





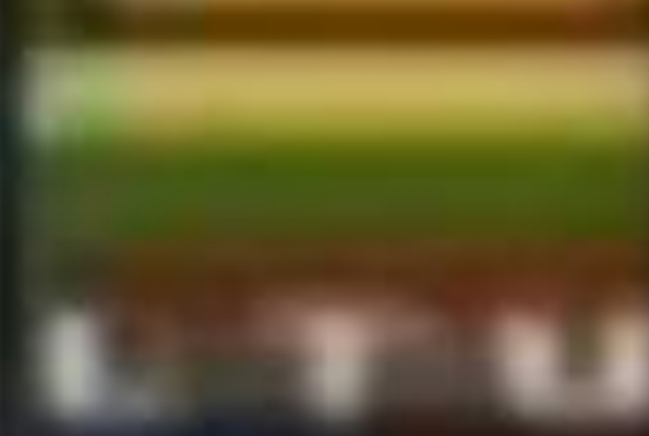

TYPESETTING FOR A GLOBAL WEB

Chen Hui Jing / @hj_chen







	Men's Basketball	
	Group B	Final
 LTU	Lithuania	94
 USA	United States	90



TYPESETTING FOR A GLOBAL WEB

**You Gotta
Love Frontend
Conference**
@Vilnius, Lithuania



Surname First name

陈	慧	晶
Chen	Hui	Jing



@hj_chen



note





🥑 Developer Advocate 🥑

nexmo[®]
The Vonage[®] API Platform



WHAT IS TYPOGRAPHY?

“Typography is the art and technique of arranging type to make written language legible, readable, and appealing when displayed.”

—Wikipedia



WHAT IS TYPOGRAPHY?

“Typography, the design, or selection, of letter forms to be organized into words and sentences to be disposed in blocks of type as printing upon a page.”

—Encyclopedia Britannica



WHAT IS TYPOGRAPHY?

“Typography is the visual component of the written word.”

—Matthew Butterick



WHAT IS TYPOGRAPHY?

“ ✨ *Typography is writing with prefabricated letters.* ✨ ”

—Gerrit Noordzij

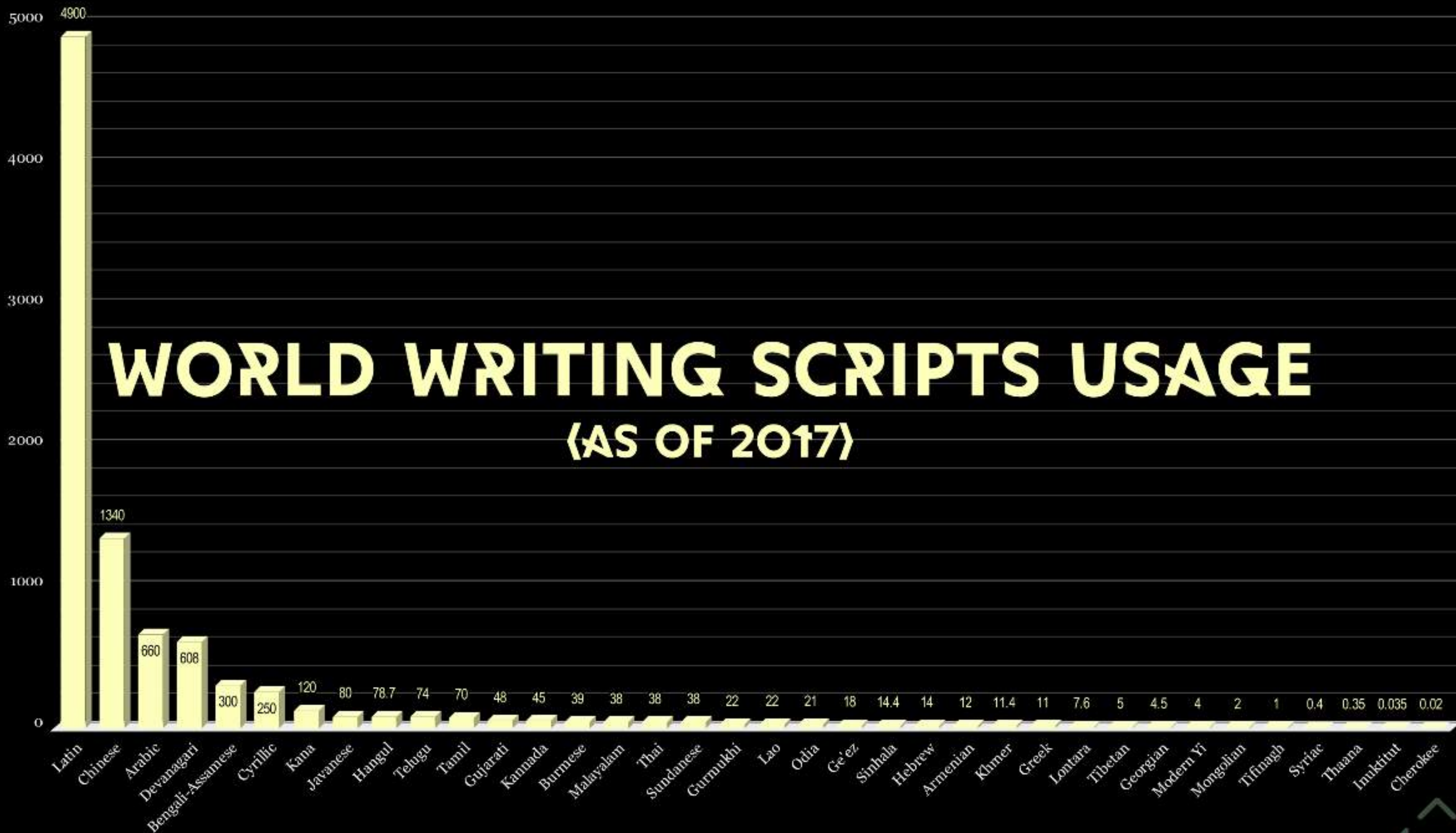




<http://www.worldwritingsystems.org/>

Actively using (in millions)

WORLD WRITING SCRIPTS USAGE (AS OF 2017)



A world map with a black background. Landmasses are colored in three ways: bright yellow, dark grey, and light grey. Yellow includes North America, South America, Australia, and parts of Europe, Africa, and Asia. Dark grey includes Russia, China, India, and parts of Europe and Africa. Light grey includes several countries in Africa and the Middle East. The text 'LATIN SCRIPT DISTRIBUTION' is centered over the map in a bold, white, sans-serif font.

LATIN SCRIPT DISTRIBUTION

A, a	Ą, ą	B, b	C, c	Č, č	D, d
E, e	Ę, ę	Ê, ê	F, f	G, g	H, h
I, i	Ĳ, ĳ	Ÿ, y	J, j	K, k	L, l
M, m	N, n	O, o	P, p	R, r	S, s
Š, š	T, t	U, u	Ų, ų	Ū, ū	V, v
Z, z	Ž, ž	Lithuanian (32)			

א	ב	ג	ד	ה	ו
ז	ח	ט	י	כ	ל
מ	נ	ס	ע	פ	ץ
ק	ר	ש	ת	Hebrew (22)	

ا	ب	ج	د	ه	و
ز	ح	ط	ي	ك	ل
م	ن	س	ع	ف	ص
ق	ر	ش	ت	ث	خ
ذ	ض	ظ	غ	Arabic (28)	

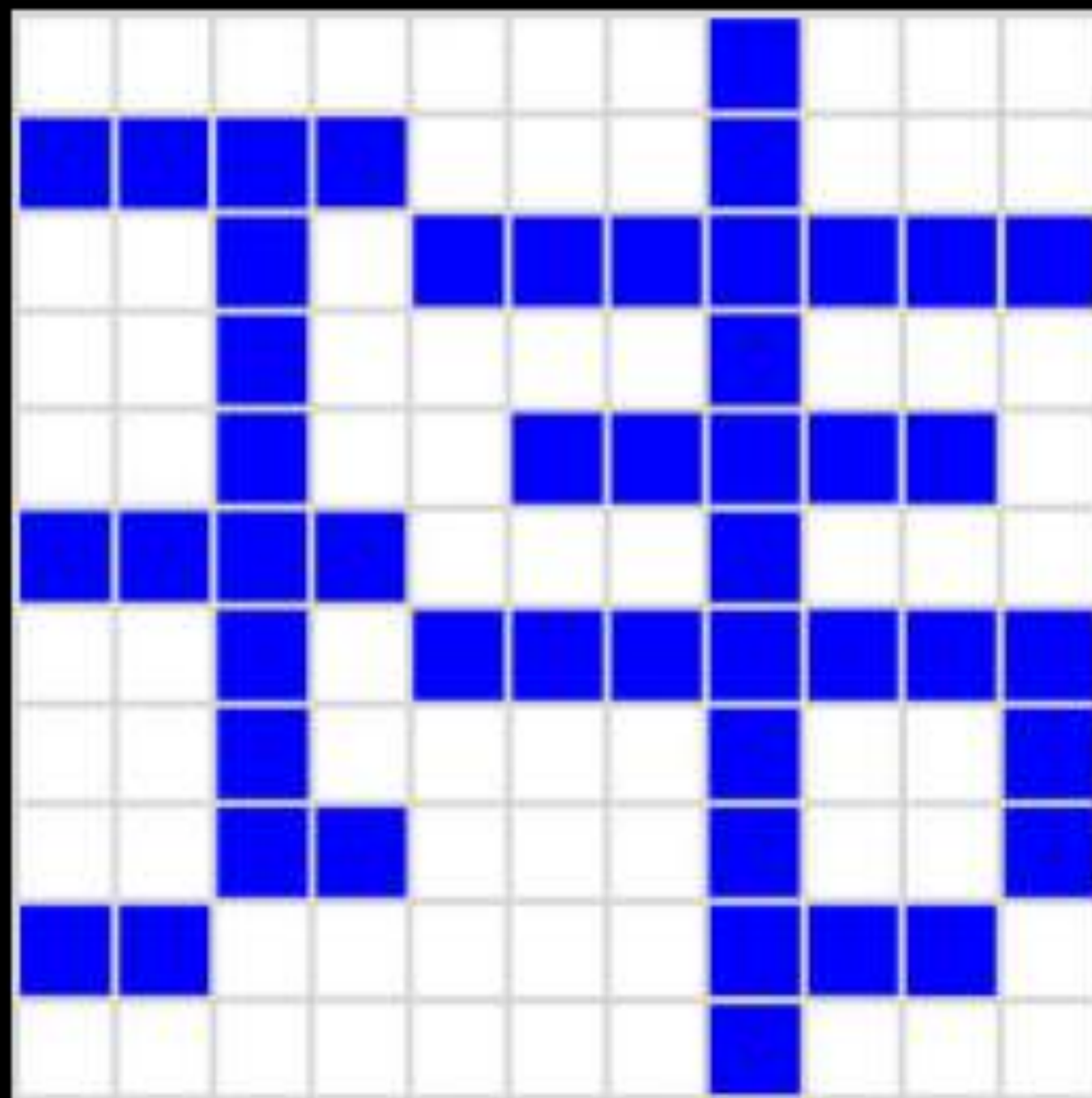
A a	B b	C c	D d	E e	F f
G g	H h	I i	J j	K k	L l
M m	N n	O o	P p	Q q	R r
S s	T t	U u	V v	W w	X x
Y y	Z z	English (26)			



