



VERSIONED WEB COMPONENTS

WebHackFest 2025
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SHAMELESS SELF-PLUG

- Christian Ulbrich, loves Web Components and Micro Frontends
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- GitHub: github.com/christianulbrich
- CxO at Zalari GmbH
 - 10 year experience in Rust, ~~Go~~ Enterprise JavaScript™
 - development consultant company
- we can be ~~bought~~ hired



MOTIVATION

- What are Web Components now used for?
 - cross-framework UI Libraries
 - Containers for Micro-Frontend (fragments)
 - „meaningful“ `DropDownTypeAheadSelect`?



Photographer: Iain Macmillan / © Yoko Ono



IMAGINE

IMAGINE

```
customElements.define( name: 'ui-button', UIButton);
```

```
// later on...
```

```
customElements.define( name: 'ui-button', NewerUIButton);
```

```
<style>
  :root {
    ui-button {
      ---button-background: red;
    }
  }
</style>

<div>
  <ui-button>I am a button</ui-button>
</div>

<!-- later on... hopefully not affected? -->
<div>
  <ui-button>Am I a new button?</ui-button>
</div>
```



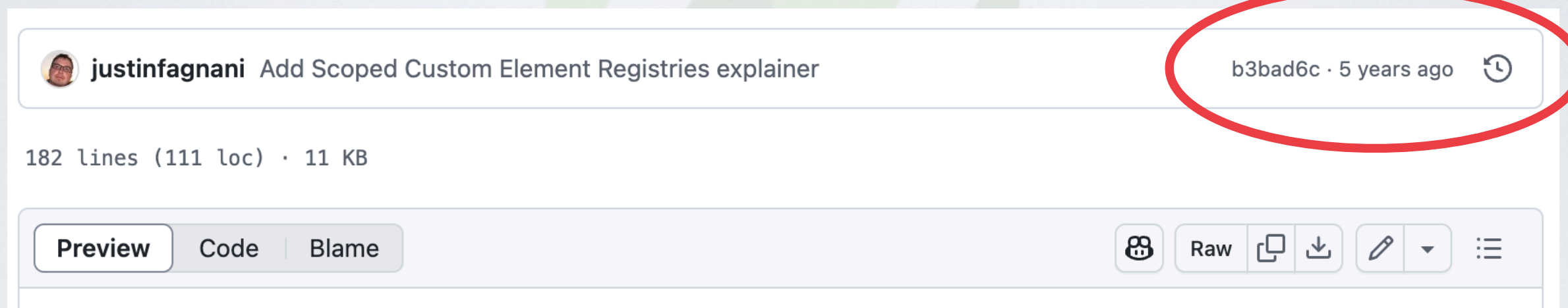
PRIOR ART

SCOPED ELEMENT REGISTRIES

- existing proposal -> <https://github.com/WICG/webcomponents/blob/gh-pages/proposals/Scoped-Custom-Element-Registries.md>
- „playing around with“ very difficult
- scopes are hard to get
- non-declarative, no (easy) re-hydration possible

SCOPED ELEMENT REGISTRIES

- development seems to have been stalled



- adoption in the eco system is next to nothing



IMAGINE

IMAGINE

```
// initial version
customElements.define(name: 'ui-button', UIButton);

// later on... adding simply a new version
customElements.define(name: 'ui-button', UIButtonV2, options: {version: 2});
```

```
<style>
  :root {
    ui-button:not[version] {
      ---button-background: red;
    }
  }
</style>

<div>
  <ui-button>I am a button</ui-button>
</div>

<!-- later on... I am not affected! -->
<div>
  <!-- I am fully re-hydratable -->
  <ui-button version="2">Am I a new button!</ui-button>
</div>
```


INTRODUCING:





VERSIONED CUSTOM ELEMENT REGISTRY

VERSIONED CUSTOM ELEMENT REGISTRY

- define a custom element...
 - ...with a version
- decide, when to render...
 - with a version attribute



DEMO TIME

RECAP

- scoped element registries are **heavy** as the crown
- versioned element registry
 - is *easy* to grasp
 - *declarative*
 - plays nicely along with CSS
- can be tested **now**...

WHAT COMES NEXT?

- fleshing out existing proposal
 - ...and finally propose it
- turning prototype into a „proper“ polyfill
 - ...and demo it with a major UI library
 - any suggestions?

FEEDBACK!

- Has anyone used Scoped Element Registries in production?
- Would you use Versioned Custom Element Registry?

THANKS + FEEDBACK

Proposal



Demo



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THANKS!