

FASTER, &
(COINCIDENTALLY)
MORE SECURE
WEB FONTS

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THREE THINGS

THREE THINGS

1. *Subset*

THREE THINGS

1. *Subset, which*

can mean 2 things

THREE THINGS

1. *Using a subset*
vs. using a font's
full character set

THREE THINGS

1. *Subsetting*,
which means
splitting 1 font file
into multiple parts

THREE THINGS

1. *Subset*

2. *Embed*

THREE THINGS

1. *Subset*

2. *Embed*

vs. linking directly
to a font file

THREE THINGS

1. *Subset*

2. *Embed*

3. *Randomize*

THREE THINGS

1. *Subset*

2. *Embed*

3. *Randomize,*

a new way to secure

THREE THINGS

1. *Subset*

2. *Embed*

Make webfonts both
faster & more secure

THREE THINGS

3. *Randomize*

Taking a step further

IT WON'T BE ABOUT
WOFF & EOT formats

IT WON'T BE ABOUT
WOFF & EOT formats,
although, let's talk
about it over beer
afterwards.

MY PHILOSOPHY

Fonts should be naked,
or come with minimal
obscuring

MY PHILOSOPHY

Fonts should be naked,
or come with minimal
obscuring, because it
creates the best user &
developer experience.

MY PHILOSOPHY

Fonts should be naked,
or come with minimal
obscuring, because it
creates the **best** user &
developer experience.

MY PHILOSOPHY

Fonts should be naked,
or come with minimal
obscuring, because it
creates the **fastest**
experience.

MY PHILOSOPHY

Fonts should be naked,
or come with minimal
obscuring, because it
creates the **most**
compatible experience

most

@font-face browsers

MY PHILOSOPHY

Fonts should be naked,
or come with minimal
obscuring, because it
creates the **least**
complex experience.

less bugs
for you and me

THREE THINGS

1. *Using a subset*
vs. using a font's
full character set

U+20-7E

Basic Latin

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN OPQRSTUVWXYZ
[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

U+00-FF

Latin-1 Supplement

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN OPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

¡¢£¥¦§¨ª«¬®¯°±²³´µ¶·¸¹º»¼½¾¿ÀÁÂÃÄÅÆÇÈÉÊËÌÍÎÏÐÑÒÓÔÕÖ
×ØÙÚÛÜÝÞßàáâãäåæçèéêëìíîïðñòóôõö÷øùúûüýþÿ

GENERATOR

[http://zenoplex.jp/tools/
unicoderange_generator.html](http://zenoplex.jp/tools/unicoderange_generator.html)

—SO THEN,

CSS UNICODERANGE

```
@FONT-FACE {  
font-family: Gentium;  
src: url(Gentium.ttf);  
  
}
```

```
@FONT-FACE {  
font-family: Gentium;  
src: url(Gentium.ttf);  
unicode-range:U+0-7F  
}
```

BENEFIT

*Most of our documents
are designed to be typeset
in 1 language.*

BENEFIT

Most of our documents are designed to be typeset in 1 language (it's faster to load what you use.)

SUBSETING DEMO

RESULT

Full:

Basic Latin, Latin-1,

Latin Extended-A, Greek,

Cyrillic, Punctuation, Super &

Sub, Currency, Number Forms

RESULT

Full: 112 KB

RESULT

Full: 112 KB

Latin-1: 44 KB

RESULT

Full: 112 KB

Latin-1: 44 KB

Basic Latin: 28 KB

RESULT

Full: 112 KB

Latin-1: 44 KB

Basic Latin: 28 KB

Optimized

Basic Latin, Fractions,

Punctuation, Currency, Math

RESULT

Full: 112 KB

Latin-1: 44 KB

Basic Latin: 28 KB

Optimized

Just like Latin-1, but

– diacritics and + helpful stuff

RESULT

Full: 112 KB

Latin-1: 44 KB

Basic Latin: 28 KB

Optimized: 44 KB

BENCHMARK

BENCHMARK

Full: 2.9 s

BENCHMARK

Full: 2.9 s

Latin-1: 1.9 s

BENCHMARK

Full: 2.9 s

Latin-1: 1.9 s

Basic Latin: 1.5 s

BENCHMARK

Full: 2.9 s

Latin-1: 1.9 s

Basic Latin: 1.5 s

Optimized: 1.7 s

THREE THINGS

1. *Using a subset*
vs. using a font's
full character set

?

