adaptTo()

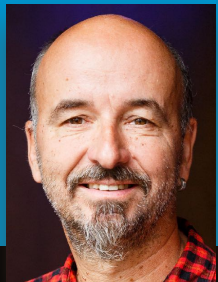EUROPE'S LEADING AEM DEVELOPER CONFERENCE
25th – 27th SEPTEMBER 2023

Where to render? That is the question!

Bertrand Delacretaz

Principal Scientist, Adobe
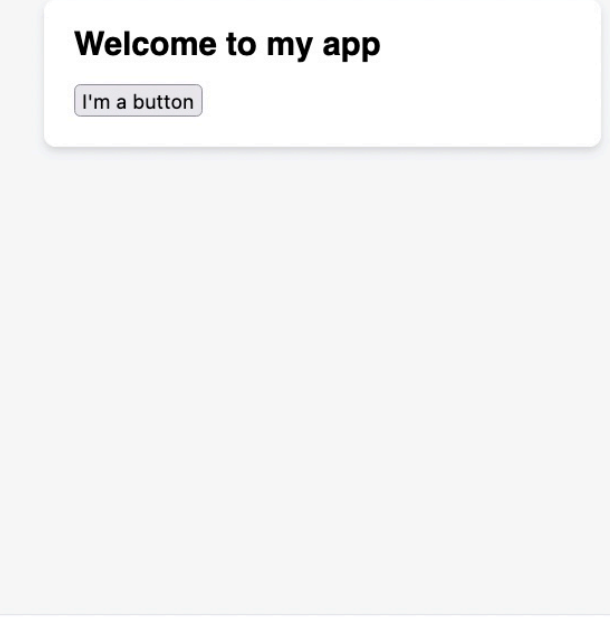Board Member, Apache Software Foundation
grep.codeconsult.ch - fosstodon.org/@bdelacretaz

This is not The Web !


```
App.js

 1  function MyButton() {
 2    return (
 3      <button>
 4        I'm a button
 5      </button>
 6    );
 7  }
 8
 9  export default function MyApp() {
10    return (
11      <div>
12        <h1>Welcome to my app</h1>
13        <MyButton />
14      </div>
15    );
16  }
17
```

Welcome to my app

I'm a button

Example from https://react.dev/learn
No offense - apps are good when you need them !

