Web Publishing Intermediate 2

Building a Three Column Site with divs and float

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Information Services and Technology
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Course Objectives

1. Use Cascading Style Sheets to position elements on a page.
2. Position images using the float property.
3. Layout a web page in a three column format using divs and the Float property.
4. Create a Print stylesheet.
The CIG Web Site

Previous – 2-column table

The MIT Center for Industrial Growth

About the Center

MIT and industry have a long record of cooperation through projects ranging from joint education and research (where student participation is often a strong component) to intensive continuing education programs.

The Center for Industrial Growth supports interdisciplinary research and education aimed at understanding and improving industrial innovation and efficiency and the education of future industrialists.

The collaboration is extensive: industry executives serve on the MIT Corporation and its committees; MIT faculty members serve as consultants for industry; and MIT educates and prepares its students for careers in industry. The relationship between MIT and industry has had an important effect on the direction of education at the Institute.

Today – 3-column using divs and float

The MIT Center for Industrial Growth

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About the Director

The center is lead by Professor John Pramata who is a renowned leader in the field of Industrial Production. He has a joint appointment as Director of the Center and Professor at the Sloan School of Management. He is also past President of the Association of Industrial Management and current editor of and frequent contributor to the International Journal of Modern Industrial Production.

Collaborative Efforts

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Using the Div Tag

A div tag is used to create blocks of other html elements. Divs are given a unique name which is used once per page.

The unique name is assigned in the id attribute in the open part of the div tag.

```html
<div id="content">

<p>MIT and industry have a long record of cooperation through projects ranging from joint education and research to intensive continuing education programs.</p>

<p>The Center for Industrial Growth supports interdisciplinary research and education aimed at understanding and improving industrial innovation and efficiency and the education of future industrialists.</p>

</div>
```

Creating an ID Style

An ID style is created using the hash tag (#) and the ID name. Everything inside the div with that ID is affected by that style.

```
#content {font-family: verdana, arial, sans-serif}
```

Elements

1. An element is a block of code enclosed within an open and close tag.
2. Block elements have a line break before and after them and span the width of the screen.
3. Inline elements are often nested within a block element (e.g., em, a, br, span, img).
4. Elements flow left to right and lines expand vertically if more content is added.
5. Elements may contain multiple sets of tags for example, a table or unordered list element.
**Set Up the Site**

**Add site divs and basic elements**

1. Create divs for each of the five content areas – header, nav, content, sidebar and footer. Be sure they are in this order.
2. Add the id attribute to name each div. e.g., `<div id=“content”>`
3. Copy and paste the source text into the header, nav, content and sidebar divs.
4. Attach the cig.css stylesheet file.
5. Assign heading tags.
6. Add a page title.
7. Add the mitdome.jpg to the header.
8. Add the logo mit-blackred-footer1.gif to the footer.

**Add div styles**

1. Create div styles: #header, #nav, #content, #sidebar, and #footer.
2. Add formatting properties.
   
   http://www.w3schools.com/html/html_colornames.asp

**Add and style the nav buttons**

1. From source.txt add styles for button effects.
2. Preview buttons to be sure the hover works.
The Box Model

To ensure consistency across browsers, the w3c developed standards for the way browsers should interpret margins, borders and padding of an element. These standards are referred to as the Box Model. http://www.w3.org/TR/CSS2/box.html

The basic idea is that every element has a margin, border and padding on the top and bottom as well as the left and right. Each of these may be styled differently using the appropriate property name.

| content | The content area holds the content of the element. |
| padding | Padding creates visual space around the content. |
| border  | Border surrounds the content and padding and gives a visual boundary. |
| margin  | Margin surrounds the border, padding and content and allows for space between the element and other elements. |
Box Model Exploration

1. Copy and paste the first two paragraphs of the index page into a new document. Save file as box.html.

2. Set up divs around each paragraph named one and two: id="one" and id="two"

3. Notice the spacing. Create a normalizing style. What is the effect of this?
   
   body, h1, h2, h3, p, div, ul, ol, li, {margin: 0; padding: 0}.

4. Add a border to each id style. What are the three border properties?

5. Add padding of 50px to div one and 25px to div two. What happens?

6. Add a margin of 25px to each div.

7. Change the margin of div one to 50px. What do you notice about the space between div one and div two?

8. Add a background color to each div. Where does the background appear?

About the Box Model

1. All elements have the option to display borders, padding and margins - many are set to 0 by default. Paragraph and heading tags do have padding and margin by default.

