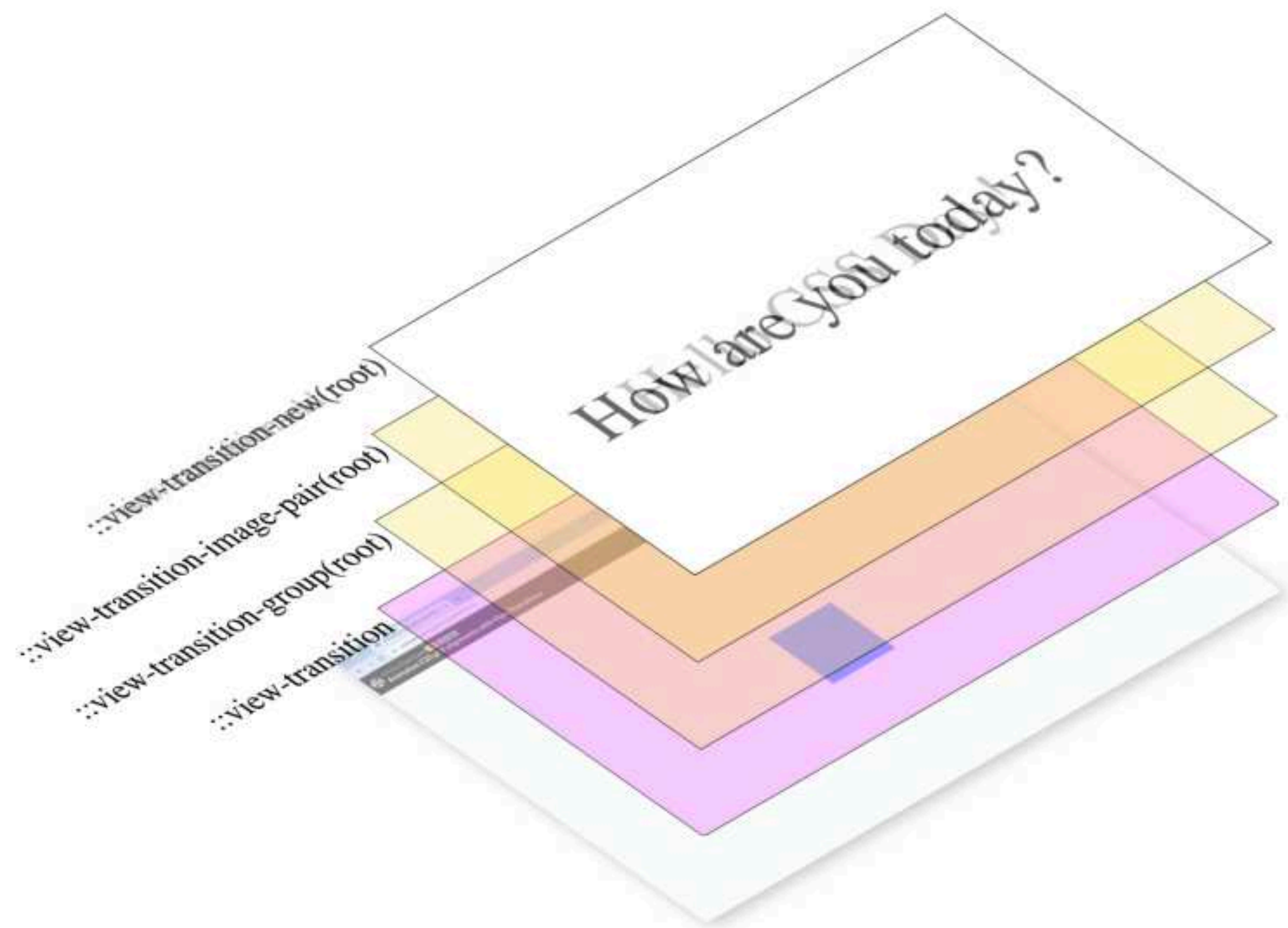


Supercharge Web UX with View Transitions

@bramus – 2026.04.28 (Beyond Tellerrand)

Beyond What? (English)

In 2010 Marc Thiele founded beyond tellerrand. The name **beyond tellerrand** expresses the aim, that everybody involved wants look a bit further, look **beyond the edge**. It also reflects the global perspective of the event. The expression is a mix of the English word “beyond” and the German phrase “Über den Tellerrand schauen,” which means “**Think outside the box**”. The exact translation for the sentence is "Take a look beyond the edge of the plate" ... makes sense? ;)



View Transitions: Cranking it up to 11 (Safely, Maybe)

@bramus – 2026.04.28 (Beyond Tellerrand)



View Transitions are on fire!



Bramus



 @bram.us

 @bramus@front-end.social

~~@bramus~~



<https://www.bram.us/>

W3C Editor's Draft

CSS View Transitions Module

drafts.csswg.org/css-view-transitions-1/


Work

TABLE OF CONTENTS

- 1 Introduction**
 - 1.1 Separating Visual Transitions from DOM Updates
 - 1.2 View Transition Customization
 - 1.3 View Transition Lifecycle
 - 1.4 Transitions as an enhancement
 - 1.5 Rendering Model
 - 1.6 Examples
- 2 CSS properties**
 - 2.1 Tagging Individually Transitioning Subtrees: the 'view-transition-name' property
 - 2.1.1 Rendering Consolidation
- 3 Pseudo-elements**
 - 3.1 Pseudo-element Trees
 - 3.2 View Transition Pseudo-elements
 - 3.2.1 Named View Transition Pseudo-elements
 - 3.2.2 View Transition Tree Root: the '::view-transition' pseudo-element
 - 3.2.3 View Transition Named Subtree Root: the '::view-transition-group()' pseudo-element
 - 3.2.4 View Transition Image Pair Isolation: the '::view-transition-image-pair()' pseudo-element
 - 3.2.5 View Transition Old State Image: the '::view-transition-old()' pseudo-element
 - 3.2.6 View Transition New State Image: the '::view-transition-new()' pseudo-element
- 4 View Transition Layout**
 - 4.1 The Snapshot Containing Block
 - 4.2 View Transition Painting Order
- 5 User Agent Stylesheet**
- 6 API**
 - 6.1 Additions to Document
 - 6.1.1 startViewTransition() Method Steps
 - 6.2 The ViewTransition interface
 - 6.2.1 skipTransition() Method Steps

CSS View Transitions Module Level 1

Editor's Draft, 16 February 2025



▼ More details about this document

This version:
<https://drafts.csswg.org/css-view-transitions-1/>

Latest published version:
<https://www.w3.org/TR/css-view-transitions-1/>

Implementation Report:
<https://wpt.fyi/results/css/css-view-transitions>

Feedback:
[CSSWG Issues Repository](#)

Editors:
[Tab Atkins-Bittner](#) (Google)
[Jake Archibald](#) (Google)
[Khushal Sagar](#) (Google)

Suggest an Edit for this Spec:
[GitHub Editor](#)

Copyright © 2025 World Wide Web Consortium. W3C® liability, trademark and permissive document license rules apply.

Abstract

This module defines the View Transition API, along with associated properties and pseudo-elements, which allows developers to create animated visual transitions representing changes in the document state.

CSS is a language for describing the rendering of structured documents (such as HTML and XML) on screen, on paper, etc.

Status of this document

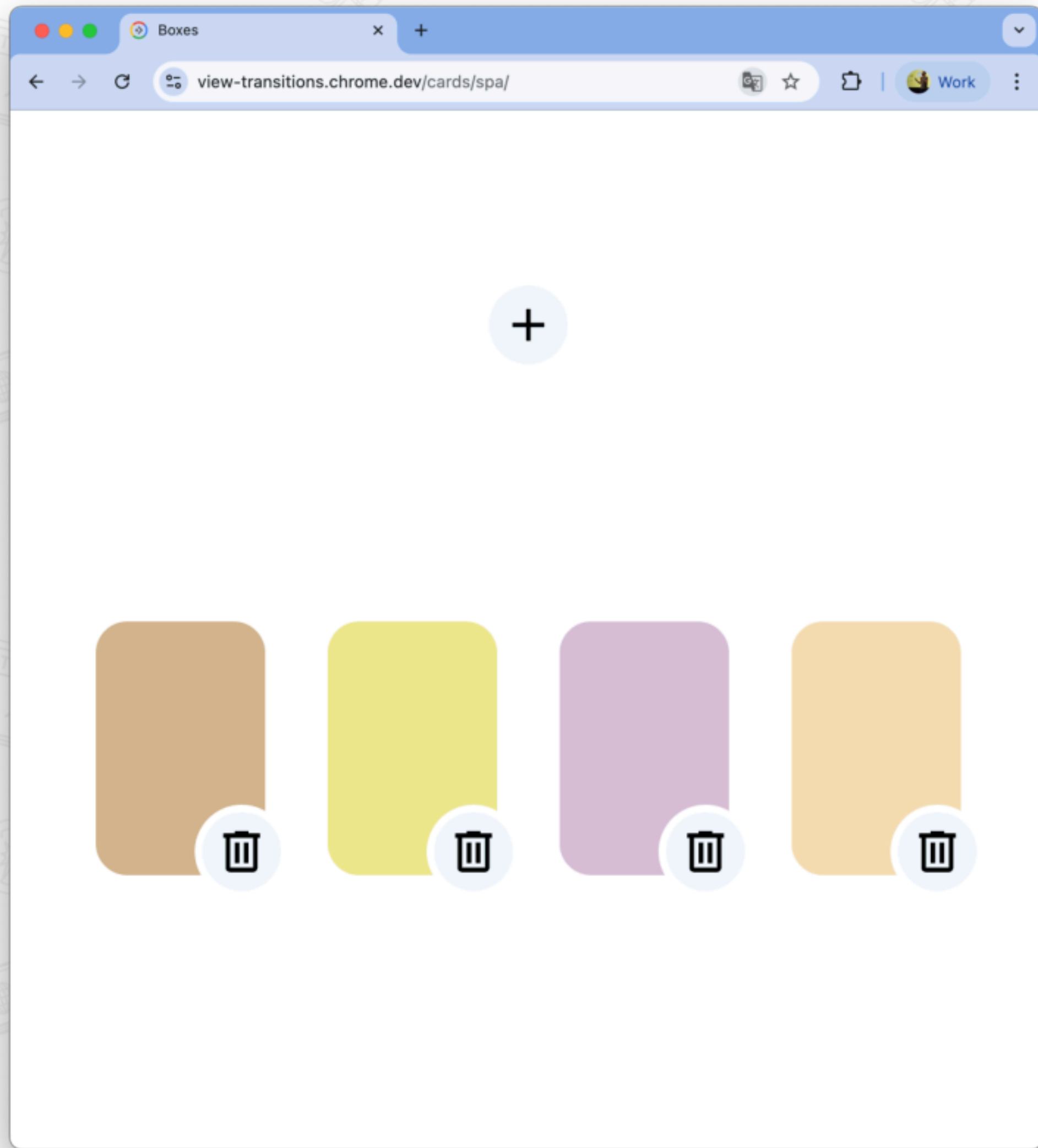
This is a public copy of the editors' draft. It is provided for discussion only and may change at any moment. Its publication here does not imply endorsement of its contents by W3C. Don't cite this document other than as work in progress.

Please send feedback by [filing issues in GitHub](#) (preferred), including the spec code "css-view-transitions" in the title, like this: "[css-view-transitions] [summary of comment](#)". All issues and comments are [archived](#).

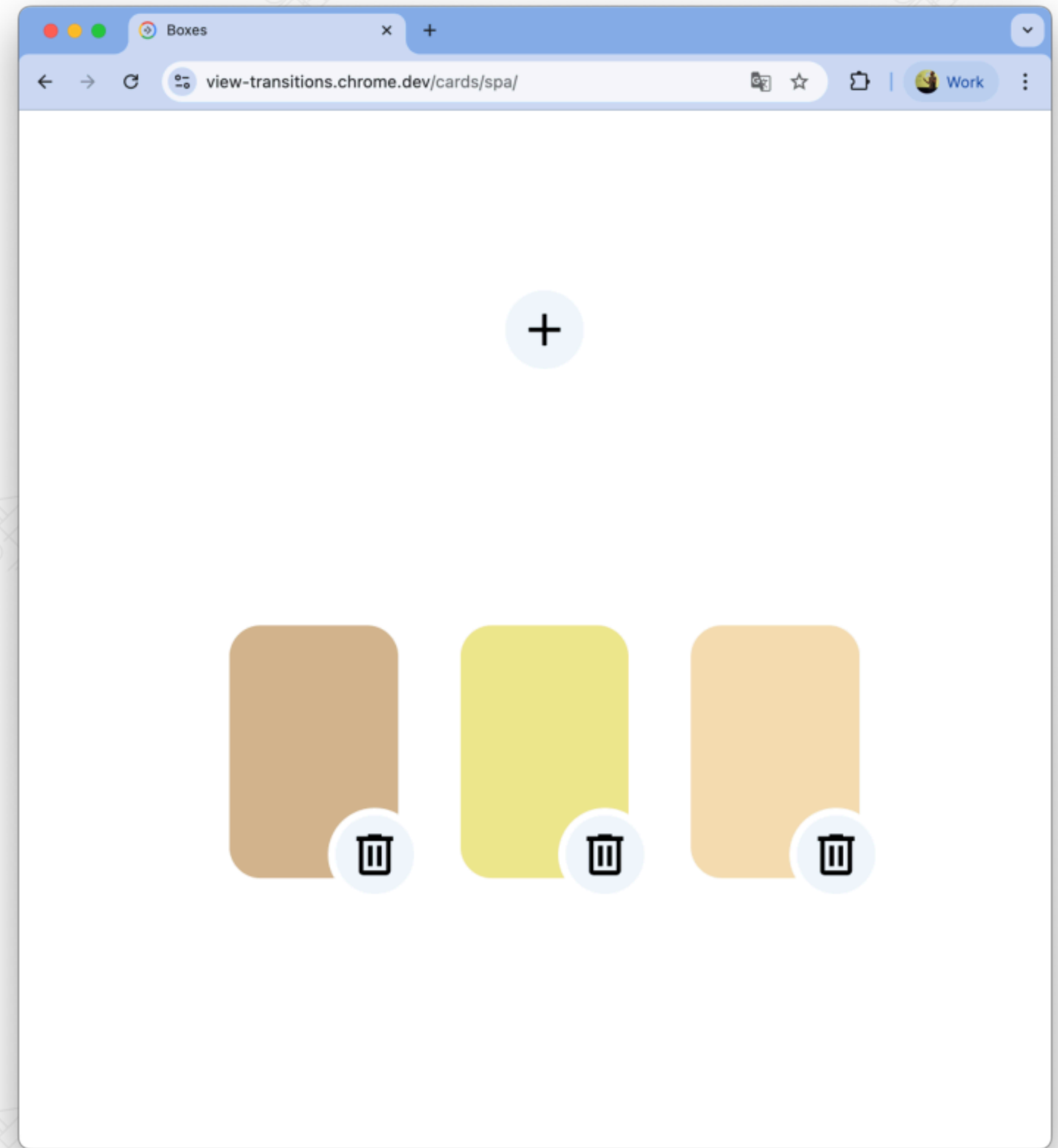
<https://drafts.csswg.org/css-view-transitions-1/>

“The View Transition API gives you the power to create seamless visual transitions between different views on your website.”

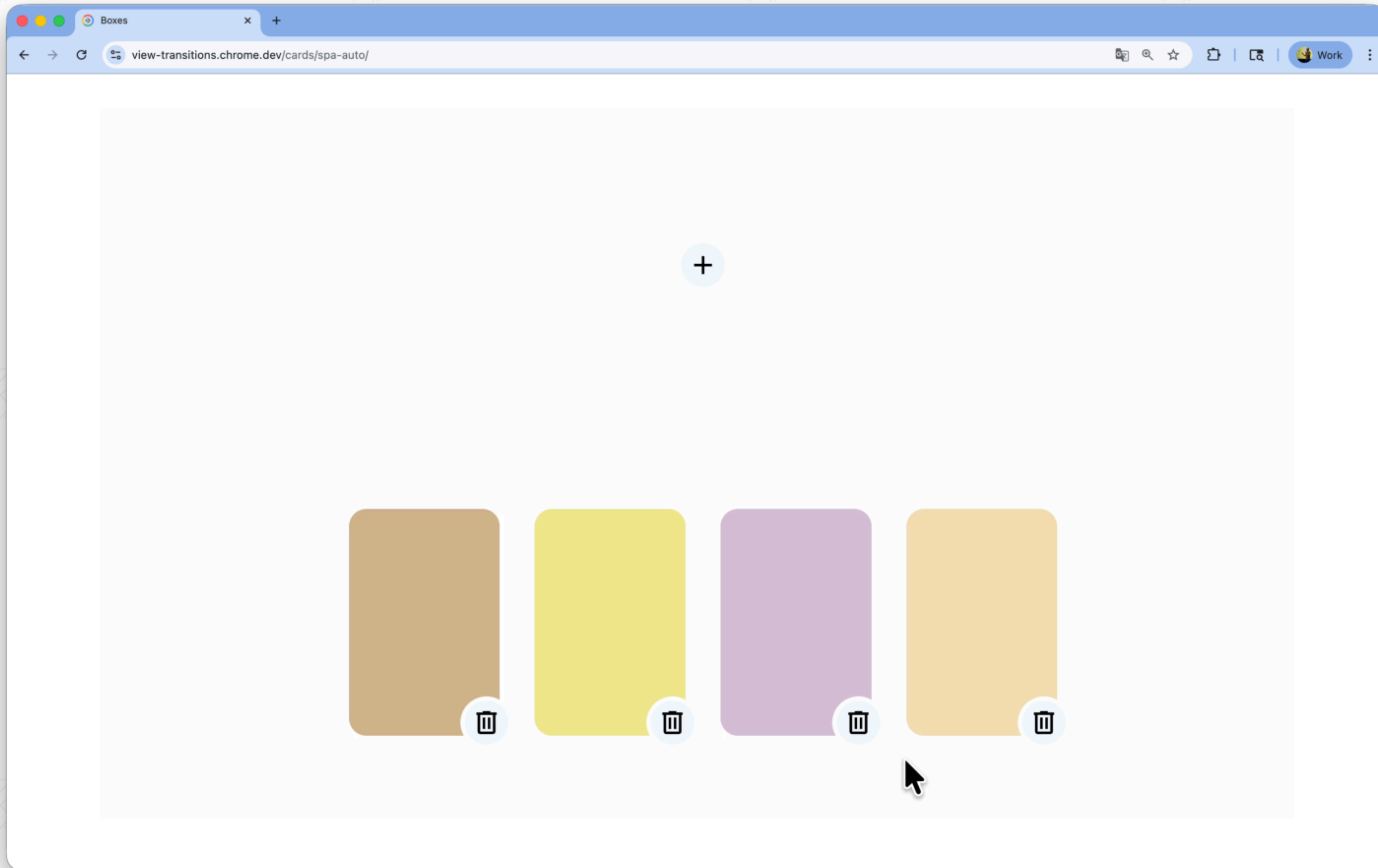
<https://goo.gle/view-transitions>



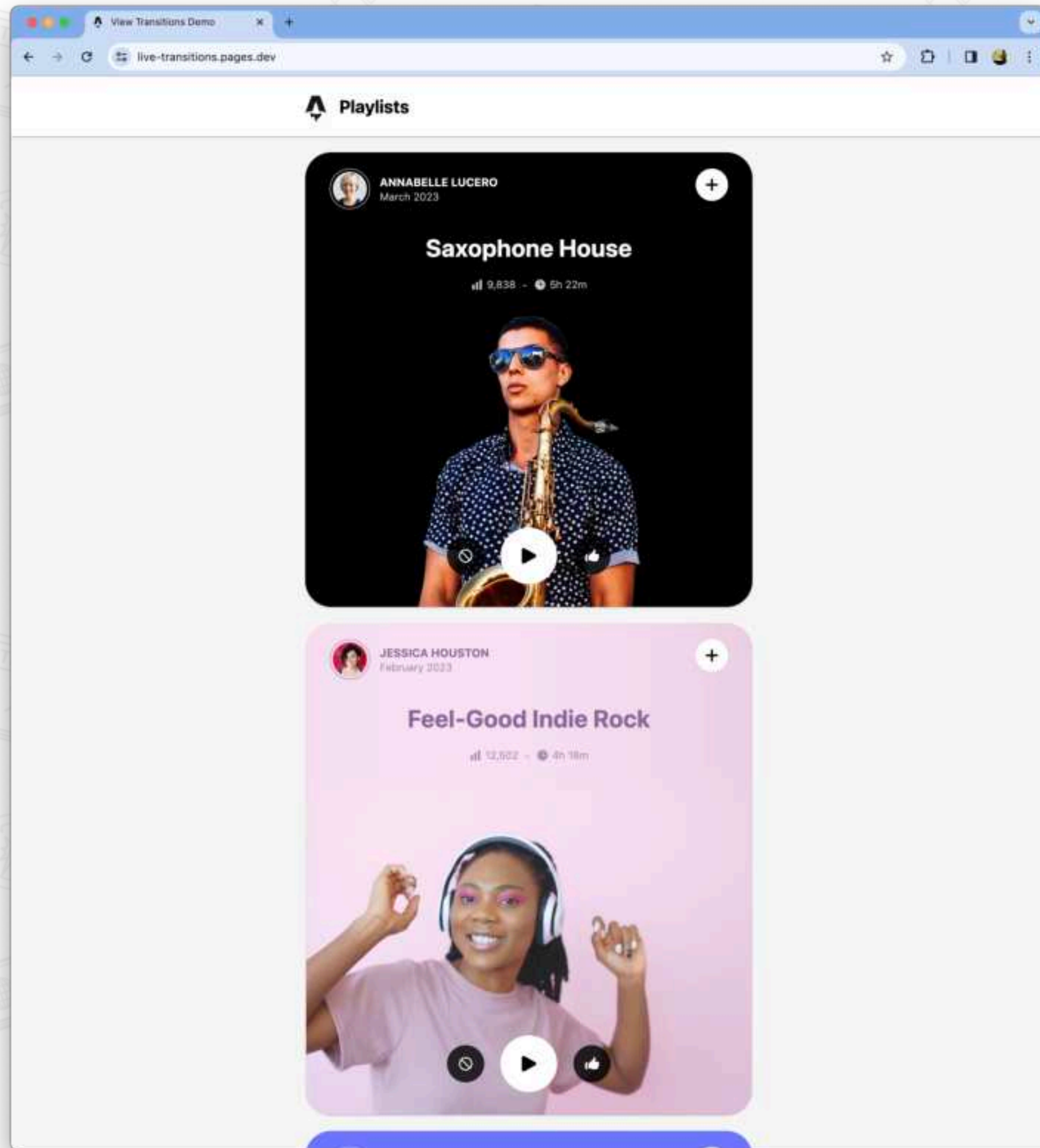
4 items



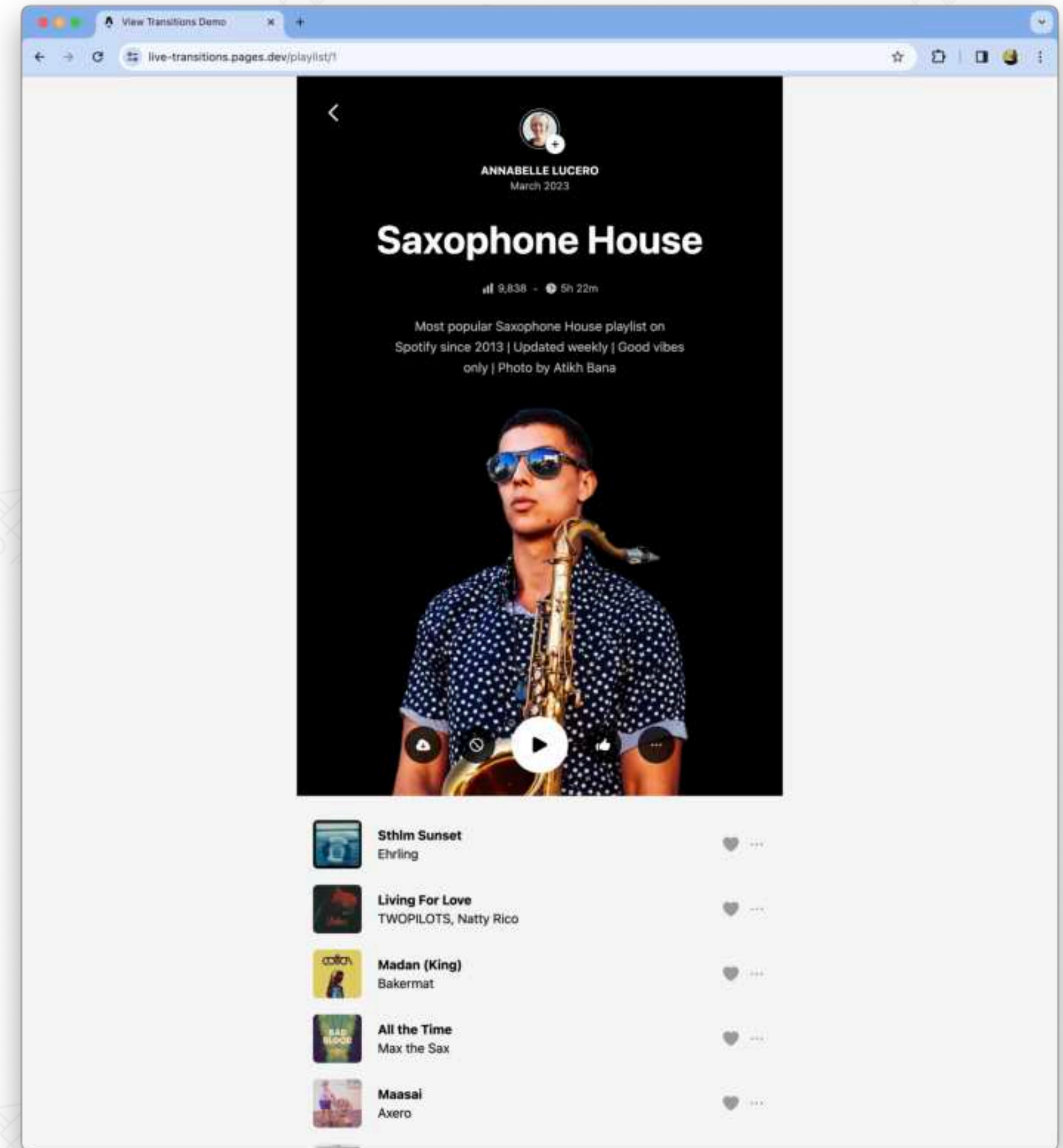
3 items



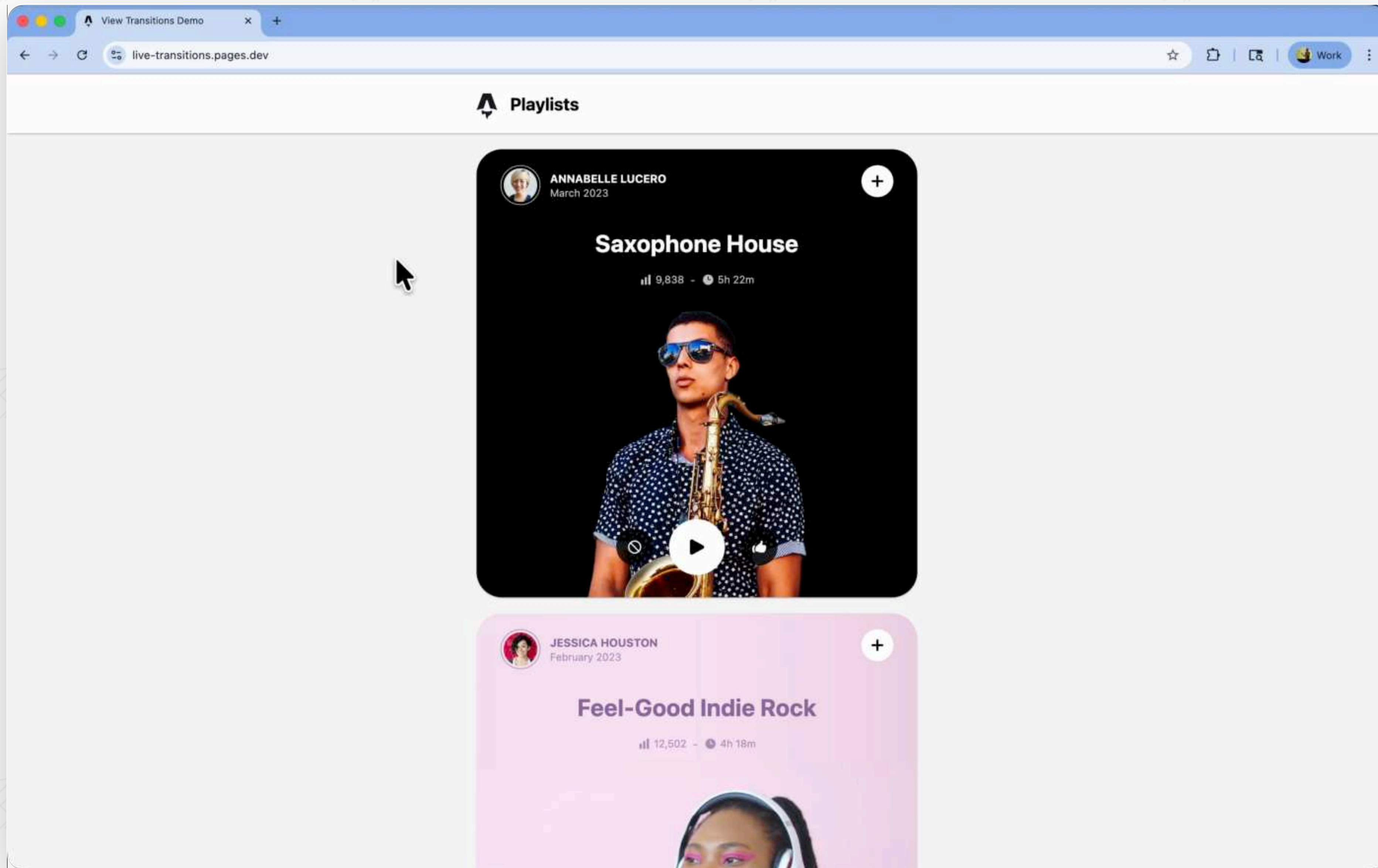
<https://view-transitions.chrome.dev/cards/spa/>



Overview



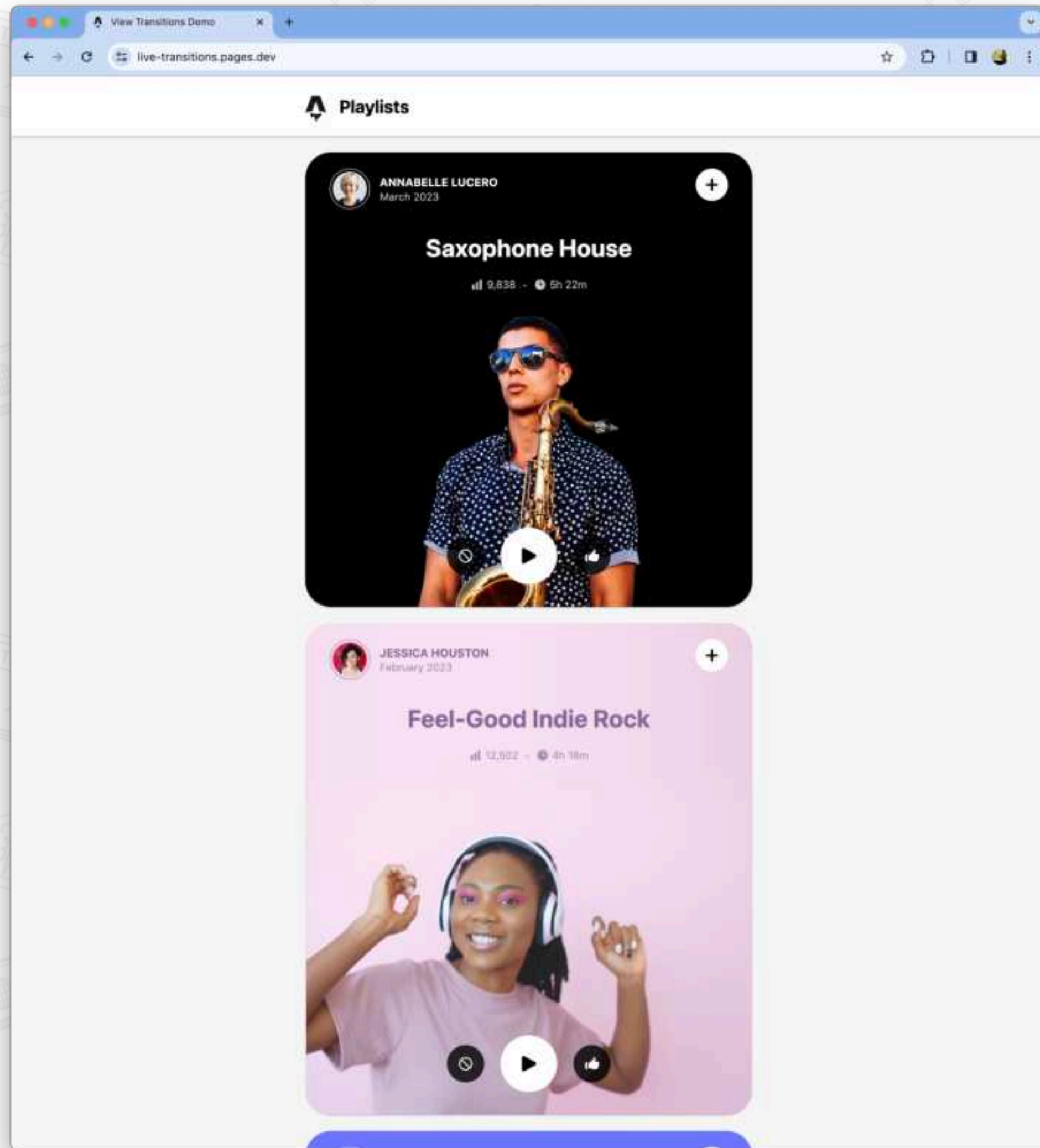
Detail



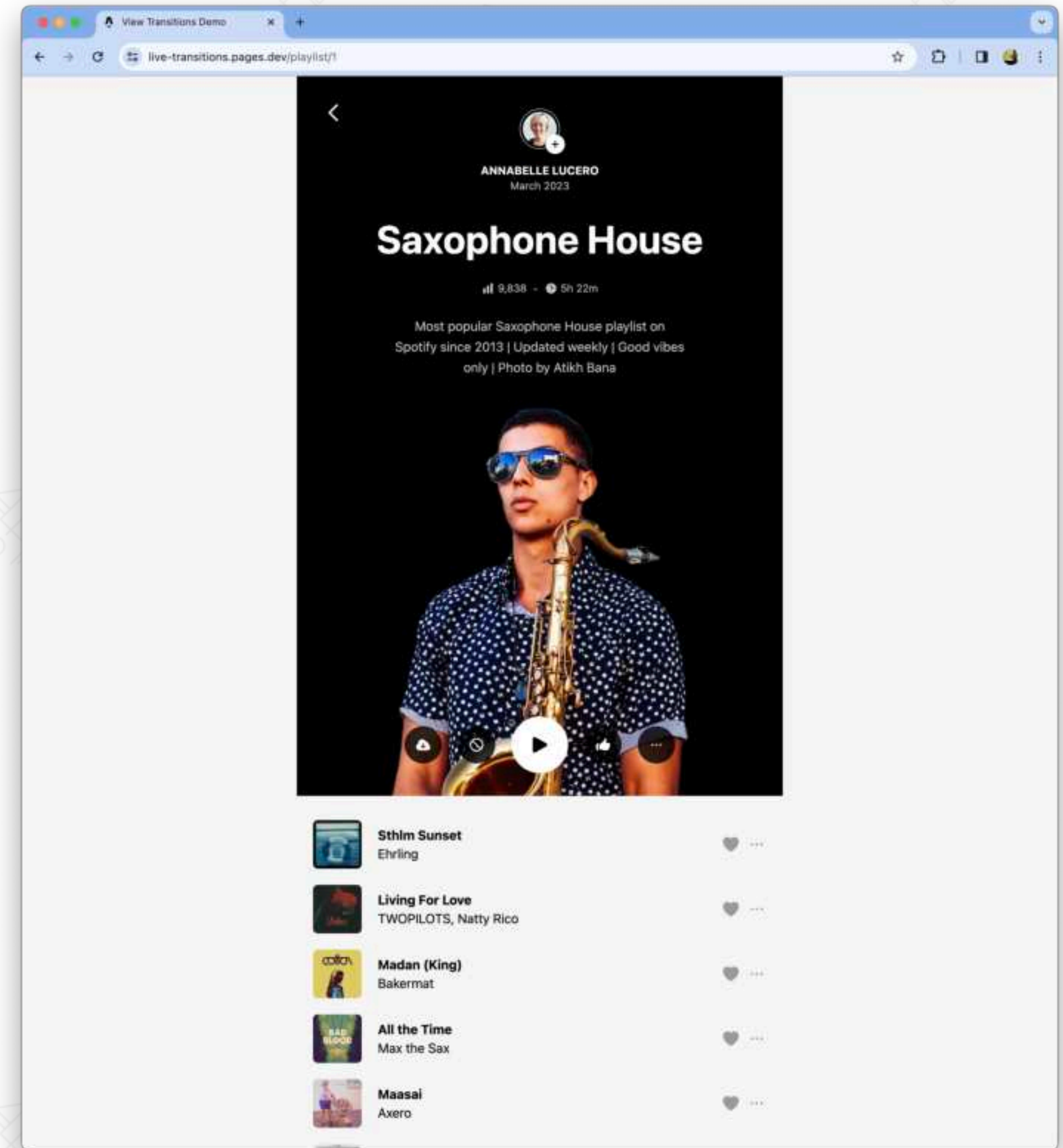
<https://live-transitions.pages.dev/> by [Maxi Ferreira](#)