The Web Platform

HTML
Living Standard — Last Updated 28 January 2023

W3C Descriptions of all CSS specifications

ECMA-262

ECMAScript® 2022 language specification

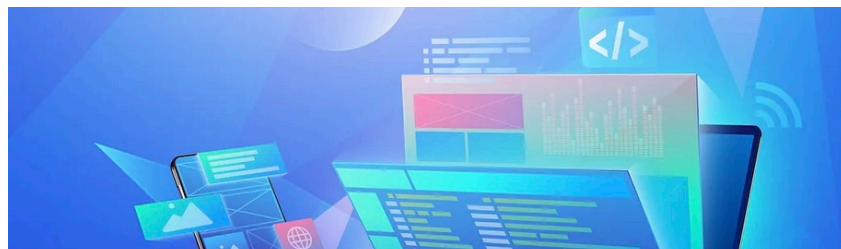13th edition, June 2022

Web APIs

mdn_

https://developer.mozilla.org/en-US/

The Web Platform Is Back
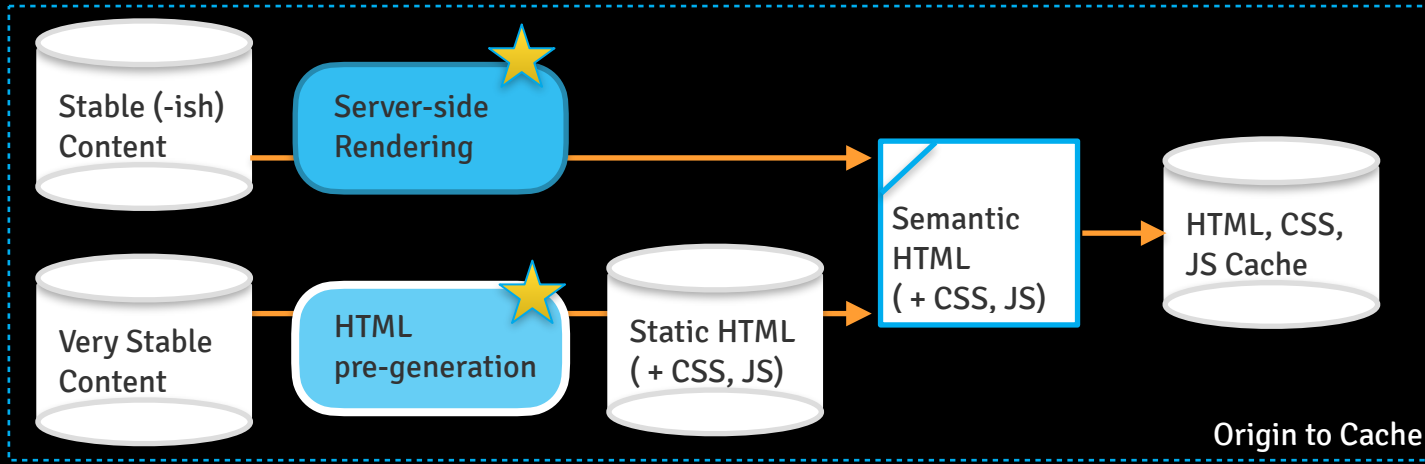blog.developer.adobe.com

Bertrand Delacretaz
Published in Adobe Tech Blog · 5 min read · Dec 14, 2022

Adobe adaptTo()

The Rendering Pipeline

A Typical Rendering Pipeline

FULL OPTIONS !

Stable (-ish) Content → Server-side Rendering ⭐ → Semantic HTML (+ CSS, JS) → HTML, CSS, JS Cache

Very Stable Content → HTML pre-generation ⭐ → Static HTML (+ CSS, JS) → Semantic HTML (+ CSS, JS)
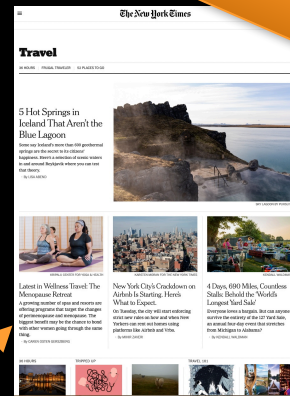
Origin to Cache

Web Page
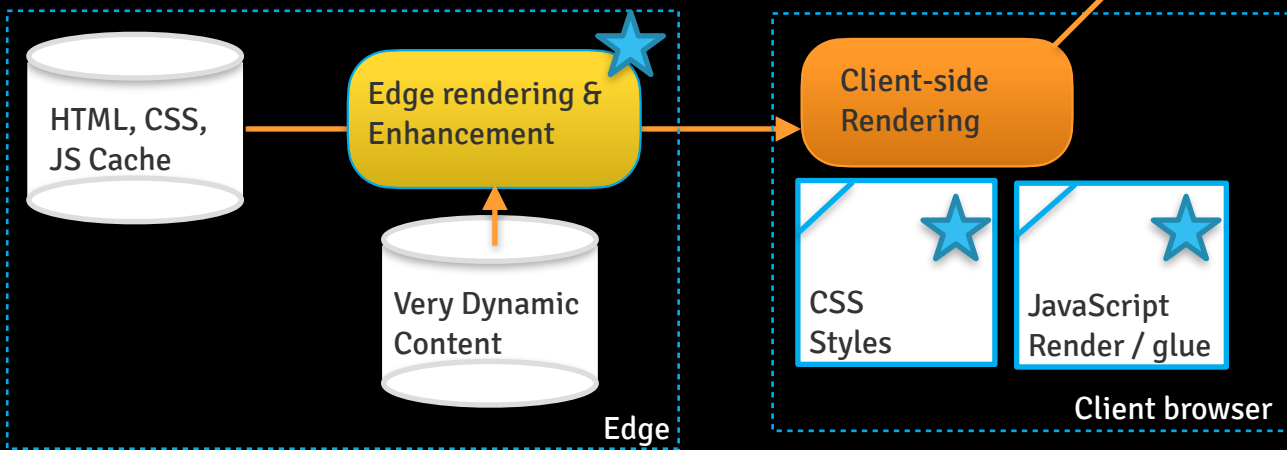
⭐ Required Rendering code

⭐ Optional Rendering code

HTML, CSS, JS Cache → Edge rendering & Enhancement ⭐ → Client-side Rendering

Very Dynamic Content ↑

Edge

CSS Styles ⭐   JavaScript Render / glue ⭐

Client browser

5

Semantic HTML?

```html
HTML

<h1>This is a top level heading</h1>
```

← *Semantic*

```html
HTML

<span style="font-size: 32px; margin: 21px
0;">Not a top-level heading!</span>
```

