

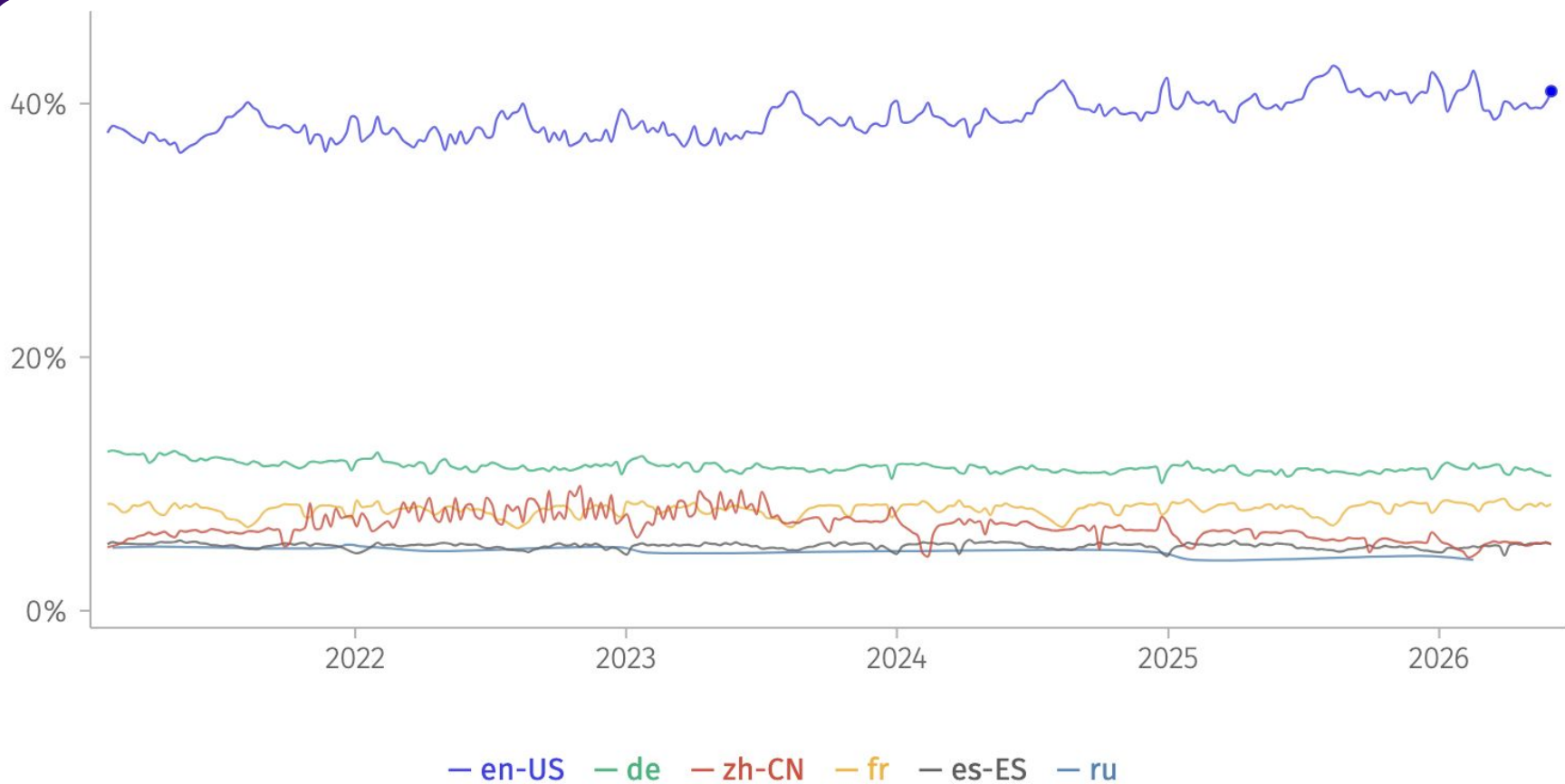


DOM Localization

Eemeli Aro

A large, stylized illustration of a fox, the Firefox logo, rendered in a gradient of orange, yellow, and red. The fox is shown in profile, facing left, with its tail curled upwards and to the right. The word "Firefox" is written in a large, white, sans-serif font, with the fox's body and tail appearing to run through the letters.

Firefox





Mozilla's Vision of the Web

The Web's basic design is declarative: HTML and CSS have empowered a very wide range of people to develop Web content because they're easy to understand and allow site authors to focus on the what rather than the how. In addition, browser-provided declarative features can guarantee robust & predictable fallback behaviors, in contrast to more fragile imperative approaches, where the responsibility for error handling falls entirely on the developers. Unfortunately, while Web experiences have become substantially more rich over the past 20 years, **the expressiveness of HTML and CSS has not kept pace.** Instead, authors who want to build interactive applications usually build upon frameworks that then draw their interfaces using HTML but **use JavaScript for the heavy lifting of application and rendering logic.** For complicated applications, this is a reasonable choice, but the limited HTML/CSS feature set means that authors feel compelled to use larger and increasingly more complex JS libraries & frameworks for nearly any interactive site. In a better world, it would be possible to **build more of these experiences using only the capabilities built into the browser.**



Client-side localization without scripting





*The Beast continued its studies with renewed **FOCUS**, building great **Reference** works and contemplating new **Realities**. The Beast brought forth its followers and acolytes to create a renewed smaller form of itself and, through **Mischievous** means, sent it out across the world.*