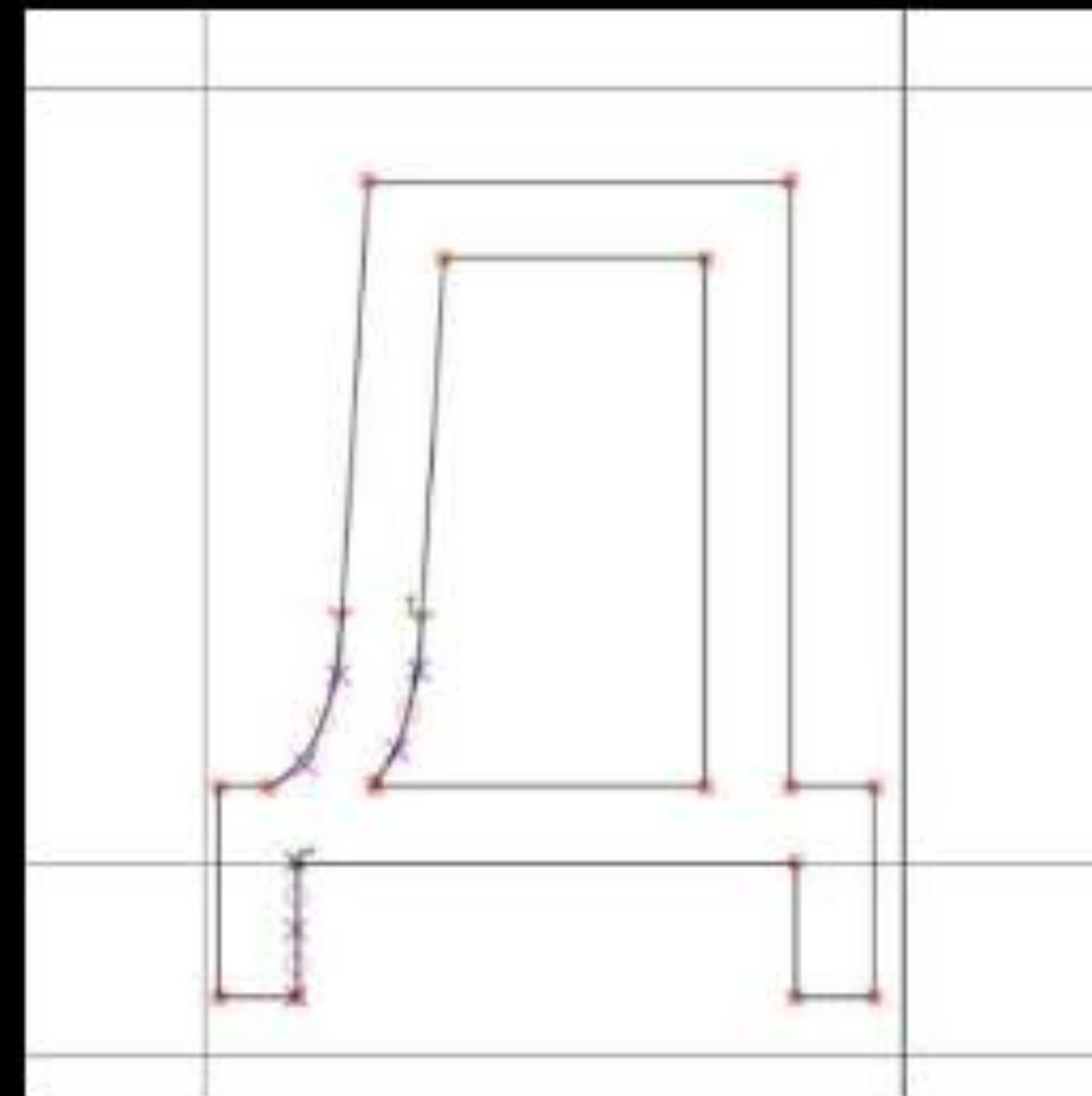
WHAT ARE GLYPHS?



Ê



玮



Д

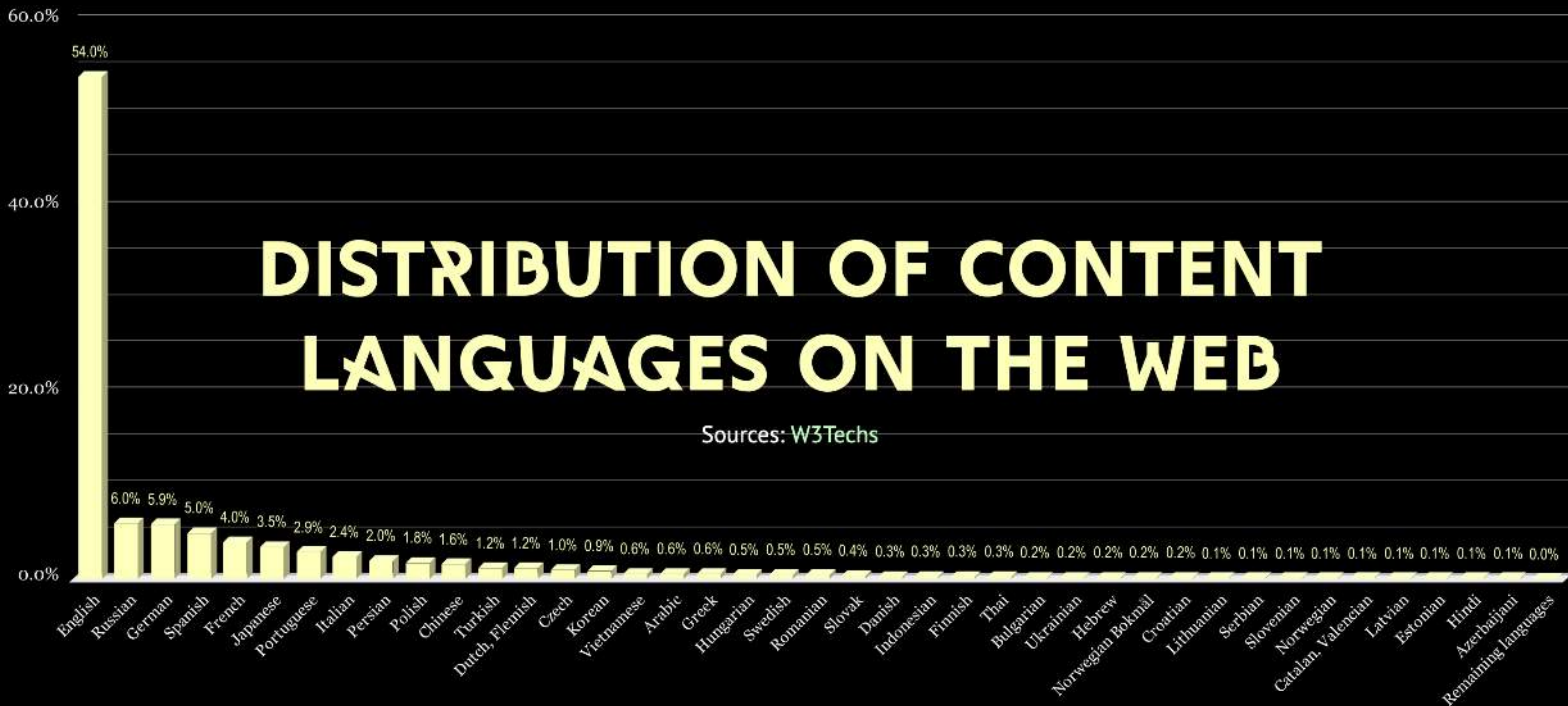


AND WHAT ABOUT FONTS?



DISTRIBUTION OF CONTENT LANGUAGES ON THE WEB

Sources: W3Techs





N.10 ir 11.

Tilžėje.

1884 m.

Už spalio ir lapkričio mėnesį.

Antras

AUSZRA. metas.

Laikraštis, išleidžiamas Lietuvos miletu.

„Ausra“ leidžiama Tilžėje 20. košio mėnesio paribėje knygutės 32—48 pusė. — Prekia: ant motu 4 rubl. — 4 mark. Atskiras num. 35 pf. — 35 kap. Apšaukimai, redaktorė „Ausros“ priimami, kasdien už košio pusian dalitą ciltu po 20 pf. — 10 kap. laikitojams „Ausros“ puse tiek. Vokietijoje galima „Ausra“ prie košio cėvoriškos karališkos pašto parakviesdinti.

Dvi „Ausri“ Lietuvoje.

Tankiai tai linb' atsitikti, jog žmonės vienos dvasės ir su vienu išmanimu toli vienas nū kito dirba košas viena ir tą patį darbą. Ne retai galime regėti, kaip giesmioriai vienas kito nepažindami ir nū kit's kito nėko nežinodami sudeda giesmes vienokios įtalpos ir mislies, košas savo žodžiais. Visokių szaliu kareiviai pasidirdina sav vienokius ginklus. Visokiose gentėse, kad ir tolimiausiu atstamų per skirtose, randame vienokius budus, įrankius ir pabuklus. Randame visokiose gentėse taipogi vienokias patarles, pasakas, burtas vienodus tikėjimus ir t. t.

Ligiai ir su dvejopa „Ausra“ Lietuvoje atsitiko per vienokią dvasę ir vienoki išmanimą įstatitojų, kurie budami tikrais Lietuviais, nors tōn vienas nū kito, košas dirba savotiškai vienoki darbą ant atgaivinimo niktanozios lietuviškos kalbos.

Toksai vienodas darbas rodo, jog Lietuviai nū pat sziaurės liki paciu pietu, nū saulėtekio liki saulėleidžio tar' vienokias mislies ir pajantas; visi ligiai žino ir junta, ko jiems reikia. Ir iš tikro, kaip prie vienos „Ausros“ taip ir prie kitos visu Lietuvin



“When you lose your language, you lose your soul.”

