

# CSS Typography

## Fonts & Formatting

1

Group to whom I'm speaking

R. Scott Granneman

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# Basics

2

---

# Types

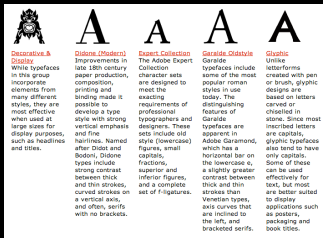
3

4

Most basic:  
 Serif  
 Sans-serif  
 Monospaced/Monospaced

5

Adobe Type Classifications  
[www.adobe.com/type/browser/classifications.html](http://www.adobe.com/type/browser/classifications.html)



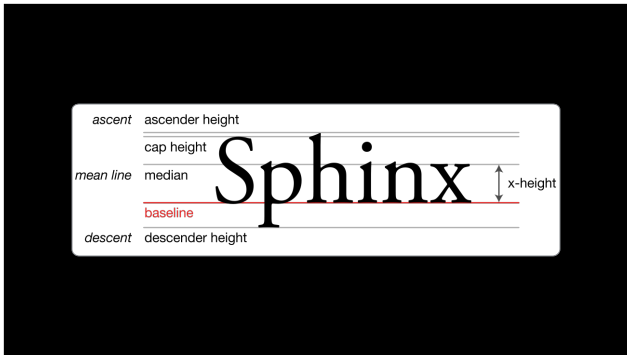
6

Adobe Originals	Greek	Sans Serif: Grotesque, Neo-Grotesque, Geometric and Humanist
Blackletter	Hand-tooled, Inline, Outline, Stencil	Script
Capitals	Japanese	Slab Serif
Computer Related	Mathematical	Small Caps & Old Style Figures
Cyrillic	Monospaced	Swash
Decorative & Display	OpenType Pro	Symbol
Didone (Modern)	Opticals	Transitional
Expert Collection	Ornamentals	Venetian Oldstyle
Garalde Oldstyle	Phonetic	
Glyphic		



7

[commons.wikimedia.org/wiki/File:Serif\\_and\\_sans-serif\\_02.svg](https://commons.wikimedia.org/wiki/File:Serif_and_sans-serif_02.svg)  
[en.wikipedia.org/wiki/File:Serif\\_and\\_sans-serif\\_03.svg](https://en.wikipedia.org/wiki/File:Serif_and_sans-serif_03.svg)



8

[en.wikipedia.org/wiki/File:Typography\\_Line\\_Terms.svg](https://en.wikipedia.org/wiki/File:Typography_Line_Terms.svg)



9

[en.wikipedia.org/wiki/File:Typoghaphia.svg](https://en.wikipedia.org/wiki/File:Typoghaphia.svg)  
[en.wikipedia.org/wiki/Typeface\\_anatomy](https://en.wikipedia.org/wiki/Typeface_anatomy)

10

# Measure

11

## *Measure*

Length of a line of text

Measure should be  
pleasing to the eye & facilitate reading

12

Lorem ipsum  
dolor sit amet,  
consectetur  
adipiscing  
elit, sed do  
eiusmod  
tempor  
incididunt ut  
labore et  
dolore magna  
aliqua.



13

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

14

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

15

Shoot for between  
40-80 characters, including spaces

~ 65 characters is ideal

16

# Leading

17

## *Leading*

Space between lines of type

Very important for readability

18

The longer the measure,  
the more leading is needed

The larger the font,  
the less leading is needed

19

Leading of 0.8

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

---

20

Leading of 1.7

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut.

---

21

Leading of 1.3

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

22

Rough rule of thumb:  
set leading 1.3 times your font size

---

23

```
* {  
  font-family: Helvetica, sans-serif;  
  font-size: 1em;  
  line-height: 1.3;  
}
```

Same as:

```
* {  
  font: 1em/1.3 Helvetica, sans-serif;  
}
```

---

24

Scale

25

Don't size text arbitrarily

Use a scale for your fonts

26

The Classical Scale

6 7 8 9 10 11 12 14 16 18 21 24 36 48 60 72

27

Fibonacci sequence scale

6 13 21 34 55 89

The W3 provides a very usable, standard scale

<code>&lt;absolute-size&gt;</code>	Scaling Factor	HTML <code>hx</code>
<code>xx-large</code>	2/1	<code>h1</code>
<code>x-large</code>	3/2	<code>h2</code>
<code>large</code>	6/5	<code>h3</code>
<code>medium</code>	1	<code>h4</code>
<code>small</code>	8/9	<code>h5</code>
<code>x-small</code>	3/4	
<code>xx-small</code>	3/5	<code>h6</code>

```
body {font: 1em/1.3 "Lucida Grande";}
h1, h2, h3, h4, h5, h6 {font-family: Georgia;}
h1 {font-size: 200%;}
h2 {font-size: 150%;}
h3 {font-size: 120%;}
h4 {font-size: 100%;}
h5 {font-size: 89%;}
h6 {font-size: 60%;}
```

## Heading Level 1 Lorem Ipsum

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

### Heading Level 2 Lorem Ipsum

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

### Heading Level 3 Lorem Ipsum

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

### Heading Level 4 Lorem Ipsum

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

### Heading Level 5 Lorem Ipsum

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

### Heading Level 6 Lorem Ipsum

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

31

# Typography & the Web

32


# Operating System Defaults

33



34

[www.tlccreative.com/samples/OS\\_Fonts\\_by\\_TLC.pdf](http://www.tlccreative.com/samples/OS_Fonts_by_TLC.pdf)



XP	133
Vista	191
7	235
8	278

35



10.5 Leopard	160
10.6 Snow Leopard	248
10.7 Lion	225
10.8 Mountain Lion	242
10.9 Mavericks	247

36



# iOS

37

	iPhone	iPad
3	44	—
4	41	67
5	57	57
6	61	61
7	71	71



38

1-3	3
4	6





# Windows Phone

39







7	25
8	37

# Web Browser Defaults

OS	Browser	Sans-serif	Serif	Mono
		Arial	Times New Roman	Courier New
		Arial	Times New Roman	Courier New
		Helvetica	Times	Courier
		sans-serif	serif	monospace

OS	Browser	Standard	Fixed-Width
		Times New Roman	Courier New
		Times	Courier

43

OS	Browser	Sans-serif	Serif	Mono
		Arial	Times New Roman	Courier New
		Helvetica	times-roman	Courier
		sans	serif	monospace

44

## Microsoft's Core Fonts for the Web

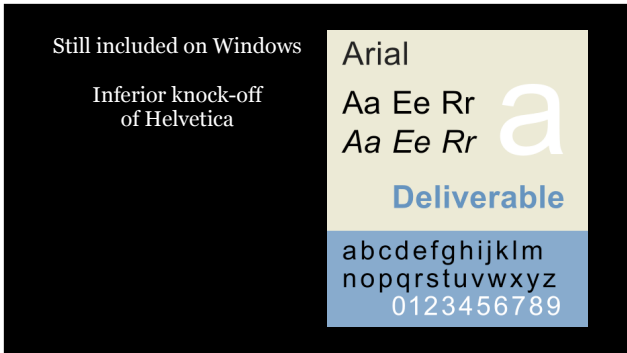
45

Provided by Microsoft royalty-free 1996-2002  
Still legally available all over the Web & on all Macs



46

[en.wikipedia.org/wiki/File:AndaleMono.svg](https://en.wikipedia.org/wiki/File:AndaleMono.svg)



