The intersection of

Performance

Accessibility

performance.now()

Hallo!

#perf 🤝 #a11y

Let’s set the stage:

Performance

noun - pər-ˈfȯr-mən(t)s

The manner in which a mechanism behaves

1.
2.
3.
4.

Make beautiful products, faster. Material is a design system – backed by open-source code – that helps teams build digital experiences

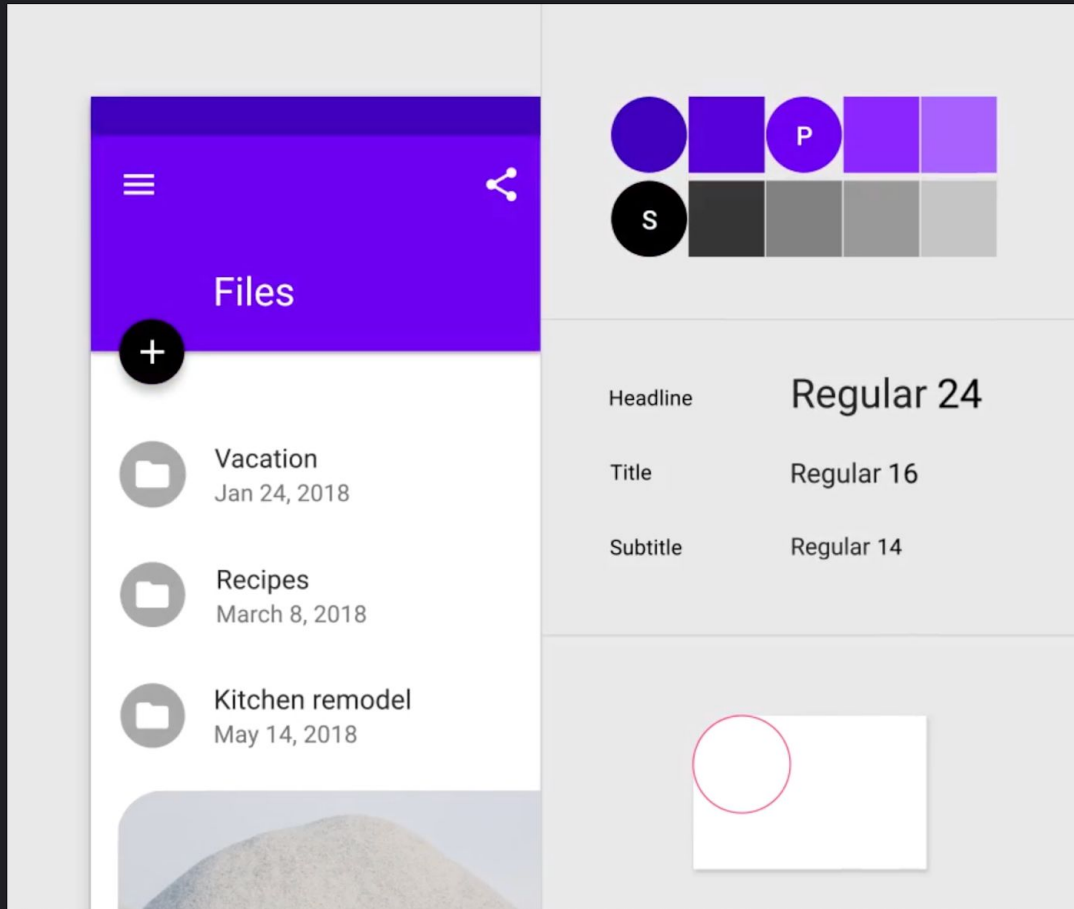
Design flexibly

Get started with detailed design guidance and create custom Material themes to make your product unique.

LEARN MORE

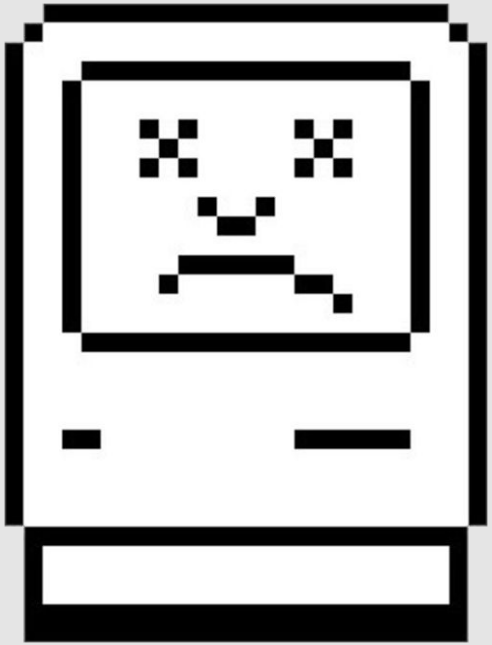
Develop across platforms

Collaborate seamlessly



Google made it? Oh sweet.

I don’t have to worry as much.



How do you describe an interface?

The Accessibility Tree

Name

Play

Short identifier to designate purpose.

Name	Play	Short identifier to designate purpose.
Role	Button	How to interact with the object.

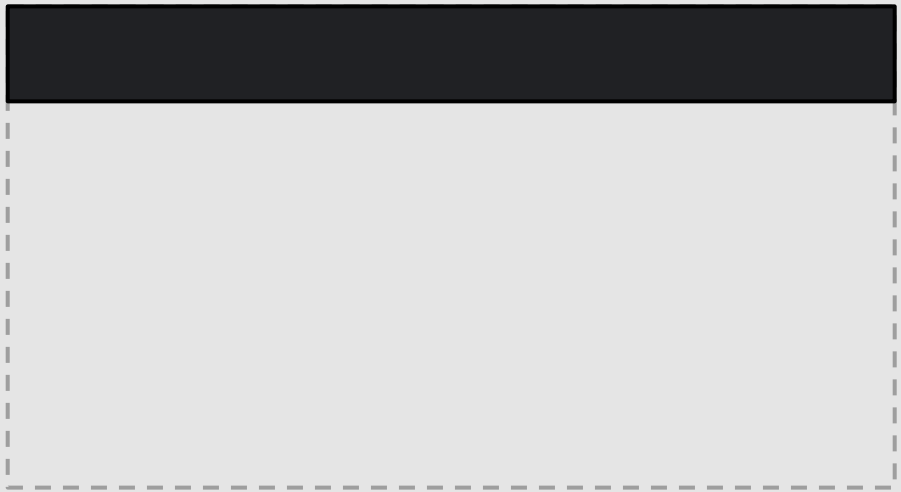
Name	Play	Short identifier to designate purpose.
Role	Button	How to interact with the object.
Properties	Pressed	The object’s state.

Name	Play	Short identifier to designate purpose.
Role	Button	How to interact with the object.
Properties	Pressed	The object's state.
Description	N/A	Further information, if needed.

OS Alert Dialog

OS Alert Dialog

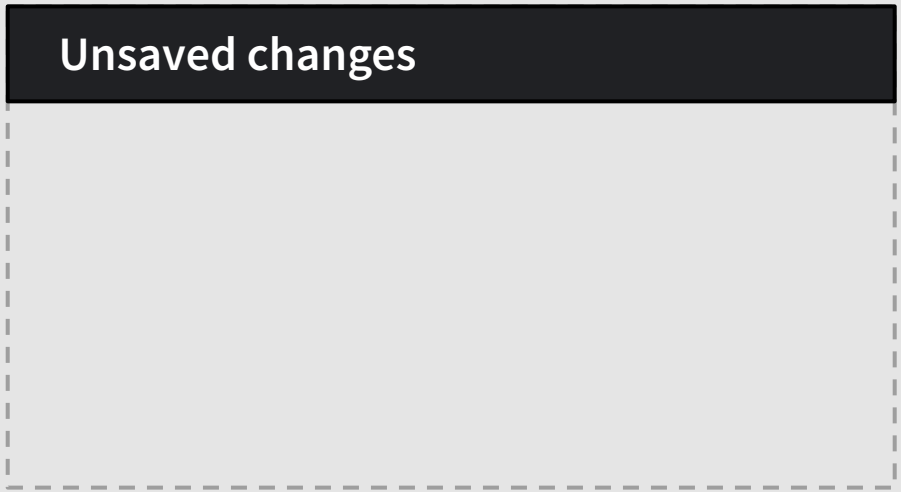
↳ Menubar



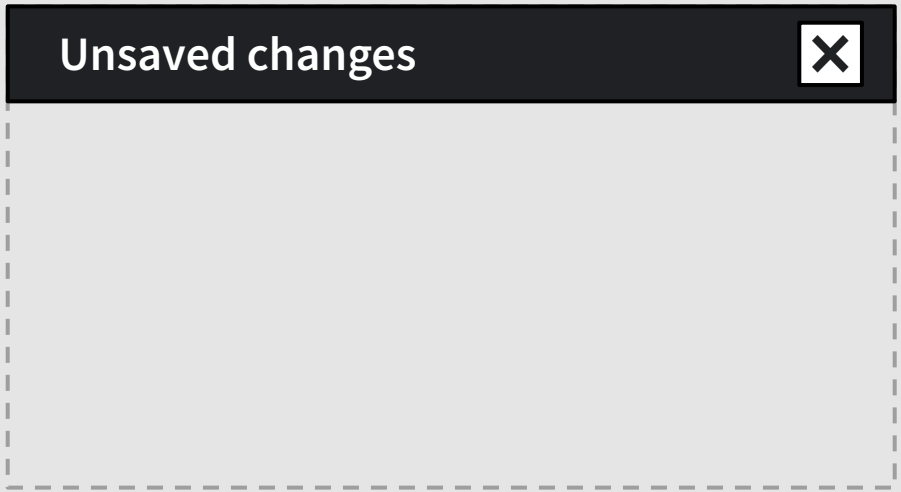
OS Alert Dialog

↳ Menubar

↳ Title

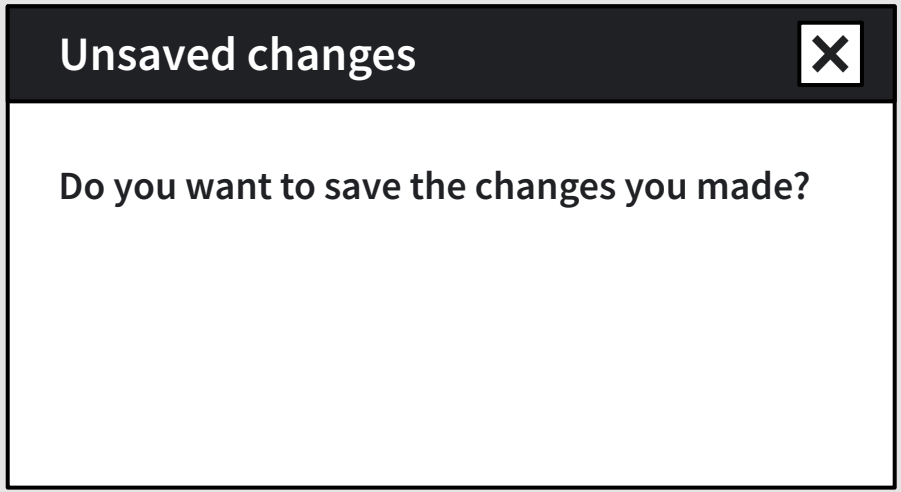


- OS Alert Dialog
  - Menubar
    - Title
    - Close Button

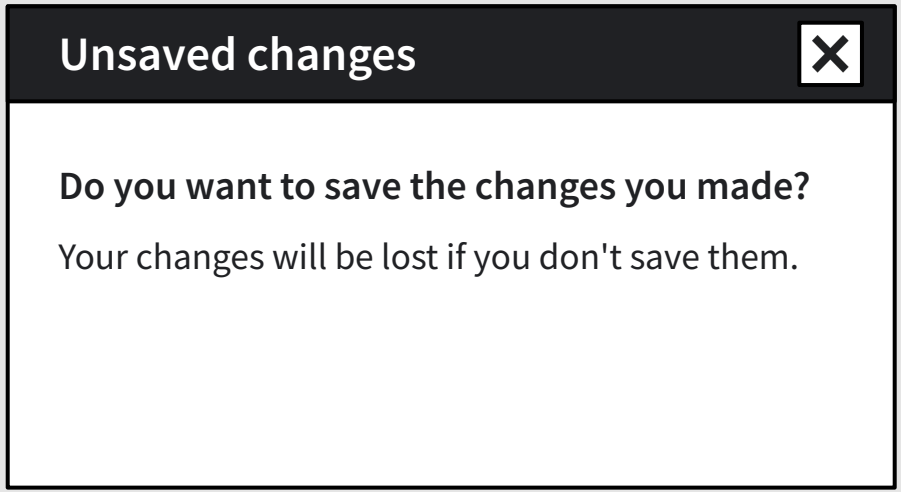


- OS Alert Dialog
  - Menubar
    - Title
    - Close Button
  - Body

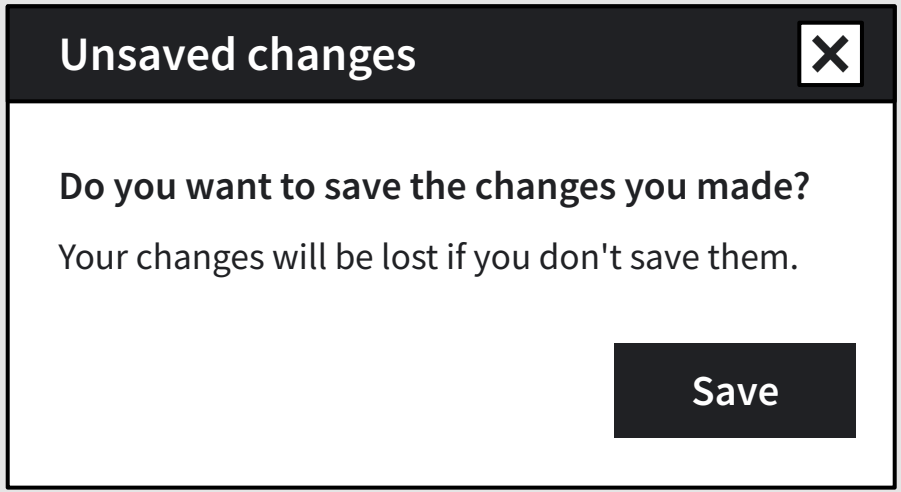
- OS Alert Dialog
  - Menubar
    - Title
    - Close Button
  - Body
    - Title



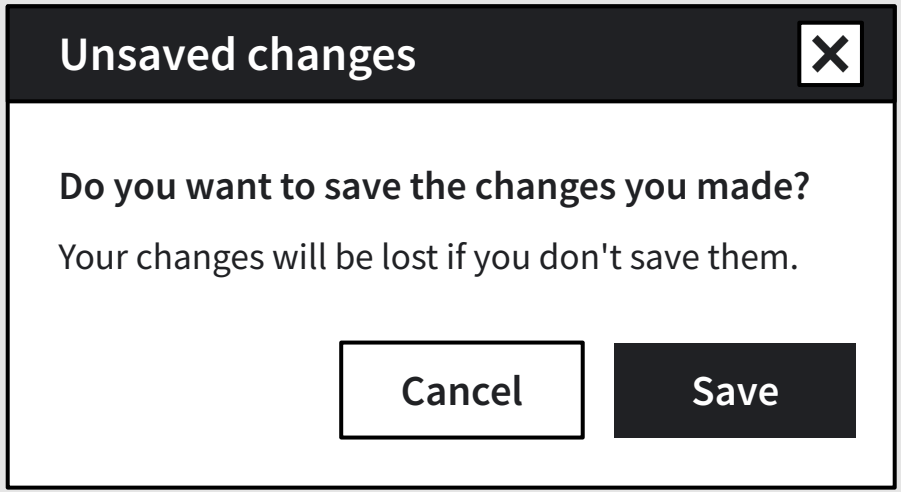
- OS Alert Dialog
  - Menubar
    - Title
    - Close Button
  - Body
    - Title
    - Text

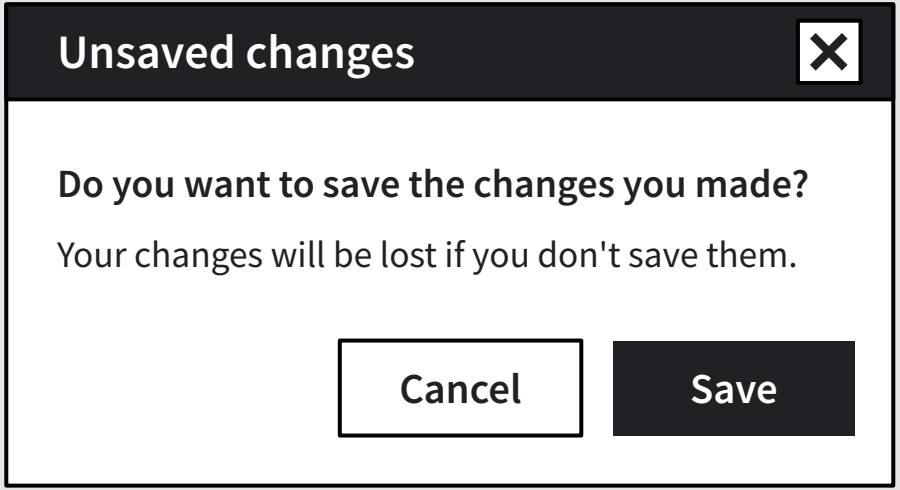


- OS Alert Dialog
  - Menubar
    - Title
    - Close Button
  - Body
    - Title
    - Text
    - Save Button

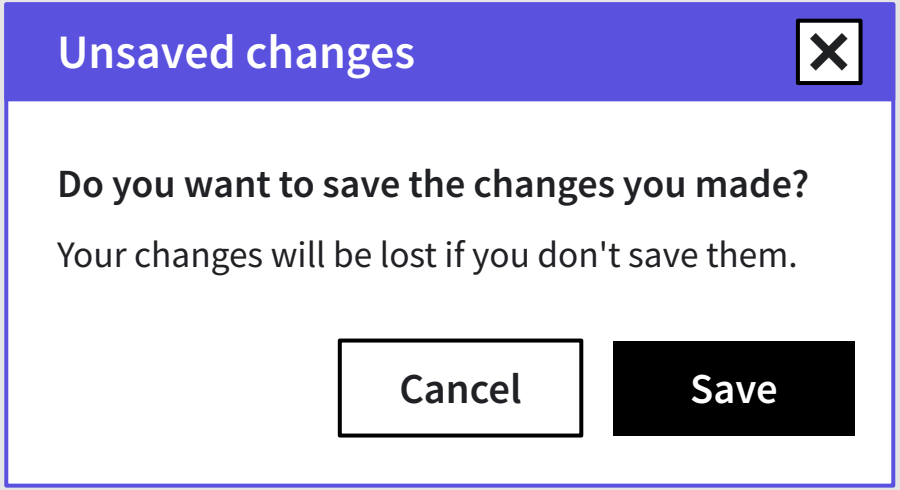


- OS Alert Dialog
  - Menubar
    - Title
    - Close Button
  - Body
    - Title
    - Text
    - Save Button
    - Cancel Button

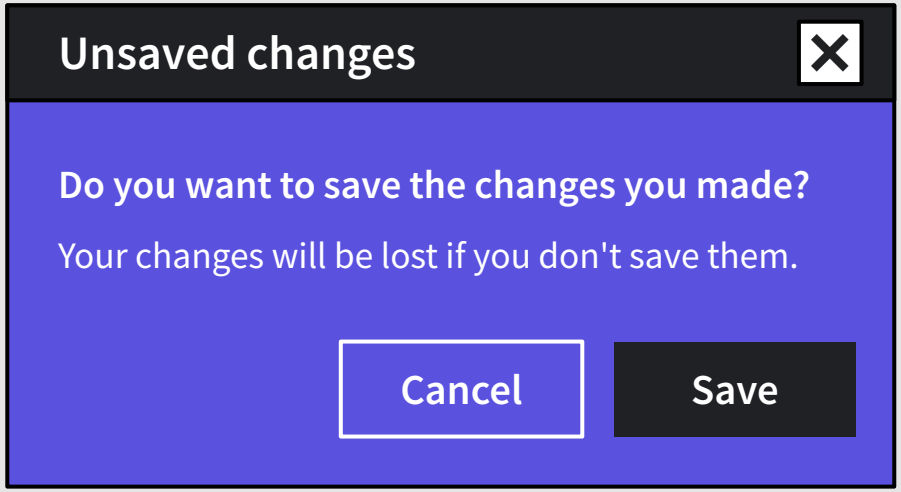



Unsaved changes
Do you want to save the changes you made?
Your changes will be lost if you don't save them.
Cancel
Save