1. Identify and name elements to transition

CSS `view-transition-name` property

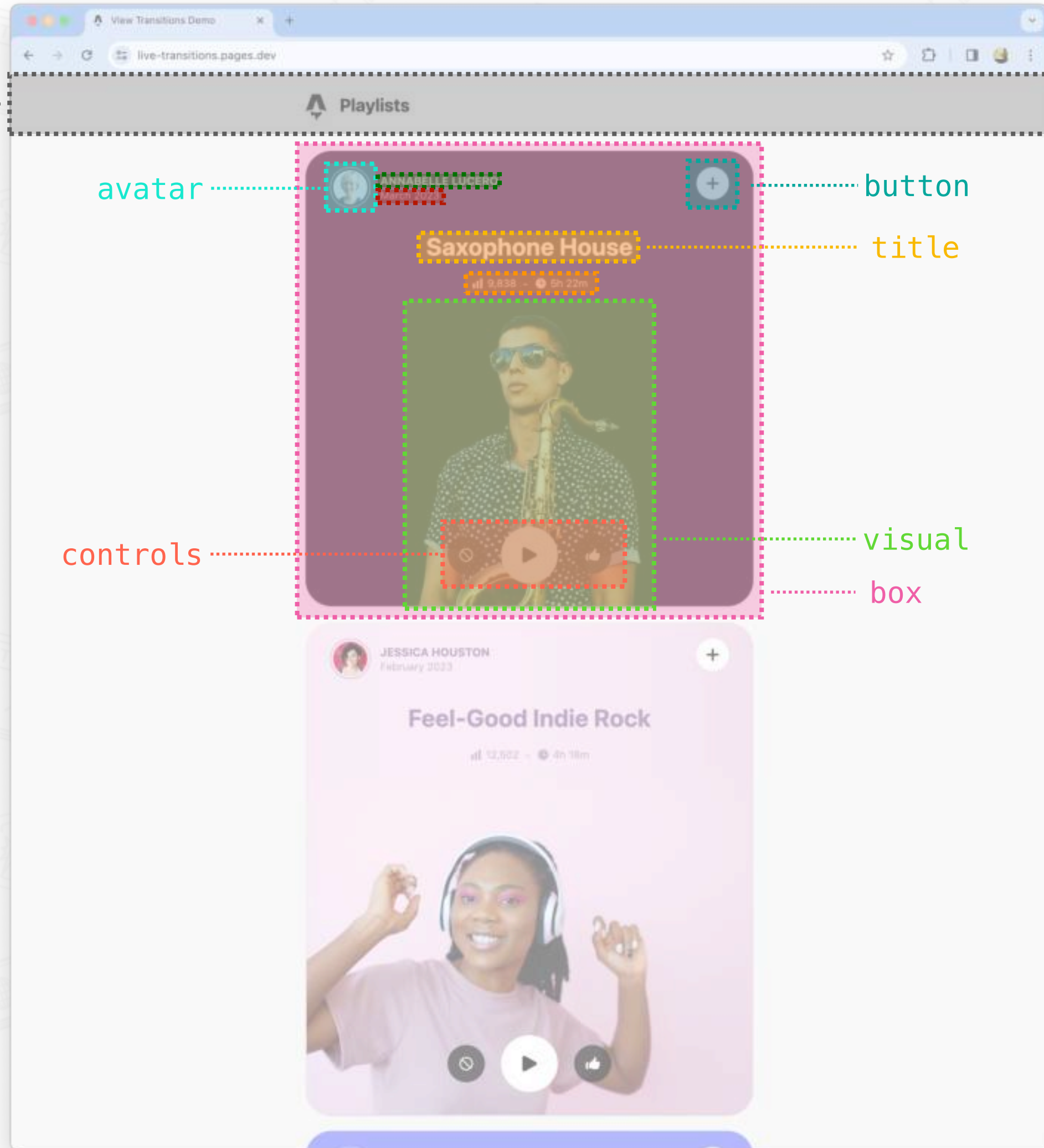


Overview

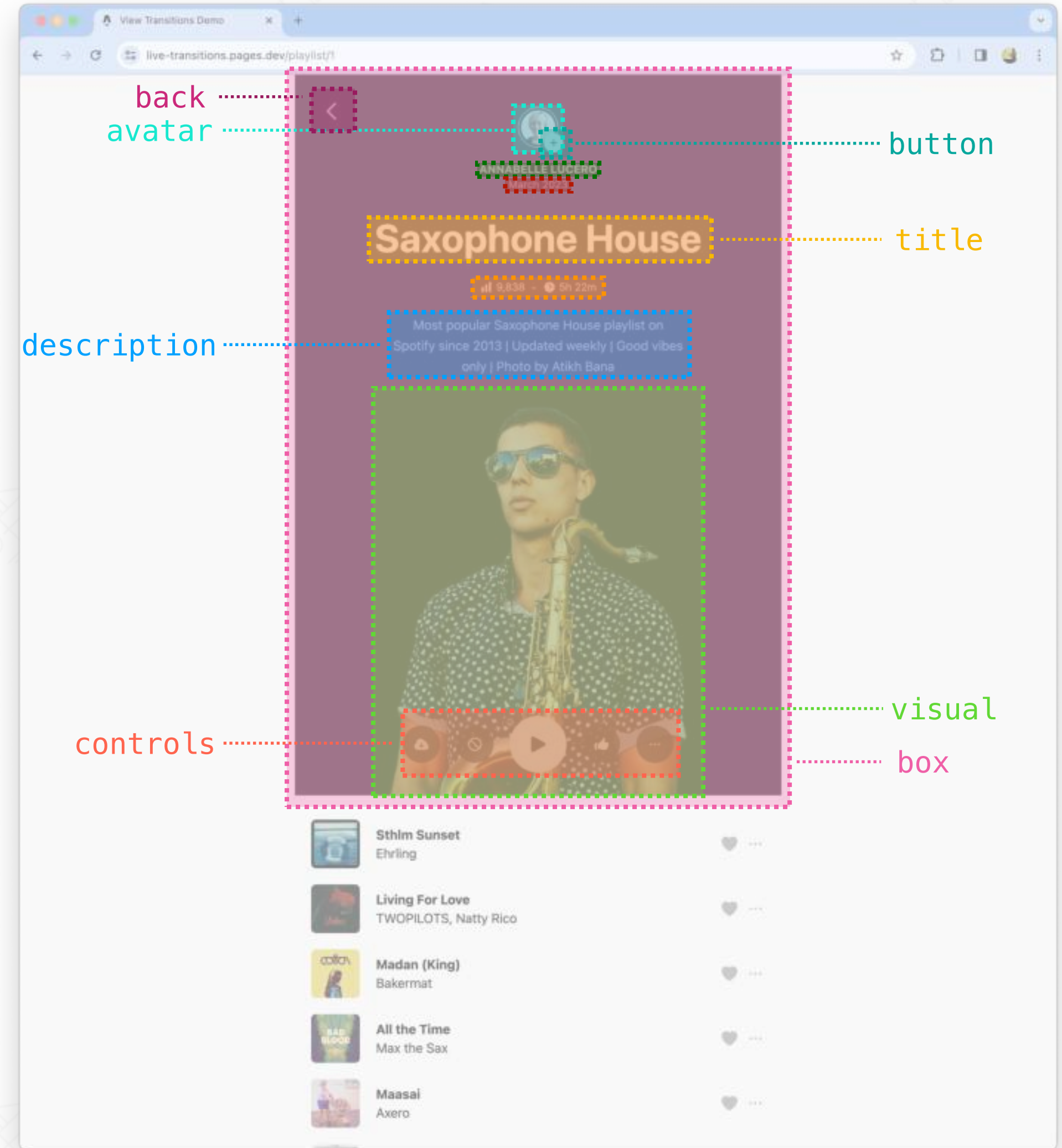


Detail

topbar



Overview



Detail

```
.card {  
  view-transition-name: box;  
}
```

```
.overview .card h2 {  
  view-transition-name: title;  
}
```

```
.detail .card h1 {  
  view-transition-name: title;  
}
```

2. Trigger the View Transition

Same-Document or Cross-Document



111



144



18

```
$link.addEventListener('click', e => {  
  if (!document.startViewTransition) {  
    showPlaylist(e.currentTarget);  
    return;  
  }  
  
  document.startViewTransition(() => {  
    showPlaylist(e.currentTarget);  
  });  
});
```



126



WIP

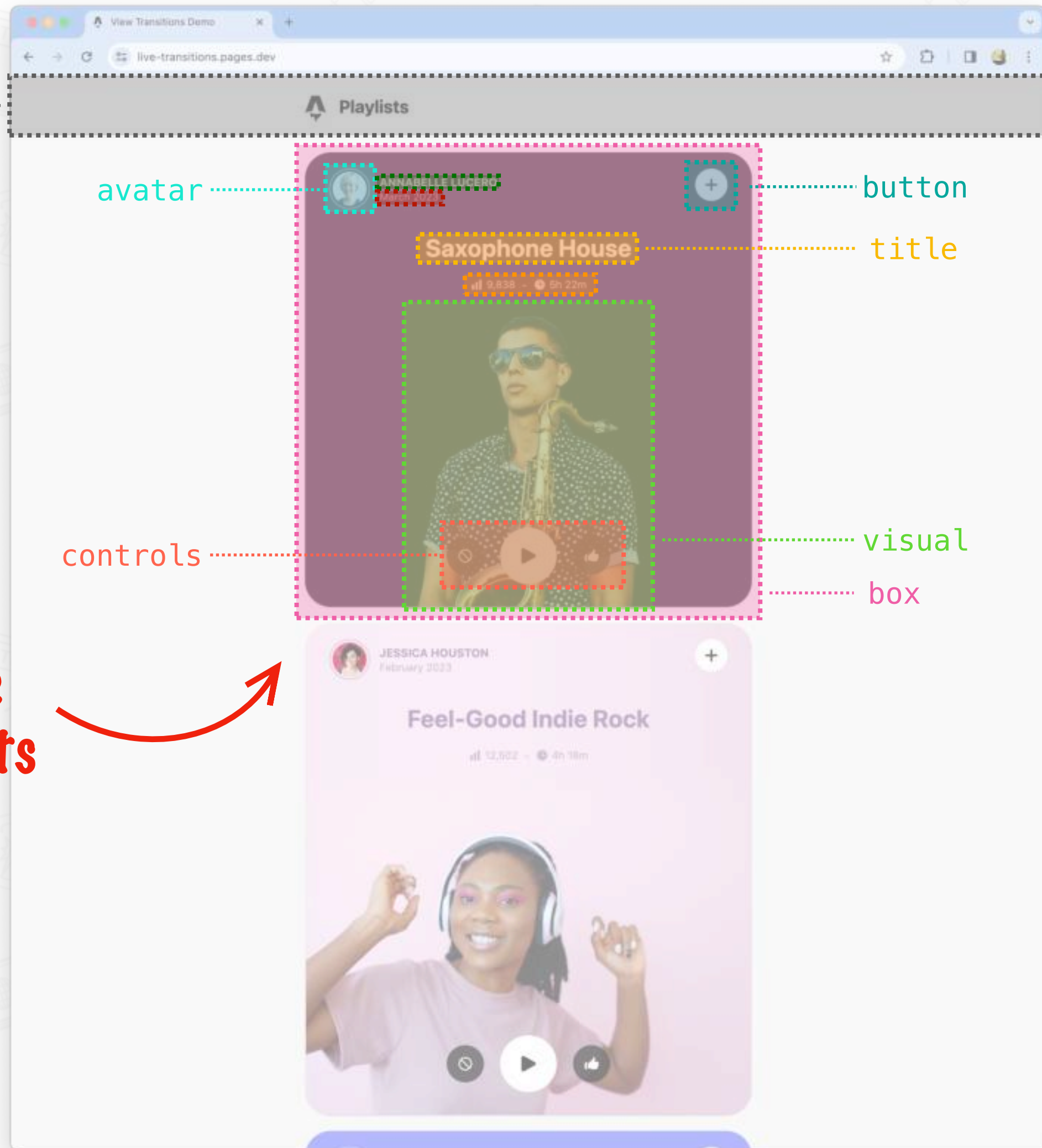


18.2

```
<a href="/playlists/2">Show Playlist</a>  
<form action="/process" method="POST"></form>
```

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

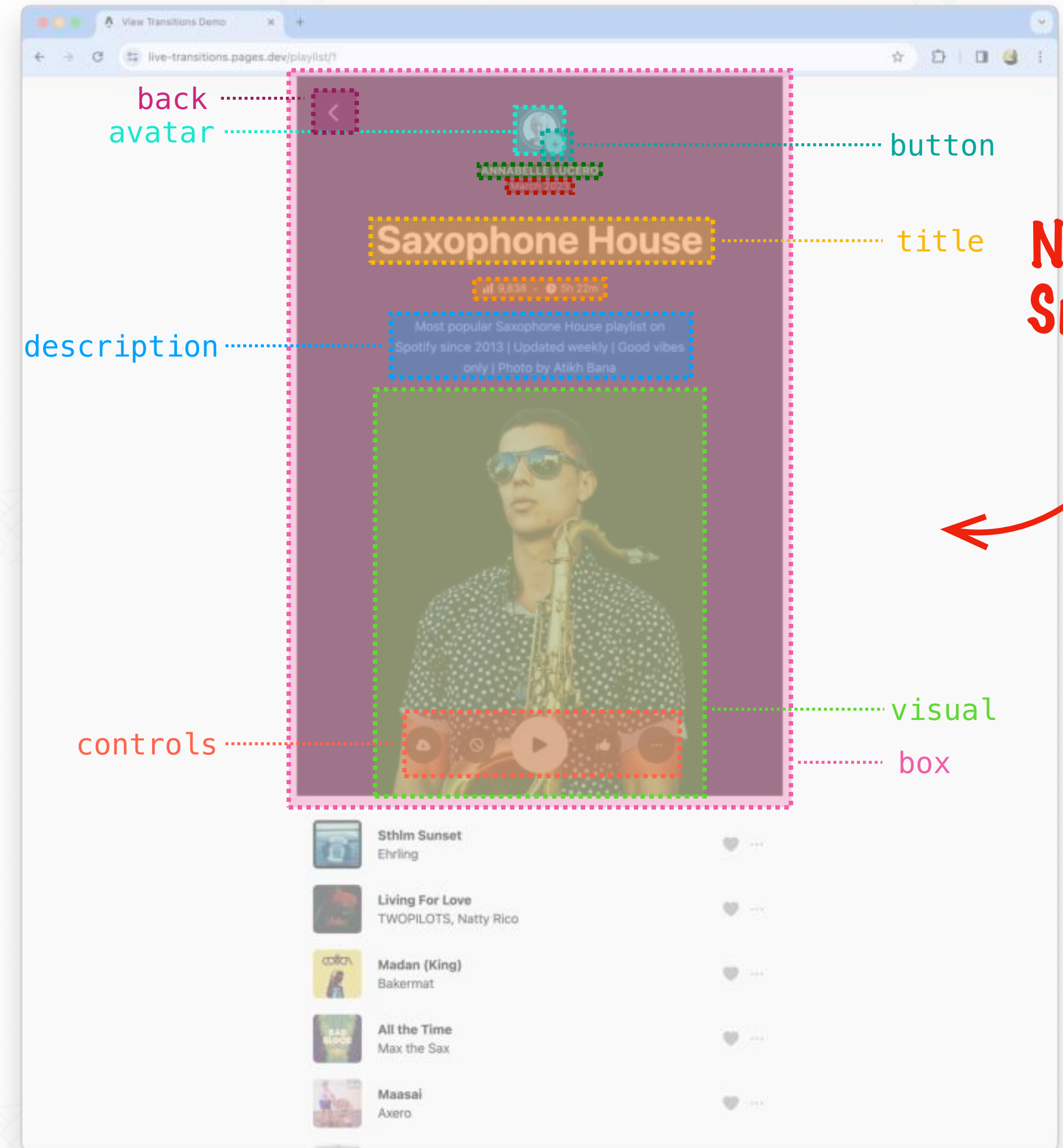
topbar



Old state
Snapshots



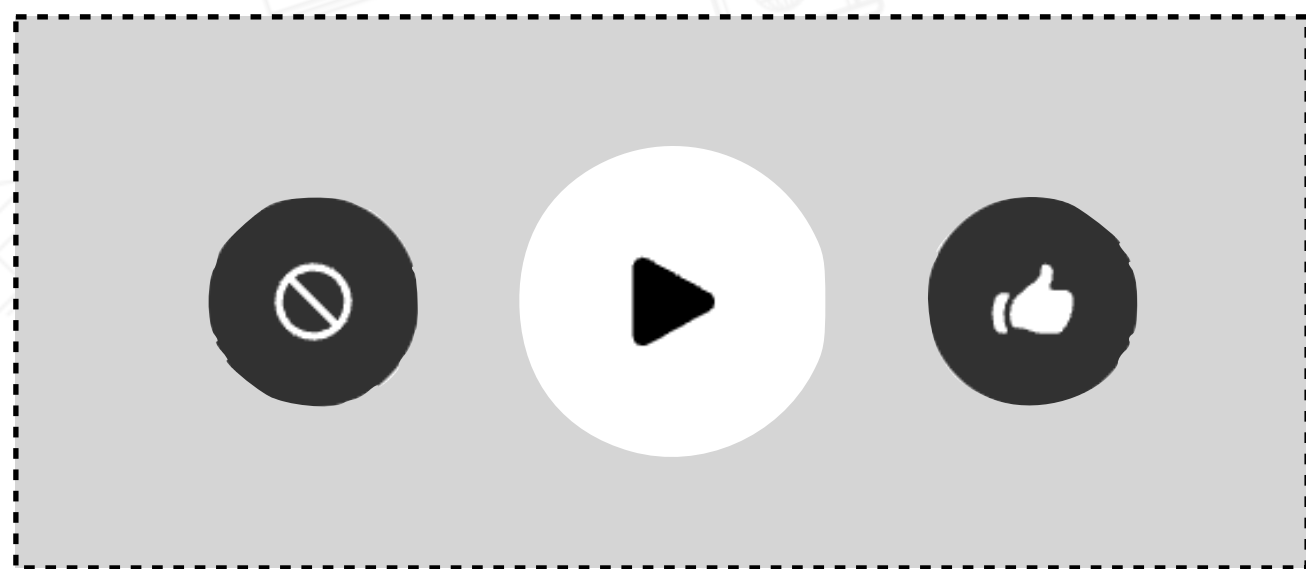
Overview



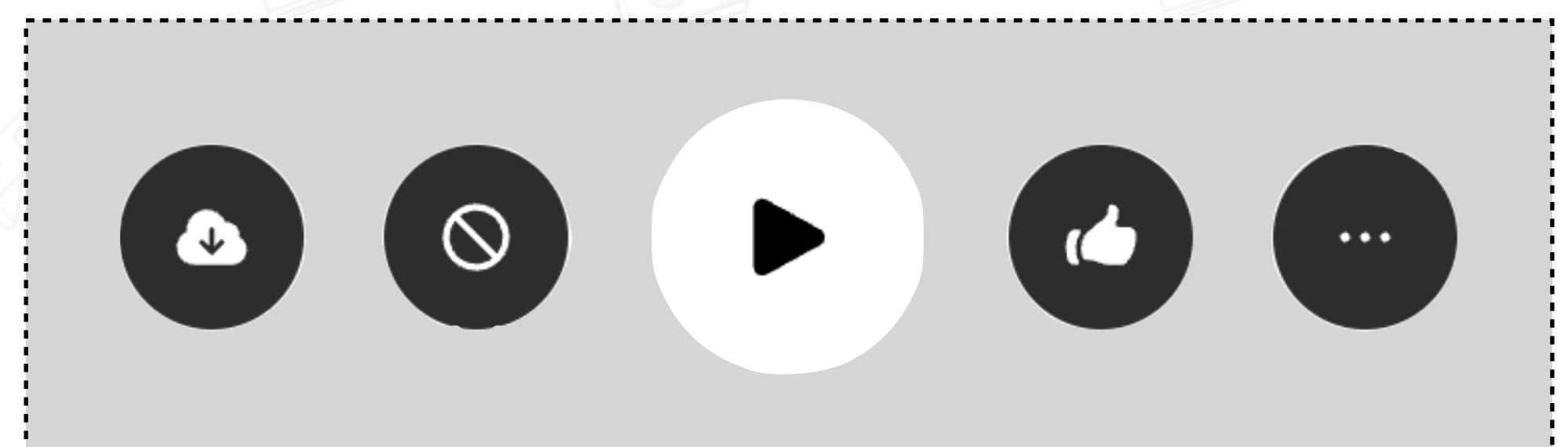
New state
Snapshots



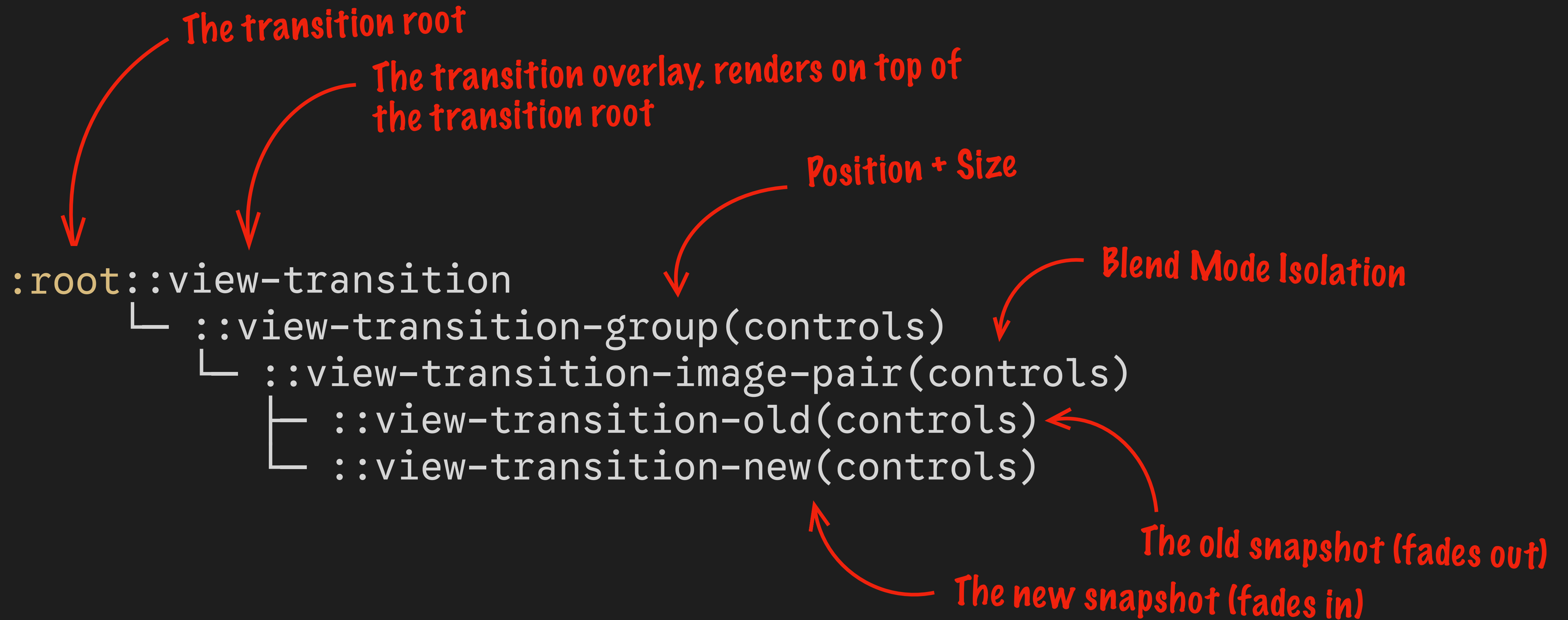
Detail

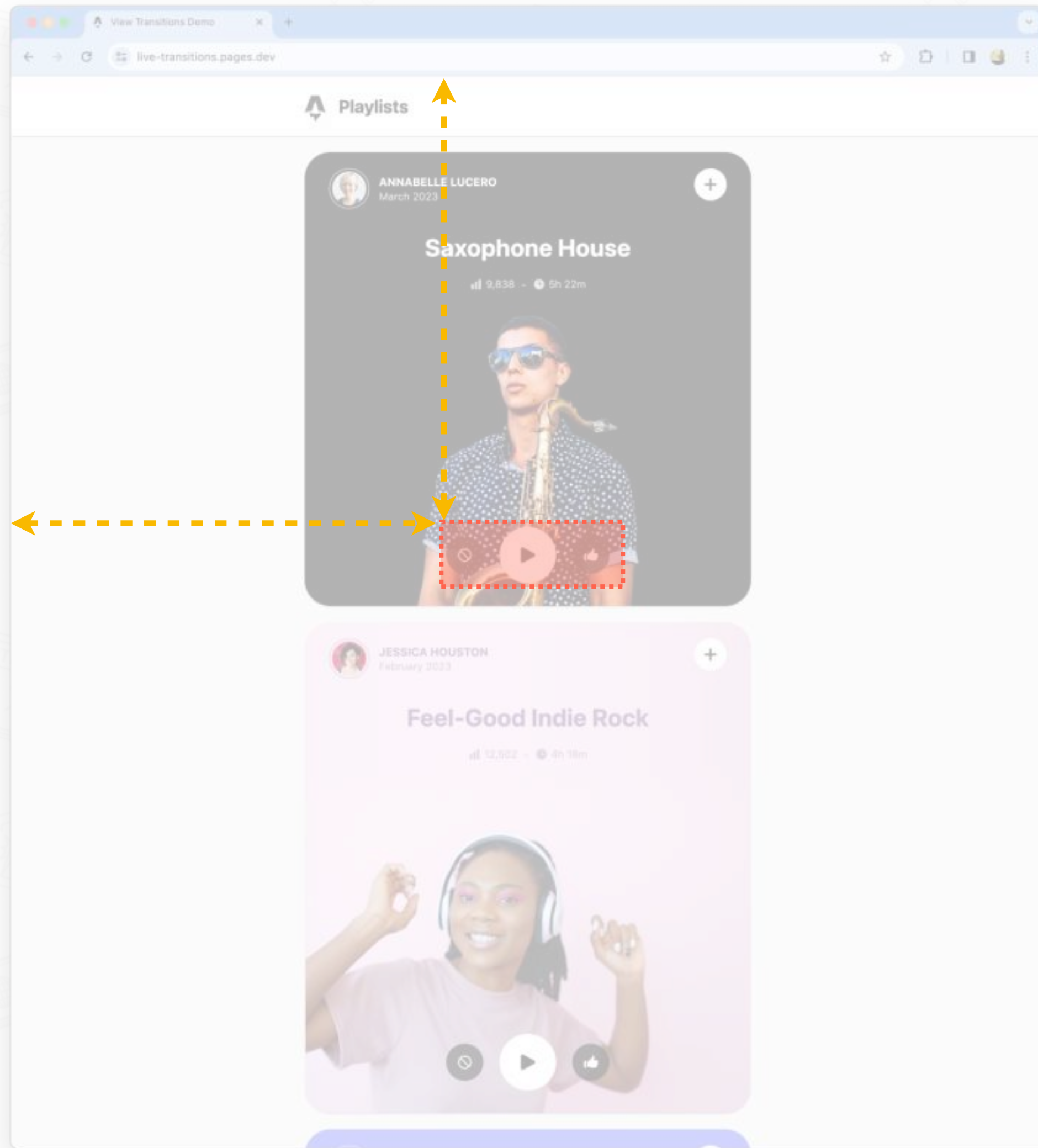


`::view-transition-old(controls)`

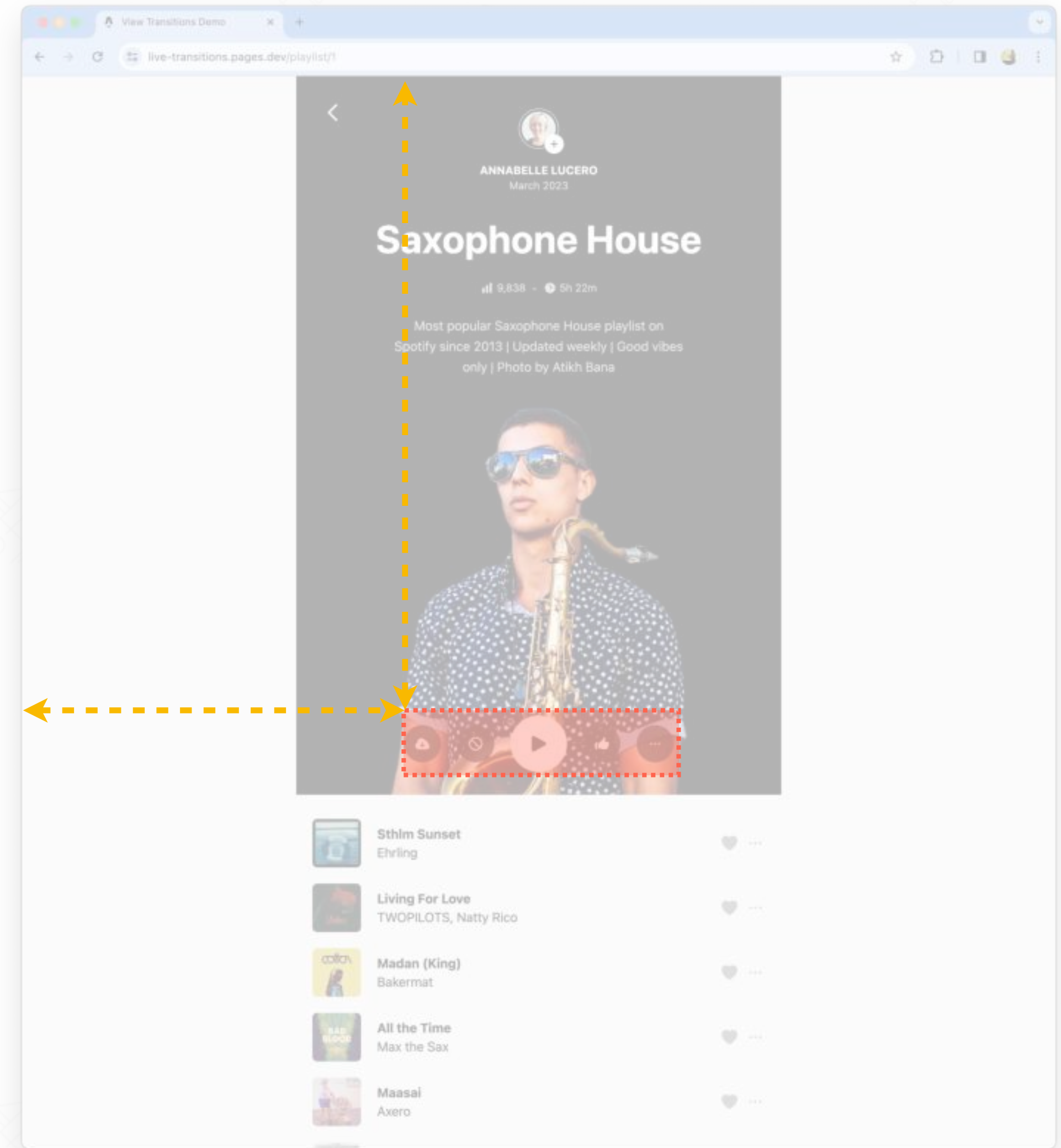


`::view-transition-new(controls)`





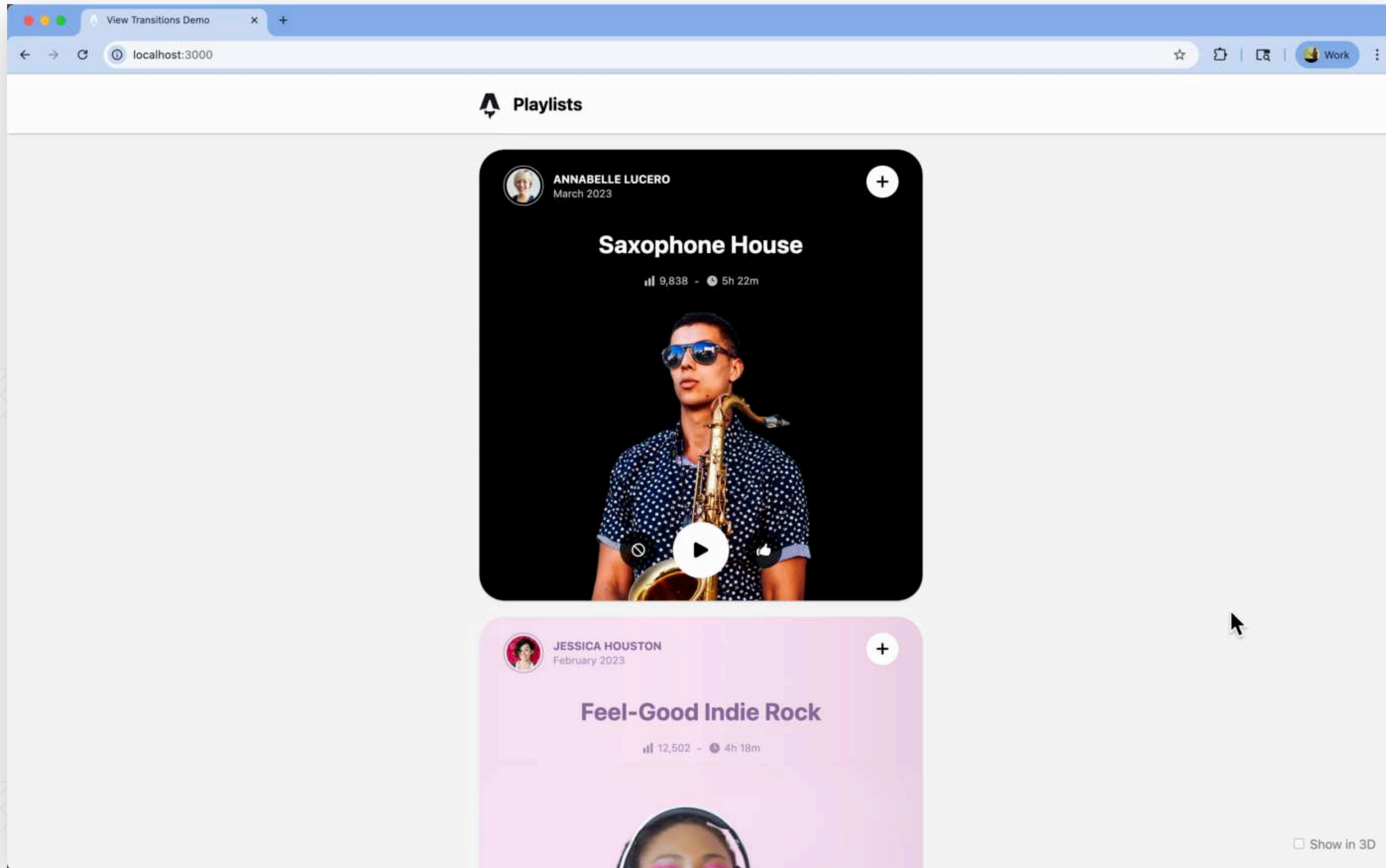
Overview



Detail

:root::view-transition





<https://live-transitions.pages.dev/> by [Maxi Ferreira](#)

3. Customize the animations

(Optional)

```
:root::view-transition {
  position: fixed; inset: 0;
}
:root::view-transition-group($NAME) {
  animation-name: -ua-view-transition-group-anim-$NAME;
}
:root::view-transition-image-pair(*) {
  isolation: isolate;
}
:root::view-transition-old(*) {
  animation-name: -ua-view-transition-fade-out;
}
:root::view-transition-new(*) {
  animation-name: -ua-view-transition-fade-in;
}
```

Move the group

Fade out the old snapshot

Fade in the new snapshot

User-Agent Generated CSS (partial)