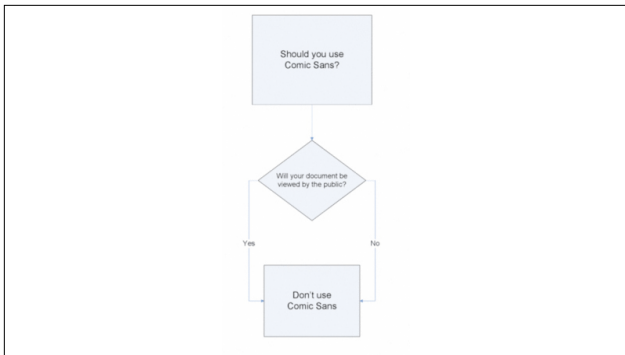
47

[en.wikipedia.org/wiki/File:ArialMTsp.svg](https://en.wikipedia.org/wiki/File:ArialMTsp.svg)



48

[en.wikipedia.org/wiki/File:ComicSansSpec3.svg](https://en.wikipedia.org/wiki/File:ComicSansSpec3.svg)



49



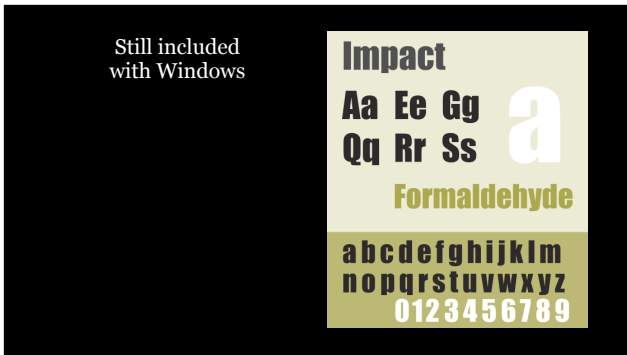
50

[en.wikipedia.org/wiki/File:Courier.svg](https://en.wikipedia.org/wiki/File:Courier.svg)



51

[en.wikipedia.org/wiki/File:GeorgiaSpecimenA1B.svg](https://en.wikipedia.org/wiki/File:GeorgiaSpecimenA1B.svg)



52



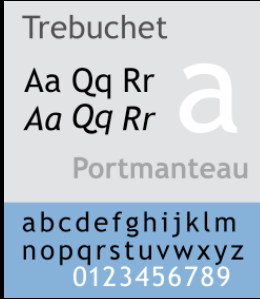
53

[en.wikipedia.org/wiki/File:Times\\_New\\_Roman-sample.svg](https://en.wikipedia.org/wiki/File:Times_New_Roman-sample.svg)



54

Still included in Windows



55

[en.wikipedia.org/wiki/File:TrebuchetMS\\_SP.svg](https://en.wikipedia.org/wiki/File:TrebuchetMS_SP.svg)

Verdana

Aa Ee Rr  
**Aa Ee Rr**



Sylvestris

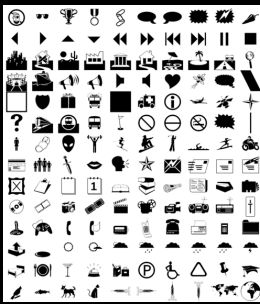
abcdefghijklm  
nopqrstuvwxyz  
0123456789

Still included in Windows

56

[en.wikipedia.org/wiki/File:VerdanaSpecimen.svg](https://en.wikipedia.org/wiki/File:VerdanaSpecimen.svg)

Still included in Windows



57

[en.wikipedia.org/wiki/File:Webdings-big.png](https://en.wikipedia.org/wiki/File:Webdings-big.png)

# Microsoft ClearType Font Collection

Introduced with:

- » Windows Vista
- » Office 2007 for Windows
- » Office 2008 for Mac OS X

Default body type face in  
Word, Excel, PowerPoint,  
& Outlook  
since Office 2007

Calibri:

abcdefghijklm

nopqrstuvwxyz

ABCDEFGHIJKLM

NOPQRSTUVWXYZ

*abcdefghijklm*

*nopqrstuvwxyz*



61

Cambria:

abcdefghijklm

nopqrstuvwxyz

ABCDEFGHIJKLM

NOPQRSTUVWXYZ

*abcdefghijklm*

*nopqrstuvwxyz*

Default header type face in  
Word, Excel, PowerPoint,  
& Outlook  
since Office 2007

62

Candara:

abcdefghijklm

nopqrstuvwxyz

ABCDEFGHIJKLM

NOPQRSTUVWXYZ

*abcdefghijklm*

*nopqrstuvwxyz*

63

Consolas:

abcdefghijklm

nopqrstuvwxyz

ABCDEFGHIJKLM

NOPQRSTUVWXYZ

*abcdefghijklm*

*nopqrstuvwxyz*

Monospaced font

Licensed by Bare Bones  
as the default in BBEdit

64

Constantia:  
abcdefghijklm  
nopqrstuvwxyz  
ABCDEFGHIJKLM  
NOPQRSTUVWXYZ  
*abcdefghijklm*  
*nopqrstuvwxyz*

---

65

Corbel:  
abcdefghijklm  
nopqrstuvwxyz  
ABCDEFGHIJKLM  
NOPQRSTUVWXYZ  
*abcdefghijklm*  
*nopqrstuvwxyz*

---

66

# Font Properties

67

```
font-size  
line-height  
font-style  
font-variant  
font-weight  
font-family
```

68

**font-size**

69

Specify size using

```
<absolute-size>  
<relative-size>  
  <length>  
  <percentage>
```

70

<code>&lt;absolute-size&gt;</code>	Scaling Factor	HTML <code>hx</code>
<code>xx-large</code>	2/1	<code>h1</code>
<code>x-large</code>	3/2	<code>h2</code>
<code>large</code>	6/5	<code>h3</code>
<code>medium</code>	1	<code>h4</code>
<code>small</code>	8/9	<code>h5</code>
<code>x-small</code>	3/4	
<code>xx-small</code>	3/5	<code>h6</code>

71

```
<relative-size>
  larger
  smaller
```

72

```
<length>
Fixed size measured in units that are
  » Font-relative
  » Viewport-percentage
  » Absolute
```

73

`em` Originally width of capital M  
Now the *point size* of the font

---

`ex` *x-height* of font  
 $1ex \approx 0.5em$

---

`ch` Width of o (zero)

---

`rem` “root em”  
Font-size of root element

74

`vh` 1/100th of the viewport's height

---

`vw` 1/100th of the viewport's width

---

`vm.in` 1/100th of the minimum value  
between the viewport's height & width

---

`vm.max` 1/100th of the maximum value  
between the viewport's height & width

75

`px` 96 pixels per inch

---

`mm` 1 millimeter

---

`cm` 1 centimeter = 10 mm

---

`in` 1 inch = 2.54 cm

---

`pt` 1 point = 1/72 in

---

`pc` 1 pica = 12 pt

76

`<percentage>`  
Relative to parent's font size

`150%`  
`1.5em`

---

77

`line-height`

---

78

On block level elements,  
`line-height` specifies the minimal height  
of line boxes within the element

79

Specify size using

```
normal  
<number>  
<length>  
<percentage>
```

---

80

```
normal
```

Desktop browsers use a default value of roughly 1.2

---

81

```
<number>
```

Unitless

Preferred way to set `line-height`

```
font-size: 1em;  
line-height: 1.4;
```

<length>

82

Use standard <length> units

```
font-size: 1em;  
line-height: 1.4em;
```

```
font-size: 16px;  
line-height: 22px;
```

```
font-size: 16px;  
line-height: 1.4em;
```

Be careful—em may give you unexpected results

<percentage>

83

Relative to the font size of the element

```
font-size: 1em;  
line-height: 140%;
```

