

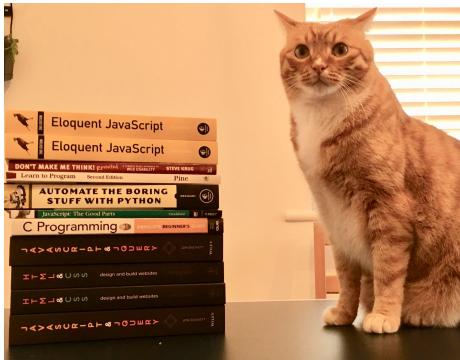
# **When perf-html met a11y**

**Let's talk about  
Accessibility**

Hello

# I'm Eva

- Slovenia -> China -> UK



Three images: a picture of a cat on the left, a picture of a cat in the middle, a picture of a dog on the right.



Outreachy logo on the left and Mozilla logo on the right.

# perf-html



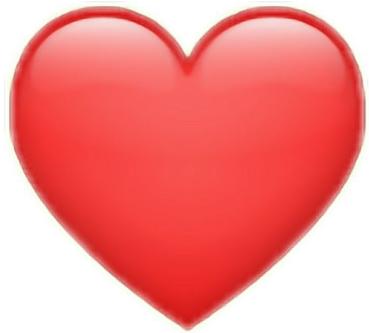
A screenshot of perf-html, Mozilla's highly versatile profiler.



An image of a broken heart.



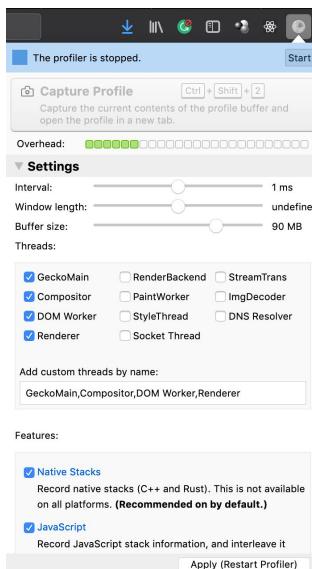
A screenshot of perf-html menu buttons issue - the buttons are overlapping with keyboard navigation.



An image of a red heart.

Ok,  
but what  
is it?

# Install Gecko Profiler



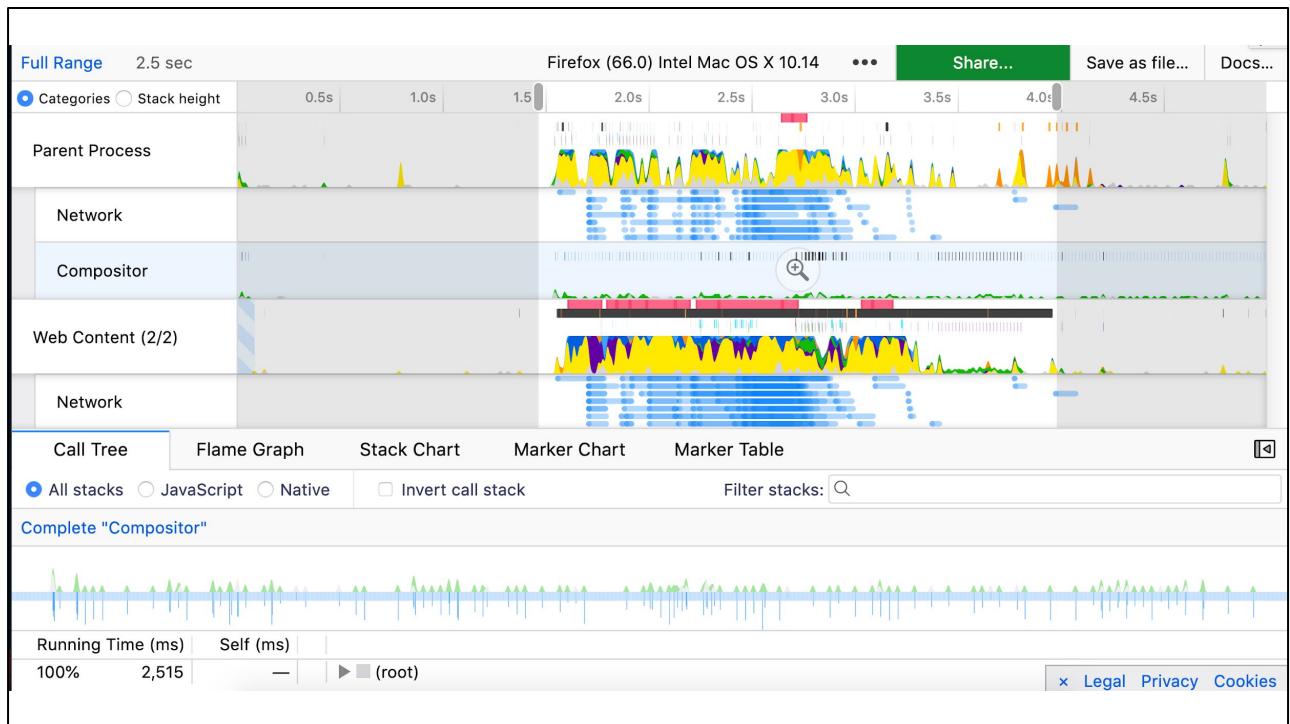
A screenshot of the Gecko profiler web extension.