–Ghil’ad Zuckermann



WRITING SYSTEMS ON THE WEB



TYPESETTING ON THE WEB

“Authors should language-tag their content accurately for the best typographic behaviour.”

—CSS Text Module Level 3





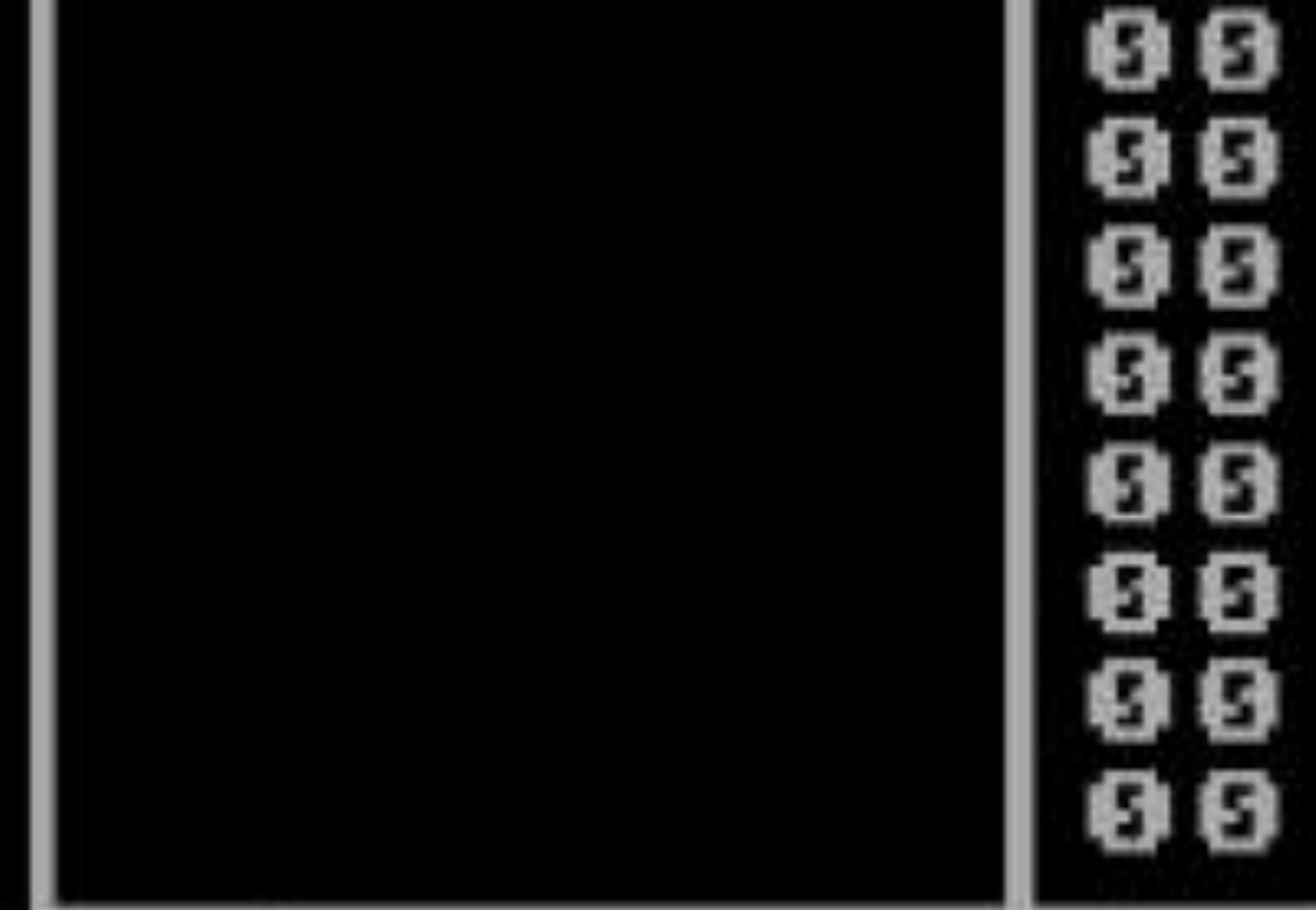
A letter as designed



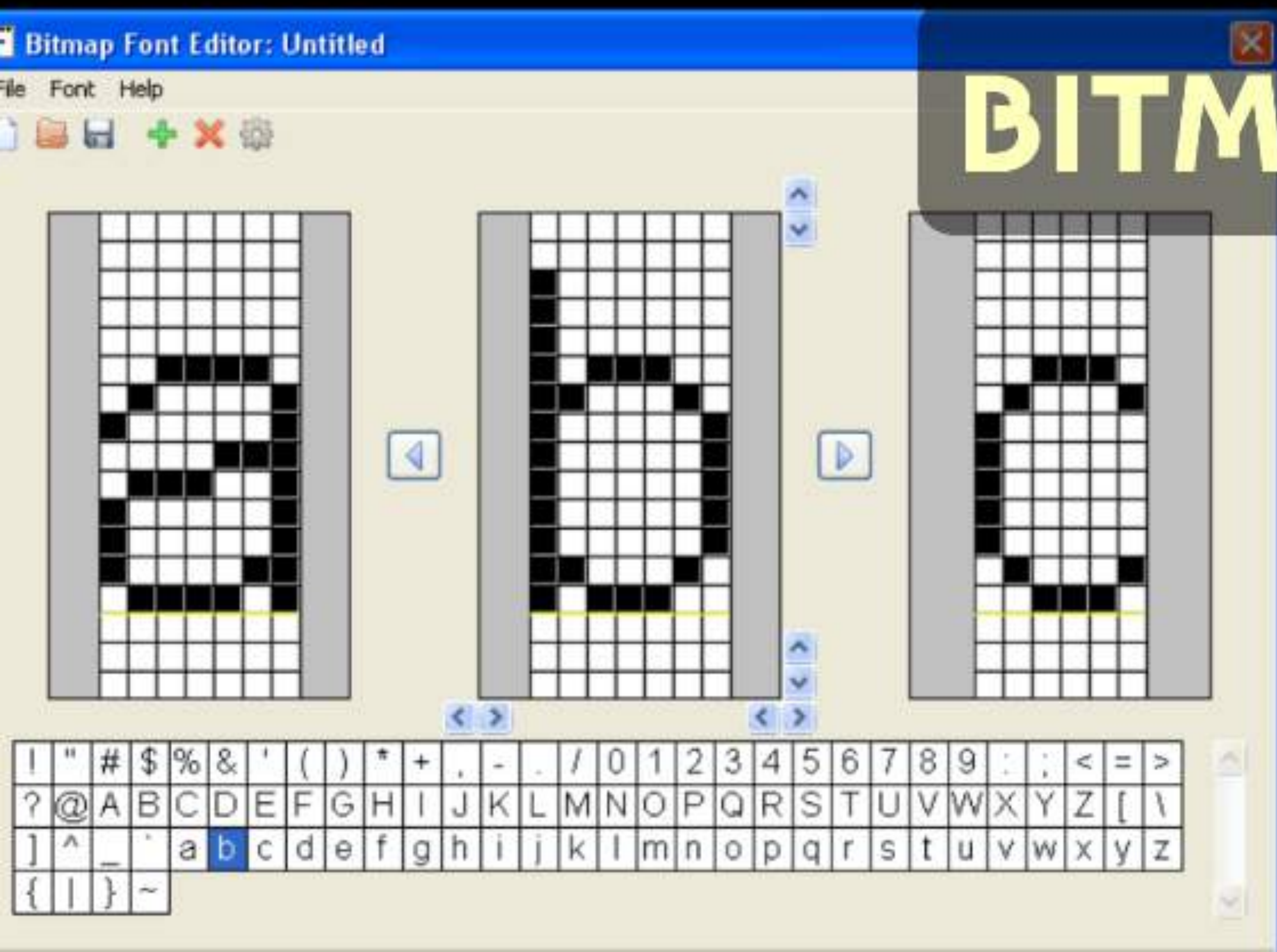
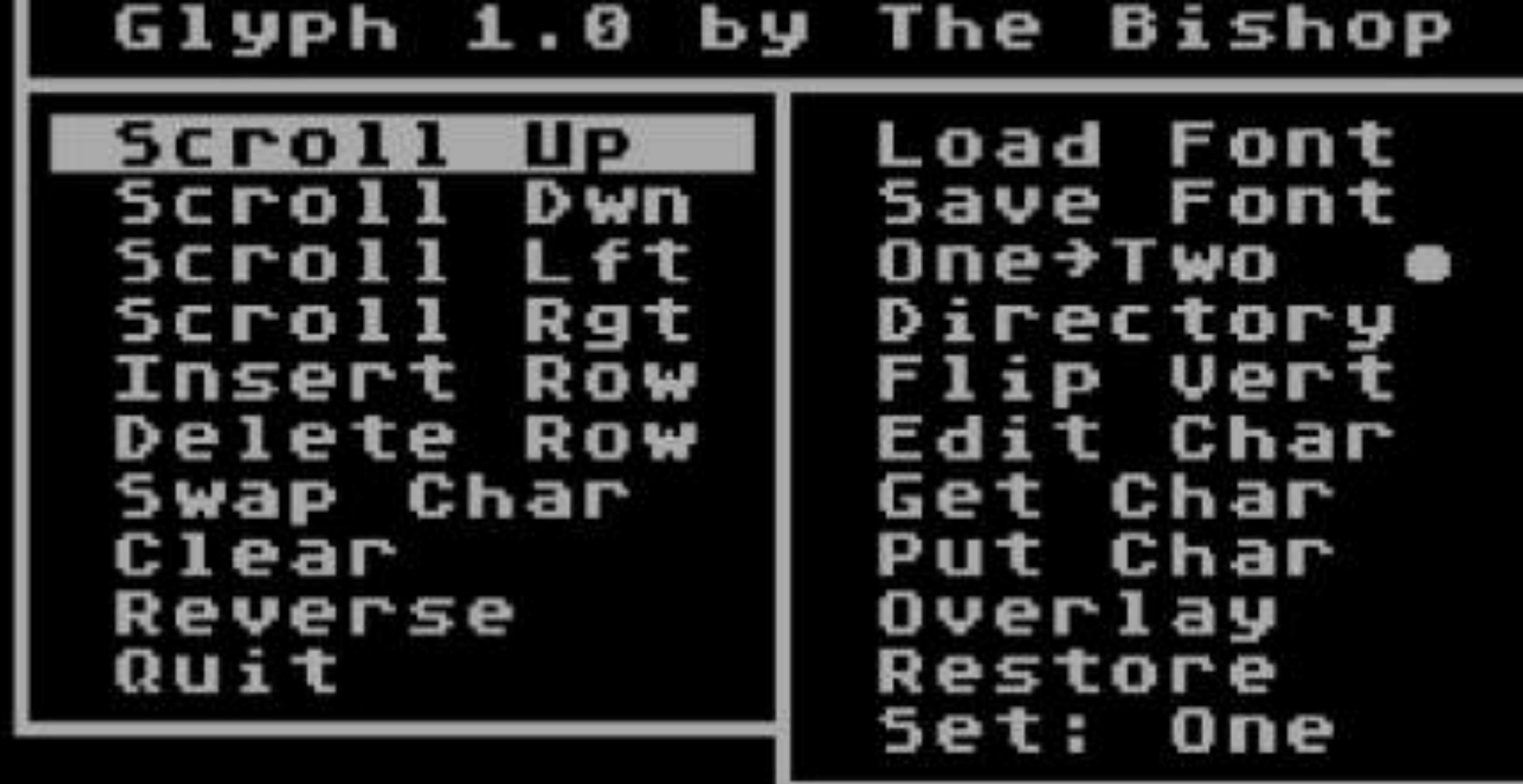
pixels