2. A background color or image will show under content and padding but not in the margin (margins pick up color from enclosing element).

3. Top and bottom margins are merged using the higher margin value or to the size of one value if they are the same size.

Box model CSS

1. Padding and margins may be set in pixels or ems.

2. Border size may be set in pixels or by the keywords thin, medium or thick.

3. Border styles include solid, dotted, dashed, double and others. Border style is required in a style definition – size and color are optional.

4. There is a shorthand for designating different sides.
Some shortcuts for Box property values

| padding: 10px; [top right bottom left all 10px] |
| padding: 10px 5px [top and bottom 10px, left and right 5px] |
| padding: 10px 20px 5px [top 10px, left and right 20px, bottom 5px] |
| a value of zero does not require a measurement type |
| border: solid 2px green [solid, green border 2px thick on all sides] |
| border: solid [solid black 3px border on all sides] |

Note: values for border may be in any order.

For more info on css-shorthand see: http://www.dustindiaz.com/css-shorthand/

1. Add left padding to the h1 in the header
2. Add top and bottom padding to header and footer styles
**Understanding Float**

**Things to know about Float**

1. An element with the float property is removed from the normal flow and placed on the left or right.
2. Content which follows a floated element moves up but respects the floated element's boundaries and flows around it.
3. The clear property ensures that a floated element will be placed under (or clear of) other block elements.
4. A floated element **must have a width** - an image has a default width and need not be specified.
**Float Exercise:**

1. Add the image *franklin.jpg* to the paragraph About the Director.
2. Float the head shot to the left. Add padding right and bottom.
3. Add the *dome.jpg* to the header. Float it right. Adjust the padding.

---

**About the Director**

The center is lead by Professor John Franklin who is a recognized leader in the field of Industrial Production. He has a joint appointment as Director of the Center and Professor at the Sloan School of Management. He is also past President of the Association of Industrial Management and current editor of and frequent contributor to the International Journal of Modern Industrial Production. John is passionate about bringing the discipline of continuous process improvement to American industry and is a great proponent of TQM. He works tirelessly to bring that same discipline into the educational process. John teaches graduate courses at Sloan, the Boston University Management Center and can often be seen engaged in lively conversation with his students.
Creating the Page Layout

There are several considerations before designing your web page layout.

**Will you use a fixed width or liquid design layout, or something in-between?**

Your audience may view your pages on different sized monitors, using different resolutions, with different sized browser windows. Some may be viewing your pages with a text-only browser or on a mobile device with a very small screen. A **liquid design** allows web content to expand or contract gracefully into whatever size space it is given. Part of designing liquid layouts is through the use of relative units for widths and font size (e.g., em or %).

**Which browsers and which browser versions will you support?**

At MIT we write code to work in the IS&T supported browsers. If you expect your site to be viewed by people outside of MIT or around the world you may need to consider older browsers.

*MIT supported browsers include Internet Explorer, Safari & Firefox (Chrome)*

**What is the minimum screen resolution you will support?**

Many people in the world may still have monitors with an 800x600 pixel screen resolution. At MIT most people probably have screen resolutions of 1024x768. This means that a page in a browser maximized to full screen WITHOUT the need for a horizontal scroll bar.

Allowing for the edges of a browser called "chrome" – we would use a maximum width of 760px for an 800x600 resolution or 950-1000px for a 1024x768 screen resolution. **We will write for a 1024x768 screen width.**
Setting Up the Positioned Layout

1. A div called a **wrapper** (sometimes called a container) is "wrapped" around the section divs allowing some formatting to be set once in the containing div. Set the #wrapper width to be 950px.

2. The div for nav, content and sidebar are set with a specific width. These must add up to 950px.

Float the divs into position

1. Add float: left to the #nav, #content and #sidebar styles
2. Now add margin and padding and adjust the widths of the nav, content and sidebar divs - you may simply remove space from the #content div.
3. Keep the footer in the normal flow - #footer {clear: both}
4. Center the wrapper - #wrapper {margin-left: auto; margin-right: auto}
Creating a Print Style Sheet

It is often desirable to create a style sheet which will be applied to a web page as it is printed. This would give the style your content more appropriately for printing and possibly remove some content from being printed at all.

Here are some typical styling changes for print.

