W3Conversions

HTML & CSS Bootcamp

Stephanie Sullivan

Agenda

- What is HTML?
- What are Cascading Style Sheets (CSS)?
- Content – the Basics
- Semantic HTML
- CSS Overview
- Proper Page Structure
- Styling with CSS
- Q&A (along the way)

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Stephanie Sullivan

- Founder/Principal - W3Conversions - Web Standards and Accessibility
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- Adobe Community Expert
- Dreamweaver Task Force for Web Standards Project (WaSP)
- Partner - CommunityMX.com
- Author - DW MX 2004 Magic, Web Developer's & Designer's Journal (formerly MXDJ), Adobe's DevNet Center, and other web publications
- International Advisory Board for Web Developer's and Designer's Journal
- List Mom for WebWeavers & moderator for SEM 2.0

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HTML – The Basics

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What is HTML?

- HTML, or Hypertext Markup Language, is a subset of SGML
- “I feel sooo much smarter… NOT!”
- What’s that really mean?
  - **Hypertext** refers to links – but today is used to mean all web code
  - **Markup Language** refers to the language (code) used to provide structure

HTML Documents

- All HTML documents consist of three parts:
  - Doctype
    - Appears prior to all other HTML markup
    - Describes what HTML version is used in the document
  - Head
    - Enclosed in the <head> element
    - Contains page title, metadata, links to style sheets, scripts and non-rendered data
  - Body
    - The actual screen content
    - Enclosed in the <body> element

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HTML Doctypes

- A Doctype consists of three parts:
  - Declaration
  - Version
  - Document Type Declaration (DTD) URI
- HTML 4.01
  - Two types “transitional” and “strict”

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
```

- XHTML 1.0
  - Also two types “transitional” and “strict”

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

Head Element

- Appears immediately following the opening <HTML> tag
- First tag pair is <title>
  - Describes the content of the document
  - This tag is required
  - Let's have some fun…
    Google: "untitled document"

Head Element

- Metadata is information about the document, not the content
  - Author
  - Character encoding
  - Description
  - Keywords
- The myth about Search Engines and metadata

Head Element

- Link elements are used to “connect” the document to style sheets and javascript files

```
<link href="acme.css" rel="stylesheet" type="text/css">
```

- Style and Script elements can also be embedded into the document

```
<style>
   a {
   color: #4C2DA1;
   font-size: 12px;
   font-family:  Arial, Helvetica, sans-serif
   }
</style>
```

Body Element

- The body element contains all of the actual content of the page which is visually rendered by the user agent (browser)
- The viewable area of the page in the user agent is called the “viewport”

Tag Structure

- Two types of tag structure
  - Containers (my name for them)
  - Empty
- Container elements have an opening and closing tag and contain other content

```
<p>This is a paragraph</p>
```

- Empty elements consist of a single tag with no “apparent” closing tag

```
<img src=“logo.gif” width=“100” height=“85” />
```

Tag Syntax

- A properly formatted tag can consist of several parts
- The name of the element

    <table>
- Attributes

    <table **width=“300” height=“400”**>
- Closing tag – identical to the opening tag

    <**/**table>
- Generally, most tag attributes, such as width and height, will be defined within the CSS and **not** as part of the tag itself – but more about that later

Element Rendering

- There are two types of rendering for HTML elements
  - Block
  - Inline
- Block elements stack vertically on screen
  - Examples: <div>, <h1>, <table>, <p>
- Inline elements line up horizontally and wrap when necessary
  - Examples: <img>, <strong>, <span>, <code>

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Proper Nesting

- Elements can be nested within other elements
  - Block elements can contain **both** block and inline elements
  - Inline elements can **only** contain inline elements
- However, the tags must be closed in the reverse order in which they were opened

```
<p>This text is really <em>cool</em></p>
```

- Incorrect:

```
<p>This text is really <em>cool</p></em>
```

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A quick demonstration of HTML semantics

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Cascading Style Sheets (in plain English)

What is CSS?

- Cascading Style Sheets, or CSS, govern the separation of style (or presentation) from actual content

- Cascading Style Sheets is a W3C standard

- CSS 1 was ratified for use in December of 1996
  - CSS 1 contains properties for fonts, margins, colors, etc., that nearly all profiles of CSS need

- CSS 2 was ratified for use in May of 1998
  - CSS 2 includes all of level 1 and adds absolutely positioned elements, page breaks, automatic numbering, right-to-left text and other things

CSS Reality Check

- As with many technologies, CSS has suffered from a slow adoption rate due to several key factors:
  - Limited (and varying) browser support
  - Limited tools for development
- Today, all of the major browsers support CSS
  - Implementation still varies – but the differences are relatively slight, and they're getting better…
  - Even Internet Explorer (now) does decent CSS!!!

The Benefits of CSS

- CSS provides four key benefits to HTML designers and developers
  - Designs become easier to manage through the elimination of inline tags such as <font> - as well as the benefit of site-wide changes through the use of external style sheets
  - Pages render more quickly (when using CSS Positioning) through the elimination of nested <table> tags
  - Page designs can be established for printing, digital devices, etc.
  - Pages become more accessible (Section 508) to visitors using assistive technologies

CSS Primer

- There are three main types of rules (or selectors)
  - Type
    - Defines the appearance of **every** instance of a given element

```
h1
font-family: Arial, Helvetica, sans-serif;
font-size: 1.4em;
font-weight: bold;
}
```

  - Class
    - Defines the appearance of the **element** to which it is assigned

```
.content
font-size: 1em;
margin-right: 12px;
margin-left: 12px;
}
```

  - ID
    - Defines the appearance of a **unique** element on the page