THREE THINGS

1. *Using a subset*

vs. using a font's
full character set

THREE THINGS

1. *Subsetting*,
which means
splitting 1 font file
into multiple parts

U+20-7E

Basic Latin

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN OPQRSTUVWXYZ
[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

WHAT WE'RE USING

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO PQ

RSTUVWXYZ[\^_`

abcdefghijklmnopqrst

vwxyz{|}~

WHAT WE CAN SPLIT

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO

PQRSTUVWXYZ[\^_`

abcdefghijklmnopqr

stuvwxyz{|}~

CAPITAL

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO PQ

RSTUVWXYZ[\^_`

abcdefghijklmnopqrst

vwxyz{|}~

LOWERCASE

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO

PQRSTUVWXYZ[\^_`

abcdefghijklmnopqrst

vwxyz{|}~

NUMERALS

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO

PQRSTUVWXYZ[\^_`

abcdefghijklmnopqr

stuvwxyz{|}~

PUNCTUATION

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO

PQRSTUVWXYZ[\^_`

abcdefghijklmnopqr

stuvwxyz{|}~

CSS SUBSETTING

```
@FONT-FACE {  
font-family: Gentium1;  
src: url(Gentium1.ttf);  
}
```

```
@FONT-FACE {  
font-family: Gentium1;  
src: url(Gentium1.ttf);  
}
```

```
@FONT-FACE {  
font-family: Gentium2;  
src: url(Gentium2.ttf);  
}
```

```
@FONT-FACE {  
font-family: Gentium3;  
src: url(Gentium3.ttf);  
}
```

```
BODY {  
  font-family:  
    “Gentium1”,  
    “Gentium2”,  
    “Gentium3”; }
```

BENEFITS

*Multiple font files can
load in parallel.*

BENEFITS

*Multiple font files can
load in parallel
(faster loading time.)*

BENEFITS

If you don't have a font creation software handy, you can't get the full file.

BENEFITS

If you don't have a font creation software handy, you can't get the full file (harder to pirate.)

SUBSETING DEMO

RESULT

RESULT

One set: 112 KB

RESULT

Capital: 13 KB

Lowercase: 13 KB

Number: 12 KB

Symbol: 33 KB

Expert: 66 KB

RESULT

One set: 112 KB

Multiple subsets: 137 KB

BENCHMARK

BENCHMARK

One set: 2.9 s

BENCHMARK

One set: 2.9 s

Multiple subsets

Capital, Lowercase,

Number, Symbol &

Expert (everything else)

BENCHMARK

One set: 2.9 s

Multiple subsets: 1.9 s

THREE THINGS

1. *Subsetting*,
which means
splitting 1 font file
into multiple parts

?

THREE THINGS

1. *Subset*

THREE THINGS

1. *Subset*

2. *Embed*

vs. linking directly
to a font file

LINKED V. EMBEDDED

BENEFITS

Reading embedded data is faster than reading linked ones.

BENEFITS

If you don't pass the file through a Base-64 decoder, you can't have it

BENEFITS

If you don't pass the file through a Base-64 decoder, you can't have it (harder to pirate.)

DATA: URI KITCHEN

*[http://software.hixie.ch/utilities/
cgi/data/data](http://software.hixie.ch/utilities/cgi/data/data)*

CSS EMBEDDING

```
@FONT-FACE {  
font-family: Gentium;  
  
}
```

```
@FONT-FACE {  
font-family: Gentium;  
src: url(Gentium.ttf);  
  
}
```

```
@FONT-FACE {  
font-family: Gentium;  
src: url(Gentium.ttf);  
  
}
```

```
@FONT-FACE {  
font-family: Gentium;  
src: url("data:font/  
truetype;base64,...");  
}
```

EMBEDDING DEMO

BENCHMARK

BENCHMARK

Linked: 2.9 s

BENCHMARK

Linked: 2.9 s

Embedded: 1.9 s

THREE THINGS

1. *Subset*

2. *Embed*

vs. linking directly
to a font file

?

THREE THINGS

1. *Subset*

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1. *Subset*

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THREE THINGS

1. *Subset*

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vs. linking directly
to a font file

THREE THINGS

1. *Subset*

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3. *Randomize*

THREE THINGS

1. *Subset*

2. *Embed*

3. *Randomize,*

A new way to secure.

Proceed at your own risk.

