



# **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](http://www.online-web-courses.com)



Michael Slater  
Cofounder & CEO



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# 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/>
  - <http://wufoo.com/html5/> (HTML5 forms)

# CSS3

- Rounded corners
- Shadows
- Gradients
- Transforms
- Transitions

# Rounded Corners

- Rounded corners without images!

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

This is some text in a rounded box

- Can specify each corner separately

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

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!

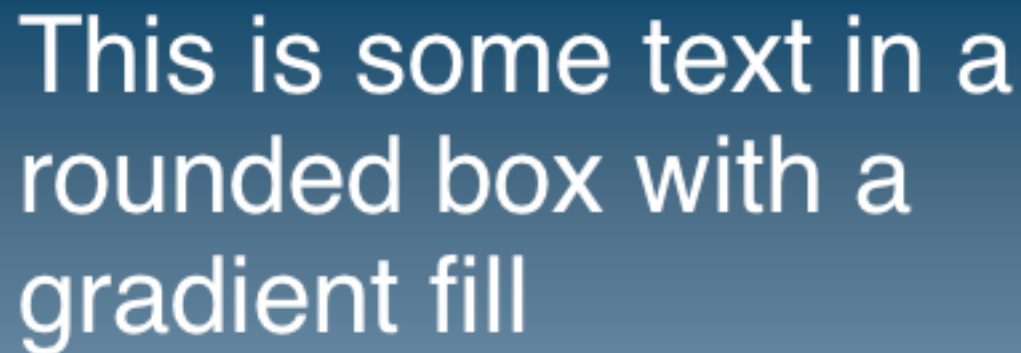
Shadowed text in a rounded, shadowed box

# 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
  - <http://gradients.glrzad.com/>
  - [www.colorzilla.com/gradient-editor](http://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
  - <http://westciv.com/tools/transforms/index.html>
- 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
- <http://webdesignerwall.com/trends/47-amazing-css3-animation-demos>



# 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 Crazyiness

- 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](http://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](http://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/>

# JavaScript



- 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

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