```
#navigation
background-color: #999999;
width: 750px;
border-bottom-width: 1px;
border-bottom-style: solid;
border-bottom-color: #000000;
}
```

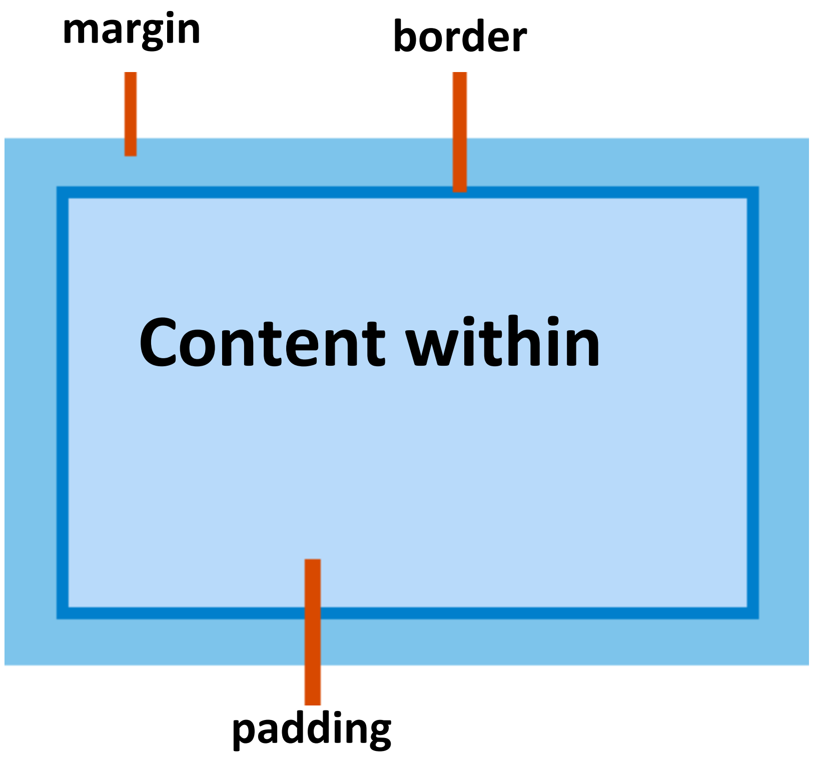
- Each rule consists of a selector name, a pair of curly brackets and atleast one property:value declaration

Writing Efficient CSS

- What makes CSS more efficient?
  - Class vs ID
  - Avoid “classitis” using type and descendant selectors
  - Use shorthand

- What is a descendant selector?
  - #nav a:link
  - #content .pod h1
  - ul ul li

Understanding the Box Model



A quick demonstration of the Box Model

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Document Flow

- The "flow" is the natural order of occurrence of the elements within the HTML
- When working with CSS for page layout, the document flow impacts the visual position of page elements – depending upon the method of positioning
- Don't fight the flow, use it!

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Types of Positioning

- The four types of positioning available using CSS:

  Static
  - The default location of the element in the document flow

  Relative
  - The element’s position is relative to its position in the document flow

  Absolute
  - A “XY” coordinate based upon its parent container

  Fixed
  - A “XY” coordinate based on the viewport

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A quick demonstration of Positioning – and potential challenges

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Principles of Floating