The screenshot shows a browser window with the CNN homepage. A developer toolbar is open at the top, showing various tabs like 'perf', 'flow-typed', 'ARIA Tab Panel', 'testing', and 'But'. A 'Gecko Profiler' overlay is displayed, indicating it is stopped. It includes a 'Capture Profile' button (with a keyboard shortcut of **Ctrl + Shift + 2**), an 'Overhead' status bar (green bars), and a 'Settings' section with sliders for 'Interval' (1 ms), 'Window length' (undefined), and 'Buffer size' (90 MB). Under 'Threads', several options are listed with checkboxes: GeckoMain, Compositor, DOM Worker, Renderer, RenderBackend, PaintWorker, StyleThread, StreamTrans, ImgDecoder, DNS Resolver, and Socket Thread. An 'Add custom threads by name' input field contains 'GeckoMain,Compositor,DOM Worker,Renderer'. In the 'Features' section, 'Native Stacks' and 'JavaScript' are checked, with descriptive text and an 'Apply (Restart Profiler)' button. The main content area of the browser shows a news article about Huawei and a sidebar with other news stories.

A screenshot of using the Gecko profiler on a website (cnn.com)



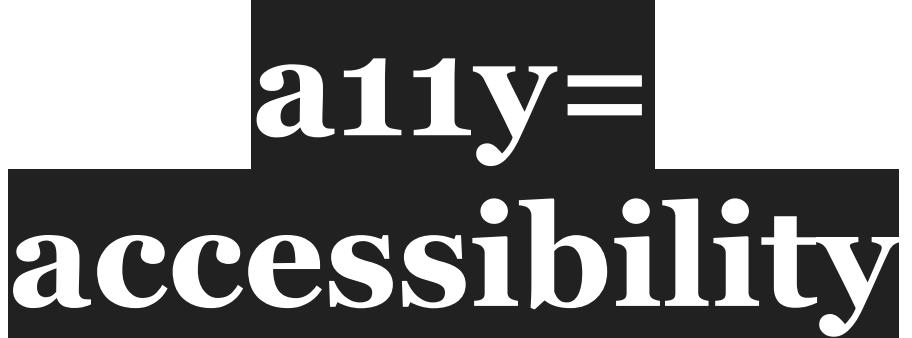
A screenshot of perf-html profiler with the timeline section at the top half and the panels on the bottom half of the page.



A screenshot of perf-html profile zoom-in selection.



A screenshot of perf-html once you've zoomed in on a selection.



a11y=

accessibility

The word accessibility is abbreviated to "a11y," with the number eleven in the middle referring to the number of letters that the word contains between the first and last letter.