run-length coding



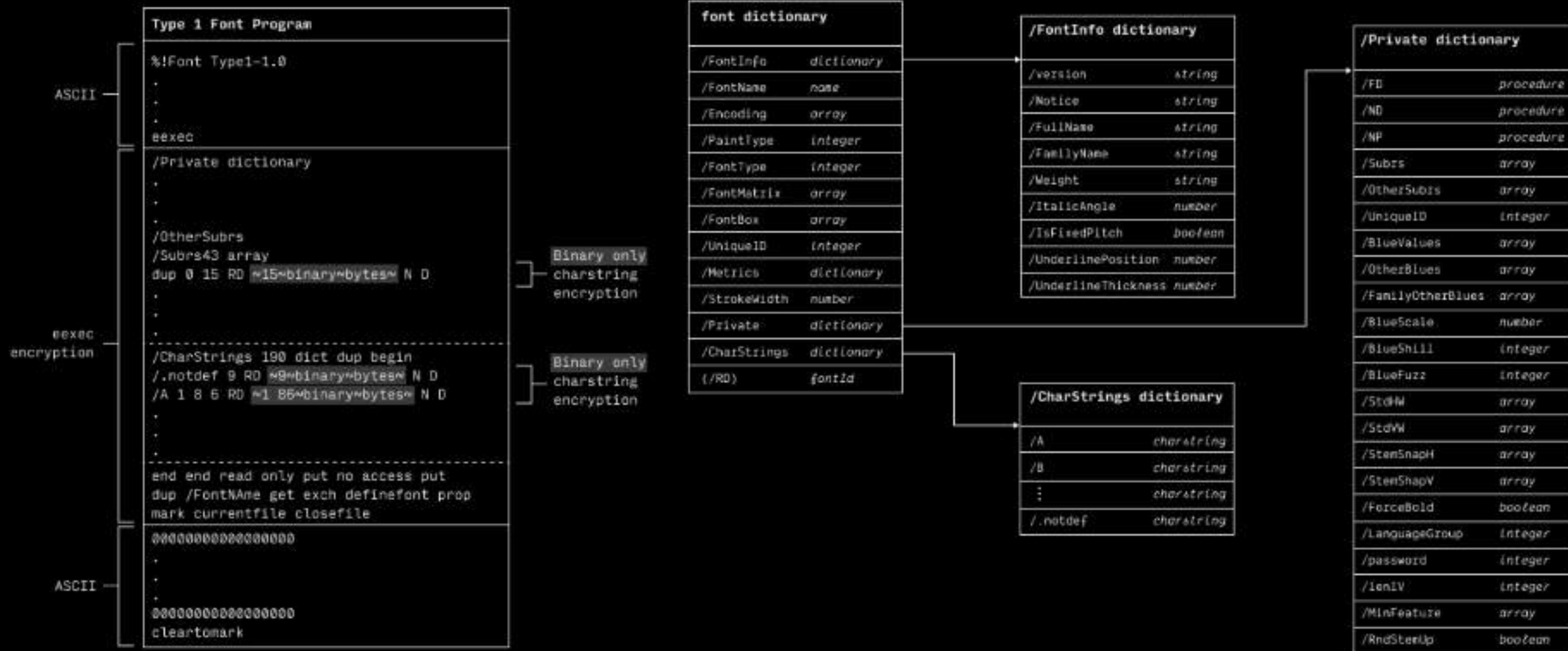
Editor ↑



BITMAP FONTS



POSTSCRIPT



Type 1 font program



FONT FORMATS FOR WEB USE

WOFF2 (Web Open Font Format 2)



Microsoft

moz://a



Opera

WOFF (Web Open Font Format)



Microsoft

moz://a



Opera

OTF (OpenType)



Microsoft



Adobe

TTF (TrueType)



Microsoft



EOT (Embedded Open Type)



Microsoft

SVG (Scalable Vector Graphics)

W3C * SVG



FONTS ON WEB PAGES

- A pair of numbers in curly braces ({A,B}) indicates that the preceding type, word or group is repeated at least A and at most B times.

5.2 Font properties

Setting font properties will be among the most common uses of style sheets. Unfortunately, there exists no well-defined and universally accepted taxonomy for classifying fonts, and terms that apply to one font family may not be appropriate for others. E.g. 'italic' is commonly used to label slanted text, but slanted text may also be labeled as being *Oblique*, *Slanted*, *Incline*, *Cursive* or *Kursiv*. Therefore it is not a simple problem to map typical font selection properties to a specific font.

CSS1 defines the properties ['font-family'](#), ['font-style'](#), ['font-variant'](#) and ['font-weight'](#), ['font-size'](#), ['font'](#).

5.2.1 Font matching

Because there is no accepted, universal taxonomy of font properties, matching of properties to font faces must be done carefully. The properties are matched in a well-defined order to insure that the results of this matching process are as consistent as possible across UAs (assuming that the same library of font faces is presented to each of them).

FONT

```
<!ELEMENT FONT - - (%text)*          -- local change to font -->
<!ATTLIST FONT
  size      CDATA      #IMPLIED      -- [+]nn e.g. size="+1", size=4 --
  color     CDATA      #IMPLIED      -- #RRGGBB in hex, e.g. red: color="#FF0000" --
>
```

Requires start and end tags. This allows you to change the font size and/or color for the enclosed text. The attributes are: `size` and `color`. Font sizes are given in terms of a scalar range defined by the user agent with no direct mapping to point sizes etc. The `FONT` element may be phased out in future revisions to HTML.

size

This sets the font size for the contents of the font element. You can set size to an integer ranging from 1 to 7 for an absolute font size, or specify a relative font size with a signed integer value, e.g. `size="+1"` or `size="-2"`. This is mapped to an absolute font size by adding the current base font size as set by the `BASEFONT` element (see below).

color

Used to set the color to stroke the text. Colors are given as RGB in hexadecimal notation or as one of 16 widely understood [color names](#) defined as per the `BGColor` attribute on the `BODY` element.

W3C Superseded Recommendation

Fonts section in CSS1 (17-Dec-1996)

Font tag in HTML3.2 (14-Jan-1997)



BRIDGING A FONT REFERENCE WITH FONT DATA

3. Adding WebFonts to CSS

The *font description* provides the bridge between a *font reference* (within a stylesheet) and the *font data*, which is the data needed to format text and to render the glyph representations to which the characters map - the actual scalable outlines or bitmaps. Fonts are referenced by style sheet properties. The font description is used to select the relevant font data. The font description consists of *descriptors* which provide the location of the font data on the Web, and/or characterize that font data. The font descriptors are also used to match font references with the correct font description.

Font descriptors may be classified into three types:

1. those that provide the link between the CSS usage of the font and the font description - these have the same names as the corresponding CSS font properties
2. the URL for the *location* of the font data
3. those that further characterize the font, to provide a link between the font description and the font data

Font descriptions are contained in an *at-rule*. At-rules - so called because they start with the *@* symbol - were introduced in CSS 1 where they were used to import other stylesheets. Ordinary CSS rules start with a selector, and apply solely to the selected HTML elements. At-rules have no selector, and apply to the whole style sheet.

The general form of this new at-rule is

```
"@font-face { <font description> }"
```

where the font description has the form

```
descriptor: value;  
descriptor: value;  
[...]  
descriptor: value;
```

For example, here the font 'Robson Celtic' is defined and referenced in a style sheet contained in an HTML document.

Earliest reference of webfonts I could find (21-Jul-1997)



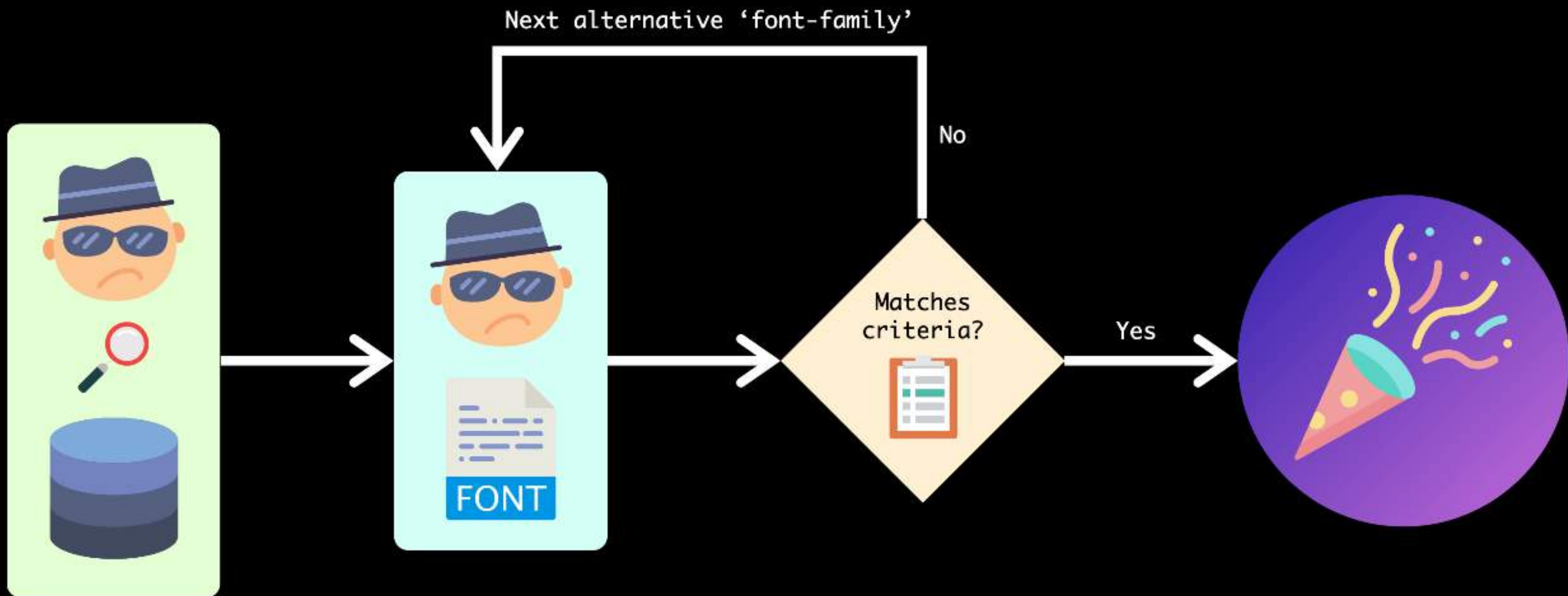
GENERIC FONT FAMILIES

Dependent on OS, HTML language, character set and browser.