- A float must be given a width
- A float must be given a directional value of left or right (there is no top or bottom)
- If you want a float to appear alongside another element, it must precede that element in the source order of the document
- A float never covers text or inline images
- Avoid using a width on a block element following a float; use a margin on the same side of the float instead
- Since a float is taken "out of the flow" of the document, a float inside another container must be cleared in order for the parent container to enclose it properly

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Beware of Float Drop

- Evident when one div starts below the level of the div next to it

  Causes:
- An element, like an image, that is wider than can fit in the space provided. The div will move down until it can fit next to the floats. (Make sure clients who are taking care of their own sites with Contribute are aware of their size specs and limitations.)
- 3px text jog in Internet Explorer (unaccounted for in your math)

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A quick demonstration of Floating

Types of Page Designs

- There are two basic styles of page designs
  - The “ice” design
    - The page width is fixed
    - Elements do not grow to fit the viewport
  - The “water” design
    - The page width is determined by the viewport or text size
    - Content resizes and “adjusts” to its surroundings
- Of course, we can combine the two for a nice hybrid design in which some elements resize while others remain fixed

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A quick demonstration of design types

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Putting It All Together

The Importance of Content

- The single biggest headache in CSS based design is caused by the “wrong” workflow
- You should **always** begin with the content
- The actual design should focus on **presenting** the content - not the other way around

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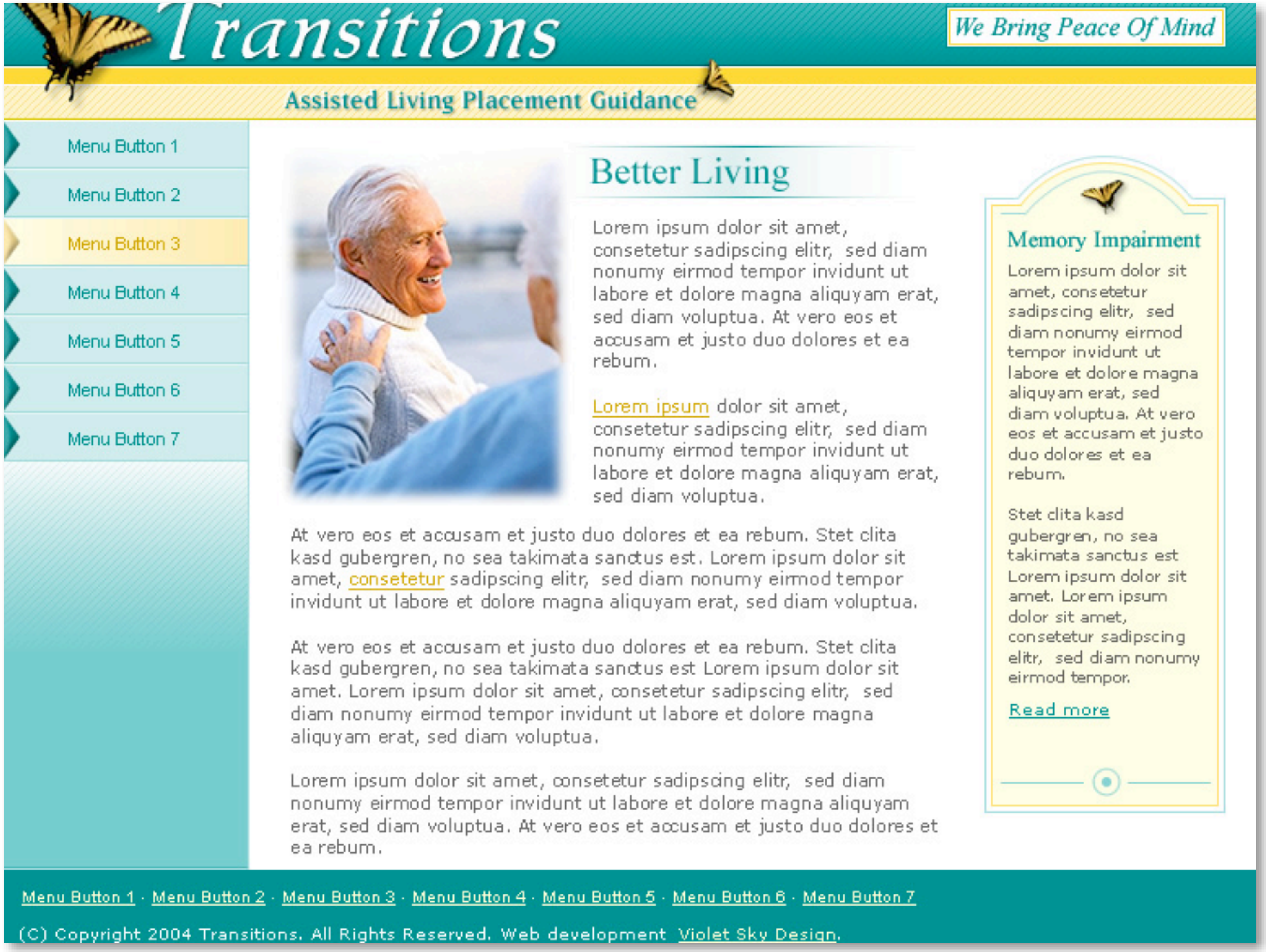

Better Living

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Read more

Menu Button 1 · Menu Button 2 · Menu Button 3 · Menu Button 4 · Menu Button 5 · Menu Button 6 · Menu Button 7

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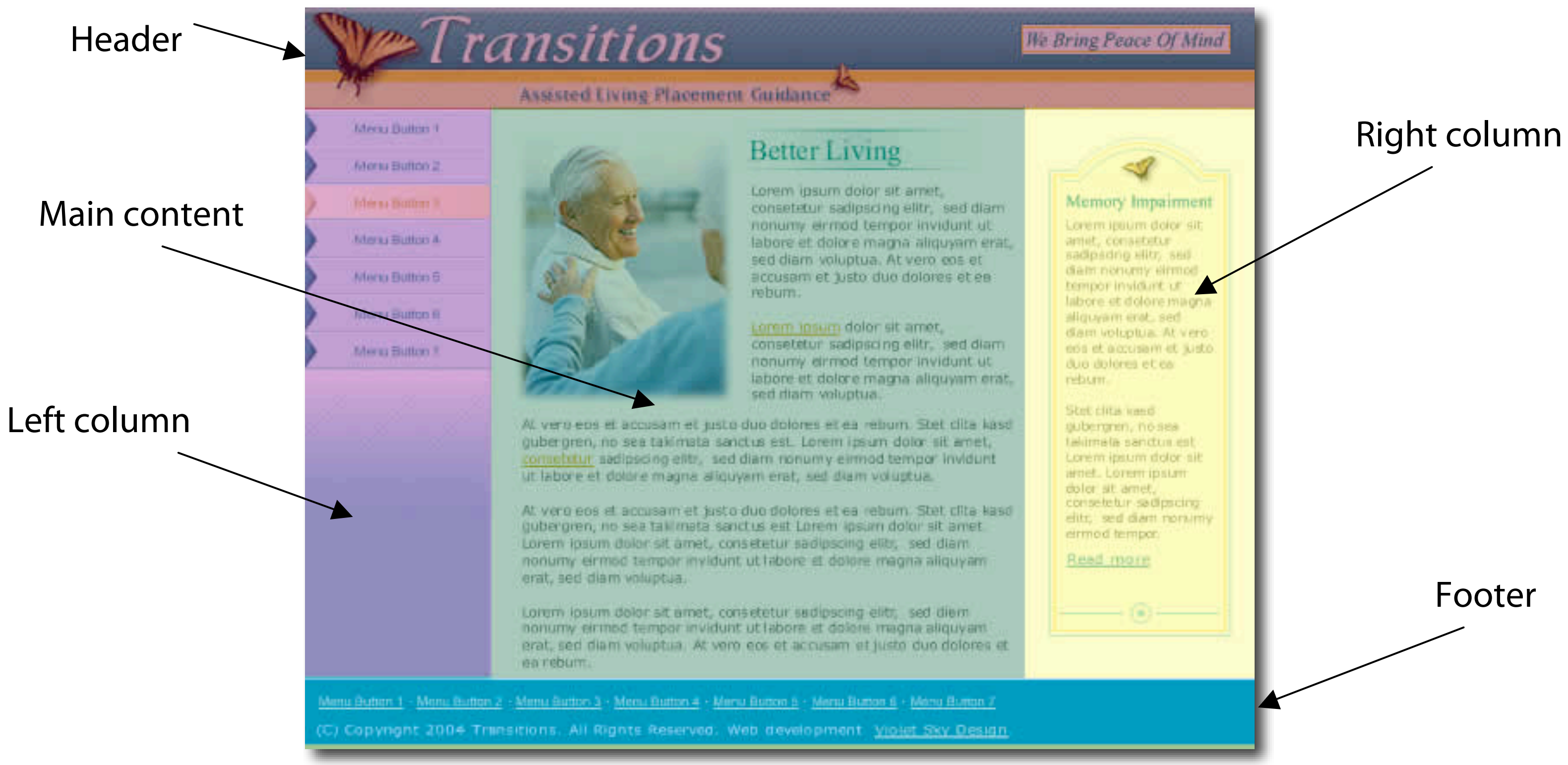
Analyzing a Layout

- Where do you start?
  - Analyze page requirements
    - Fixed width centered (or left aligned)?
    - Stretchy fluid page?
    - Fluid page with fixed-width columns or elements?
  - Analyze graphics
    - Decide how to slice
    - What can be pure CSS and still look like a graphic?



- Begin by thinking in rectangles for overall div layout and flow of the page
- Later, you'll drop those into your HTML document as empty divs

CSS Considerations

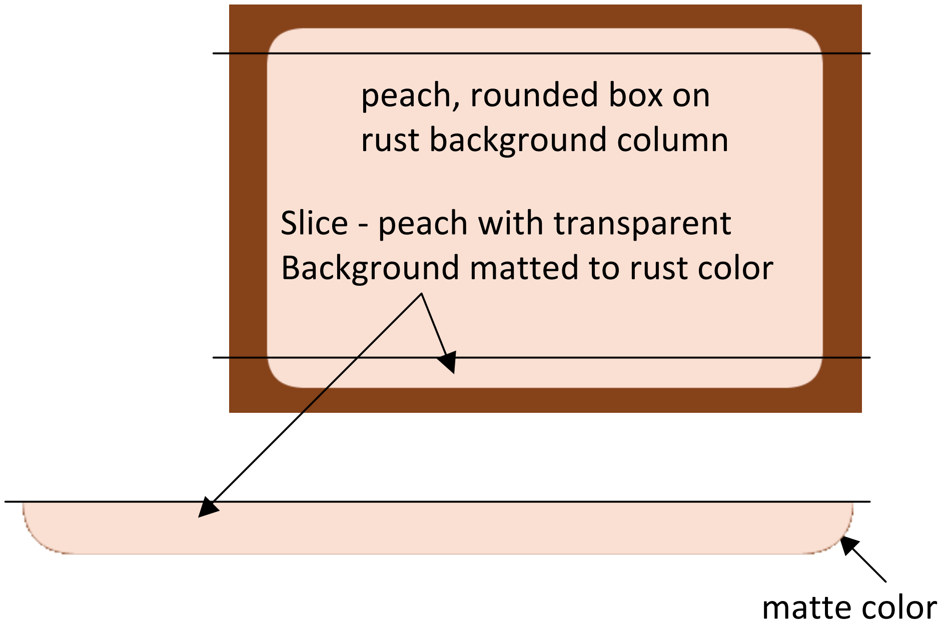
- A typical beginner mistake is to rely too heavily on images
- A number of page elements can be created using CSS instead of images