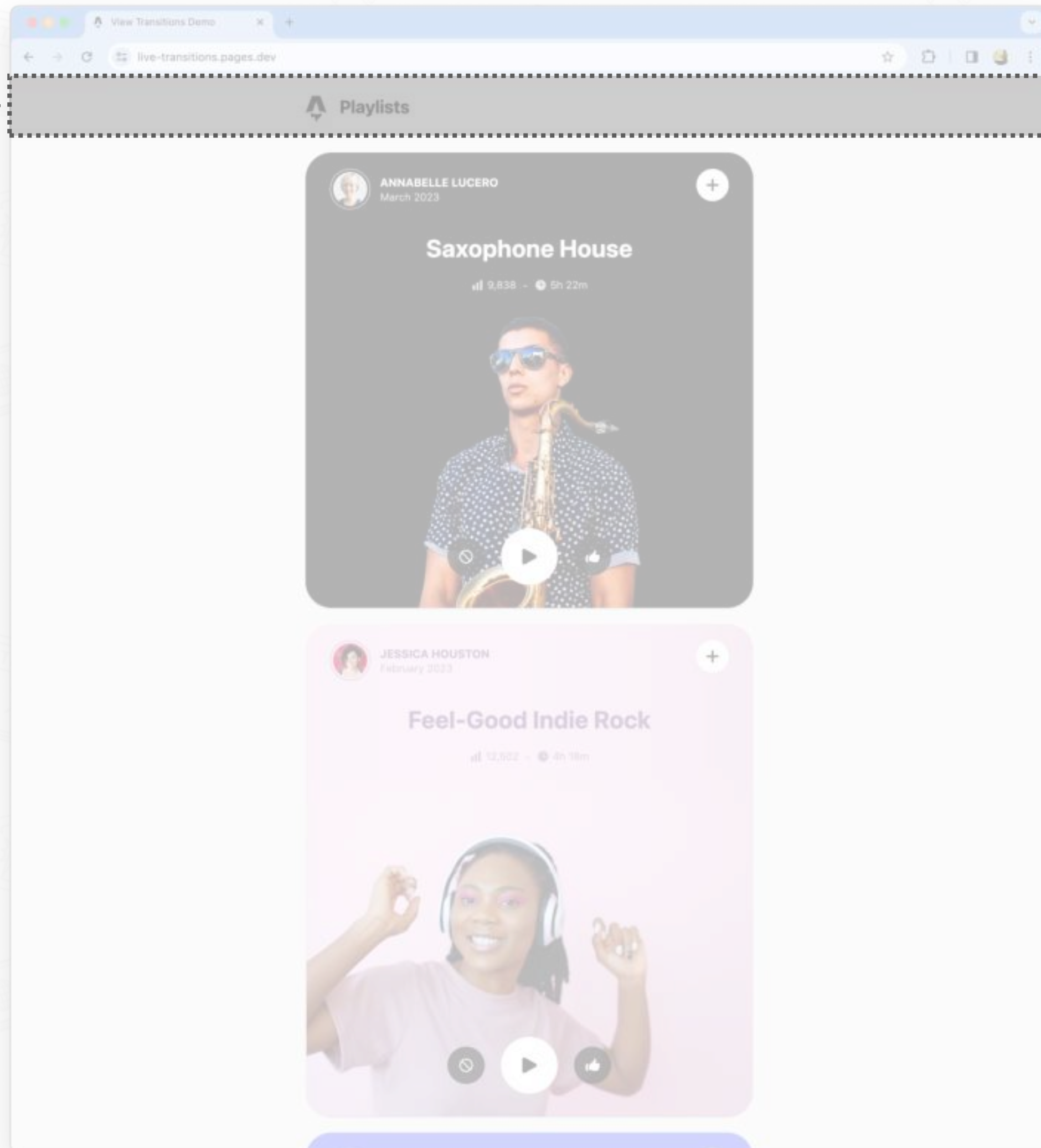


CSS

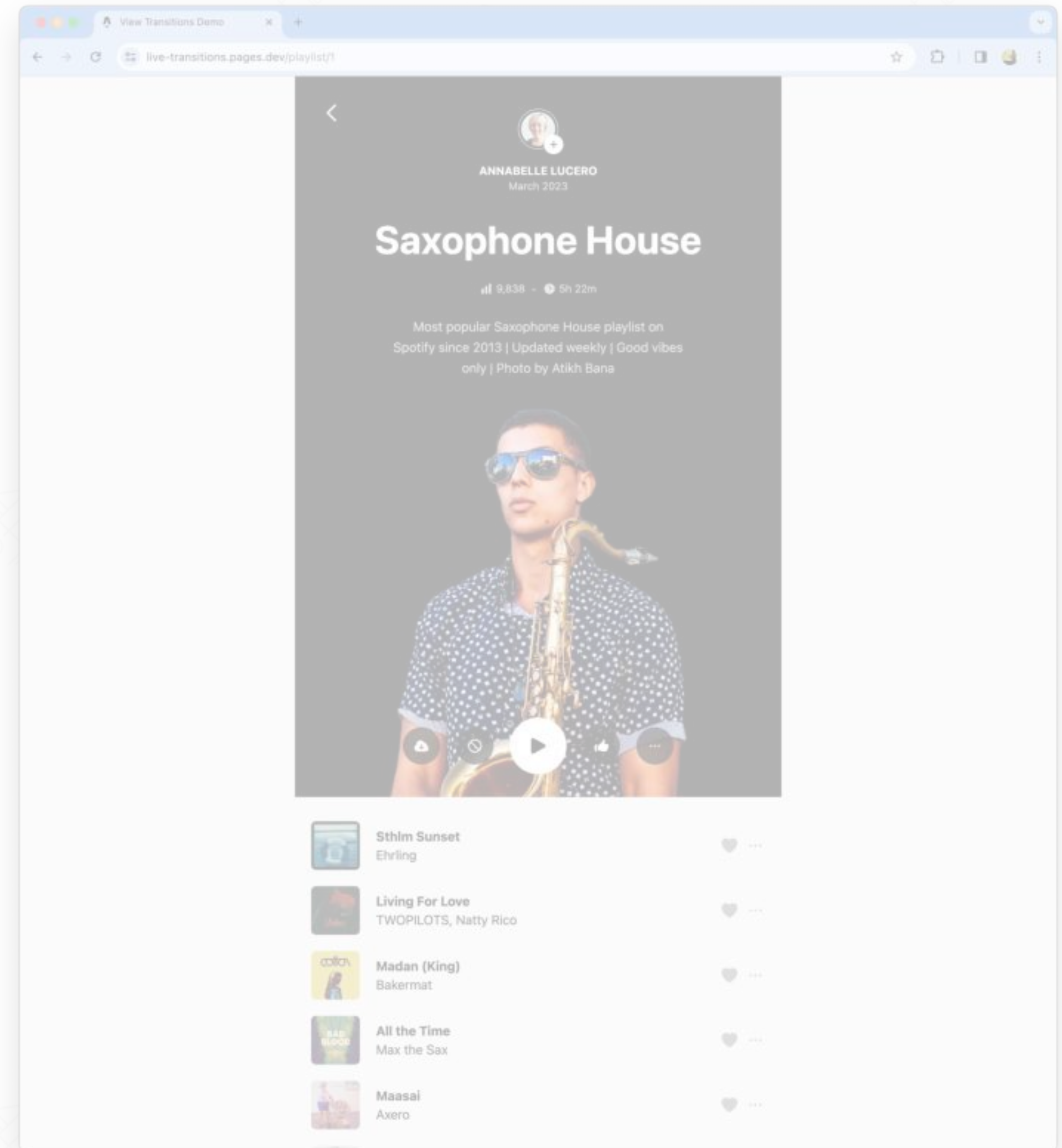
It's a UNIX system. I know this.

```
::view-transition-group(*) {  
  animation-duration: 1s;  
}
```

topbar



Overview



Detail

`:root::view-transition`

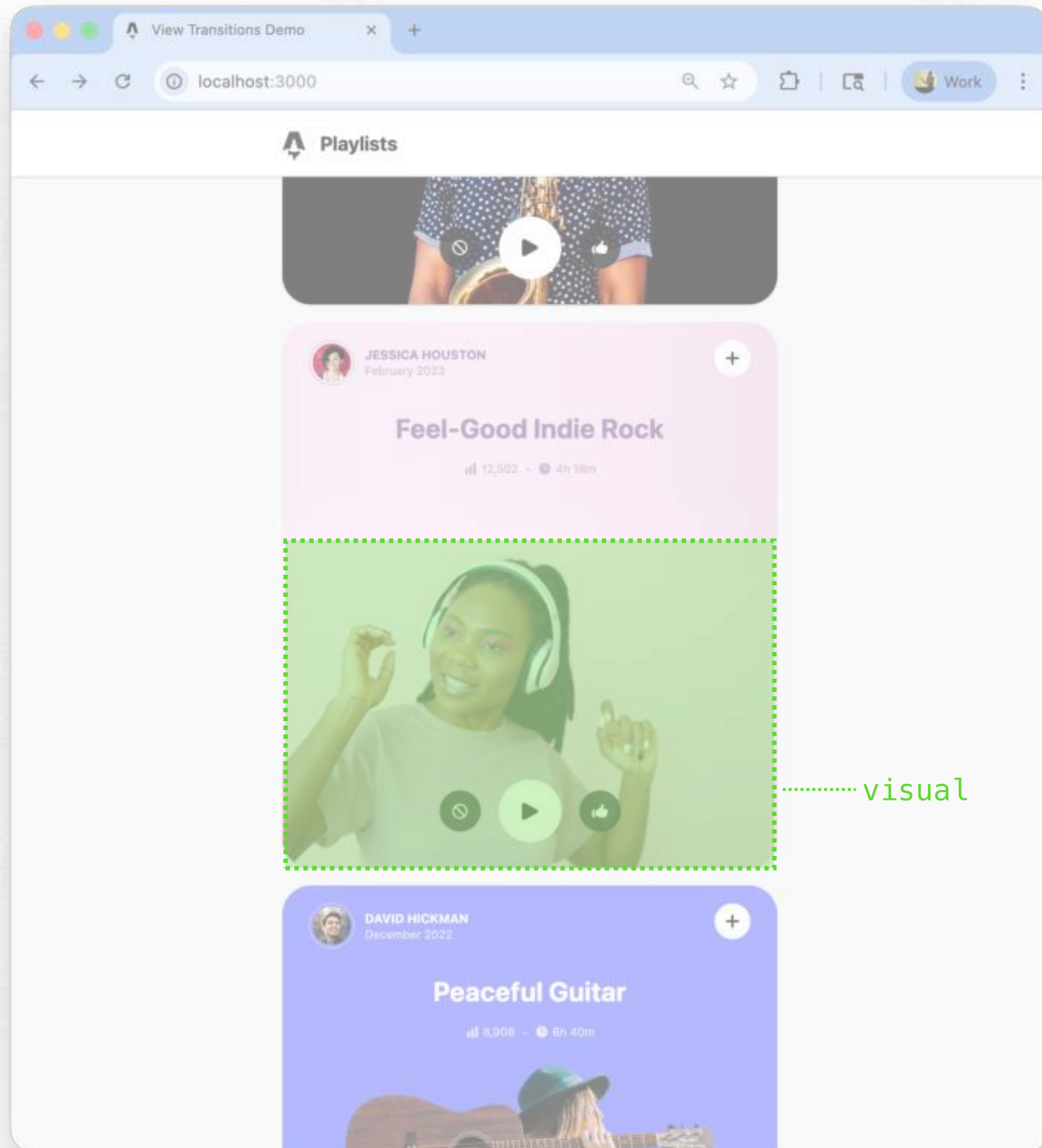


There is no new snapshot for this captured element

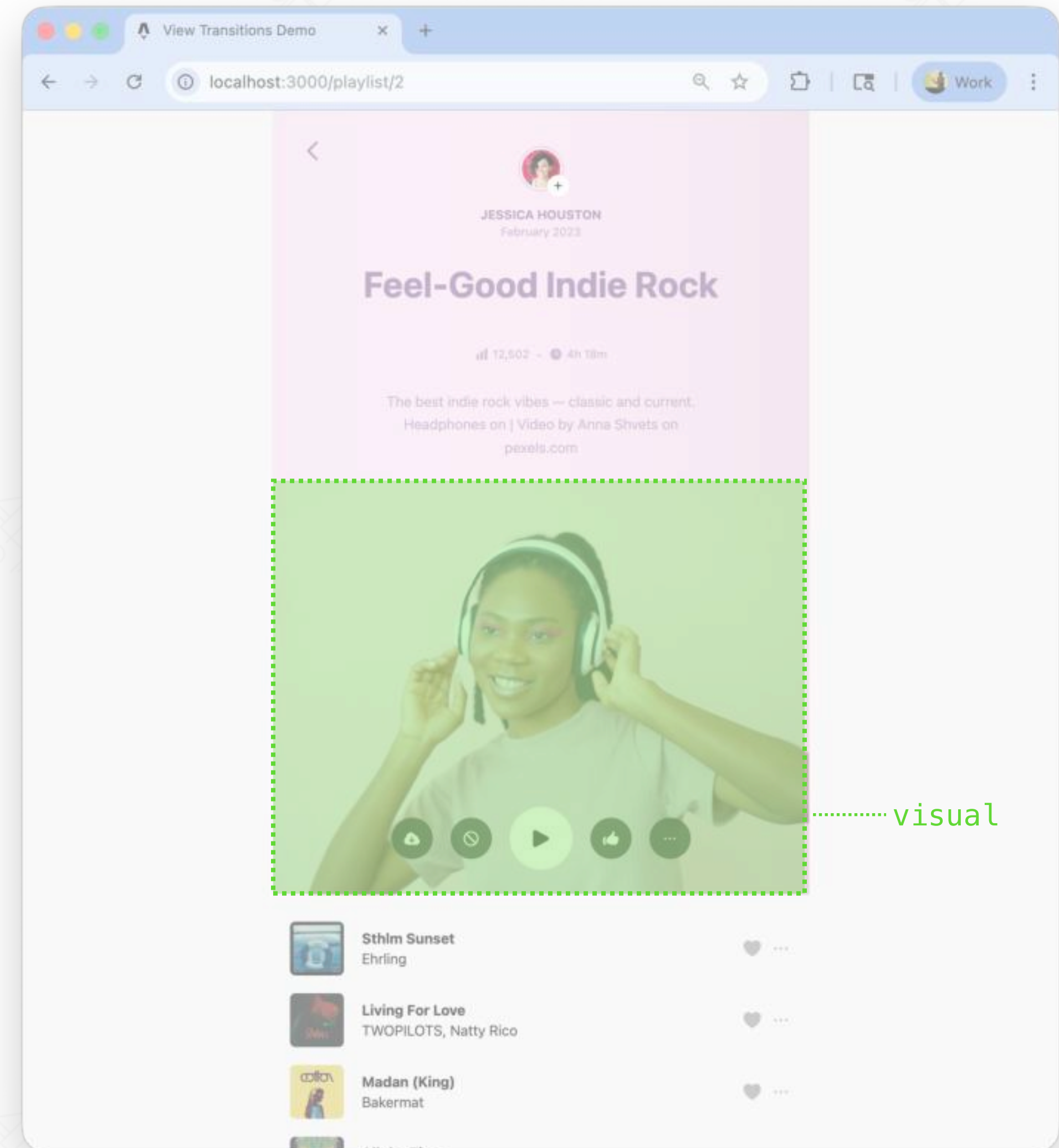


```
::view-transition-new(topbar):only-child {  
  animation: .25s cubic-bezier(.4,0,.2,1) both slide-down;  
}  
  
::view-transition-old(topbar):only-child {  
  animation: .25s cubic-bezier(.4,0,.2,1) both slide-up;  
}
```

Custom CSS (Snippet)



Overview



Detail



`::view-transition-old(visual)`



The new snapshot is live

`::view-transition-new(visual)`

```
::view-transition-old(visual) {  
    display: none; /* Hide the old snapshot */  
}  
  
::view-transition-new(visual) {  
    animation: none; /* Don't fade-in the new snapshot */  
}
```

Custom CSS (Snippet)

View Transitions

tl;dr

1. Identify and Name Elements
2. Trigger the View Transition
 - Snapshots Before
 - Pause Rendering
 - Update DOM
 - Snapshots After
 - Pseudo-tree construction
3. Customize the animations (*optional*)
 - Resume Rendering
 - Run the animations

Animate CSS Grid with View Tr × +

codepen.io/bramus/full/ZEqqqOX

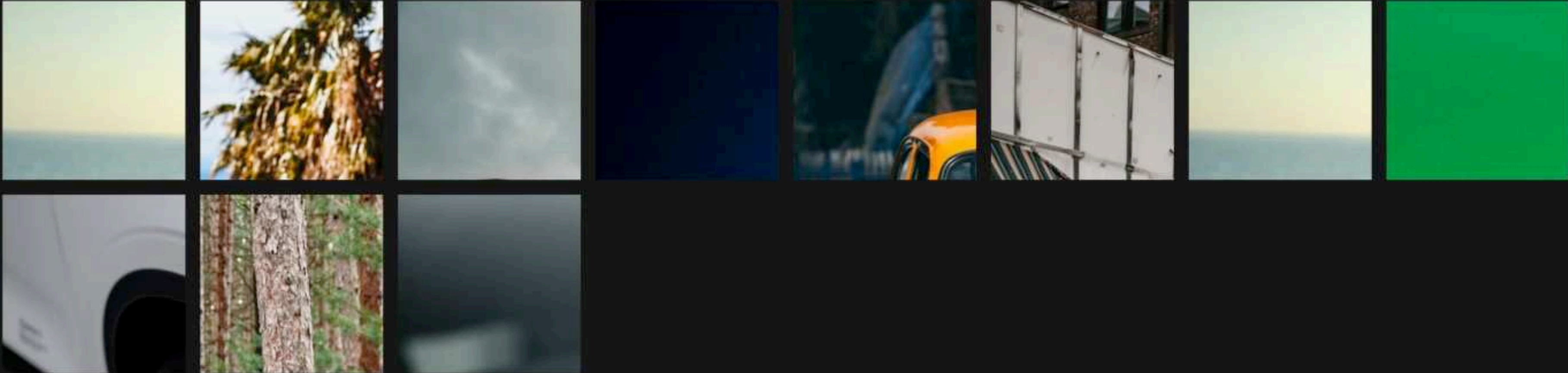
A Pen by Bramus **PRO**

Animate CSS Grid with View Transitions (now with expanding squares ... and delays!)

This pen uses [animate-css-grid](#) [the View Transition API](#)

Updated version of [this pen](#), originally adapted from [this pen](#) by Alex

click a card to toggle the `grid-column` and `grid-row` properties on the card



<https://codepen.io/bramus/full/ZEqqqOX>

View Transitions like IsotopeJS x

codepen.io/argyleink/full/VwBKjwj

A Pen by Adam Argyle PRO + Follow

View Transitions like IsotopeJS

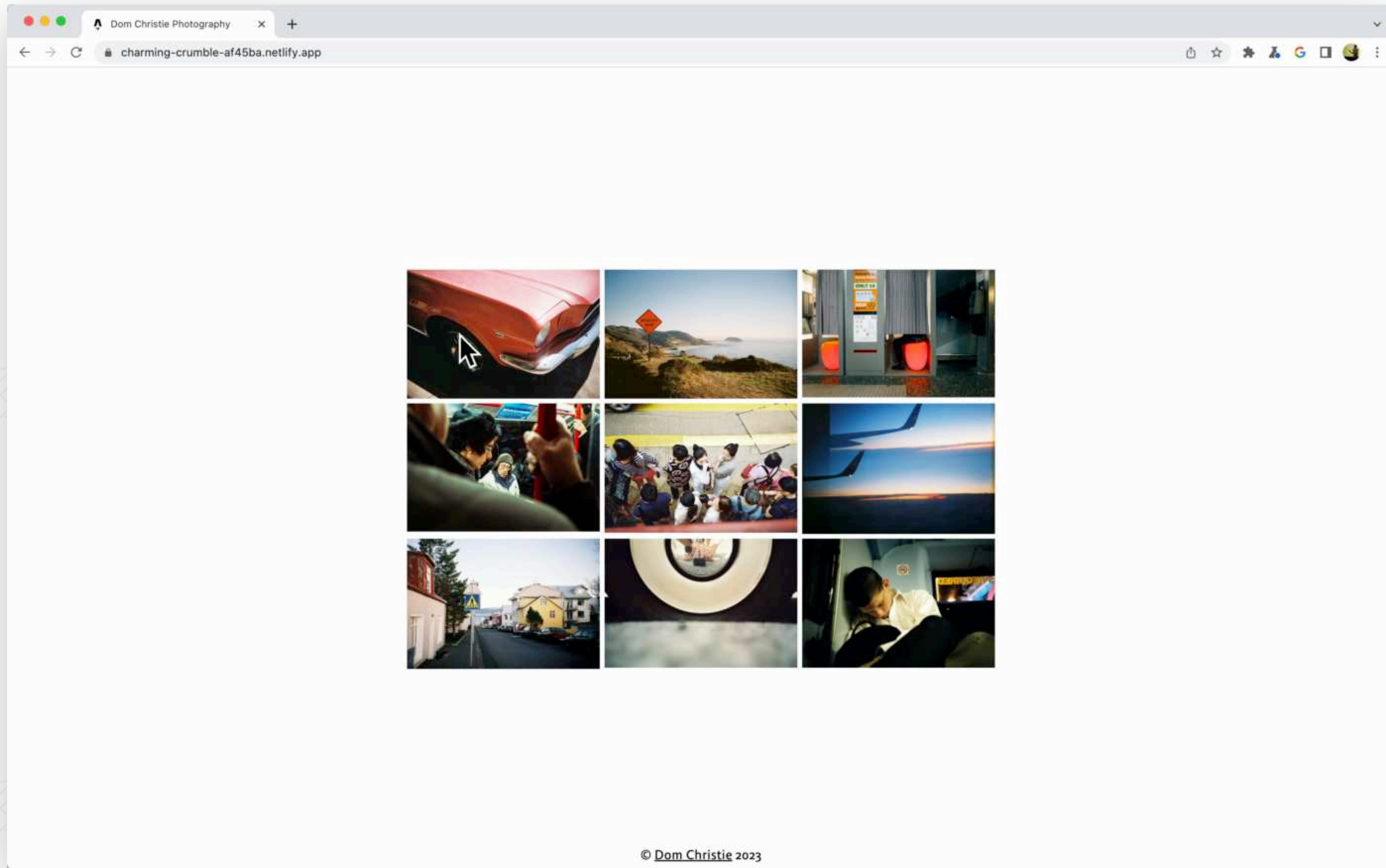
View Source Code

Filter: Show All Metal Transition -lum

Sort: Name Symbol Number

51 Sb Antimony 121.76	18 Ar Argon 39.948	83 Bi Bismuth 208.980	48 Cd Cadmium 112.411	20 Ca Calcium 40.078	27 Co Cobalt 58.933	79 Au Gold 196.967	82 Pb Lead 207.2	80 Hg Mercury 200.59	7 N Nitrogen 14.007
94 Pu Plutonium 244	19 K Potassium 39.0983	75 Re Rhenium 186.207	11 Na Sodium 22.99	52 Te Tellurium 127.6	81 Tl Thallium 204.383	92 U Uranium 238.029	70 Yb Ytterbium 173.054		

<https://codepen.io/argyleink/full/VwBKjwj>



<https://charming-crumble-af45ba.netlify.app/> by [Dom Christie](#)

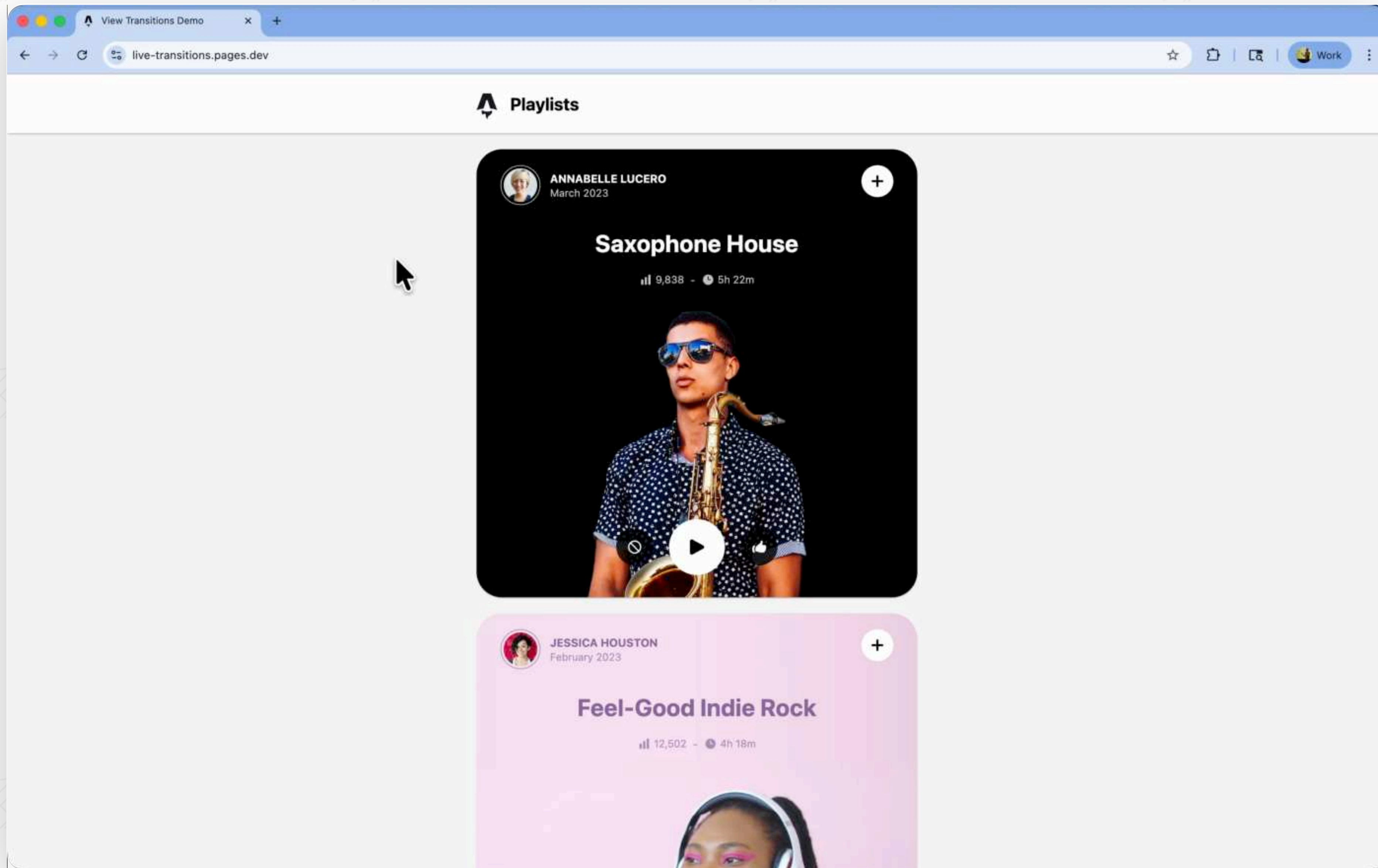
HTTP 203

http203-playlist.netlify.app

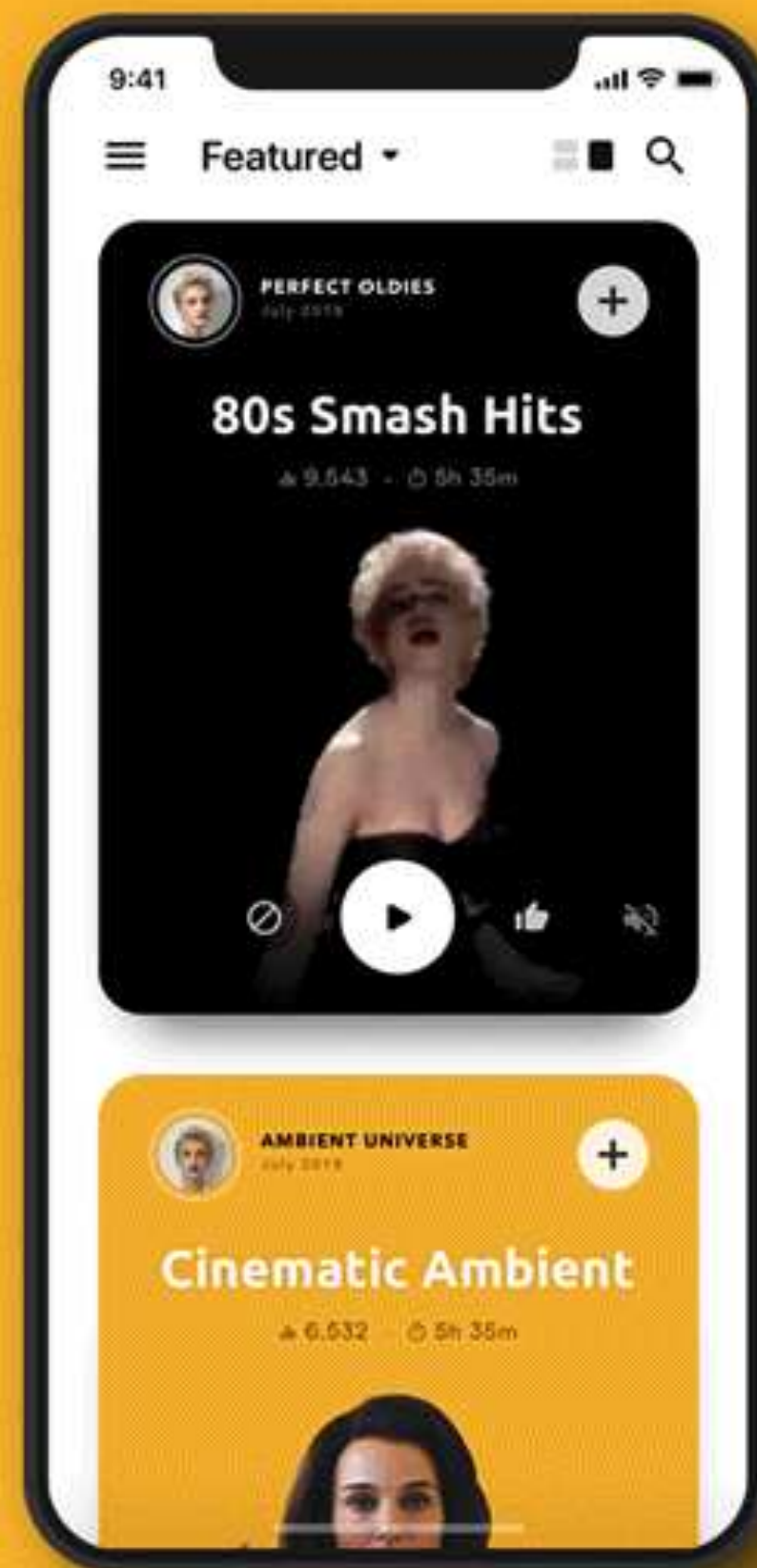
All Bramus Cassie Ada Surma Paul

<p>Scroll-linked animations HTTP 203</p> <p>2022-10-25</p>	<p>How rotate(0) fixed my transform animation HTTP 203</p> <p>2022-10-11</p>	<p>A love letter to DOMPoint and DOMMatrix HTTP 203</p> <p>2022-09-27</p>	<p>It's viewports all the way down HTTP 203</p> <p>2022-09-13</p>	<p>Magic tricks with the HTML parser HTTP 203</p> <p>2022-08-30</p>
<p>DOM ready events considered harmful HTTP 203</p> <p>2022-07-26</p>	<p>Demystifying SVG paths HTTP 203</p> <p>2022-07-12</p>	<p>FLIPing Animations HTTP 203</p> <p>2022-06-28</p>	<p>The History Navigation API. HTTP 203</p> <p>2022-06-07</p>	<p>Samsung Internet HTTP 203</p> <p>2022-05-24</p>
<p>Is .CSS a bad idea? HTTP 203</p> <p>2022-05-03</p>	<p>Which key was pressed? HTTP 203</p> <p>2022-03-29</p>	<p>Building VR and AR experiences using HTML HTTP 203</p> <p>2022-03-15</p>	<p>Cross-fading DOM Elements HTTP 203</p> <p>2022-01-04</p>	<p>Generating your color palette in CSS HTTP 203</p> <p>2021-12-27</p>
<p>The ZOMBIE Dom HTTP 203</p>	<p>Bringing bounce and elastic easing to CSS HTTP 203</p>	<p>The gamepad API HTTP 203</p>	<p>Are SPAs better than MPAs? HTTP 203</p>	<p>Avoiding layout shift by putting the CSS in charge HTTP 203</p>

<https://http203-playlist.netlify.app/>



<https://live-transitions.pages.dev/> by [Maxi Ferreira](#)

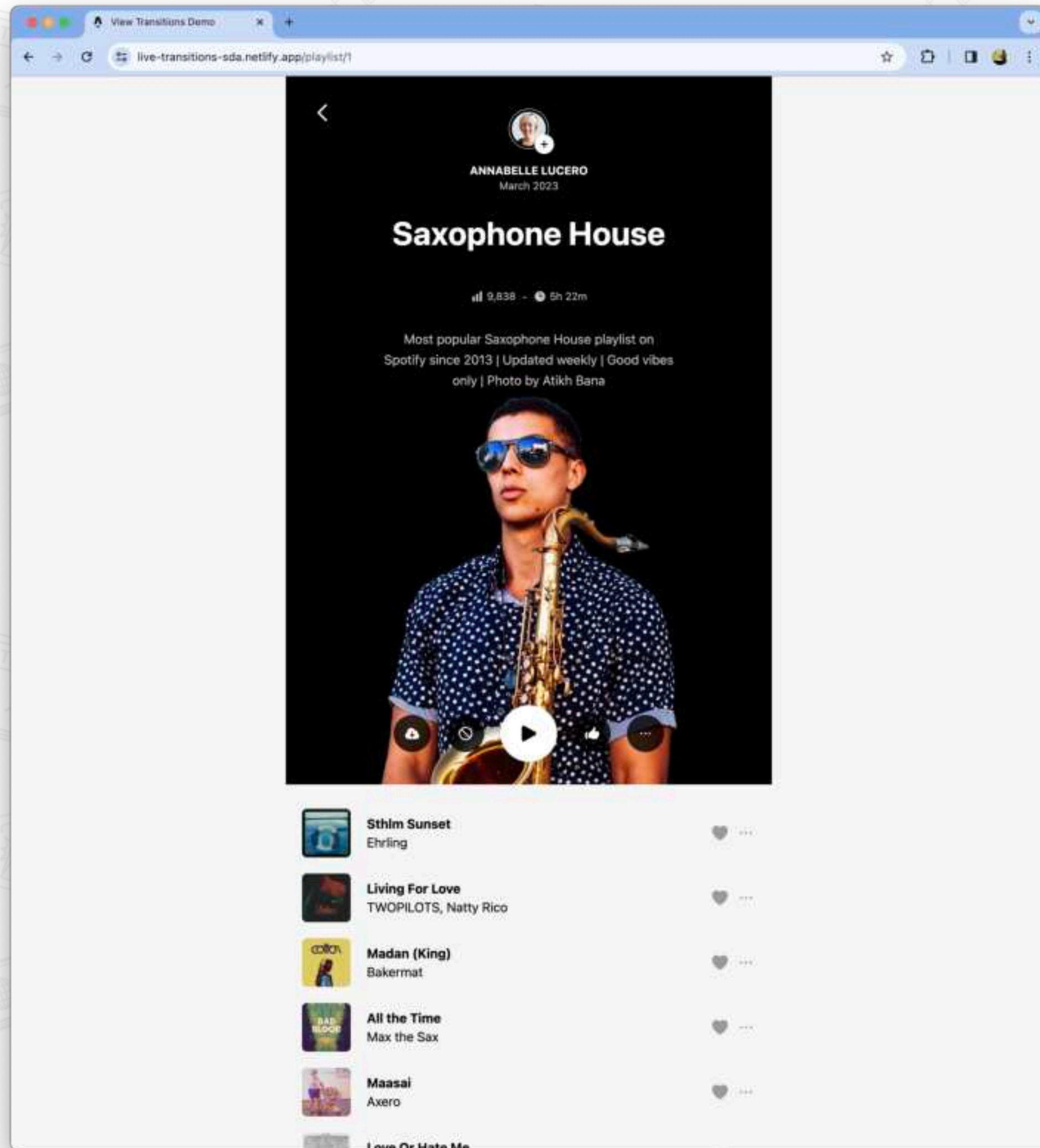


Music Playlist App Interaction by Ehsan Rahimi
<https://dribbble.com/ehsancinematic>

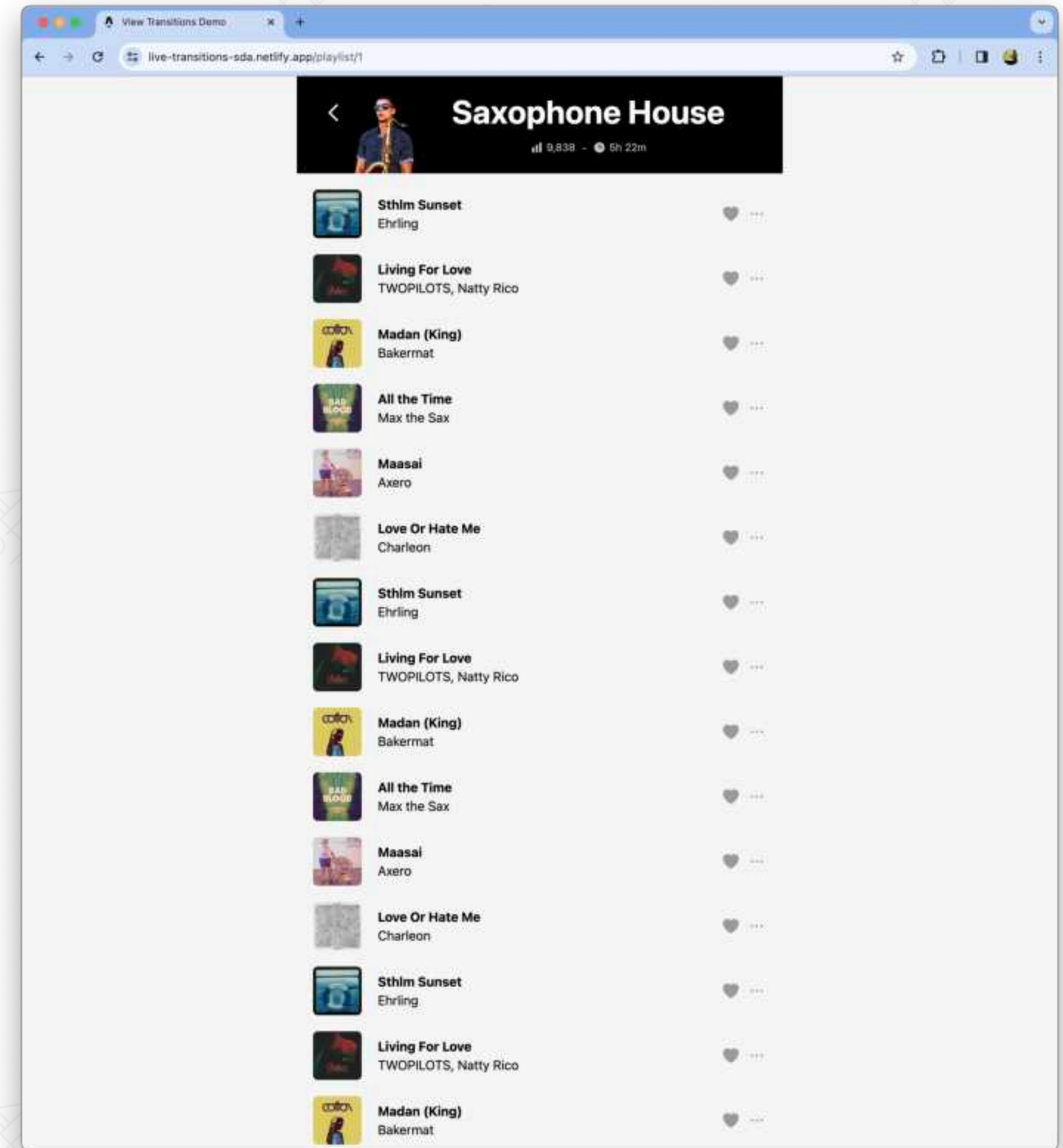


***“That’s a transition
between two states!”***

Me, on a bright day



Large



Small

```
.card {  
  display: grid;  
  grid-template:  
    'meta' auto  
    'title' 100px  
    'moremeta' auto  
    'description' 80px  
    'image' auto / auto;  
  
  /* ... */  
}
```

```
.card.small {  
  grid-template:  
    'image title' 1fr  
    'image moremeta' 1fr / 80px auto;  
  
  /* ... */  
}
```

```
const toggleCard = () => {
  if (!document.startViewTransition) {
    $card.classList.toggle('small');
    return;
  }


  document.startViewTransition(() => {
    $card.classList.toggle('small');
  });
}

$button.addEventListener('click', async e => {
  e.preventDefault();
  toggleCard();
});
```

CodePen - View Transitions: x +

cdpn.io/pen/debug/BabWXJv


toggle



BRAMUS
Jan 2024

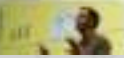
Summer Vibes

15 songs 59 minutes

Most popular songs for that summer feeling | Updated weekly | Good vibes only | Photo by Atikh Bana



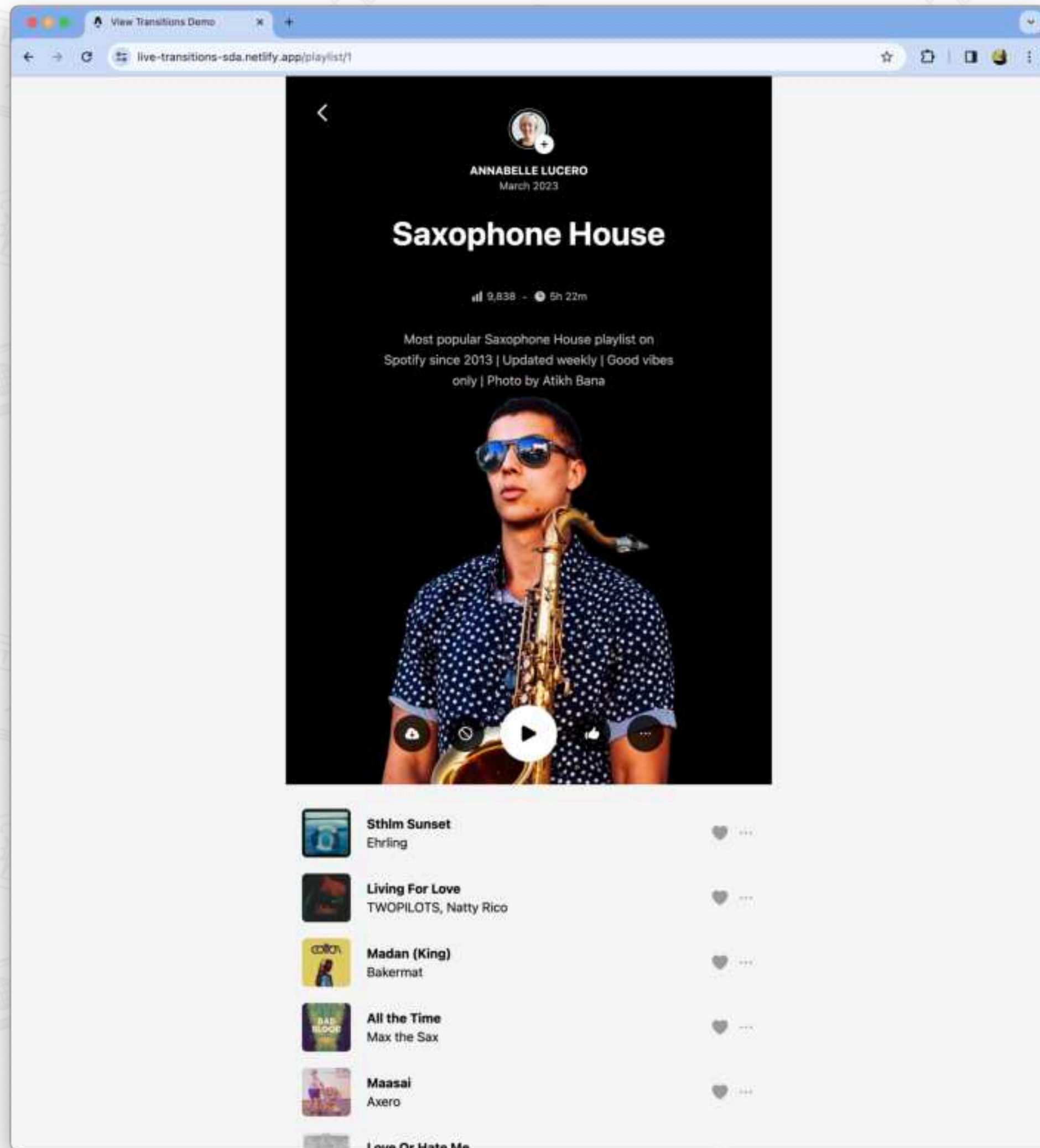
 Who needs to know?
Bramus

 Who needs to know?