*from **The Book of Mozilla**, 6:27*



```
<!doctype html>
<html>
  <head>
    <meta
      http-equiv="Content-Security-Policy"
      content="default-src 'none'; style-src chrome:; object-src 'none'"
    />
    <meta charset="utf-8" />
    <title data-l10n-id="about-mozilla-title-6-27"></title>
    <link rel="stylesheet" href="chrome://global/content/aboutMozilla.css" />
    <link rel="localization" href="toolkit/about/aboutMozilla.ftl" />
  </head>

  <body>
    <section>
      <p id="moztext" data-l10n-id="about-mozilla-quote-6-27"></p>
      <p id="from" data-l10n-id="about-mozilla-from-6-27"></p>
    </section>
  </body>
</html>
```



```
# toolkit/locales/en-US/toolkit/about/aboutMozilla.ftl
```

```
about-mozilla-title-6-27 = The Book of Mozilla, 6:27
```

```
about-mozilla-quote-6-27 =
```

The Beast continued its studies with renewed *Focus*, building great *Reference* works and contemplating new *Realities*. The Beast brought forth its followers and acolytes to create a renewed smaller form of itself and, through *Mischievous* means, sent it out across the world.

```
about-mozilla-from-6-27 = from The Book of Mozilla, 6:27
```



Firefox

Web

```
<html>
<head>
  <link rel="localization" href="browser/browser.ftl"/>
  <link rel="localization" href="browser/tabCtxMenu.ftl"/>
  ...
  <title data-l10n-id="browser-main-window-default-title"></title>
</head>
<body>
  ...
  <button id="openANewTab" data-l10n-id="tabctx-new-tab-open"/>
  <button id="moveTabToNewGroup"
    data-l10n-id="tabctx-move-tab-to-new-group"
    data-l10n-args='{ "tabCount": 1 }' />
</body>
```



Firefox

Web

```
<html>
<head>
  <link rel="localization" href="{lang}/browser/browser.messages"/>
  <link rel="localization" href="{lang}/browser/tabCtxMenu.messages"/>
  ...
  <title msg="browser-main-window-default-title"></title>
</head>
<body>
  ...
  <button id="openANewTab" msg="tabctx-new-tab-open"/>
  <button id="moveTabToNewGroup"
    msg="tabctx-move-tab-to-new-group"
    msg-tabCount="1"/>
</body>
```



Firefox Web

```
# This is the initial default title for the browser window.  
# It gets updated based on loaded tabs or private browsing state.  
browser-main-window-default-title = { -brand-full-name }
```

```
# In left-to-right languages this should use "Right" and  
# in right-to-left languages this should use "Left" to  
# indicate the direction a new tab will open.
```

```
tabctx-new-tab-open =  
    .label = New Tab to Right  
    .accesskey = w
```

```
tabctx-move-tab-to-new-group =  
    .label =  
        { $tabCount ->  
            [1] Add Tab to New Group  
            *[other] Add Tabs to New Group  
        }  
    .accesskey = G
```



Firefox Web

```
# This is the initial default title for the browser window.  
# It gets updated based on loaded tabs or private browsing state.  
browser-main-window-default-title = {:browser width=long}
```

```
# In left-to-right languages this should use "Right" and  
# in right-to-left languages this should use "Left" to  
# indicate the direction a new tab will open.  
tabctx-new-tab-open = New Tab to Right  
tabctx-new-tab-open.accesskey = w
```

```
@input $tabCount - Number of tabs  
tabctx-move-tab-to-new-group =  
  .input {$tabCount :number}  
  .match $tabCount  
    1 {{Add Tab to New Group}}  
    * {{Add Tabs to New Group}}  
tabctx-move-tab-to-new-group.accesskey = G
```



Messages within the document

```
<html lang="en-GB">
  <head>
    <messages>
      example = This colour is grey
    </messages>
  </head>
  <body>
    <div msg="example"></div>
  </body>
</html>
```



Element Overlays

```
<html lang="en-GB">
  <head>
    <messages>
      example = This {#a}colour{/a} is grey
    </messages>
  </head>
  <body>
    <div msg="example"><a href="/page"></a></div>
  </body>
</html>
```



External message references

```
<html lang="en-US">
  <head>
    <link rel="messages" src="/path/to/messages">
  </head>
  <body>
    <div msg="example">
      This <a href="/page">color</a> is gray
    </div>
  </body>
</html>
```



Language Switching?

```
<html lang="en-US" lang-available="en-GB es es-ES fr">
  <head>
    <link rel="messages" src="/path/to/{lang}.messages">
  </head>
  <body>
    <div msg="example">
      This <a href="/page">color</a> is gray
    </div>
  </body>
</html>
```



Renaming { \$filename } on { \$provider } failed

Kazakh { \$provider } провайдерінегі { \$filename } файл атын өзгерту сәтсіз аяқталды

Korean { \$provider }의 { \$filename } 이름 변경 실패

Turkish { \$provider } sağlayıcısında { \$filename } yeniden adlandırılmadı

Chinese (China) 在 { \$provider } 重命名 { \$filename } 失败

Chinese (Taiwan) 在 { \$provider } 重新命名 { \$filename } 失败



English Your next bill of
{ \$priceAmount } + { \$taxAmount }
tax is due { \$date }

Japanese 次回は { \$date } に
{ \$priceAmount } + 税 { \$taxAmount }
が請求されます



Collect all the standards bodies

Unicode
MessageFormat

JS: Intl.
MessageFormat

Message
resources

DOM
Localization

Unicode CLDR-TC
MessageFormat WG

ECMA TC39

W3C i18n WG

*I would appreciate
some help here.*

Stable part of
Unicode Technical
Standard #35

Stage 1 proposal

Incubating



For more, join us tomorrow:

JS-less localized absolute time formatting

JS room, Tuesday 10:00