- What to look for…
  - Areas of flat color
  - Simple borders
  - Commonly used fonts

GIF, JPG or PNG?

- gifs should be used for areas of flat color that can't be pure CSS
- jpgs should be used for photos, gradients and drop shadows or glows
- pngs can now also be used (finally supported in IE7)

Transparent Backgrounds

- Look for areas where the image can be exported as a transparent gif and matted to the color it will be positioned on
- Then, use CSS for the background color of the div below it


peach, rounded box on rust background column
Slice - peach with transparent Background matted to rust color
matte color

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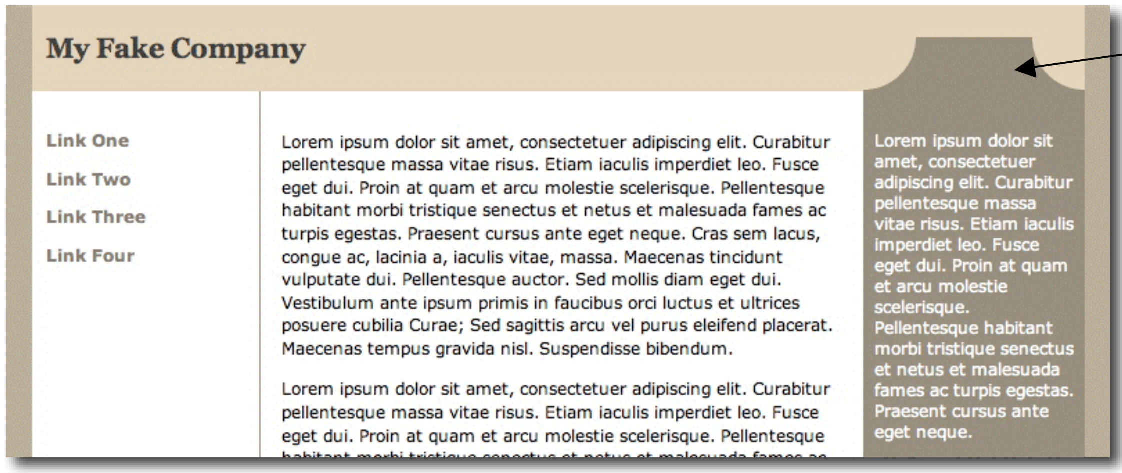
Using Negative Space

- Other creative uses for negative space - faking a transition between two areas



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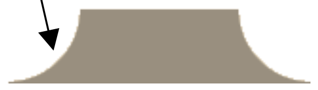
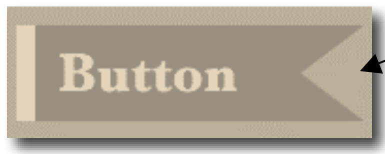
Background image placed on corner of header - meeting with right column.
Matted to header background



- Making a div or navigational device appear to have a creative shape



Background image placed on right side of button - matches color of the column below.
Matted to column background

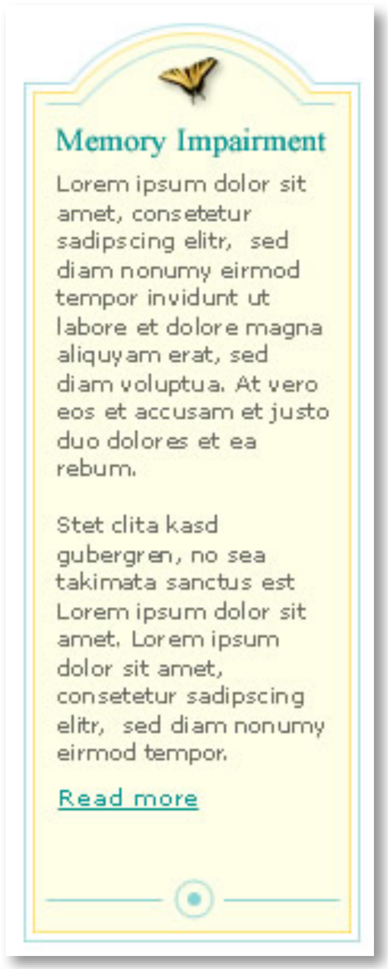
Using Repeating Graphics

- Page backgrounds
- With centered designs - holder may have a drop shadow or glow - repeat those on the y axis
- Headings - usually repeat on the x axis (though a fixed width with a left to right gradient might repeat on the y axis)