Be careful—% may give you unexpected results

font-style

84



85

normal  
italic  
oblique

86

<i>italic</i>	<i>oblique</i>
Cursive	Sloped
Specially-designed font	Computer simulates italic
<i>N a</i>	<i>N a</i>

87

font-variant

88

<code>normal</code>	Scott Granneman
<code>small-caps</code>	SCOTT GRANNEMAN

89

`font-weight`

90

Possible values

`normal`

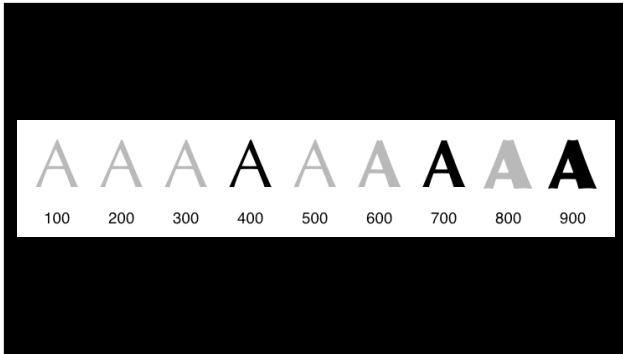
`bold`

`bolder, lighter`

`100, 200, 300, 400, 500, 600, 700, 800, 900`

100	Thin	
200	Extra/Ultra Light	
300	Light	
400	Normal	<i>normal</i>
500	Medium	
600	Semi/Demi Bold	
700	Bold	<b>bold</b>
800	Extra/Ultra Bold	
900	Black/Heavy	

91



92

<http://www.w3.org/TR/css3-fonts/>



93

94

```
font-family: <family-name>|<generic-family> [,  
<family-name>|<generic-family>] [, <family-  
name>|<generic-family>]
```

---

95

`family-name`

Arial

Helvetica

“DejaVu Sans”

“Times New Roman”

---

96

`generic-family` can be

`serif`

`sans-serif`

`cursive`

`fantasy`

`monospace`

cursive

Savoy *LET*

Snell Roundhand

*Zapfino*

fantasy

Party *LET*

Chalkduster

Noteworthy

Bradley Hand

Butterick's "A list: Generally tolerable"

Avenir (Mac)	Century Schoolbook	Goudy Old Style
Baskerville (Mac)	Franklin Gothic	Hoefler Text
Bell MT	Garamond	Optima
Californian FB	Gill Sans	
Calisto MT	Gill Sans MT	

[practicaltypography.com/system-fonts.html](http://practicaltypography.com/system-fonts.html)

## Butterick's "B list: OK in limited doses"

100

[practicaltypography.com/system-fonts.html](http://practicaltypography.com/system-fonts.html)

Agency FB	Constantia	Helvetica
Big Caslon	Corbel	Helvetica Neue
Bodoni MT	Didot	High Tower Text
Book Antiqua	Eras Medium	Modern No. 20
Calibri	ITC	Palatino
Candara	Futura	Perpetua
Centaur	Geneva	Rockwell
Century	Gloucester MT	Segoe UI
Cochin	Extra Cond.	Tw Cen MT

## Butterick's "C list: Questionable"

101

[practicaltypography.com/system-fonts.html](http://practicaltypography.com/system-fonts.html)

Andale Mono	Copperplate Gothic	Maiandra GD
Baskerville Old Face	Courier	Monaco
Berlin Sans FB	Courier New	Niagara Solid &
Bernard MT	Elephant	Engraved
Condensed	Engravers MT	Onyx
Britannic Bold	Felix Titling	Plantagenet
Cambria	Footlight MT Light	Cherokee
Castellar	Georgia	Poor Richard
Century Gothic	Goudy Stout	Skia
Consolas	Haettenschweiler	Times New Roman
Cooper Black	Impact	Wide Latin
Copperplate	Lucida (all styles)	

## Butterick's "F list: Fatal to your credibility"

102

[practicaltypography.com/system-fonts.html](http://practicaltypography.com/system-fonts.html)

Algerian	Chalkboard	Gigi
American	Chiller	Harlow Solid Italic
Typewriter	Colonna MT	Harrington
Apple Chancery	Comic Sans MS	Herculanum
Arial (all styles)	Curlz MT	Imprint MT
Bauhaus 93	Edwardian Script	Shadow
Blackadder ITC	ITC	Informal Roman
Bradley Hand ITC	Forte	Jokerman
Broadway	Freestyle Script	Juice ITC
Brush Script MT	French Script MT	Kristen ITC
Bookman Old Style	Gabriola	Kunstler Script

Butterick's "F list: Fatal to your credibility"

103

[practicaltypography.com/system-fonts.html](http://practicaltypography.com/system-fonts.html)

Magneto	Palace Script MT	Showcard Gothic
Marker Felt	Papyrus	Tahoma
Matura MT Script	Parchment	Tempus Sans ITC
Capitals	Playbill	Trebuchet MS
Mistral	Pristina	Verdana
Monotype	Rage Italic	Viner Hand ITC
Corsiva	Ravie	Vivaldi
OCR A Extended	Script MT Bold	Vladimir Script
Old English Text MT	Snap ITC	Zapfino
	Stencil	

---

## Font Stacks

104

List fonts in the order you want them to be used,  
from most specific to generic

```
font-family: "DejaVu Serif", Constantia,  
Georgia, serif;
```

With font embedding, this list has gotten shorter

```
font-family: Lato, Verdana, sans-serif;
```

105

106

The order:

Ideal, Alternative, Common, Generic

107

Key font family stacks  
[safalra.com/web-design/typography/web-safe-fonts-myth/](http://safalra.com/web-design/typography/web-safe-fonts-myth/)

Don't just focus on serif or sans-serif

Also look at width:  
wide (large *x-height*) & narrow (small *x-height*)

Group fonts in your stack by x-height for unity

108

Sans serif	
Wide	Narrow
Verdana	Futura
Trebuchet MS	Helvetica
	Arial
	Avenir



109

Serif	
Wide	Narrow
Georgia	Times New Roman
Iowan Old Style	Times
Palatino	Baskerville
<b>Superclarendon</b>	Cochin

110

Monospace	
Wide	Narrow
Courier	Andale Mono
Courier New	Menlo
American Typewriter	

111

A great rule of thumb  
Serifs for headers & sans-serifs for body  
OR  
Sans-serifs for headers & serifs for body

112

Narrow sans-serif header font stack

113

Marco Arment's The Magazine

"Avenir Next Condensed", "Helvetica Neue  
Condensed", "Arial Narrow", Avenir, "Helvetica  
Neue", "Arial Narrow", sans-serif;

And in the past few years, bands themselves have gone  
releasing official live recordings.

### Behind the music

I love concerts. Sitting (or more often, standing) with  
of like-minded people and listening to a small slice

114

Wide serif body font stack

"Minion Pro", Georgia, serif;

I love concerts. Sitting (or more often, standing) with hundreds or thousands of like-minded people and listening to a small slice of music history has always excited me. Recordings of live shows are obviously not the same, but they do give me similar pleasure. There's just something ineffable about hearing a band as they were on a particular date, warts and all, including the stage banter, flubs, and musical selection.