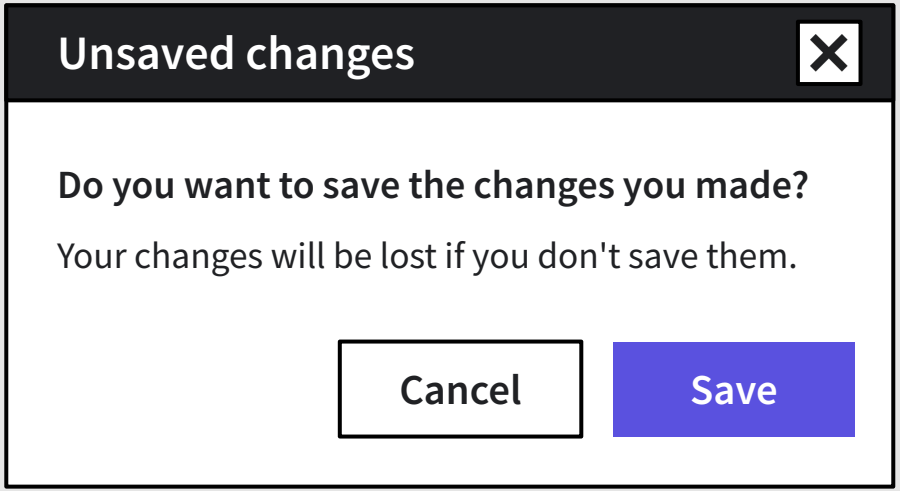
Go to the **Dialog**



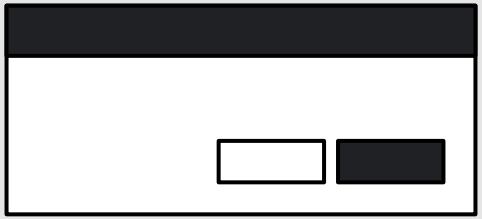
Go to the **Dialog**'s **Body**

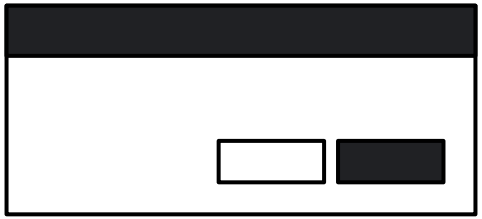


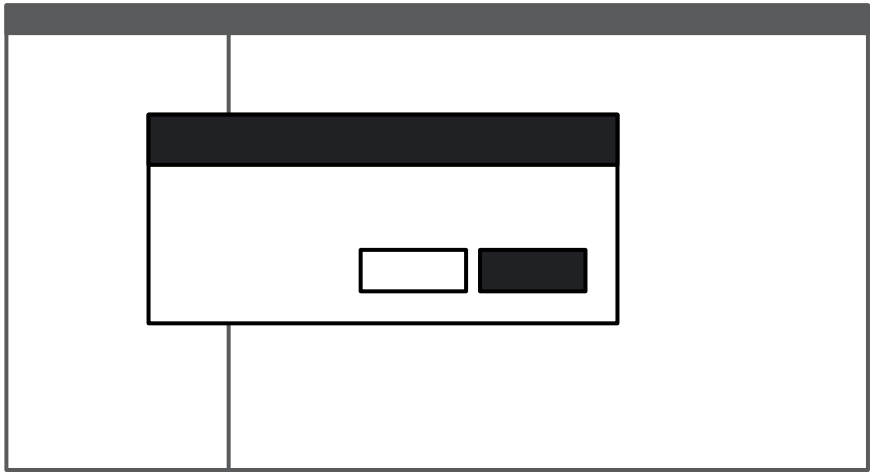
Go to the **Dialog**'s **Body** and **activate** the **Save Button**

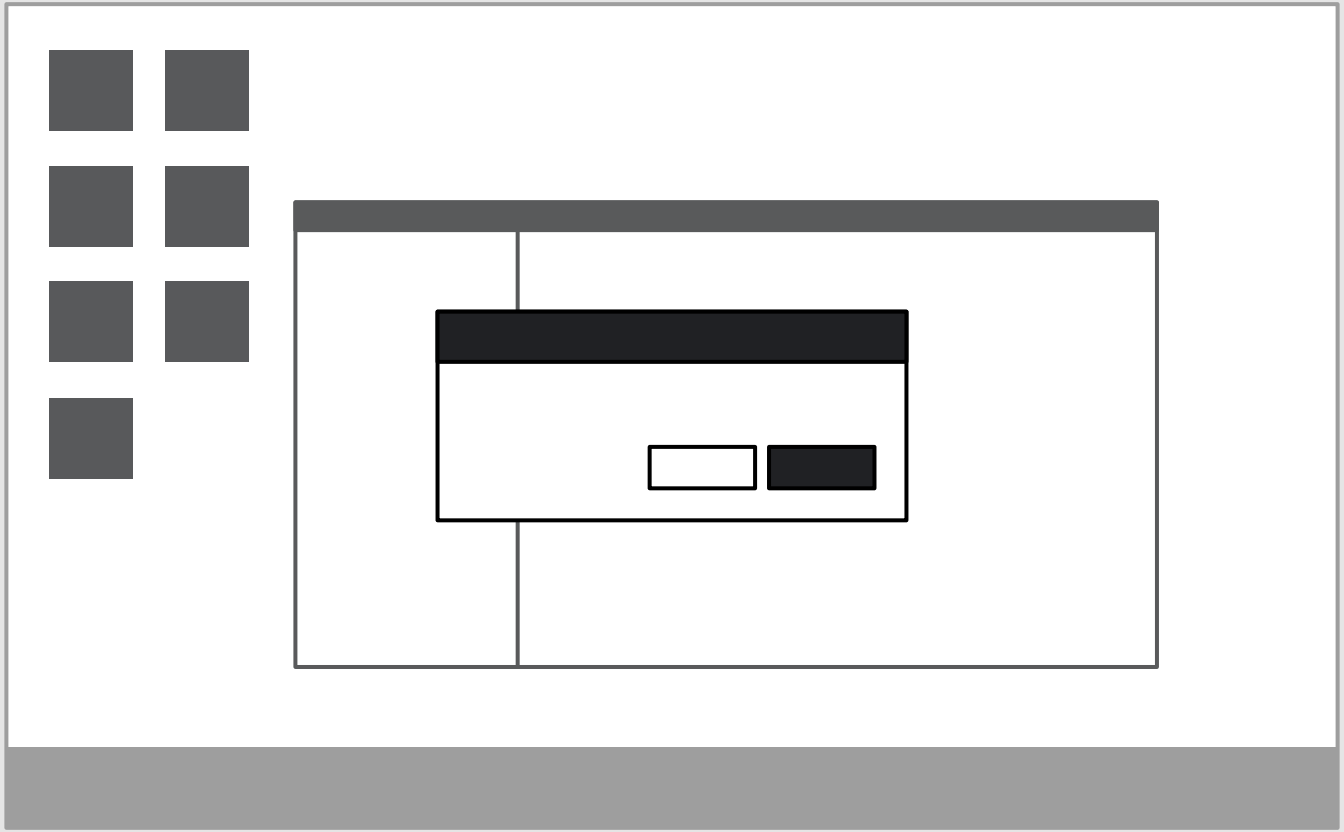


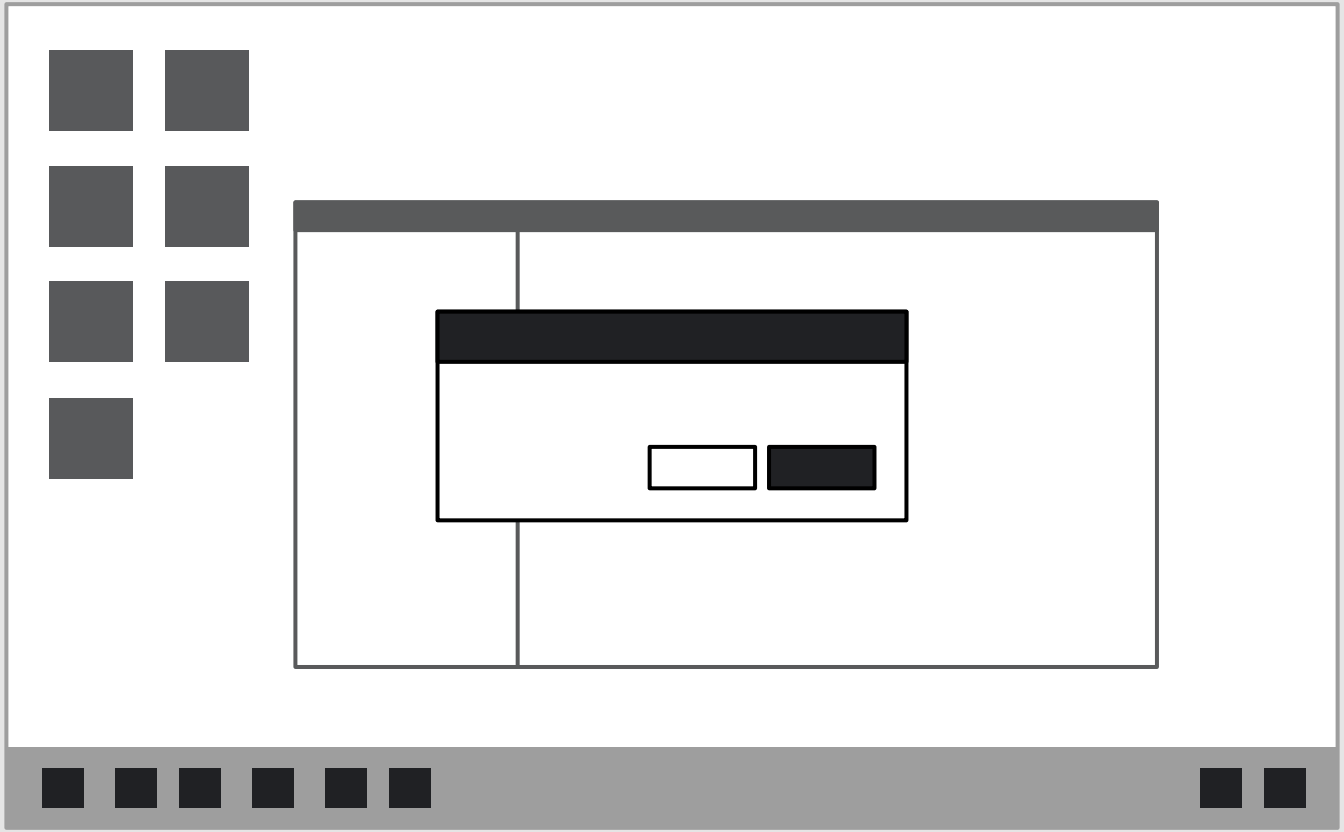
Bear with me a for a bit:

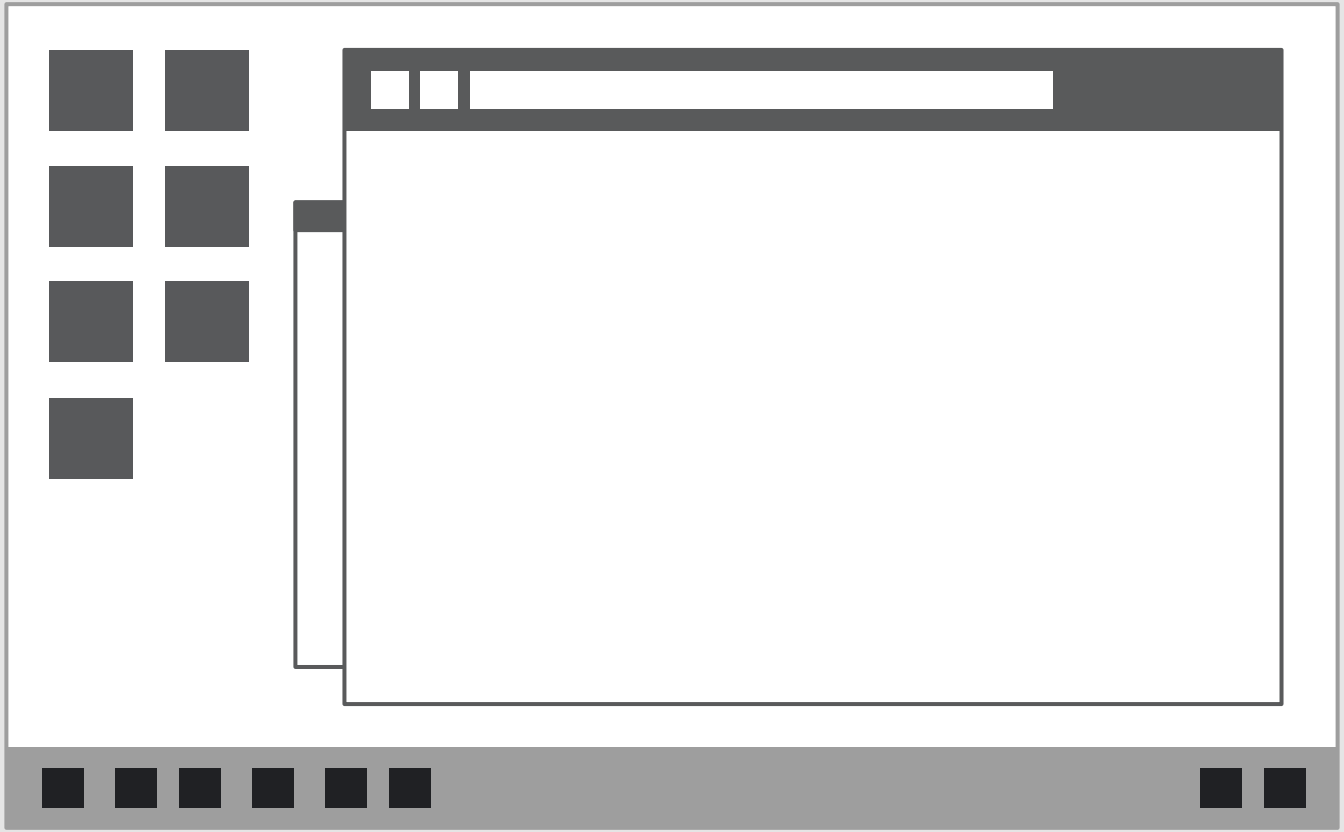










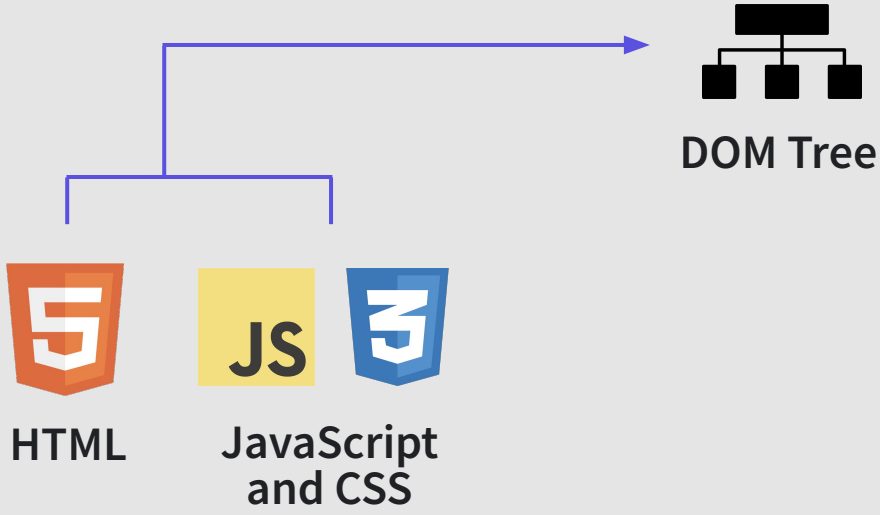


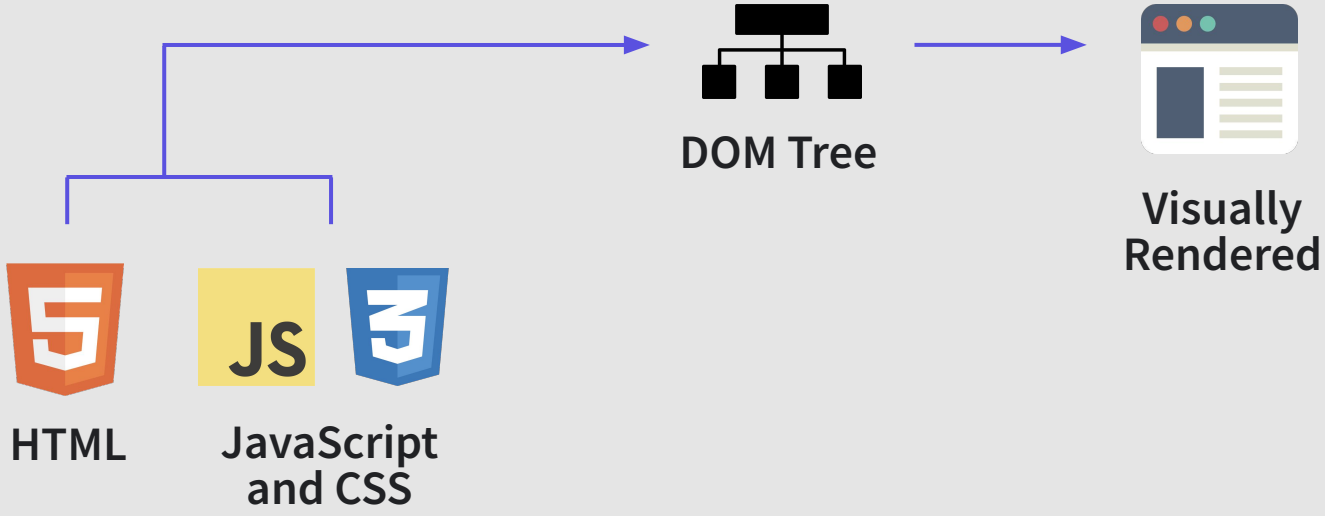
On the web:

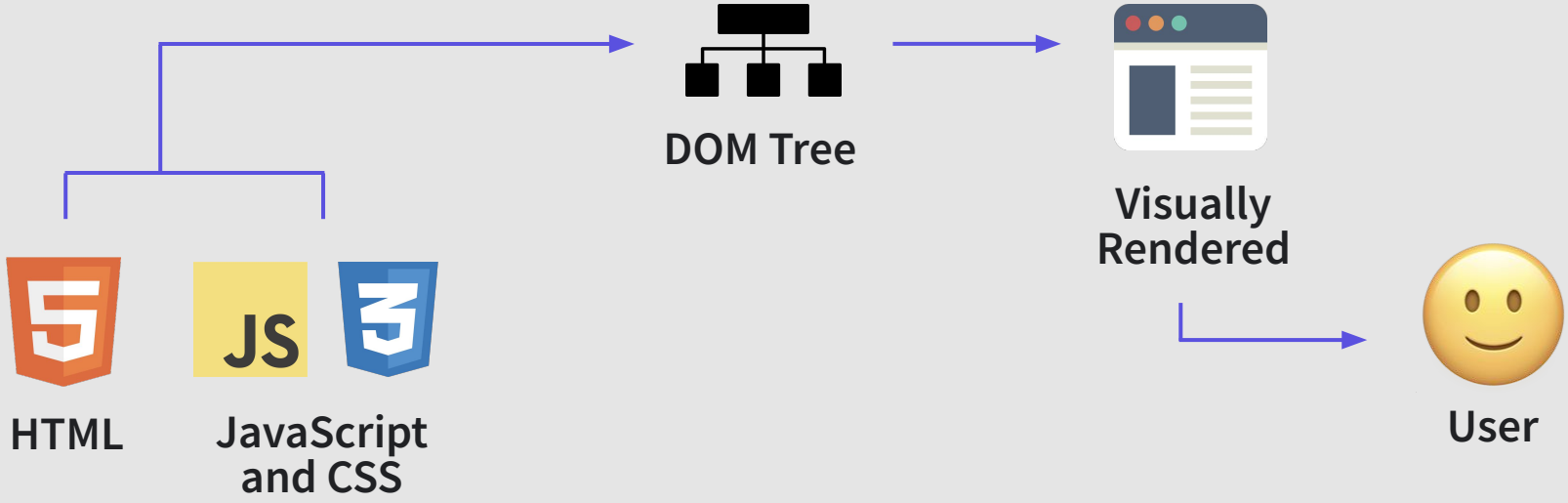
HTML

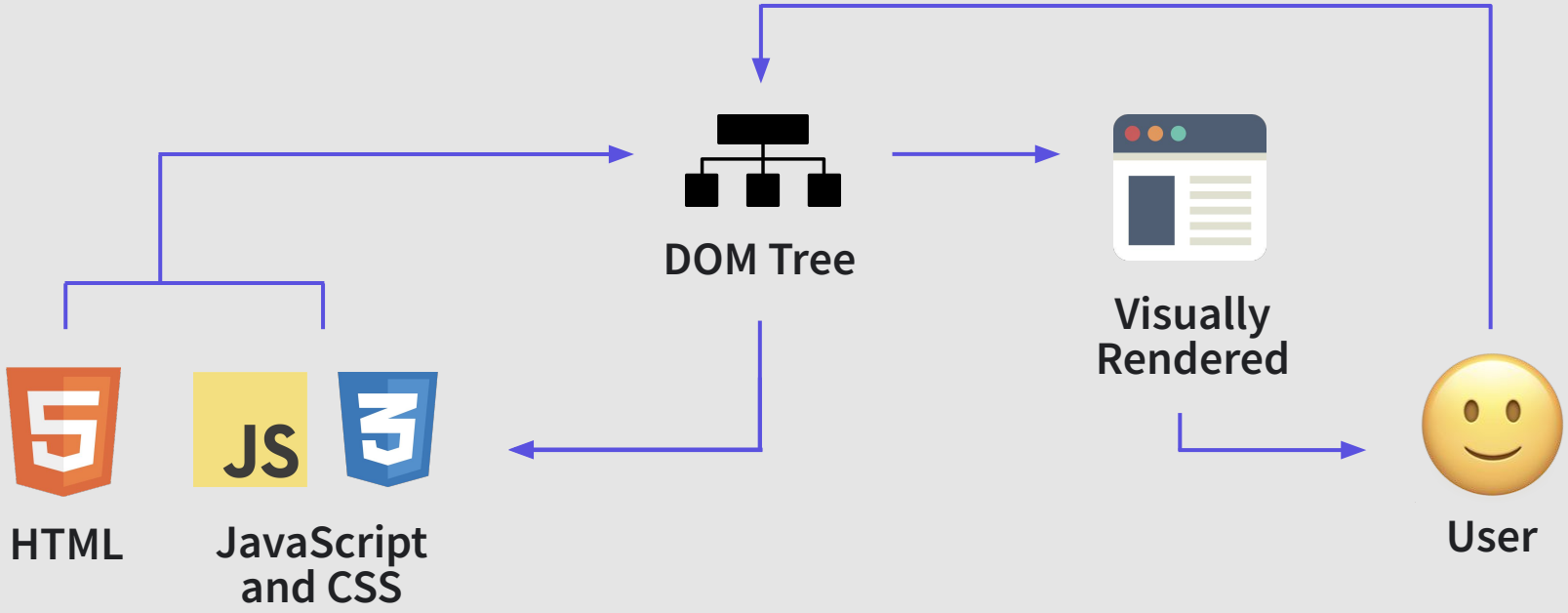
HTML

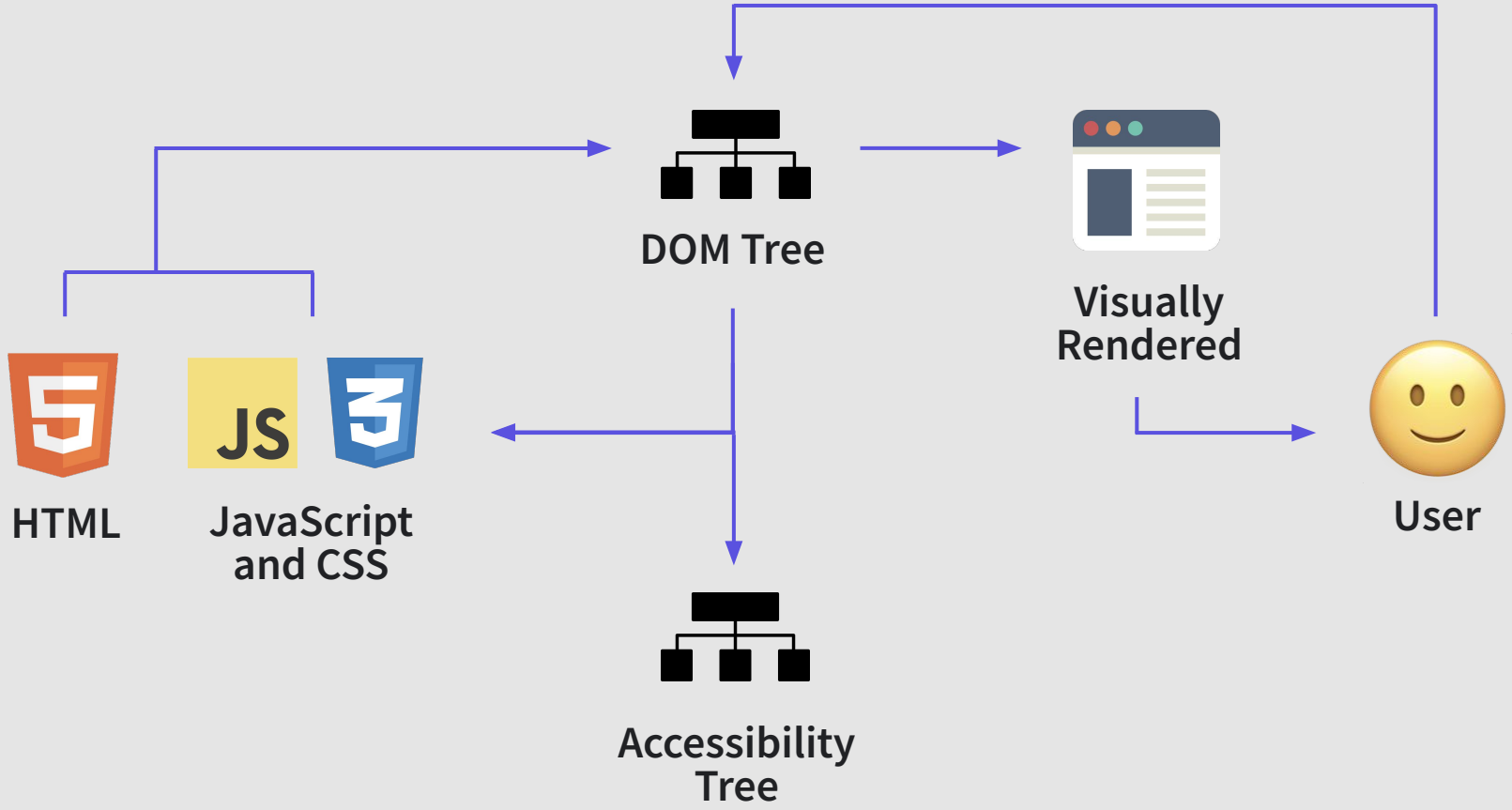
JavaScript
and CSS

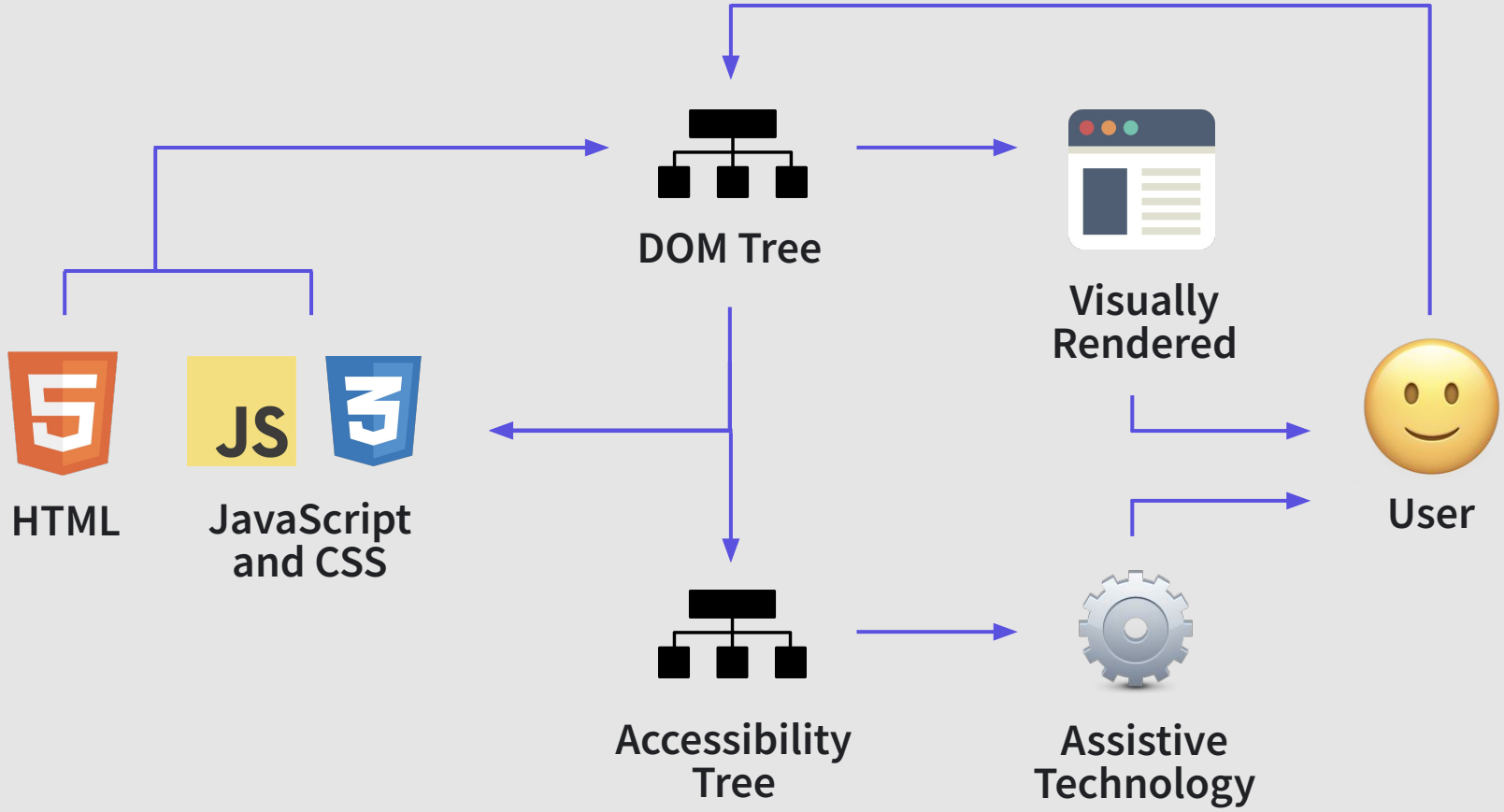

DOM Tree
JS
HTML
JavaScript
and CSS

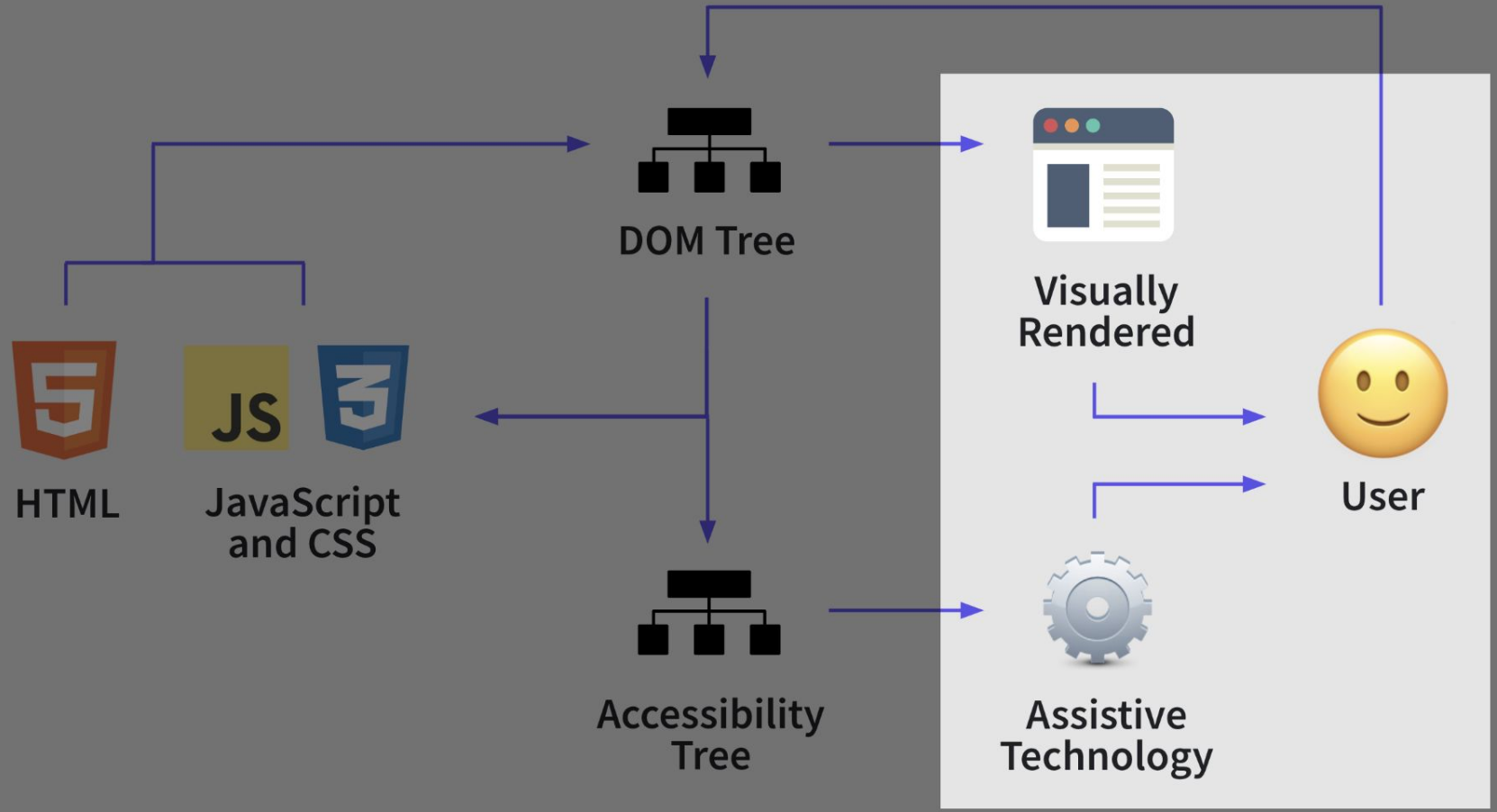

DOM Tree
Visually Rendered
JS
HTML
JavaScript and CSS

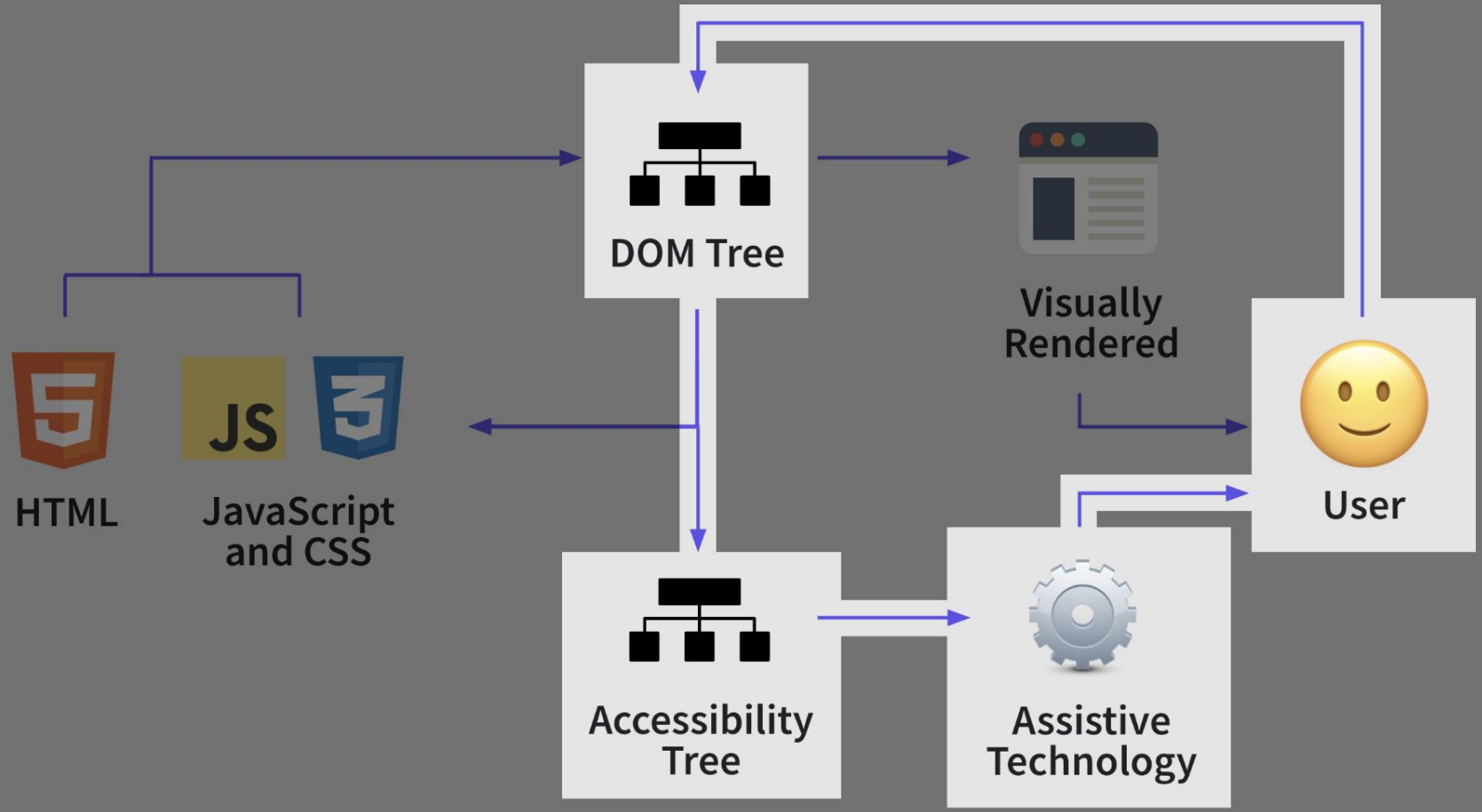

DOM Tree
Visually Rendered
HTML
JS
JavaScript and CSS
User


DOM Tree
Visually Rendered
HTML
JS
JavaScript and CSS
User


DOM Tree
Visually Rendered
HTML
JavaScript and CSS
User
Accessibility Tree

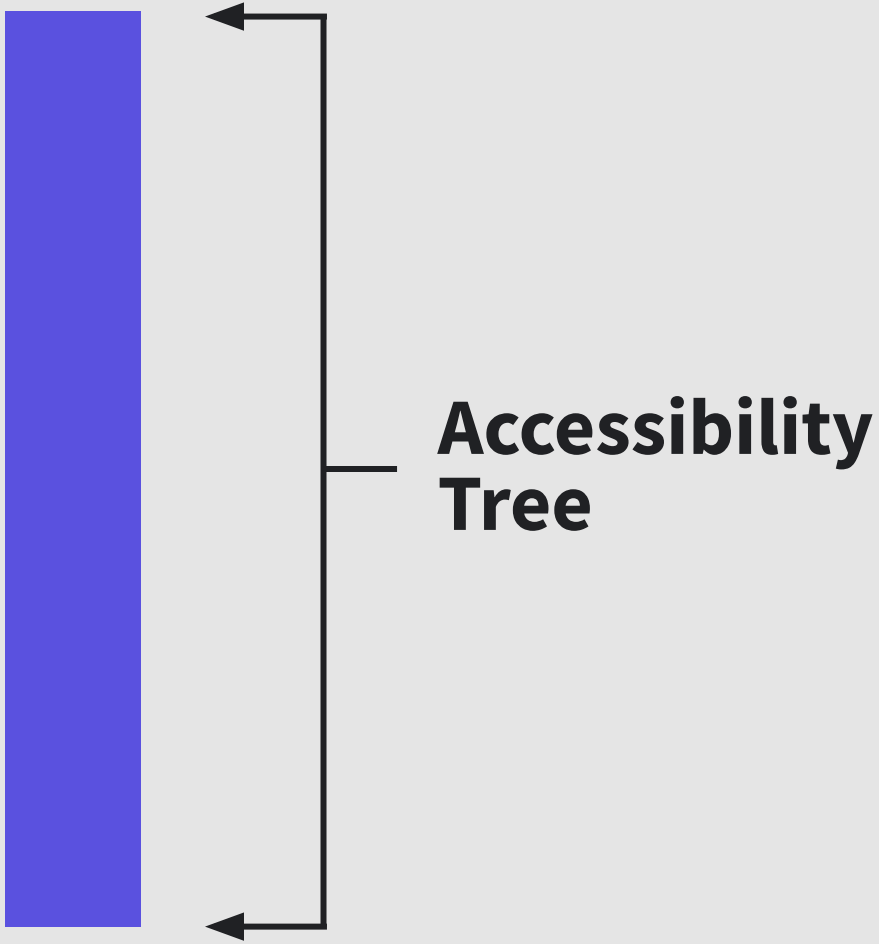

DOM Tree
Visually Rendered
HTML
JavaScript and CSS
User
Accessibility Tree
Assistive Technology

