link:
<a href="#contact">Contact</a>

Target:
<a name="contact">Contact Us</a>
Semantics

@class attribute

<section class="admin">
    <title>Defining User Roles</title>
</section>
HTML5 Features: Interactivity

Forms!

- Placeholders, auto-focus
- Validation against defined types (e.g., email, URL), regular expressions
- Spinners, sliders, dates/times, color pickers
- Min, max, range
- User-editable content regions
Native support, in browser:

- `<audio>` element provides browser-native playback controls, without the need for plug-ins.
- `<canvas>` element for rendering 2D, dynamic images.
- `<video>` element embeds video control in the browser. Video encoding is dependent on browser support, with a defined fallback mechanism.
HTML5 Features: Web Application Support

• Javascript API. The HTML5 specification formally defines a Javascript API. Web developers will no longer need to rely on browser-specific Javascript implementations.

• Defined error handling. The specification attempts to define how browsers should handle ill-formed markup and other error conditions.
“Just enough” CSS3

Styling language for Web content.

Defines Presentation Semantics - look, formatting.

Rounded corners, transitions, shadows, multiple columns, selectors, animations.
CSS3: Basic Syntax

Selector { Property1; Property2; Property\( n \) }

Property == name: value

html body {font-family: arial, sans-serif; color: blue;}

p {font-family: serif; color: black;}

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

Multi-Channel Publishing

- Proliferation of devices
- iPad was introduced less than 3 years ago!
- How do we provide optimal experience on all possible devices?

Image courtesy Adobe Systems, Inc.
Design for Device vs. Responsive Design

Should user experience be optimized for particular devices?

Or should Web developers strive for a single design?

Responsive Design provides a maintainable approach: one set of content, styled appropriately based on device.
New York Times: Web site viewed on Mobile Browser
New York Times: Web site viewed on Mobile Browser (zoom in view)
Dive bar T.C.’s Lounge seeks new home
To the dismay of many, the Back Bay bar closed its doors after a recent fire.

Brockton cheers Rocky Marciano statue
Icons from the boxing world, including Carmen Basilio, were on hand when the statue of Rocky Marciano was unveiled.

City to present new school-assignment options
Officials Monday night are expected to unveil five proposals for allowing students to attend schools closer to their homes.

- Union influence declining at Mass. charter schools

Latest news

Another conviction overturned in drug lab
The reinstatement of this conviction was one of the unexpected developments in the case.

Boston Globe ePaper ➔

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Menino to veto 2d redistricting plan

Mayor Thomas M. Menino said he would again veto a redistricting proposal passed by the City Council, rejecting the second map to reach his desk. 25 minutes ago

Another conviction put on hold in drug lab scandal
Putting it all together

Let’s demonstrate some simple help text, designed for desktop and mobile users. Design and terminology will differ.

Desktop: “Click”, numbered lists, period after list items.

Mobile: “Tap”, unnumbered lists, no period after list items.
Setting the Alarm

a. Click Alarm.

b. Click Edit.

c. Choose a time.

d. Click Done.
<h1>Setting the Alarm</h1>
<ol>
<li><p><span class="mobile">Tap </span><span class="desktop">Click </span>Alarm</p></li>
<li><p><span class="mobile">Tap </span><span class="desktop">Click </span>Edit</p></li>
<li><p>Choose a time</p></li>
<li><p><span class="mobile">Tap </span><span class="desktop">Click </span>Done</p></li>
</ol>
HTML5 Code for Scripts, Stylesheets

<link rel="stylesheet" type="text/css" href="./mobile.css" media="only screen and (max-width: 480px)" />
<link rel="stylesheet" type="text/css" href="./desktop.css" media="screen and (min-width: 480px)" />
<script src="./jquery-latest.js" type="text/javascript"></script>
<script src="./AddStepPeriods.js" type="text/javascript"></script>
CSS3 for Desktop

desktop.css

body {background:red;color:white;}
li {list-style-type:lower-alpha;}
.mobile{display: none;}

CSS3 for Mobile

mobile.css

body {background:blue;color:yellow}

h1 {font-size:200%;}

p {font-size:75%;
   color:yellow;}

li {list-style-type: none;
    margin-bottom: 0em;
    margin-top: 0em;}

.desktop {display: none;}

```css
body {background:blue;color:yellow}

h1 {font-size:200%;}

p {font-size:75%;
   color:yellow;}

li {list-style-type: none;
    margin-bottom: 0em;
    margin-top: 0em;}

.desktop {display: none;}
```
Setting the Alarm

a. Click Alarm.
b. Click Edit.
c. Choose a time.
d. Click Done.
A Bit of jQuery

jQuery: Library of functions written in Javascript.
Simplifies script development.
Why? Low-level programming work is done for you.
Selectors allow access to specific components of DOM.
Use code others have already written.
Need something fancy? Consider a jQuery library: jQuery Mobile, jQuery UI
On small-screen devices, you may omit periods, bullets, and other artifacts of conventional layout.

The following JQuery snippet adds a period to the end of list items on larger-screen devices.

```javascript
if (screen.width > 360) {
    $(function()
        {
            $('.li > *').append('.
        
    });
}
```
To Learn More

- W3C HTML5 working group: http://www.w3.org/html/wg/
- W3C HTML5 Working Draft: http://www.w3.org/TR/html5/
- WHATWG HTML5 spec: http://www.whatwg.org/specs/web-apps/current-work/multipage/
- Dive Into HTML5 by Mark Pilgrim http://diveintohtml5.org/
- HTML5 for Web Designers by Jeremy Keith
- CSS3 for Web Designers by Dan Cederholm
- The Truth about HTML5 by Luke Stevens
- JQuery: www.jquery.com
Contact Us!

We hope you enjoyed this presentation. Please feel free to contact us:

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