HTML5 and CSS3
Web Coding for Designers
Lesson 4: The Cool New Stuff

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Welcome!

- Four sessions
  - 1: Semantic HTML
  - 2: Styling with CSS
  - 3: Putting it All Together
  - 4: The Cool New Stuff
Questions

• Ask questions via chat during the live course
• Ask in the discussion group
• Email us
  – *Please use the discussion group* for non-private questions
• Course Portal
  – www.online-web-courses.com
Goals for This Lesson

• What you can do today with HTML5 and CSS3
  – Rounded corners, shadows, and gradients
  – Transforms and transitions
  – New structural and form elements
  – Audio and video

• What's different about mobile

• Why you should also learn a little JavaScript
What Works Where

• Many HTML5 and CSS3 techniques work in current versions of all browsers
  – Internet Explorer is the primary exception
  – Many techniques work in IE9

• Resources for knowing what works where
  – http://caniuse.com/
  – http://html5readiness.com/
CSS3

• Rounded corners
• Shadows
• Gradients
• Transforms
• Transitions
Rounded Corners

• Rounded corners without images!

  .rounded-box {
    border-radius: 10px;
  }

• Can specify each corner separately

  .oddly-rounded-box {
    border-radius: 5px 5px 20px 20px;
  }

This is some text in a rounded box

This is some text in a rounded box
Vendor Prefixes

• Standards under development are moving targets
  – Browser makers want to create early implementations that behave predictably
• Vendor prefixes allow each to act independently, while still conforming to standard when settled
  – -moz- (Mozilla Firefox)
  – -webkit- (Webkit, Safari and Chrome)
  – -ms- (Microsoft Internet Explorer)
  – -o- (Opera)
• http://prefixr.com make it easy to add vendor prefixes
• Always put standard version (no prefix) last
Rounded Corners with Vendor Prefixes

• Latest browsers support the standard syntax
  • Even IE9!

• But lots of older browsers support CSS rounded corners but require vendor prefix
  - `moz-border-radius: 10px;`
  - `webkit-border-radius: 10px;`
  - `border-radius: 10px;`

• IE8 and older will get square corners
Shadows

- **Text-shadow**
  - `text-shadow: 2px 2px 4px #555;`
  - Horiz. offset, vert. offset, blur radius, color
  - No IE support until IE10
    - Can support CSS3 text-shadow with JavaScript (cssSandpaper)

- **Box-shadow**
  - `box-shadow: 5px 5px 10px #333;`
  - Works in IE9!
Gradients

• CSS gradients are an alternative to those single-pixel-wide repeated background images
  – Better performance
  – Easy to change (in theory...)
• Linear, radial, multiple stops all possible
• Code is messy due to differing implementations
• IE9 doesn’t support it, but you can make it work using IE-proprietary filter
This May Be All You Want...

- background-image: linear-gradient(#063053,#395873,#5c7c99);

This is some text in a rounded box with a gradient fill.
... But This is What You Need

.gradient-div {
    /* fallback */
    background-color:#063053;
    /* chrome 2+, safari 4+; multiple color stops */
    background-image:-webkit-gradient(linear,left bottom,left top,color-stop(0.32,#063053),color-stop(0.66,#395873), color-stop(0.83,#5c7c99));
    /* chrome 10+, safari 5.1+ */
    background-image:-webkit-linear-gradient(#063053,#395873,#5c7c99);
    /* firefox; multiple color stops */
    background-image:-moz-linear-gradient(top,#063053,#395873,#5c7c99);
    /* ie 6+ */
    filter: progid:DXImageTransform.Microsoft.gradient(startColorstr='#063053', endColorstr='#395873');
    /* ie8 + */
    -ms-filter: "progid:DXImageTransform.Microsoft.gradient(startColorstr='#063053', endColorstr='#395873')";
    /* ie10 */
    background-image: -ms-linear-gradient(#063053,#395873,#5c7c99);
    /* opera 11.1 */
    background-image: -o-linear-gradient(#063053,#395873,#5c7c99);
    /* The "standard" */
    background-image: linear-gradient(#063053,#395873,#5c7c99);
}
Don't Try to Code It Yourself!

• Many online generators available
  – www.colorzilla.com/gradient-editor
Transforms

• Now (with the latest browsers) you can:
  – Tilt an element
  – Rotate or skew an element

• 2D transforms: all current browsers

• 3D transforms
  – Current Chrome, Safari, Firefox
  – IE requires IE 10
Transitions

- Supported in current non-IE browsers and IE 10
- Transitions
  - Control the speed of change for one set of CSS rules to another set
  - Typically used for change to hover state
  - Most CSS properties can be transitioned
- Specify property, speed, timing profile, delay
Animation

- Allows more elaborate animation than transitions
- Display a series of keyframes on a schedule
- Each "keyframe" can be a set of CSS rules
- See http://animatable.com/demos/madmanimation/
CSS3 or JavaScript?

