

Location, Inheritance & the Cascade



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CSS: Location



Where do these rules go?

3 places

- External CSS files, Embedded style sheets, Inline styles

External style sheet

- place to put CSS

- one external style sheet can be referenced by as many of your web pages as you want - flexible

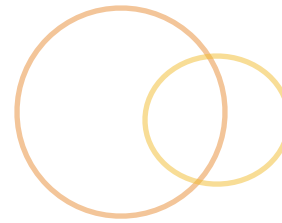
- to attach an external style sheet you need to include a link to it in the (X)HTML source code in <head> element

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

- link type="text/css" = link to a plain text file written in css

- located in same directory as the (X)HTML file and is called basic.css

CSS: Inheritance



Passin' it down - Inheritance

CSS is like a human family

- parents pass down hair color, eye color, straight or curly hair, height & bone mass
- similarly certain styles are passed from parent to child

HTML

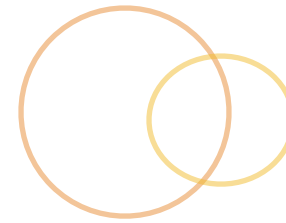
```
<body>
<p>Leopard has been set loose. <em>Watch out!
  </em>. shhh! its about to strike
</p>
</body>
```

CSS

```
body {color:#f00;}
p {line-height:1.12em;}
```

- the paragraph will be red because it is nested inside the `<body>` element
- the `` element will be red from nesting

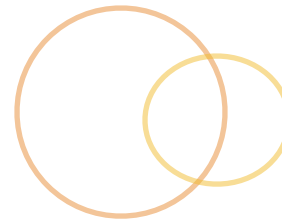
CSS: Inheritance



- ◎ **Passin' it down - Inheritance**

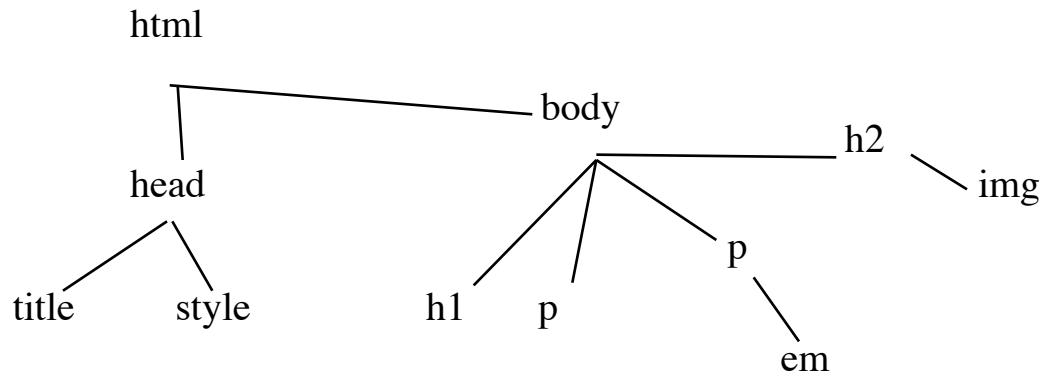
- ◎ good use of inheritance reduces number of rules and complexity of selectors in your code

CSS: Inheritance



Document Structure

- We need to know the document tree structure or hierarchy



- remember you can always hire a professional graphics designer for your images :)

- root node
- children of `<html>` - `<head>` & `<body>`
- parent of `` - `<h2>`

CSS: Inheritance



⦿ Descendants

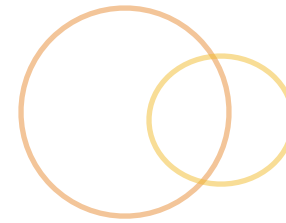
- ⦿ all elements contained within another element are considered descendants
 - ⦿ `<h1>`, `<h2>`, `<p>`, `` & `` - descendants of `<body>`
 - ⦿ child - direct descendant of an element
 - ⦿ parent - converse of child
 - ⦿ siblings - two elements with same parent
 - ⦿ ancestor hierarchy - html body h2 img
- ⦿ when you learn new CSS property note if it inherits
- ⦿ inheritance can be overridden (more later ...)