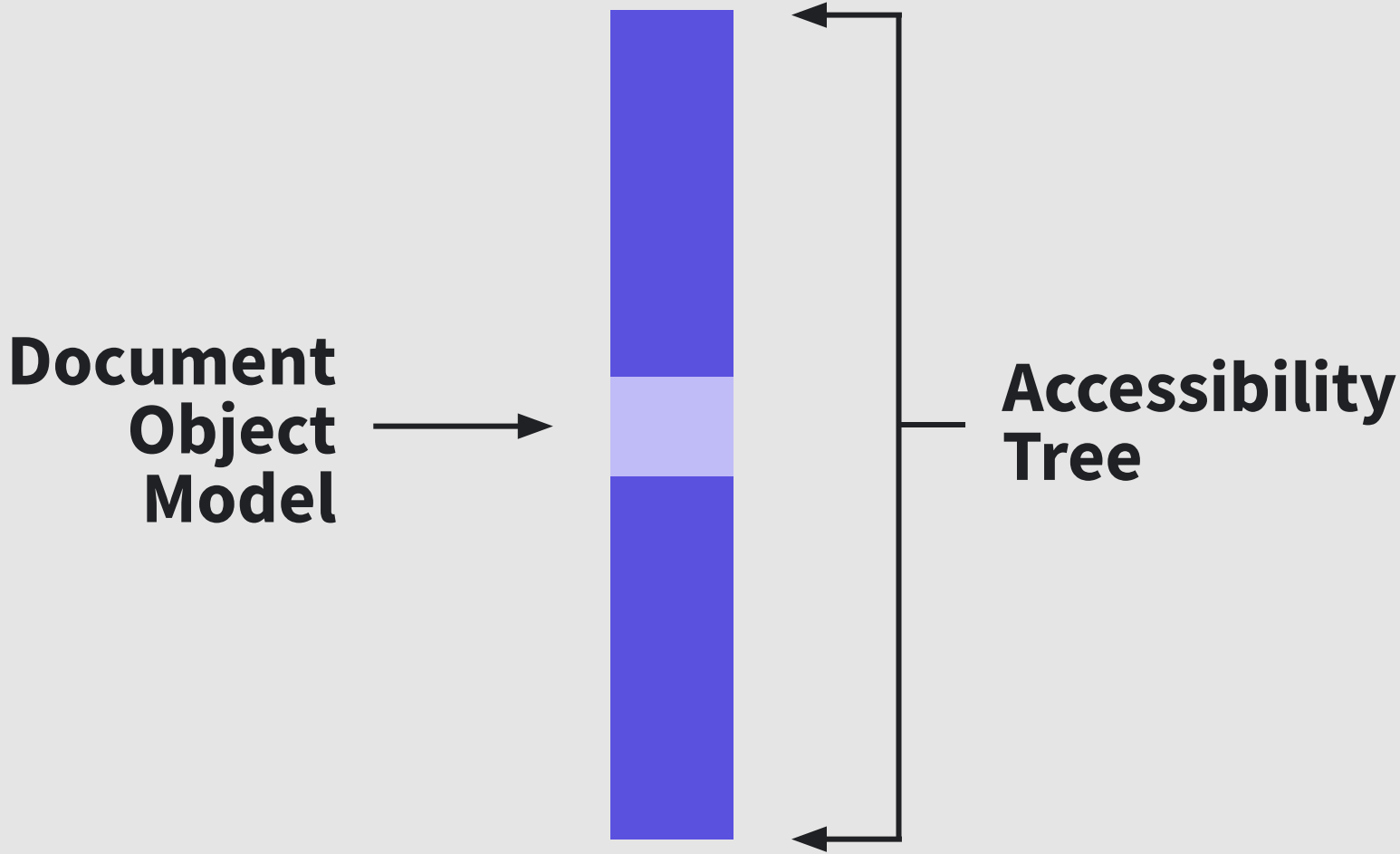

DOM Tree
HTML
JavaScript and CSS
Visually Rendered
User
Accessibility Tree
Assistive Technology

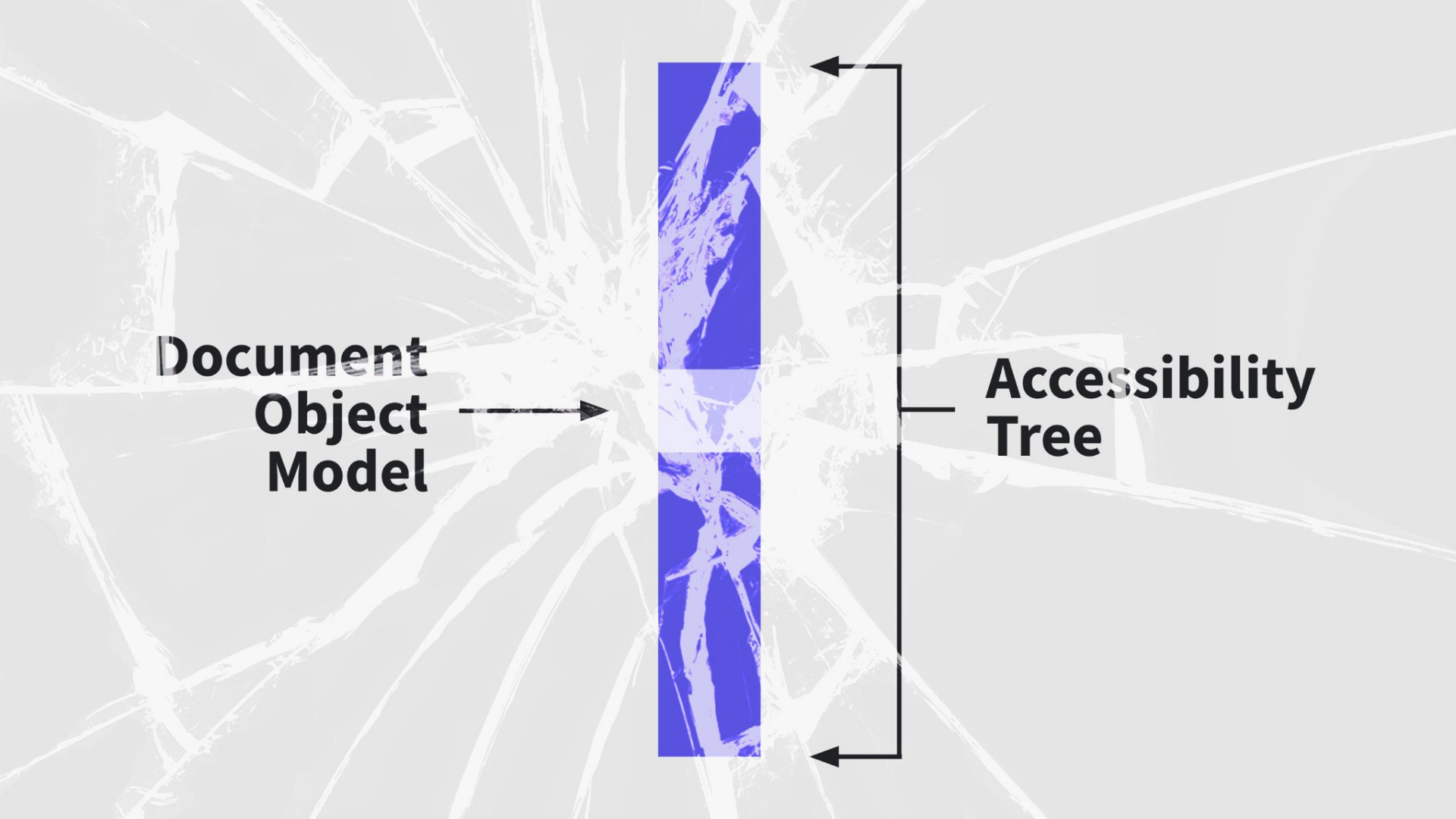

DOM Tree
Visually Rendered
HTML
JavaScript and CSS
User
Accessibility Tree
Assistive Technology

There are multiple trees

Microsoft	• Microsoft Active Accessibility (MSAA), extended with IAccessible2 (IA2) • UI Automation (UIA)
MacOS	• NSAccessibility (AXAPI)
Linux	• Accessibility Toolkit (ATK) • Assistive Technology Service Provider Interface (AT-SPI)


Accessibility
Tree


Document
Object
Model
Accessibility
Tree


Document
Object
Model
Accessibility
Tree

SLOW

SLOW

Write semantic HTML.

```
<!-- Handcrafted with ♥, by Krijn -->
<html lang="en">
▼<head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <meta name="view-transition" content="same-origin">
    <title>performance.now(); November 14–15, 2024, Amsterdam</title>
    <meta property="og:title" content="performance.now(); November 14–15, 2024, Amsterdam">
    <meta property="og:description" name="description" content="On 14th and 15th of November, 2024, the fifth edition of performance.now() will take place in Amsterdam—a single track confere
    <meta property="og:image" content="https://perfnow.nl/_img/2024/teaser-september.png">
    <meta property="og:image:type" content="image/png">
    <meta property="og:image:width" content="1200">
    <meta property="og:image:height" content="600">
    <meta name="twitter:card" content="summary_large_image">
    <meta name="twitter:site" content="@perfnowconf">
    <link href="https://fonts.googleapis.com" rel="preconnect">
    <link href="https://fonts.gstatic.com" rel="preconnect" crossorigin>
    <link href="https://fonts.googleapis.com/css2?family=Changa:wght@600&family=Merriweather:wght@400;700&display=fallback" rel="stylesheet">
    <link rel="icon" type="image/png" sizes="32x32" href="/favicon.png">
    <link rel="icon" type="image/png" sizes="64x64" href="/favicon-64x64.png">
  ▶<style>…</style>
  </head>
▼<body>
  ▼<div class="skiplinks">
      <a href="/speakers">Talks & speakers</a>
      <a href="/videos">Videos</a>
      <a href="#menu">More</a>
    </div>
  ▼<header class="masthead">
    ▼<div class="container">grid
      ▼<h1 class="masthead__logo">
        ▼<a href="/">
            <img src="/_img/logo.svg" alt="performance.now()" width="618" height="74">
          </a>
        </h1>
      ▼<p class="masthead__description">
          <span>the web performance conference</span>
          <span>14–15 November 2024, Amsterdam</span>
        </p>
      </div>
    </header>
  ▼<div class="intro intro--highlight">grid
    ▼<p>
        "On "
        <strong>14th and 15th of November, 2024</strong>
```

```
", the fifth edition of "
<code class="name">
  <span>performance</span>
  "."
  <span>now()</span>
</code>
" will take place in Amsterdam—a single track conference with fourteen world-class sessions covering today's most important web performance insights."
</p>
<p class="call-to-action">
  <a href="/register">Get your ticket now</a>
</p>
<div class="photos"> flex
<div style="flex-grow:150.09380863039;flex-basis:165.10318949343px">
<a href="/2019/photos?p=349" class="thumb" style="padding-bottom:66.625%">
<picture>
  <source type="image/webp" sizes="(max-width:40em) 33.34vw,(max-width:50em) 25.01vw,(max-width:60em) 20vw,16.67vw" srcset="/_img/2019/photos/100/perfnow-2019-2-126.webp 100w, /_im
  <img src="/_img/2019/photos/100/perfnow-2019-2-126.jpg" width="165" height="110" sizes="(max-width:40em) 33.34vw,(max-width:50em) 25.01vw,(max-width:60em) 20vw,16.67vw" srcset="/
</picture>
</a>
</div>
<div style="flex-grow:150.09380863039;flex-basis:165.10318949343px">
<a href="/2023/photos?p=443" class="thumb" style="padding-bottom:66.625%">
<picture>
  <source type="image/webp" sizes="(max-width:40em) 33.34vw,(max-width:50em) 25.01vw,(max-width:60em) 20vw,16.67vw" srcset="/_img/2023/photos/100/perfnow-2023-443.webp 100w, /_img/
  <img src="/_img/2023/photos/100/perfnow-2023-443.jpg" width="165" height="110" sizes="(max-width:40em) 33.34vw,(max-width:50em) 25.01vw,(max-width:60em) 20vw,16.67vw" srcset="/_i
</picture>
</a>
</div>
<div style="flex-grow:149.95313964386;flex-basis:164.94845360825px">
<a href="/2022/photos?p=371" class="thumb" style="padding-bottom:66.6875%">
<picture>
  <source type="image/webp" sizes="(max-width:40em) 33.31vw,(max-width:50em) 24.98vw,(max-width:60em) 19.99vw,16.66vw" srcset="/_img/2022/photos/100/perfnow-2022-6145.webp 100w, /_
  <img src="/_img/2022/photos/100/perfnow-2022-6145.jpg" width="165" height="110" sizes="(max-width:40em) 33.31vw,(max-width:50em) 24.98vw,(max-width:60em) 19.99vw,16.66vw" srcset=
</picture>
</a>
</div>
<div style="flex-grow:150.09380863039;flex-basis:165.10318949343px">
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<picture>
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  <img src="/_img/2023/photos/100/perfnow-2023-277.jpg" width="165" height="110" sizes="(max-width:40em) 100px,(max-width:50em) 25.01vw,(max-width:60em) 20vw,16.67vw" srcset="/_img
</picture>
</a>
</div>
<div style="flex-grow:150.09380863039;flex-basis:165.10318949343px">
```

```
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<picture>
<source type="image/webp" sizes="(max-width:40em) 100px,(max-width:50em) 100px,(max-width:60em) 20vw,16.67vw" srcset="/_img/2023/photos/100/perfnow-2023-49.webp 100w, /_img/2023/
<img src="/_img/2023/photos/100/perfnow-2023-49.jpg" width="165" height="110" sizes="(max-width:40em) 100px,(max-width:50em) 100px,(max-width:60em) 20vw,16.67vw" srcset="/_img/20
</picture>
</a>
</div>
<div style="flex-grow:149.95313964386;flex-basis:164.94845360825px">
<a href="/2022/photos?p=220" class="thumb" style="padding-bottom:66.6875%">
<picture>
<source type="image/webp" sizes="(max-width:40em) 100px,(max-width:50em) 100px,(max-width:60em) 100px,16.66vw" srcset="/_img/2022/photos/100/perfnow-2022-5296.webp 100w, /_img/20
<img src="/_img/2022/photos/100/perfnow-2022-5296.jpg" width="165" height="110" sizes="(max-width:40em) 100px,(max-width:50em) 100px,(max-width:60em) 100px,16.66vw" srcset="/_img
</picture>
</a>
</div>
</div>
<p>
"Selected by our program co-chairs "
<a href="https://timkadlec.com/">Tim Kadlec</a>
", "
<a href="https://tammyeverts.wordpress.com/">Tammy Everts</a>
", and "
<a href="https://csswizardry.com/">Harry Roberts</a>
", previously "
<a href="#speakers">our speakers</a>
" treated topics and case studies including JavaScript, CSS, performance culture, PWAs, image optimization, Web Vitals, performance budgets, frameworks, ecommerce, performance culture
</p>
<blockquote class="testimonial">
<p>
""The speakers with real world problem and solutions were a great way of benchmarking personal problems in company setup with real world problems that other people/teams are facing
</p>
<p>
<cite>— Attendee feedback</cite>
", "
<small>
<a href="/testimonials">more testimonials</a>
</small>
</p>
</blockquote>
<p class="call-to-action">
<a href="#speakers">See our line-up</a>
" or "
<a href="/register">get your tickets</a>
</p>
</div>
```

```
  </p>
 </div>
</div>
<div id="speakers" class="speakers">
 <h2 style="--timeout:0.33s">
  <span class="container">Our 2024 line-up so far…</span>
 </h2>
 <div class="container">
  <ul> grid
   <li>
    <a href="/speakers#erwin" class="speaker" style="--timeout:0.67s">
     ::before
     <img src="/_img/2024/speakers/erwin-160.jpg" srcset="/_img/2024/speakers/erwin-320.jpg 2x" width="160" height="160" alt loading="lazy" decoding="async">
     <span class="speaker__name">Erwin Hofman</span>
     <span class="visually-hidden">:</span>
     <span class="speaker__talk">INP Case Studies</span>
    </a>
   </li>
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     <span class="speaker__name">Anna Migas</span>
     <span class="visually-hidden">:</span>
     <span class="speaker__talk">Thinking Beyond Core Web Vitals</span>
    </a>
   </li>
   <li>
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     ::before
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     <span class="speaker__name">Karlijn Löwik</span>
     <span class="visually-hidden">:</span>
     <span class="speaker__talk">INP Case Studies</span>
    </a>
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     <span class="speaker__name">Paul Williams</span>
     <span class="visually-hidden">:</span>
     <span class="speaker__talk">Bloomberg Builds Browser</span>
    </a>
   </li>
   <li>
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```
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<!-- Handcrafted with ♥, by Hidde and Krijn -->
<html lang="en">
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  <span class="speaker__name">Jason Grigsby</span>
  <span class="visually-hidden">:</span>
  <span class="speaker__talk">Third Party Woes</span>
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</li>
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  <span class="speaker__name">Katie Sylor-Miller</span>
  <span class="visually-hidden">:</span>
  <span class="speaker__talk">MC</span>
</a>
</li>
<li>
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  <span class="speaker__name">Kara Erickson</span>
  <span class="visually-hidden">:</span>
  <span class="speaker__talk">Framework App Performance</span>
</a>
</li>
<li>
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  <span class="speaker__name">Mandy Michael</span>
  <span class="visually-hidden">:</span>
  <span class="speaker__talk">Font Performance Strategies</span>
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  <span class="speaker__name">Paul Calvano</span>
  <span class="visually-hidden">:</span>
  <span class="speaker__talk">Performance Mistakes</span>
</a>
</li>
<li>
```

performance.now()

the web performance conference
14-15 November 2024, Amsterdam

venue sponsors schedule attendees tickets sponsoring

On 14th and 15th of November, 2024, the fifth edition of performance.now() will take place in Amsterdam—a single track conference with fourteen world-class sessions covering today's most important web performance insights.

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Our 2024 line-up so far...

