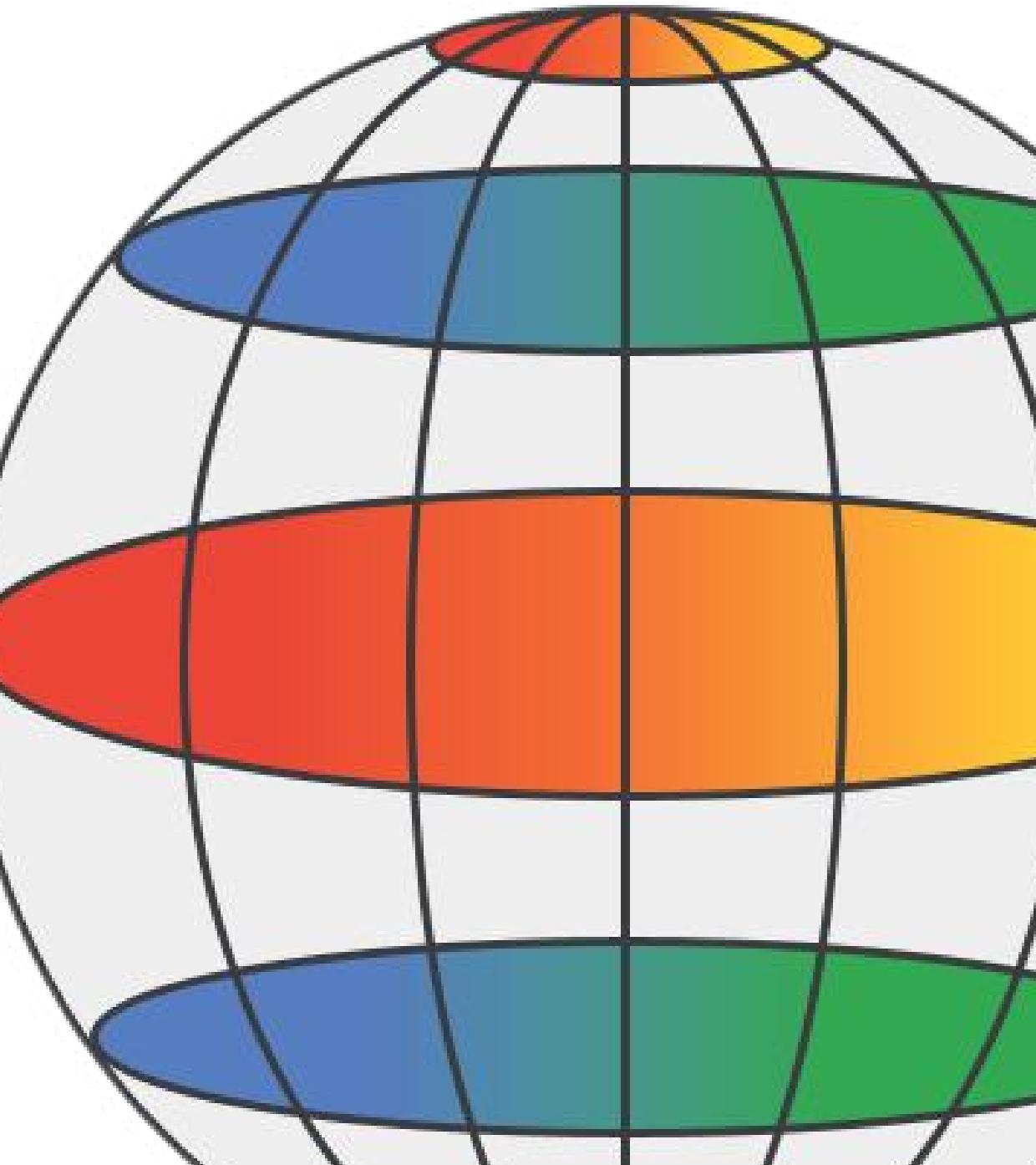


The Latest in Web UI

Shekhar Patel
he/him



Who am I?

Shekhar Patel

GSoC'24 @The Palisadoes Foundation | Open-source Developer



01

Novel interactive experiences

Scroll-driven animations
View transitions

02

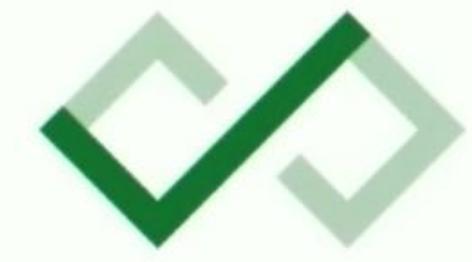
Engine- enabled UI components

Popover API
Anchor positioning
Select
Component updates

03

Quality of life improvements

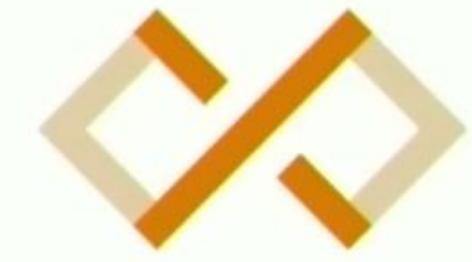
Architecture
Layout
Typography
Responsive design



