Cascading Style Sheets

CSS WITH HTML – STYLING HTML FILES

Overall Agenda

- Syntax of CSS
- Development tools
    - Its not about writing code from scratch
- Accessibility Issues

Topics of Interest

- Different ways of styling HTML files
- Styling fonts
- Placing and positioning of HTML elements on a page
- The Box Model
- Styling Links and Lists
- Advanced Selectors
- Pseudo classes and elements
- Transitions and Transforms
- Use case examples – style tables, navigation menus etc.

CSS Introduction

Browser Capabilities

- A general note before starting
  - Browsers may handle different styling elements differently (just like different HTML elements are rendered differently)
  - All browsers do have their default styles – but in most cases these a *plain* and *simple*

Three ways of adding style to your page

- External (add a .css file to your .html file in the <head> element) **[preferred]**
  - *<link rel=“stylesheet” href=“css/styles.css”>*
  - *In .css file put the content of the next bullet without the <style> tag*
- Internal (within the <head> element) **[ok-ish only if you want to specify a few quick rules]**

  -
    ```
    <style>
       h1 {
              color : azure;
       }
    </style>
    ```
- Inline **[mixes style with content – not preferred]**
  - <h1 style = “color : azure”> This is my Heading </h1>

.CSS file Generic Syntax

```
Selector {
        property: value;
}
e.g. h1{
      color: red;
}
```

Breaking down the CSS syntax - Selector

- Which html element you want to style
- Some common ways of specifying selectors are
  - Use tag names in CSS file: h1 or p or div or main etc.
  - Give tag an id and use id:
    - HTML: <h1 id="id_h1">…</h1>
      CSS: #id_h1{…}
  - Use class name for an element
    - HTML: <div class="container"> … </div>
      CSS: .container{…}

Breaking down the CSS syntax - Property

- Property specifies the styling aspect you want to specify
- There are many different property values
- Some basic and commonly used are
  - color (adds and changes text color)
  - background-color (adds and changes background color)
  - font-size
  - text-align

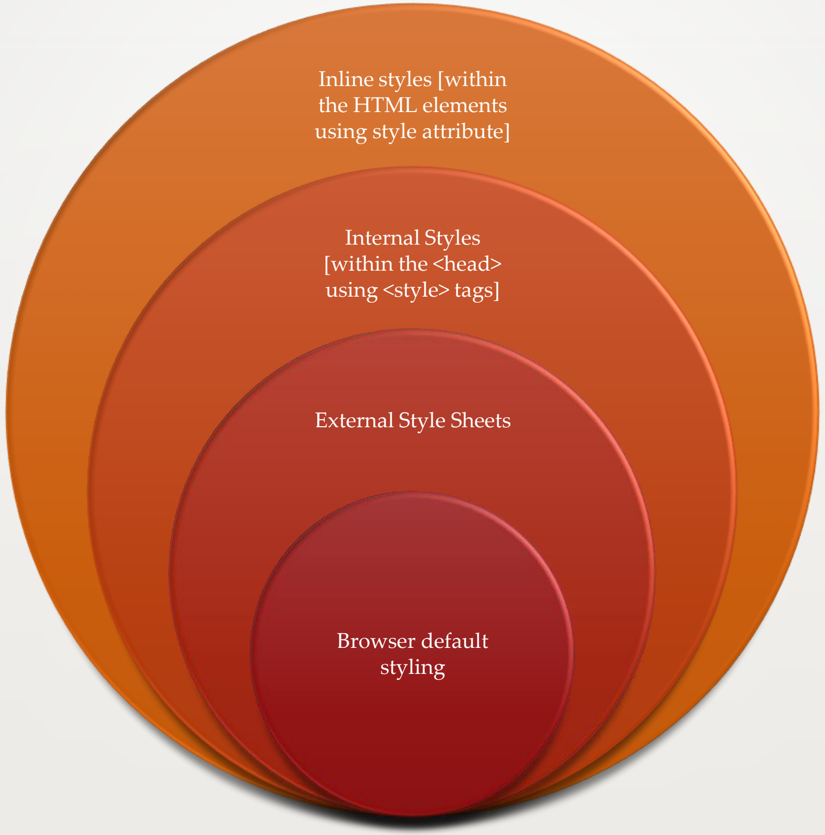
Breaking down the CSS syntax - Property

- For each property, you will have to specify a value
- For example,
  - color: red;
  - font-size: 24px;

A note on CSS Syntax

- Browsers are not so forgiving when it comes to .CSS, as they are when dealing with .HTML files
- If you forget to close an HTML bracket browser will understand and do what the intention was
- However if you forget the **curly brackets** and **semi-colon**, browser won’t understand or auto-complete your “intended” action
- CSS Comments
  - */* This is a comment in CSS */*
  - Use comments to document your large CSS files and keep track of what you are doing

The "Cascading" part in CSS



Inline styles [within the HTML elements using style attribute]

Internal Styles [within the <head> using <style> tags]

External Style Sheets

Browser default styling

Styling Rule Precedence - I

- Scenario – the same selector defined in two or more external files
  - Which styling rule will be used?
- Styling rules from the most recent styling file takes precedence over others
  - Most recent – the last styling file declared in the <head> section
    - *<link rel="stylesheet" href="style1.css">*
      <link rel="stylesheet" href="style2.css">
      <link rel="stylesheet" href="style3.css">
    - Here, style3.css is most recent and rules from that file will take precedence over 1 and 2.

Styling Rule Precedence - II

- Scenario – In the same external file, you have defined multiple rules for the same selector

- The most recent rules takes precedence i.e. the rule the browser “sees” the last

Overwriting styling rule precedence

- Use the syntax **!important** with your properties
- Example:

  -
    ```
    h1{
            color: red !important;
    }
    …
    h1{
            color: yellow;
    }
    ```

Using !important will override default
Precedence rules (last seen), and
use this property

Typically this will take precedence based
On default precedence rule

The Power of CSS – Examples of a few CSS designs

- http://csszengarden.com/
- Want to be an artist ? Want to do so using just coding? This is your playfield. With CSS you can unlock the potentials of your creative design but with coding~~~

CSS Colors

A domain of art and design. Here we cover how to code colors

How to incorporate colors - I

- In the most simplest form, you can directly use the name of the color
    - Like red, blue, azure, black, etc.
    - Not very flexible in terms of usage. And is not preferred
- Method 2: Using Hexadecimal Convention – the more common way
    - #XXYYZZ (6 digits starting with a #. Some conventions may have 3 digits but it represents the same)
        - Hexadecimal review – goes from 0 to 9 then A,B,C,D,E,F
    - Each pair of *char* representing the intensity of red, green, blue, respectively
    - R,G,B are the three primary colors
    - Hex code byte values range from 00 (lowest intensity of a color) to FF (highest intensity)
    - Therefore, color white is represented as #FFFFFF and black as #000000
    - As such red color is represented as #FF0000 and so on

How to incorporate colors - II

- Method 2 – specify using the rgb(value, value, value) convention
  - The values rangers from 0 to 255 – more user friendly than hex format
    - Values can range between 0 and 1 in some formats
  - Therefore color white is represented as rgb(255,255,255)
  - Black as rgb(0,0,0)
  - Red as rgb(255,0,0), and so on

Why RGB is getting more traction

- You can add another factor to RGB() convention
- This is the RGBA(val,val,val,val)
- The *A* stands for **Alpha Transparency**
  - Making the color see-through
  - Value ranges from 0 to 1
- Quick note – hex format also support alpha transparency – it adds two more chars to the end
- <u>Quick tip </u>– you can use “<u>**inspect element**</u>” option in browser and test out colors in real time

Accessibility

- Must use appropriate colors that makes your web page accessible
- Keep in mind the color-contrast.
  - Check wave extension for assist.
- Keep in mind color blind people.
  - Core functionality of your page must not be impacted due to colors
- Don’t convey meaning solely relying on colors
  - For example a colorful chart or graph
  - **Because if things go grayscale, your content will become meaningless!!**
  - In such cases, remember to use alt text or captions or patterns or shapes in the graph

Styling Text using CSS

CSS properties to style your text

- Fonts –
    - font-family: make sure font is user friendly. Use sans-serif wherever you can.
    - font-style:
    - font-size
    - font-variant
- Text color and background color of text
- Text alignment
- Line-height

Defining your own font and adding it

- You will use the syntax **@font-face**

```
@font-face{
        font-family: myCustomFont;
        src: url(‘../Path/to/my/custom/file.ttf’)
}
h1{
        font-family: myCustomFont;
}
```

Make note of this. This is how you
Add href to CSS files. You use *url(…)*

Other Font rules

- font-family: make sure font is user friendly. Use sans-serif wherever you can.
- font-style: (normal, italic, oblique)
- font-size: common way – include pixels. Like 22px. Or percentages like 100% (default web page size)
- font-variant: (normal, small-caps)

Text color and background color

- If you specify the text color that is done using **color** property

- If you want to give a background color use
  - **background-color** property

Text alignment

- To align text use the property **text-align**
- Options available are: center,justify,left,right
- **<u>Quick tips:</u>** generally <div> tags are used as containers to add style to specific portions (portion here means group of HTML elements) of the web-page. But keep in mind <div> is a block tag (remember what a block tag is and what it does). If you need an inline tag equivalent of <div>, you will use what is called the <span> element. Remember, just like <div>, <span> has no semantic associated, but it can simplify your task when it comes of applying CSS rules.

Line-height property

- Controls the spacing between lines of text

- You can specify the property value in terms of percentage values
  - line-height: 25%;
  - line-height: 150%;