# A case for accessibility

- Designing and developing inclusively not only benefits the roughly 15% of people with some kind of disability, it benefits absolutely everyone.

# Making the web less broken

- Keyboard navigation
- Focus
- Semantic HTML
- Display
- Colour contrast
- Content order
- User interaction
- ARIA
- Zoom
- Alt attribute
- Captioning
- Instructions
- tabindex
- Readability
- Error messages
- Consistency?

WCAG - Web Content Accessibility Guidelines: perceivable, operable, understandable, robust

Web Accessibility Initiative's (WAI) Accessible Rich Internet Applications (ARIA)

IT'S NOT  
JUST ARIA

# Step 1

Auditing perf-html  
for a11y issues

**Label issues and pull requests for new contributors**

Now, GitHub will help potential first-time contributors discover issues labeled with **Help wanted** or **good first issue**

[Dismiss](#)

**Filters**  [Labels](#) [Milestones](#) [New issue](#)

Clear current search query, filters, and sorts

	Author	Labels	Projects	Milestones	Assignee	Sort
<input type="checkbox"/> ① 22 Open ✓ 8 Closed						
<input type="checkbox"/> ① When tabbing through the app, the Footer comes first <a href="#">accessibility</a>	#1675 opened 4 days ago by edieblu					
<input type="checkbox"/> ① Focus should automatically move to the panel, when the panel is opened <a href="#">accessibility</a> <a href="#">feature</a>	#1637 opened 12 days ago by edieblu					
<input type="checkbox"/> ① Consider adding a11y eslint plugin to the project <a href="#">accessibility</a> <a href="#">discussion</a> <a href="#">feature</a>	#1620 opened 17 days ago by edieblu					2
<input type="checkbox"/> ① Do a color audit to make sure we follow the color contrasting guidelines <a href="#">accessibility</a> <a href="#">polish</a>	#1614 opened 18 days ago by edieblu					1
<input type="checkbox"/> ① Selecting timeline range should be possible with a keyboard <a href="#">accessibility</a> <a href="#">feature</a>	#1613 opened 18 days ago by edieblu					2
<input type="checkbox"/> ① Some images/icons are currently without an "alt" attribute <a href="#">accessibility</a> <a href="#">polish</a>	#1609 opened 20 days ago by edieblu					4
<input type="checkbox"/> ① Access the Context Menus with keyboard <a href="#">accessibility</a> <a href="#">feature</a>	#1608 opened 20 days ago by edieblu					1

A screenshot of the perf-html GitHub repository displaying issues labelled with accessibility.

# Step 2

The Plan

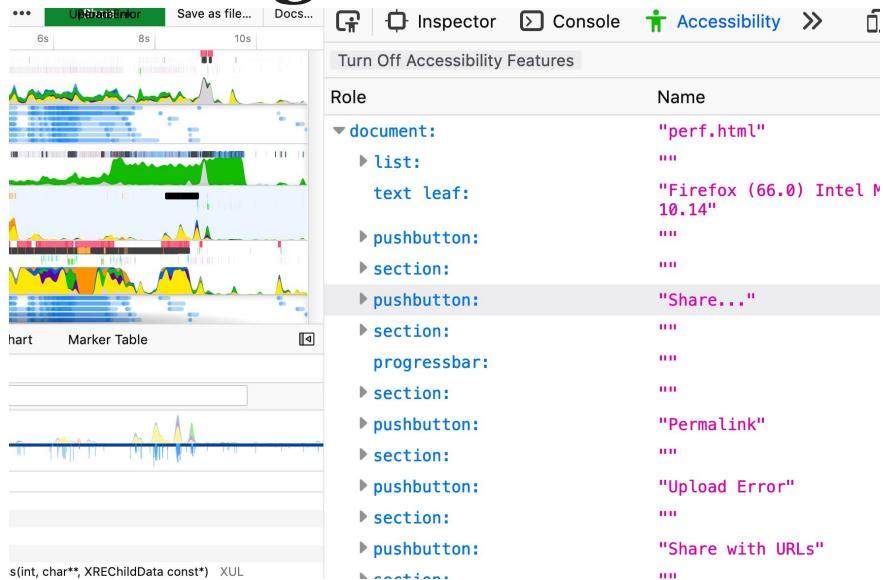
# My project

- Keyboard navigation
- Semantic HTML
- Managing focus
- Focus styling

# Step 3

**Doing stuff**

# 1. Handling the DOM



A screenshot of perf-html overlapping buttons issue on the left, and how this is displayed in the Firefox accessibility inspector on the right.