- Faux columns - repeat on the y axis

Using Multiple Wrappers

- Irregularly shapes (or decorative borders) can be created using two or more wrappers -- each with its own background image

- These can be static width or stretchy



Memory Impairment

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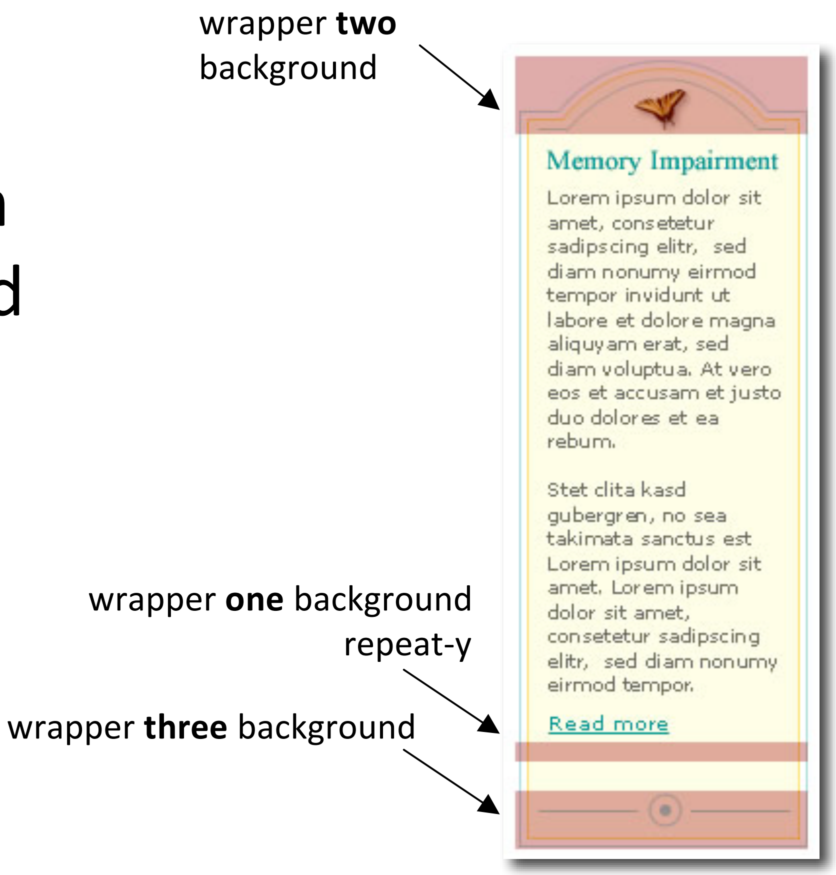
Read more

More Multiple Wrappers

- Irregularly shaped containers and decorative borders can be efficiently sliced and assembled.


wrapper **two** background
wrapper **one** background repeat-y
wrapper **three** background

Memory Impairment

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A quick demonstration of an actual design

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The Best Laid Plans…

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Busting Bugs and Coding Problems

- Is it really a bug?
- Could it be a cascade issue?
- Validate your HTML and CSS to verify they are to standards with no errors
- It’s simpler to code to standards (using a browser like Firefox to test along the way) and hack as needed for IE

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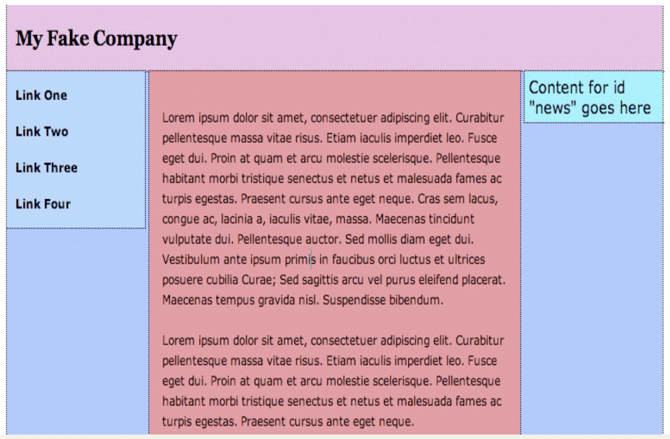
Debugging with the Browser

- Place background colors in the CSS for each div
- Use Firefox with Chris Pederick's Web Developer's Toolbar
  - Outline > Outline Block Level Elements
  - Outline > Outline Custom Elements
  - CSS > Edit CSS
  - CSS > View Style Information