Available in Baseline



Newly available in Baseline



Not available in Baseline



Available in stable



Available in beta/nightly



Available in w/flag



Not available

Scroll-driven animations





```
@keyframes appear {  
  from {  
    opacity: 0;  
    scale: 0.8;  
  }  
  to {  
    opacity: 1;  
    scale: 1;  
  }  
}  
  
img {  
  animation: appear linear;  
  animation-timeline: view();  
  animation-range: entry 25% cover 50%;  
}
```

<https://scroll-driven-animations.style/>

“We managed to reduce up to 80% of our lines of code compared to using conventional JS scroll events and observed that the average CPU usage reduced from 50% to 2% while scrolling.”

Andy Wihalim, Senior Software Engineer, Tokopedia



Premium IN

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You >

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- Ankit Panth (•)
- National Geogra... (•)
- Space Videos (•)
- Warner Bros. Ent... (•)
- 88rising •
- 247CTF
- Abhishek Upmanyu



Unleash the power of Scroll-Driven Animations

Chrome for Developers

10 videos 12,501 views Last updated on 3 May 2024



Play all

Shuffle

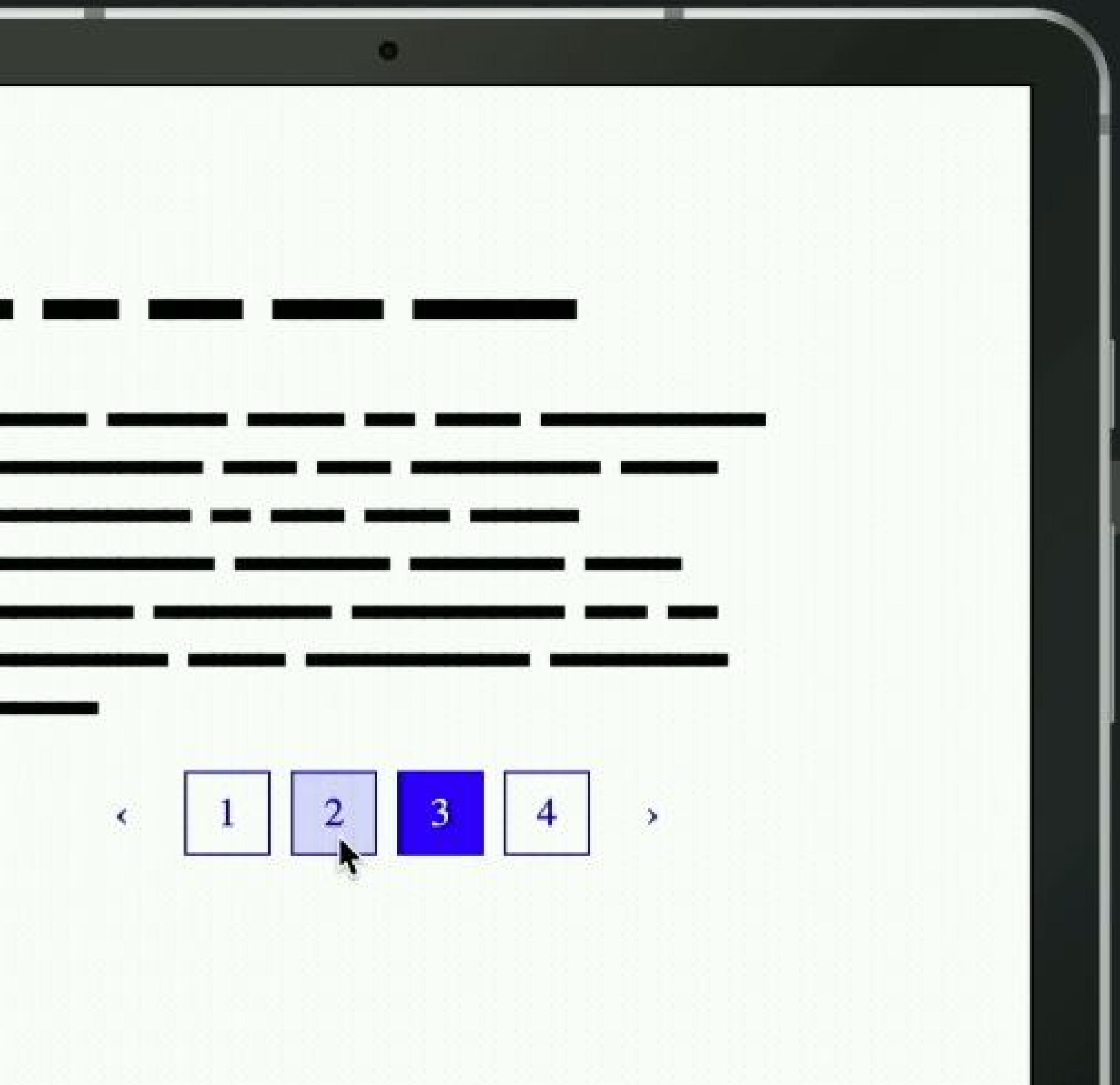
Watch, learn, and code your way to smoother, better scroll-driven experiences!