## 2. Interactive elements



A screenshot of the perf-html threads and panels.

# <div> “button”



```
<div  
  role="button"  
  onClick="someFunction()"  
  onKeyDown="someOtherFunction()"  
  tabIndex="0"  
/>
```

An image saying “caution”, a screenshot of a code snippet explaining how to give a <div> element <button> element functionalities.

### 3. Focus management

```
document.addEventListener('focusin', function() {
  console.log('focused: ', document.activeElement)
}, true)
```

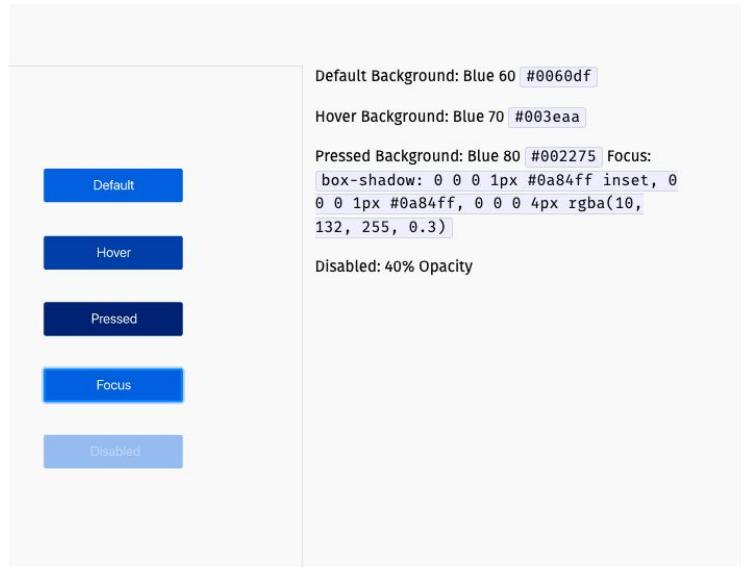
```
focused:
▶ <input class="buttonWithPanelButton me...
aInfoButtonButton" type="button"
value="" "> ◊
focused:
▶ <input class="buttonWithPanelButton
menuButtonsShareButton" type="button"
value="Share..."> ◊
focused:
▶ <input class="buttonWithPanelButton me...
ileDownloadButton" type="button"
value="Save as file..."> ◊
focused:
▶ <a class="menuButtonsLink" href="/docs/"
target="_blank" title="Open the
documentation in a new window"> ◊
focused:
▶ <input class="timelineToggleInput"
type="radio" name="timelineToggle"
value="on"> ◊
focused:
▶ <button class="timelineTrackNameButton"
type="button"> ◊
```

A code snippet with the Javascript focusin event on the left, and a screenshot of the console with the focused events output on the right.

# 4. Focus indicators

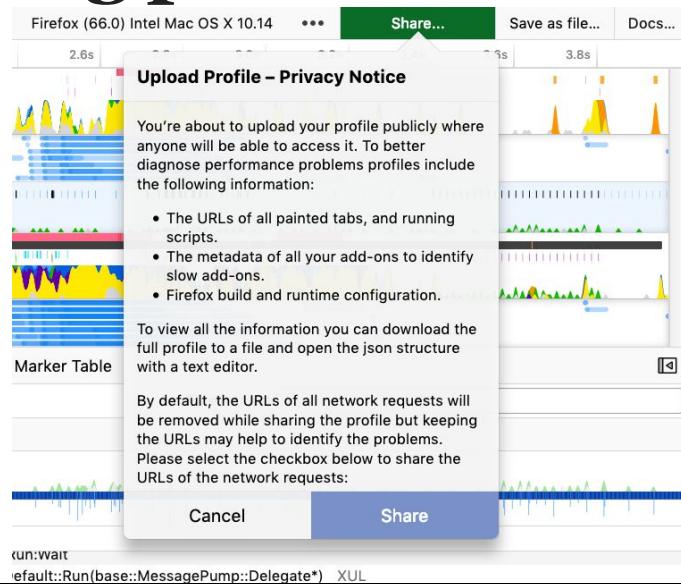


```
:focus {  
    outline: 0;  
}
```