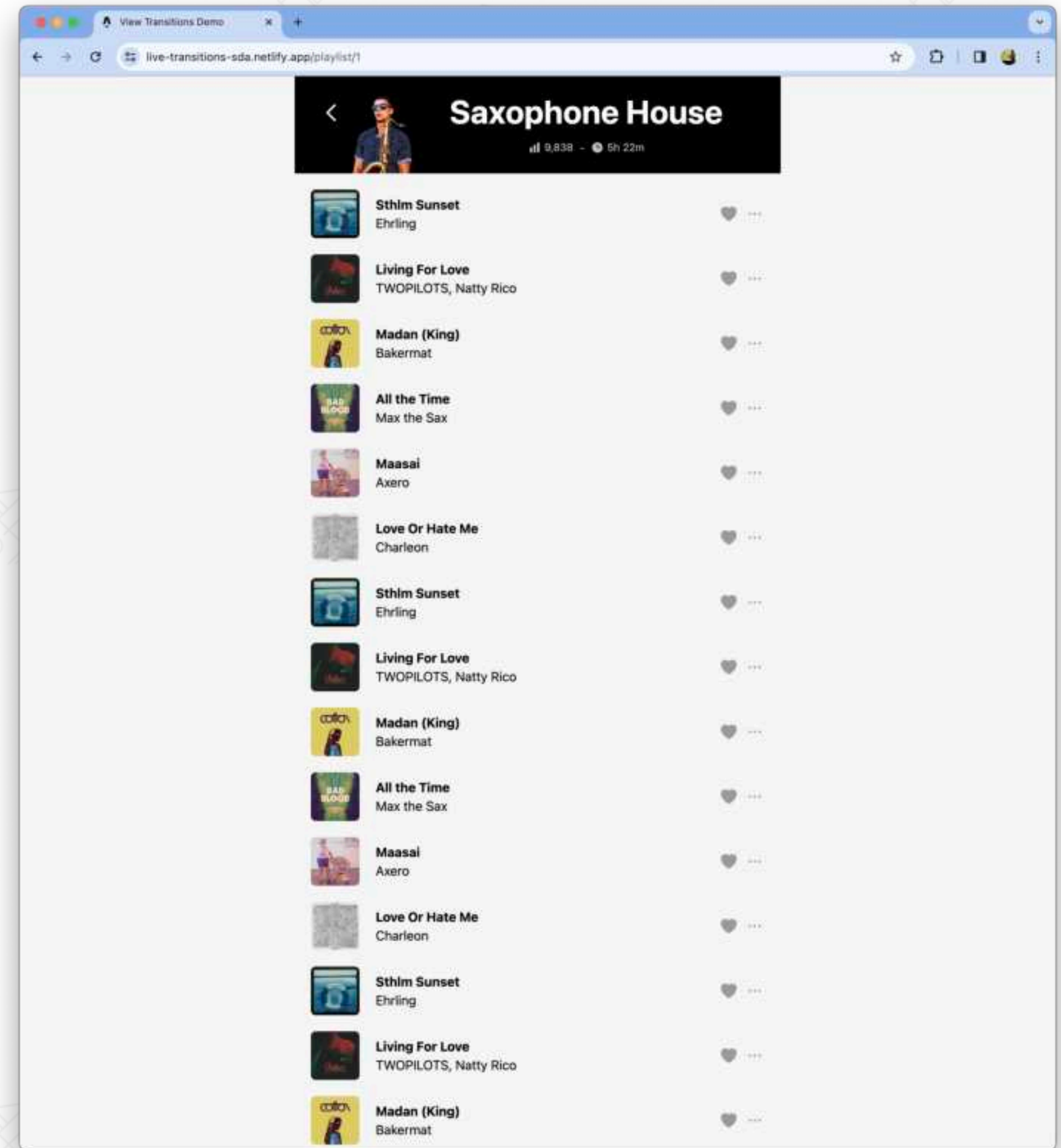
<https://codepen.io/bramus/full/BabWXJv>

1. Identify and name elements to transition

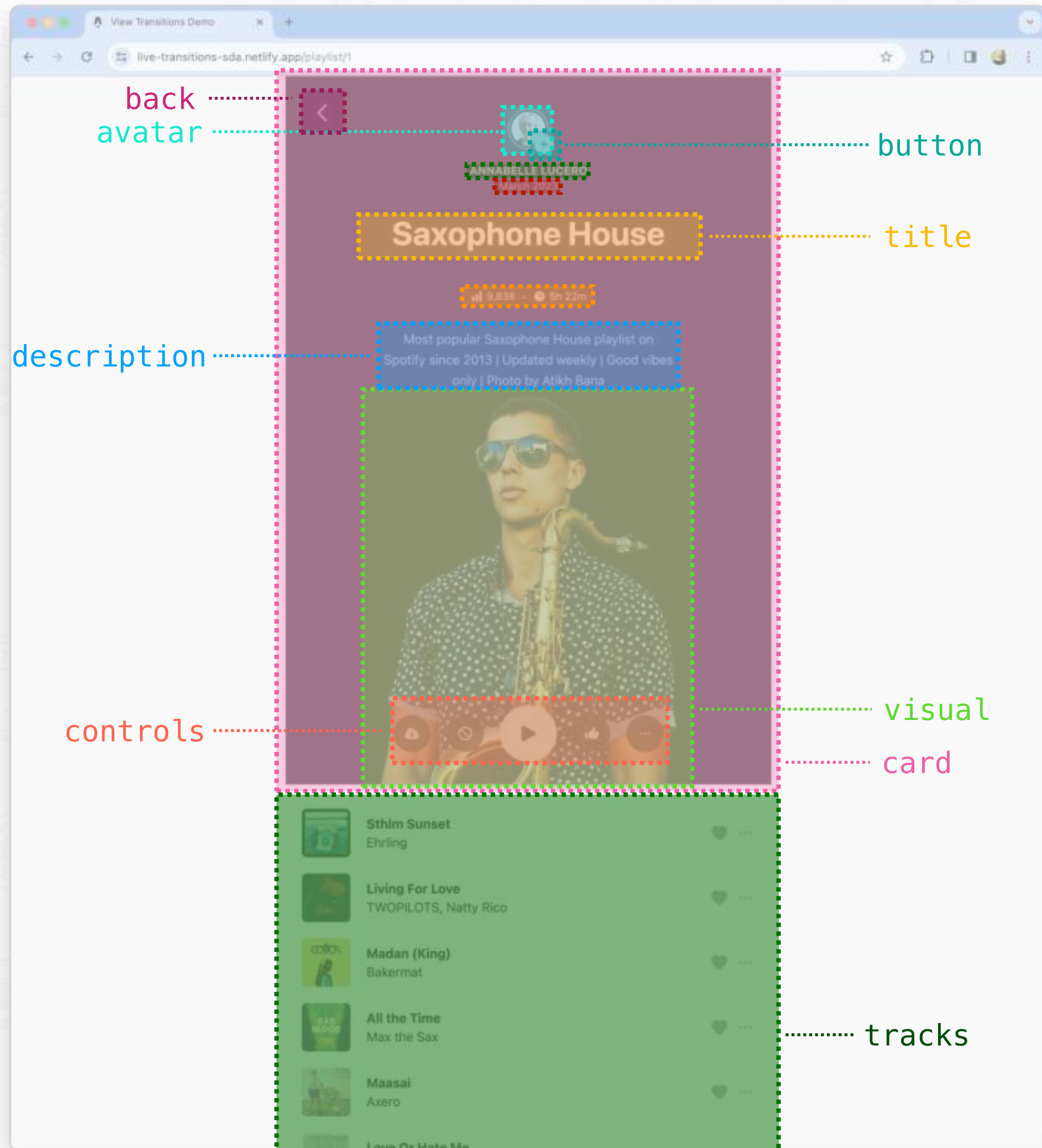
CSS `view-transition-name` property



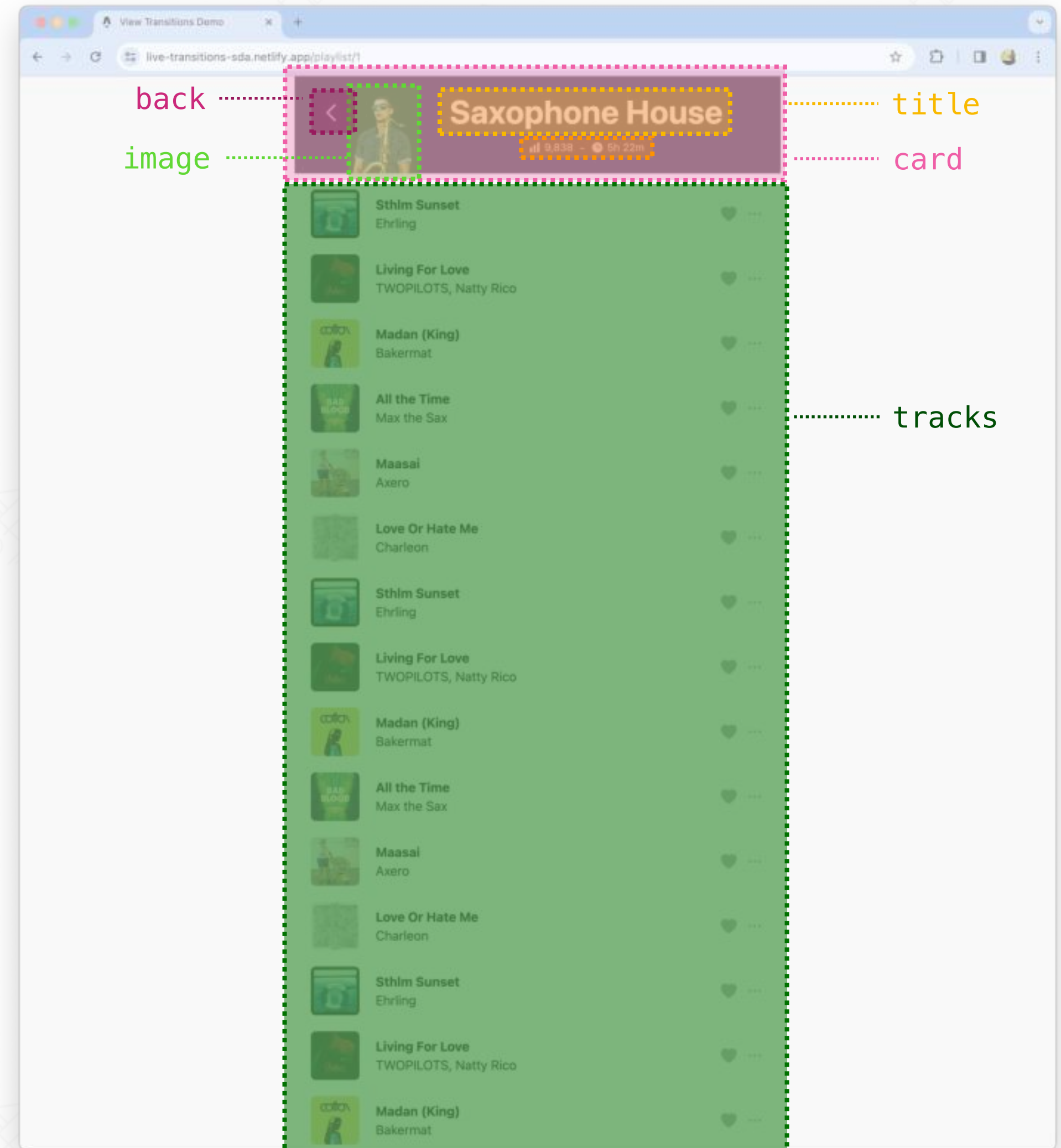
Large



Small



Large



Small

2. Trigger the View Transition

Same-Document or Cross-Document

```
const toggleCard = () => {
  if (!document.startViewTransition) {
    $card.classList.toggle('small');
    return;
  }

  document.startViewTransition(() => {
    $card.classList.toggle('small');
  });
}

$button.addEventListener('click', async e => {
  e.preventDefault();
  toggleCard();
});
```

3. Customize the animations

(Optional)

The image shows a web browser window displaying a music playlist page and its developer tools. The page content includes a back arrow, a profile picture for 'BRAMUS Jan 2024', the title 'Summer Vibes', and the text '15 songs 59 minutes'. Below this is a description: 'Most popular songs for that summer feeling | Updated weekly | Good vibes only | Photo by Atikh Bana'. A large image of a man playing a saxophone is featured. At the bottom, there are two song entries, each with a small profile picture and the text 'Who needs to know? Bramus'. The developer tools are open, showing the 'Elements' panel with the HTML structure, the 'Styles' panel with various CSS rules, and the 'Animations' panel with a detailed timeline of view transition animations. The timeline shows various animation names like '-ua-view-transition-group-anim-cover', '-ua-view-transition-fade-out', and '-ua-mix-blend-mode-plus-lighter' with their respective durations and start/end times.

```
<!DOCTYPE html>
<html lang="en">
  <::view-transition
  <head> </head>
  <body>
    <main> </main>
    <button>toggle</button>
    <script id="rendered-js"> </script>
  </body>
</html>
```

html head

Console Sensors Rendering Search Issues Network conditions Animations X

100% 25% 10%

Animation	Start	End
::view-transition::view-transition-group(cover)	0 ms	1000 ms
::view-transition-image-pair::view-transition-old(cover)	0 ms	1000 ms
::view-transition-image-pair::view-transition-old(cover)	0 ms	1000 ms
::view-transition::view-transition-group(title)	0 ms	1000 ms
::view-transition::view-transition-group(moremeta)	0 ms	1000 ms
::view-transition-image-pair::view-transition-old(description)	0 ms	1000 ms
::view-transition-image-pair::view-transition-old(description)	0 ms	1000 ms
::view-transition-image-pair::view-transition-new(cover)	0 ms	1000 ms
::view-transition-image-pair::view-transition-new(cover)	0 ms	1000 ms
::view-transition-image-pair::view-transition-old(meta)	0 ms	1000 ms
::view-transition::view-transition-group(tracks)	0 ms	1000 ms
::view-transition::view-transition-group(card)	0 ms	1000 ms

<https://codepen.io/bramus/full/BabWXJv>

but elements in that card only for a certain part of that entire duration. To achieve this, the durations and delays are expressed as fractions, which are then used in a calculation to get the actual duration in seconds.

```
*/  
::view-transition {  
  --vt-base-duration: 1s;  
  
  --vt-description-duration: 0.5;  
  --vt-description-delay: 0;  
  
  --vt-moremeta-duration: 0.65;  
  --vt-moremeta-delay: 0.2;  
  
  --vt-title-duration: 0.6;  
  --vt-title-delay: 0.2;  
  
  --vt-meta-duration: 0.5;  
  --vt-meta-delay: 0.3;  
}  
  
/* Apply base duration to all */  
::view-transition-group(*) {  
  animation-duration: var(--vt-base-duration);  
}
```

```
    --vt-meta-duration: 0.5;
    --vt-meta-delay: 0.3;
}

/* Apply base duration to all */
::view-transition-group(*) {
    animation-duration: var(--vt-base-duration);
}

/* Also inherit the delay from the group onto the child pseudos */
::view-transition-image-pair(*),
::view-transition-new(*),
::view-transition-old(*) {
    animation-delay: inherit;
}

/* Allow cursor to send events to underlying page while a VT is running */
::view-transition {
    pointer-events: none;
}

/* Some keyframes to use */
@keyframes slide-up { to { translate: 0 -100%; }}
@keyframes slide-down { from { translate: 0 -100%; }}
```

```
        animation-duration: var(--vt-base-duration);
    }

    /* Also inherit the delay from the group onto the child pseudos */
    ::view-transition-image-pair(*),
    ::view-transition-new(*),
    ::view-transition-old(*) {
        animation-delay: inherit;
    }

    /* Allow cursor to send events to underlying page while a VT is running */
    ::view-transition {
        pointer-events: none;
    }

    /* Some keyframes to use */
    @keyframes slide-up { to { translate: 0 -100%; }}
    @keyframes slide-down { from { translate: 0 -100%; }}
    @keyframes fade-out { to { opacity: 0; }}
    @keyframes fade-in { from { opacity: 0; }}

    /* Capture all these individual elements instead. Also, don't capture the root. */
    :root {
        view-transition-name: none;
    }
}
```

```
::view-transition-old(*) {
  animation-delay: inherit;
}

/* Allow cursor to send events to underlying page while a VT is running */
::view-transition {
  pointer-events: none;
}

/* Some keyframes to use */
@keyframes slide-up { to { translate: 0 -100%; }}
@keyframes slide-down { from { translate: 0 -100%; }}
@keyframes fade-out { to { opacity: 0; }}
@keyframes fade-in { from { opacity: 0; }}

/* Capture all these individual elements instead. Also, don't capture the root. */
:root {
  view-transition-name: none;
}
.card {
  view-transition-name: card;
}
.meta {
  view-transition-name: meta;
}
```

```
/* Capture all these individual elements instead. Also, don't capture the root. */
:root {
    view-transition-name: none;
}
.card {
    view-transition-name: card;
}
.meta {
    view-transition-name: meta;
}
.title {
    view-transition-name: title;
}
.moremeta {
    view-transition-name: moremeta;
}
.description {
    view-transition-name: description;
}
.cover {
    view-transition-name: cover;
}
.tracks {
    view-transition-name: tracks;
}
```

```
        view-transition-name: description;
    }
    .cover {
        view-transition-name: cover;
    }
    .tracks {
        view-transition-name: tracks;
    }

    /* The card itself should just shrink, not fade */
    ::view-transition-group(card) {
        overflow: clip;
    }
    ::view-transition-new(card),
    ::view-transition-old(card) {
        animation-name: none;
    }

    /* The title, moremeta, and tracks remain the same. Therefore, don't fade but
    immediately use the new snapshot */
    ::view-transition-new(title),
    ::view-transition-new(moremeta),
    ::view-transition-new(tracks) {
        animation-name: none;
    }
}
```

```
    overflow: clip;
  }
  ::view-transition-new(card),
  ::view-transition-old(card) {
    animation-name: none;
  }
}
```

/ The title, moremeta, and tracks remain the same. Therefore, don't fade but immediately use the new snapshot */*

```
  ::view-transition-new(title),
  ::view-transition-new(moremeta),
  ::view-transition-new(tracks) {
    animation-name: none;
  }
  ::view-transition-old(title),
  ::view-transition-old(moremeta),
  ::view-transition-old(tracks) {
    display: none;
  }
}
```

/ Slide and fade description. */*

```
  ::view-transition-old(description):only-child {
    animation-duration: calc(var(--vt-base-duration) * var(--vt-description-duration));
    animation-delay: calc(var(--vt-base-duration) * var(--vt-description-delay));
    animation-name: slide-up fade-out;
```

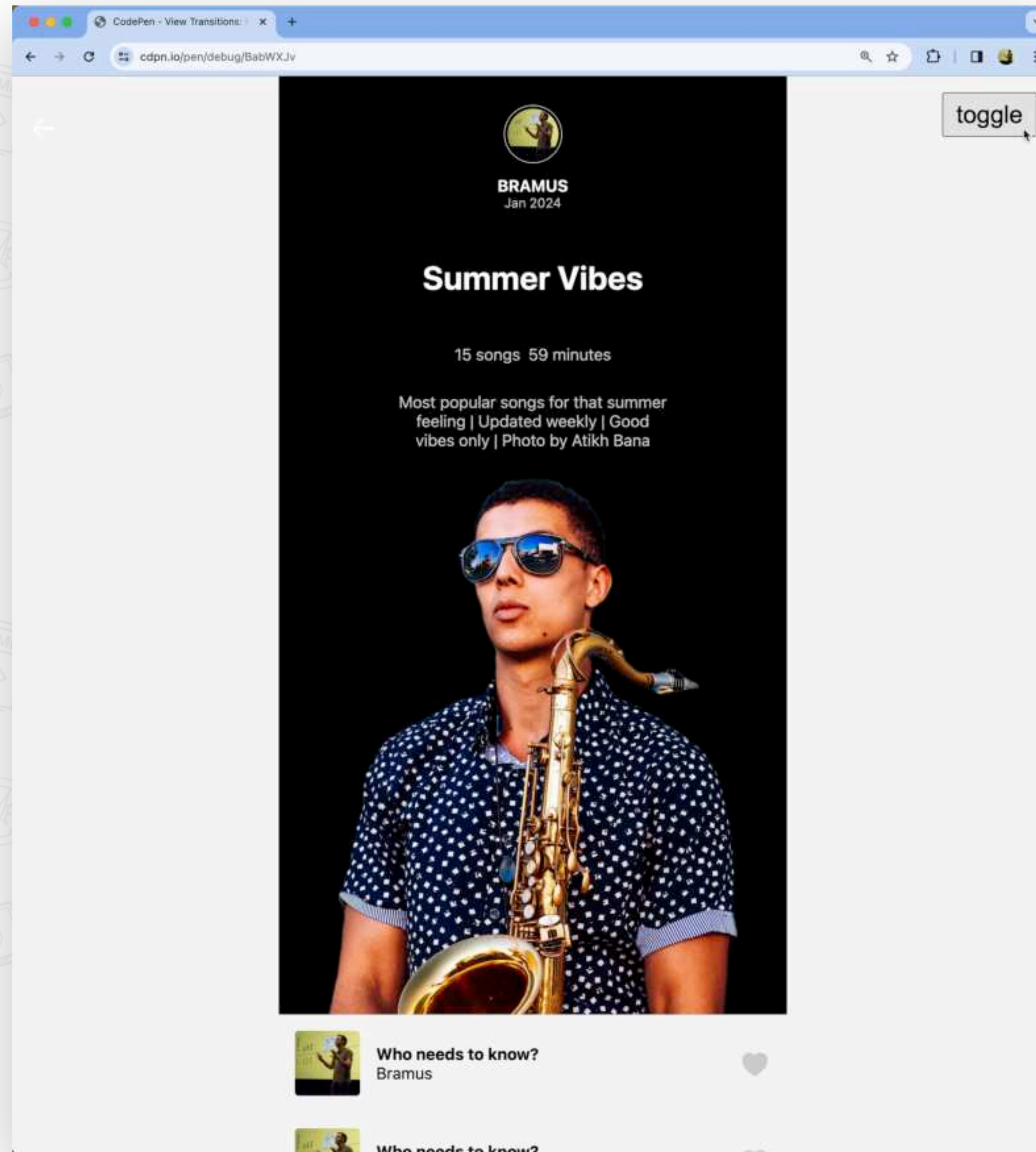
```
}
::view-transition-old(title),
::view-transition-old(moremeta),
::view-transition-old(tracks) {
  display: none;
}

/* Slide and fade description. */
::view-transition-old(description):only-child {
  animation-duration: calc(var(--vt-base-duration) * var(--vt-description-duration));
  animation-delay: calc(var(--vt-base-duration) * var(--vt-description-delay));
  animation-name: slide-up, fade-out;
}
::view-transition-new(description):only-child {
  animation-duration: calc(var(--vt-base-duration) * var(--vt-description-duration));
  animation-delay: calc(var(--vt-base-duration) * (1 - (var(--vt-description-delay) +
var(--vt-description-duration))));
  animation-name: slide-down, fade-in;
}

/* Set timing for various components */
::view-transition-group(moremeta) {
  animation-duration: calc(var(--vt-base-duration) * var(--vt-moremeta-duration));
  animation-delay: calc(var(--vt-base-duration) * var(--vt-moremeta-delay));
}
```

```
}
  :root:not(:has(div.small))::view-transition-group(meta) {
    animation-delay: calc(var(--vt-base-duration) * (1 - (var(--vt-meta-delay) + var(--vt-meta-duration))));
  }
  ::view-transition-old(meta):only-child {
    animation-name: fade-out;
  }
  ::view-transition-new(meta):only-child {
    animation-name: fade-in;
  }

  ::view-transition-group(tracks) {
    z-index: -1;
  }
}
```

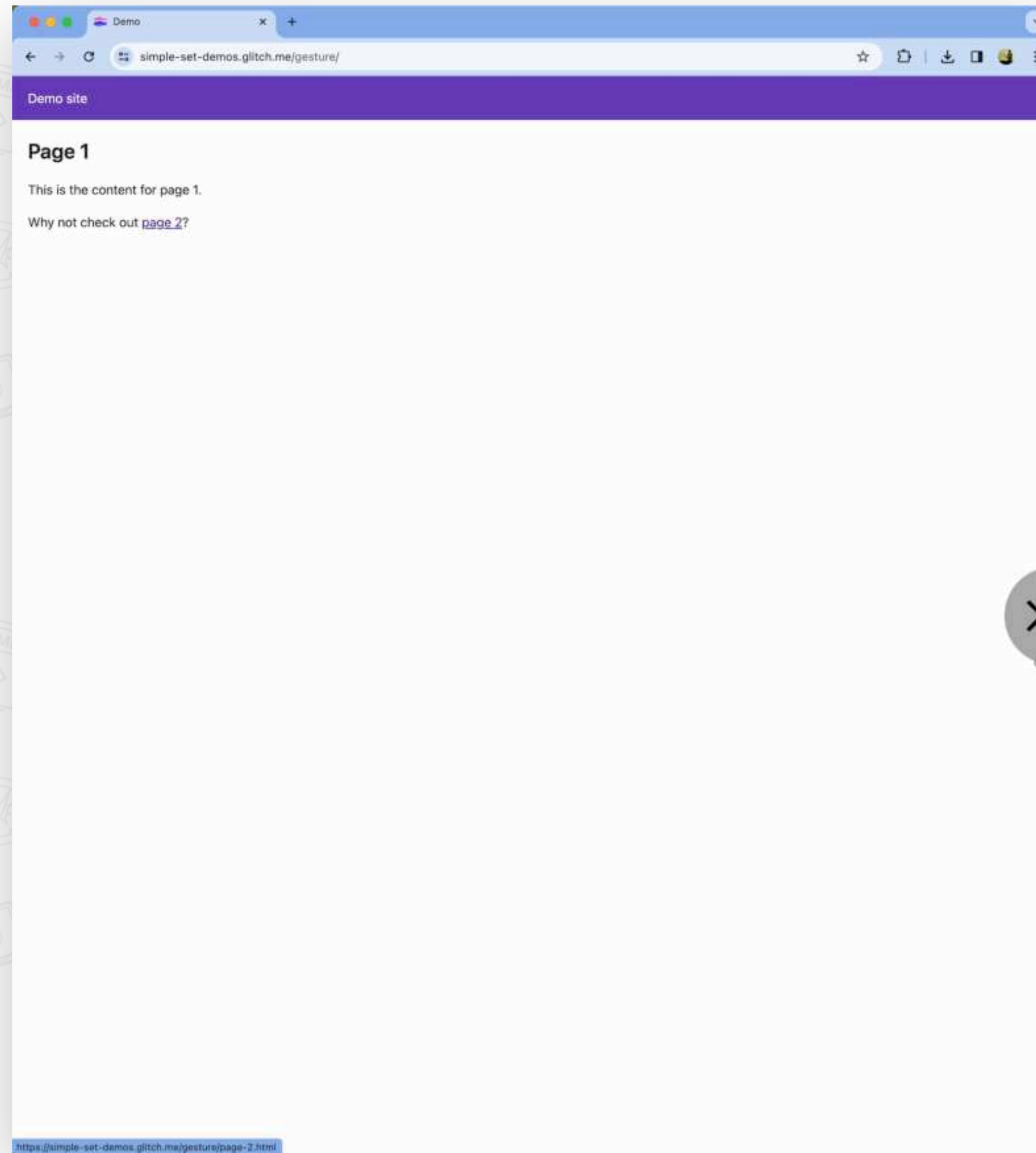


<https://codepen.io/bramus/full/BabWXJv>

***“How can I make this
draggable?”***



Me, ready for the next step



<https://simple-set-demos.glitch.me/gesture/> by Jake Archibald

Pointer Events API



55



59



13

https://developer.mozilla.org/docs/Web/API/Pointer_events

```
document.addEventListener("pointerdown", (downEvent) => {  
    // 1. Determine the needed drag direction  
  
    // 2. Record startX/startY position  
});
```

```
document.addEventListener("pointermove", async (downEvent) => {  
    // 1. Record currentX/currentY position  
  
    // 2. If none exists, start a View Transition  
    and pause all its animations immediately  
  
    // 3. Update the currentTime of VT's animations  
    based on the drag distance  
});
```

```
document.addEventListener("pointerup", async (downEvent) => {  
    // 1. Play the View Transition's animations  
    forwards of backwards  
    based on the last drag direction  
  
    // 2. When the VT is done, reset all values  
});
```



Other View Transitions Tricks / Features

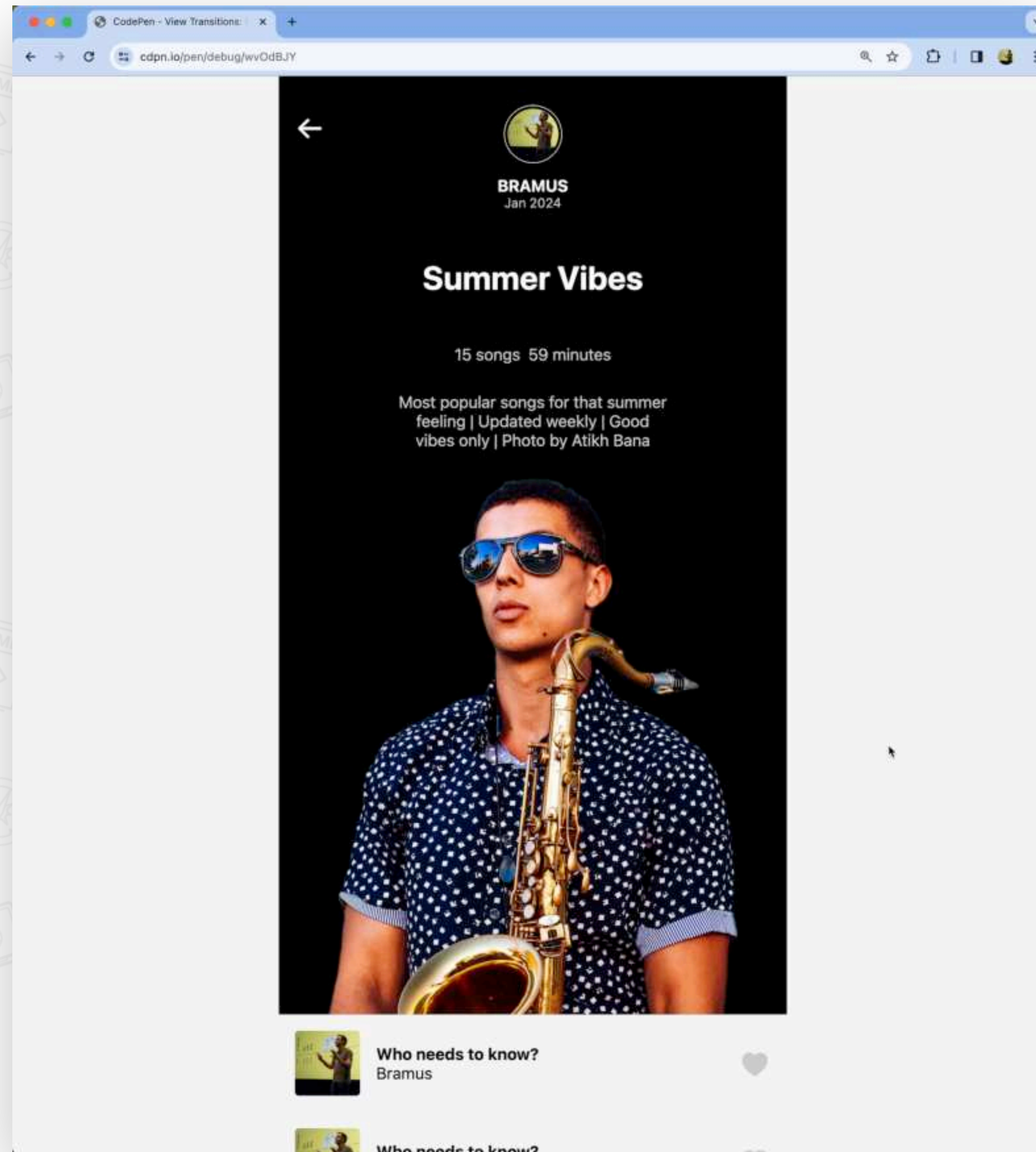
```
/* Don't capture the root */
```

```
:root {  
  view-transition-name: none;  
}
```

```
/* Allow pointer events to reach the document while a VT is ongoing  
*/
```

```
::view-transition {  
  pointer-events: none;  
}
```

```
const transition = document.startViewTransition(() => {  
    // ...  
});  
  
// Wait for update callback to be done  
await transition.updateCallbackDone;  
console.log('updateCallbackDone');  
  
// Wait for the pseudo-elements to be created  
await transition.ready;  
console.log('ready');  
  
// Wait for view transition to be done  
await transition.finished;  
console.log('finished');
```



<https://codepen.io/bramus/full/wvOdBJY>

```
// 2. If none exists, start a View Transition
      and pause all its animations immediately

activeViewTransition = document.startViewTransition(() => {
  document.querySelector('.card').classList.toggle('small');
});

await activeViewTransition.ready;

activeAnimations = document.getAnimations().filter((anim) =>
  anim.effect.target === document.documentElement &&
  anim.effect.pseudoElement?.startsWith("::view-transition")
);
for (const anim of activeAnimations) anim.pause();
```

```
// 3. Update the currentTime of VT's animations
    based on the drag distance

const baseDuration = 1000;
const dragDistance = determineDragDistance();

const dragDelta = ['up', 'down'].includes(neededDirection)
    ? Math.abs(currentY - startY)
    : Math.abs(currentX - startX);

const computedTime = dragDelta / dragDistance * baseDuration;
const clampedTime = clamp(0, computedTime, baseDuration);

for (const animation of activeAnimations) {
    animation.currentTime = clampedTime;
}
```