← *NOT Semantic*

On the page, both look the same!
from https://developer.mozilla.org/en-US/docs/Glossary/semantics

Origin to Cache
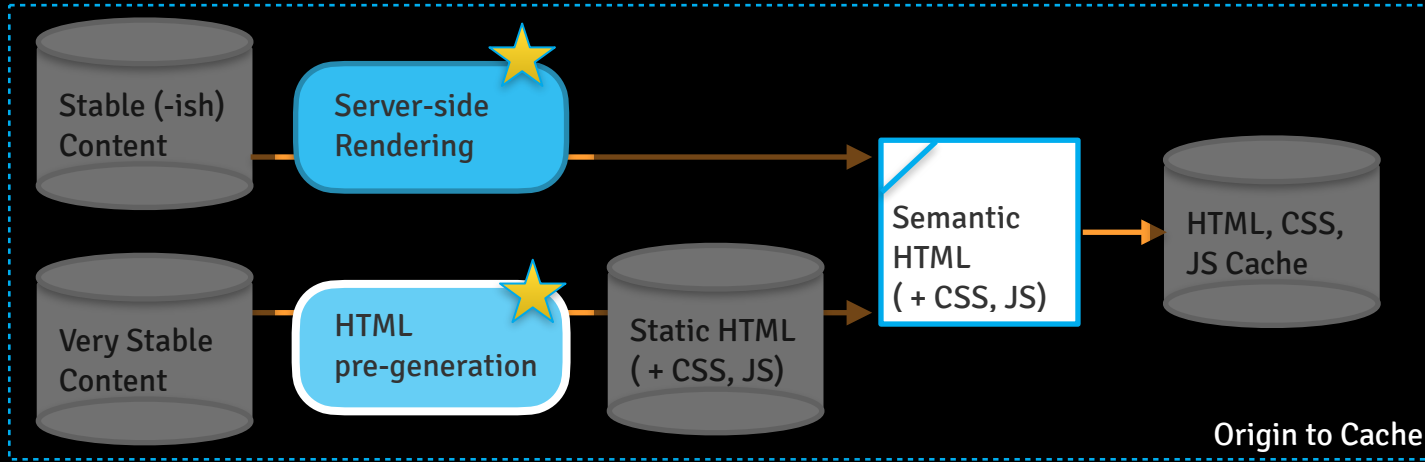
Stable vs **Very Stable** ?
Depends on the characteristics of the HTML generation mechanisms.

Semantic HTML is key to creating indexable and omni-channel markup.