- 1 **Introduction | Unleash the power of Scroll-Driven Animations (1/10)**
Chrome for Developers • 12K views • 2 months ago
- 2 **Core Concepts: scroll() and ScrollTimeline | Unleash the power of Scroll-Driven Animations (2/10)**
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Chrome for Developers • 1.3K views • 2 months ago

goo.gle/learn-scroll-driven-animations

View Transition Types





```
document.startViewTransition( {  
    update: myUpdate,  
    types: ['slide', 'forwards']  
} )
```

Cross-Document View Transitions

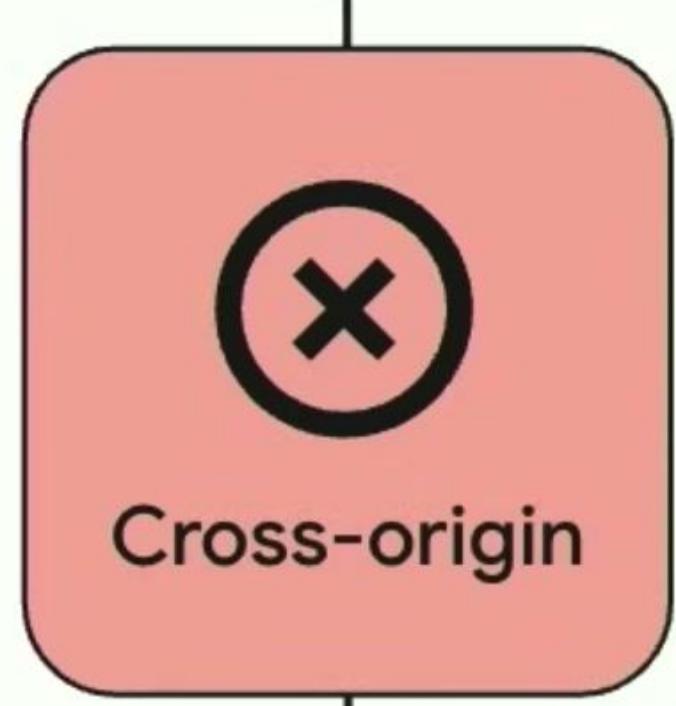


web.dev



web.dev/blog

web.dev



blog.web.dev

CSS

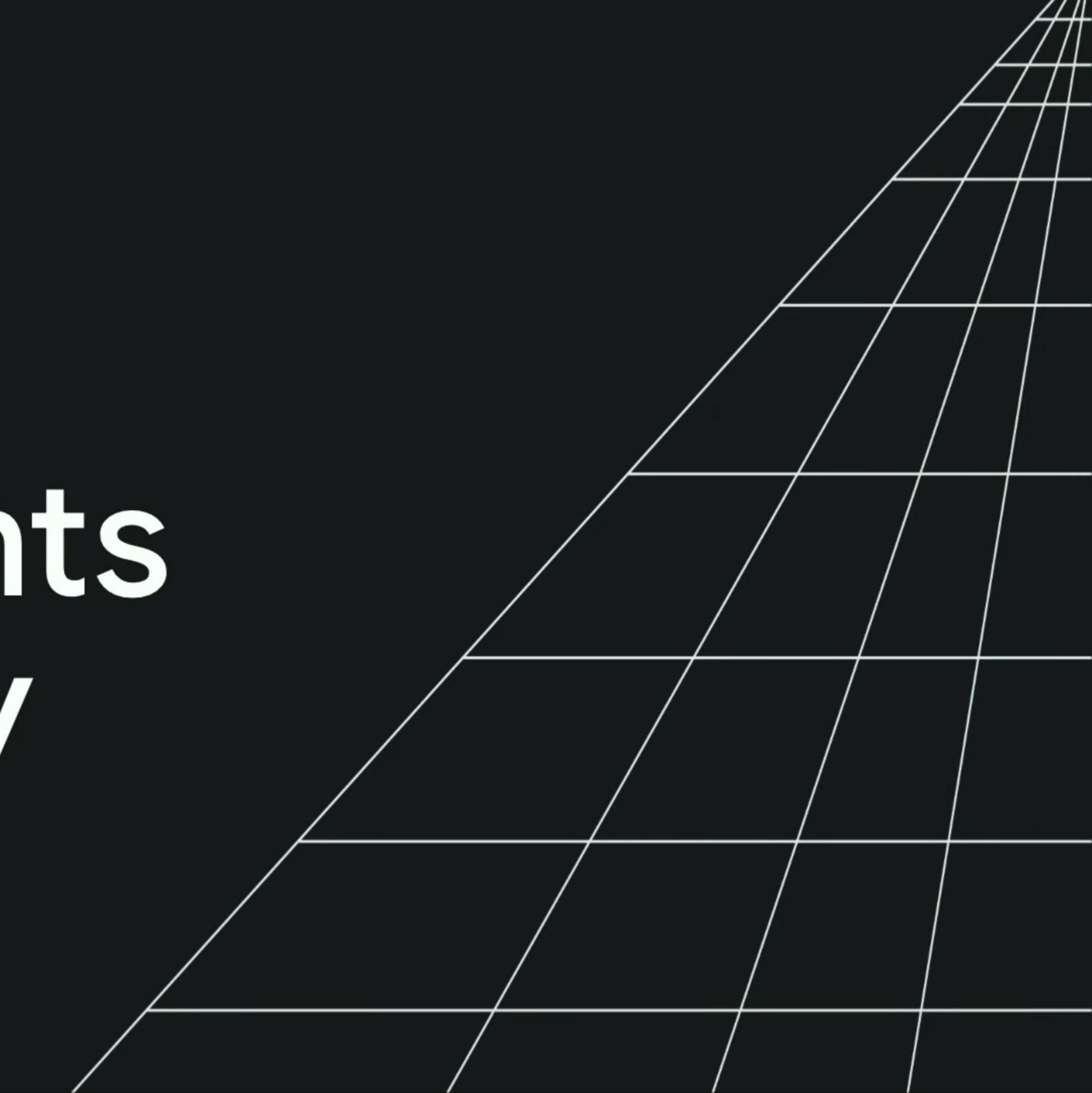
```
@view-transition {  
    navigation: auto;  
}
```

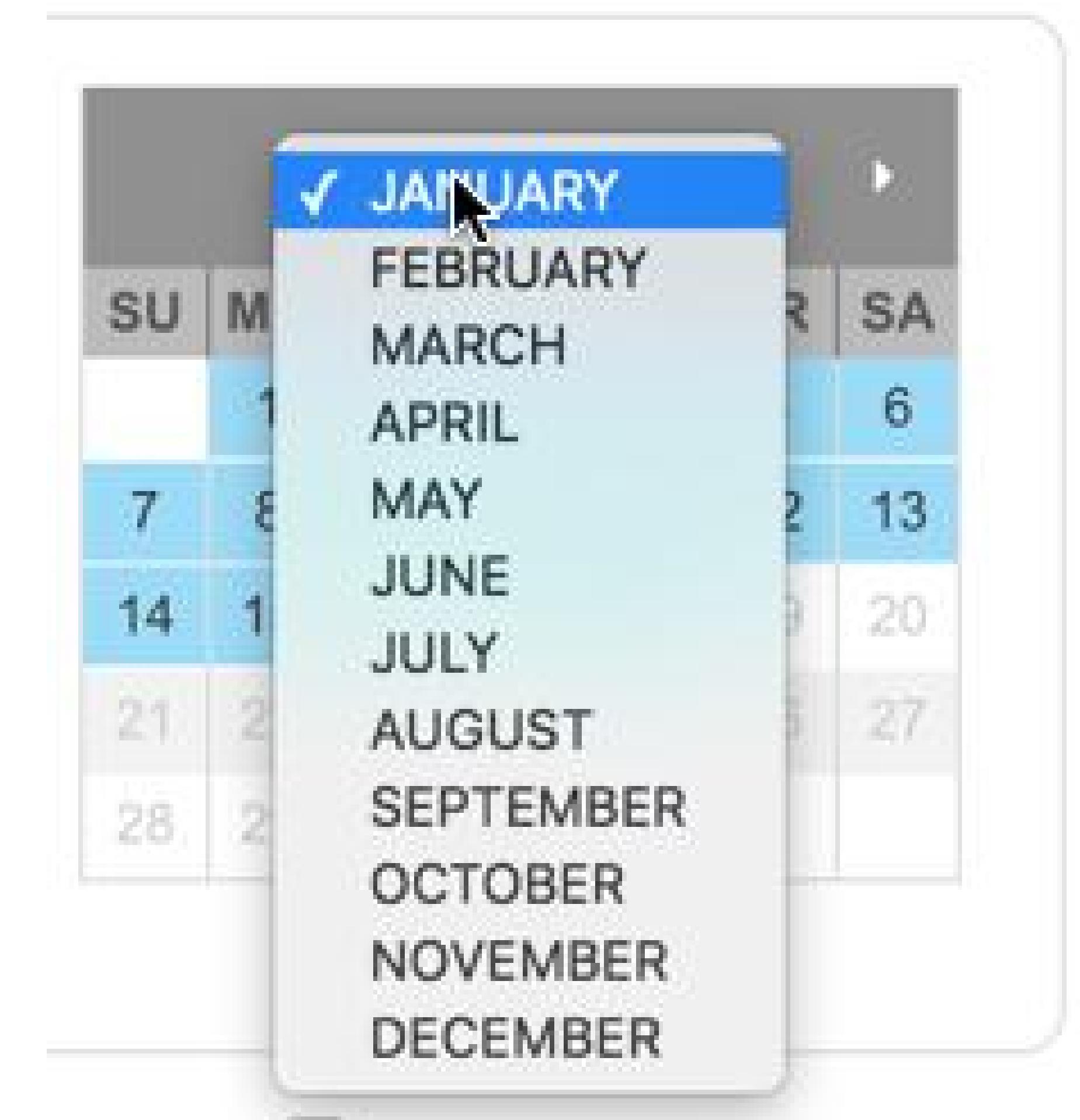
```
window.addEventListener('pageswap', async (e) => {  
    // ...  
});  
  
window.addEventListener('pagereveal', async (e) => {  
    // ...  
});
```