---

# Text Properties

---

<code>color</code>	<code>text-indent</code>
<code>text-shadow</code>	<code>white-space</code>
<code>letter-spacing</code>	<code>word-break</code>
<code>word-spacing</code>	<code>word-wrap</code>
<code>text-decoration</code>	<code>direction</code>
<code>text-transform</code>	<code>unicode-bidi</code>

118

# Appearance

---

119

```
text-decoration  
text-transform
```

---

120

```
text-decoration
```

Insert or remove lines above, below, & through text

```
.under {text-decoration: underline;}
.over {text-decoration: overline;}
.underover {text-decoration:
  underline overline;}
.strike {text-decoration:
  line-through;}
.none {text-decoration: none;}

<p class="under">This has a line under it.
</p>
<p class="over">This has a line over it.</p>
<p class="underover">This has a line under &
  over it.</p>
<p class="strike">This has a line through
  it.</p>
<p><a href="#" class="none">This link</a> does
  not have a line under it.</p>
```

This has a line under it.  
This has a line over it.  
This has a line under & over it.  
~~This has a line through it.~~  
This link does not have a line under it.

121

```
text-transform
Specifies capitalization
```

122

```
.cap {text-transform:
  capitalize;}
.upper {text-transform:
  uppercase;}
.lower {text-transform:
  lowercase;}
.none {text-transform:
  none;}

<p class="cap">lorem ipsum dolor amet.</p>
<p class="upper">lorem ipsum dolor amet.</p>
<p class="lower">Lorem Ipsum Dolor Amet.</p>
<p class="none">LoReM iPsUm DoLoR aMeT.</p>
```

Lorem Ipsum Dolor Amet.  
LOREM IPSUM DOLOR AMET.  
lorem ipsum dolor amet.  
LoReM iPsUm DoLoR aMeT.

123

124

Display

---

125

`color`

---

126

`color`

Specifies foreground color of text

```
color: red  
Named color
```

127

```
color: #00ff00
```

6-character dash notation using hexadecimal values

```
color: #0f0
```

3-character dash notation using hexadecimal values

```
color: rgba(34, 12, 64, 0.3)
```

Functional notations

```
color: currentColor
```

Value of direct ancestor

---

# White Space

128

```
text-indent
```

```
white-space
```

129

130

`text-indent`

Specifies how much horizontal space should be before the beginning of the first line of the text

131

130

---

131

132

131

130

---

131

132

131

130

---

131

132

```
p:first-child {text-indent: 1em;}
p:nth-child(2) {width: 90%; margin-left: auto;
margin-right: auto; text-indent: -1em;}
```

```
<p>Lorem ipsum dolor sit amet...</p>
```

```
<p>Lorem ipsum dolor sit amet...</p>
```

`white-space`

Specifies how whitespace inside an element is handled

Is whitespace collapsed?  
How are newline characters in source treated?  
Is text wrapped? If so, how?



133

	Newlines	Whitespace	Wrapping
<code>normal</code>	Collapse	Collapse	Wrap
<code>nowrap</code>	Collapse	Collapse	No wrap
<code>pre</code>	Preserve	Preserve	No wrap
<code>pre-wrap</code>	Preserve	Preserve	Wrap
<code>pre-line</code>	Preserve	Collapse	Wrap

134

# Line Box Properties

135

`text-align`

Specifies how inline content is aligned in its parent block element

The screenshot shows a web editor with two panels: HTML and CSS. The HTML panel contains code for text alignment using classes: left, right, center, and justify. The CSS panel contains the corresponding styles: .left (text-align: left;), .right (text-align: right;), .center (text-align: center;), and .justify (text-align: justify;). Below the code, the rendered output shows four lines of text: "I am left-aligned", "I am right-aligned", "I am centered", and a paragraph of justified text.

```
HTML
<p class="left">I am left-aligned</p>
<p class="right">I am right-aligned</p>
<p class="center">I am centered</p>
<p class="justify">I am justified text with words of
greatly varying lengths & vocabulary type. My knowledge of
the thing began in the winter of 1926-27 with the death of
my great-uncle, George Gamwell Angell, Professor Emeritus
of Semitic Languages in Brown University, Providence,
Rhode Island. Professor Angell was widely known as an
authority on ancient inscriptions, and had frequently been
resorted to by the heads of prominent museums; so that his
passing at the age of ninety-two may be recalled by many.
</p>

CSS
.left {text-align: left;}
.right {text-align: right;}
.center {text-align: center;}
.justify {text-align: justify;}

I am left-aligned
I am right-aligned
I am centered
I am justified text with words of greatly varying lengths & vocabulary type. My knowledge of the thing began in the winter of 1926-27 with the death of my great-uncle, George Gamwell Angell, Professor Emeritus of Semitic Languages in Brown University, Providence, Rhode Island. Professor Angell was widely known as an authority on ancient inscriptions, and had frequently been resorted to by the heads of prominent museums; so that his passing at the age of ninety-two may be recalled by many.
```

136

# Multi-Column Layout

137

A dark background with the following CSS properties listed in a light yellow font:

- columns
- column-count
- column-width
- column-gap

138

- An awareness of the process in creating a website & the various roles needed in that process.

#### Mini-Topics ↗

During most classes I will take a few minutes & discuss a mini-topic for 10 minutes or so. Some of these mini-topics include:

- Snippets
- Offline documentation
- Regular Expressions (RegEX)
- Simplemote
- OpenDNS
- Backing up
- Password safes
- RSS
- The best help sites
- Ebooks
- Markdown
- Wolfram Alpha
- Cookies
- LAMP (& WAMP & MAMP)
- Git & GitHub
- Portable Apps
- Encoding email addresses
- SEO
- Finding multimedia
- AJAX
- Formatting & beautifying code
- Minimizing code
- WSIWYG Web tools
- Automating my Mac
- Programming fonts
- Using Word to make webpages
- Pattern libraries
- The WebSanity Toolkit
- JQuery

#### Requirements ↗

##### Texts ↗

There are no required books. Readings will consist of articles, analyses, & ephemera from the Internet. Virtually everything you need can be accessed via my website; however, when it's appropriate I will recommend books useful for further study & reference.

OK, if you just have to kill a tree, I highly recommend Jon Duckett's *HTML & CSS: Design and Build Websites*. But it's not required.

##### Tasks ↗

139

`column-width`

Specifies *hint* of the optimal width of the columns,  
as actual width may be wider or narrower

`column-count`

» Specifies ideal number of columns for content  
» If `column-width` is set,  
becomes maximum number of columns

`columns`

Shorthand for `column-width` & `column-count`

140

`column-gap`

Specifies size of the gap between columns

141

`column-rule`  
 Specifies a straight line (*rule*)  
 to be drawn between each column

Shorthand for

- » `column-rule-width`  
 (<length> or thin, medium, or thick)
- » `column-rule-style`
- » `column-rule-color`

```

HTML
<div class="multi-column">
  <ul>
    <li>Snippets</li>
    <li>Offline documentation</li>
    <li>Regular Expressions (RegEx)</li>
    <li>Simplesite</li>
    <li>OpenDNS</li>
    <li>Backing up</li>
    <li>Password safes</li>
    <li>RSS</li>
    <li>The best help sites</li>
    <li>Ebooks</li>
    <li>Markdown</li>
    <li>Wolfram Alpha</li>
    <li>Cookies</li>
    <li>LAMP (& WAMP & MAMP)</li>
    <li>Git & GitHub</li>
    <li>Portable Apps</li>
    <li>Encoding email addresses</li>
    <li>SEO</li>
    <li>Finding multimedia</li>
    <li>AJAX</li>
  </ul>
</div>

CSS
.multi-column {
  -moz-column-count: 3; /* Firefox */
  -webkit-column-count: 3; /* Safari and Chrome */
  column-count: 3;

  -moz-column-gap: 40px;
  -webkit-column-gap: 40px;
  column-gap: 40px;

  -moz-column-rule: 2px dotted DarkGray;
  -webkit-column-rule: 2px dotted DarkGray;
  column-rule: 2px dotted DarkGray;
}

ul {margin-top: 0;}
    
```



						
<code>column-count</code>	10	-webkit	-webkit	-moz	?	?
<code>column-width</code>	10	-webkit	-webkit	-moz	?	?
<code>column-gap</code>	10	-webkit	-webkit	-moz	?	?
<code>column-rule</code>	10	-webkit	-webkit	-moz	?	?

