

i18n & l10n

Numeronims

W3C

World Wide Web Consortium

a11y

accessibility

a c c e s s i b i l i t y

1 2 3 4 5 6 7 8 9 10 **11**

E15

Eyjafjallajökull



Photo by Jon Gustafsson

i18n & l10n

internationalization

&

localization

Internationalization

the process of designing a software application
so that it can be adapted to various languages
and regions without engineering changes

Localization

the process of adapting internationalized software for a specific region or language by translating text and adding locale-specific components

Locales

ro

locale short form (Language only)

ro-RO

locale long form (Language - Region)

en-US

en-GB

locale long form (Language - Region)

en-US

color

en-GB

colour

locale long form (Language - Region)

sr-latn-RS

sr-cyrl-RS

locale long form (Language - Script - Region)

sr-latn-RS

sr-cyrl-RS

ćirilica

ћирилица

locale long form (Language - Script - Region)

Extensions

T

Transformed Content

U

Unicode Locale

en-t-jp

English content **translated** from the original **Japanese**

Extension T (Transformed Content)

he-IL-u-nu-latn-ca-hebrew-tz-jerusalem



Hebrew language as spoken in Israel,
using Basic Latin numerals (0 through 9),
the traditional Hebrew calendar,
and in the "Asia/Jerusalem" time zone

Extension U (Unicode Locale)



ro-RO

IETF BCP 47 Language Tag

Internet Engineering Task Force
Best Current Practices

ro_RO

Java Locale



// how to get user's Locale ?

`navigator.languages`

returns the language(s) from the Browser, not the OS

on native apps, you get the OS language(s)



Translations

i18next

JavaScript internationalization framework



Setup i18next

i18next.com

p11n

pluralisation

1 fruit
2 fruits

English

1 fruit
0, 2+ fruits

English: 1 plural + singular

1 fruct

2 fructe

20 de fructe

Romanian

	1	fruct
0, 2-19		fructe
	20+	de fructe

Romanian: 2 plural forms + singular

zero

one

two

few

many

other

Plural Rules



i18next Plurals

```
new Intl.PluralRules(locale)  
.select(count)
```

Plural Rules

key_zero

key_one

key_two

key_few

key_many

key_other

i18next Plural Rules

<https://jsfiddle.net/6bpxsgd4>

Date / Time

Moment.js

date-fns

Day.js

Intl

ECMAScript Internationalization API



Intl.DateTimeFormat()

Numbers

Arabic

1 2 3 4 5 6 7 8 9

Cyrilic

А В Г Д Е С З И Θ

Numeral system != Alphabet

sr-latn-RS

20 – dvadeset

sr-cyrl-RS

20 – ДВАДЕСЕТ

Numeral system != Alphabet



Intl.NumberFormat()

Decimals, Currencies, Percents, Units

Browsers



Polyfills available

Node.js



v13+ built-in

Intl support

React Native



Requires enabling

TAKE AWAYS

Internationalization

One time, engineering only

Localization

Ongoing, engineering + language experts

Intel

THANK YOU



andreipeiffer.dev