

pointer-timeline

What?

- Driving the progress of an animation based on the pointer's position:
 - Relative to an element's box
 - Relative to the viewport
- Build on top of Scroll-Driven Animations (timelines, ranges)

In the Wild

- Libraries:
 - [Parallax.js](#)
 - [Tilt.js](#)
 - [Atropos.js](#)
- Sites:
 - [Pokemon Cards](#)
 - [Mouse Parallax in Wonderland](#)
 - [NY Times allbirds](#)

Common features

- Timeline's attachment range is usually the box of:
 - Animation's target
 - A parent container of the target
 - The whole viewport

Common features

- Specified effect's focal point
- Effect progress is usually in form of:
 - $[1, 0, 1]$
 - $[-1, 0, 1]$
 - $[0, 1, 0]$
- Effect's focal point is relative to either the effect's target or timeline's subject

Common features

- Delayed progress
- Progress linked to velocity
- Some effects rely on polar coordinates

Proposal

- Everything is bikeshed-able
- Some features are important for level 1
- Some trickier - can be deferred

Proposal: New timeline

- Add a new property for setting a timeline:
 - `pointer-timeline: <name> <axis>`
- Works the same as `view-timeline`
- Add a new anonymous functional notation:
 - `pointer(<axis> <source>)`
 - Source: `self` | `nearest` | `root`

Proposal: New range names

- Some existing range names don't make sense:
 - `entry`, `exit`, `*-crossing`
- Keep existing ones that work:
 - `cover`, `contain`
- Add new names:
 - `fill` and `fit`

Proposal: New range names

- By default all range names have no effect
- Effect happens when **range-center** is shifted

Proposal: New range - center

- Add a new range property: `range-center`
- Allows setting the effect's focal-point
- Can take `<length-percentage>` or a keyword: `center` | `start` | `end`
- Can take an extra keyword: `normal` | `target` for centering on the animation's target

Demo

- [Illustrations](#) of timeline and ranges
- [Timeline & ranges demo](#) (requires Anchor Positioning)

Proposal: CSS

- `pointer-timeline: <name> <axis>`
- `pointer(<axis> <source>)`
- `animation-range-center: target? <length> | keyword`
- Or: `animation-range: <start> <end> at <center>`

Proposal: Web Animations

- `PointerTimeline({ source, axis })`
- `animation.rangeCenter`