JS

<https://view-transitions.netlify.app/profiles/mpa/>

Complex
components
made easy







Una @Una

...

It's 2017.

Why can we still not style dropdowns?

11:54 AM · Oct 21, 2017

[View post engagements](#)

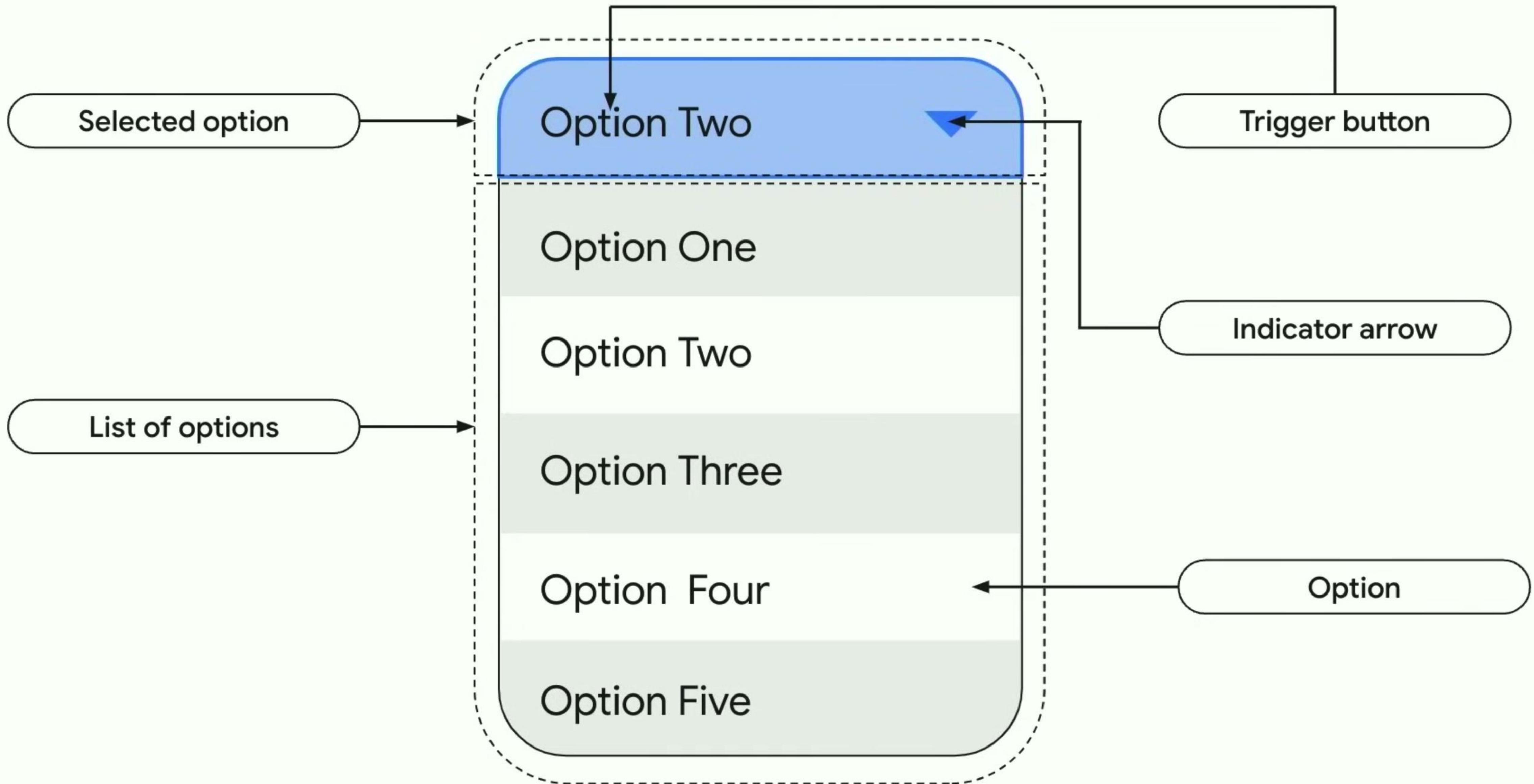
16

71

374

1







CSSWG



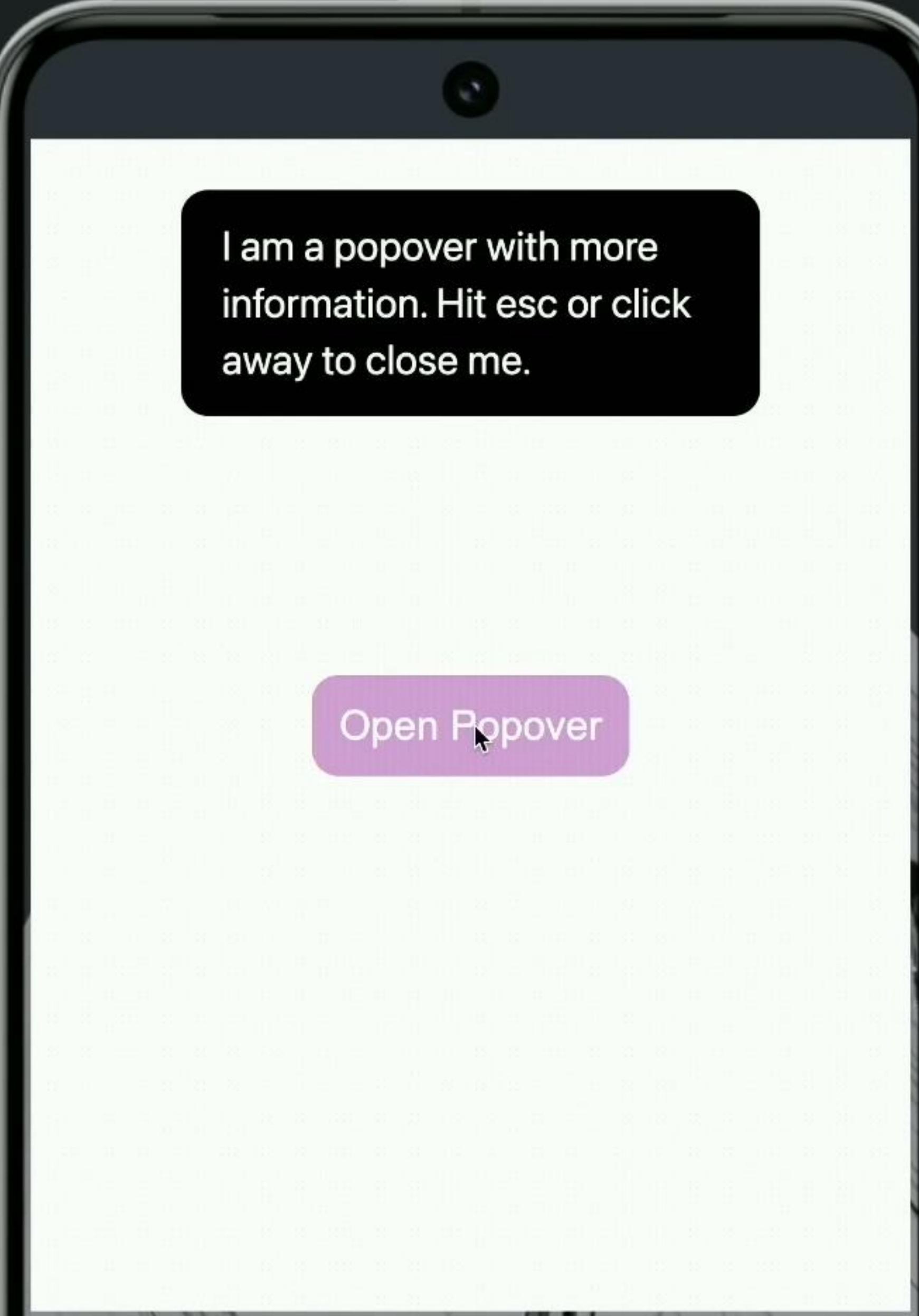
Open UI



WHATWG

Popover API





I am a popover with more information. Hit esc or click away to close me.