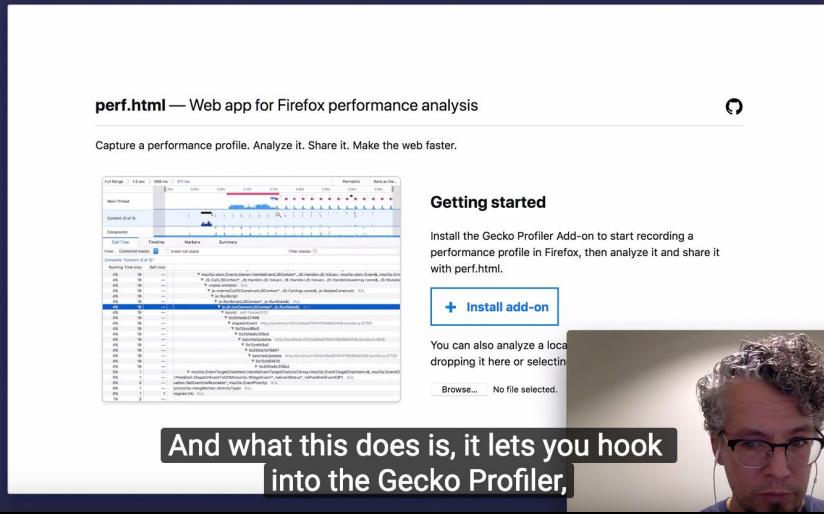
An image saying “caution”, a screenshot of a :focus code snippet, a screenshot of the photon-button styling.

# 5. Exiting panels with Esc key



A screenshot of an opened menu buttons panel in perf-html.

# 6. Captioning



A screenshot of perf-html video tutorial with captioning.

# 7. ARIA

[+ Install add-on](#)

[? Documentation](#)

Install the Gecko Profiler Add-on to start recording a performance profile in Firefox, then analyze it and share it with perf.html.

[Load a profile from file](#)

[Load a profile from a URL](#)

[+ Install add-on](#)

[? Documentation](#)

Install the Gecko Profiler Add-on to start recording a performance profile in Firefox, then analyze it and share it with perf.html.

[Load a profile from file](#)

[Load a profile from a URL](#)

[Load](#)

A screenshot of perf-html homepage with links to documentation, installing the add-on and loading a profile from file or URL.

# CSS selectors

```
.homeSectionButton[aria-expanded='true'] {  
    background-color: var(--blue-60);  
    color: #fff;  
}
```

A screenshot of using aria-expanded attribute as a CSS selector.

# Tools

# Tools

- Gecko profiler Web Extension
- Accessibility inspector
- WAI-ARIA Authoring Practices
- Web Developer (add-on)
- Slack: Mozilla #accessibility
- Twitter
- My Team!

# The result

# Recap

- Check what gets added to the DOM
- Use native HTML elements
- Keyboard navigation
- DOM order and tabindex
- Focus management and styling
- ARIA

Perf for  
everyone

# <https://perf-html.io/>

- Very friendly and welcoming community
- Good first issue
- Look for us on Slack: Firefox DevTools #perf channel
- Search for issues labelled with accessibility

# **Slides**

- Github: **edieblu**
- Twitter: **@GirlsCodeMK**

TALK TO ME ABOUT  
DIVERSITY IN TECH  
AND ALLY