145

# Embedded Fonts

---

146

Wouldn't it be nice  
if you could use any font you wanted  
& visitors could automatically  
download & use the font?

---

147

# Formats

148

EOT  
*Embedded OpenType*

Designed by Microsoft for embedding on web pages

DRM used to prevent fonts  
from being copied & used without a license

Submitted to W3 for consideration, but rejected

---

149

TTF  
*TrueType Fonts*

Font standard released by Apple in 1991

Standard on Mac OS X & Windows

On the Web, simply link to TTF file

---

150

OTF  
*Open Type Fonts*

Developed by Microsoft & Adobe  
& now an open standard as of 2007  
called *Open Font Format*

On the Web, simply link to OTF file

151

WOFF

*Web Open Font Format*

Developed during 2009 by Mozilla

Wrapper containing fonts in various formats  
(TrueType, OpenType, or Open Font)  
encoded with ZIP compression

W3 Recommendation as of 2012

---

152

SVG

*Scalable Vector Graphics*

XML-based file format describing 2D vector graphics,  
both static & dynamic

Open standard developed by W3C since 1999

---

153

@font-face

154

CSS2 introduced `@font-face`

---

155

```
@font-face {  
  font-family: <remote-font-name>;  
  src: <source>, <source>;  
}
```

---

156

`src`

Location of font

Can be local or remote



157

```
@font-face {  
  font-family: Foobar;  
  src: local(Foobar.ttf);  
}  
  
p {  
  font-family: Foobar, sans-serif;  
}
```

Can use any name (value)  
for `font-family` you want

Local font on user's device

158

```
@font-face {  
  font-family: Foobar;  
  src: url(http://www.fonts.com/foobar.ttf);  
}  
  
p {  
  font-family: Foobar, sans-serif;  
}
```

Remote font downloaded  
onto user's device

159

```
@font-face {  
  font-family: Foobar;  
  src: local(Foobar.ttf),  
       url(http://www.fonts.com/foobar.ttf);  
}  
  
p {  
  font-family: Foobar, sans-serif;  
}
```

Local AND remote  
covers all bases

```

@font-face {
  font-family: MyHelvetica;
  src: local("Helvetica Neue Bold.ttf"),
       local("HelveticaNeue-Bold.ttf"),
       url("http://www.foobar.com/
           MgOpenModernaBold.ttf");
}

```

local & url don't  
have to point  
to same font!

## Browser Support

					
EOT	4				
TTF		3.5	3.1	4	10
OTF		3.5	3.1		10
WOFF	9	3.6	5.1	6	11.1
SVG			3.1	4	10

163

# Licensing

164

Problem:

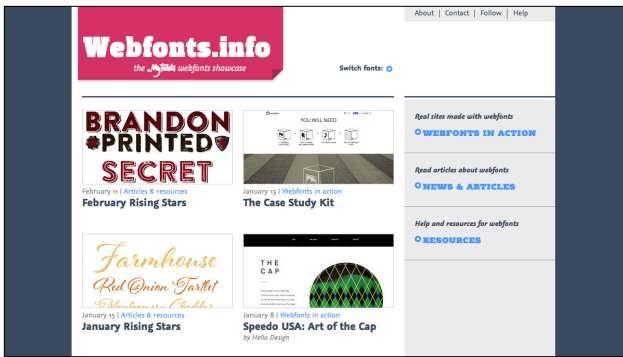
Unauthorized copying

Solution:

- » Open, free fonts
- » Licensed fonts

165

Open, free fonts



166

[www.webfonts.info](http://www.webfonts.info)

See [www.webfonts.info/wiki/index.php?title=Fonts\\_available\\_for\\_%40font-face\\_embedding](http://www.webfonts.info/wiki/index.php?title=Fonts_available_for_%40font-face_embedding)



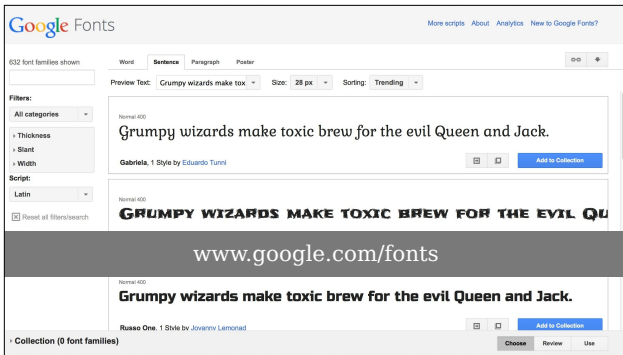
167

[openfontlibrary.org/en](http://openfontlibrary.org/en)  
286 font families



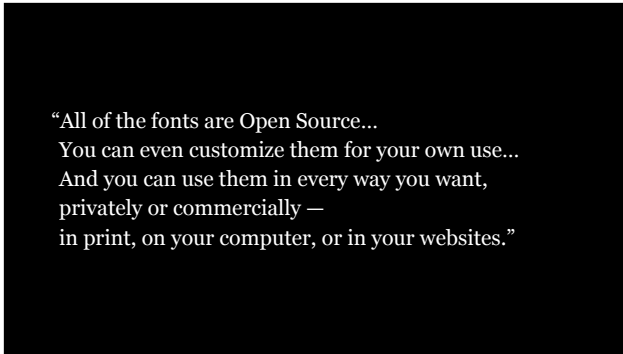
168

[www.theleagueofmoveabletype.com](http://www.theleagueofmoveabletype.com)



169

[www.google.com/fonts](http://www.google.com/fonts)  
632 font families



170

[www.google.com/fonts#AboutPlace:about](http://www.google.com/fonts#AboutPlace:about)



171

[hellohappy.org/beautiful-web-type/](http://hellohappy.org/beautiful-web-type/)

172

*"I personally would rather do the existentially essential things in life on foot. If you live in England and your girlfriend is in Sicily, and it is clear you want to marry her, then you should walk to Sicily to propose. For these things travel by car or aeroplane is not the right thing."*

—Werner Herzog, *Of Walking in Ice*

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173

UNITY  
RHYTHM  
BALANCE  
EMPHASIS  
PROXIMITY  
HIERARCHY

©2010

174

ON

## THE ORIGIN OF SPECIES

©1859 Standard 11

BY MEANS OF NATURAL SELECTION

BY CHARLES DARWIN, M.A.,

FELLOW OF THE ROYAL, GEOLOGICAL, LINNEAN, ETC., SOCIETIES;  
AUTHOR OF 'JOURNAL OF RESEARCHES DURING H.M.S. BEAGLE'S VOYAGE ROUND THE WORLD.'