• You can achieve all these effects with JavaScript
  – Works in all browsers
  – Requires more code

• CSS3 effects most appealing for mobile sites
  – SmartPhones mostly have very capable browsers

• Use CSS3 effects for desktop sites if you want simple implementation, and are willing to write off older browsers (and many IE users)
HTML5

• Basics
• Structural tags
• Video and audio
• Forms
Basic HTML5 Wrapper

<!DOCTYPE html>
<html lang="en">
    <head>
        <title>Title of the Page</title>
        <link href="/mystyles.css" rel="stylesheet"/>
    </head>
    <body>
        (HTML body goes here)
    </body>
</html>
Structural Tags

• To use with IE8 and older, need a little JS
  – http://code.google.com/p/html5shiv/
• HTML5 Structural tags provide better semantics, but no change to rendering
  <section>
  <article>
  <nav>
  <header>
  <footer>
  <aside>
When to Use Which Tag?

- Semantic tags should not be used as generic containers
- "div" remains the generic container for anything
- Header, footer, nav, and aside are generally intuitive
- Sections and articles can be nested multiple times
  - Section 1
    - Article 1
      - Section a
      - Section b
    - Article 2
  - Section 2
What's an Article?
Text straight from the HTML5 Spec

• The article element represents
  – a self-contained composition
  – in a document, page, application, or site and
  – that is, in principle, independently distributable or reusable, e.g. in syndication.

• This could be a forum post, a magazine or newspaper article, a blog entry, a user-submitted comment, an interactive widget or gadget, or any other independent item of content.
What's a Section?

Text straight from the HTML5 Spec

• A section, in this context, is a thematic grouping of content, typically with a heading.

• A general rule is that the section element is appropriate only if the element's contents would be listed explicitly in the document's outline.

• Authors are encouraged to use the article element instead of the section element when it would make sense to syndicate the contents of the element.
HTML5 Video

• iPad and iPhone have pushed this to the forefront
• In theory, it could be so simple
  <video width="640" height="360"
       src="/video/videofile.mp4"></video>
• However...
  – Still need Flash video for older browsers
  – No single video encoding supported by all major browsers
    • Apple (Safari) supports only H.264 (MPEG-4)
    • Mozilla (Firefox) and Google (Chrome) will not support H.264
Multi-Format HTML5 Video

<video width="640" height="360" controls>
  <source src="/file.mp4" type="video/mp4" />
  <source src="/file.ogv" type="video/ogg" />
  (Insert Flash video player code here)
  (or, if you’re willing to write off older browsers:)
  <h2>Your browser is inferior</h2>
</video>
Avoiding the Craziness

• Put the video on YouTube or Vimeo and use their embedded player
  – They take care of encoding into multiple formats and providing the right code for each browser
• Use a library or service that takes care of HTML code and providing Flash fallback
  – You still need to encode video into multiple formats
  – jPlayer.org (jQuery plugin)
  – JWplayer (www.longtailvideo.com/players)
  – SublimeVideo.net (hosted player)
New Input Types

• For browsers that support them, give alternatives to “type=text” that provide specific behaviors
• Useful for mobile, where touch keyboard is optimized to present only the keys you need
  – tel (telephone number)
  – url (web address)
  – number
• Validation, autofocus, placeholder text (someday ...)
• Not enough support yet in desktop browsers to be interesting
Progressive Enhancement Tools

- modernizr (www.modernizr.com)
  - JavaScript library that adds classes based on browser's capabilities

- JS libraries
  - HTML5 Shiv (for structural elements in IE)
    - http://code.google.com/p/html5shiv/
  - PIE (makes border-radius, box-shadow, gradients work in IE)
    - http://css3pie.com/
  - Selectivizr (allows use of CSS3 selectors in IE)
    - http://selectivizr.com/
For modern sites, JavaScript has become a critical part of the complete solution
  - Enables pages to be interactive
  - Allows markup to be created and updated by software

jQuery library makes JavaScript easier and more powerful, especially for designers

You can learn to use jQuery plugins without becoming a programmer
Mobile

• Explosive growth of mobile devices being used for web access is creating a massive shift
  – The end of fixed-width page design
  – One experience can’t fit all users

• Consider fluid and responsive techniques
  – Sites must adapt to wide variety of devices
  – Optimize for small screens, touch interfaces

• A bigger role for the web, and even more complexity
We Hope You Enjoyed the Course!

• Discussion group remains open, and your video access is good for one year

• Check out our jQuery and mobile courses
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  – www.webvanta.com/mobile-course

• Please spread the word!
  – Course now available in recorded version

• Thanks!