Cache to Web Page

HTML, CSS, JS Cache	→	Edge rendering & Enhancement ★	→	Client-side Rendering	→

Very Dynamic Content → Edge rendering & Enhancement

Edge

CSS Styles ★ | JavaScript Render / glue ★

Client browser

← low latency →

Web Page
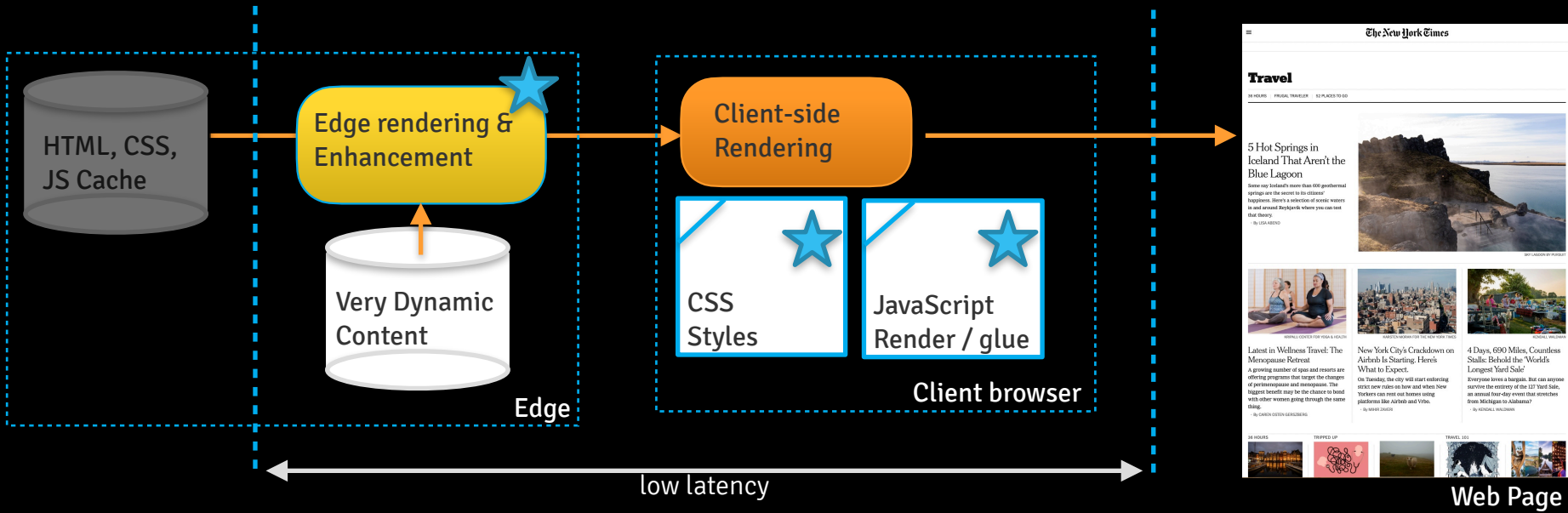
Edge and JavaScript rendering are optional, use sparingly !

Edge enhancement can include personalisation, dynamic data injection etc.

It's the Web !