serif	Times New Roman, SimSun, SongTi SC
sans-serif	Arial, Microsoft Yahei, PingFang SC
monospace	Consolas, SimSun, PingFang SC
cursive	Comic Sans MS, Apple Chancery, SimSun (oblique), SongTi SC (oblique)
fantasy	Gabriola, Impact, Papyrus, Microsoft Yahei, PingFang SC

Level 4 is adding system-ui, emoji, math and fangsong






FONT STACKS

```
/* This text is in Lucida Grande */  
.sans {  
  font-family: Lucida Grande, Lucida Sans Unicode, Lucida Sans, Geneva, Verdana, sans-serif;  
}  
  
/* A typical Chinese font stack, declare Latin fonts first */  
.zh-hans {  
  font-family: Tahoma, Helvetica, Arial, "Microsoft Yahei", "微软雅黑", STXihei, "ST 宋体";  
}
```



SUBSET FAIL

HJ Chen @hj_chen
on a semi-unrelated note...ah
excessively aggressive subsetting,
@Medium I can relate
#typography


Phil Pückthun
FRP, React, RxJS & the likes •
 **Phil Pückthun**
FRP, React, RxJS &
@reactivate_ldn •
Apr 29 • 7 min read

10:36 AM · 9 Aug 2018

Vadim Makeev @pepelsbey_ · 9 Aug 2018
Replying to @hj_chen @Medium
Yep, they don't care about Cyrillic too, though it's not ideal when you don't
have mixed words, but still ugly.

CSS: НОВЫЙ ВИД JavaScript

Dovilė Pakutinskaitė in Trys kubai
Nov 30, 2018 · 1 min read



**Konferencija Lietuvos nacionalinėje Martyno
Mažvydo bibliotekoje**
Lietuvos nacionalinėje Martyno Mažvydo...
Read more...

Algirdas Žiždas
Jan 5, 2019 · 2 min read

Šiauliai — 2017 metų (ne)kultūros sostinė
Kaip ir kiekvienais metais Lietuvoje yra renkama Lietuvos kultūros sostinė. Šių
metų kultūros sostinė tapo Telšiai. Pernai kultūros renginius turėjo garbės
organizuoti Žagarės miestelis, o prieš du metus — Danguėžis.

藥用

@FONT-FACE RULE

```
@font-face {  
  font-family: 'Bellato';  
  src: url('Bellota-Regular.woff2') format('woff2'),  
       url('Bellota-Regular.woff') format('woff');  
}
```

WOFF - Web Open Font Format [🔗](#)

Compressed TrueType/OpenType font that contains information about the font's source.

IE	Edge	Firefox	Chrome	Safari	iOS Safari	Opera Mini	Chrome for Android	Android Browser	Samsung Internet
9	16	64	72	11.1	11.4			4.4	7.4
10	17	65	73	12	12.1			4.4.4	8.2
11	18	66	74	12.1	12.2	all	74	67	9.2
	75	67	75	TP					

✓ ✗ Partial Support

Global: 96.97% + 0% = 96.97%

Data from [caniuse.com](#) | Embed from [caniuse.bitsofco.de](#)

[Enable accessible colours](#)

WOFF 2.0 - Web Open Font Format [🔗](#)

TrueType/OpenType font that provides better compression than WOFF 1.0.

IE	Edge	Firefox	Chrome	Safari	iOS Safari	Opera Mini	Chrome for Android	Android Browser	Samsung Internet
9	16	64	72	11.1	11.4			4.4	7.4
10	17	65	73	12	12.1			4.4.4	8.2
11	18	66	74	12.1	12.2	all	74	67	9.2
	75	67	75	TP					

✓ ✗ Partial Support

Global: 88.66% + 0.59% = 89.25%

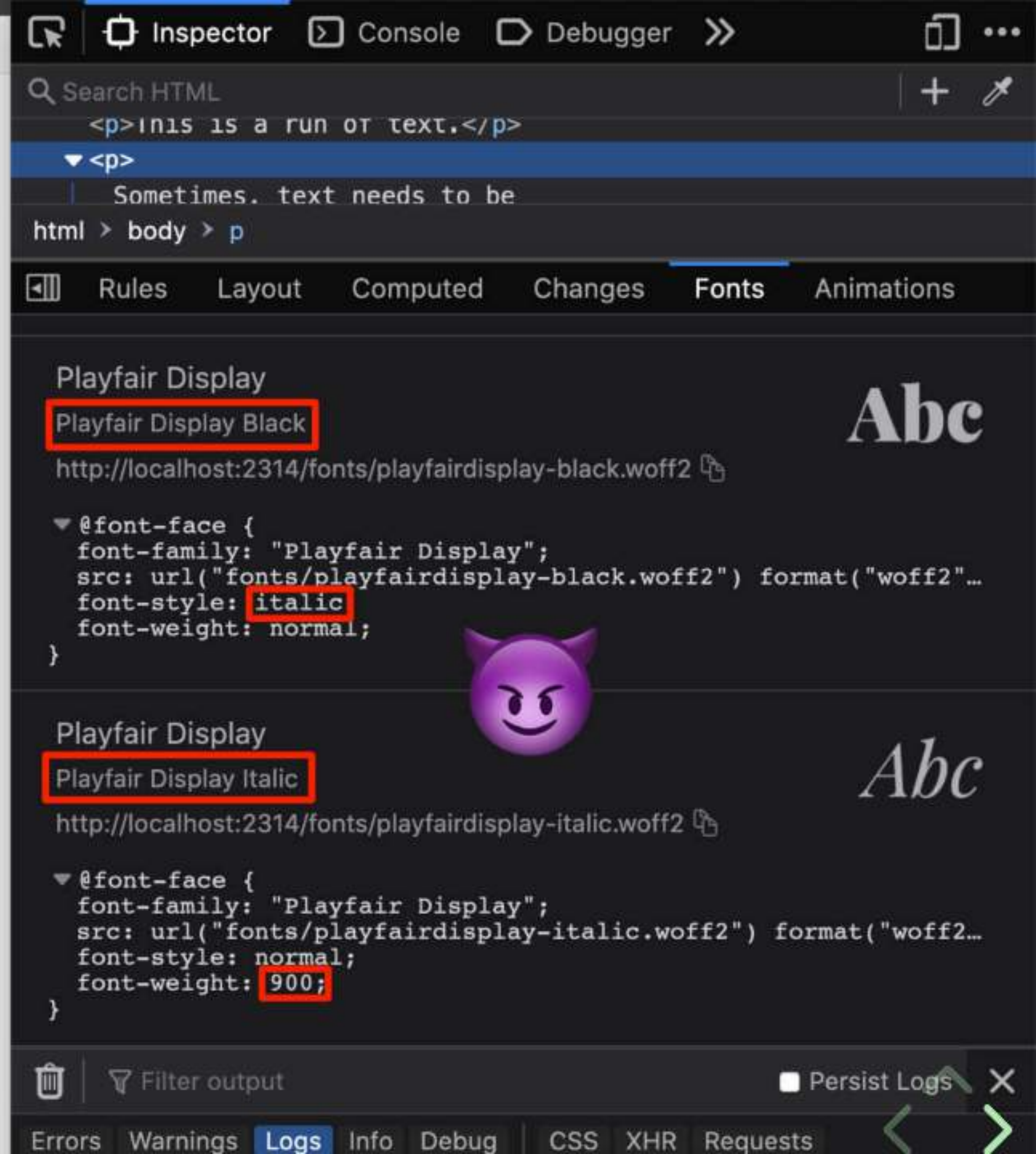
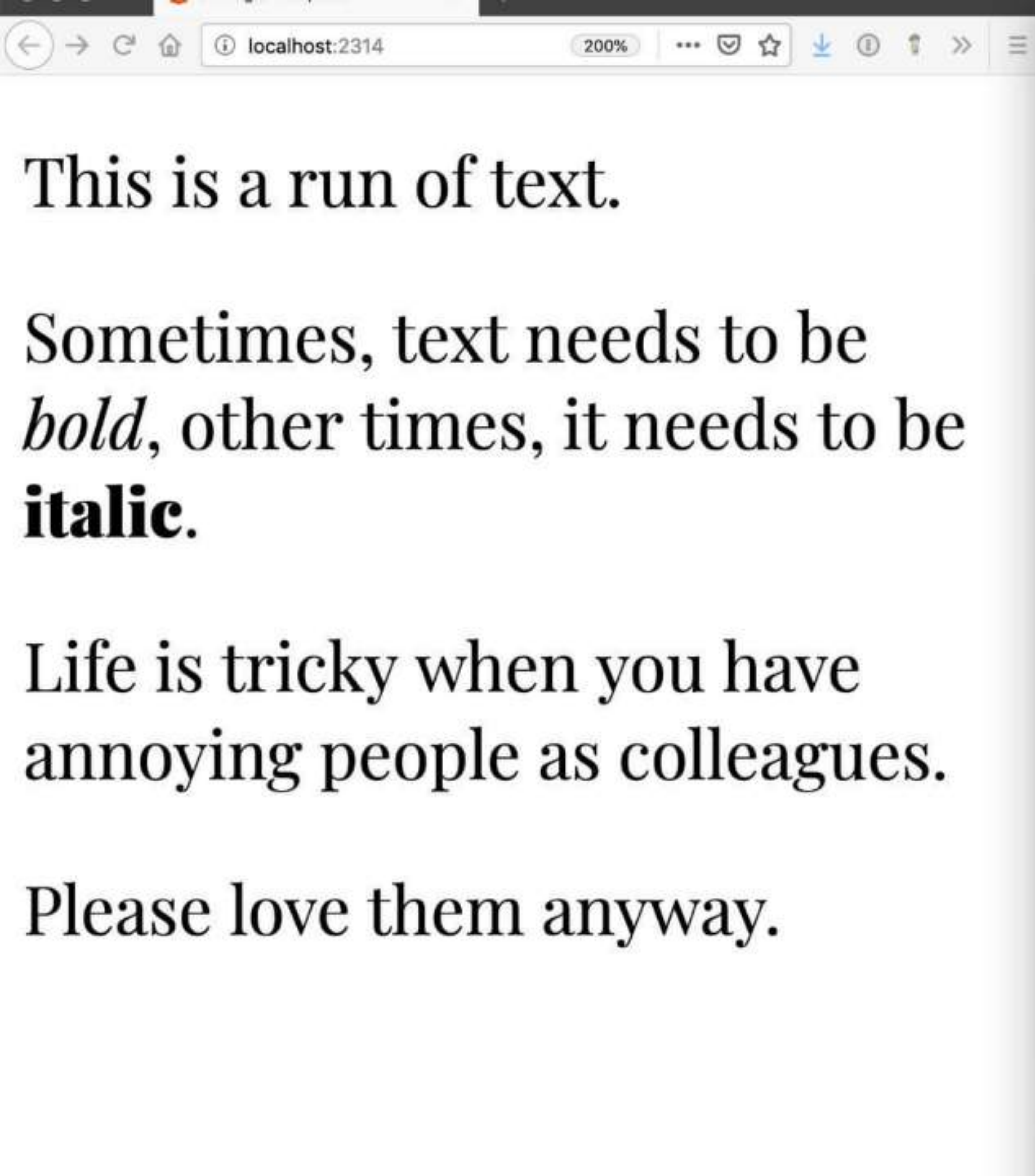
Data from [caniuse.com](#) | Embed from [caniuse.bitsofco.de](#)