CSS: Inheritance



- ◎ Some things just don't inherit
 - ◎ 2 stereotypes
 - ◎ borders, margins, backgrounds affecting box area around elements **don't get passed down**
 - ◎ text styling attributes like size and color **get passed down**
 - ◎ Do you want all of your web pages to be a certain font?
 - ◎ assign a property to the <body> element and viola all your text is styled
 - ◎ all of the descendants of the <body> element will inherit that font
 - ◎ that means everything shown on the web page will display that font

CSS: Inheritance



⦿ Precedence & Cascade

⦿ What happens if ...

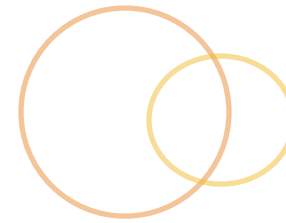
CSS

```
h1, h2, h3 {color:#f00; font-style:italic;}
```

```
h1 {color:#00f;}
```

⦿ Uh oh! Conflict!

CSS: Inheritance



⦿ Precedence & Cascade

⦿ What happens if ...

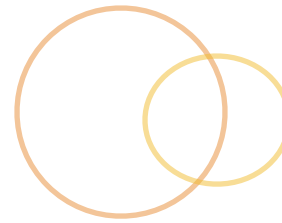
CSS

```
h1, h2, h3 {color:#f00; font-style:italic;}  
h1 {color:#00f;}
```

⦿ Uh oh! Conflict!

- ⦿ first rule sets <h1>, <h2> & <h3> to red and italicized
 - ⦿ added on top of the defaults of bold, large and block
 - ⦿ CSS rules are additive ... not addictive!
- ⦿ second rule sets <h1> to blue(#00f)
- ⦿ <h1> elements will still be italicized

CSS: Inheritance



- ⦿ Overriding

- ⦿ What happens if ...

CSS

```
h1 {color:#00f; font-weight:normal;}
```

- ⦿ Uh oh! Conflict!

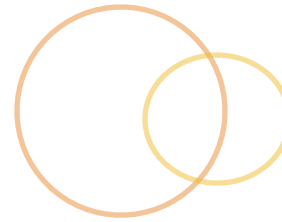
- ⦿ Overriding very big role in CSS

- ⦿ rule of thumb

- ⦿ closest rule to the actual HTML code wins!! (more later ...)

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CSS: Inheritance



⦿ Overriding

- ⦿ What happens if ...

CSS

```
h1 {color:#00f; font-weight:normal;}
```

⦿ Uh oh! Conflict!

- ⦿ `<h1>`'s "font-weight" attribute has a default of "bold"
 - ⦿ CSS rule overrides it and sets it to "normal"
 - ⦿ CSS rules override defaulted values
- ⦿ `<h1>` will still be large and block
- ⦿ CSS also set the color of `<h1>` to blue
- ⦿ Overriding very big role in CSS
 - ⦿ rule of thumb
 - ⦿ closest rule to the actual HTML code wins!! (more later ...)

CSS: Location

Where do these rules go?

3 places remember

- External CSS files, Embedded style sheets, Inline styles

Embedded style sheet

- include style sheets directly in (X)HTML code

- these rules will override defaults & external CSS files!

- remember closest rule to the (X)HTML code wins

HTML

```
<head>
```

```
  <title>Doc Title</title>
```

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

```
  <style type="text/css">
```

```
    h1 {color:#008000;}
```

```
  </style>
```

```
</head>
```

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CSS: Location



Where do these rules go?

Embedded style sheet

- <h1>'s color attribute will be overridden from its default and the styles.css style sheet by the embedded rule of color = green

How about this? HTML

```
<head>
  <title>Doc Title</title>
  <style type="text/css">
    h1 {color:#008000;}
  </style>
  <link type="text/css" rel="stylesheet" href="styles.css" />
</head>
```

CSS: Location



Where do these rules go?