Do it in HTML if you can

Take advantage of **modern CSS**

Think before writing **JavaScript**

Degrade gracefully

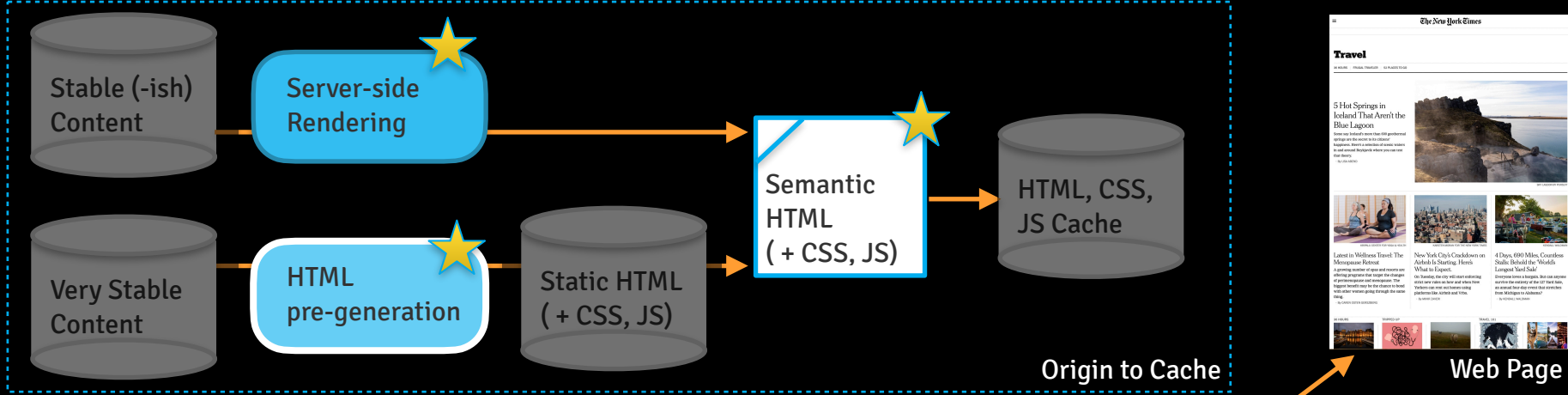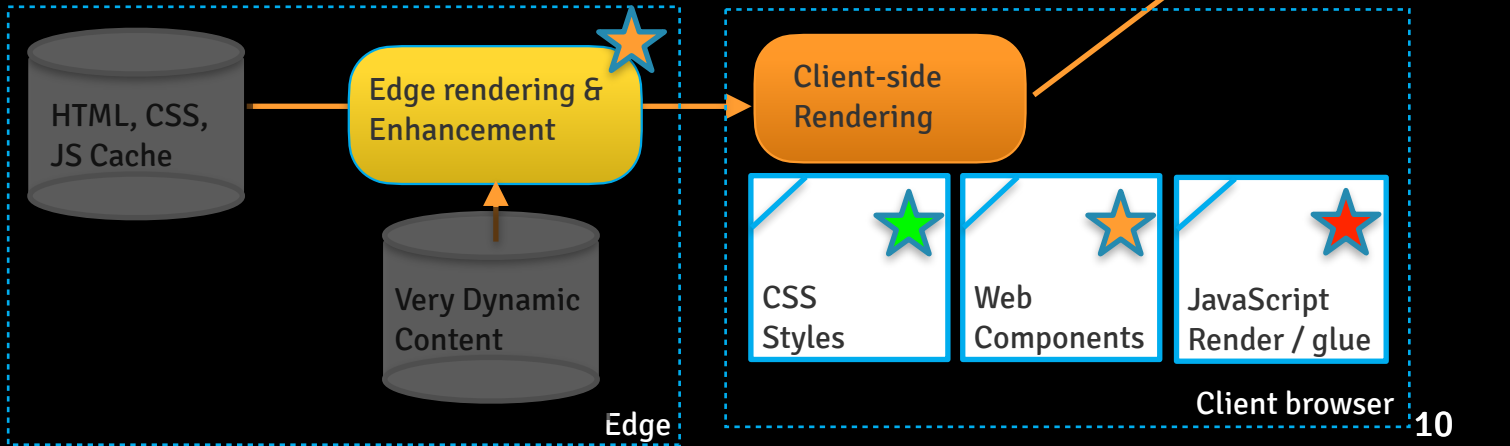Be kind to **older devices**

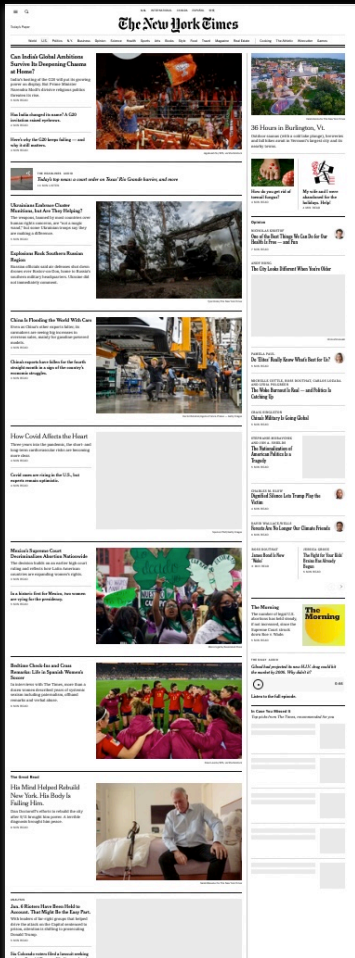Consider **low-bandwith** scenarios

The right choices!

Origin to Cache

Web Page

YES

Certainly

For enhancements

Be careful !

Edge

Client browser

10

Examples

nytimes.com , without JavaScript

Delayed loading of images

Section links work

Menu still visible but doesn't work

Reasonably semantic HTML

5 Hot Springs in Iceland That Aren't the Blue Lagoon

Some say Iceland's more than 600 geothermal springs are the secret to its citizens' happiness. Here's a selection of scenic waters in and around Reykjavik where you can test that theory.