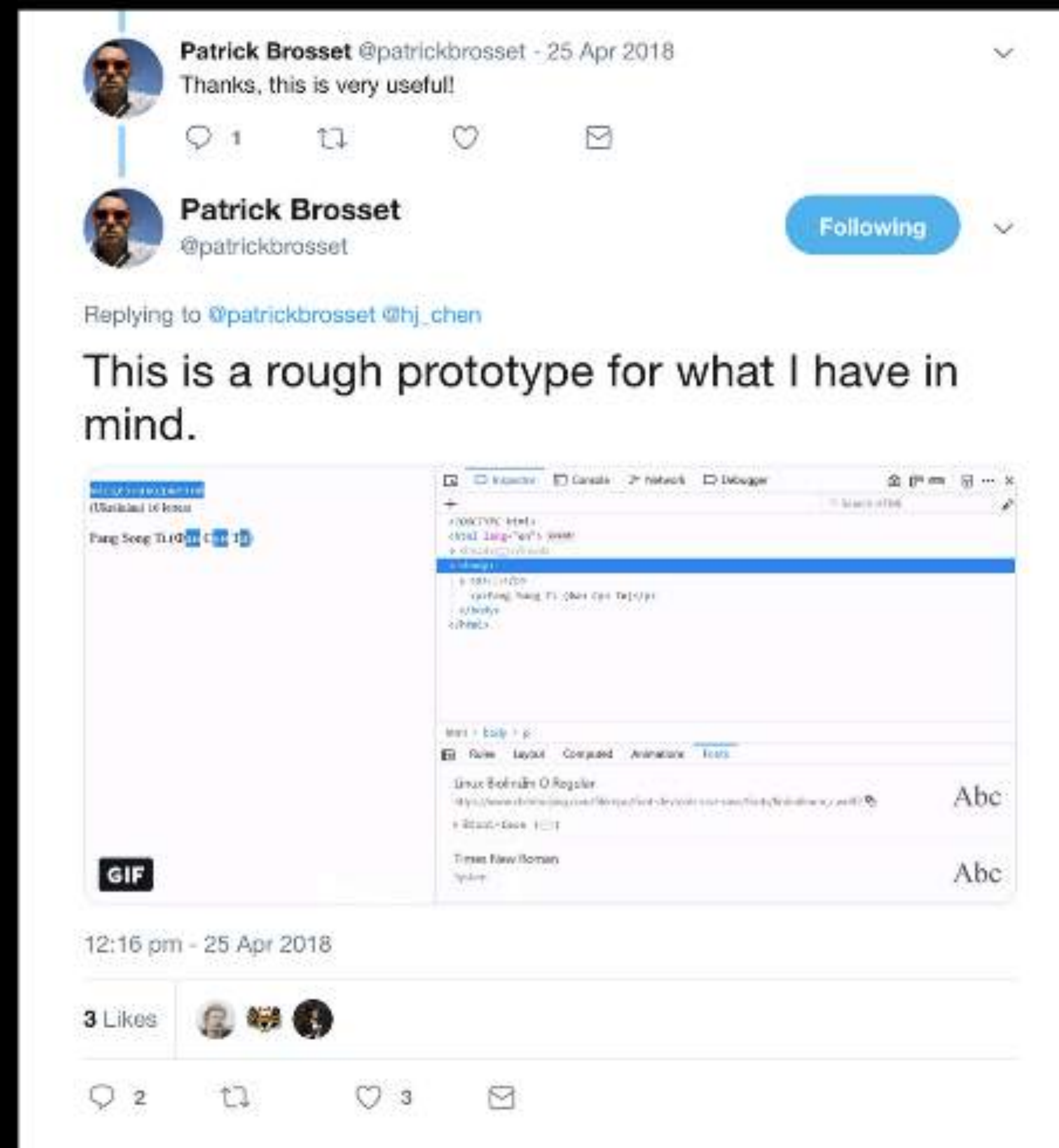
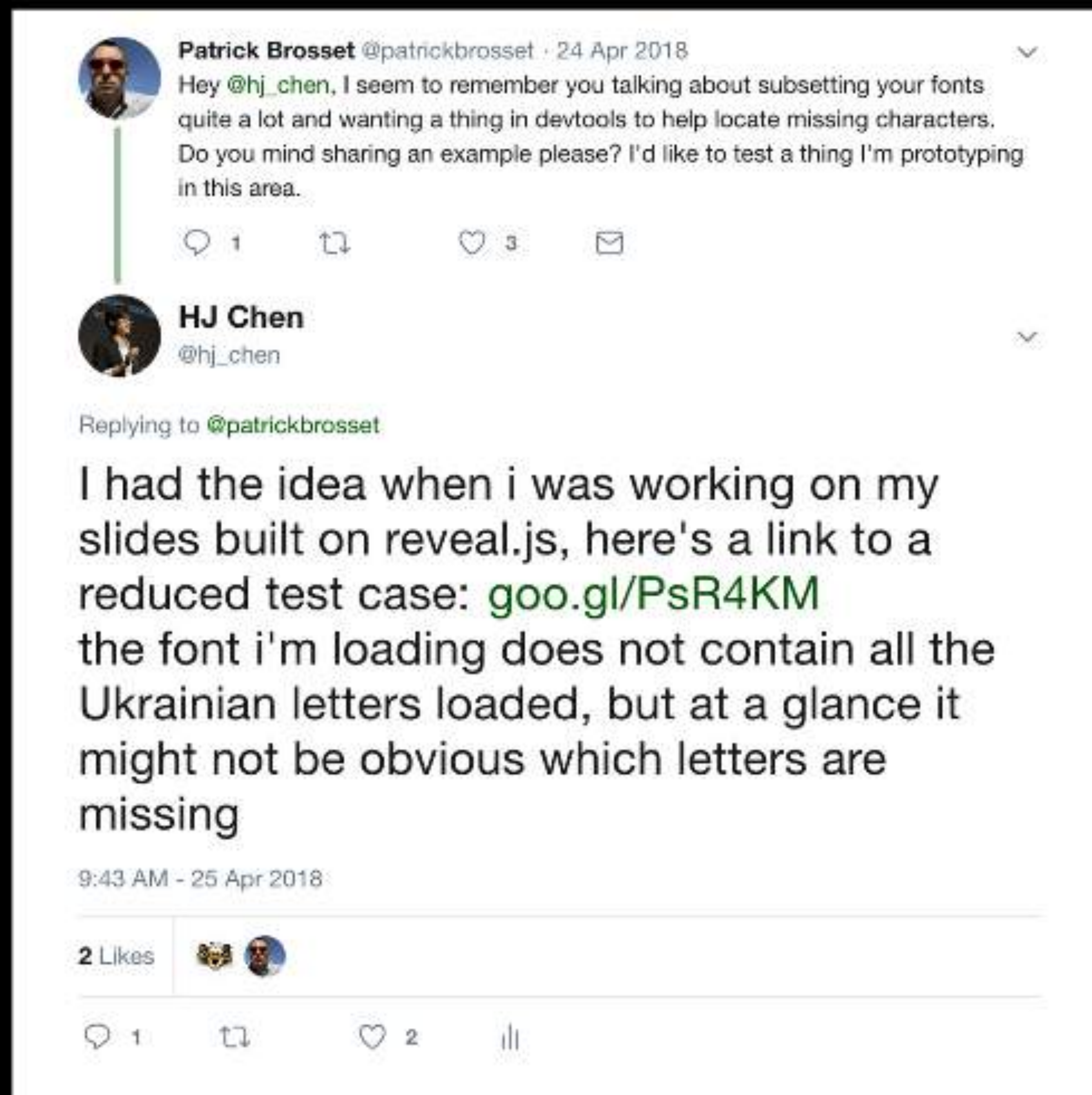
[Enable accessible colours](#)

ANATOMY OF AN @font-face RULE

```
@font-face {  
  font-family: <family-name>;  
  src: [ <url> [format(<string> #)]? | <font-face-name> ] #;  
  font-style: normal | italic | oblique ;  
  font-weight: normal | bold | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900  
  font-stretch: normal | ultra-condensed | extra-condensed | condensed | semi-condensed  
  unicode-range: <urange> #;  
  font-variant: normal | none | [ <common-lig-values> || <discretionary-lig-values> ]  
  font-feature-settings: normal | <feature-tag-value> #;  
}
```