Open Popover

```
<button popovertarget="my-popover">  
  Open Popover  
</button>  
  
<div id="my-popover" popover>  
  <p>I am a popover with more info.</p>  
</div>
```



Top-layer support

Promotion to the top layer:
a separate layer above the
rest of the page

Light-dismiss

(Optional) click-away
to close the popover
and return focus

Tab focus

When tabbing into a
popover, the next next
tab key press will move
focus to the popover

Keyboard support

Hitting the esc or double
toggling closes the
popover and returns focus

Component binding

Semantically connects
a popover to its trigger

[Open](#)

Upgrade Astro to latest #23



Changes from all commits ▾

File filter ▾

Conversations ▾

Jump to ▾



0 / 29 files viewed

Review changes ▾

▼ ↻ 86 .astro/types.d.ts

87

```
88 -     export function defineCollectionSchema<S, T>(input: CollectionConfig<S>): CollectionConfig<S>;
```

91

```
92         type AllValuesOf<T> = T extends object ? T : never;
```

```
93         type ValidContentEntrySlug<C> = AllValuesOf<ContentEntryMap> = AllValuesOf<
```

```
94         @@ -96,7 +34,7 @@ declare module 'astro' {
```

96

```
97             export function getEntryBySlug(collection: C, key: string): ContentEntry<C>;
```

```
98             C extends keyof ContentEntryMap
```

```
99             E extends ValidContentEntry<C> = AllValuesOf<ContentEntryMap>[key];
```

100

```
100             >(collection: C, key: string): ContentEntry<C>;
```

```
101             // Note that this has to accept a regular string too, for SSR
```

Finish your review

Write

Preview



Leave a comment

Markdown is supported

Paste, drop, or click to add files

 Comment

Submit general feedback without explicit approval.

 Approve

Submit feedback and approve merging these changes.

 Request changes

Submit feedback that must be addressed before merging.

Submit review

regular string too, for SSR

“We've managed to deprecate literally 1000s of lines of code by migrating to popover.”

Keith Cirkel, Software Engineer, Github

Stylable <select>



≡ Select a country

 Andorra

 Bolivia

 Cambodia

 Denmark

 Egypt

 Estonia

 Ethiopia

 Finland

 France

```
<select>
  <button type=popover>
    <selectedoption></selectedoption>
  </button>
  <datalist>
    <option value="" hidden>
      <p>Select a country</p>
    </option>
    <option value="andorra">
      
      <p>Andorra</p>
    </option>
    <option value="bolivia">
      
      <p>Bolivia</p>
    </option>
    ...
  </datalist>
</select>
```

✓ Andorra

Bolivia

Cambodia

Denmark

Egypt

Estonia

Ethiopia

Finland

France

Gabon

Germany

Ghana

Greece

Guatemala

Guinea

Guyana

Haiti

Honduras

Hungary

```
<select>
  <button type="popover">
    <selectedoption></selectedoption>
  </button>
  <datalist>
    <option value="" hidden>
      <p>Select a country</p>
    </option>
    <option value="andorra">
      
      <p>Andorra</p>
    </option>
    <option value="bolivia">
      
      <p>Bolivia</p>
    </option>
    ...
  </datalist>
</select>
```



<hr> in <select>



Please select a major:

✓ Select a major

School of Fine Arts

Art History

Fine Arts

Graphic Design

Literature

Music

School of Engineering

Aerospace Engineering

Biochemical Engineering

Civil Engineering

Computer Engineering

Electrical Engineering

Mechanical Engineering

School of Mathematics

Mathematics

Economics

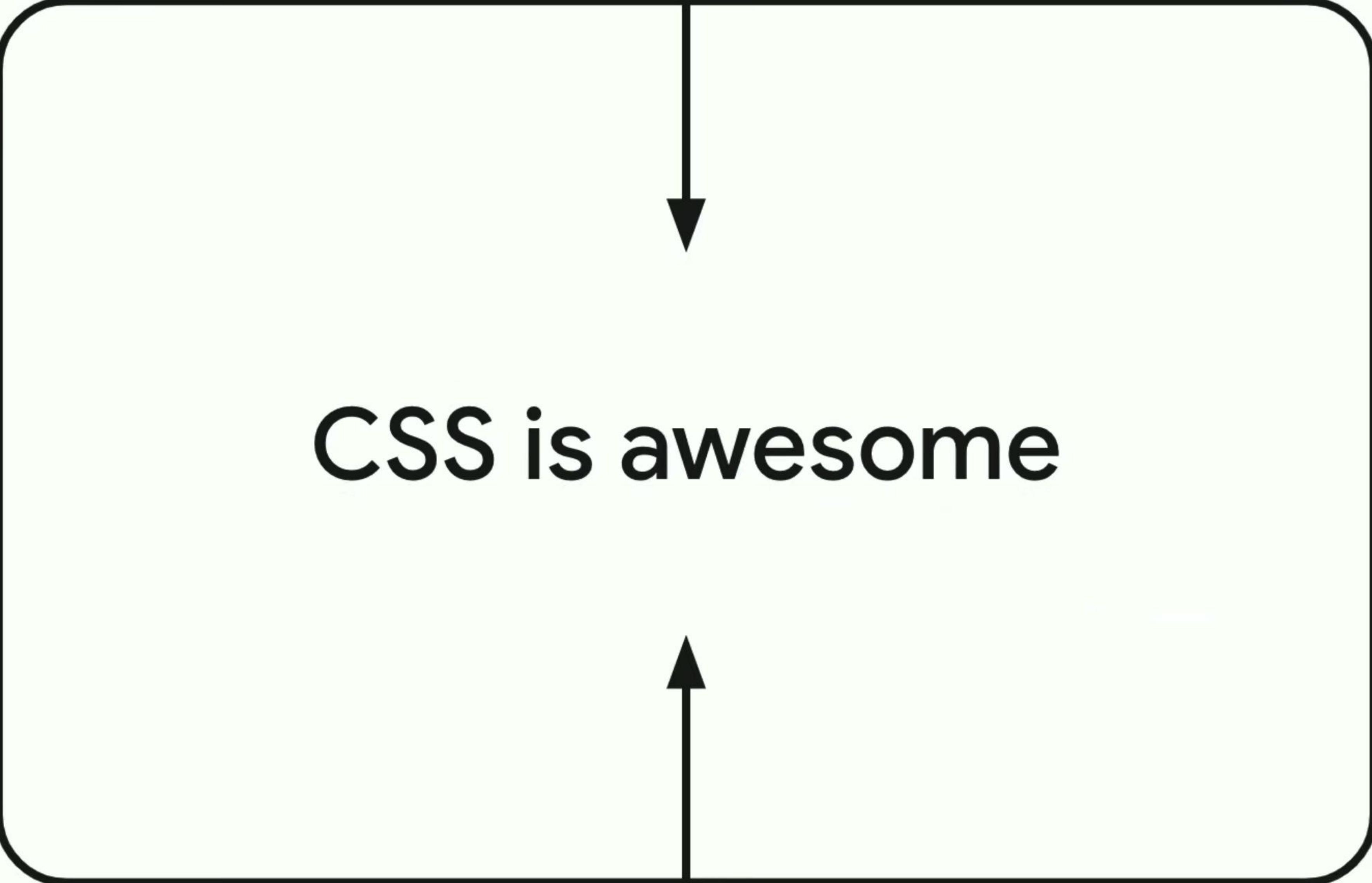
Statistics

```
<select name="majors" id="major-select">
  <option value="">Select a major</option>
  <hr>
  <optgroup label="School of Fine Arts">
    <option value="arthist">
      Art History
    </option>
    <option value="finearts">
      Fine Arts
    </option>
  ...
</select>
```



align-content for block layout





CSS is awesome

HTML

CSS

Result

EDIT ON
CODEPEN

```
.center {  
    border: 5px solid #1a73e8;  
    align-content: center;  
    padding: 10px;  
    max-width: 550px;  
    height: 300px;  
}  
  
h1 {  
    background-color: #006bee;  
    color: #fff;  
    padding: 10px;  
}
```

I am centered vertically

Resources

1x

0.5x

0.25x

Rerun

text-wrap: balance



text-wrap: pretty



NOT BALANCED

**Lorem ipsum, dolor sit amet consectetur
 elit.**

Voluptates incidentum in at cumque quidem. Reiciendis
maxime veniam molestias vero quae sequi
exercitationem, nemo ullam excepturi dicta unde minus
aliquid modi?

NOT PRETTY

**Tortor id aliquet lectus proin nibh nisl id
donec.**

Nec nam aliquam sem et tortor. Non sodales neque
sodales ut etiam sit amet. Enim lobortis scelerisque
fermentum dui faucibus in ornare quam. Quis risus sed
vulputate odio ut enim blandit volutpat maecenas

01

Novel Interactive Experiences

Scroll-driven animations
Same-document view transitions
View transitions classes
View transitions types
Cross-document view transitions

02

Engine- enabled UI components

Popover
Anchor positioning
Animating to/from display: none
Allow-discrete transitions
@starting-style
overlay
Stylable select
Exclusive accordion
:user-valid / :user-invalid
field-sizing: content
<hr> in select

03

Quality of life improvements

Nesting with lookahead
Align-content for block layout
text-wrap: balance
text-wrap: pretty
word-break: auto-phrase
text-spacing-trim
Relative color syntax
:has()
Size container queries

A golden era for Web UI

The Web community

developer.chrome.com

web.dev

THANK YOU!!

Who am I?

Shekhar Patel

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