week::eight
Introduction to Web Typography

Understanding Web Typography

Characteristics

- o Type is displayed at between 96 and 120ppi, much lower than in print.
  - Higher on HiDPI screens like Apple's retina displays (iPhones, 5k iMacs, etc.) and others. These devices double (or more) the number of pixels per inch available to display type on screen.
- o Pages are rendered on the fly, and presentation varies depending on a number of factors:
  - Device type (desktop, tablet, smartphone, TV, gaming console, etc.)
  - Operating system (Mac, Windows, Linux)
  - Web browser maker (Safari, Chrome, Firefox, Internet Explorer)
  - Web browser version (6.0, 7.0, 8.0, etc.)
  - User preferences (adjustments to the default typeface, size, colors, etc.)
  - Fonts installed on the end-user's system
- o **Consider your typography as mere *suggestions* rather than strict requirements.**
  - This is especially true for type sizing, line lengths, and vertical spacing.

Historically, type on the Web was very, very rough

- o Initial goal of the web was to share physics documents with researchers around the world. Academics focused on the *structural logic* and *portability* of the information, not the visual presentation.
- o Early HTML documents used container tags (`<h1>`, `<h2>`, `<p>`, etc.) to create a visual hierarchy, not to precisely control the appearance of a page.
- o Older browsers emphasized the ability to customize font settings—it was considered a *feature* at the time.
- o Initial code support was weak—designers only had access to the inefficient `<font>` tag to control type, and even then, it was just font and size by a number between 1 and 6.

Has Web typography gotten better?

- o YES! ... Much better, but still with some limitations...
- o Type is now styled with **Cascading Style Sheets** using **Web Fonts**.

Basic Web Typographic Concepts

Document Flow — The default text layout engine

- o By default, text flows as far right as it can before returning to begin a new line. Without any constraints, this is always the right-hand side of the browser window.
- o As the browser window is re-sized, the text on a page reflows to fit the new window size.
- o Generally speaking, page elements are not positioned outside of the document flow—all elements affect the position of each other.
  - However, it is possible to position elements outside the document flow—think objects on website that do not scroll and stay in a fixed place.
  - The layout method used in InDesign does not work in Web design.
- o One reason for this is because as Web designers we do not have control over the size of the website visitor's browser window.
  - In print you control the paper size.
- o Document flow has become important again as the industry begins to adapt their designs to mobile devices.

Type differences between operating systems and browsers

- o Different Web browsers use different rendering engines.
- o Different operating systems use different *type* rendering engines.
  - ▪ This is especially evident in the anti-aliasing of type.
- o Even on the same operating system, different browsers will display type and other elements differently.
- o HiDPI screens can display type much better than standard-resolution screens.
- o All of these differences make it difficult to consistently display type (including line breaks and other typographical adjustments), across operating systems.
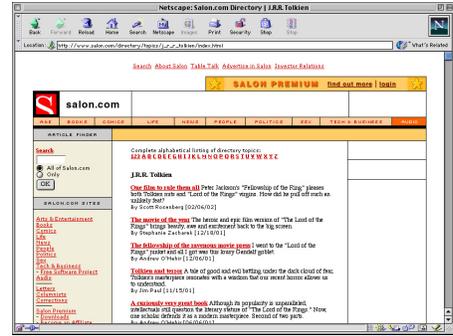
Netscape 4.79 on MacOS 9 (don't ask how old)

Understanding Typeface Selection on the Web

Overview

- o In theory, you can use any font you want on a web page.
- o However, traditionally the fonts you use **needed to be** installed on the end-user's computer.
- o Different operating systems have different fonts installed by default.
- o To ensure pages look similar on a variety of devices, browsers use **font lists**.

Traditional Font Lists

- o Font lists help ensure that text will look similar to what the designer intended, even if the end-user lacks precisely the desired font.
- o We no longer need to adhere to using this list of typefaces, but it is instructive of how browsers utilize fallbacks incase a typeface is not available.

Font Family	CSS Font List
Verdana	`Verdana, Arial, Helvetica, sans-serif`
Georgia	`Georgia, 'Times New Roman', Times, serif`
Helvetica	`Helvetica, Arial, sans-serif`
Arial	`Arial, Helvetica, sans-serif`
Times New Roman	`'Times New Roman', Times, serif`
Tahoma	`Tahoma, Geneva, sans-serif`
Courier New	`'Courier New', Courier, mono`