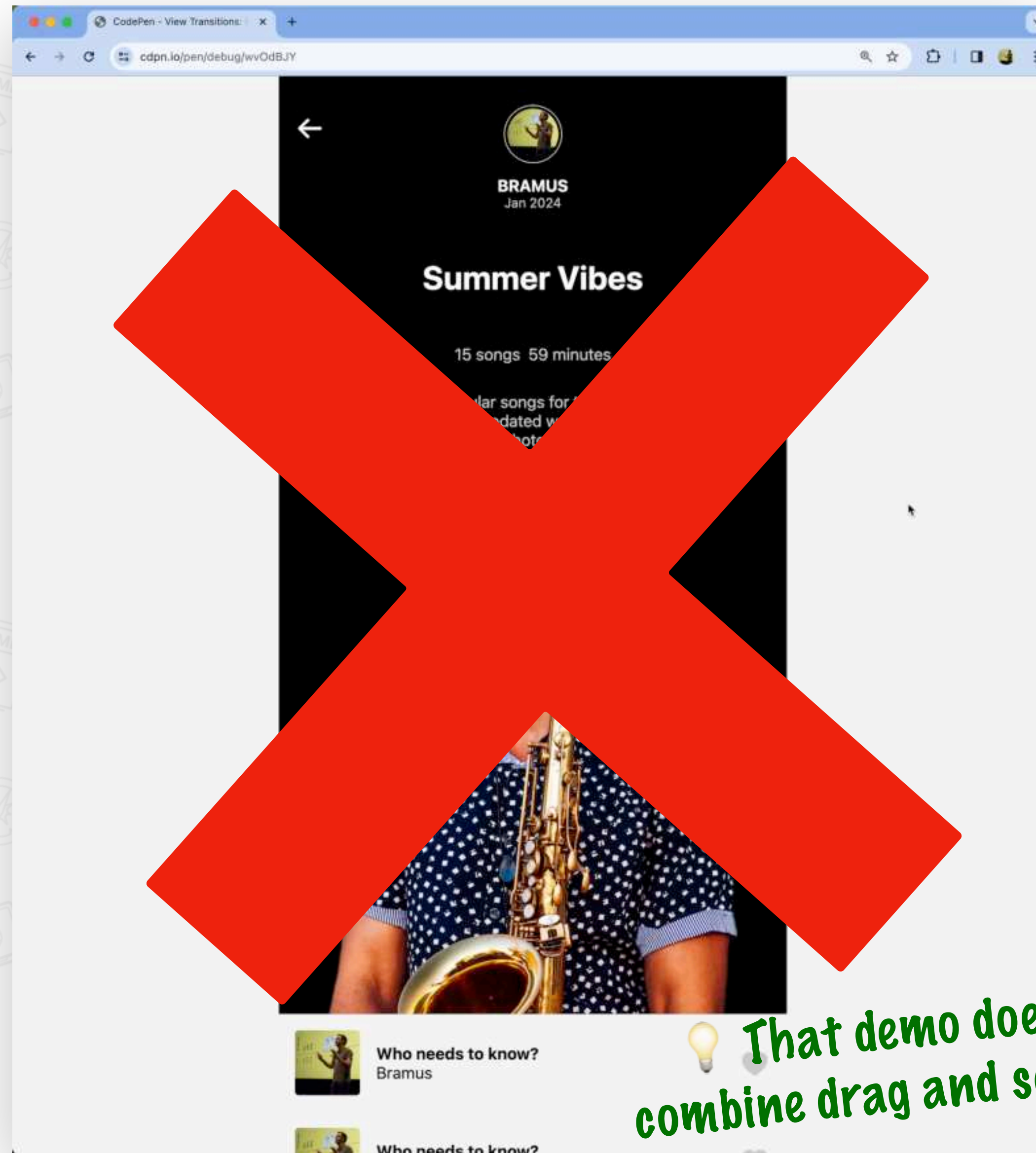
Feels very uncanny,
as you lose things like
momentum scrolling 😬

Can be restored by
mapping drag to scroll

But that disables
scrolling on touch
devices 😭

Can be fixed by adding
'touch-action: none' 💡

Doesn't actually
transition on a touch
device (just scrolls) 😬



Need to combine drag
and scroll on desktop 😬

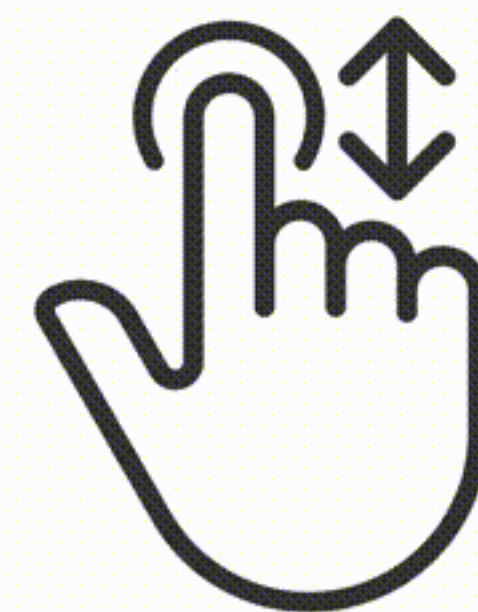
Was this even a good
idea to begin with?! 😭

That demo doesn't
combine drag and scroll

And why did it work
in Jake's demo? 🤔

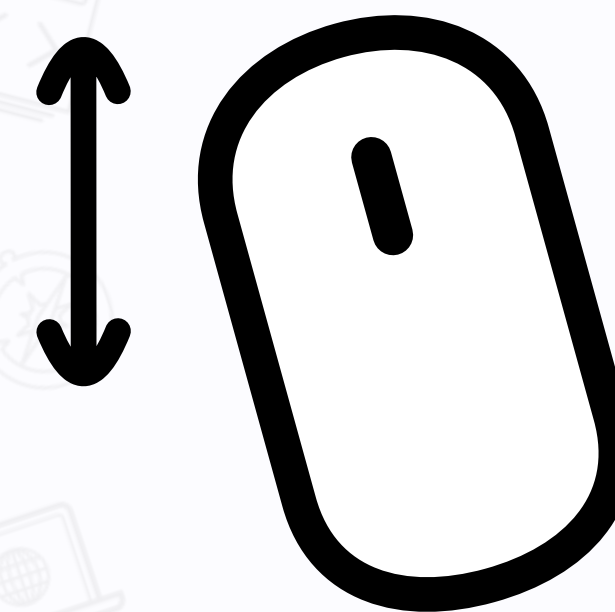
<https://codepen.io/bramus/full/wvOdBJY>

***“How can I make this
draggable?”***

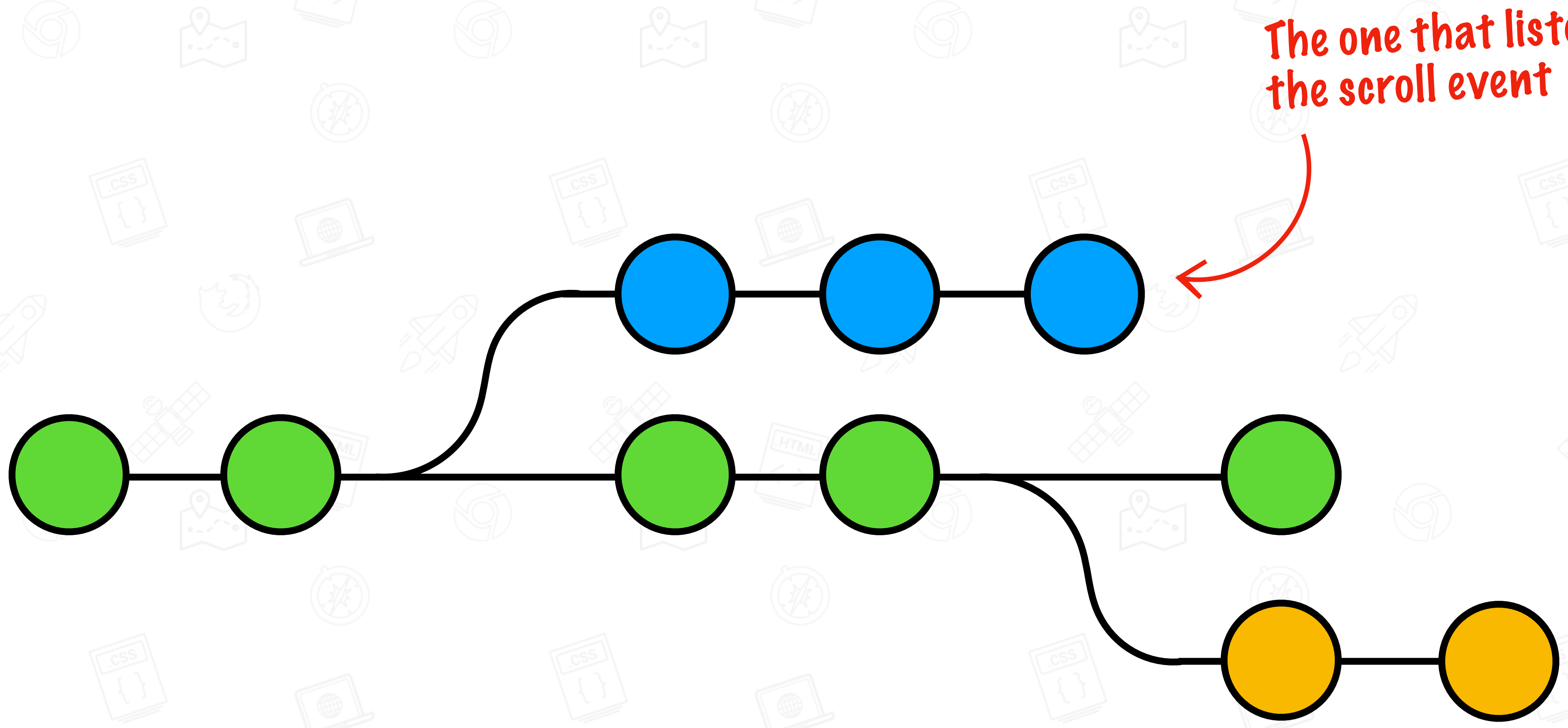


Me, being curious

***“How can I make this
scroll-driven?”***



Me, after realizing I have been asking the wrong question



The one that listens to the scroll event

```
const checkScrollPosition = async () => {
  if (
    (document.documentElement.scrollTop > triggerRange.start) &&
    (document.documentElement.scrollTop < triggerRange.end)
  ) {
    if (!activeViewTransition) {
      startViewTransitionAndPauseTheAnimations();
    } else {
      updateAnimations();
    }
  }
  else {
    if (activeViewTransition) {
      activeViewTransition.skipTransition();
    }
  }
}
window.addEventListener('scroll', checkScrollPosition);
```

```
const startViewTransitionAndPauseTheAnimations = async () => {
  const isReverse = document.querySelector('.small') ? true : false;

  activeViewTransition = document.startViewTransition(() => {
    document.querySelector('.card').classList.toggle('small');
  });

  await activeViewTransition.ready;
  activeAnimations = document.getAnimations().filter((anim) =>
    anim.effect.target === document.documentElement &&
    anim.effect.pseudoElement?.startsWith("::view-transition")
  );

  for (const anim of activeAnimations) {
    if (isReverse) anim.reverse();
    anim.pause();
  }

  // .. (cleanup)
};
```

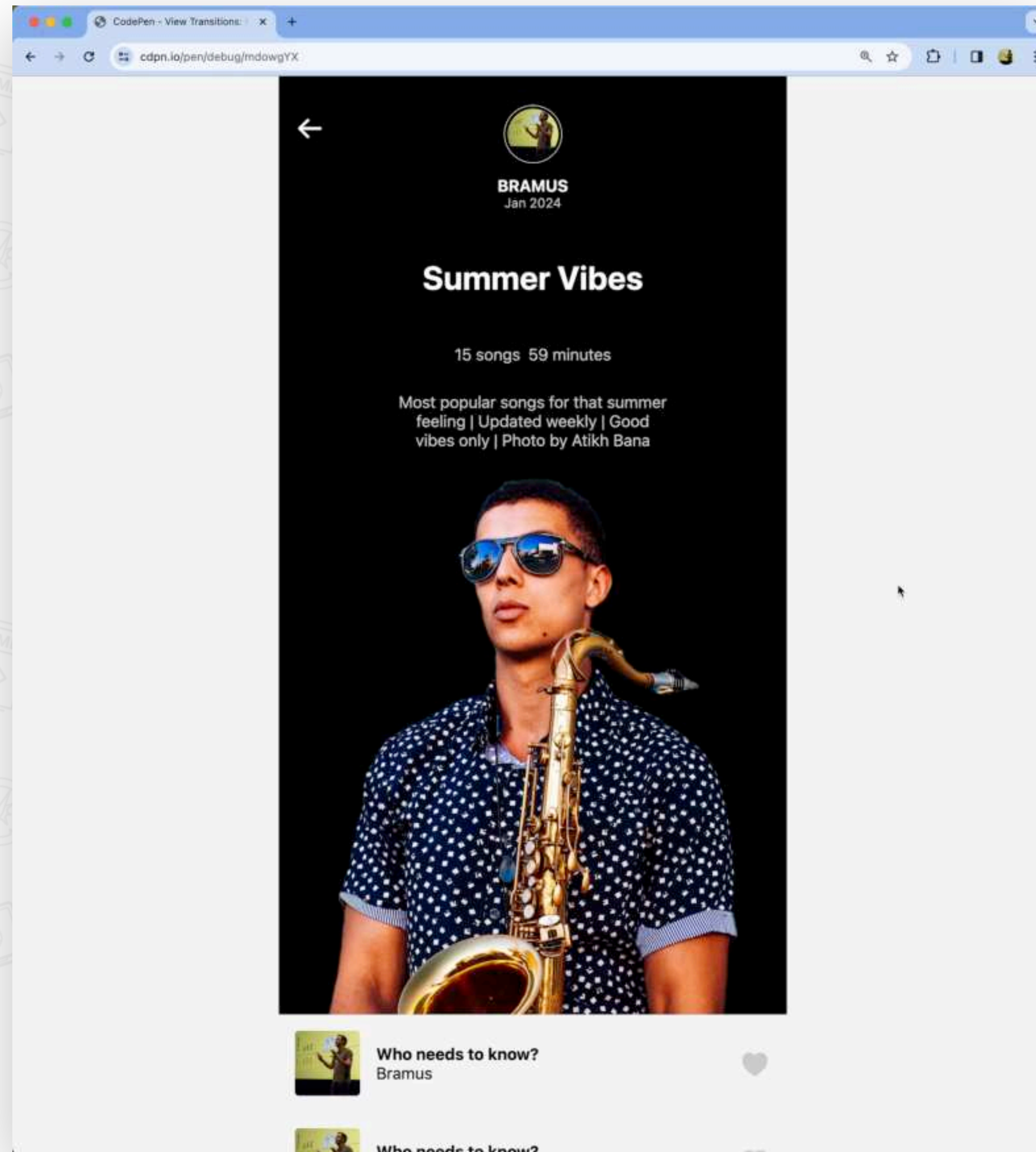
```
const updateAnimations = () => {
  if (!activeAnimations.length) return;

  const scrollProgress = currentScrollDistance / targetScrollDistance;

  const currentTime = clamp(0, scrollProgress * baseDuration, baseDuration);

  for (const animation of activeAnimations) {
    if (animation.playbackRate === -1) {
      animation.currentTime = baseDuration - currentTime;
    } else {
      animation.currentTime = currentTime;
    }
  }
}
```

```
const startViewTransitionAndPauseTheAnimations = async () => {  
  // ... (start VT + pause animations)  
  
  await activeViewTransition.finished;  
  if (document.documentElement.scrollTop > triggerRange.start) {  
    document.querySelector('.card').classList.add('small');  
  } else {  
    document.querySelector('.card').classList.remove('small');  
  }  
  
  activeViewTransition = null;  
  
};
```



<https://codepen.io/bramus/full/mdowgYX>

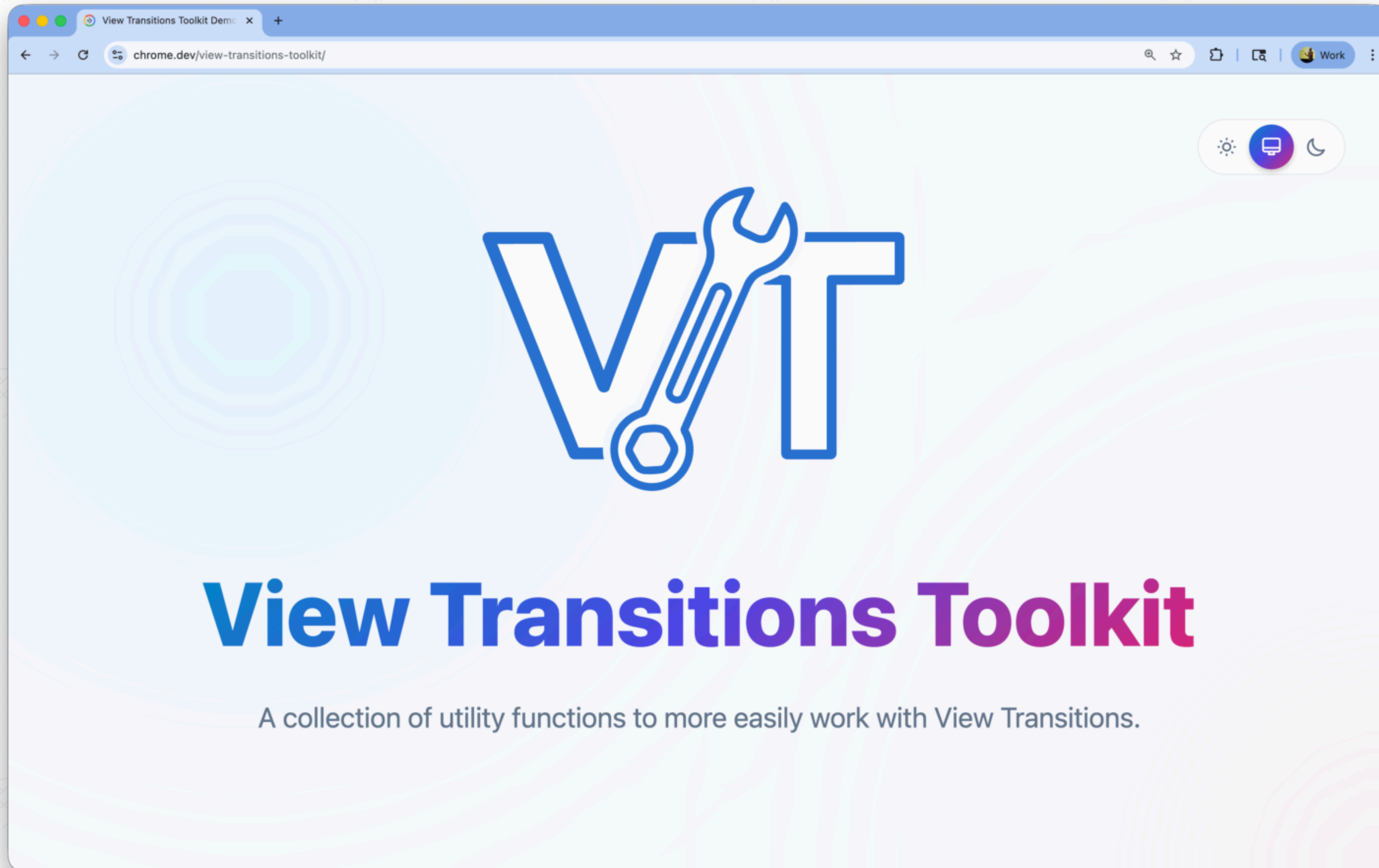
```
const activeViewTransition = document.startViewTransition(...);
await activeViewTransition.ready;

activeAnimations = document.getAnimations().filter((anim) =>
  anim.effect.target === document.documentElement &&
  anim.effect.pseudoElement?.startsWith("::view-transition")
);
```

```
import { getAnimations } from "view-transitions-toolkit/animations";

const activeViewTransition = document.startViewTransition(...);
await activeViewTransition.ready;

activeAnimations = getAnimations(activeViewTransition);
```



<https://chrome.dev/view-transitions-toolkit>

The screenshot shows a web browser window with the address bar displaying `chrome.dev/view-transitions-toolkit/get-animations/`. The page is split into two main sections. On the left is a demo area with a light blue background and a central blue square containing the text "Click the document!". On the right is the documentation area, which includes a "Back" button, a title "Animations: getAnimations", a descriptive paragraph, a "The Code" section with a code block, a "Functions Used" section with another code block, and a link to "documentation".

Animations: getAnimations

The `getAnimations` function from the toolkit is a wrapper around `document.getAnimations()` that returns only the animations related to View Transitions. You can further filter the animations by providing a `view-transition-name` and/or a `ViewTransitionPart`.

The Code

```
const t = document.startViewTransition(() => {
  randomize();
});

await t.ready;

const animations = getAnimations(t, "box");
```

Functions Used

This demo uses `getAnimations` to read animation details during a transition:

```
import { getAnimations } from "view-transitions-toolkit/animations";
```

Read more in the [documentation](#).

<https://chrome.dev/view-transitions-toolkit>

Playback Control Demo - View x +

chrome.dev/view-transitions-toolkit/playback-control/

/demo

BOX

Start Pause Resume

Scrub Progress 0.00

← Back

Playback Control

Control the playback of a View Transition. Use utilities to pause, resume, or scrub all animations linked to a View Transition simultaneously.

The Code

The demo binds click and input events to the `pause`, `resume`, and `scrub` functions:

```
document.getElementById("pause").addEventListener("click", () => {
  pause(t);
});

document.getElementById("resume").addEventListener("click", () => {
  resume(t);
});

document.getElementById("scrub").addEventListener("input", (e) => {
  scrub(t, e.target.value);
});
```

Once the View Transition is paused, use the slider to scrub through the animation, or click resume to let it finish.

Functions Used

This demo uses `pause`, `resume`, and `scrub` to synchronize View Transition playback with a range slider or custom timeline:

```
import { pause, resume, scrub } from "view-transitions-toolkit/playback-control";
```

<https://chrome.dev/view-transitions-toolkit>

chrome.dev/view-transitions-toolkit/scroll-driven-view-transition/

/demo

←

BRAMUS
Jan 2024

Summer Vibes

15 songs 59 minutes

Most popular songs for that summer feeling | Updated weekly | Good vibes only | Photo by Atikh Bana

← Back

Scroll-Driven View Transition

When scrolling the page, the header card will toggle between the large and small state. This is achieved by starting a View Transition that is immediately paused and then scrubbed based on the scroll position.

The Code

Between two scroll positions a View Transition is started and, once started, immediately paused and scrubbed based on the scroll position.

```
const startViewTransition = async () => {
  document.startViewTransition(() => {
    document.querySelector(".card").classList.toggle("small");
  });
  await document.activeViewTransition.ready;
  pause(document.activeViewTransition);
};

const updateAnimations = () => {
  scrub(document.activeViewTransition, scrollProgress);
};
```

When scrolling back the animations need to play in reverse. This is achieved by reversing the animations and scrubbing from 1 to 0.

```
if (isReverse) {
  for (const anim of getAnimations(document.activeViewTransition)) {
    anim.reverse();
  }
}
```

<https://chrome.dev/view-transitions-toolkit>

```
import { pause, scrub }
  from "view-transitions-toolkit/playback-control";

const startViewTransition = async () => {
  document.startViewTransition(() => {
    document.querySelector(".card").classList.toggle("small");
  });
  await document.activeViewTransition.ready;
  pause(document.activeViewTransition);
};

const updateAnimations = () => {
  const scrollProgress = /* ... */;
  scrub(document.activeViewTransition, scrollProgress);
};
```



← MORE
THIS WAY

A neon sign with a white arrow pointing left and the words "MORE THIS WAY" in white neon. The sign is mounted on a dark wall. The background is a dark, blue-tinted space with a ceiling of small lights and a view of a brick building through a window.

Critique #1

✓ You can roll your own!

“The keyframes are not performant enough!”

Your colleague with DevTools

Regular and Better performin... x +

codepen.io/bramus/full/MYgNVay

Bramus PRO Animation CSS ...

Elements Console Sources Performance Memory >> 40 1

codepen.io #1 Screenshots Memory

Dim 3rd parties

1,000 ms 2,000 ms 3,000 ms 4,000 ms 5,000 ms 6,000 ms 7,000 ms CPU NET

1,000 ms 4,500 ms 5,000 ms 5,500 ms 6,000 ms

Animations

- ua-view-transition-group-anim-box
- ua-view-transition-fade-in
- ua-mix-blend-mode-plus-lighter
- ua-view-transition-fade-out
- ua-mix-blend-mode-plus-lighter

Interactions

- Main — https://codepen.io/bramus/full/oNQNQdb
- Frame — https://cdpn.io/bramus/fullpage/oNQNQdb?nocache=true&view=fullpage

Summary Bottom-up Call tree Event log

Duration 2.00 s

Animating -ua-view-transition-group-anim-box

Related node ::view-transition-group(box)

Compositing failed Unsupported CSS properties: height & width

Trace event

```
{ "args": { "data": { "beginEvent": { "args": { "data": { "displayName": "-ua-view-transition-group-anim-box", "id": "264",
```

<https://codepen.io/bramus/full/oNQNQdb>

```
[
  {
    "offset": 0,
    "easing": "ease",
    "composite": "auto",
    "height": "100px",
    "width": "100px",
    "backdropFilter": "none",
    "transform": "matrix(1, 0, 0, 1, 0, 0)",
  },
  {
    "offset": 1,
    "easing": "ease",
    "composite": "replace",
    "height": "100px",
    "width": "100px",
    "backdropFilter": "none",
    "transform": "matrix(1, 0, 0, 1, 0, 0)",
  }
]
```

```
const keyframes = boxGroupAnimation.effect.getKeyframes();
```


```
delete keyframes[0].width;
```

```
delete keyframes[1].width;
```

```
delete keyframes[0].height;
```

```
delete keyframes[1].height;
```

```
boxGroupAnimation.effect.setKeyframes(keyframes);
```

 Only allowed when
the width and height
remain the same

 Returns incorrect
keyframes in Chrome <137

[crbug/387030974](https://crbug.com/387030974)

Quick Fix

“Let’s roll our own *FLIP*”

✓ Extract all data from the original keyframes

✓ Also works in work in Chrome < 137 (with some hacks)

Me, going down the rabbit hole

```
import { getAnimations, ViewTransitionPart }
  from "view-transitions-toolkit/animations";

// Trigger VT
const t = document.startViewTransition(moveTheBox);
await t.ready;

// Get the group's animation
const boxGroupAnimation = getAnimations(
  t, "box", ViewTransitionPart.Group
)[0];

// Get the keyframes
const boxGroupKeyframes = boxGroupAnimation.effect.getKeyframes();
```

```
// Build rect to represent the old position + size
// based off of the "from" transform value
const oldMatrix = new DOMMatrix(boxGroupKeyframes[0].transform);
const rectBefore = {
  width: boxGroupKeyframes[0].width.split('px')[0],
  height: boxGroupKeyframes[0].height.split('px')[0],
  left: oldMatrix.e,
  top: oldMatrix.f,
};
```

```
// Build rect to represent the new position + size
// based off of the “to” transform value
// ⚠ Needs workaround for Chrome < 137
const newMatrix = new DOMMatrix(boxGroupKeyframes[1].transform);
const rectAfter = {
  width: boxGroupKeyframes[1].width.split('px')[0],
  height: boxGroupKeyframes[1].height.split('px')[0],
  left: newMatrix.e,
  top: newMatrix.f,
};
```

```
const transform = [  
  `translate(${rectBefore.left}px,${rectBefore.top}px)  
  scaleX(${rectBefore.width / rectAfter.width})  
  scaleY(${rectBefore.height / rectAfter.height})`,  
  
  `translate(${rectAfter.left}px,${rectAfter.top}px)  
  scaleX(1)  
  scaleY(1)`,  
];
```

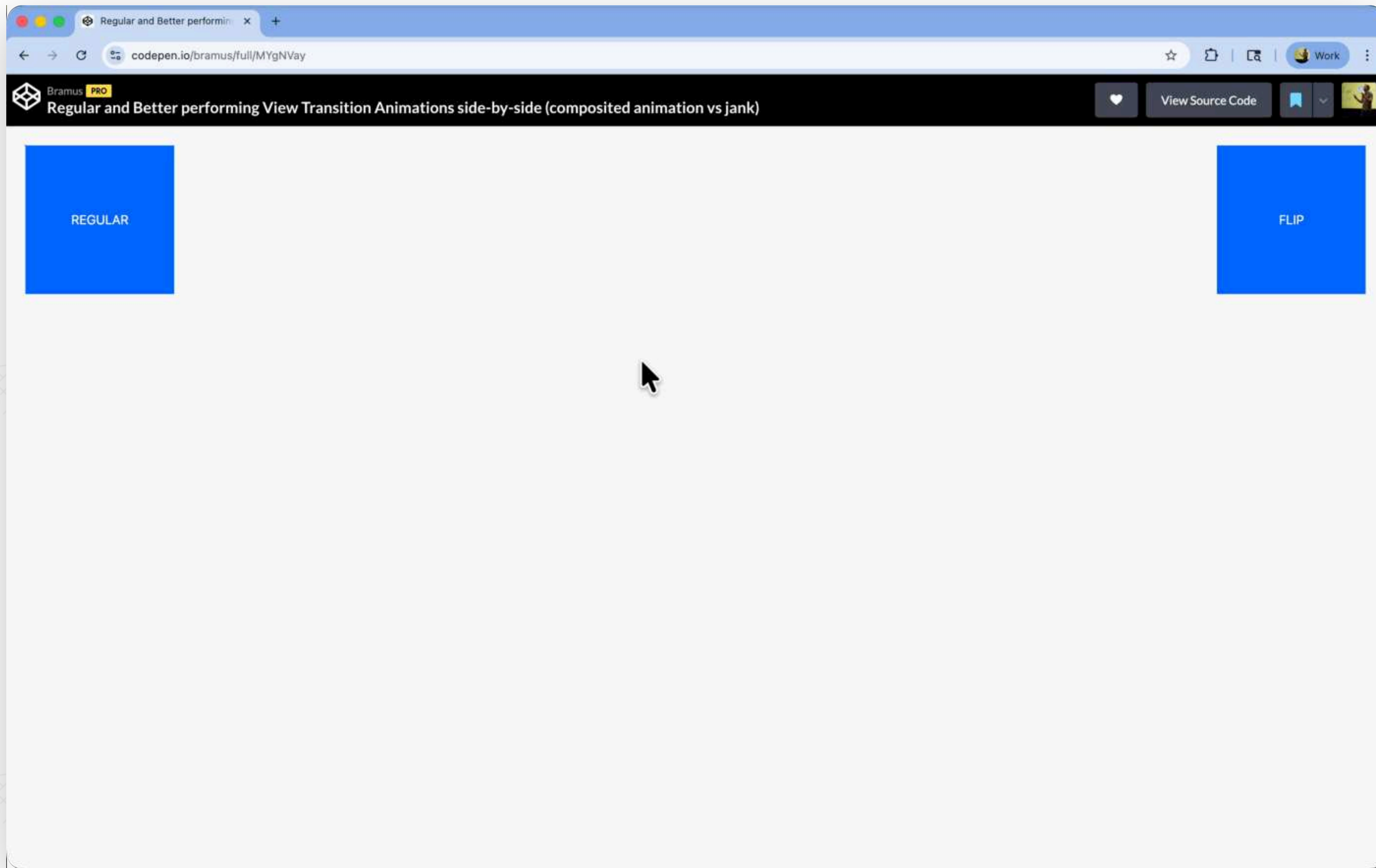
```
const flipKeyframes = {  
  transform,  
  transformOrigin: ['0% 0%', '0% 0%'],  
  easing: "ease",  
};
```

```
if (isBuggyChromium(boxGroupKeyframes)) {
  boxGroupAnimation.currentTime =
    boxGroupAnimation.effect.getTiming().duration;

  const newStyles = window.getComputedStyle(
    document.documentElement, '::view-transition-group(box)');
  const newMatrix = new DOMMatrix(newStyles.transform);

  rectAfter = {
    width: newStyles.width.split('px')[0],
    height: newStyles.height.split('px')[0],
    left: newMatrix.e,
    top: newMatrix.f,
  };

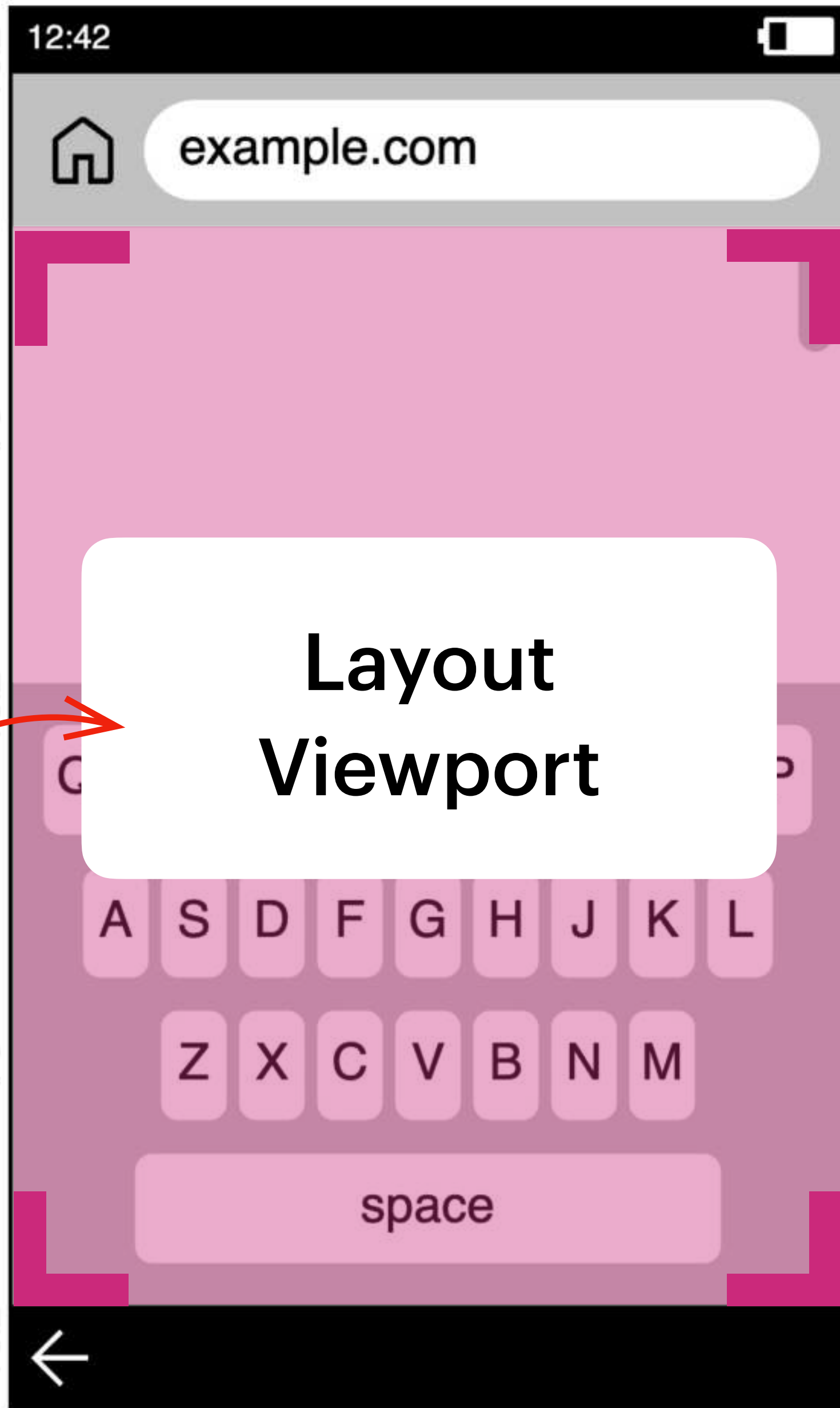
  boxGroupAnimation.currentTime = 0;
}
```