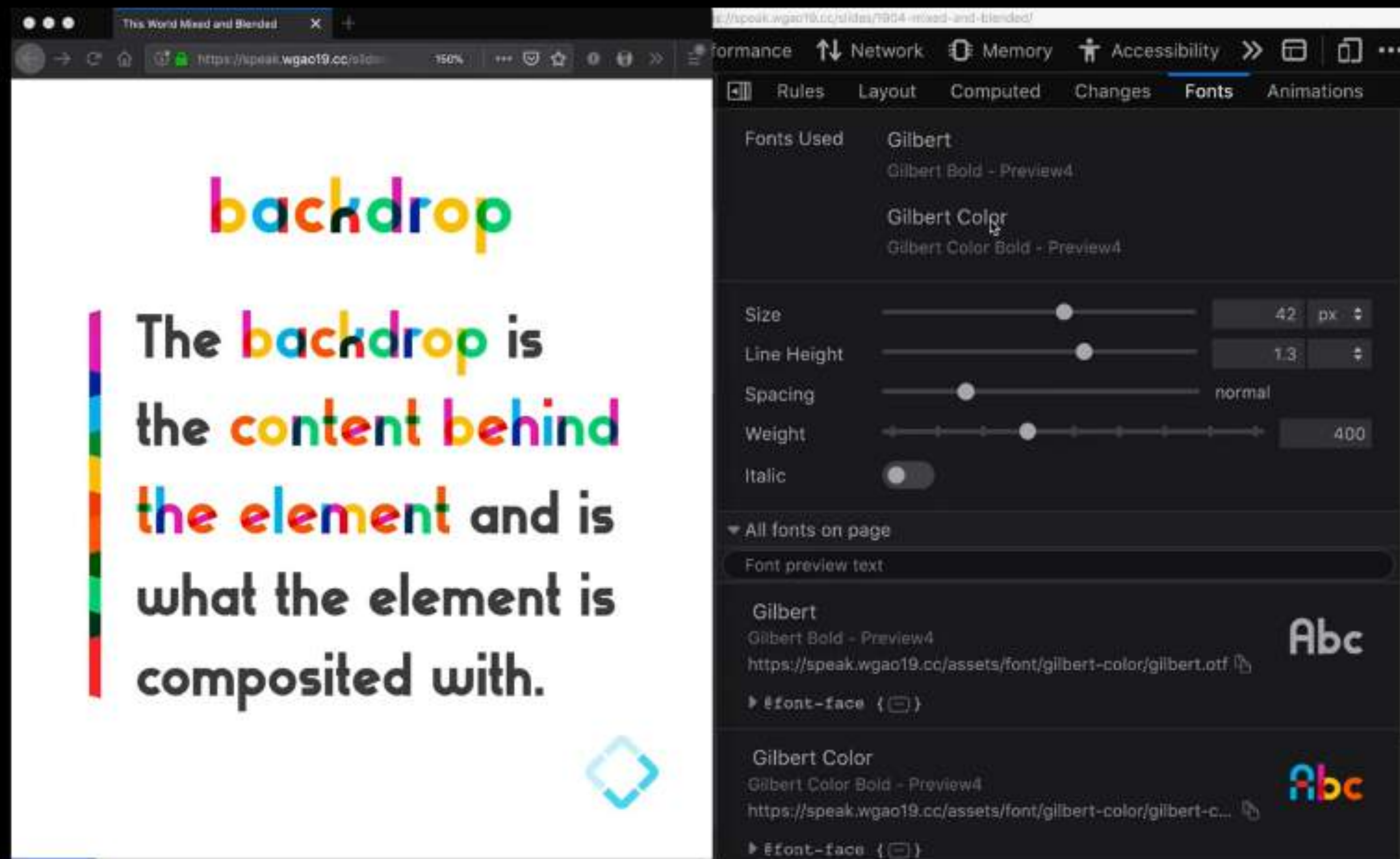






Firefox Font Tools





Slides for *This world mixed and blended* by Gao Wei.



Raleway

Multiple Designers (18 styles)



This font does not
support Cyrillic
characters

Comfortaa

Johan Aakerlund, Cyreal (5 styles)



Этот шрифт
поддерживает
символы
кириллицы




```
@font-face {  
  font-family: 'Raleway';  
  src: url('fonts/raleway-regular.woff2') format('woff2'),  
        url('fonts/raleway-regular.woff') format('woff');  
  /* no range specified, defaults to entire range */  
}
```

```
@font-face {  
  font-family: 'Raleway';  
  src: url('fonts/comfortaa_regular.woff2') format('woff2'),  
        url('fonts/comfortaa_regular.woff') format('woff');  
  unicode-range: U+0400-U+04FF; /* Unicode range for Cyrillic characters */  
}
```



The Russian word for
"Thank You" is
"Спасибо".

Fonts - http://localhost:2314/

Network Memory Accessibility Storage

Rules Layout Computed Changes **Fonts** Animations

Fonts Used **Raleway** Comfortaa Regular

Size 4 em

Line Height 1.117

Spacing normal

Weight 400

Italic ☐

▼ All fonts on page

Font preview text

Raleway Abc

Raleway
http://localhost:2314/fonts/raleway-regular.woff2

```
▼ @font-face {  
  font-family: "Raleway";  
  src: url("fonts/raleway-regular.woff2") format("woff2"), url("font...
```

Raleway Abc

Comfortaa Regular
http://localhost:2314/fonts/comfortaa_regular.woff2

```
▼ @font-face {  
  font-family: "Raleway";  
  src: url("fonts/comfortaa_regular.woff2") format("woff2"), url("fon..  
  unicode-range: U+400-4FF;  
}
```



CSS FONT PROPERTIES

font-size	Indicates the desired height of the glyphs. Takes absolute or relative values.
font-weight	Specifies the weight of the glyphs in the font. Can use keywords or numerical values.
font-style	Allows italic or oblique faces to be selected.
font-stretch	Selects a normal, condensed or expanded face from a font family. Range spans over 9 keywords.
font-size-adjust	Adjusts the font-size to preserve the x-height of the first choice font.
font-synthesis	Controls whether user agents are allowed to synthesize bold or oblique font faces when missing.



font-synthesis

Minion Pro

afwn

Roboto

afwn

Minion Pro

afeunyi

Minion Pro Faux Bold

afwn

Roboto Faux Bold

afwn

Minion Pro Faux Italic

afeunyi

Minion Pro Bold

afwn

Roboto Bold

afwn

Minion Pro Italic

afeunyi

Faux bold effect

Faux italic effect

Image credit: Piotr Grochowski



VARIABLE FONTS

DRAGONS

Space
110

Weight
500





PROGRESSIVE FONT ENRICHMENT

“to enable the ability for *only the required part* of the font be downloaded on any given page, and for subsequent requests for that font to *dynamically ‘patch’* the original download with additional sets of glyphs as required on successive page views—even if they occur on separate sites”

—Jason Pamental on Web Fonts & Typography News #11



INCREMENTAL TRANSFER DEMO

Add Text

Add Latin 1Add Latin 2Add Latin 3Add Latin 4Add Cyrillic 1Add Cyrillic 2Add Vietnamese 1Add Vietnamese 2Add Japanese 1Add Japanese 2Add Arabic 1Add Arabic 2Add Devanagari 1Add Devanagari 2

Transfer Options

NOTE: all options other than incremental transfer break layout features across segments. In reality this forces the use of large blocks in many scenarios (Arabic, Indic, many latin cases, etc).

168 codepoints (17 + 21 + 23 + 64 + 23 + 20) in Demo Content

Options:

A) What Google Fonts would send today, Σ size 34.9 KB:

[13.8 KB cyrillic]

[21.2 KB latin]

B) woff2 of each segment, Σ segments 24.5 KB:

[4.3 KB woff2]

[5.5 KB woff2]

[6.1 KB woff2]

[3.0 KB woff2]

[2.8 KB woff2]

[2.8 KB woff2]

C) Incremental Transfer, Σ patches 10.3 KB:

[4.3 KB patch]

[2.9 KB patch]

[2.8 KB patch]

[C]

D) Optimal, woff2 of the exact subset:

[8.8 KB woff2]

Demo Content

Clear

आकाश में बादल नहीं थे और उसका रंग गहरा नीला था ।
ظهرت الأرض تحت السفينة الطائرة في البعد على شكل هلال متلألئ.
各部位を正確に作るには時間がかかるので、当初の意図とは異なるが、巨大な人体を作ることにした。高さは約8フィートで、これに釣り合う体格だ。これを決断し、数か月にわたって材料を集め整理した後、作業を開始した。
Развернувшееся зрелище и впрямь было грандиозным.
I used to be a coder like you until I took an *ARROW* in the KNEE!
NOTE: Vilnius < f ^ . . ^ 1 /

0:13 / 0:13

Google Fonts' Incremental Transfer Demo



Hi, I'm Jason

My name is Jason Pamental. I'm a design strategist, UX leader, technologist, expert in web typography, and Invited Expert on the W3C Web

Fonts Working Group. I write, speak, and work with brands and brand owners on how to set type better on digital platforms. I've

spoken with organizations like Adobe, Audible, Condé Nast, GoDaddy, IBM—and given **presentations and workshops** at conferences all over the world. I also **publish a newsletter on web typography**.

<http://eepurl.com/ghd9b9/>

Type is how we 'hear' what we read

Since the introduction of Variable Fonts in late 2016, I've spent a good deal of time researching, writing about, and working with them, and am



OPENTYPE FEATURES

• aalt	• curs	• halt	• ljmo	• ornm	• rtlm	• ss11	• tnum
• abvf	• cv01 – cv99	• hist	• lnum	• palt	• ruby	• ss12	• trad
• abvm	• c2pc	• hkna	• locl	• pcap	• rvrn	• ss13	• twid
• abvs	• c2sc	• hlig	• ltra	• pkna	• salt	• ss14	• unic
• afrc	• dist	• hngl	• ltrm	• pnum	• sinf	• ss15	• valt
• akhn	• dlig	• hojo	• mark	• pref	• size	• ss16	• vatn
• blwf	• dnom	• hwid	• med2	• pres	• smcp	• ss17	• vert
• blwm	• dtls	• init	• medi	• pstf	• smpl	• ss18	• vhal
• blws	• expt	• isol	• mgrk	• psts	• ss01	• ss19	• vjmo
• calt	• falt	• ital	• mkmk	• pwid	• ss02	• ss20	• vkna
• case	• fin2	• jalt	• mset	• qwid	• ss03	• ssty	• vkrn
• ccmp	• fin3	• jp78	• nalt	• rand	• ss04	• stch	• vpal
• cfar	• fina	• jp83	• nlck	• rclt	• ss05	• subs	• vrt2
• cjct	• flac	• jp90	• nukl	• rkrf	• ss06	• sups	• vrtr
• clig	• frac	• jp04	• numr	• rlig	• ss07	• swsh	• zero
• cpct	• fwid	• kern	• onum	• rphf	• ss08	• titl	
• cspc	• half	• lfbn	• opbd	• rtbd	• ss09	• tjmo	
• cswh	• haln	• liga	• ordn	• rtla	• ss10	• tnam	