*Proceed at your own risk
(hacky, maybe faster
& can be more efficient.)*

*Proceed at your own risk
(hacky, maybe faster
& can be more efficient,
but incredibly fun.)*

U+20-7E

Basic Latin

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN OPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

WHAT WE'RE USING

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO PQ

RSTUVWXYZ[\^_`

abcdefghijklmnopqrst

vwxyz{|}~

NORMAL SUBSETING

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO PQ

RSTUVWXYZ[\^_`

abcdefghijklmnopqrst

vwxyz{|}~

CAPITAL

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO PQ

RSTUVWXYZ[\^_`

abcdefghijklmnopqrst

vwxyz{|}~

LOWERCASE

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO

PQRSTUVWXYZ[\^_`

abcdefghijklmnopqrst

vwxyz{|}~

SYMBOL

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO

PQRSTUVWXYZ[\^_`

abcdefghijklmnopqr

stuvwxyz{|}~

NORMAL SUBSETING

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO PQ

RSTUVWXYZ[\^_`

abcdefghijklmnopqrst

uvwxyz{|}~

RANDOM SUBSETING

!"#\$%&'()*+,-./
0123456789:;<=>?@
ABCDEFGHIJKLMNO PQ
RSTUVWXYZ[\^_`
abcdefghijklmnopqrst
uvwxyz{|}~

1

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMN OPQ

RSTUVWXYZ[\^_`

abcdefghijklmnopqrst

uvwxyz{|}~

2

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMN**OP**Q

RSTUVWXYZ[\^_`

abcdefghijklmnopqrst

uvwxyz{|}~

3

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMN OPQ

RSTUVWXYZ[\^_`

abcdefghijklmnopqrst

uvwxyz{|}~

RANDOM SUBSETING

!"#\$%&'()*+,-./

0123456789:;<=>?@

ABCDEFGHIJKLMNO PQ

RSTUVWXYZ[\^_`

abcdefghijklmnopqrst

uvwxyz{|}~

BENEFITS

*Multiple font files can
load in parallel.*

BENEFITS

*Multiple font files can
load in parallel
(but it's illogically split
and harder to manage.)*

BENEFITS

As if assembling isn't hard enough already, the font is split at random.

BENEFITS

As if assembling isn't hard enough already, the font is split at random (good luck trying it.)

THREE THINGS

1. *Subset*

2. *Embed*

3. *Randomize,*

A new way to secure.

?

TALLY (IN SECONDS)

ONE
SUBSET

MULTIPLE
SUBSETS

ONE
SUBSET

MULTIPLE
SUBSETS

LINK DIRECTLY
TO FILE

EMBED WITH
BASE-64

ONE
SUBSET

LINK DIRECTLY
TO FILE

Plain

ONE
SUBSET

LINK DIRECTLY
TO FILE

2.9

MULTIPLE
SUBSETS

LINK DIRECTLY
TO FILE

#1

MULTIPLE
SUBSETS

LINK DIRECTLY
TO FILE

1.9

ONE
SUBSET

EMBED WITH
BASE-64

#2

ONE
SUBSET

EMBED WITH
BASE-64

1.9

MULTIPLE
SUBSETS

EMBED WITH
BASE-64

#1 & #2

MULTIPLE
SUBSETS

EMBED WITH
BASE-64

3.3

ONE
SUBSET

MULTIPLE
SUBSETS

LINK DIRECTLY
TO FILE

2.9

1.9

EMBED WITH
BASE-64

1.9

3.3

WHAT GETS LOADED

WHAT GETS LOADED

One set + link

WHAT GETS LOADED

HTML + 1 font file

WHAT GETS LOADED

HTML + 1 font file

Multiple sets + link

WHAT GETS LOADED

HTML + 1 font file

HTML + x font files

WHAT GETS LOADED

HTML + 1 font file

HTML + x font files

One set + embedded

WHAT GETS LOADED

HTML + 1 font file

HTML + x font files

1 HTML file

WHAT GETS LOADED

HTML + 1 font file

HTML + x font files

1 HTML file

Multiple sets + Embed

WHAT GETS LOADED

HTML + 1 font file

HTML + x font files

1 HTML file

1 HTML file (bigger)

?

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THREE THINGS

1. *Subset*

2. *Embed*

3. *Randomize,*

a new way to secure

CONCLUSION

THREE THINGS

1. *File sizes*

(subsetting can be good)

THREE THINGS

1. *File sizes*

2. *Number of files to load
(subsetting can be bad)*

THREE THINGS

1. *File sizes*

2. *Number of files to load*
(subsetting can be good,
if file loads parallel)

THREE THINGS

1. *File sizes*

2. *Number of files to load*

3. *File format*

(Base-64 is faster)

THREE THINGS

1. *File sizes*

2. *Number of files to load*

3. *File format*

(Base-64 is faster, but

be careful splitting it.)

THREE THINGS

1. *File sizes*

2. *Number of files to load*

3. *File format*

(Also, don't subset and embed all at once.)

?

FASTER, &
(COINCIDENTALLY)
MORE SECURE
WEB FONTS

THANKS.

bram@brampitoyo.com