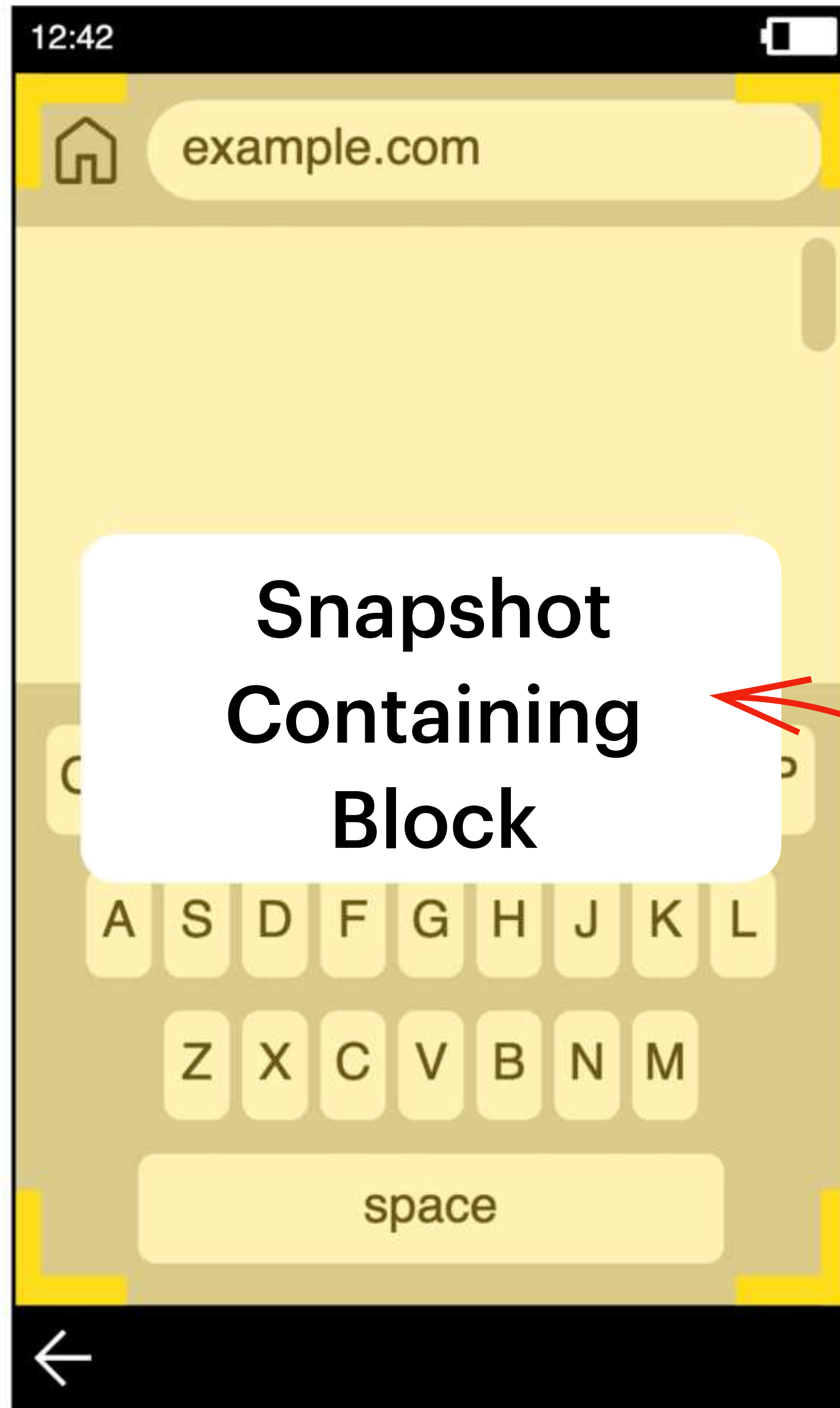
<https://codepen.io/bramus/full/MYgNVay>

***“Why not just do a
getBoundingClientRect?”***

You, maybe



*Used by
the DOM
and Layout*



*Used by
View Transitions*

View Transitions Applied: More

← → ↻ 🌐 bram.us/2025/02/07/view-transitions-applied-more-performant-view-transition-group-animations/ ☆ 🗄️ 👤 Work ⋮

Blog ▾ Talks About 📄 RSS ▾ Search

Bram.us

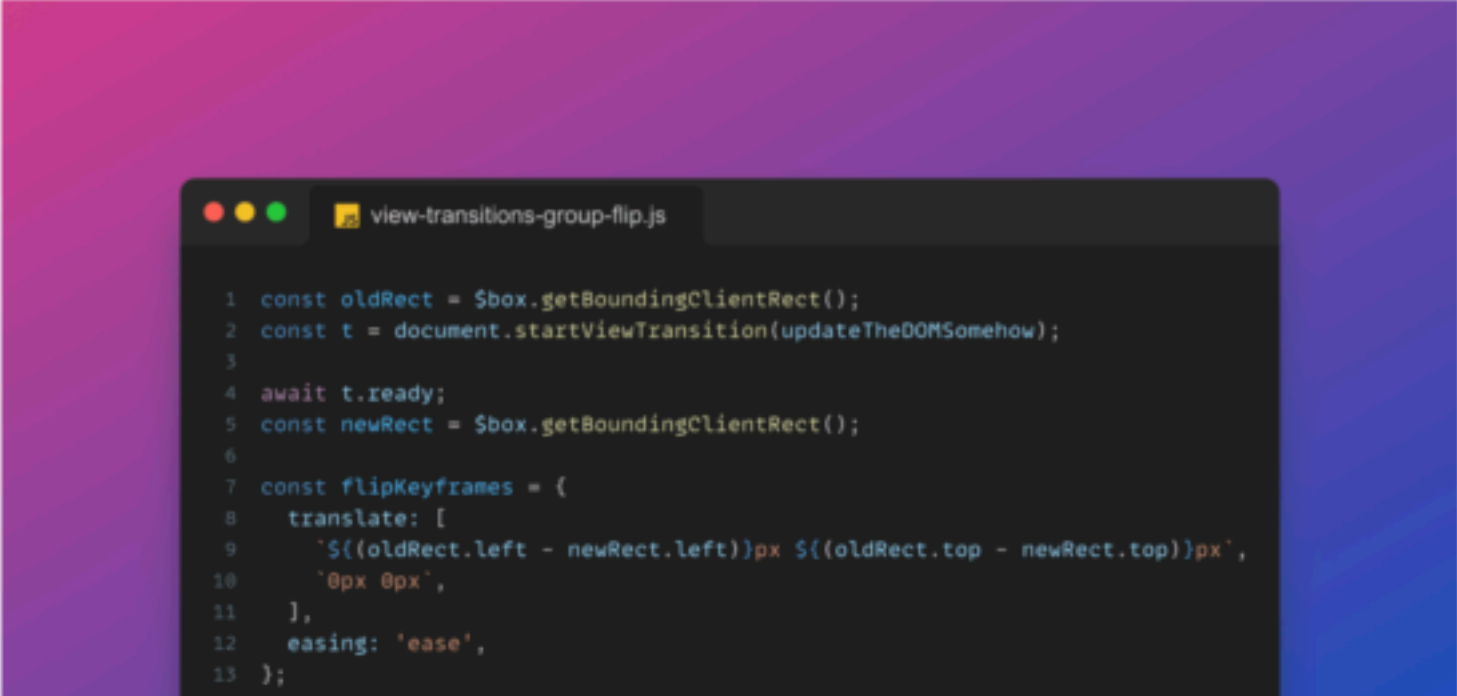
A rather geeky/technical weblog, est. 2001, by Bramus

Careers in tech are changing rapidly. Check out the latest AI job postings on Authentic Jobs!

ADS VIA CARBON

★ View Transitions Applied: More performant `::view-transition-group(*)` animations

🕒 February 7, 2025 🗨️ Leave a comment



```
1 const oldRect = $box.getBoundingClientRect();
2 const t = document.startViewTransition(updateTheDOMSomehow);
3
4 await t.ready;
5 const newRect = $box.getBoundingClientRect();
6
7 const flipKeyframes = (
8   translate: [
9     `${(oldRect.left - newRect.left)}px ${oldRect.top - newRect.top}px`,
10    '0px 0px',
11  ],
12   easing: 'ease',
13 );
```

<https://brm.us/view-transitions-keyframes>

View Transitions Applied: De... x +

← → ↻ bram.us/2025/03/04/view-transitions-snapshot-containing-block/ ☆ 🗂️ | Work ⋮

Blog ▾ Talks About 📄 RSS ▾ Search

Bram.us

A rather geeky/technical weblog, est. 2001, by Bramus

Get Unblocked, Ship Fast. Boost productivity with AI. Fewer blockers, faster shipping, 100 PRs free. ADS VIA CARBON

★ View Transitions Applied: Dealing with the Snapshot Containing Block

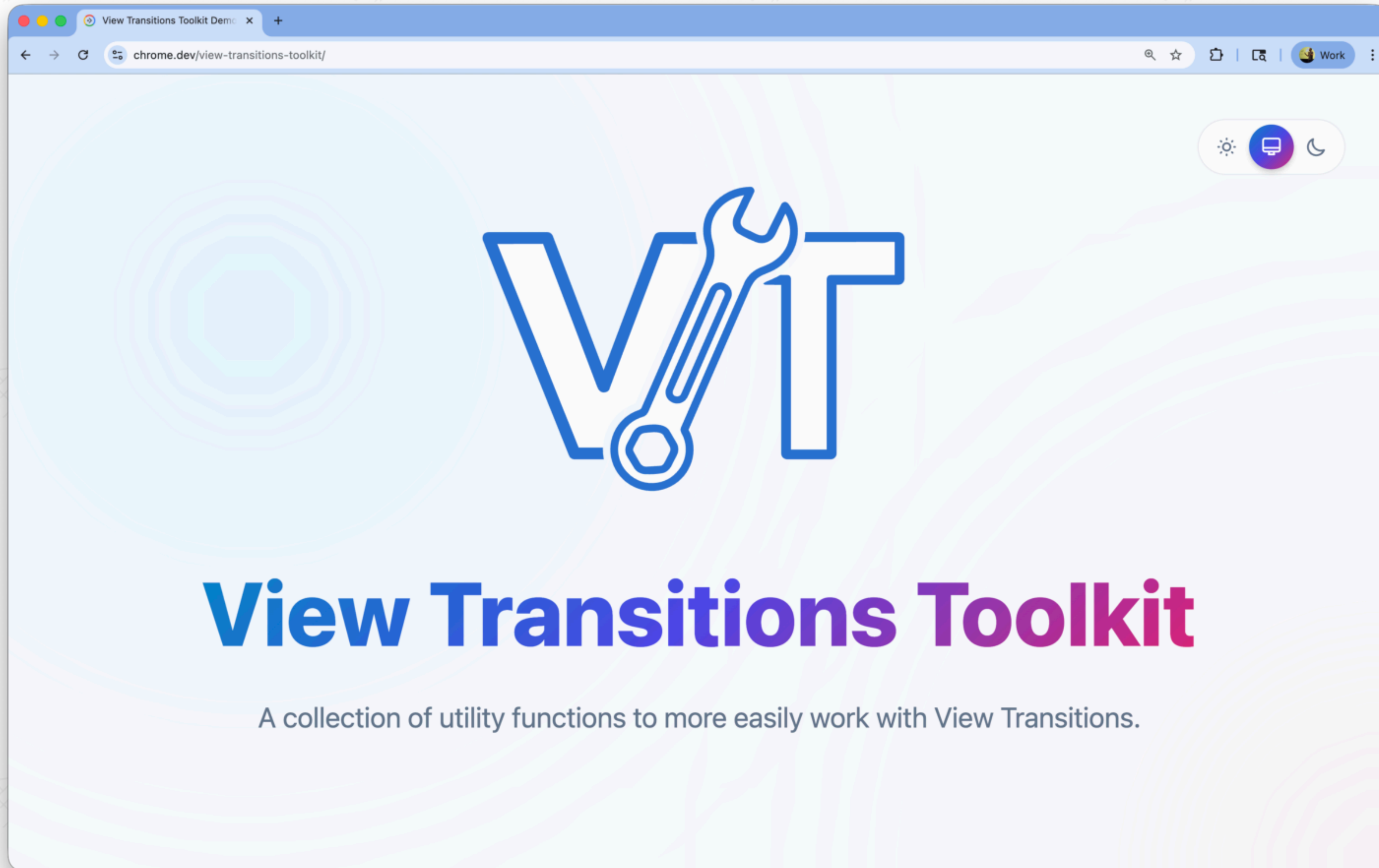
🕒 March 4, 2025 🔗 <https://brm.us/snapshot-containing-block> 💬 Leave a comment

```
const boxGroupAnimation = vtAnimations.find((anim) => {
  return anim.effect.pseudoElement === '::view-transition-group(box)';
});

// Get old position + size by extracting the data from the keyframes
const boxGroupKeyframes = boxGroupAnimation.effect.getKeyframes();
const oldMatrix = new DOMMatrix(boxGroupKeyframes[0].transform);

const rectBefore = {
  width: boxGroupKeyframes[0].width.split('px')[0],
  height: boxGroupKeyframes[0].height.split('px')[0],
}
```

<https://brm.us/snapshot-containing-block>



<https://chrome.dev/view-transitions-toolkit>

```
import {
  optimizeGroupAnimations
} from "view-transitions-toolkit/animations";

const t = document.startViewTransition(() => { ... });
await t.ready;

optimizeGroupAnimations(t, "box");
```

Optimize Demo - View Transitions

chrome.dev/view-transitions-toolkit/optimize/

/demo

REGULAR

OPTIMIZED

← Back

Animations: Optimize

Optimize `::view-transition-group` animations using performant `transform`-based animations instead of width and height changes.

The Code

When you click the page, the demo triggers a View Transition and optimizes the "box-optimized" group. This optimized animation is a `transform`-based animation that animates the `scale` property instead of width and height. The "box-normal" group animation is not optimized.

```
document.body.addEventListener("click", async (e) => {
  const t = document.startViewTransition(() => {
    mutateTheDOM();
  });
  await t.ready;
  optimizeGroupAnimations(t, "box-optimized");
});
```

In addition to optimizing the `box-optimized` group, the code also artificially blocks the main thread while the View Transition is still running.

Because the optimized animation runs on the compositor, it will not be subject to jank, unlike the default width/height animations.

Functions Used

This demo uses `optimizeGroupAnimations` to replace width/height animations with performant `transform`-based animations:

<https://chrome.dev/view-transitions-toolkit/>

Critique #2

✓ Re-enable
pointer-events

***“The document is not
interactive while a VT runs”***

✓ Use Element-Scoped
View Transitions

You, clicking around

```
document.startViewTransition(...);
```

View Transition



147



X



X

```
$list .startViewTransition(...);
```

Element-Scoped View Transition



147

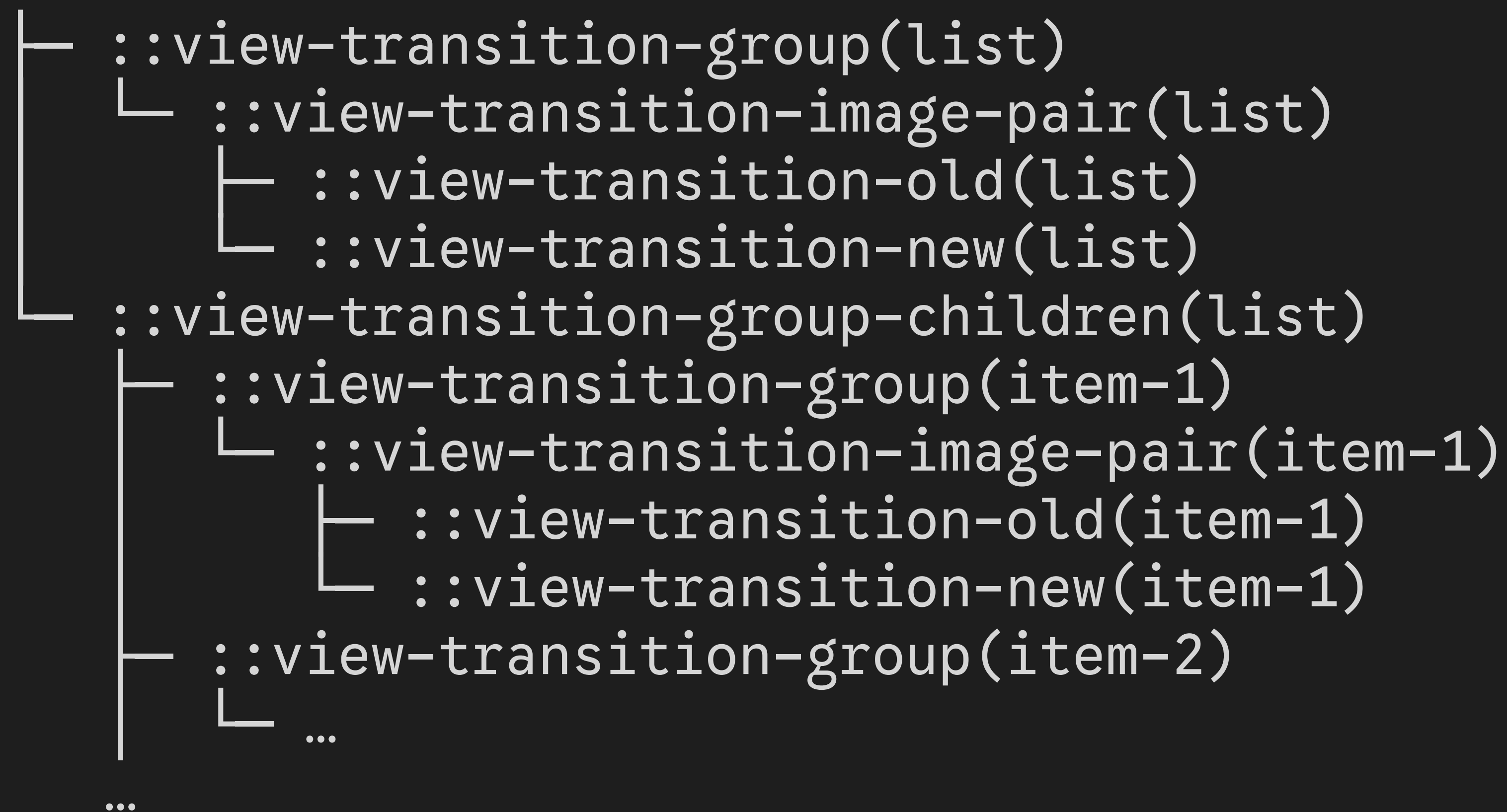


X



X

`#list ::view-transition`



Element-Scoped View Transition Pseudo Tree

Concurrent and Nested
View Transitions! 😄



147



X



X

album 1

album 2

album 3

REORDER



album 6

album 7

album 8

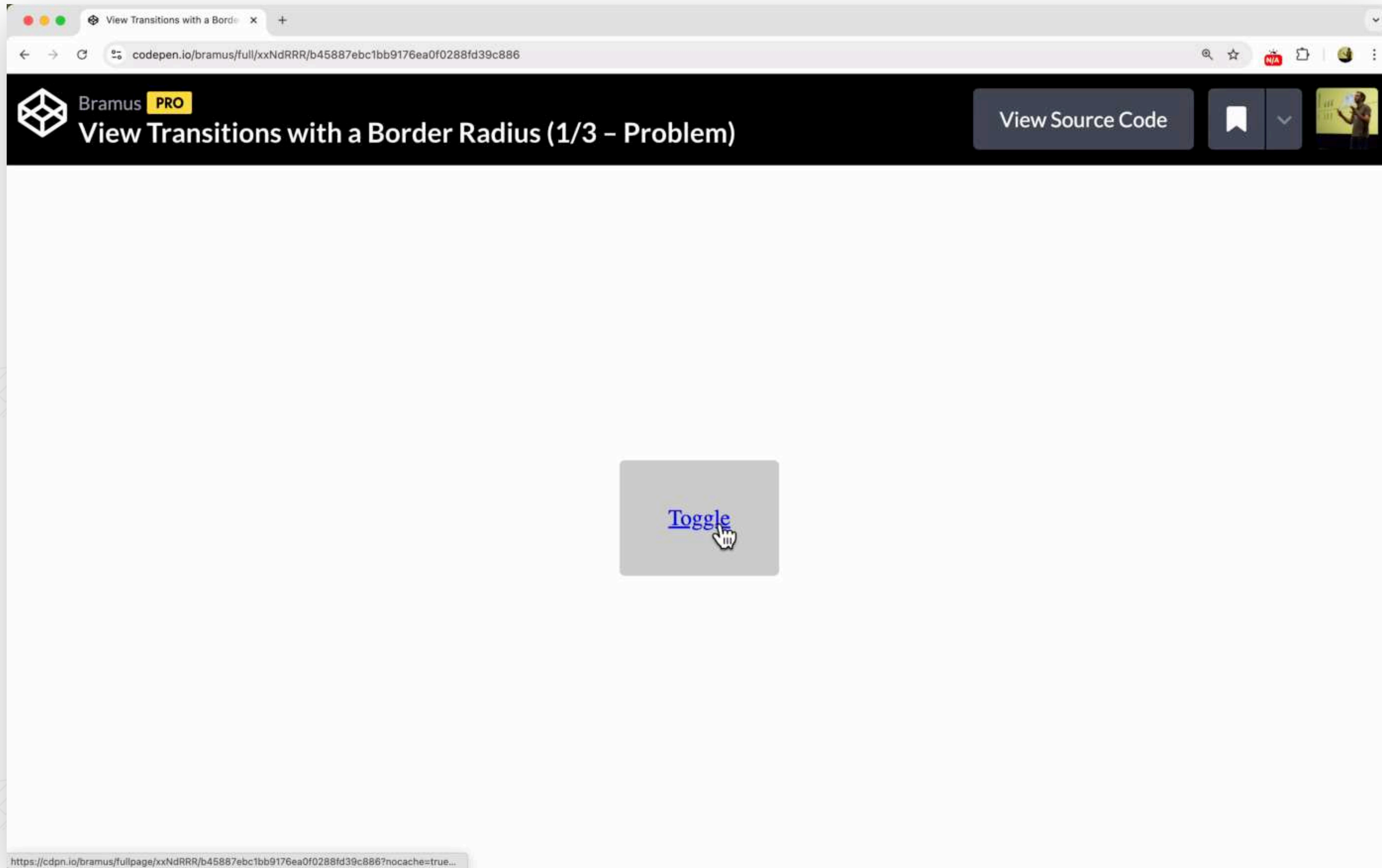
REORDER

Critique #3

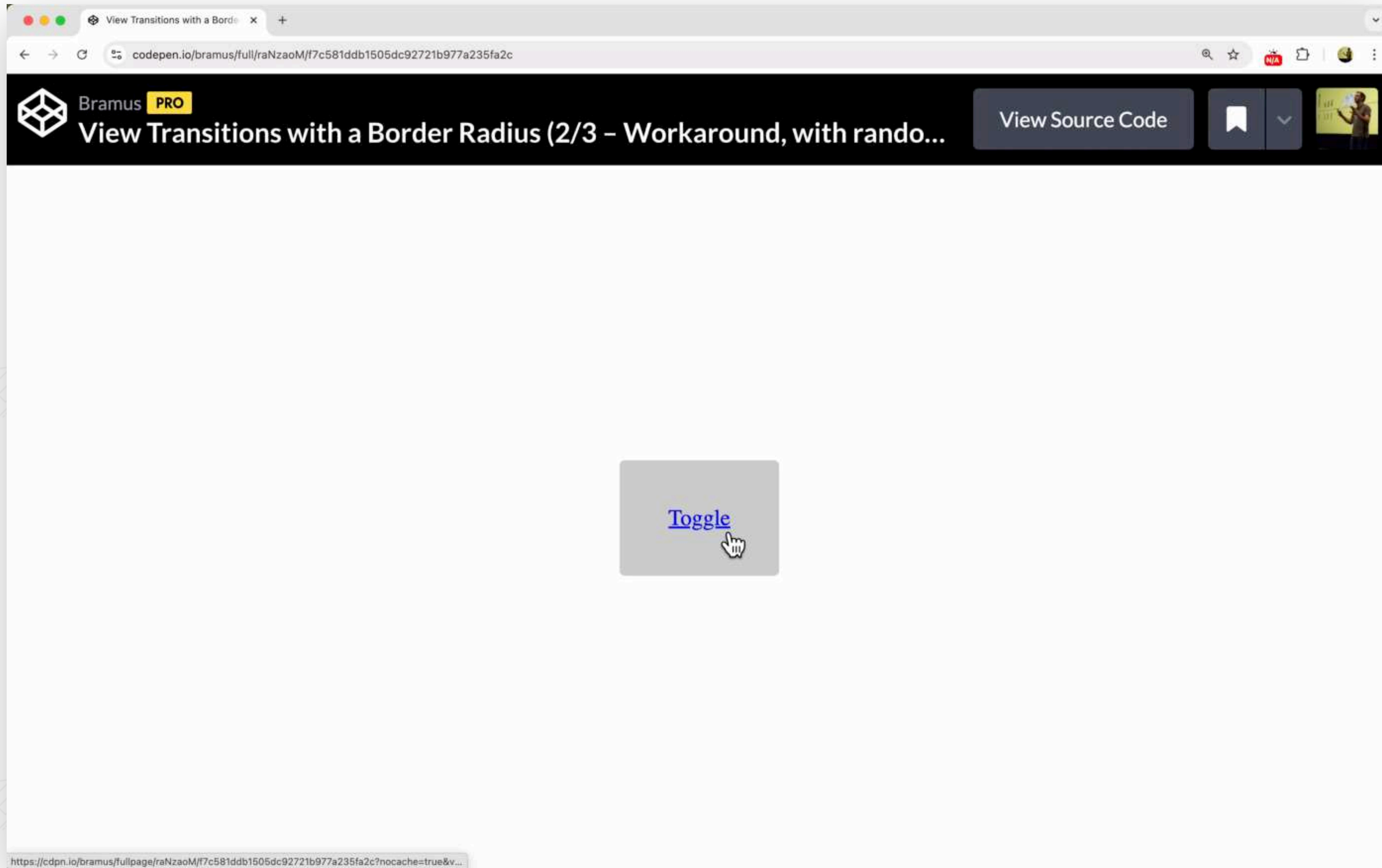
“Ugh, you are animating pixels instead of elements”

✓ Use a custom animation, or rely on transitions

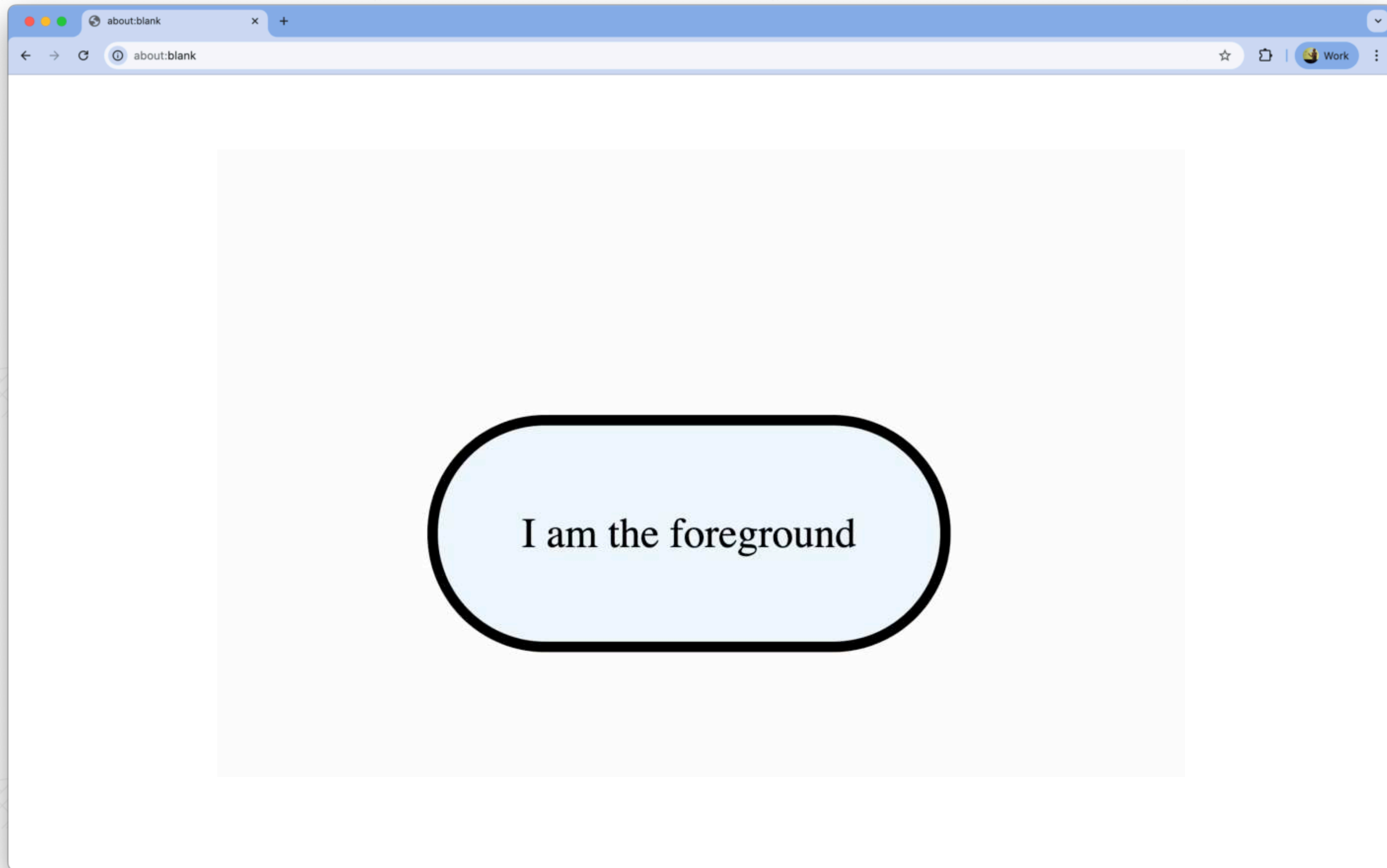
Your border-radius loving colleague



<https://codepen.io/bramus/full/xxNdRRR/b45887ebc1bb9176ea0f0288fd39c886>



<https://codepen.io/bramus/full/raNzaoM/f7c581ddb1505dc92721b977a235fa2c>

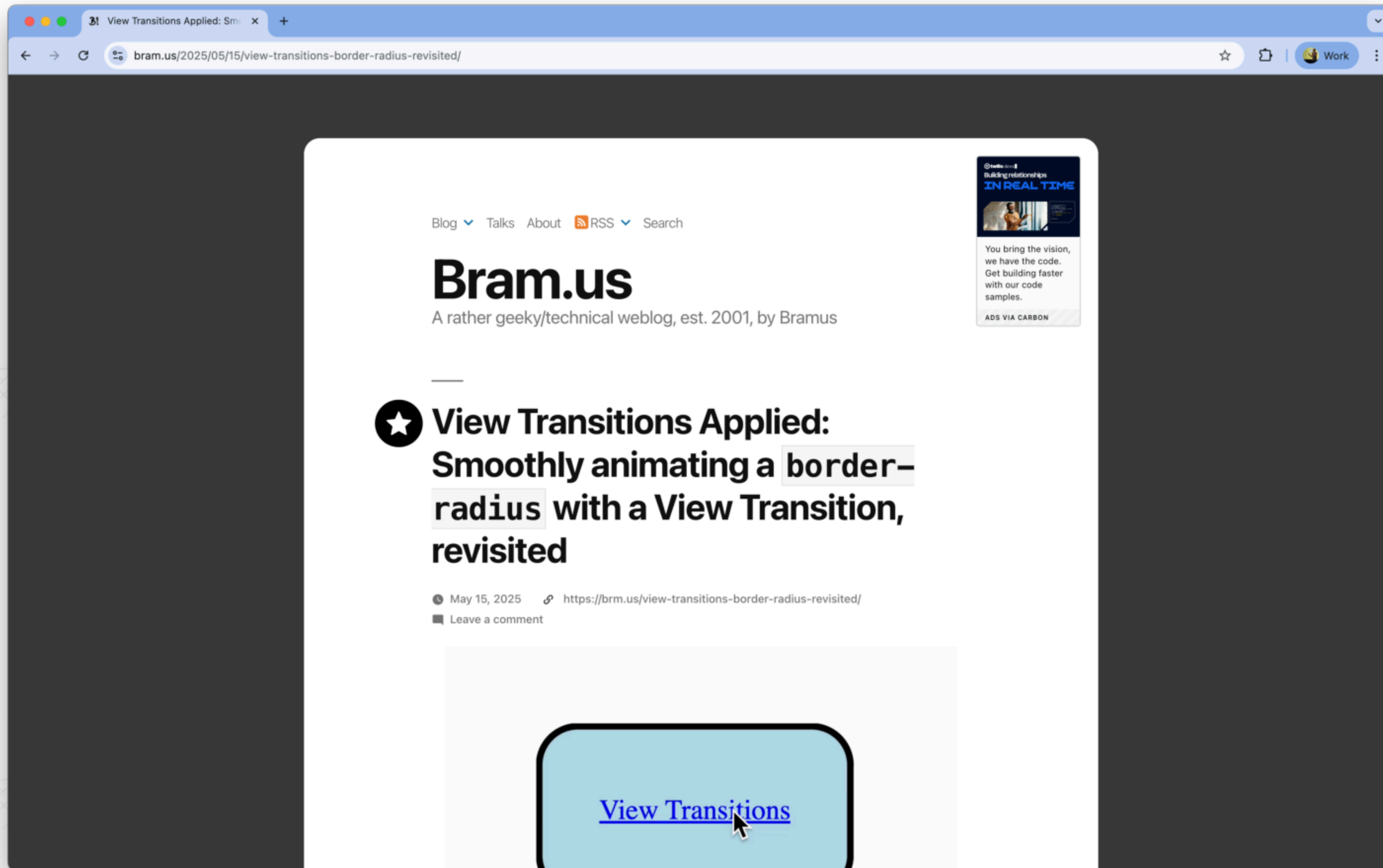


<https://codepen.io/bramus/full/XJJGNRN/834e41c3983688a374374b4b5ca0282f>

```
#card {  
  font-size: 1em;  
  background: grey;  
  border-width: 2px;  
  border-radius: 0.25rem;  
}
```

```
#card.big {  
  font-size: 2em;  
  background: lightblue;  
  border-width: 8px;  
  border-radius: 3rem;  
}
```

```
#card {  
  view-transition-name: card;  
  transition: all 2s ease;  
}  
  
::view-transition-old(card) {  
  display: none;  
}  
  
::view-transition-new(card) {  
  animation: none;  
  width: 100%;  
  height: 100%;  
}
```



<https://brm.us/view-transitions-border-radius-revisited>

Post by @martr.app — Bluesky

bsky.app/profile/martr.app/post/3lk7lcz55cs2o

Post

Martin Trapp @martr.app · Mar 12, 2025

Hi @bram.us, I liked your article! When such things get too complicated for me, I usually drop the old image along with the new one's entry animation and rely on the fact that the new image is a live representation of the original element.

1 comment 1 like

Martin Trapp @martr.app

That way, I can simply use CSS transitions on the original element during the #ViewTransitions morph and be done with it.

Only a small change to your original CodePen (1/3):
codepen.io/martrapp/pen...

10:59 PM · Mar 12, 2025

1 comment 1 like

Write your reply

Bramus @bram.us · Mar 13, 2025

Oh right, for same-element transitions that totally works too (and is also easier to deal with)!