*The right of Translation is reserved.*

# On the GENEALOGY of MORALS

FRIEDRICH NIETZSCHE

Open Sans

At this point I can no longer avoid giving a first, provisional statement of my own hypothesis concerning the origin of the "bad conscience": it may sound rather strange and needs to be pondered, lived with, and kept on for a long time. I regard the bad conscience as the serious illness that man was bound to contract under the stress of the most fundamental change he ever experienced—that change which occurred when he found himself finally enclosed within the walls of society and of peace. The situation that faced us animals when they were compelled to become land animals or perith was the same as that which faced these semi-animals, well adapted to the wilderness, to war, to prowling, to adventure: suddenly all their instincts were devalued and "suspended." From now on they had to walk on their feet and "bear

themselves" whereas hitherto they had been borne by the water: a dreadful heaviness lay upon them. They felt unable to cope with the simplest undertakings: in this new world they no longer possessed their former guides, their regulating, unconscious and infallible drives: they were reduced to thinking, inferring, reckoning, coordinating cause and effect; these unfortunate creatures; they were reduced to their "consciousness," their weakest and most fallible organ! I believe there has never been such a feeling of misery on earth, such a leaden discomfort and at the same time the old instincts had not suddenly ceased to make their usual demands. Only it was hardly or rarely possible to humor them: as a rule they had to seek new and, as it were, subterranean gratifications.

175

# On the GENEALOGY of MORALS

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Centum Book Face

176

[buelte.de/free-web-font-combinations/](http://buelte.de/free-web-font-combinations/)

# Beautiful Web Type Combinations

A showcase of great typeface combinations from the Google web fonts directory.

There are so much typefaces in the Google web fonts directory. Many of them are awful. But there are also high-quality typefaces that deserve a closer look. Below are examples of these typefaces in action. Hover for name of typeface and click the texts of examples to get the typeface from the Google web fonts directory.

177

**78 Google Web Fonts Families**  
*Because web designers want font families, not just fonts.*

<p><b>Exo</b>          100, 100 Italic, 200, 200 Italic, 300, 300 Italic, 400, 400 Italic, 500, 500 Italic, 600, 600 Italic, 700, 700 Italic, 800, 800 Italic, 900, 900 Italic</p>	<p><b>Exo 2</b>          100, 100 Italic, 200, 200 Italic, 300, 300 Italic, 400, 400 Italic, 500, 500 Italic, 600, 600 Italic, 700, 700 Italic, 800, 800 Italic, 900, 900 Italic</p>	<p><b>Alegreya Sans</b>          100, 100 Italic, 200, 200 Italic, 300, 300 Italic, 400, 400 Italic, 500, 500 Italic, 600, 600 Italic, 700, 700 Italic, 800, 800 Italic, 900, 900 Italic</p>
<p><b>ALEGREYA SANS SC</b>          100, 100 Italic, 300, 300 Italic, 400, 400 Italic, 500, 500 Italic, 700, 700 Italic, 800, 800 Italic, 900, 900 Italic</p>	<p><b>Roboto</b>          100, 100 Italic, 300, 300 Italic, 400, 400 Italic, 500, 500 Italic, 700, 700 Italic, 900, 900 Italic</p>	<p><b>Source Sans Pro</b>          200, 200 Italic, 300, 300 Italic, 400, 400 Italic, 600, 600 Italic, 700, 700 Italic, 900, 900 Italic</p>

[somedesign.ca/demos/better-google-fonts/](http://somedesign.ca/demos/better-google-fonts/)

<p><b>Lato</b>          100, 100 Italic, 300, 300 Italic, 400, 400 Italic, 700, 700 Italic, 900, 900 Italic</p>	<p><b>Open Sans</b>          300, 300 Italic, 400, 400 Italic, 600, 600 Italic, 700, 700 Italic, 800, 800 Italic</p>	<p><b>Raleway</b>          100, 200, 300, 400, 500, 600, 700, 800, 900</p>
---	--	--

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MEMBER SIGN IN | BECOME A MEMBER | NEED SUPPORT? | ENGLISH | [Icons]

**fonts.com** | Browse Fonts | Web Fonts | Subscriptions | Learn About Fonts & Typography

Sync Google Fonts to your Desktop with SkyFonts

We are proud to have teamed up with Google to offer desktop versions of their popular [Google Fonts](#), free of charge. Offered for use in print, these fonts are delivered using SkyFont's patent-pending font delivery technology and can be used anywhere.

Each time a font is updated — such as when new characters are added — SkyFonts will automatically update the font on your device. Syncing Google Fonts with SkyFonts will also improve your web browsing experience, by cutting the time spent downloading fonts.

[Download SkyFonts](#) [Browse Google Fonts](#)

<p><b>Install Fonts</b>          Desktop versions of Google Fonts are</p>	<p><b>About SkyFonts</b>          SkyFonts is a lightweight, patent-</p>	<p><b>About Google Fonts</b>          Google Fonts is the leading host of</p>
---	--	---

[www.fonts.com/web-fonts/google](http://www.fonts.com/web-fonts/google)

179

Google Fonts | [More scripts](#) | [About](#) | [Analytics](#) | [New to Google Fonts?](#)

122 font families shown | Word | Sentence | Paragraph | Poster | [Icons]

Preview Text: Grumpy wizards make toxic brew for the evil Queen and Jack. | Size: 28 px | Sorting: Trending

**Filters:**  
 Serif  
 Serif  
 Sans Serif  
 Display  
 Handwriting

Latin  
 Reset all filters/search

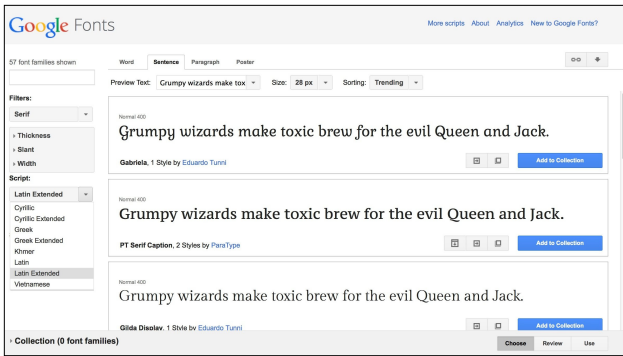
**Styles:**  
 Show all styles

<p>Normal 000          Grumpy wizards make toxic brew for the evil Queen and Jack.</p>	<p>Gabrielia, 1 Style by Eduardo Tunni  <input type="button" value="Add to Collection"/></p>
<p>Normal 000          Grumpy wizards make toxic brew for the evil Queen and Jack.</p>	<p>PT Serif Caption, 2 Styles by ParaType  <input type="button" value="Add to Collection"/></p>
<p>Normal 000          Grumpy wizards make toxic brew for the evil Queen and Jack.</p>	<p>Gilda Disotex, 1 Style by Eduardo Tunni  <input type="button" value="Add to Collection"/></p>