· By LISA ABEND

```
⊙ Inspector    ⊡ Console    ◻ Debugger    ↑↓ Network    {} Style Editor    ⊙ Pe

⚲ Search HTML

  ▾<li class="css-ikiut1">
    ▾<article class="css-1q1ko0u"> flex
      ▸<figure class="photo css-1fwiylb e759ksq0" aria-label="med
      ▾<div class="css-gjijuv">
        ▾<h3 class="css-1fwzrm8 e27kk5e0">
          ▾<a class="css-1u3p7j1" data-rref="" href="/2023/09/05/t
              5 Hot Springs in Iceland That Aren't the Blue Lagoon
              ::after
          </a>
        </h3>
        ▾<p class="css-f9p5k6 e27kk5e1">
            Some say Iceland's more than 600 geothermal springs are
            a selection of scenic waters in and around Reykjavik wh
        </p>
        ▸<p class="css-eyhz1u e1hr934v3">⋯</p> flex
      </div>
      ::after
    </article>
  </li>
```

blog.adobe.com
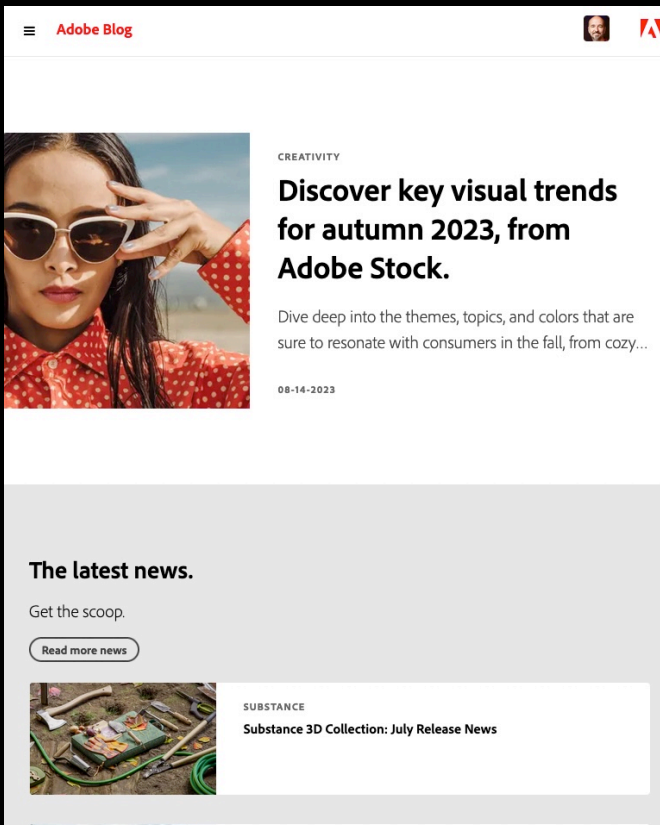
Fairly semantic HTML

Requires JavaScript: block-based client-side (final) rendering & aggregation, tuned for Core Web Vitals

HTML/JSON loading timeline:

File	Type		
		0 ms	1.28 s
id?d_visid_ver=5.3.0&d_fieldgroup=AAM&d_rtbd=json&d_ver=2&d_orgid=9E1005A551ED61CA0A4			
/	html	381 ms	
discover-key-visual-trends-for-autumn-2023-from-adobe-stock?noredirect	html	79 ms	
taxonomy.json	json	74 ms	
gnav.plain.html	html	81 ms	
footer.plain.html	html	81 ms	
text.css	html	76 ms	
text.js	html	82 ms	
placeholders.json	json	111 ms	
substance-3d-collection-july-release-news?noredirect	html	111 ms	
placeholders.json	json	81 ms	
7a5eb705-95ed-4cc4-a11d-0cc5760e93db.json	js	325 ms	
query-index.json?limit=500&offset=0&cb=true	json	109 ms	
adobe-photoshop-lightroom-has-new-mobile-interface-make-editing-even-easier-on-go?noredire	html	75 ms	
photoshop-releases-new-generative-expand-workflow-global-language-support-for-firefly-powere	html	158 ms	
v1?jslVersion=v2-v0.38.0-17-g633319d	plain	557 ms	
v1?jslVersion=v2-v0.38.0-17-g633319d	json	396 ms	
profile	plain	363 ms	
profile	json	563 ms	
id?d_visid_ver=5.3.0&d_fieldgroup=AAM&d_rtbd=json&d_ver=2&d_orgid=9E1005A551ED61CA0A4	json	506 ms	
/container/13539;99030;10307;iframe/?ftXRef=&ftXValue=&ftXType=&ftXName=&ftXNumItems=&f	html	572 ms	
dest5.html?d_nsid=0	html	400 ms	
i?pid=93f19646-2418-418d-98af-f244ebb7c1cc&u_scsid=28df89d5-62f7-4dbf-ae1b-45fe976517	html	617 ms	
/?_les_imsOrgId=9E1005A551ED61CA0A490D45@AdobeOrg&_les_sdid=150010053CFF9165-28B4	plain	890 ms	
activityi;src=9212252;type=invmedia;cat=japan000;dc_lat=;dc_rdid=;tag_for_child_directed_treatm	html	363 ms	
activityi;src=9212252;type=invmedia;cat=gtag_004;ord=635723877750;auiddc=1569155101.16939	html	101 ms	