- Create a test case with only the basic divs



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Most Common Bugs

- Float Drop due to 3px bug or doubling margins (star filter)
- List white space, and other *unaccounted for* white space differences (strip white space or add display:inline)
- IE requires a container to have dimensions (HasLayout) - Holly hack was previously used and now zoom:1 in an IE Conditional Comment (IECC)
- Various IE Mac issues (tan hack -- http://www.l-c-n.com for more info) IF you're still worrying about a completely unsupported browser
- Mozilla's issue with margins protruding from a container causing space (remove top and/or bottom margins of element inside)
- Dealing with Internet Explorer 7
  - many previous bugs fixed
  - Also "fixed" the star filter hack - * html #selectorName - you can still use it to select versions of IE prior to IE7 within your IE CC
- Use the Adobe CSS Advisor site (available directly in Adobe Dreamweaver CS3)

Magic Bullets - sometimes

- Add position: relative;
- We have been using the Holly hack- but now, we switch from:

  ```
  /* Hides from IE5-mac \*/
  * html .buggybox {height: 1%;}
  /* End hide from IE5-mac */
  ```

  To: zoom: 1 for IE7 - must be in IE Conditional Comment to validate

  ```
  <!--[if IE]>
  <style type="text/css">
  .buggybox {zoom: 1;}
  </style>
  <![endif]-->
  ```

- Community MX has Custom bug snippets for most every browser. No need to memorize them.

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Q&A