- change the background color to white
- specify font sizes in points – more typical for print
- change to serif fonts which are easier to read on the printed page
- hide navigation, search bars, non-essential images so they do not print
- add to style of area to hide – display: none
- remove positioning and specific widths if necessary to improve the flow

The process for creating a print style sheet is as follows...

1. Save your current style sheet with a new name.
2. Make the necessary changes to styles which already exist.
3. To hide elements from printing (e.g., images or divs) add the property {display: none}.
4. In the head of your document add a second link tag which specifies media="print".

<link href="printstyle.css" rel="stylesheet" type="text/css"
media="print" />
Final code

HTML

<!-- DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<title>Center for Industrial Growth</title>

<link href="cig.css" rel="stylesheet" type="text/css" />
</head>

<body>
<div id="wrapper">

<div id="header">
<h1> <img src="images/mitdome.jpg" width="135" height="101" class="image" /> The MIT Center for Industrial Growth </h1>
</div>

<div id="nav">
<ul>
<li><a href="">Home</a></li>
<li><a href="">Events</a></li>
<li><a href="">Research</a></li>
<li><a href="">Directory</a></li>
<li><a href="">Contact Us</a></li>
</ul>
</div>

<div id="main">
<h2>About the Center</h2>
<p>MIT and industry have a long record of cooperation through projects ranging from joint education and research (where student participation is often a strong component) to intensive continuing education programs.</p>

<p>The Center for Industrial Growth supports interdisciplinary research and education aimed at understanding and improving industrial innovation and efficiency and the education of future industrialists.</p>
</div>
</div>
</body>
</html>
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Upcoming Events

Effects of Training on Industrial Growth

Dr. Ruth Sullivan

August 17, 2010 12noon

Conference Room B
CSS

div, body, p {margin: 0; padding: 0;
    font-family: Arial, Helvetica, sans-serif;
    font-size: 0.9em;}

h1, h2 {font-family: "Trebuchet MS", Arial, Helvetica, sans-serif}

h1 {font-size: 2.5em;
    color: navy;}

h2 {font-size: 1.5em;
    color: maroon;}

.image-float {float: left;
    padding-right: 3px;
    padding-bottom: 5px;
    padding-left: 10px;}

/* Styles for Structural Divs */

#wrapper {
    width: 1000px;
    border: thin double #903;
    margin-right: auto;
    margin-left: auto;
    margin-top: 25px;}

#header {}

#nav {
    width: 150px;
    margin-top: 15px;
    margin-right: 10px;
    float: left;
    margin-left: 20px;}

#content {
    float: left;
    width: 600px;}

#sidebar {
    float: left;
    width: 140px;
    border-width: 10px 3px 3px 3px;
    border-style: solid;
    border-color: #903;
    padding: 10px;
    margin-right: 20px;}

#footer {clear: both;
    width: 920px;
    margin-right: auto;
    margin-left: auto;
    margin-bottom: 20px;}

Page 16
/* Menu Button Styles*/

#nav ul {
  margin: 0px;
  padding: 0px;
  list-style-type: none;
}

#nav a:link, #nav a:visited {
  background-color: #FFC;
  color: #903;
}

#nav a:hover {
  color: #333;
  background-color: #CCC;
}

#nav a {
  font-family: Arial, Helvetica, sans-serif;
  text-decoration: none;
  display: block;
  margin: 5px;
  padding: 5px;
  border: thin solid #333;
}
Resources

Books
Dreamweaver 8 (or CS4 or CS5) The Missing Manual - David Sawyer McFarland, 2006, O'Reilly Media, Inc.
Spring into HTML and CSS -Molly E. Holzschlag, 2005, Addison Wesley
Head First HTML with CSS & XHTML - Eric Freeman and Elisabeth Freeman, 2005, O'Reilly Media, Inc.

Web Sites at MIT
Web Resources at MIT – ist.mit.edu/services/web
MIT DCAD - Departmental Consulting and Application Development - ist.mit.edu/dcad
Lynda.com - lynda.mit.edu
Web Publishing Training Classes and Resources - ist.mit.edu/services/training/webpublishing
web.mit.edu/pankin/www/resources

Web Sites outside of MIT
A List Apart - www.alistapart.com
HTML Dog - www.htmldog.com
W3C Schools - www.w3schools.com
Web Monkey – www.webmonkey.com
YouTube - www.youtube.com

And don't forget Google search!