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MC

TAMMY SECTA

JASON GRIGSBY
Third Party Woes

PAUL CALVANO
Performance Mistakes

JACK FRANKLIN
DevTools deep dive

KARLEN LÖWIK
INP Case Studies

DANIEL ROE
Unpacking Bundling

PHIL WALTMUNSON
Bloomberg Builds Browser

ERIC BAILEY
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JASON WILLIAMS
Bloomberg Builds Browser

ERWIN HOFMAN
INP Case Studies

NANCY MICHAEL
Font Performance Strategies

KANA ERICKSON
Framework App Performance

ANNA MIGAS
Thinking Beyond Core Web Vitals

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Zuiderterkhof 12
1077 WX Amsterdam
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The venue is wheelchair-accessible

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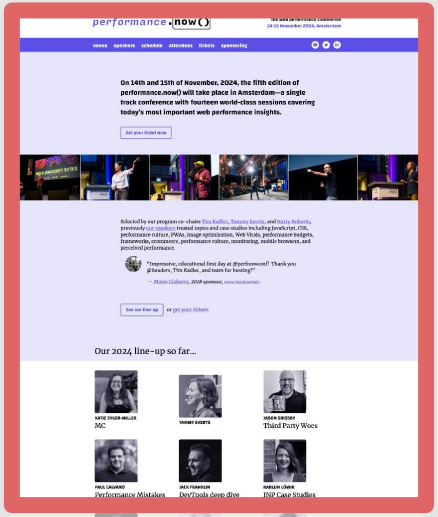
performance.now()
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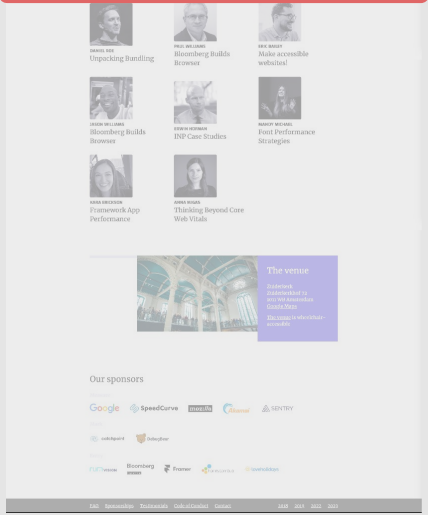
MC
TAMMY EVERTS
JASON ENSLER
Third Party Woes
PAUL CAUVARD
Performance Mistakes
JACK FRANKLIN
DevTools deep dive
KARLEN LÖWIN
INP Case Studies


DANIEL BEK
Unpacking Bundling
PAUL WILLIAMS
Bloomberg Builds Browser
ERIC BAILEY
Make accessible websites!
JASON WILLIAMS
Bloomberg Builds Browser
STEVEN HOFMAN
INP Case Studies
MARCIN MICHAEL
Font Performance Strategies
KARA ERICKSON
Framework App Performance
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Thinking Beyond Core Web Vitals
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1011 NH Amsterdam
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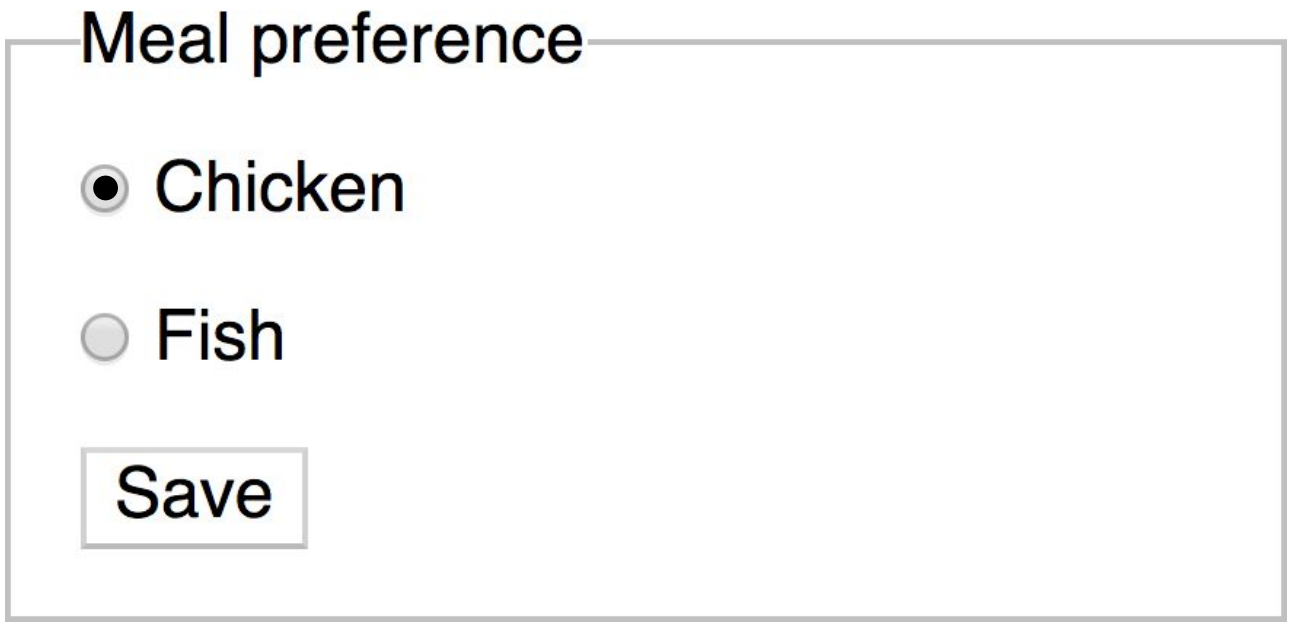
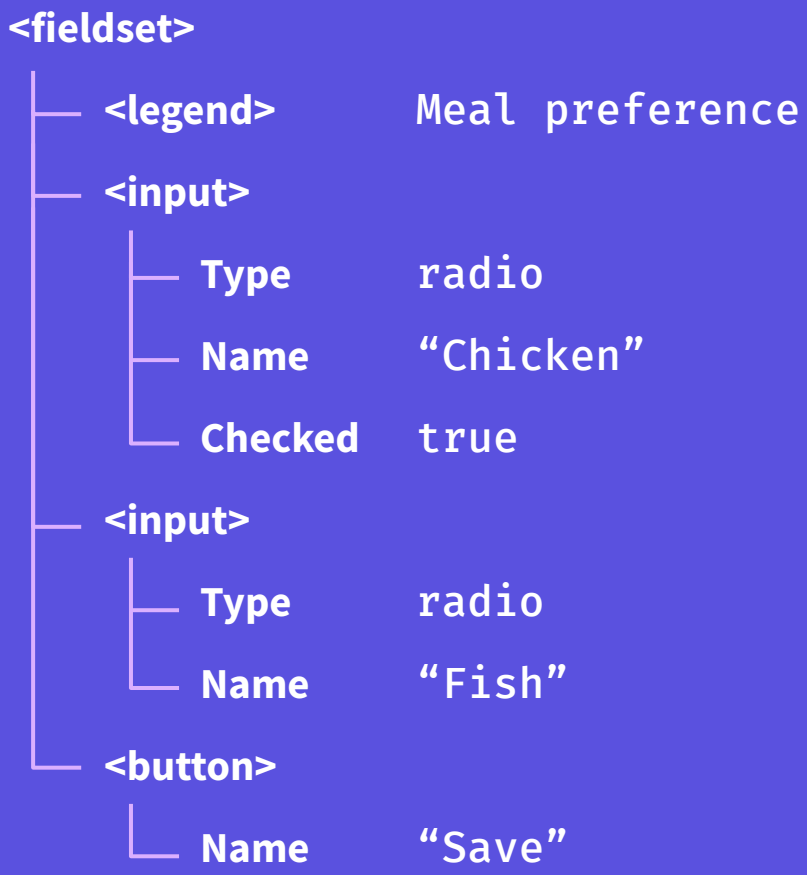

Meal preference
Chicken
Fish
Save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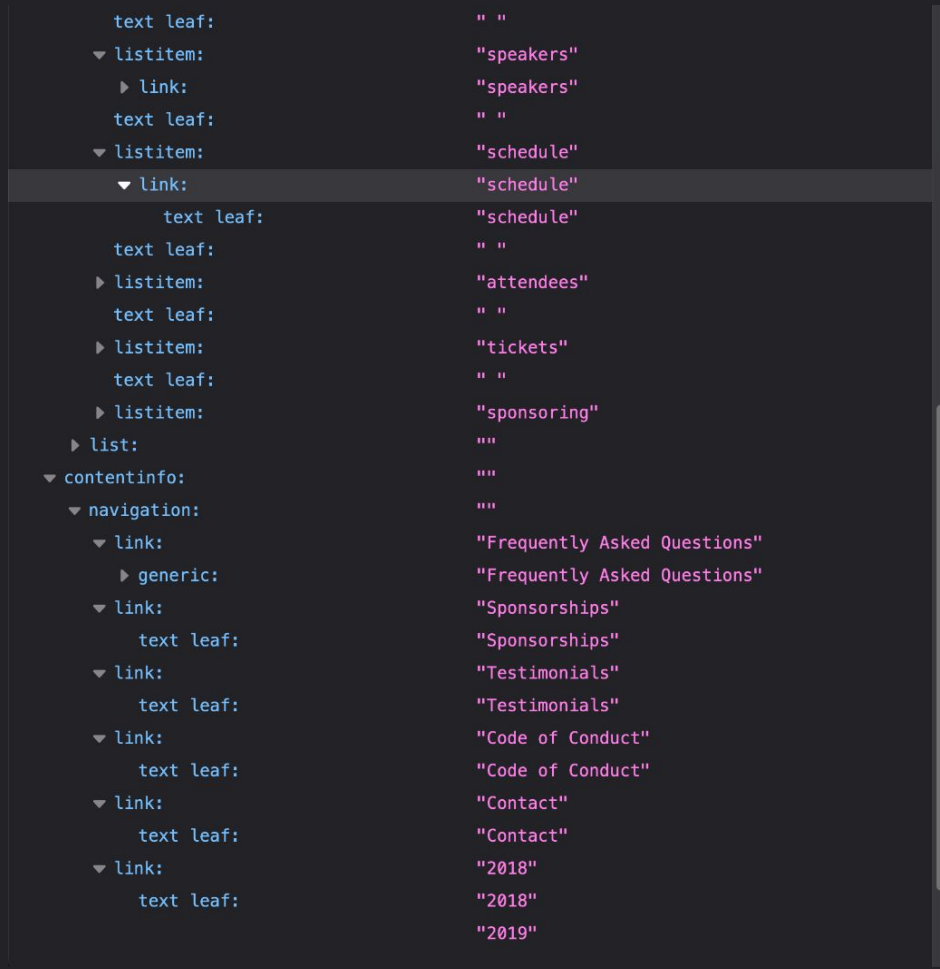
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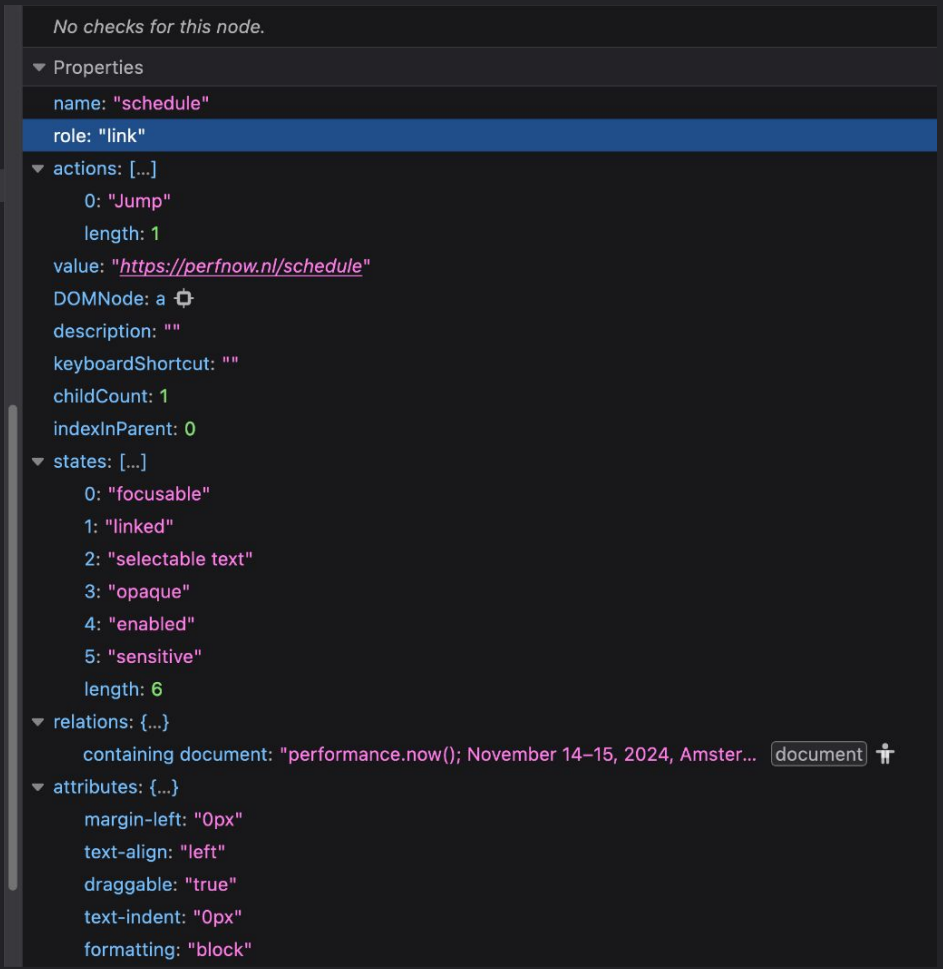
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1: "linked"
2: "selectable text"
3: "opaque"
4: "enabled"
5: "sensitive"
length: 6
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containing document: "performance.now(); November 14–15, 2024, Amster... document
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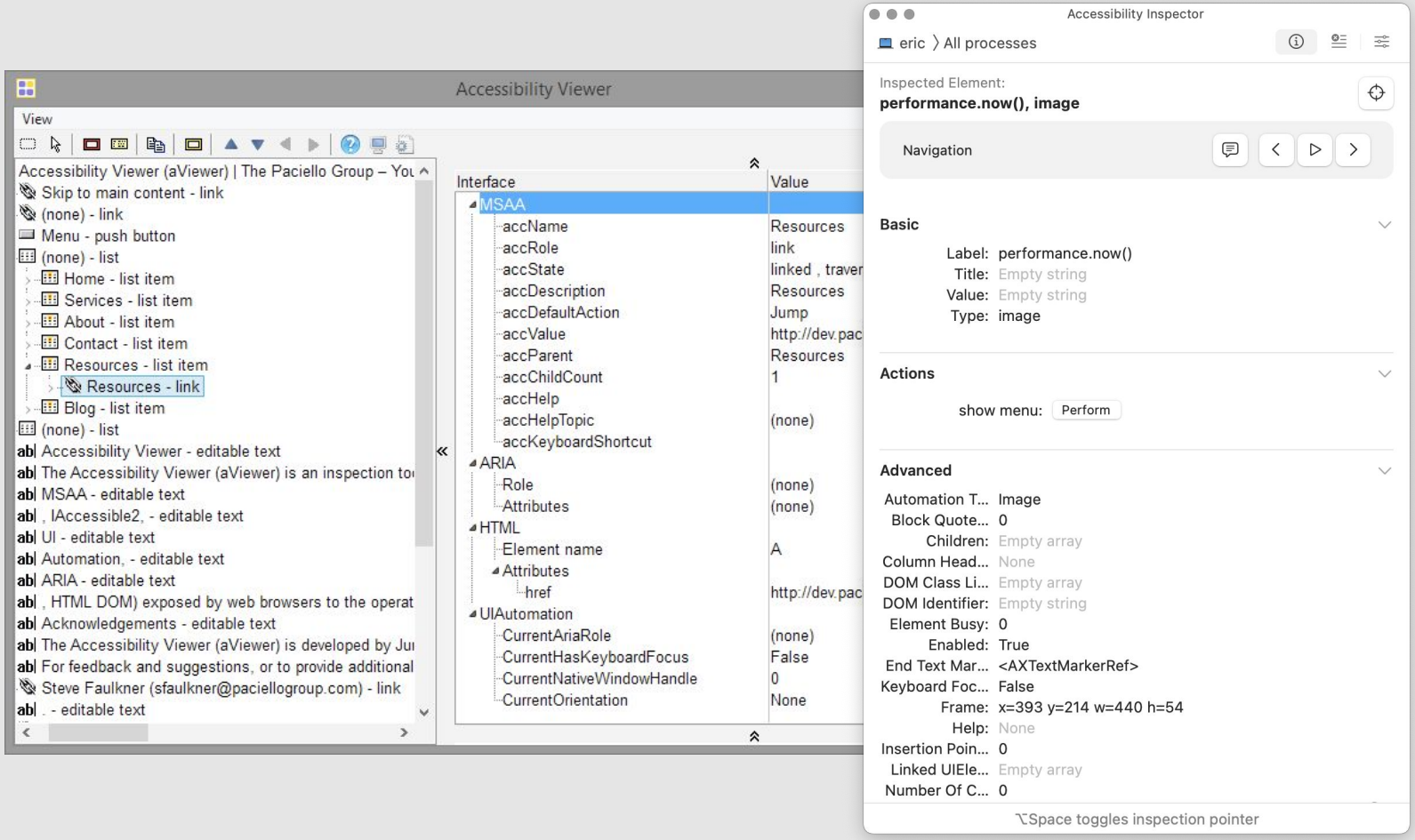
Accessibility Viewer
View
Accessibility Viewer (aViewer) | The Paciello Group – You
Skip to main content - link
(none) - link
Menu - push button
(none) - list
Home - list item
Services - list item
About - list item
Contact - list item
Resources - list item
Resources - link
Blog - list item
(none) - list
Accessibility Viewer - editable text
The Accessibility Viewer (aViewer) is an inspection to
MSAA - editable text
, IAccessible2, - editable text
UI - editable text
Automation, - editable text
ARIA - editable text
, HTML DOM) exposed by web browsers to the operat
Acknowledgements - editable text
The Accessibility Viewer (aViewer) is developed by Ju
For feedback and suggestions, or to provide additional
Steve Faulkner (sfaulkner@paciellogroup.com) - link
. - editable text
Interface
Value
MSAA
accName
Resources
accRole
link
accState
linked , traver
accDescription
Resources
accDefaultAction
Jump
accValue
http://dev.pac
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Resources
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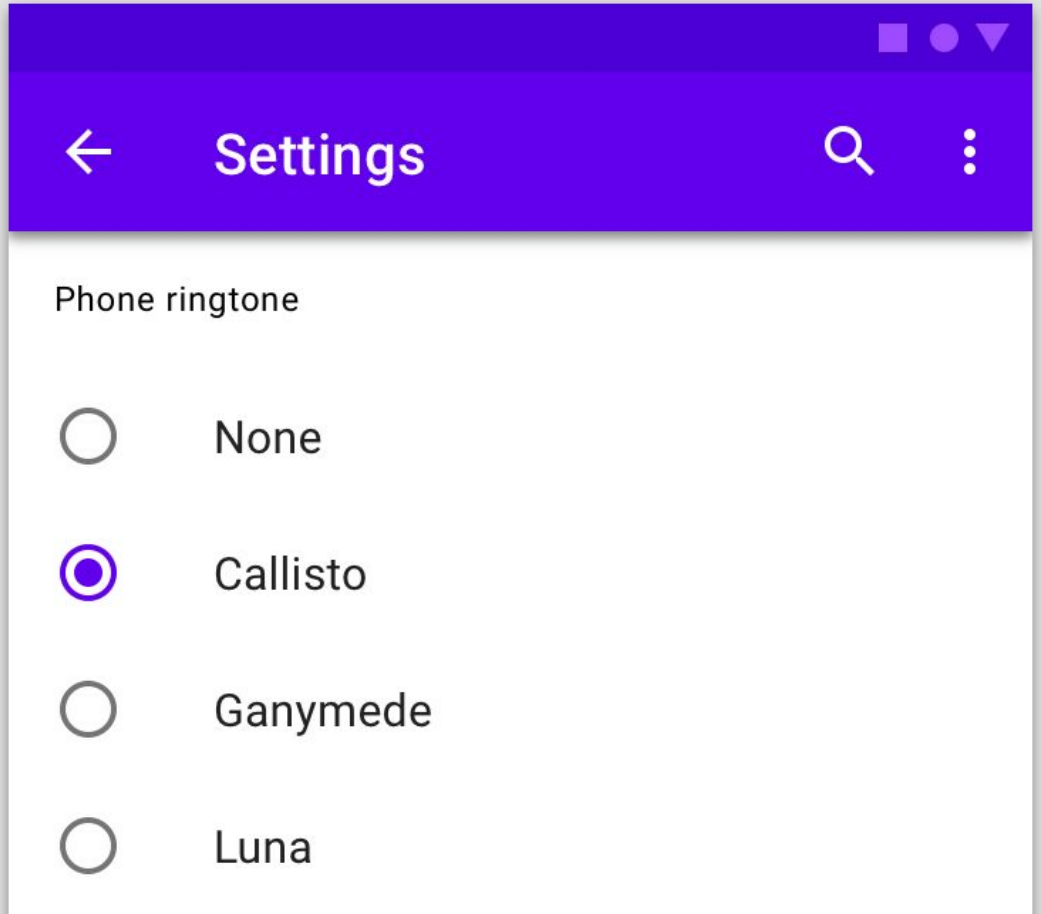
accHelp
accHelpTopic
(none)
accKeyboardShortcut
ARIA
Role
(none)
Attributes
(none)
HTML
Element name
A
Attributes
href
http://dev.pac
UIAutomation
CurrentAriaRole
(none)
CurrentHasKeyboardFocus
False
CurrentNativeWindowHandle
0
CurrentOrientation
None
Accessibility Inspector
eric 〉All processes
Inspected Element:
performance.now(), image
Navigation
Basic
Label: performance.now()
Title: Empty string
Value: Empty string
Type: image
Actions
show menu:
Perform
Advanced
Automation T... Image
Block Quote... 0
Children: Empty array
Column Head... None
DOM Class Li... Empty array
DOM Identifier: Empty string
Element Busy: 0
Enabled: True
End Text Mar... <AXTextMarkerRef>
Keyboard Foc... False
Frame: x=393 y=214 w=440 h=54
Help: None
Insertion Poin... 0
Linked UIEle... Empty array
Number Of C... 0
⌥Space toggles inspection pointer

Let’s make the abstract immediate.