How They Work

- o The default font is *Times New Roman*, though users are able to alter this setting.
- o If a user's computer does not have the first font in the list installed, then the browser will try the next one. It repeats this until it reaches the end of the list.
- o If it finds none of the fonts in the list, the last item specifies the *font style* and applies the user's defaults for that style.
- o In the *Verdana* example above, if a user does not have *Verdana* and *Arial* but does have *Helvetica*, then the browser will display the text using *Helvetica*.
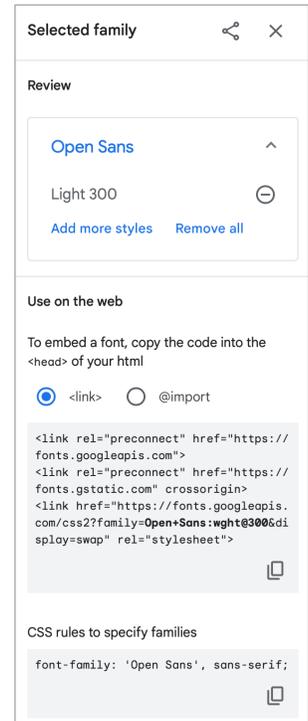
Introducing Web Fonts

Overview

- o Generally speaking, web fonts refer to the ability to use **embedded fonts** in a Web page, allowing pages to use almost any font.
- o Most fonts can be embedded, though licensing restrictions keep some of them from being used on real projects.
- o There are also some technical issues that must be worked out or decided upon before you can host your own.
- o Opens up a brave new world of Web typography.

Online Web Font Services

- o **Google Web Fonts:** `http://www.google.com/fonts`
- o **Adobe Fonts:** `https://fonts.adobe.com`
- o *...and many more.*

Recommendations

- o From a design-perspective, try to pick one **Sans Serif** and one **Serif** typeface for your Web site, and use only those two typefaces.
- o Select typefaces with **many different weights** available (Light, Book, Extra Bold, etc.)
    - ▪ Keep two key things in mind: *Distinction* and *harmony* when pairing typefaces.
- o If you have a budget or already have a Creative Cloud account, **Adobe Fonts** (formally Typekit) is a good Web font service with very high-quality typefaces.
- o **Google Web Fonts** is a good option if you are OK with the selection of free, open-source typefaces (and some professional ones as well). You also must be fine with Google tracking your visitors (OK, Adobe does this as well).

Selected family		

Review

Open Sans

Light 300

Add more styles   Remove all

Use on the web

To embed a font, copy the code into the `<head>` of your html

⦿ `<link>`   ◯ `@import`

```
<link rel="preconnect" href="https://
fonts.googleapis.com">
<link rel="preconnect" href="https://
fonts.gstatic.com" crossorigin>
<link href="https://fonts.googleapis.
com/css2?family=Open+Sans:wght@300&di
splay=swap" rel="stylesheet">
```

CSS rules to specify families

```
font-family: 'Open Sans', sans-serif;
```

CSS Type Sizing Guidelines

Overview

- o For most sites, set font sizes using **ems**.
    - ▪ The em is a true typographic unit of measurement.
- o Em is a relative unit and allows you to specify type sizes not explicitly, but in relation to a base font size of its parent container(s).

The Guidelines

- o First, set the size of all type in your page to 100% (done in `reset.css`).
    ```
    body, h1, h2, h3, h4, h5, h6, p, ul, ol, li, th, td {
        font-size: 100%;
    }
    ```
- o Design your pages so that exact text sizes do not matter as much. Text boxes should allow text to flow freely around other objects.

em Font Sizing Example

- o Alter the size of headers and paragraphs using ems.
    - ▪ Use values *above* 1.0 to increase type size.
    - ▪ Use values *below* 1.0 to decrease type size.
    - ▪ Think of these values as percentages—everything is relative to 100%.
- o Sample values shown in the table to the right.

Tag	Value
h1	2.75em
h2	2.25em
h3	1.70em
p	1.10em

Common CSS Properties for Typography

Name	Property	Description	Example CSS Code
Typeface Family	`font-family:`	Uses font lists	`font-family: Verdana, san-serif;`
Type Size	`font-size:`	Specify in ems	`font-size: 1.3em;`
Type Line Height	`line-height:`	aka Leading; use ems	`line-height: 1.6em;`
Type Weight	`font-weight:`	Specify font face weight; use numbers given by typeface provider	`font-weight: 700;`
Type Style	`font-style:`	Specify font face style	`font-style: italic;`
Type Color	`color:`	Specify the font color	`color: #FFCC66;`
Upper/Lowercase	`text-transform:`	Alter the letter case	`text-transform: uppercase;`
Character Tracking	`letter-spacing:`	Similar to tracking in InDesign	`letter-spacing: -.1em;`
Paragraph Alignment	`text-align:`	Controls paragraph rag	`text-align: right;`
Text Shadows	`text-shadow:`	Applies a drop shadow to type. Use with care.	`text-shadow: 2px 2px 4px black;`
Indenting Text	`text-indent:`	Sets the first line indent of a paragraph	`text-indent: 2em;`
White Space Control	`white-space:`	Control how white space is handled	`white-space: pre;`
List Styles	`list-style-type:`	Control the appearance of bullets in a list	`list-style-type: square;`
Margins	`margin:`	Control the amount of white space around a line of type.	`margin-bottom: 1em;`