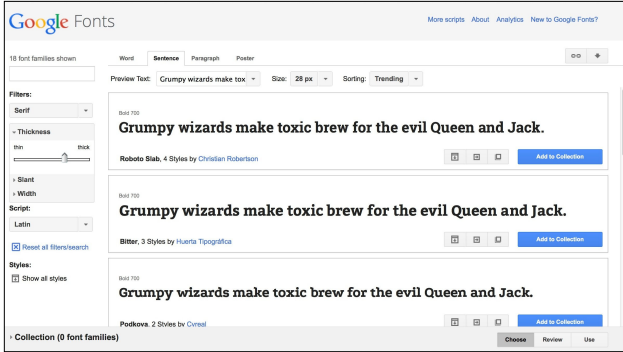
Collection (0 font families) |  |  |

180

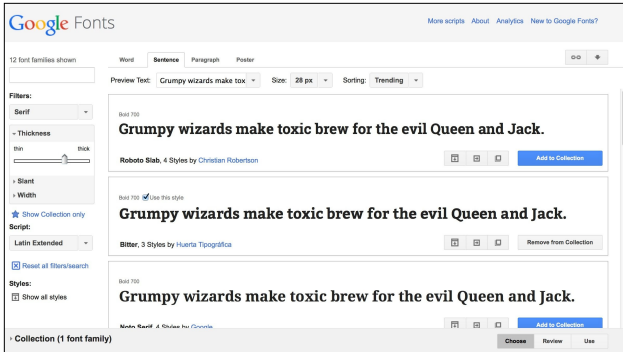




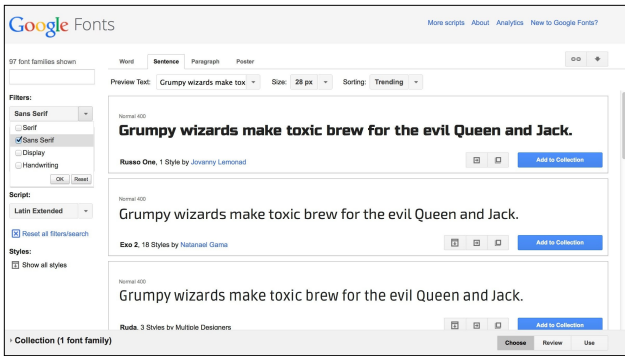
181



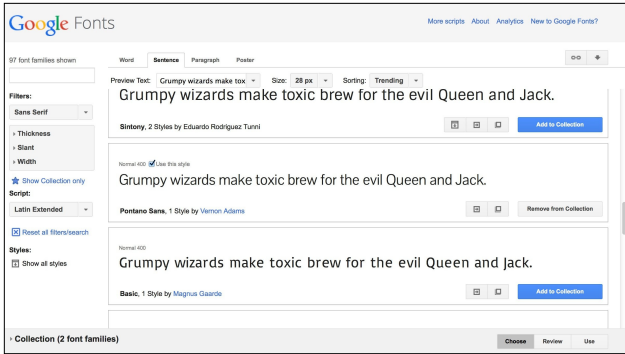
182



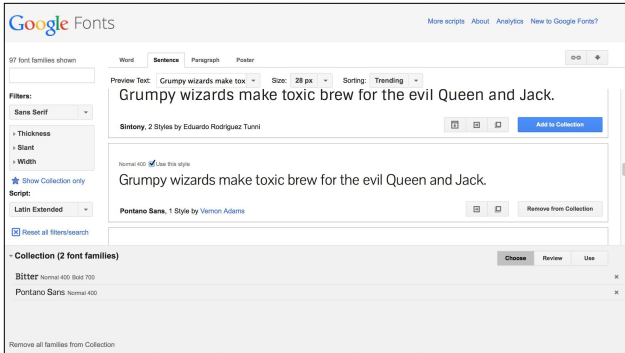
183



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Google Fonts

More scripts About Analytics New to Google Fonts?

Specimens Styles Test Drive Character Set Compare Description Try to Typecast

Preview Text: Grumpy wizards make toxic brew for the evil Queen and Jack. One morning, when Gregor Samsa woke from troubled dreams, he found himself transformed in his bed into a horrible vermin. He lay on his armor-like back, and if he lifted his head a little he could see his brown belly, slightly domed and divided by arches into stiff sections. The bedding was hardly able to cover it and seemed ready to slide off any moment. His many legs, pitifully thin compared

Pontano Sans

Pontano Sans

Paragraph Normal 400 Use this style

Bitter

Bitter

Headline Bold 700 Use this style

Grumpy wizards

1 Style by Vernon Adams  
SIL, Open Font License, 1.1

3 Styles by Huerta Tipografica  
SIL, Open Font License, 1.1

Collection (2 font families)

Bitter Normal 400 Bold 700

Pontano Sans Normal 400

Remove all families from Collection

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Google Fonts

More scripts About Analytics New to Google Fonts?

Almost done!

Verify your settings below and then copy the code for your website.

1. Choose the styles you want:

Bitter

Normal 400

Normal 400 Italic

Bold 700

Pontano Sans

Normal 400

Grumpy wizards make toxic brew for the evil Queen and Jack.

Grumpy wizards make toxic brew for the evil Queen and Jack.

Grumpy wizards make toxic brew for the evil Queen and Jack.

Grumpy wizards make toxic brew for the evil Queen and Jack.

Impact on page load time

Tip: Using many font styles can slow down your webpage, so only select the font styles that you actually need on your webpage.

Page Load 195

Collection (2 font families)

Choose Review Use

188

Google Fonts

More scripts About Analytics New to Google Fonts?

Almost done!

Verify your settings below and then copy the code for your website.

1. Choose the styles you want:

Bitter

Normal 400

Normal 400 Italic

Bold 700

Pontano Sans

Normal 400

Grumpy wizards make toxic brew for the evil Queen and Jack.

Grumpy wizards make toxic brew for the evil Queen and Jack.

Grumpy wizards make toxic brew for the evil Queen and Jack.

Grumpy wizards make toxic brew for the evil Queen and Jack.

Impact on page load time

Tip: Using many font styles can slow down your webpage, so only select the font styles that you actually need on your webpage.

Page Load 129

Collection (2 font families)

Choose Review Use

189

Google Fonts

More scripts About Analytics New to Google Fonts?

Standard @import Javascript

3. Add this code to your website:

```
<link href="http://fonts.googleapis.com/css?family=Bitter:700|Pontano+Sans&subset=latin-ext" rel="stylesheet">
```

Instructions: To embed your Collection into your web page, copy the code as the first element in the <head> of your HTML document.

See an example

4. Integrate the fonts into your CSS:

The Google Fonts API will generate the necessary browser-specific CSS to use the fonts. All you need to do is add the font name to your CSS styles. For example:

```
font-family: 'Bitter', serif;
font-family: 'Pontano Sans', sans-serif;
```

Instructions: Add the font name to your CSS styles just as you'd do normally with any other font.

Example:

```
h1 { font-family: 'Helvetica', Arial, serif;
font-weight: 400; }
```

Collection (2 font families) Choose Review Use

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```
<head>
  <link rel="stylesheet" href="http://
  fonts.googleapis.com/css?family=Bitter:700|
  Pontano+Sans&subset=latin-ext">

  <style>
    h1, h2, h3, h4 {
      font-family: Bitter, serif;
    }

    p {
      font-family: "Pontano Sans", sans-serif;
    }
  </style>
</head>
```

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```
<head>
  <link rel="stylesheet" href="http://
  fonts.googleapis.com/css?family=Bitter:700|
  Pontano+Sans&subset=latin-ext">

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

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Google Fonts [More scripts](#) [About](#) [Analytics](#) [New to Google Fonts?](#)

Standard | @import | Javascript

3. Add this code to your website:

```
@import url(http://fonts.googleapis.com/css?family=Bitter:400,700|Pontano+Sans);
```

Instructions: To embed your Collection into your web page, copy the code as the first element in the <head> of your HTML document.

[» See an example](#)

4. Integrate the fonts into your CSS:

The Google Fonts API will generate the necessary browser-specific CSS to use the fonts. All you need to do is add the font name to your CSS styles. For example:

```
font-family: 'Bitter', serif;
font-family: 'Pontano Sans', sans-serif;
```

Instructions: Add the font name to your CSS styles just as you'd do normally with any other font.

Example:

```
h1 { font-family: 'Metaphobic', Arial, serif;
font-weight: 400; }
```

Google Fonts are powered by the

Collection (2 font families) [Close](#) [Review](#) [Use](#)

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

main.css