Settings
Phone ringtone
None
Callisto
Ganymede
Luna

ELEMENTS MARKUP

```
1  <div class="mdc-radio">
2    <input
       class="mdc-radio__native-control"
       type="radio"
       id="ganymede"
       name="moons">
3    <div class="mdc-radio__background">
4      <div class="mdc-radio__outer-circle"></div>
5      <div class="mdc-radio__inner-circle"></div>
     </div>
   </div>
6  <label for="ganymede">Ganymede</label>
```

To make this you need:

HTML

6 elements

9 attributes

DOM depth of 3

Includes the Material ripple effect

To make this you need:

HTML

6 elements

9 attributes

DOM depth of 3

CSS

66 selectors

141 properties

10k minified

Includes the Material ripple effect

To make this you need:

HTML

6 elements

9 attributes

DOM depth of 3

CSS

66 selectors

141 properties

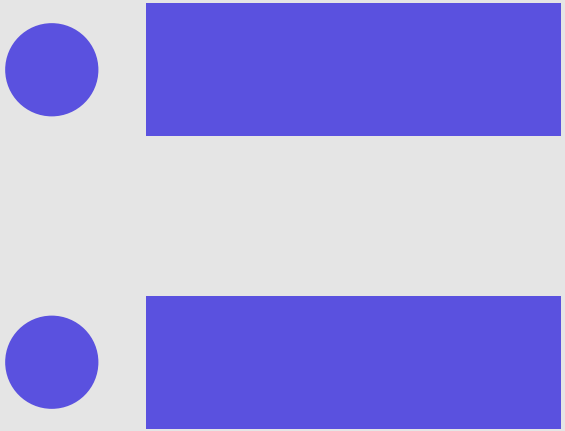
10k minified

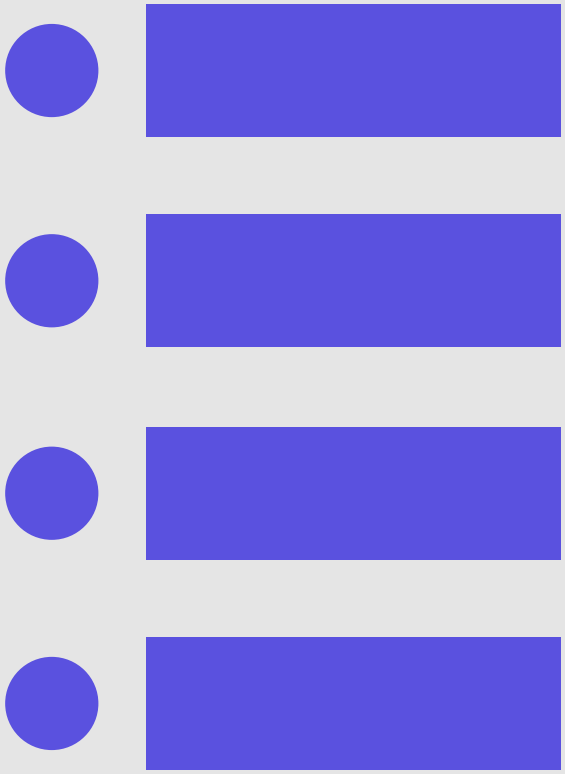
JavaScript

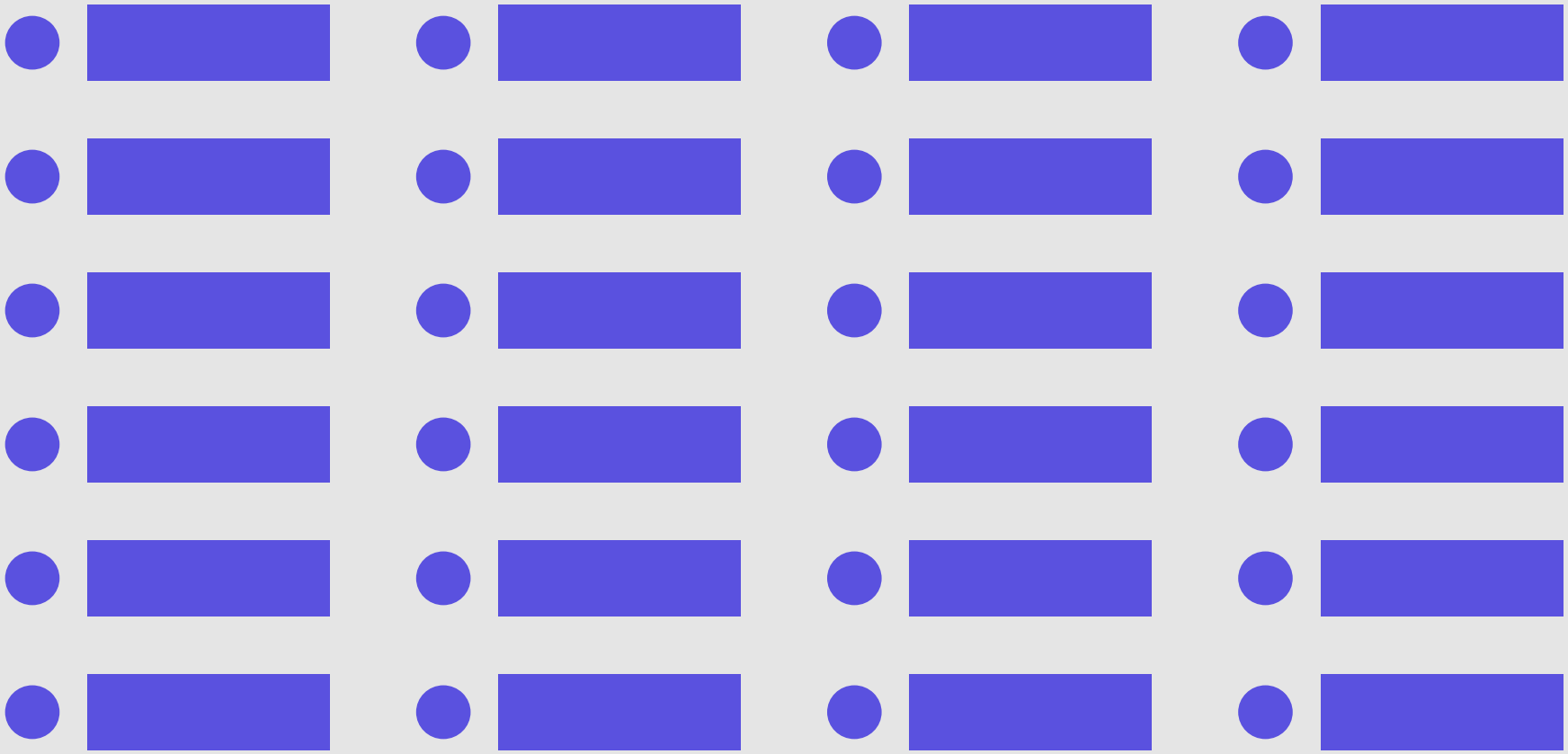
2,374 lines unminified

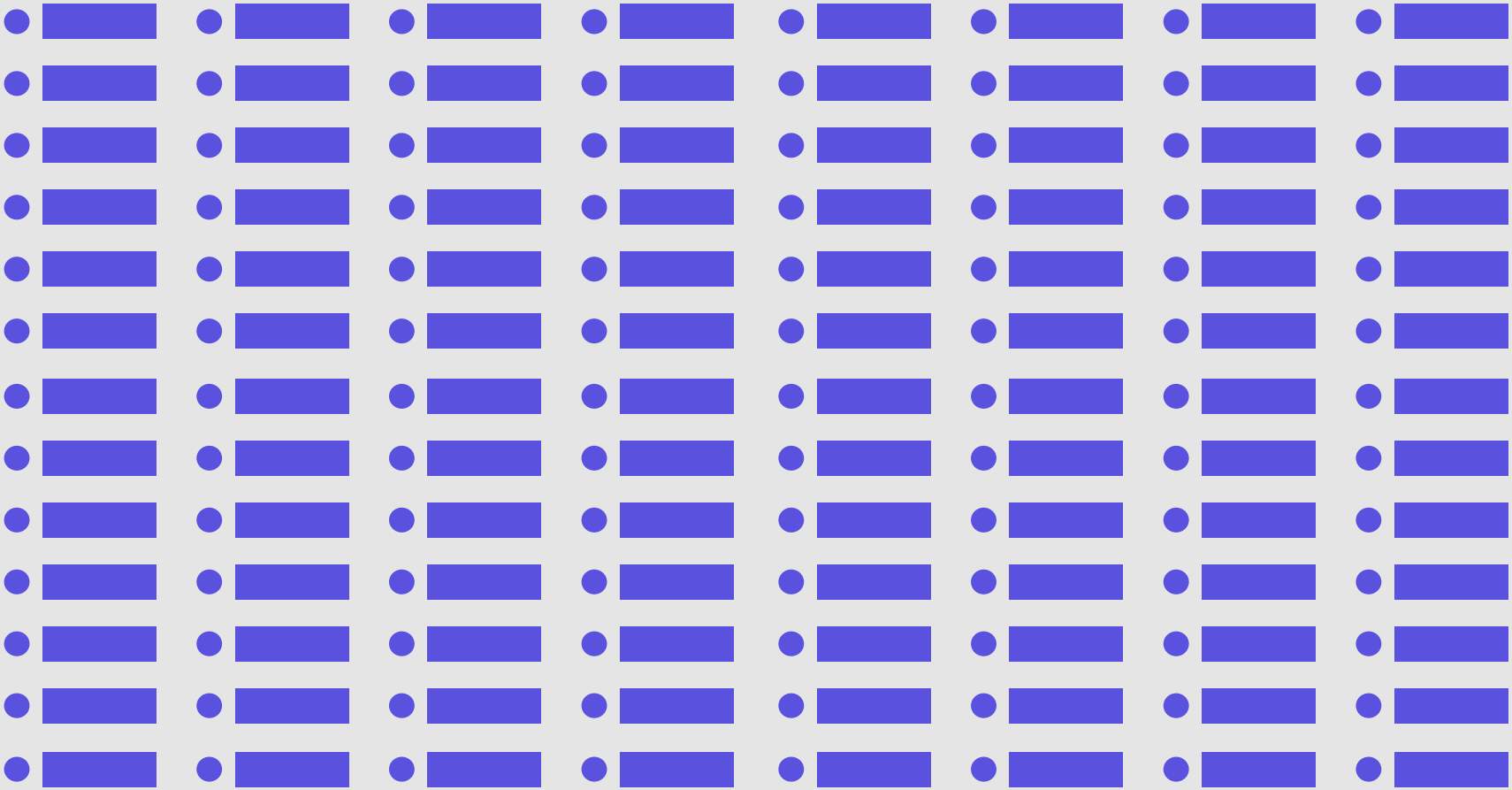
30k minified

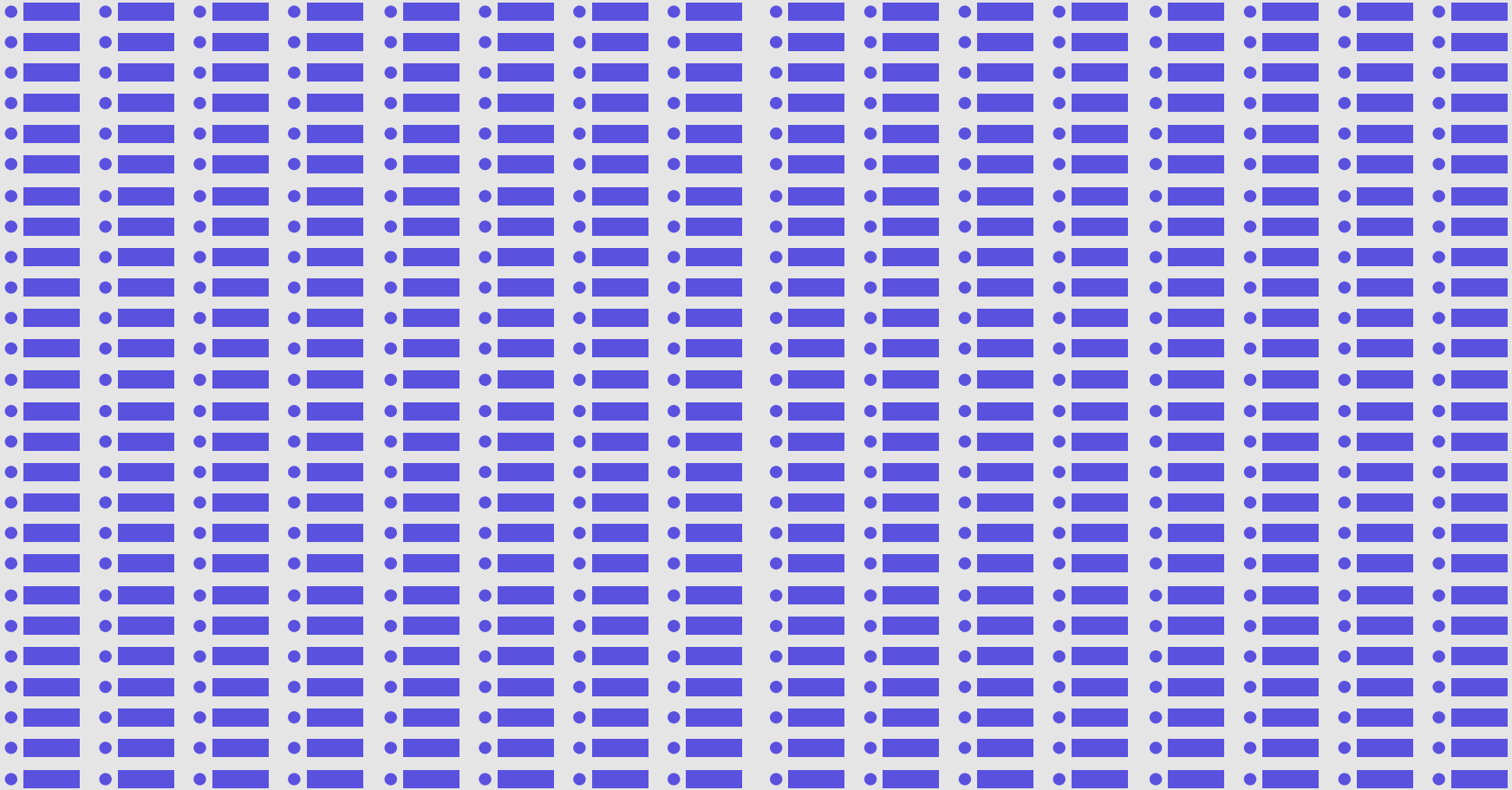
Includes the Material ripple effect











This all adds up.

An optimal DOM tree

Less than 1,500 nodes

Max depth of 32 nodes

No parent node with more than 60 child nodes

An optimal DOM tree

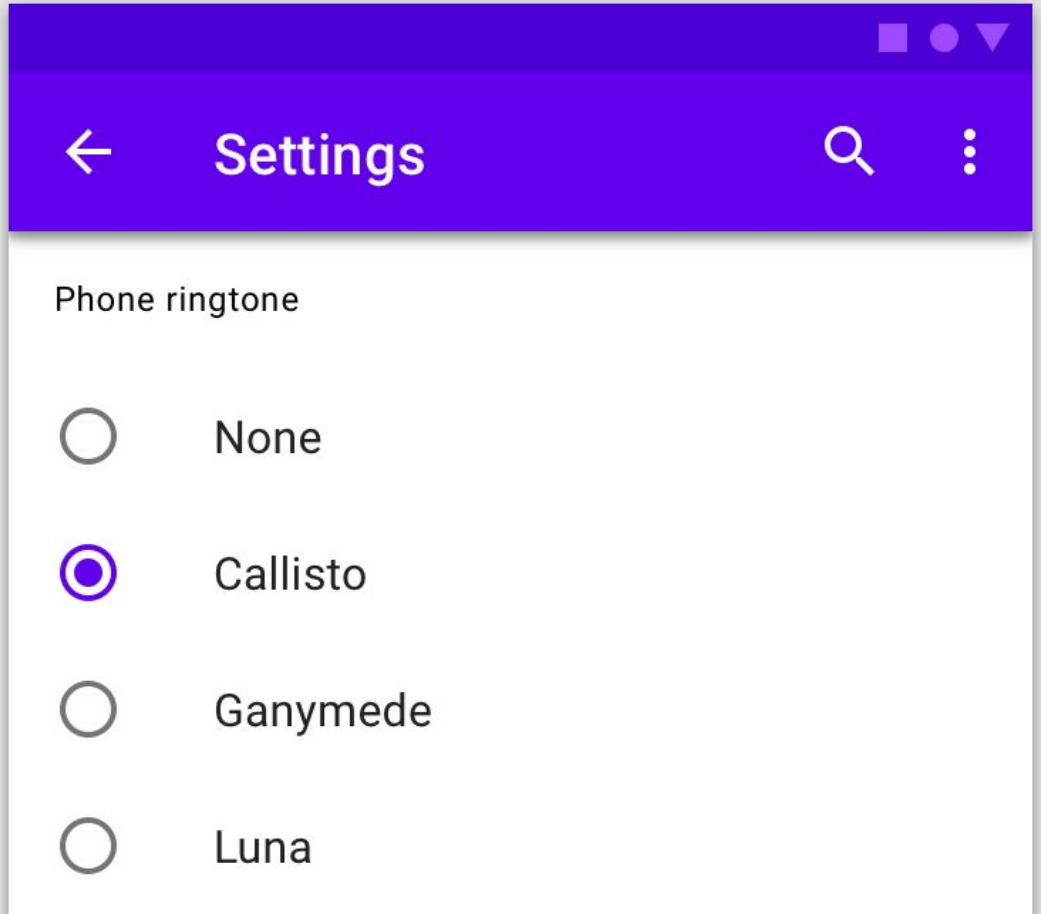
Max depth of 32 nodes

ELEMENTS MARKUP

```
1  <div class="c-radio">
2    <input
       type="radio"
       name="moons"
       id="ganymede">
3    <label for="ganymede">Ganymede</label>
   </div>
```

ELEMENTS MARKUP

```
1   <div class="c-radio">
2     <input
        type="radio"
        name="moons"
        id="ganymede">
      <label for="ganymede">Ganymede</label>
    </div>
```


Settings
Phone ringtone
None
Callisto
Ganymede
Luna

To compare:

HTML

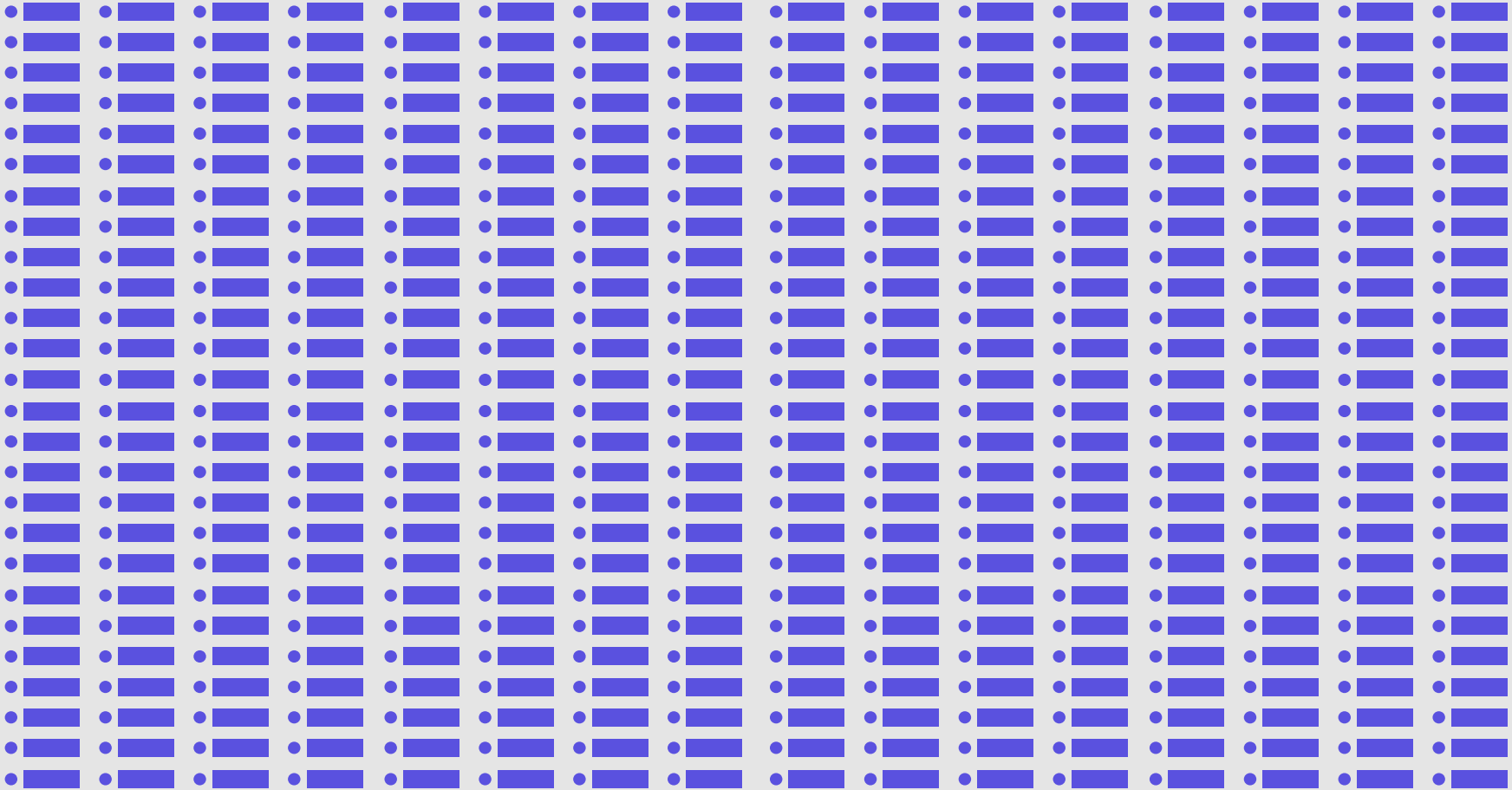
Material Design	A11Y Styled Form Controls
6 elements	3 elements
9 attributes	5 attributes
DOM depth of 3	DOM depth of 2