I'll try and add an amendment to the post with this extra option, with credit of course :)

1 comment 1 like

Search

Following
Discover
Popular With Friends
OnlyPosts
More feeds

Feedback · Privacy · Terms · Help

<https://bsky.app/profile/martr.app/post/3lk7kr63odk2i>

```
import {
  morph
} from "view-transitions-toolkit/animations";

const t = document.startViewTransition(() => { ... });
await t.ready;

morph(t, document.querySelector('#card'), [
  "border-radius",
  "border-width",
  "background-color",
  "font-size"
], { duration: 2000, easing: 'ease' });
```

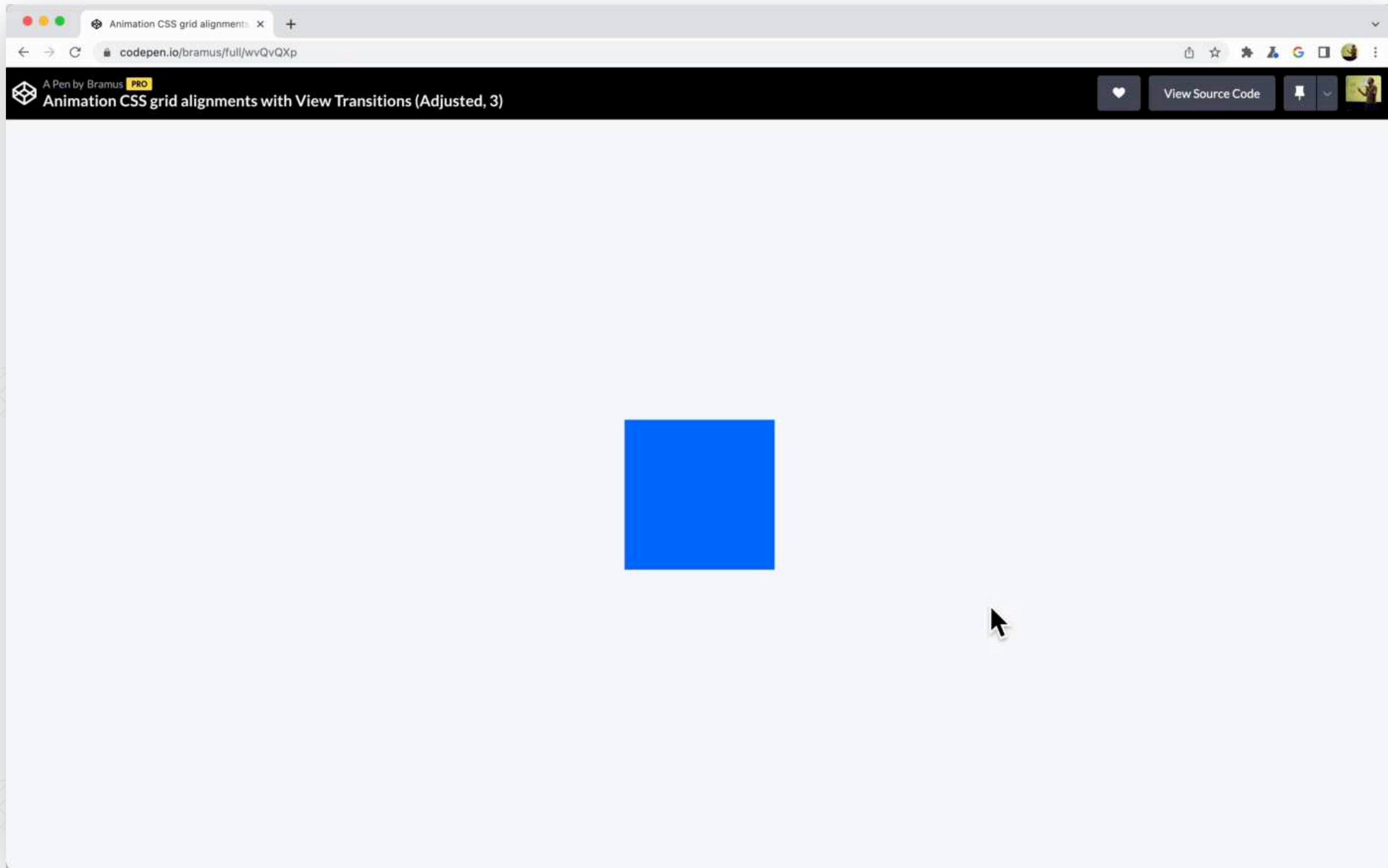
Critique #4

***“Interrupted
View Transitions
skip to the end”***

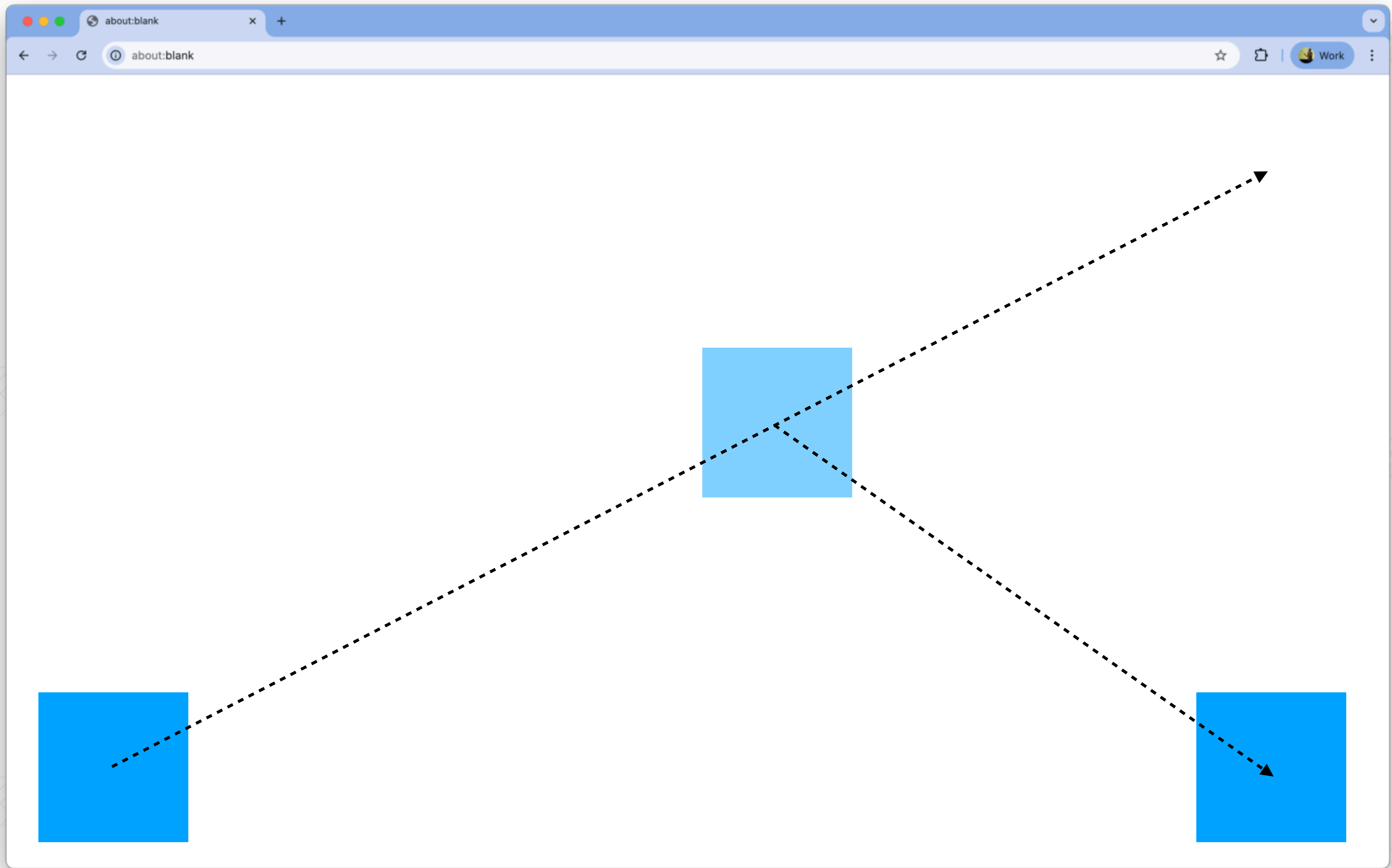
***x Hijack the intermediate state
and animate along a generated
curve or use additive animations***

***x Only “works”
for same-element
transitions***

A rage-clicking you



<https://codepen.io/bramus/full/wvQvQXp>



WIP

Retargetable View Transitions, Redu X

https://cdpn.io/pen/debug/

Inspector Console Debugger

Search HTML

```
<!DOCTYPE html>
<html lang="en">
  <head>
  </head>
  <body class="grid">
    <div class="clickedbox" inert=""></div>
    <div class="box"></div>
    <div class="fake-vt-group" inert=""></div>
    <p></p>
    <script id="rendered-js"></script>
  </body>
</html>
```

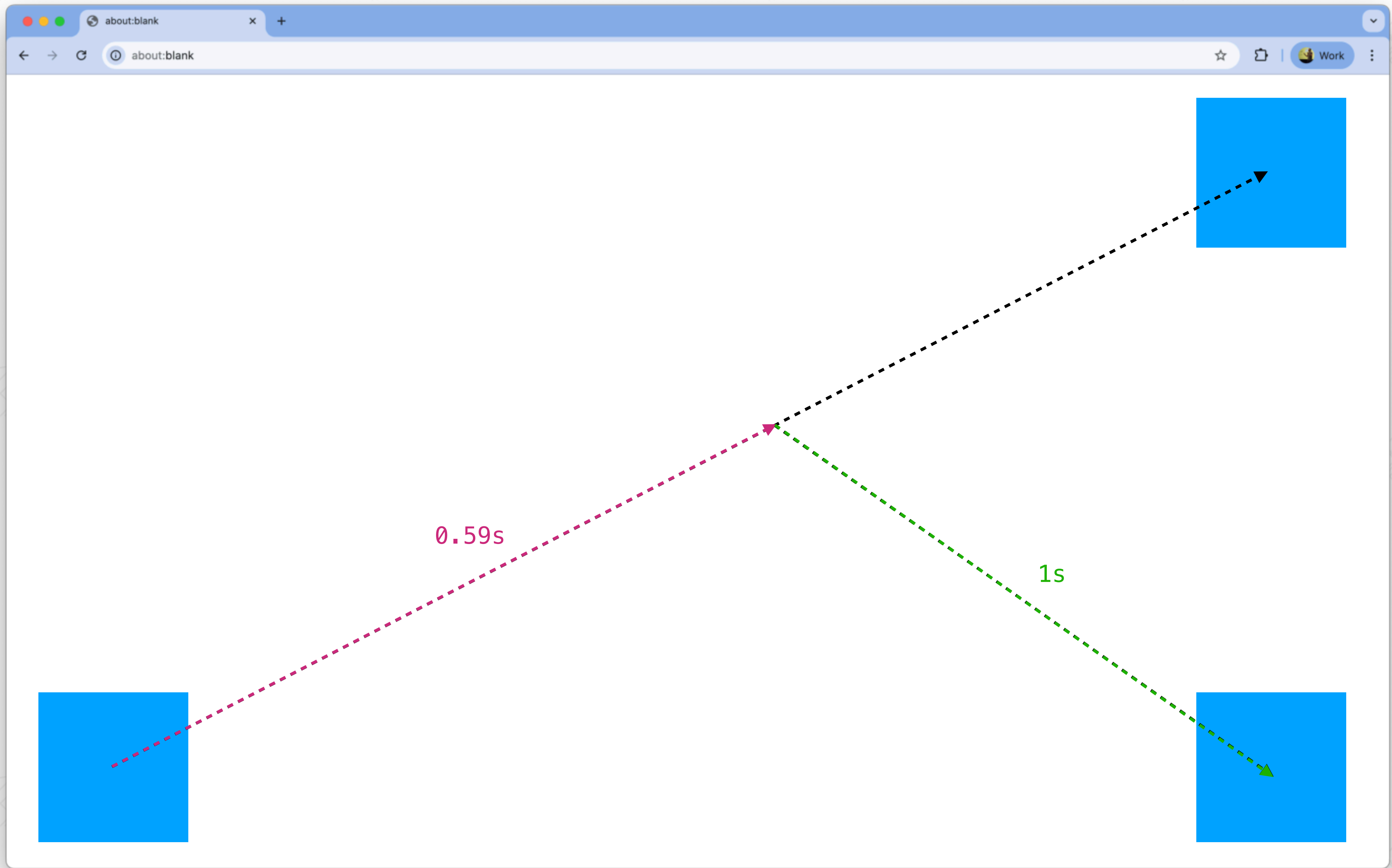
html > body

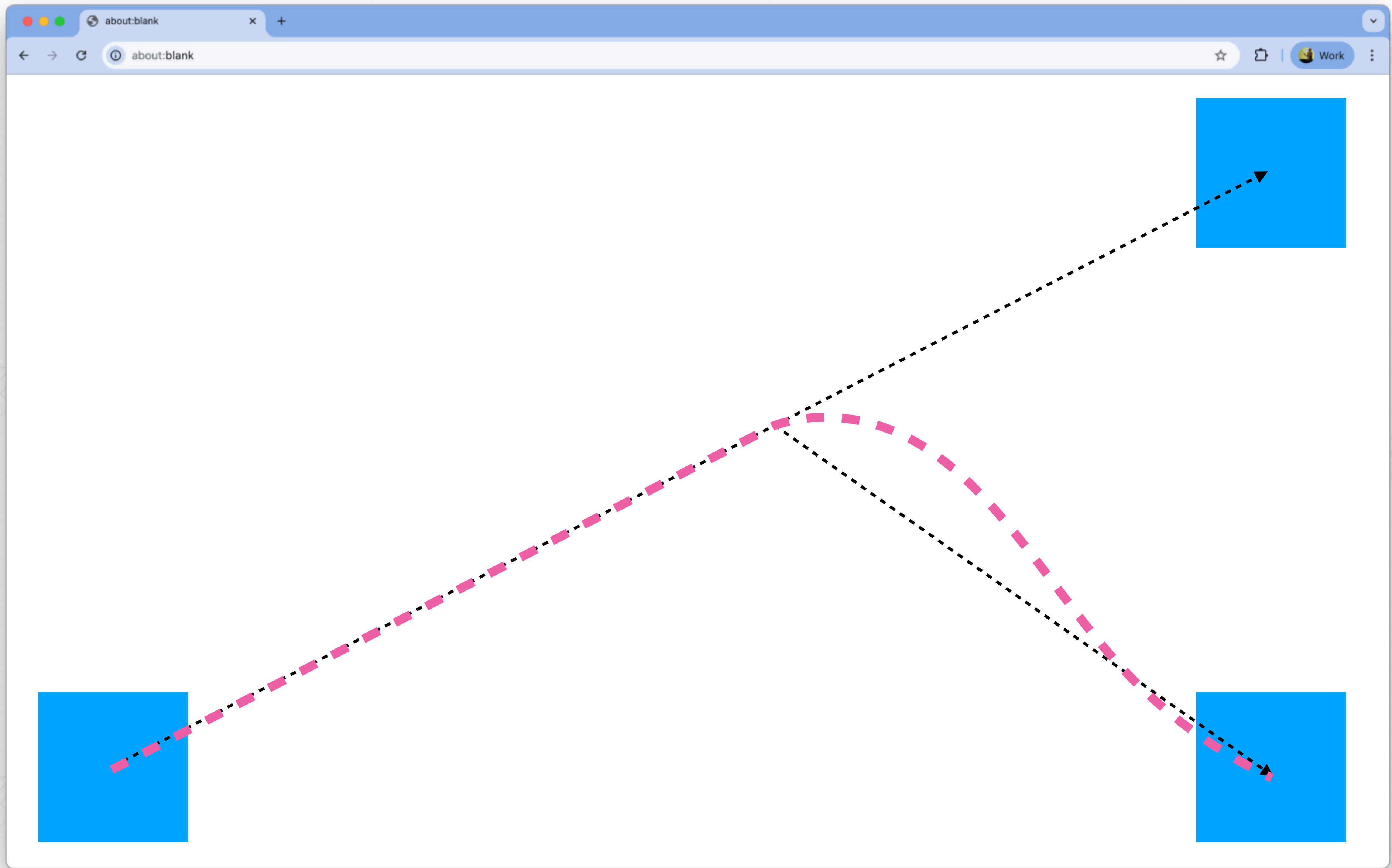
Rules Layout Computed Changes Compatibility Fonts Anir

Filter Styles :hov .cls +

```
element :: {
}
body :: {
  display: # grid;
  place-content: center;
}
html, body :: {
  margin: 0;
  padding: 0;
  height: 100%;
}
```

Click anywhere on the page to move the dot to that location



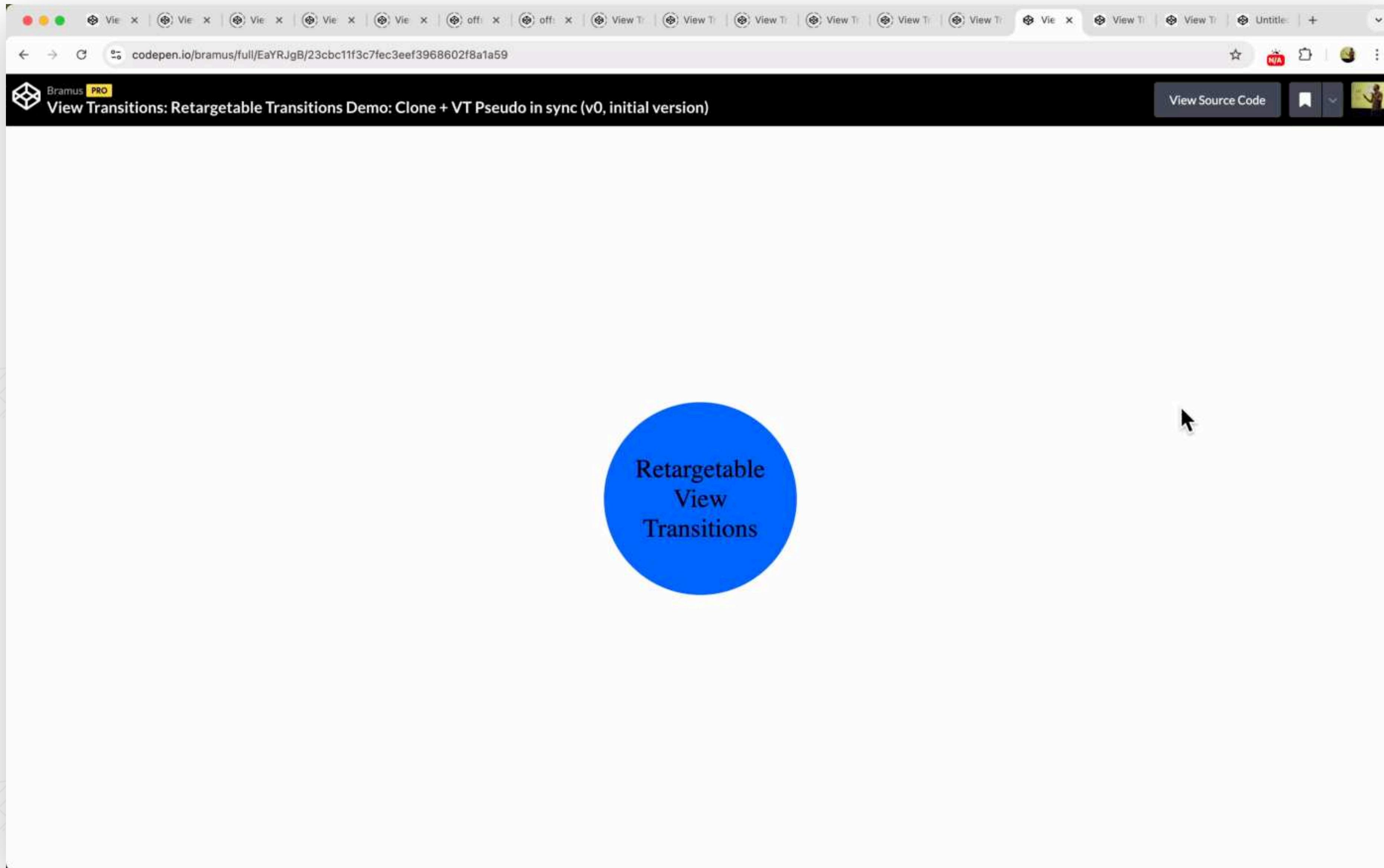


```
const $svg = createLineSVG(...intermediaryPositions, rectAfter);

const $path = $svg.querySelector('#line_path');
const pathData = $path.getAttribute('d');
pathLength = $path.getTotalLength();

const keyframes = {
  easing: "linear",
  visibility: ['visible', 'visible'],
  offsetPath: [`path("${pathData}")`, `path("${pathData}")`],
  offsetRotate: ['0deg', '0deg'],
  offsetAnchor: ['50%', '50%'],
  offsetDistance: ['0%', '100%'],
};
```

<https://codepen.io/bramus/full/YPKjyVM/8879924fa74779c696b4fe415d391751>



<https://codepen.io/bramus/full/YPKjyVM/8879924fa74779c696b4fe415d391751>



Retargetable View Transitions, Redu X

https://cdpn.io/pen/debug/

Inspector Console

Search HTML

```
<!DOCTYPE html>
<html lang="en">
  <head>
  </head>
  <body>
  </body>
</html>
```

Click anywhere on the page to move the dot to that location

html > body

Rules Layout Computed Changes Compatibility For


Filter Styles :hov .cls +

```
element :: {
}
body :: {
  display: # grid;
  place-content: center;
}
html, body :: {
  margin: 0;
  padding: 0;
  height: 100%;
```

Post by @kvndy.bsky.social

bsky.app/profile/kvndy.bsky.social/post/3ly3vxj7uq22q

Post

 **kvndy**
@kvndy.bsky.social


For interruption and retargeting of in-progress animation, the solution is additive and relative. View Transitions give CSS Animation behavior. 🤖
FLIP gives CSS Transition behavior. 🤖 Relative Animation blends animations together 🤖 (not updated for mobile yet)
codepen.io/kvndy/pen/OJ...

4:52 PM · Sep 5, 2025

1 like

1 comment

Write your reply

 **Andrew Roberts** @ajr.sh · 7mo
artisanal

thanks for the explainer and example code link!! TIL

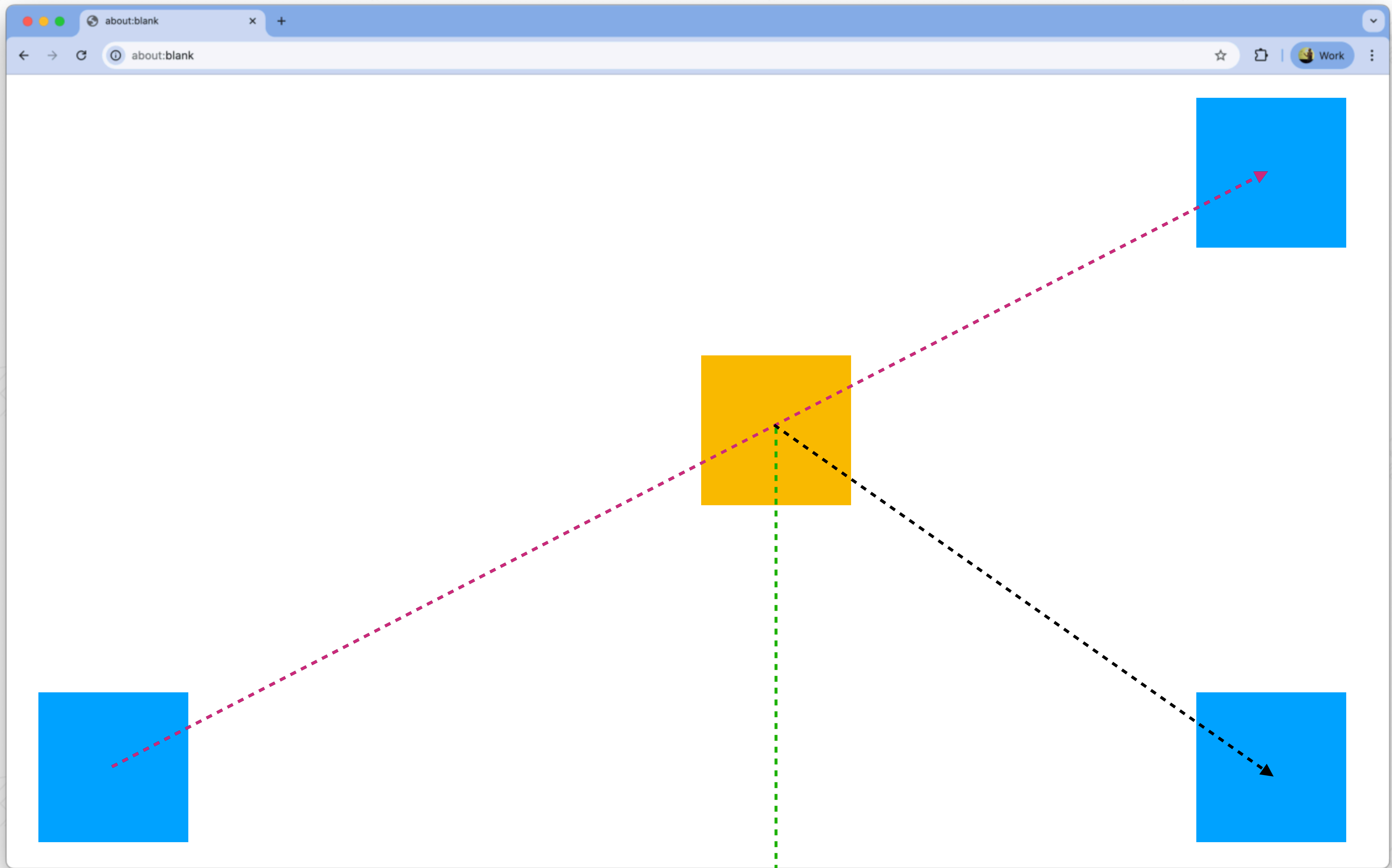
1 like

Search

Following
Discover
Popular With Friends
OnlyPosts
More feeds

Feedback · Privacy · Terms · Help

<https://bsky.app/profile/kvndy.bsky.social/post/3ly3vxj7uq22q>



```
const delta = `translate3d(
  ${old_discrete_x - new_discrete_x}px,
  ${old_discrete_y - new_discrete_y}px,
  0px
)`;

const keyframes = [
  { transform: delta },
  { transform: 'translate3d(0px ,0px, 0px)' }
];

const effect = new KeyframeEffect($element, keyframes, {
  duration: duration * 1000,
  easing: easing,
  fill: "backwards",
  composite: "accumulate"
});

const animation = new Animation(effect, document.timeline);
```

<https://codepen.io/bramus/full/NPrNrgY/75a434c85ee0409356ecb321218624d7>

WIP

The image shows a web browser window with the URL `https://cdpn.io/pen/debug/`. The page content consists of a horizontal container with six rounded rectangular buttons labeled A, B, C, D, E, and F. Below this container is a button labeled "SHUFFLE". A mouse cursor is hovering over the "SHUFFLE" button.

The browser's developer tools are open on the right side. The "Inspector" tab is active, showing the HTML structure. The root element is `<html lang="en">`. The `<body>` element has a `grid` class. The "Rules" panel shows the following CSS rules:

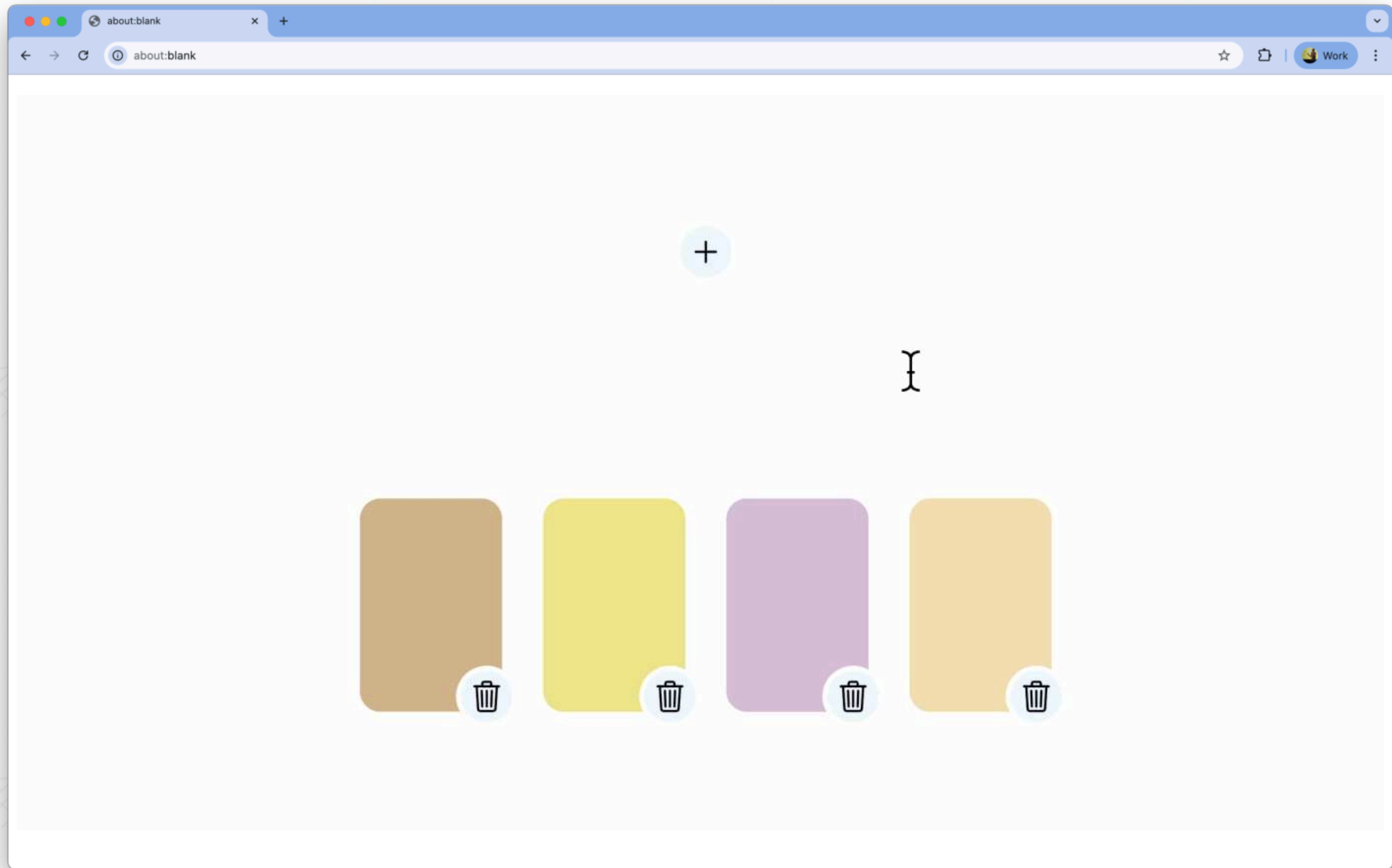
```
html :: {  
  view-transition-name: none;   
}  
html :: {  
  font-family: -apple-system, BlinkMacSystemFont, "Segoe UI", Roboto, Helvetica, Arial, sans-serif, "Apple Color Emoji", "Segoe UI Emoji", "Segoe UI Symbol";  
}  
html, body :: {  
  margin: 0;  
  padding: 0;  
  height: 100%;  
}  
element attributes style :: {  
  -x-lang: -;  
}
```

Critique #5

“Your code is now riddled with conditionals to start a View Transition or not”

x Experimental Hack with a MutationObserver or DIY StyleObserver

Your ADHD brain



<https://codepen.io/bramus/pen/oNOZyZi>

```
$$('.cards').addEventListener('click', e => {
  if (e.target.classList.contains('delete-btn')) {
    if (!document.startViewTransition) {
      e.target.parentElement.remove();
      return;
    }

    document.startViewTransition(() => {
      e.target.parentElement.remove();
    });
  }
});
```

```
$('#add').addEventListener('click', async (e) => {
  const template = $('#card');
  const $newCard = template.content.cloneNode(true);
  $newCard.firstElementChild.style.backgroundColor = randomColor();
  if (!document.startViewTransition) {
    $('.cards').appendChild($newCard);
    return;
  }

  document.startViewTransition(() => {
    $('.cards').appendChild($newCard);
  });
});
```

“What if I could keep the original code, and tack on the View Transitions part?”

✓ Use a MutationObserver

Me, burning the midnight oil

```
$$('.cards').addEventListener('click', e => {
  if (e.target.classList.contains('delete-btn')) {
    e.target.parentElement.remove();
  }
})

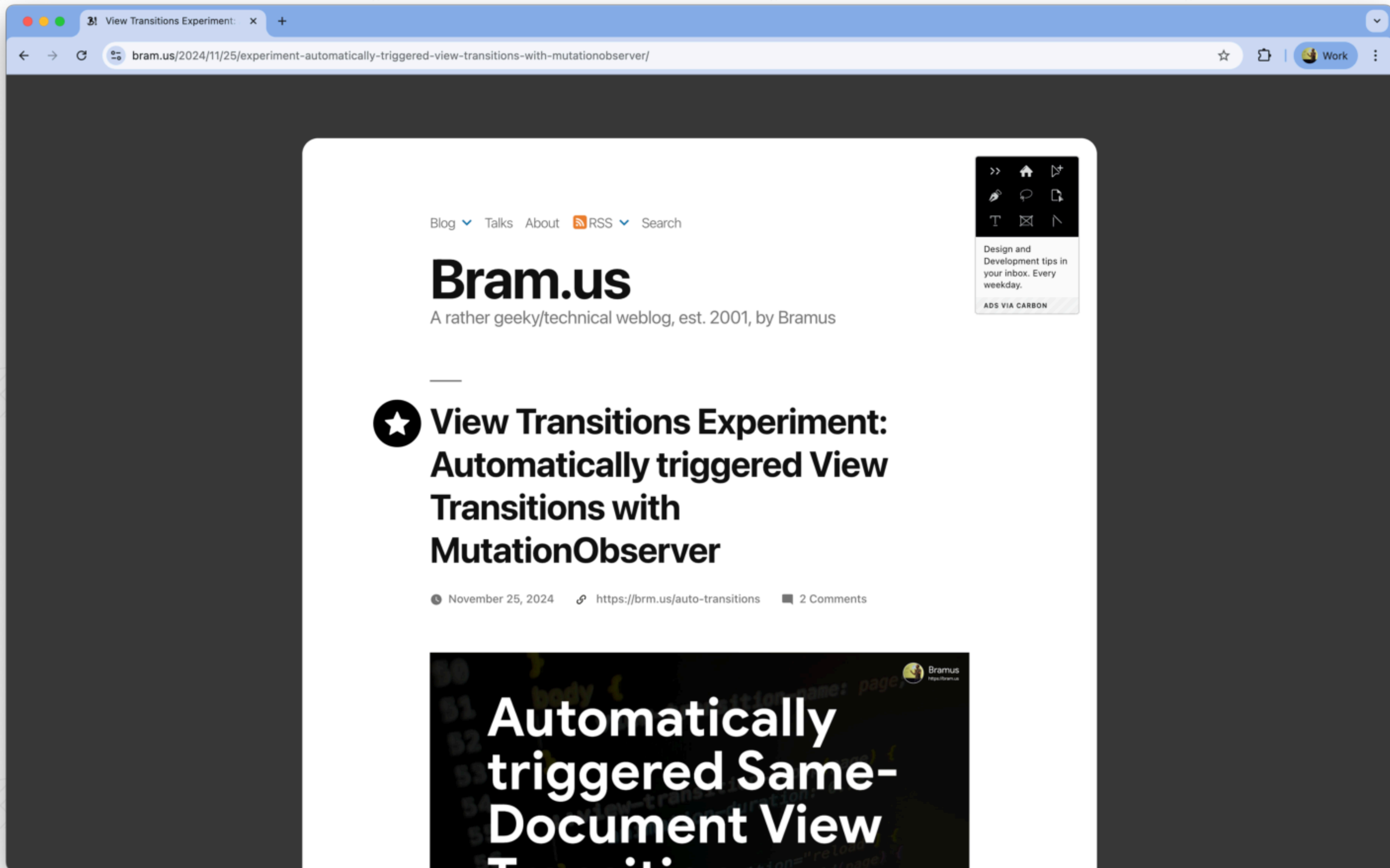
$('#add').addEventListener('click', async (e) => {
  const template = $('#card');
  const $newCard = template.content.cloneNode(true);
  $newCard.firstElementChild.style.backgroundColor = randomColor();
  document.querySelector('.cards').appendChild($newCard);
});
```

```
const observer = new MutationObserver(async (mutations) => {
  for (const mutation of mutations) {
    if (mutation.addedNodes.length) {
      const $li = Array.from(mutation.addedNodes)
        .find(n => n.nodeName === 'LI');

      // ...

      // Undo the addition, and then re-added it in a VT
      $li.remove();
      const t = document.startViewTransition(() => {
        mutation.target.insertBefore($li, mutation.nextSibling);
      });

      // ...
    }
  }
});
```



<https://brm.us/auto-transitions>

✓ Sync the IDL attribute to its content attribute

“What about IDL attributes vs Content Attributes?”

✗ Experimental Hack with a StyleObserver

Me, burning the midnight oil, again

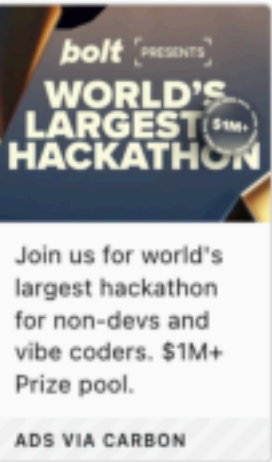
View Transitions Experiment: x +

← → ↻ bram.us/2024/12/25/experiment-automatically-trigger-a-view-transition-when-a-javascript-property-of-an-element-changes/ ☆ 🗄️ | Work ⋮

Blog ▾ Talks About 📄 RSS ▾ Search

Bram.us

A rather geeky/technical weblog, est. 2001, by Bramus



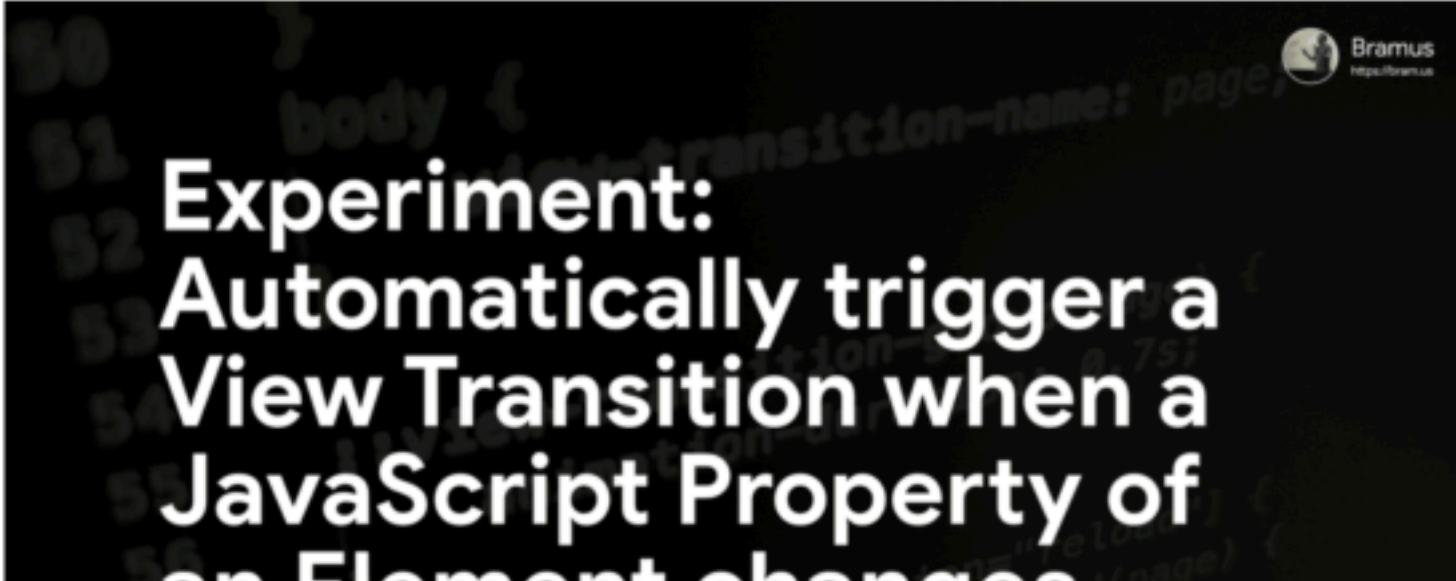
bolt PRESENTS
WORLD'S LARGEST HACKATHON

Join us for world's largest hackathon for non-devs and vibe coders. \$1M+ Prize pool.