Embedded style sheet

- <h1>'s color attribute will be overridden from its default and the styles.css style sheet by the embedded rule of color = green

How about this? HTML

```
<head>  
  <title>Doc Title</title>  
  <style type="text/css">  
    h1 {color:#008000;}  
  </style>  
  <link type="text/css" rel="stylesheet" href="styles.css" />  
</head>
```

- The attribute color for <h1> would be whatever is in styles.css - "color:#008000" would be overridden
- why? the closest rule to the (X)HTML code wins

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CSS: Cascade



- ⦿ why? the closest rule to the (X)HTML code wins
 - ⦿ each rule is assigned importance
 - ⦿ differently placed rules have different importance
 - ⦿ also !important can be placed in the declaration block
 - ⦿ makes rule most important
 - ⦿ why does this matter?
 - ⦿ can get confusing overriding rules if you don't understand cascade of importance
 - ⦿ user !important styles → author !important styles → author styles → user styles → default browser styles
 - ⦿ external styles → embedded styles → inline styles

CSS: Location

- where do these rules go?

- embedded style sheet

- best used if the external style sheet would have 1-5 rules and couldn't be combined with any other CSS file

CSS: Location

Where do these rules go?

3 places remember

- External CSS files, Embedded style sheets, Inline styles

Inline styles

- only to be used for a single occurrence!
- not recommended, but sometimes you might need to
 - mixes presentation and structure

HTML

```
<h1 style="font-size:12pt; color:#f0f">My Web Page</h1>
```

- this is the closest rule to the (X)HTML it always wins!
 - it overrides default styles, external CSS files and embedded style sheets
 - this is the **CASCADE** in CSS

CSS: Location



Where do these rules go?

3 places

- External CSS files, Embedded style sheets, Inline styles

External style sheet

- must be attached using `<link>` (PayPal)
 - `<link type="text/css" rel="stylesheet" href="basic.css" />`
- can also be imported using `@import`
 - simply another way to access an external style sheet

HTML

```
<style type="text/css">  
  @import "styles.css";  
</style>
```

- don't forget to put a semi-colon at the end!

CSS: Location



- Where do these rules go?

- External style sheet

- can also be imported using “@import”
 - can appear with other style element rules
 - has to come before any selectors!
 - can import as many style sheets as you want
 - remember closest rule to the (X)HTML code wins
- use @import with a URL

HTML

```
<style type="text/css">  
  @import url("http://path/stylesheet.css");  
  p { color: red; }  
</style>
```

CSS: Location

- Where do these rules go?
 - External style sheet
 - use @import within CSS

HTML

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

CSS (all_styles.css)

```
/* basics */  
@import url("base.css");  
  
/*navigation*/  
@import url("navigate.css");  
  
/*forms*/  
@import url("forms.css");
```

- great way to keep your CSS information organized
- different CSS files for different functions
- only one stylesheet reference in the (X)HTML source code
- <link> doesn't work in CSS have to use @import for this

CSS: Location

- Where do these rules go?

- External style sheet

- @import special use

- version 4 browsers don't understand @import
- put basic style sheet in <link>
- add more style sheets with “@import” that version 4 browsers will not understand and skip over

CSS: Location

- Where do these rules go?

- External style sheet

- style sheets for print

- important to have a printer friendly page
- less color, probably black and white
- stripped of most bells and whistles
- CSS allows us to make a stylesheet that will be used with printing
 - it only gets used when the document is sent to the printer

CSS: Location

- Where do these rules go?

- External style sheet

HTML

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

- look at [demos/inheritance_precedence/media.html](#) example
 - notice how different browsers handle print preview

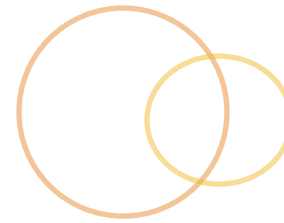
CSS: @media



Other Media

- CSS2 introduced ability to target different media
- screen, print & all are mainly used
- handheld is getting to be more widely used
- all
 - used for all media
- aural
 - used for screen readers and audio versions
- braille
 - used with braille printing devices
- embossed
 - used with braille printing devices

CSS: @media



Other Media

handheld

- used with web-enabled cell phones and PDA's

print

- used for printing or print preview

projection

- used for slideshow presentations

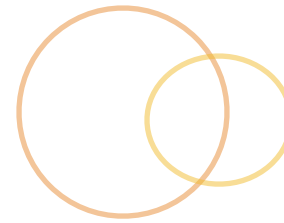
screen

- used for monitors or displays

speech

- used for screen readers and other audio versions
- replacing aural (introduced CSS2.1)

CSS: @media



Other Media

- tty

- used for teletype printers

- tv

- used for television screens

- www.w3.org/TR/CSS21/media.html for more info