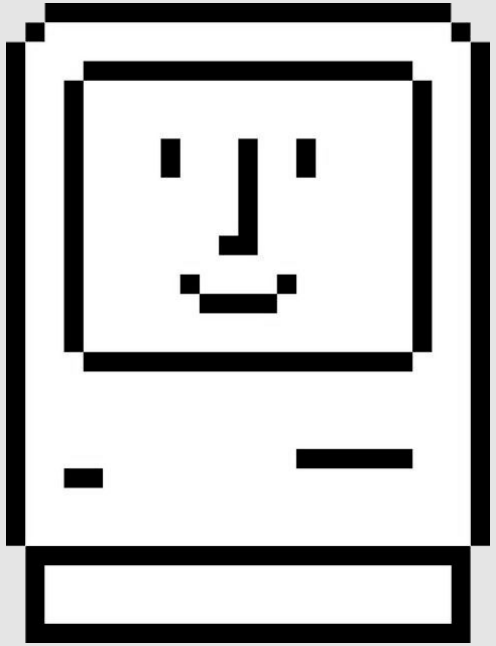
CSS

Material Design	A11Y Styled Form Controls
66 selectors	20 selectors
141 properties	42 properties
10k minified	1k minified

JavaScript

Material Design	A11Y Styled Form Controls
2,374 lines unminified	None
30k minified	0k





Why is this our problem?

rn-ndvcnb rn-gxnn5r rn-deolkf rn-6koalj rn-1qe8dj5 rn-1mlwlqe rn-eqz5dr rn-1d2f490 rn-1mnahxq rn-61z16t rn-p1pxzi rn-11wrixw rn-ifefl9 rn-bcqeeo rn-wk8lta rn-9aemit rn-1mdbw0j rn-gy4na3 rn-1xcajam rn-zchlnj rn-ipm5af rn-br5s0h rn-o7ynqc rn-axxi2z rn-136ojw6">
▼<div class="rn-1oszu61 rn-1efd50x rn-14skgim rn-rull8r rn-mm0ijv rn-13yce4e rn-fnigne rn-ndvcnb rn-gxnn5r rn-deolkf rn-6koalj rn-1qe8dj5 rn-1mlwlqe rn-eqz5dr rn-1mnahxq rn-lchren rn-p1pxzi rn-1jj8364 rn-ifefl9 rn-bcqeeo rn-wk8lta rn-9aemit rn-1mdbw0j rn-gy4na3 rn-bnwqim rn-13qz1uu rn-1lgpqti">
▼<div class="rn-1oszu61 rn-1efd50x rn-14skgim rn-rull8r rn-mm0ijv rn-13yce4e rn-fnigne rn-ndvcnb rn-gxnn5r rn-deolkf rn-6koalj rn-1qe8dj5 rn-1mlwlqe rn-eqz5dr rn-1mnahxq rn-61z16t rn-p1pxzi rn-11wrixw rn-ifefl9 rn-bcqeeo rn-wk8lta rn-9aemit rn-1mdbw0j rn-gy4na3 rn-bnwqim">
▼<div class="rn-1oszu61 rn-bie543 rn-1efd50x rn-14skgim rn-rull8r rn-mm0ijv rn-13yce4e rn-fnigne rn-ndvcnb rn-gxnn5r rn-deolkf rn-6koalj rn-1qe8dj5 rn-1mlwlqe rn-eqz5dr rn-1mnahxq rn-61z16t rn-p1pxzi rn-11wrixw rn-ifefl9 rn-bcqeeo rn-wk8lta rn-9aemit rn-1mdbw0j rn-gy4na3 rn-bnwqim rn-136ojw6">
▼<div class="rn-1oszu61 rn-1efd50x rn-14skgim rn-rull8r rn-mm0ijv rn-13yce4e rn-fnigne rn-ndvcnb rn-gxnn5r rn-deolkf rn-6koalj rn-1qe8dj5 rn-1mlwlqe rn-eqz5dr rn-1h3ijdo rn-1mnahxq rn-61z16t rn-p1pxzi rn-11wrixw rn-ifefl9 rn-bcqeeo rn-wk8lta rn-9aemit rn-1mdbw0j rn-gy4na3 rn-bnwqim rn-136ojw6">
▼<div class="rn-1oszu61 rn-1efd50x rn-14skgim rn-rull8r rn-mm0ijv rn-13yce4e rn-fnigne rn-ndvcnb rn-gxnn5r rn-deolkf rn-6koalj rn-1qe8dj5 rn-1mlwlqe rn-eqz5dr rn-1mnahxq rn-61z16t rn-p1pxzi rn-11wrixw rn-ifefl9 rn-bcqeeo rn-wk8lta rn-9aemit rn-1mdbw0j rn-gy4na3 rn-bnwqim rn-1lgpqti">
rn-bie543 rn-1efd50x rn-14skgim rn-rull8r rn-mm0ijv rn-13yce4e
xnn5r rn-deolkf rn-6koalj rn-1qe8dj5 rn-1mlwlqe rn-eqz5dr rn-
1h3ijdo rn-1mnahxq rn-61z16t rn-p1pxzi rn-11wrixw rn-ifefl9 rn-bcqeeo rn-wk8lta rn-

twitter.com/sindresorhus/status/1089075390327316480

And then…

Ads

Scorecard Research
Criteo
Taboola
AppNexus
Yahoo Ads
Pubmatic
Market GID
MGID
Integral Ads
Google/Doubleclick
Sizmek
Yandex Ads
DoubleVerify
Moat
OpenX
MediaVine
Media Math
33 Across
Popads
WordAds

Ads

Scorecard Research
Criteo
Taboola
AppNexus
Yahoo Ads
Pubmatic
Market GID
MGID
Integral Ads
Google/Doubleclick
Sizmek
Yandex Ads
DoubleVerify
Moat
OpenX
MediaVine
Media Math
33 Across
Popads
WordAds

Analytics

Alexa
Baidu
Mixpanel
Google Analytics
Hotjar
Crazy Egg
Adobe Analytics
Tealium
Segment
Optimizely
Salesforce
Histats
Yandex Metrica
Lucky Orange

Ads

Scorecard Research
Criteo
Taboola
AppNexus
Yahoo Ads
Pubmatic
Market GID
MGID
Integral Ads
Google/Doubleclick
Sizmek
Yandex Ads
DoubleVerify
Moat
OpenX
MediaVine
Media Math
33 Across
Popads
WordAds

Analytics

Alexa
Baidu
Mixpanel
Google Analytics
Hotjar
Crazy Egg
Adobe Analytics
Tealium
Segment
Optimizely
Salesforce
Histats
Yandex Metrica
Lucky Orange

Social/Marketing

VK
Pinterest
Facebook
Yandex Share
Twitter
LinkedIn
ShareThis
AddThis
Tumblr
PIXNET
Disqus
Hubspot
OptinMonster
Beeketing
Drift
Mailchimp
Sumo
Albacross
LiveChat
Freshdesk
Help Scout

Ads

Scorecard Research
Criteo
Taboola
AppNexus
Yahoo Ads
Pubmatic
Market GID
MGID
Integral Ads
Google/Doubleclick
Sizmek
Yandex Ads
DoubleVerify
Moat
OpenX
MediaVine
Media Math
33 Across
Popads
WordAds

Analytics

Alexa
Baidu
Mixpanel
Google Analytics
Hotjar
Crazy Egg
Adobe Analytics
Tealium
Segment
Optimizely
Salesforce
Histats
Yandex Metrica
Lucky Orange

Social/Marketing

VK
Pinterest
Facebook
Yandex Share
Twitter
LinkedIn
ShareThis
AddThis
Tumblr
PIXNET
Disqus
Hubspot
OptinMonster
Beeketing
Drift
Mailchimp
Sumo
Albacross
LiveChat
Freshdesk
Help Scout

Developer Utils

New Relic
Stripe
OneSignal
Google APIs/SDK
App Dynamics
Cloudflare
PayPal
Yandex APIs
Distil Networks
Sentry

Ads

Scorecard Research
Criteo
Taboola
AppNexus
Yahoo Ads
Pubmatic
Market GID
MGID
Integral Ads
Google/Doubleclick
Sizmek
Yandex Ads
DoubleVerify
Moat
OpenX
MediaVine
Media Math
33 Across
Popads
WordAds

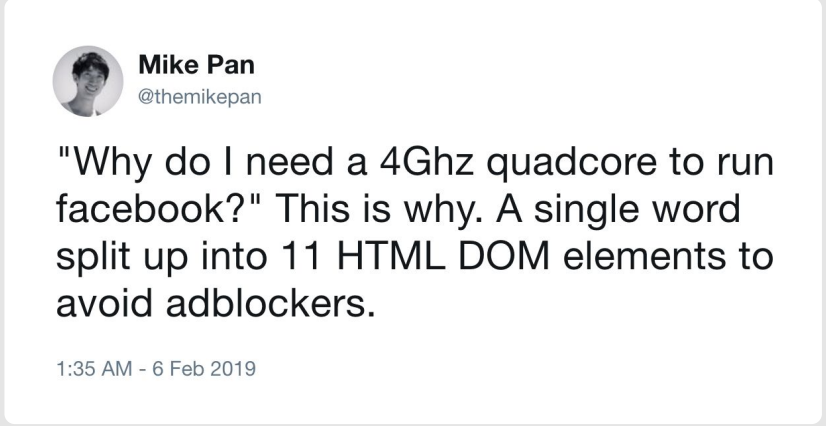
Analytics

Social/Marketing

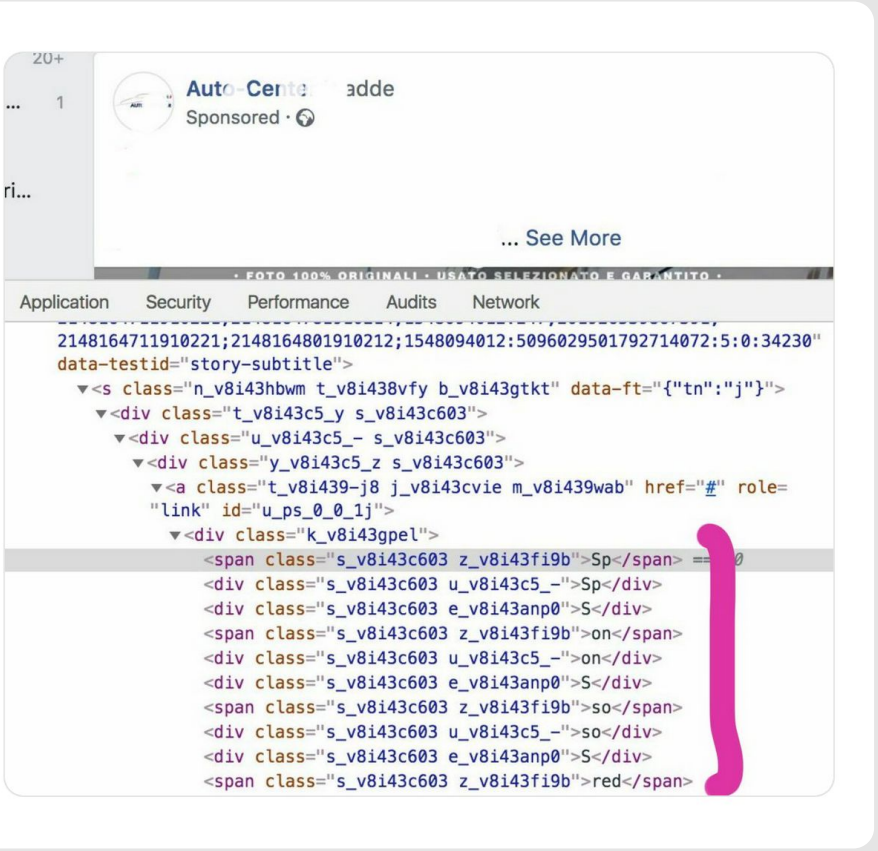
Freshdesk
Help Scout

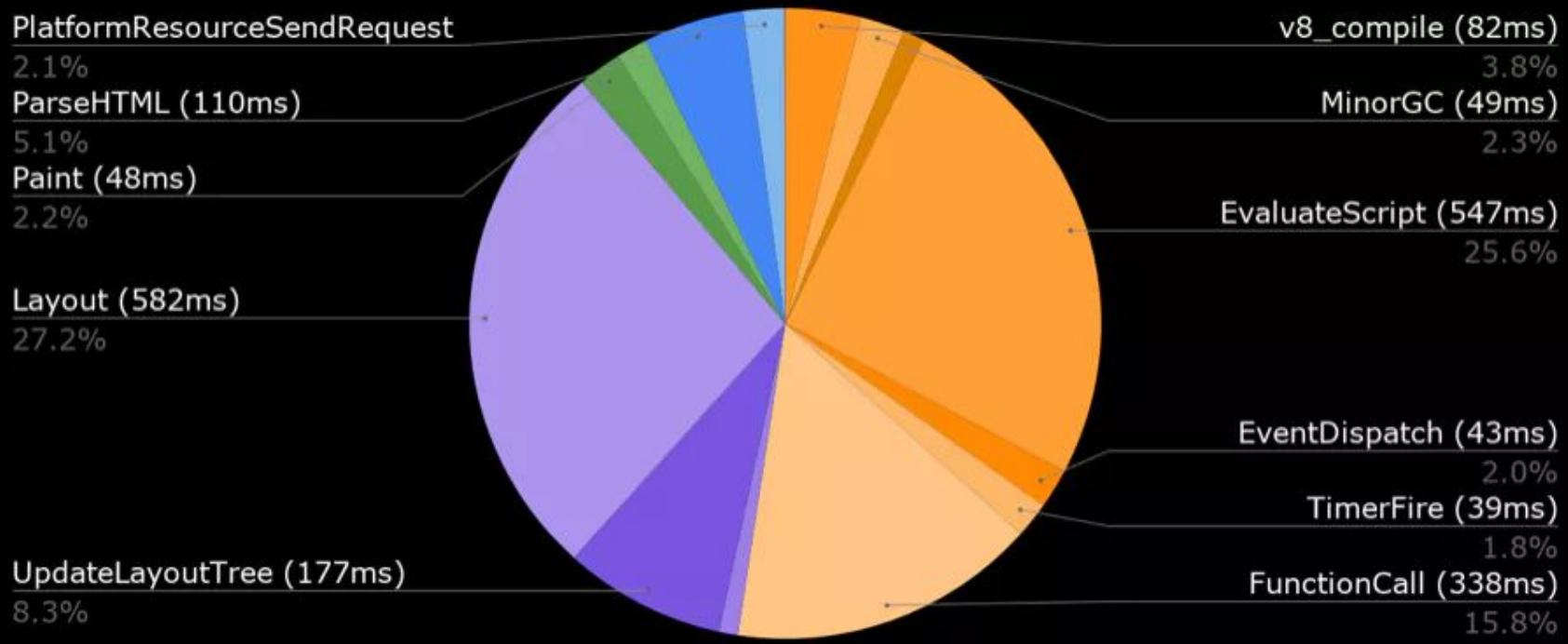
Developer Utils

New Relic
Stripe
OneSignal
Google APIs/SDK
App Dynamics
Cloudflare
PayPal
Yandex APIs
Distil Networks
Sentry



twitter.com/themikepan/status/1093035372186034176





speedcurve.com/blog/javascript-dominates-browser-cpu/

Yikes.

Marco Zehe

@MarcoInEnglish

Nibbling away at those milliseconds it takes for information to reach assistive technologies when requested. My current task is to reduce the number of accessible objects we create for html:div elements. This is to reduce the size of the accessibility tree.

twitter.com/MarcoInEnglish/status/1089412779625402368

Marco Zehe

@MarcoInEnglish

This reduces the amount of data being transferred across process boundaries. Part of what makes Firefox accessibility slower on Windows since Firefox Quantum is the fact that assistive technologies now no longer have direct access to the original accessible tree of the document.

twitter.com/MarcoInEnglish/status/1089412781152129024

Marco Zehe

@MarcoInEnglish

A lot of it needs to be fetched across a process boundary. So the amount of data that needs to be fetched actually matters a lot now. Reducing that by filtering out objects we don't need is a good way to reduce the time it takes for information to reach assistive technologies.

twitter.com/MarcoInEnglish/status/1089412783576367104

Marco Zehe

@MarcoInEnglish

This is particularly true in dynamically updating environments like Gmail, Twitter, or Mastodon. My current patch, slatted to land early in the Firefox 67 cycle, shaves off about 10 to 20% of the time it takes for certain calls to return.

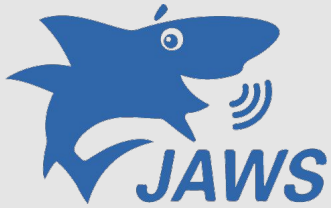
twitter.com/MarcoInEnglish/status/1089412785128247296

This is only for one browser

There are a lot of
browsers out there

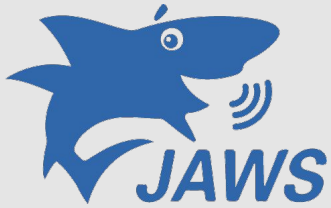
ORBIT
READER 20

Someone should do something!