FONT FEATURE PROPERTIES

font-kerning

AV Wa

No kerning

AV Wa

Kerning applied

font-variant-position

C₁₀H₁₆N₅O₁₃P₃

C₁₀H₁₆N₅O₁₃P₃

font-variant-position-
ligatures

fi ► fi tʒ ► ʒ

WORDS ► WORDS

labor of love ► *labor of love*

font-variant-numeric

1st 17th 2a ► 1st 17th 2^a

4000 ► 4000

Lining

Old-Style

409,280

409,280

2 1/3 ► 2 ¹/₃

367,112

367,112

2 1/3 ► 2 ¹/₃

155,068

155,068

171,792

171,792

font-variant-caps

The DOM, the HTML syntax, and the XHTML syntax cannot all represent the same content. For example, namespaces cannot be represented using the HTML syntax, but they are supported in the DOM and in the XHTML syntax.

font-variant-alternates

Jesuits ► Jefuits

quick ► *quick* *Quick* ► *Quick*

incroyable ► **incroyable**

• ► ❁ ❂ ❃ ❄ 519 ► ⑤①⑨



font-variant-east-asian

Allows control of glyph substitution and sizing in East Asian text

一個簡體字可能對應多個繁體字，如簡體字「發」，其相應的繁體字可能為「發」或「髮」；一個繁體漢字對應多個簡體漢字的情況與前者相比數量極少但仍需注意，如繁體字「乾」可能對應簡體字「幹」或「乾」。繁簡漢字的對應關係具體應由上下文決定。

茨

噓

```
.fvea .han {  
  font-variant-east-asian:  
  traditional;  
}  
  
.fvea .jap {  
  font-variant-east-asian:  
  jis78;  
}
```



font-language-override


To control the use of language-specific glyph substitutions and positioning

```
<!-- Macedonian lang code -->
<body lang="mk">
  <h4>Член 9</h4>
  <p>Никој човек нема да биде
  подложен на произволно апсење,
  притвор или прогонување.</p>
</body>
```

```
body {
  /* Serbian OpenType language tag */
  font-language-override: "SRB";
}
```

Example lifted from CSS Fonts Module Level 4



A still life photograph of a fondue pot and dipping station. A large, polished copper fondue pot sits on a matching copper stand. To the left, a white ceramic dipping station is divided into sections containing various condiments: a red sauce, a yellow powder, and a red powder. In the foreground, another similar dipping station is partially visible. A long, golden-brown loaf of bread lies diagonally across the top. In the bottom right corner, a green napkin holds a silver fork and spoon. The background is a rustic brick wall.

Drop a font!

Fonts aren't uploaded,
they stay on your computer

<https://wakamaifondue.com/>

Web Typography

*A handbook for designing beautiful and
effective responsive typography*



Richard Rutter

<http://book.webtypography.net/>

GOLDEN RULES FOR WEB TYPOGRAPHY

BY RICHARD RUTTER

1. Don't trust computers
2. Use the default font size for paragraph text
3. Adjust type size according to reading distance
4. Adjust the font size if the typeface requires it
5. Set tables to be read
6. Set text at display sizes, even on small screens
7. Resize display text as you would an image
8. Reduce your payload
9. Optimise page render timing
10. Learn to use variable fonts

Web Typography @ CSS Day 2018



THE text-transform PROPERTY

IF I WANT [FLOWERS], I'M GOING TO SEND THEM TO
MYSELF.

SÜSSE SOSSEN-KLÖSSE GENIESSEN MASSGEBLICH
GEFRÄSSIGE PREUSSISCHE NUTZNIESSER.

ΟΥΔ'ΕΝ ΚΑΚ'ΟΝ ΑΜΙΓ'ΕΣ ΚΑΛΟ'Υ.

アイウエ オカクケ

```
.txt-trans p {  
  text-transform: uppercase;  
}
```



LINE BREAKS IN INLINE BOXES

If an element *generates zero boxes*, was it *really there* at all?

```
<p class="line-container">If an element  
<em>generates zero boxes</em>, was it  
<strong>really there</strong> at  
all?</p>
```

```
.linebox p.line-container {  
  font-size: 150%;  
}  
  
.linebox .line-container em {  
  background-color: limegreen;  
  padding: 0.25em;  
  mix-blend-mode: color;
```



CSS FOR CONTROLLING LINE BREAKS

<code>line-break</code>	allows choosing various levels of “strictness” for line breaking restrictions
<code>word-break</code>	controls what types of letters are glommed together to form unbreakable “words”, causing CJK characters to behave like non-CJK text or vice versa
<code>hyphens</code>	controls whether automatic hyphenation is allowed to break words in scripts that hyphenate
<code>overflow-wrap</code>	allows the UA to take a break anywhere in otherwise-unbreakable strings that would otherwise overflow

Line breaking by Florian Rivoal @ dotCSS



HYPHENATION

“If you don't give a lang attribute, you don't get automatic hyphenation.”

—Florian Rivoal

Browsers use **language-specific** dictionaries to figure out where the hyphenation points should be.



text-align & text-justify

- Sets the text-align-all and text-align-last properties
- Describes how the inline-level content of a block is aligned along the inline axis if the content does not completely fill the line box.

```
text-align: start | end | left | right | center | justify | match-parent | justify
```

Values other than justify-all or match-parent are assigned to text-align-all and reset text-align-last to auto.

Selects the justification method used when a line's alignment is set to justify

```
text-justify: auto | none | inter-word | inter-character
```



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About 93,800,000 results (0.61 seconds)

As you can see, the **text** is aligned to the left margin meaning that not all of the **text** will align to the right margin. Here's an example of **justified website text**. As you can see, the **text** is aligned to both the left margin and right margins, meaning that each line will be the same length.

Call me Ishmael. Some years ago – never mind how long precisely – having little or no money in my purse, and nothing particular to interest me on shore, I thought I would sail about a little and see the watery part of the world. It is a way I have of driving off the spleen and regulating the circulation. Whenever I find myself growing grim about the mouth; whenever it is a damp, drizzly November in my soul; whenever I find myself involuntarily pausing before coffin warehouses, and

Don't use fully justified text alignment on your website

<https://dmjcomputerservices.com/blog/why-you-shouldnt-align-html-justify/>

🔍 About this result

🗨 Feedback

People also ask

Should I justify text?



How do I manually justify text?



How do you justify text in CSS?



What is causing the text to be justified?



Feedback

Justify text with HTML/CSS? Don't do it! - Design for Hackers

<https://designforhackers.com/justify-text/>



TEXT ALIGNMENT AND JUSTIFICATION

定义了CSS如何支持各种不同国际化语言的书写模式，例如拉丁（Latin）语系及印度（Indic）语系采用从左到右的书写模式，希尔伯特语（Hebrew）或阿拉伯语（Arabic）采用从右到左的书写模式，一些混合了拉丁语和阿拉伯语的文字可能采用双向书写（bidirectional），而一些东亚文字则需要竖排（从上到下）的书写模式。

```
.txt-align p {  
    text-align: justify;  
    text-justify: inter-character;  
}
```



VERTICAL TEXT ON THE WEB

CSS Writing Modes Level 3 defines CSS features to support for various international writing modes, such as **left-to-right** (e.g. Latin or Indic), **right-to-left** (e.g. Hebrew or Arabic), **bidirectional** (e.g. mixed Latin and Arabic) and **vertical** (e.g. Asian scripts).

writing-mode **PROPERTY**

horizontal-tb	从1987到现在
---------------	----------

vertical-rl	从1987到现在
-------------	----------

vertical-lr	从1987到现在
-------------	----------

sideways-rl*	从1987到现在
--------------	----------

sideways-lr*	从1987到现在
--------------	----------

Properties marked with * have been deferred to Writing Modes Level 4.



text-orientation **PROPERTY**

从1987到现在

mixed

从1987到现在

upright

从1987到现在

sideways



text-combine-upright **PROPERTY**

民國107年5月25日

none

民國107年5月25日

all

民國107年5月25日

<

*digits <integer>**

Codepen example for text-combine-upright



古巴
Cuba

立陶宛
Lithuania

列支敦斯登
Liechtenstein



NOT JUST FOR EAST ASIAN TEXT

MAZGALAI

„įminti”
ne tik filologijos, bet ir istorijos –
nes joje slypi raktas visoms mįslėms –
...lietuvių tauta privalo būti išsaugota,

Kaip ąžuol's drūt's prie Nemunėlio
Lietuvis nieko neatbos!
Kaip eglė ten prie Šešupėlės
Ir vėtroj, ir žiemą žaliuos!

Lietuviais esame mes gimę,
Lietuviais norime ir būt!
Tą garbę gavome užgimę,
Jai ir neturim leist pražūt!

Ką darai, daryk gerai!

```
text-orientation: upright;
}

.wm-cont2 .vert-lr {
  writing-mode: vertical-lr;
  color: #f69d9d;
}

.wm-cont2 .rotate {
  transform: rotate(180deg);
  color: #c0ffc2;
}

wm-cont2 {
```





The W3C Internationalization (i18n) Activity works with W3C working groups and liaises with other organizations to make it possible to use Web technologies with different languages, scripts, and cultures. From this page you can find articles and other resources about Web internationalization, and information about the groups that make up the Activity. Read also about the opportunities to participate and fund work via the new Sponsorship Program.

[Learn more about the Activity...](#)

Recent highlights

- ▶ New resource: Short i18n review checklist *March 7, 2019*
- ▶ Working Group Note: Character Model for the World Wide Web: String Matching *February 4, 2019*
- ▶ One new, one updated article published *January 23, 2019*
- ▶ Article published: Approaches to line-breaking *August 13, 2018*
- ▶ For 2nd review: Approaches to line breaking *July 26, 2018*
- ▶ W3C launches Internationalization Initiative *July 10, 2018*
- ▶ For review: Approaches to line breaking *June 13, 2018*
- ▶ For last call review: Character Model for the World Wide Web: String Matching *May 8, 2018*

All news

March 7, 2019

New resource: Short i18n review checklist

The Short i18n review checklist points developers of specifications to various aspects of a spec that may need internationalization review. It can also be used by spec reviewers, to get an idea of what to look for in a spec.

Only 12 items long, it follows the format: if the spec or its implementation does X then check Y, and points to the relevant parts of the detailed checklist for more information.

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