ADS VIA CARBON

★ **View Transitions Experiment: Automatically trigger a View Transition when a JavaScript Property of an Element changes**

🕒 December 25, 2024 🔗 <https://brm.us/auto-transitions-2> 💬 Leave a comment



Experiment: Automatically trigger a View Transition when a JavaScript Property of an Element changes

Bramus <https://bram.us>

<https://brm.us/auto-transitions-2>

Critique #6

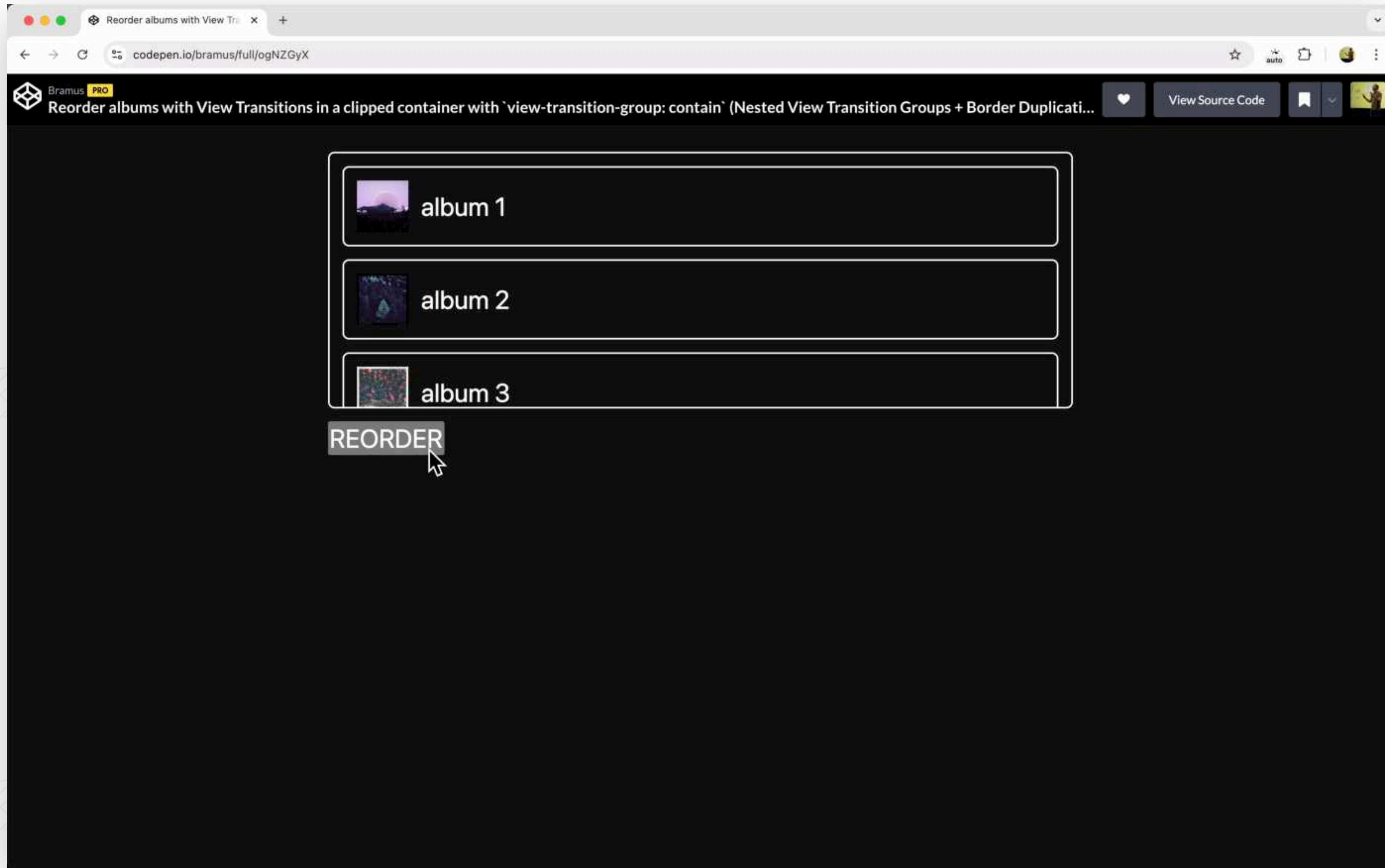
✓ Manually clip
the contents

✓ Use Element-Scoped
View Transitions

**“Snapshotted elements
bleed out of
their container”**

✓ Use Nested View
Transition Groups

Everyone



<https://codepen.io/bramus/full/ogNZGyX>



144



X



X

```
ul {  
  view-transition-name: albums-wrapper;  
  view-transition-group: contain;  
}
```

```
ul li {  
  view-transition-name: match-element;  
  view-transition-class: album;  
}
```

```
::view-transition
```

```
└─ ::view-transition-group(albums-wrapper)
```

```
└─ ::view-transition-group-children(albums-wrapper)
```

```
└─ ::view-transition-group(album-1)
```

```
└─ ::view-transition-image-pair(album-1)
```

```
└─ ::view-transition-old(album-1)
```

```
└─ ::view-transition-new(album-1)
```

```
└─ ::view-transition-group(album-2)
```

```
└─ ::view-transition-image-pair(album-2)
```

```
└─ ::view-transition-old(album-2)
```

```
└─ ::view-transition-new(album-2)
```

```
└─ ::view-transition-group(album-3)
```

```
└─ ::view-transition-image-pair(album-3)
```

```
└─ ::view-transition-old(album-3)
```

```
└─ ::view-transition-new(album-3)
```

```
└─ ::view-transition-image-pair(albums-wrapper)
```

```
└─ ::view-transition-old(albums-wrapper)
```

```
└─ ::view-transition-new(albums-wrapper)
```



144



x



x



144



X



X

```
::view-transition-group-children(albums-wrapper) {  
  overflow: clip;  
}
```

<https://codepen.io/bramus/full/ogNZGyX>



147



X



X

```
$list.startViewTransition(...);
```

Element-Scoped View Transition

Critique #7

“You can’t polyfill it”

x You can kinda hack your way into this, but <insert Jurassic Parc Quote here>

Your colleague who thinks websites need to look the same in every browser


W3C Editor's Draft

CSS View Transitions Module

drafts.csswg.org/css-view-transitions-1/

CSS View Transitions Module Level 1

Editor's Draft, 2 May 2025



▼ More details about this document

This version:
<https://drafts.csswg.org/css-view-transitions-1/>

Latest published version:
<https://www.w3.org/TR/css-view-transitions-1/>

Implementation Report:
<https://wpt.fyi/results/css/css-view-transitions>

Feedback:
[CSSWG Issues Repository](#)

Editors:
[Tab Atkins-Bittner](#) (Google)
Jake Archibald (Google)
Khushal Sagar (Google)

Suggest an Edit for this Spec:
[GitHub Editor](#)

Copyright © 2025 World Wide Web Consortium. W3C® liability, trademark and permissive document license rules apply.

Abstract

This module defines the View Transition API, along with associated properties and pseudo-elements, which allows developers to create animated visual transitions representing changes in the document state.

[CSS](#) is a language for describing the rendering of structured documents (such as HTML and XML) on screen, on paper, etc.

TABLE OF CONTENTS

- 1 Introduction**
 - 1.1 Separating Visual Transitions from DOM Updates
 - 1.2 View Transition Customization
 - 1.3 View Transition Lifecycle
 - 1.4 Transitions as an enhancement
 - 1.5 Rendering Model
 - 1.6 Examples
- 2 CSS properties**
 - 2.1 Tagging Individually Transitioning Subtrees: the 'view-transition-name' property
 - 2.1.1 Rendering Consolidation
- 3 Pseudo-elements**
 - 3.1 Pseudo-element Trees
 - 3.2 View Transition Pseudo-elements
 - 3.2.1 Named View Transition Pseudo-elements
 - 3.2.2 View Transition Tree Root: the '::view-transition' pseudo-element
 - 3.2.3 View Transition Named Subtree Root: the '::view-transition-group()' pseudo-element
 - 3.2.4 View Transition Image Pair Isolation: the '::view-transition-image-pair()' pseudo-element
 - 3.2.5 View Transition Old State Image: the '::view-transition-old()' pseudo-element
 - 3.2.6 View Transition New State Image: the '::view-transition-new()' pseudo-element
- View Transition Layout**
 - 1 The Snapshot Containing Block
 - 2 View Transition Painting Order

<https://drafts.csswg.org/css-view-transitions-1/>

github.com/bramus/view-transitions-js

bramus / view-transitions-js

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

view-transitions-js Public

Sponsor Pin Unwatch 1 Fork 0 Star 5

main 1 Branch 0 Tags

Go to file Add file Code

bramus Remove non-spec compliant setup phase 3b322d4 · last month 2 Commits

demo	First Commit	last month
src	Remove non-spec compliant setup phase	last month
LICENSE	First Commit	last month
README.md	First Commit	last month

README MIT license

ViewTransitions.js

A JavaScript implementation of [css-view-transitions-1](#) (May 2, 2025 Snapshot).

⚠ DO NOT USE THIS IN PRODUCTION. THIS IS AN EXPERIMENT, NOT A POLYFILL.

NOTES/CAVEATS/LIMITATIONS

- This library captures the snapshots to a `<canvas>` using <https://html2canvas.hertzen.com/> which comes with limitations:
 - Limited CSS support – See <https://html2canvas.hertzen.com/features>
 - No way to capture ink overflow
 - External images are not captured (unless you do some special `crossorigin` attribute things)
- Because I also use html2canvas to capture the new snapshot, the new snapshot is not a live one. (if only we had `element()` in all browsers ... that would allow that!)

About

A JavaScript implementation of `css-view-transitions-1`

javascript css view-transitions view-transition-api

Readme MIT license Activity 5 stars 1 watching 0 forks

Sponsor this project

bramus Bramus

Sponsor

Learn more about GitHub Sponsors

Languages

JavaScript 96.6% CSS 3.4%

Suggested workflows

Based on your tech stack

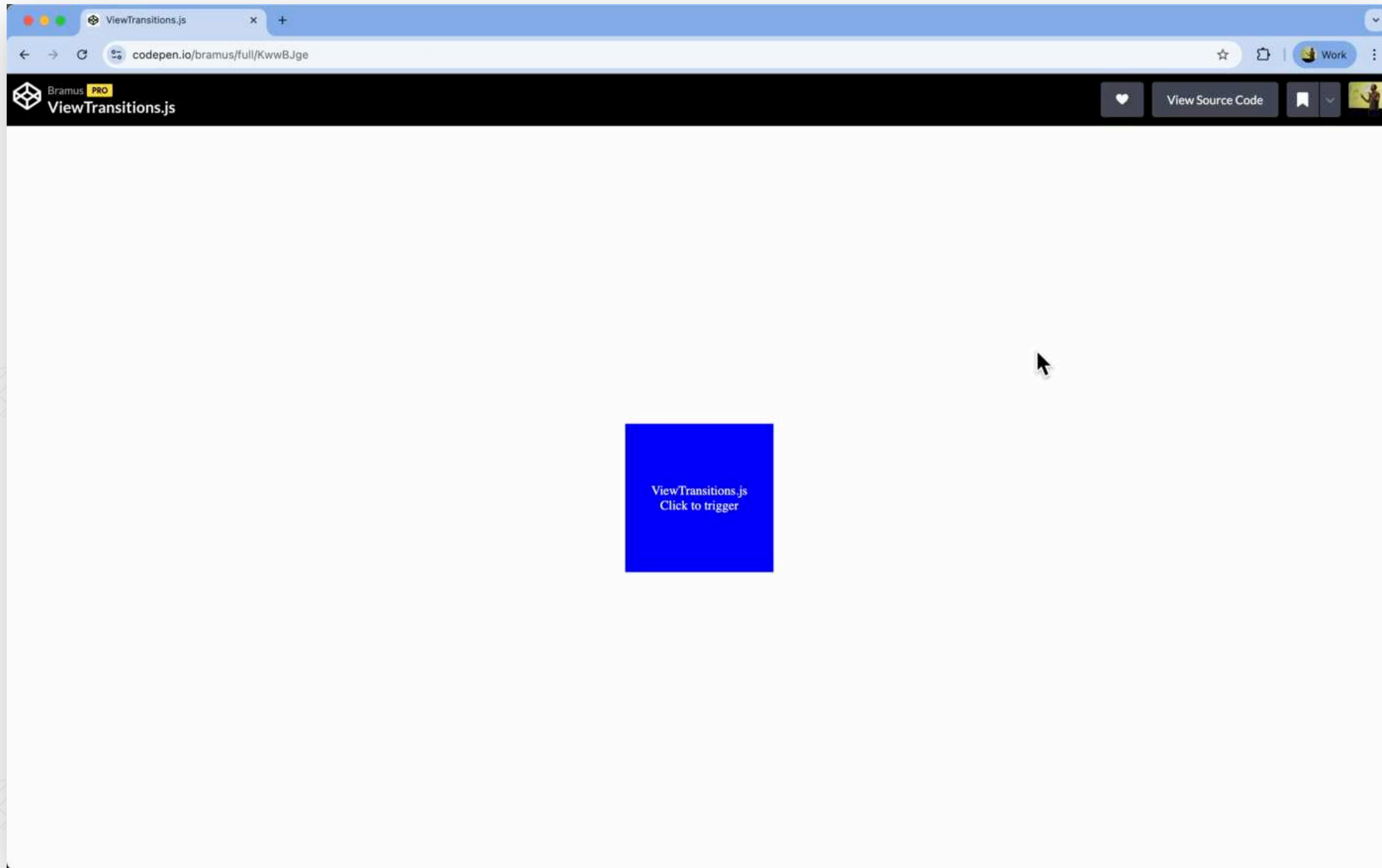
Publish Node.js Package to GitHub Configure

<https://github.com/bramus/view-transitions-js>



***DO NOT USE THIS IN
PRODUCTION. THIS IS AN
EXPERIMENT, NOT A POLYFILL.***

Me, trying to warn you



<https://codepen.io/bramus/pen/KwwBJge>



***But what if I split off
the JavaScript surface
from the animation bits?***

Me, a few weeks later

view-transitions-mock - npm x +

npmjs.com/package/view-transitions-mock

view-transitions-mock TS

1.1.0 • Public • Published a month ago

[Readme](#) [Code](#) Beta [1 Dependency](#) [0 Dependents](#) [3 Versions](#) [Settings](#)

View Transitions Mock

Mock support for Same-Document View Transitions in browsers with no support.

Overview

View Transitions Mock is a robust JavaScript implementation of Same-Document View Transitions (including View Transition Types). It is not a polyfill, as it doesn't replicate the pseudo-tree or the animations from View Transitions. Instead, it mocks support for `document.startViewTransition`, `document.activeViewTransition`, `ViewTransition.transitionRoot` and `ViewTransitionTypeSet`. This allows you to write modern, standard-compliant Same-Document View Transitions code for *any* browser, including those without support for `document.startViewTransition` or View Transition Types.

Once **registered**, stop sprinkling `if (document.startViewTransition)` guards across your codebase and, instead, safely call the API, handle its promises, and manage View Transition Types as if they were natively supported.

- Without `view-transitions-mock`:

```
document.querySelector('button').addEventListener('click', async () => {
  if (document.startViewTransition && ("types" in ViewTransition?.prototype)) {
    document.querySelector('#thing').style.viewTransitionName = 'the-third';
    const t = document.startViewTransition({
      update: updateTheDOM,
      types: ['slide', 'from-left']
    });
    await t.finished;
    document.querySelector('#thing').style.viewTransitionName = '';
  } else {
    updateTheDOM();
  }
});
```

Install

```
> npm i view-transitions-mock
```

Repository

github.com/GoogleChromeLabs/view-transitions-mock

Homepage

github.com/GoogleChromeLabs/view-transitions-mock#readme

Weekly Downloads

9


Version	License
1.1.0	Apache-2.0

Unpacked Size	Total Files
72.4 kB	6

Last publish

a month ago

Collaborators

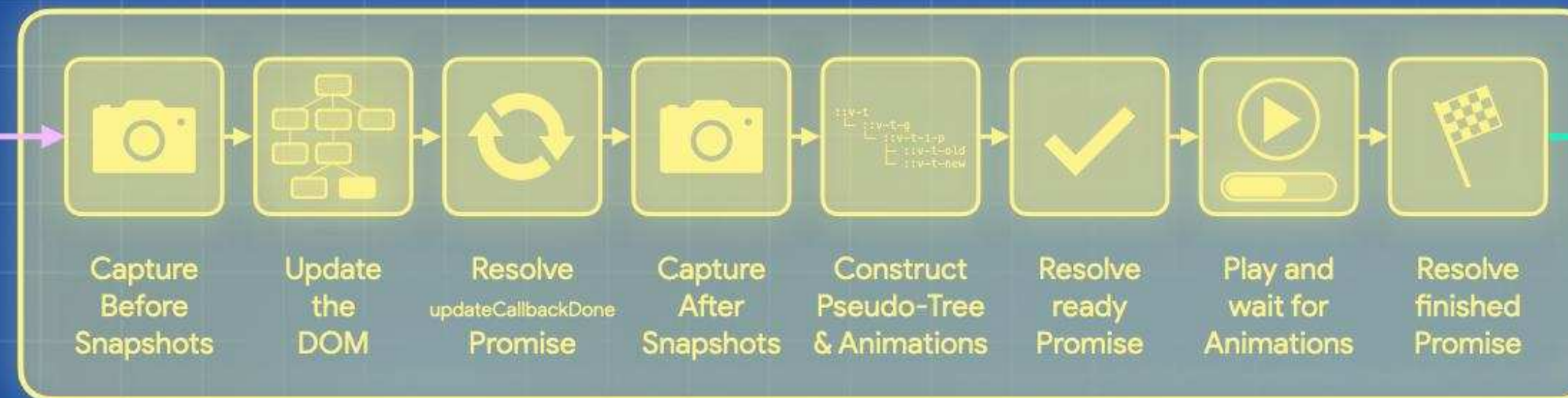


<https://www.npmjs.com/package/view-transitions-mock>

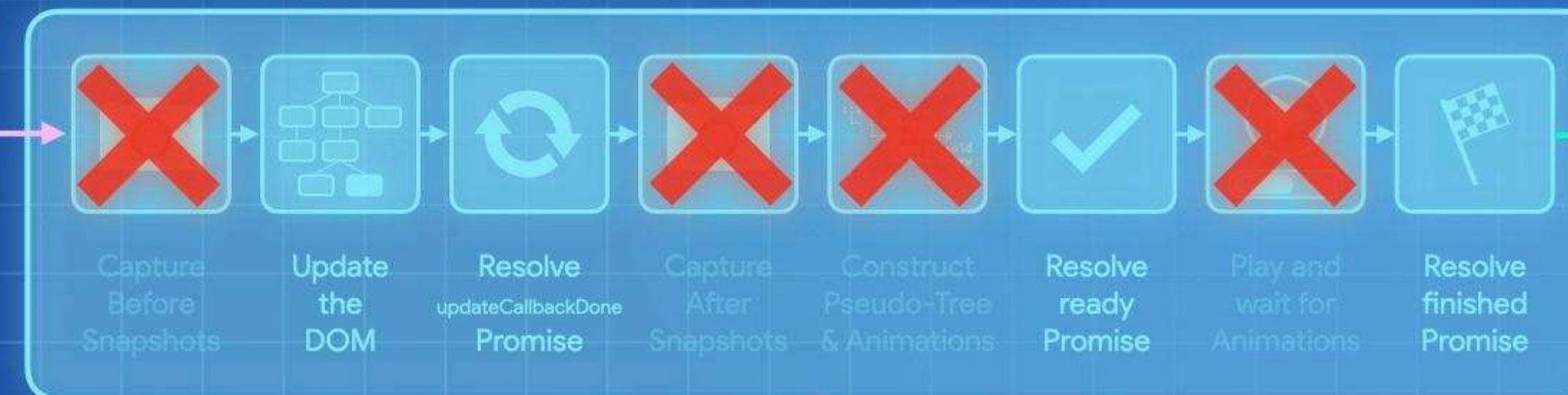
View Transitions Mock

A non-visual polyfill for Same-Document View Transitions

NATIVE IMPLEMENTATION



VIEW-TRANSITIONS-MOCK



STATE A



STATE B

<https://www.npmjs.com/package/view-transitions-mock>

```
import { register } from "view-transitions-mock";  
register();
```

<https://www.npmjs.com/package/view-transitions-mock>

Critique #8

***“Internet Explorer
did it first”***

✓ Use JavaScript to
extract data from the
meta tags

Those who are old enough to remember

The image is a screenshot of a web browser window. The address bar shows the URL: [learn.microsoft.com/en-us/previous-versions/windows/internet-explorer/ie-developer/platform-apis/ms532847\(v=vs.85\)?redirectedfrom=MSDN#interpage-transitions](https://learn.microsoft.com/en-us/previous-versions/windows/internet-explorer/ie-developer/platform-apis/ms532847(v=vs.85)?redirectedfrom=MSDN#interpage-transitions). The page title is "Interpage Transitions". The main content area contains two paragraphs and a code block. The first paragraph explains that interpage transitions provide effects for the entire window as a web page is loaded or exited. The second paragraph states that transitions are implemented with meta tags in the head section. The code block shows two meta tags: one for a "Blinds" transition with a duration of 4 seconds, and another for a "Slide" transition with a duration of 2.500 seconds. The right sidebar, titled "In this article", lists several related topics, with "Interpage Transitions" highlighted. The browser's user interface includes standard navigation buttons, a search icon, and a user profile icon labeled "Work".

Interpage Transitions

Interpage transitions enable you to provide effects for the entire window as a Web page is loaded or exited. When a transition is applied to a page, it creates an interpage transition where the page's entire content becomes the object of the filter. You can apply an interpage transition to a page when it is loaded or exited using the same transitions described in the Transitions section above. Just as programs such as Microsoft PowerPoint enable transitions between slides, you can provide wipes and fades, and create custom transitions when the content on a Web page changes.

Transitions are implemented with [meta](#) tags placed in the [head](#) section of Web pages. The **meta** tag specifies the type of transition, as well as whether the transition should occur as the following page is loaded or as the current page is exited.

Interpage Transition Syntax

The syntax for interpage transitions consists of two parts: when the transition should play, and what kind of interpage transition to use. The following two examples show how to apply interpage transitions upon loading and exiting a page.

```
<META http-equiv="Page-Enter"
CONTENT="progid:DXImageTransform.Microsoft.Blinds(Duration=4)" />

<META http-equiv="Page-Exit"
CONTENT="progid:DXImageTransform.Microsoft.Slide(Duration=2.500,slidestyle='HIDE
```

The first **meta** tag causes the **Blinds** transition to play when the user loads the page, lasting four seconds; the second **meta** tag causes a **Slide** transition to play when the user exits the page, lasting 2.5 seconds, written as 2 seconds and 500 milliseconds.

In this article

- Creating Multimedia Effects with Visual Filters and Transitions
- Defining Visual Filters
- Scripting Filters
- Filter Design Considerations
- Visual Filter Scenarios
- Transitions
- Interpage Transitions**
- Transition Design Considerations
- Transition Scenarios

[Show 3 more](#)

<https://brm.us/interpage-transitions>

“Just like Microsoft PowerPoint enables transitions between slides, you can provide wipes and fades [...] when the content on a Web page changes.”

<https://brm.us/interpage-transitions>

Influential Computers - The RevealTrans HTML Meta Tag - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Address Links

INFLUENTIAL COMPUTERS LTD.

IT Consultancy Internet Services Website Design Helpdesk Contact About Shopping

The RevealTrans HTML Meta Tag

The table below lists the various HTML RevealTrans META Tag statements that you may like to use in your site. The tag can be set to function at Page-Enter, Page-Exit, Site-Enter and Site-Exit. The demonstration links below are set to action on Page-Exit, so click the link to move to the demonstration page, then click the Back button to see the effect and return to this page.

These effects require Internet Explorer 4 or later.

Effect	Meta Tag Format
Box In	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=0)">
Box Out	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=1)">
Circle In	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=2)">
Circle Out	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=3)">
Wipe Up	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=4)">
Wipe Down	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=5)">
Wipe Right	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=6)">
Wipe Left	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=7)">
Vertical Blinds	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=8)">
Horizontal Blinds	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=9)">
Checkerboard Across	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=10)">
Checkerboard Down	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=11)">
Random Dissolve	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=12)">
Split Vertical In	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=13)">
Split Vertical Out	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=14)">
Split Horizontal In	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=15)">
Split Horizontal Out	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=16)">
Strips Left Down	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=17)">
Strips Left Up	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=18)">
Strips Right Down	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=19)">
Strips Right Up	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=20)">
Random Bars Horizontal	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=21)">
Random Bars Vertical	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=22)">
Random	<meta http-equiv="page-exit" content="revealtrans(duration=3,transition=23)">
Blend	<meta http-equiv="page-exit" content="blendtrans(duration=3)">

Internet

<https://www.influentialcomputers.com/meta-reveal-demo.asp> (IE6)

```
<meta http-equiv="Page-Enter" content="revealTrans(Duration=0.5,Transition=23)">  
<meta http-equiv="Page-Exit" content="revealTrans(Duration=0.5,Transition=23)">
```

Interpage Transitions Effects

0 = box-in	5 = wipe-down	10 = checkerboard across	15 = split-horizontal-in	20 = strips-right-up
1 = box-out	6 = wipe-right	11 = checkerboard down	16 = split-horizontal-out	21 = random-bars-horizontal
2 = circle-in	7 = wipe-left	12 = random dissolve	17 = strips-left-down	22 = random-bars-vertical
3 = circle-out	8 = vertical-blinds	13 = split-vertical-in	18 = strips-left-up	23 = random effect
4 = wipe-up	9 = horizontal-blinds	14 = split-vertical-out	19 = strips-right-down	

<https://brm.us/reveal-trans-filter>

github.com/bramus/ie-page-transitions

bramus / ie-page-transitions

Code Issues 11 Pull requests Discussions Actions Projects Security Insights Settings

ie-page-transitions Public

Sponsor Pin Unwatch 1 Fork 1 Star 20

main 1 Branch 4 Tags

Go to file Add file Code

bramus Update CDN options 88f8bd7 · 4 months ago 44 Commits

demo	Add option to set the backdrop color	4 months ago
src	Add option to set the backdrop color	4 months ago
.gitignore	Add Netlify	last year
LICENSE	Add LICENSE	7 months ago
README.md	Update CDN options	4 months ago
netlify.toml	Redirect netlify deploy to main domain	6 months ago
package-lock.json	0.0.1	5 months ago
package.json	0.0.1	5 months ago

README Apache-2.0 license

ie-page-transitions

Bringing back Internet Explorer's Page Transitions thanks to the View Transition API

Source GitHub npm v0.0.1 license Apache-2.0 demo Website

Internet Explorer's Page Transitions

Microsoft Internet Explorer 4.0 and above featured a proprietary feature called [Interpage Transitions](#). It allowed you to specify [a transition effect](#) to apply to the entire window as a Web page was loaded or exited.

About

Bringing back Internet Explorer's Page Transitions thanks to the View Transition API

[page-transitions.style](#)

javascript css view-transitions view-transition-api

Readme Apache-2.0 license Activity 20 stars 1 watching 1 fork

Releases

4 tags

[Create a new release](#)

Sponsor this project

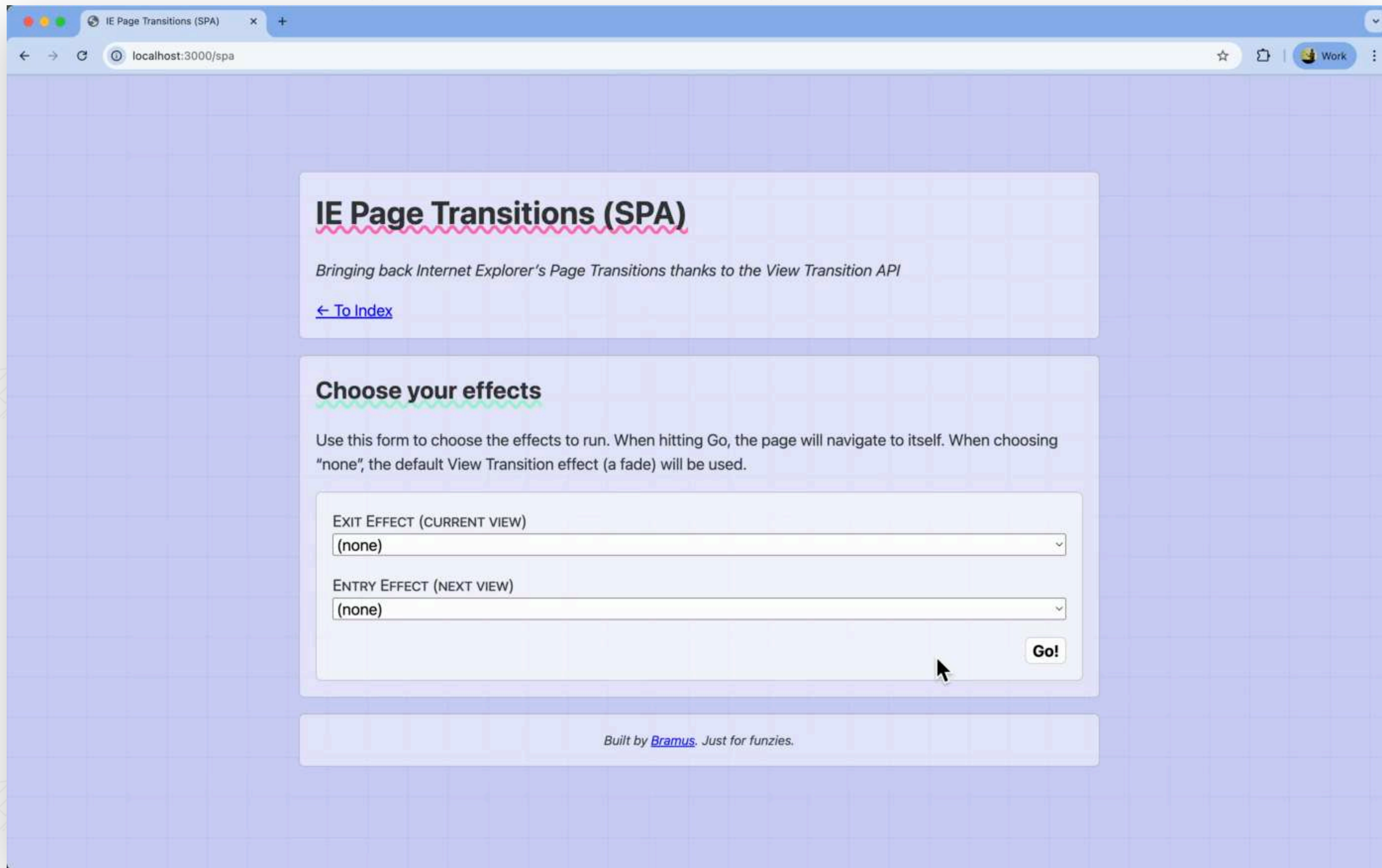
bramus Bramus

Sponsor

[Learn more about GitHub Sponsors](#)

Packages

<https://github.com/bramus/ie-page-transitions>



<https://page-transitions.style/>



126



WIP



18.2



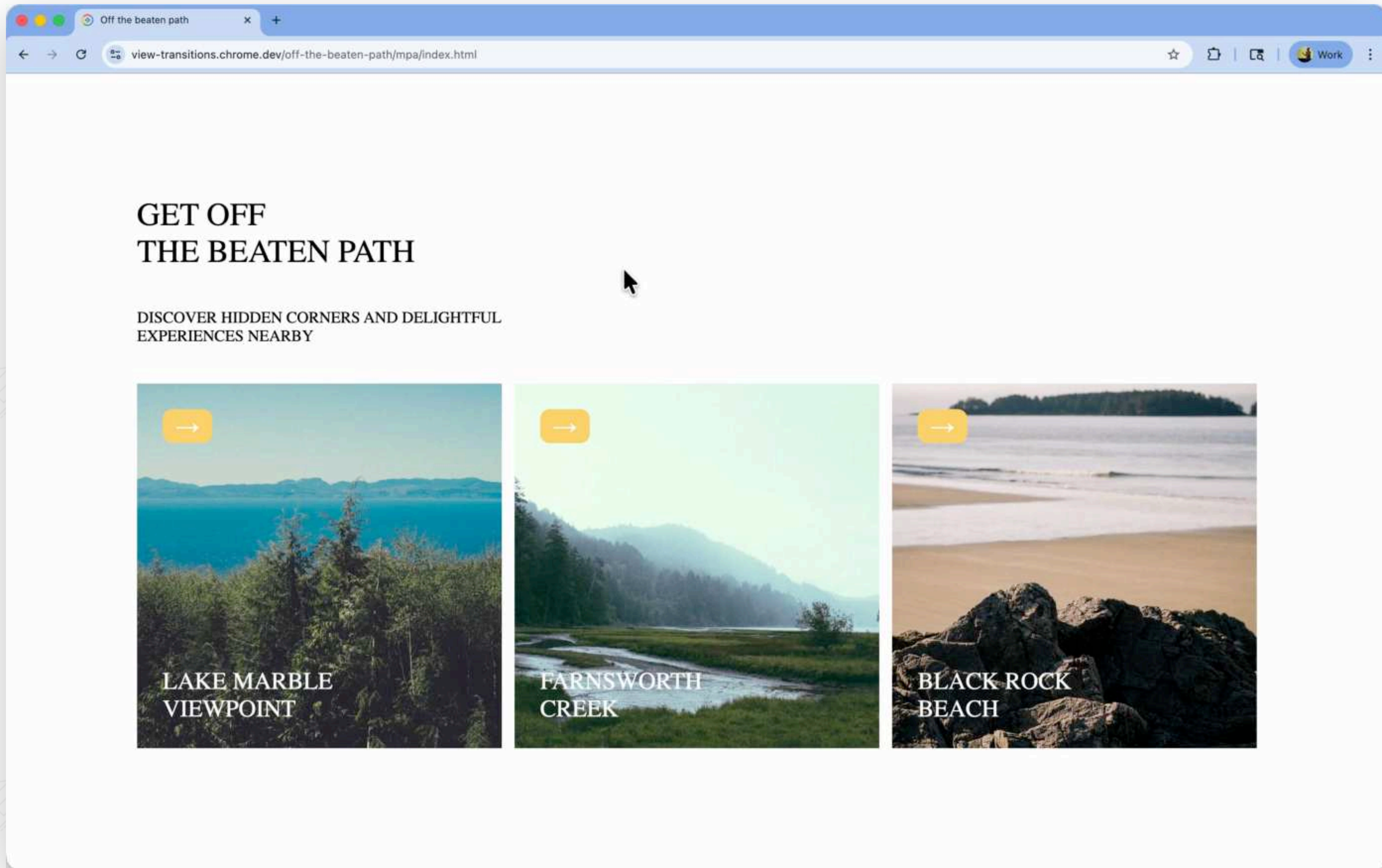
5.5 - 8

```
<meta http-equiv="Page-Enter" content="revealTrans(Duration=0.5,Transition=23)">
<meta http-equiv="Page-Exit" content="revealTrans(Duration=0.5,Transition=23)">

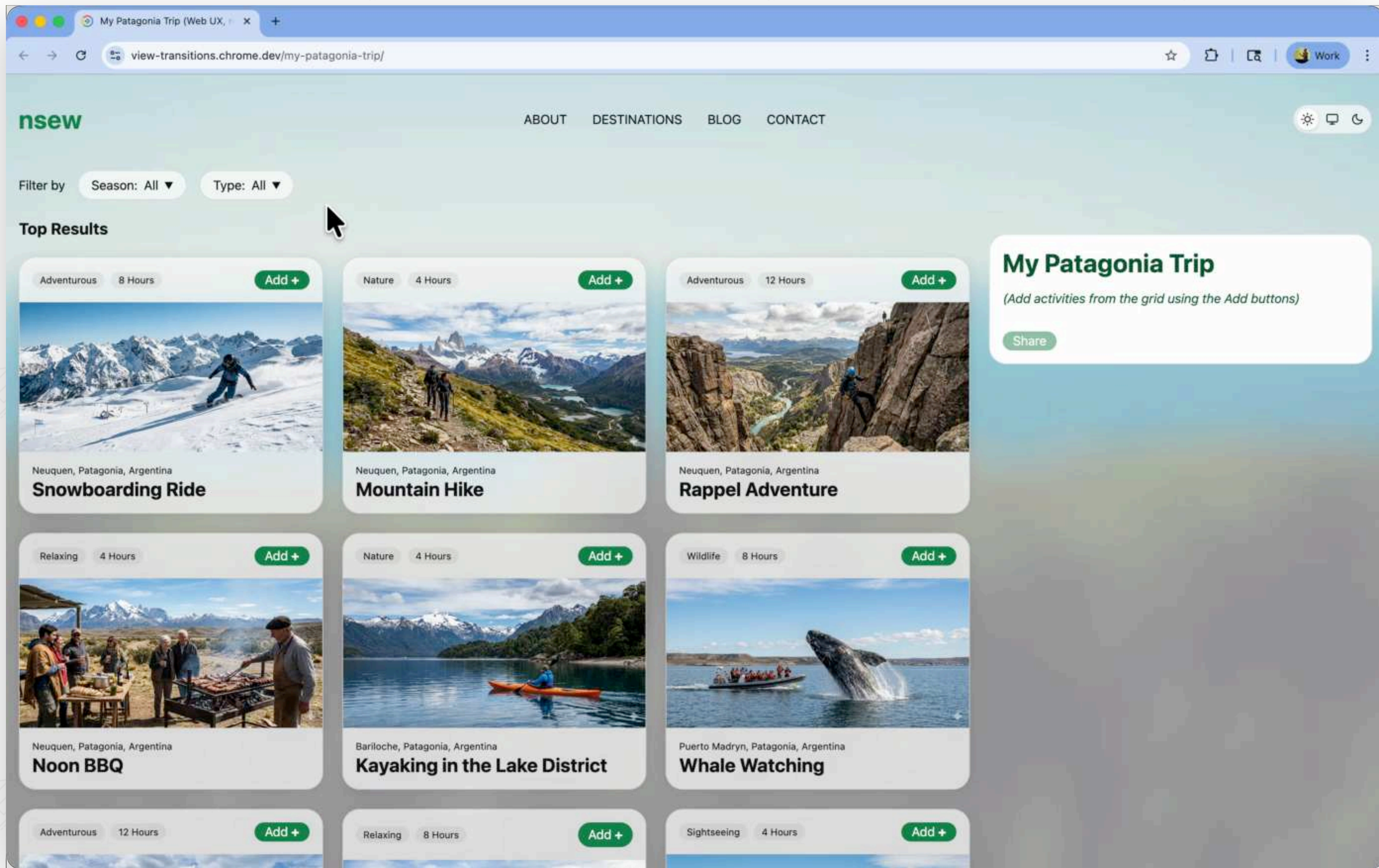
<style>
  @view-transition {
    navigation: auto;
  }
</style>

<link rel="stylesheet" href="ie-page-transitions.css">
<script src="ie-page-transitions.mpa.js" type="module" blocking="render"></script>
```





<https://view-transitions.chrome.dev/off-the-beaten-path/mpa/>



<https://view-transitions.chrome.dev/my-patagonia-trip/>

Thanks / Questions



 @bram.us

 @bramus@front-end.social

~~@bramus~~



<https://www.bram.us/>