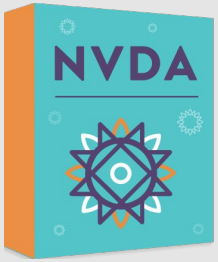
Freedom Scientific

JAWS



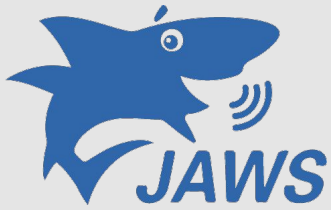
Freedom Scientific

JAWS



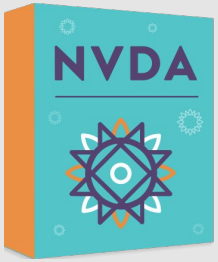
NV Access

NVDA



Freedom Scientific

JAWS

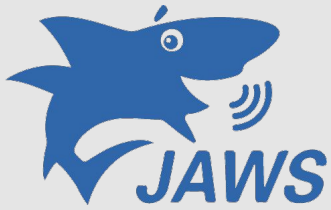


NV Access

NVDA

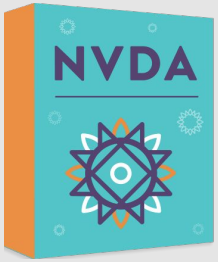
Apple

VoiceOver



Freedom Scientific

JAWS



NV Access

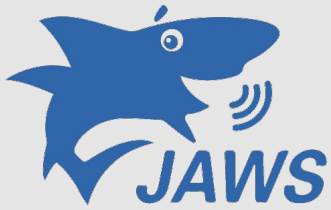
NVDA

Apple

VoiceOver

Google

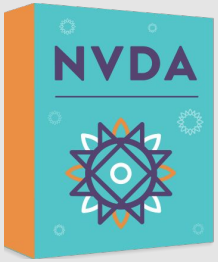
Talkback



Freedom Scientific

JAWS

Open Issue Tracker



NV Access

NVDA

Open Issue Tracker

Apple

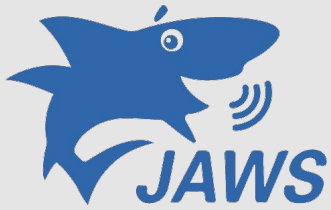
VoiceOver

Closed Issue Tracker

Google

Talkback

Open Issue Tracker

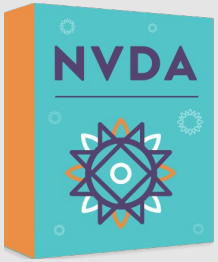


Freedom Scientific

JAWS

Open Issue Tracker

Closed Source Code



NV Access

NVDA

Open Issue Tracker

Open Source Code

Apple

VoiceOver

Closed Issue Tracker

Closed Source Code

Google

Talkback

Open Issue Tracker

Open Source Code

Pruning trees

Marco Zehe

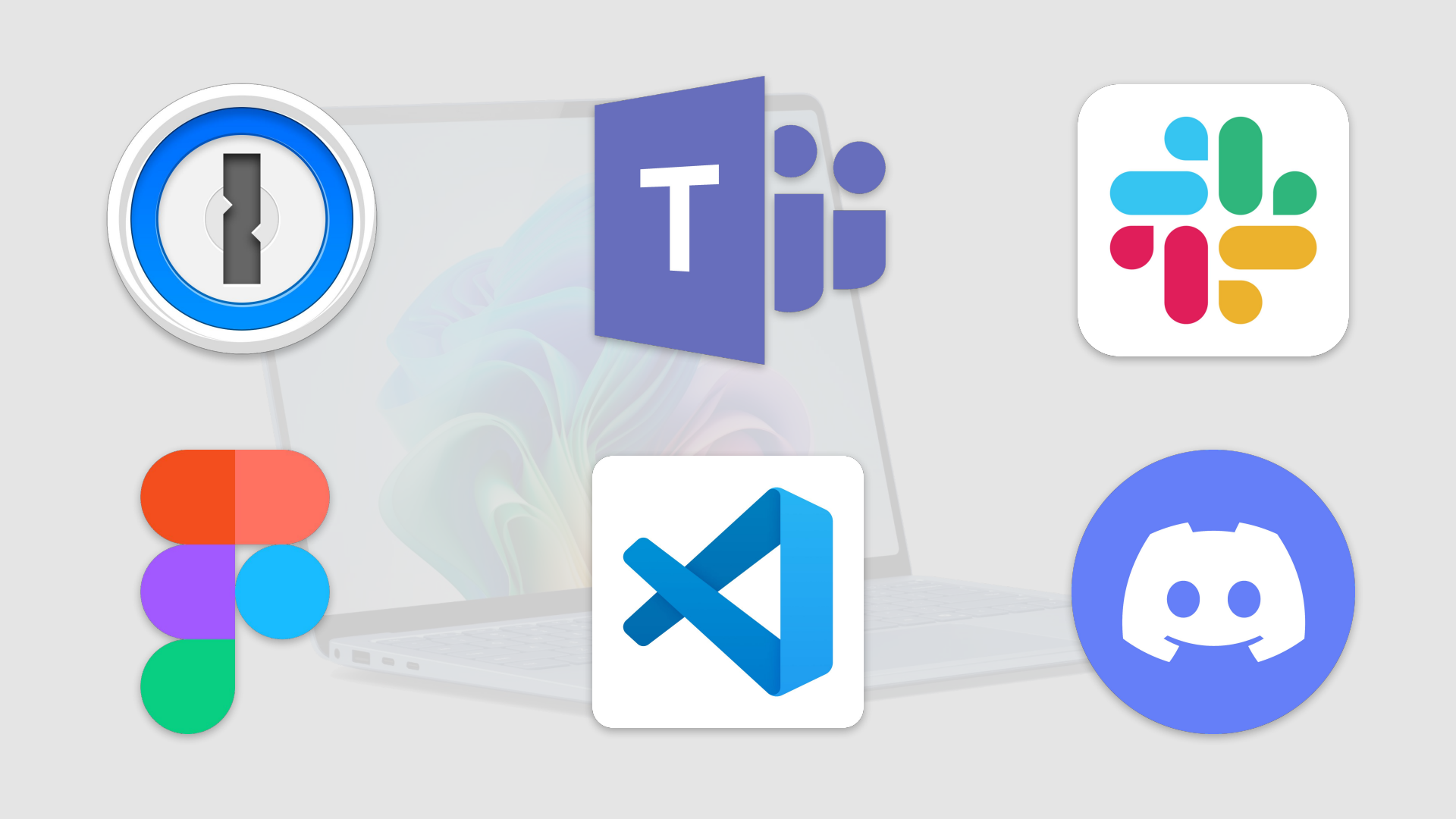
@MarcoInEnglish

Reducing the number of milliseconds it takes for a screen reader to start speaking after a key press from about 140 to 100 here, or from 120 to 100 there, doesn't matter much on a fast machine. On a slow machine, that reduction is from about 230 to 250 down to 200 or 190.

twitter.com/MarcoInEnglish/status/1089412786558513152

52x/32x/52x
Low Radiation

10:10 AM
Google
10:10
AM
Thu
Oct 01 2015
Add a location
Play Games
Voice Search
Photos
Camera
Google
My Account Downloader
Browser
PlayStore


1Password
Microsoft Teams
Slack
Figma
Visual Studio Code
Discord

Be pragmatic.

The stakes are high.

Be patient.

Things move slow.

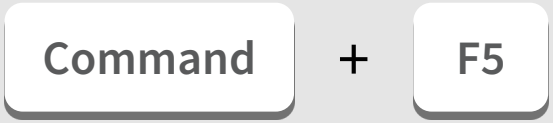
If you do one thing,

test

Don’t know how to test?

Let’s learn how!

Start/stop VoiceOver

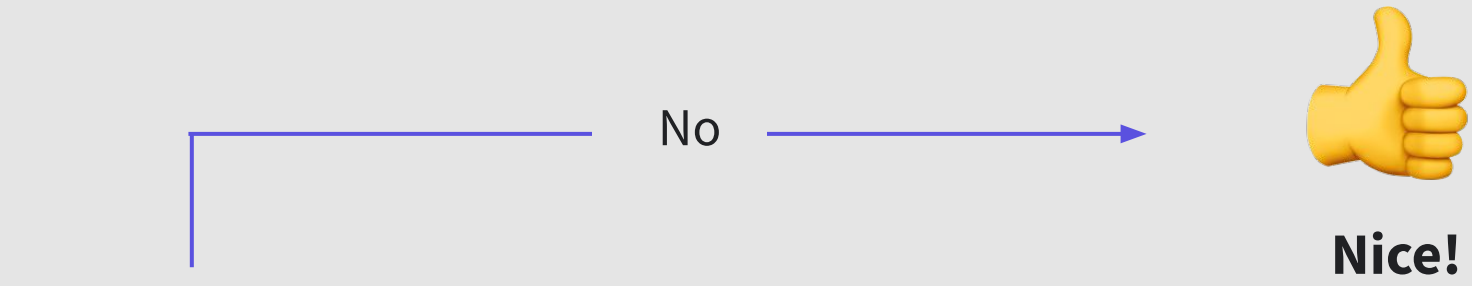


Start/stop VoiceOver

Command + F5

Navigate by interactive item

Tab


No
Nice!
Did VoiceOver crash?

Did VoiceOver crash?

No

Nice!

Yes

Simplify your experience

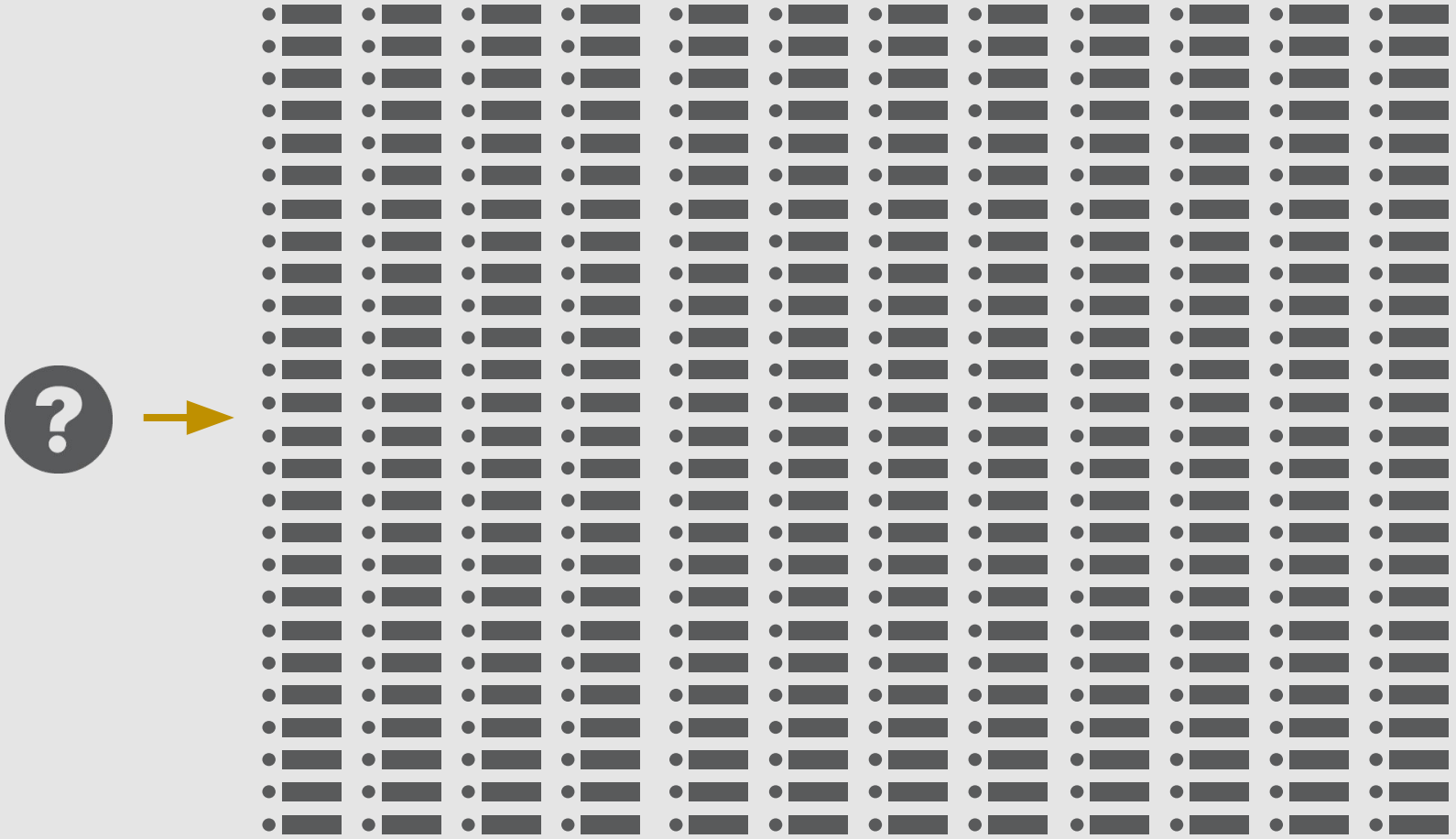
Whoa!

Whoa!

Performance

noun - pər-ˈfȯr-mən(t)s

The ability to perform



Memory

Memory

Problem-solving

Memory

Problem-solving

Attention

Memory

Problem-solving

Attention

Reading comprehension

Memory

Problem-solving

Attention

Reading comprehension

Math comprehension

Memory

Problem-solving

Attention

Reading comprehension

Math comprehension

Visual comprehension

Figure 8.6

NASA Task Load Index

Hart and Staveland's NASA Task Load Index (TLX) method assesses work load on five 7-point scales. Increments of high, medium and low estimates for each point result in 21 gradations on the scales.

Name	Task	Date

Mental Demand — How mentally demanding was the task?
Very Low — Very High

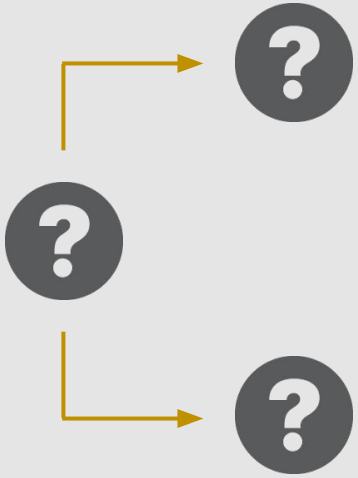
Physical Demand — How physically demanding was the task?
Very Low — Very High

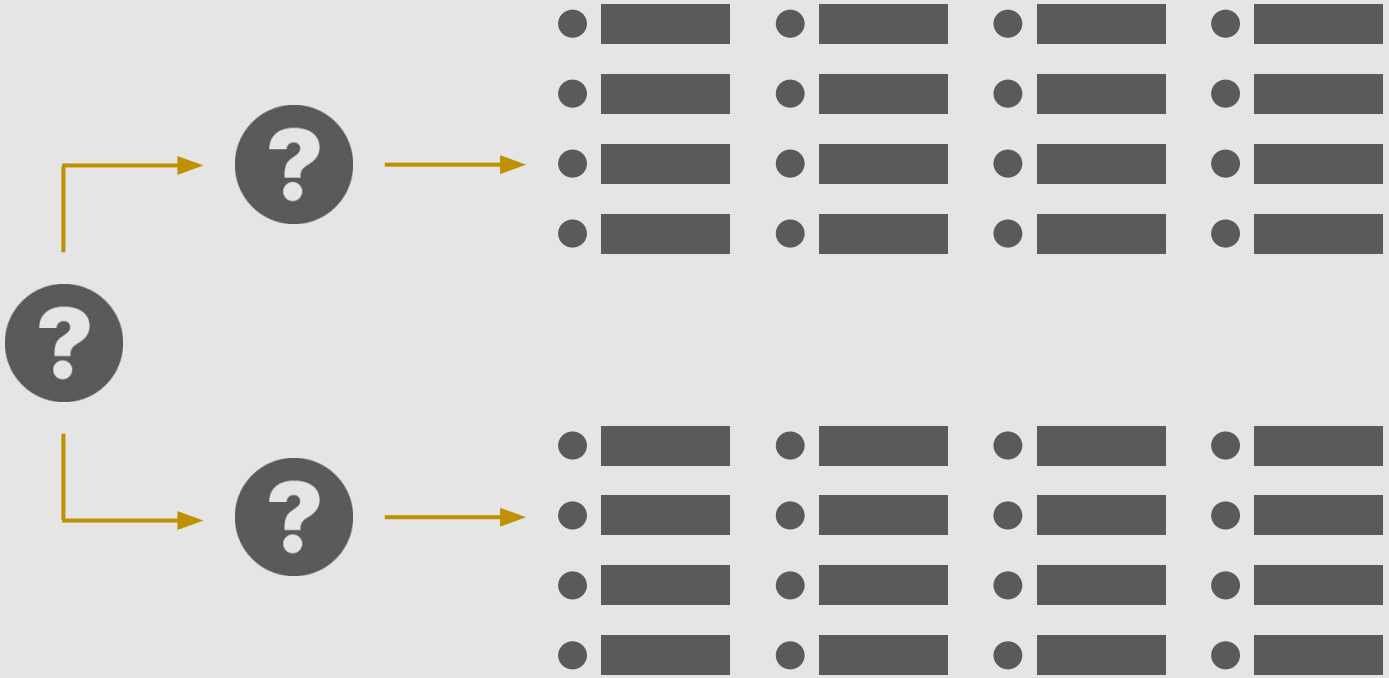
Temporal Demand — How hurried or rushed was the pace of the tas
Very Low — Very

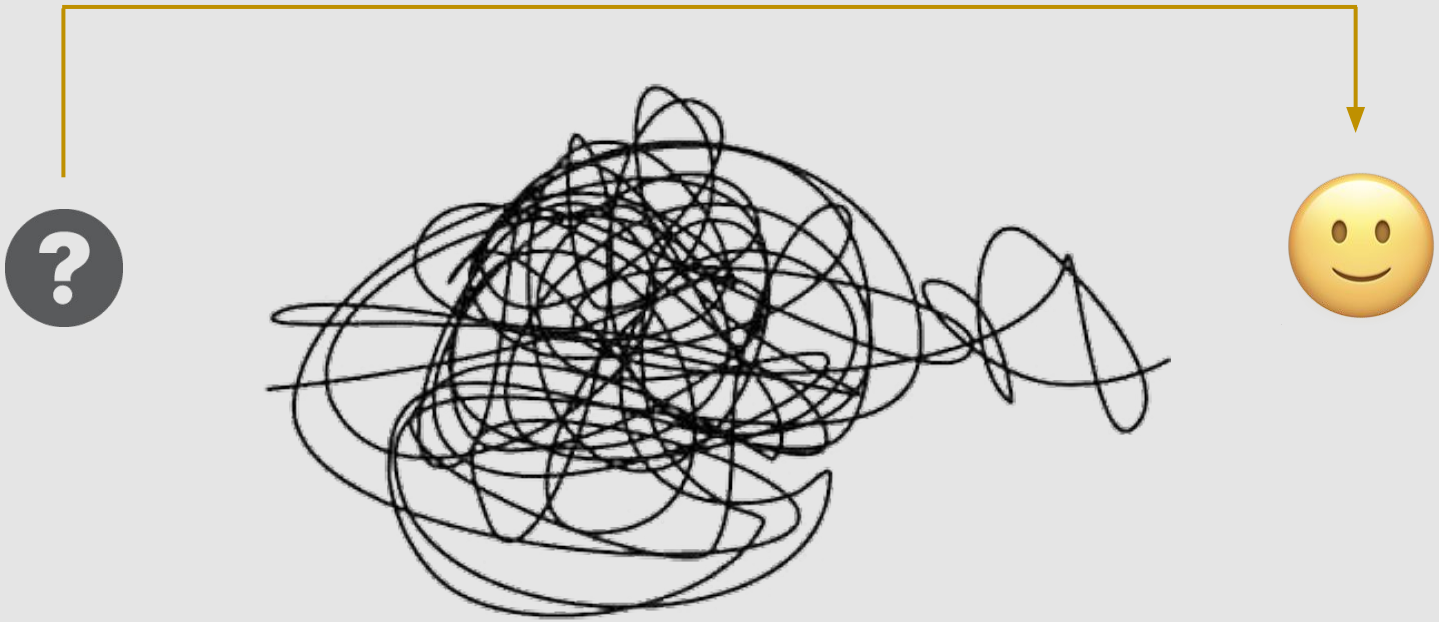
Performance — How successful were you in accomplishing you were asked to do?
Perfect — Fa

Effort — How hard did you have to work to accomplish your level of performance?
Very Low — Very High

Frustration — How insecure, discouraged, irritated, stressed, and annoyed wereyou?
Very Low — Very High







Understanding SC 3.3.7:

Redundant Entry (Level A)

Page Contents

- In Brief
- Success Criterion
- Intent
- Benefits
- Examples
- Related Resources
- Techniques
- Key Terms

In Brief

Goal

Make it easier for users to complete multi-step processes.

What to do

Don't ask for the same information twice in the same session.

Why it's important

Some people with cognitive disabilities have difficulty remembering what they entered before.

Success Criterion (SC)

“Surprisingly very few companies conduct qualitative user research”

2018 Design In Tech report

“Surprisingly very few companies conduct qualitative user research”

12%

Early-stage startups

2018 Design In Tech report

“Surprisingly very few companies conduct qualitative user research”

12%
Early-stage startups

32%
Mid-stage startups

2018 Design In Tech report

“Surprisingly very few companies conduct qualitative user research”

12%
Early-stage startups

32%
Mid-stage startups

46%
Late-stage startups

2018 Design In Tech report

Survivorship bias

or:

Who isn’t present?

07-19-2023 | PLUGGED IN

Whatever happens to Evernote, I want my notes to live forever

I bought into the once-iconic note-taking app's grand ambitions. Now I'm not sure if any app can keep all my important stuff safe forever.

Make it fast

Make it fast
Make it accessible

Make it fast

Make it accessible

Make it easy to use

Make it fast

Make it accessible

Make it easy to use

Make its value apparent

Make it fast

Make it accessible

Make it easy to use

Make its value apparent

Ask people what they think of it

Reach across the isle

(Pun intentional)

github.com/GoogleChrome/lighthouse/issues/11049

Request for metrics that are inclusive to Assistive Technology

I used to think I knew things.

Now I test.

Thank you!

- ericwbailey.website
- @ericwbailey.website
- social.ericwbailey.website/@eric