Web Design & Programming

Cascading Style Sheets (CSS) – Part 1

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Cascading Style Sheets

- Created in 1996 and published as a standard by the W3C; currently in version 3.
- Used to define styles (positioning, fonts, colors, …) in HTML documents; allowing a separation between content and presentation.
- ‘Cascading’ refers to how multiple style rules can be applied to an element.

Using CSS

- Styles can be declared:
  - inline
  - in a `<style>` tag in the document head
  - in an external file (.css)
- The third solution is the most common, either with one or multiple files used for an entire website.

Inline Declaration

To set a header with the color blue:

```
<h2 style="color: blue">Header</h2>
```

Embedded Declaration

- In the head of the HTML document:

```
<style>
h2{
  color: blue;
}
</style>
```

- The h2 element itself is not modified.

External File Declaration

- In the head of the HTML document:

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

- The styles.css file contains the exact same rules than presented before.
- You can include one or multiple files (but no nesting).

Selecting HTML Elements

- by element name
- by element id or by element class
- by selector
  - child: `element1 > element2`
  - next sibling: `element1 + element2`
  - first line: `::first-line`
  - and others

CSS Rules Overview

```
body {
  background: #dcd8d2;
  color: #000000;
}

h1 {
  font-family: sans-serif;
  margin-right: 130px;
  margin-bottom: 10px;
  margin-top: 30px;
  text-align: right;
}
```

```
p {
  font-family: sans-serif;
  margin-left: 50px;
}

p.fineprint {
  background: #c6bfb5;
  font-size: small;
  margin-left: 10px;
  margin-right: 10px;
}
```

Some Text Properties

- `font-size`: size of the font
- `font-weight`:boldness of the font
- `font-style`: italic / oblique
- `text-decoration`: underline
- `text-shadow`: shadow
- `direction`: left-to-right, right-to-left

Test Positioning

- `text-align`: left, right, center, justified
- `text-indent`: horizontal blank space
- `line-height`: vertical space between lines

Font Properties

- font-family: specify the font name or type
  - specific system font name
  - generic font family
    - serif
    - sans-serif
    - monospace
    - cursive
    - fantasy
  - web font

Web Fonts

- Select a font to use, covered by a proper license.
- Select a font format: TTF, WOFF1/2, EOT, …
- Declare a rule to let web browsers using that font (from source the original source or imported).

Web Font Example

```
<style>
@import
url('https://fonts.googleapis.com/css?
family=Caveat+Brush&display=swap&subset=
latin-ext');

h1 {font-family: 'Caveat Brush', cursive;}
</style>
```

Colors

- Keyword: black, gray, white, red, purple, green, navy, teal, …
- RGB value: red, green, blue hexadecimal values.
  black: `#000000`, white: `#ffffff`, red: `#ff0000`,
  green: `#00ff00`, blue: `#0000ff`
- HSL (hue, saturation and lightness) and other color models are also available.

Colors and Accessibility

- Colors must be validated before being used, to make sure that people affected by color blindness will still be able to get the information.
- Check also for color contrast, especially between the text and the background.
- Make sure that some information is not only carried by color, use shapes, font size or other styles in complement.

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