

TCS170D: Web Design

Creating a Page Layout and Horizontal Navigation

CSS: Background

- We've already added background colors using background-color
- We can also add a background image:

```
header{  
  background-image: url(../img/lanterns.jpg)  
}
```

- Note that the path inside url() is relative to the location of the rule! If this CSS is in an external style sheet, adjust the path accordingly

Background image positioning

- Background-repeat
 - <https://www.w3.org/wiki/CSS/Properties/background-repeat>
- Background-position
 - <https://www.w3.org/wiki/CSS/Properties/background-position>
- Background-size
 - http://www.w3schools.com/cssref/css3_pr_background-size.asp

Color

https://developer.mozilla.org/en-US/docs/Web/CSS/color_value

- Several different ways to represent a color value:
 - Keywords {color:red}
 - RGB: {color:rgb(255, 0, 0)}
 - Hex Values: #FF0000
 - Shorthand hex values: #F00
 - RGBA: {color:rgb(255, 0, 0, .5)}

Box Property Methods

- Min-height:
 - <https://www.w3.org/wiki/CSS/Properties/min-height>
- Calc(), for combining %s and pixels:
 - <https://developer.mozilla.org/en-US/docs/Web/CSS/calc>

Advanced Selectors

- *, for universal selector
 - <https://www.w3.org/TR/css3-selectors/#universal-selector>
- User action pseudo classes:
 - <https://www.w3.org/TR/css3-selectors/#the-user-action-pseudo-classes-hover-act>

Media Types & Queries

- Media Types:

```
<link rel="stylesheet" type="text/css"
href="styles.css" media="screen">
```

- Media Queries:

- Allow you to apply CSS rules based on browser factors, like screen width

- http://www.w3schools.com/cssref/css3_pr_mediaquery.asp

```
@media (max-width: 1200px) {
  header h1{
    font-size:20px;
  }
}
```

Element Positioning

- Defines where an element is displayed on screen. 3 types:
 - Normal flow
 - Element floating
 - Absolute positioning

Normal Flow

- What we've seen so far.
 - Block element stack one on top of another.
 - Inline elements go left to right

Position

Value: static | relative | absolute | fixed | inherit

- Static doesn't change anything
- Relative: offsets the element from its top left corner
 - Use in conjunction with `left` and `top` rules
- Fixed: Element is removed from normal flow. Position is always the same, even when you scroll in the browser

```
.box1 {position: relative;
left: 100px;
top: 50px;
}
```

```
.ad {
position: fixed;
top: 50px;
right: 100px;
}
```

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Float

- http://www.w3schools.com/cssref/pr_class_float.asp
- Element shift to the right or left of current position.
- Remove document from normal document flow.
- Other elements will move up under it unless you clear the float:
- http://www.w3schools.com/cssref/pr_class_clear.asp

LESS- Why would we want to use it?

- CSS is handy, but it isn't very flexible.
 - Few mathematical function
 - No variables
 - Lots of repetition

LESS is a language that compiles down to CSS

- We write LESS, put it into a LESS compiler, and CSS comes out. Then we use that CSS in our site.
- Suppose we had a blue color theme on our site, and we wanted to make it green. We would need to manually change every value in our CSS. Very tedious and error prone.
- With LESS, we can put the base color in a variable in our code, and calculate the other colors automatically. Only one place to update code.

Online LESS Compiler

- <http://winless.org/online-less-compiler>
- You can manually put in LESS code, and get CSS out directly.
- Good for learning purposes, but this would be done automatically by a server in a production website.

Bootstrap

- When writing CSS for different website, you do the same things over and over again.
- CSS Frameworks, like Bootstrap, do these basic things for you.



CSS reset

Common element rules

Basic element styling

Basic Structural styling

Browser inconsistencies



Form & table styling



Typography



CSS Framework Pros

- Saves times when designing sites.
- Takes care of cross-browser compliancy for you.
- Grids are really, really convenient.

CSS Framework Cons

- Lots of features you won't use
- Multiple external CSS files
- Lots and lots of classes.
- Hard to update and customize
- Hard to learn (but worthwhile)

```
.append-1 { padding-right: 40px;}  
.append-2 { padding-right: 80px;}  
.append-3 { padding-right: 120px;}  
.append-4 { padding-right: 160px;}  
.append-5 { padding-right: 200px;}  
.append-6 { padding-right: 240px;}  
.append-7 { padding-right: 280px;}  
.append-8 { padding-right: 320px;}  
.append-9 { padding-right: 360px;}  
.append-10 { padding-right: 400px;}  
.append-11 { padding-right: 440px;}  
.append-12 { padding-right: 480px;}  
.append-13 { padding-right: 520px;}
```

Bootstrap

- Lots and lots of features. This is only a very, very small introduction.
- <http://getbootstrap.com/>
- Can download the CSS for bootstrap directly, or can use a Content Delivery Network (CDN) to download CSS and Javascript.
- Requires jQuery, which can also be downloaded from a CDN

Bootstrap Grids

- 12-column grid, accessed through CSS classes
- Three key concepts:
 - Containers – used for containing rows: `<div class="container" >`
 - Rows – goes inside of containers `<div class="row" >`
 - Columns- 12 columns per row `<div class="col-12" >`

Column class names are "col-`<size>`-``"

Span is the number of columns in the row

Size is the browser width breakpoints at which the columns will change their display:

```
<div class="col-sm-12" >
```