Adobe   adaptTo()

chiptune.app

```
$ curl https://chiptune.app/

<!doctype html>
<html lang="en">
<head>
<meta charset="utf-8">
<title>Chip Player JS</title>
<link rel="preload" href="/chip-core.wasm"/>
<link href="/static/css/main.a20fe127.css" rel="stylesheet">
</head>
<body>
<noscript>You need JavaScript!</noscript>

<div id="root"></div>
<script src="/static/js/main.8741edec.js"></script>

</body>
</html>
```

Clearly an interactive app,
JavaScript all the way is fine!

github.com: 29 Web Components on a Gist page

bdelacretaz / **list-custom-elements.js**

Last active 8 months ago

⭐ Star

`<>` Code   Revisions 3

`<>` **list-custom-elements.js**   Raw

```
1    // List custom element names registered in the current browser page
2    console.log(
3      [...new Set([].map.call(
4        document.querySelectorAll('*'),
5        el => el.nodeName.toLowerCase()))
6      ].filter(
7        customElements.get.bind(customElements)
8      )
9      .sort()
10   )
```

Write   Preview

Aa ⌄   ☰ `<>` 🔗 @ 🖼 ⤢

Leave a comment

Comment

```
> ▶ console.log(
      [...new Set([].map.call(
        document.querySelectorAll('*'),
        el => el.nodeName.toLowerCase()))
      ].filter(…
    ▼ Array(29) [ "clipboard-copy", "command-palette",
    "command-palette-item-group", "command-palette-page",
    "command-palette-page-stack", "command-palette-
    scope", "details-dialog", "details-menu", "file-
    attachment", "include-fragment", … ]
        0: "clipboard-copy"
        1: "command-palette"
        2: "command-palette-item-group"
        3: "command-palette-page"
        4: "command-palette-page-stack"
        5: "command-palette-scope"
        6: "details-dialog"
        7: "details-menu"
        8: "file-attachment"
        9: "include-fragment"
        10: "markdown-toolbar"
        11: "md-bold"
        12: "md-code"
        13: "md-header"
        14: "md-italic"
        15: "md-link"
        16: "md-mention"
        17: "md-ordered-list"
        18: "md-quote"
        19: "md-ref"
        20: "md-task-list"
        21: "md-unordered-list"
        22: "notification-indicator"
        23: "notification-shelf-watcher"
        24: "relative-time"
        25: "tab-container"
        26: "task-lists"
        27: "text-expander"
        28: "tool-tip"
        length: 29
```

```
<details-menu class="dropdown-menu dropdown-menu-sw" sty
  <div class="css-truncate">
    <a
      role="menuitem"
      class="color-fg-default no-underline px-3 pt-2 pb-
      href="/bdelacretaz"
      data-analytics-event="{&quot;category&quot;:&quot;
    >
      Signed in as <strong class="css-truncate-target">b
    </a>
  </div>
  <div role="none" class="dropdown-divider"></div>
  <a
    role="menuitem"
    class="dropdown-item"
    href="/bdelacretaz"
    data-analytics-event="{&quot;category&quot;:&quot;Header&quot;,&quot;ac
  >
    Your gists
  </a>
```

15

Coda

Conclusions

Make **conscious decisions** on where page components are rendered

HTML first, CSS next, other tools as needed

One size does **not** fit all, look at **your** environment and requirements!