```
@import url(http://fonts.googleapis.com/css?
family=Bitter:400,700|Pontano+Sans);

h1, h2, h3, h4 {
font-family: Bitter, serif;
}

p {
font-family: "Pontano Sans", sans-serif;
}
```

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Google Fonts [More scripts](#) [About](#) [Analytics](#) [New to Google Fonts?](#)

Standard | @import | Javascript

3. Add this code to your website:

```
<link href="http://fonts.googleapis.com/css?family=Bitter:700|Pontano+Sans&subset=latin-ext" rel="stylesheet">
```

Instructions: To embed your Collection into your web page, copy the code as the first element in the <head> of your HTML document.

[» See an example](#)

4. Integrate the fonts into your CSS:

The Google Fonts API will generate the necessary browser-specific CSS to use the fonts. All you need to do is add the font name to your CSS styles. For example:

```
font-family: 'Bitter', serif;
font-family: 'Pontano Sans', sans-serif;
```

Instructions: Add the font name to your CSS styles just as you'd do normally with any other font.

Example:

```
h1 { font-family: 'Metaphobic', Arial, serif;
font-weight: 400; }
```

Collection (2 font families) [Close](#) [Review](#) [Use](#)

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```
fonts.googleapis.com/css?family=Bitler:700|Pontano+Sans&subset=latin-ext
fonts.googleapis.com/css?family=Bitler:700|Pontano+Sans&subset=latin-ext

Font-face (
font-family: 'Bitler';
font-style: normal;
font-weight: 700;
src: local('Bitler-Bold'), url(http://themes.googleusercontent.com/static/fonts/bitler/v5/2VIEP2d0p0G1ChQrFL03ldoATW1916vvt-qt.woff)
format('woff');
);

Font-face (
font-family: 'Pontano Sans';
font-style: normal;
font-weight: 400;
src: local('Pontano Sans'), local('PontanoSans-Regular');
url(http://themes.googleusercontent.com/static/fonts/pontanosans/v2/g78ivxki671lilpgho1E30F9e1VXt8hpep9Kx0X4.woff) format('woff');
);
```

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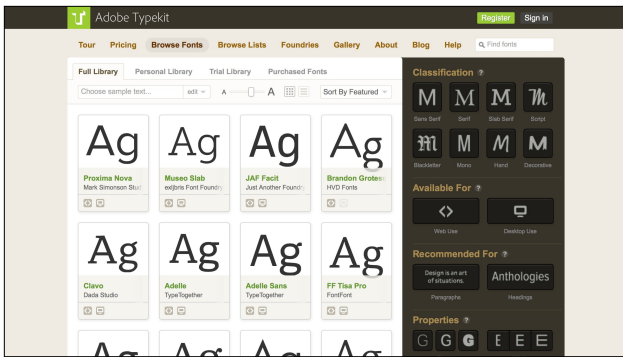


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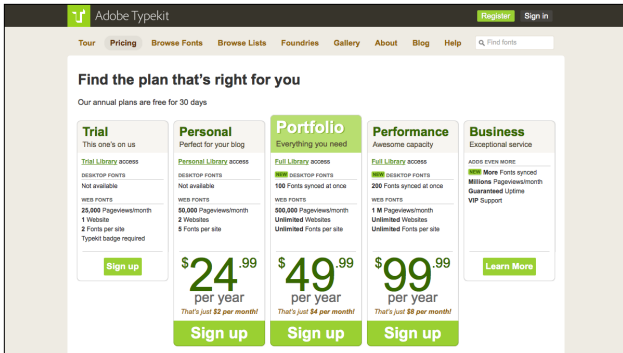
198

typekit.com

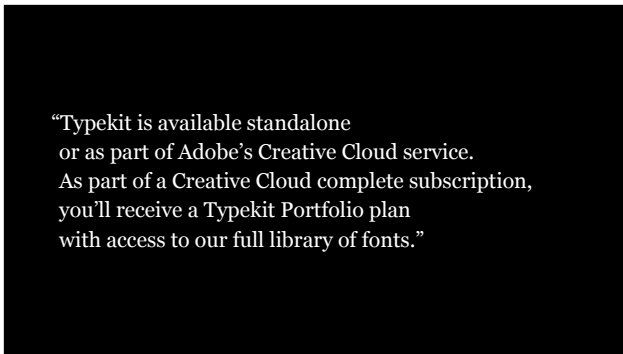


199

[typekit.com/fonts](http://typekit.com/fonts)



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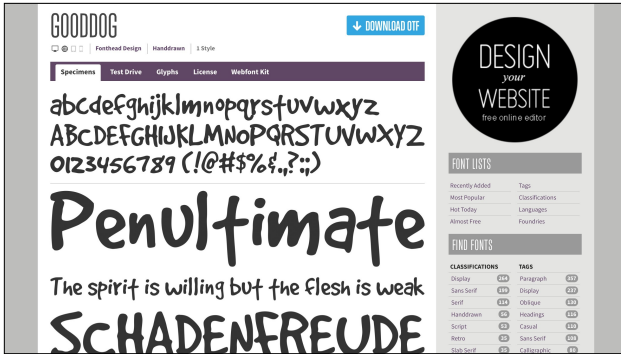
201

[help.typekit.com/customer/portal/articles/529506-getting-started-with-typekit-and-creative-cloud](http://help.typekit.com/customer/portal/articles/529506-getting-started-with-typekit-and-creative-cloud)

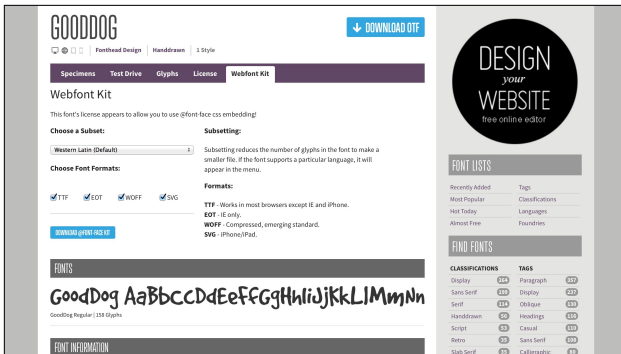


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www.fontsquirrel.com

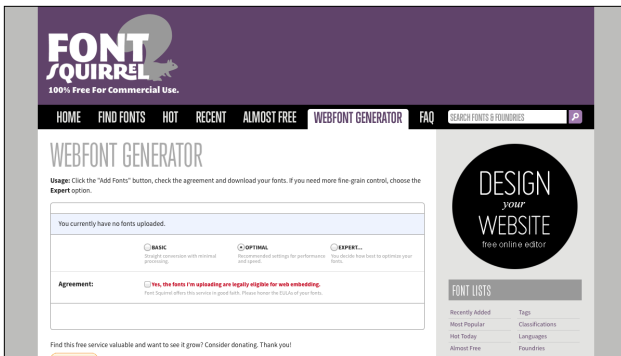


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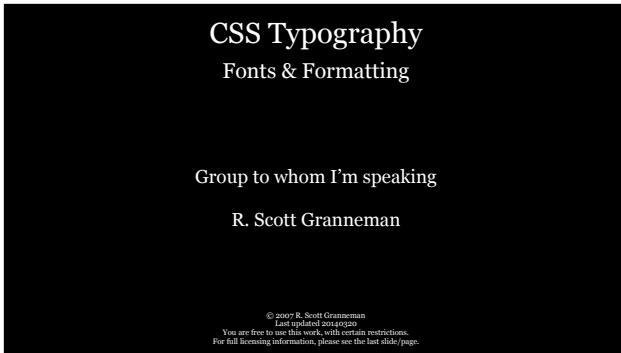


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