



Polymer in the Real Life

Horacio Gonzalez
@LostInBrittany

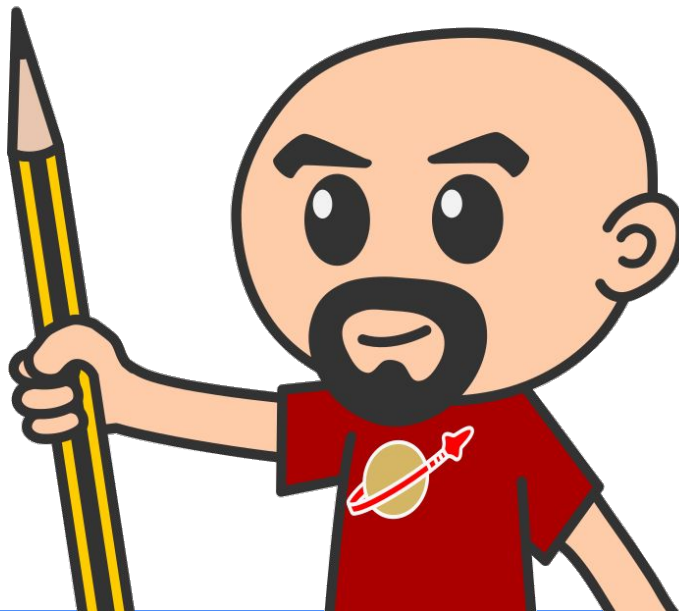


Horacio Gonzalez



@LostInBrittany

Spaniard lost in Brittany, developer,
dreamer and all-around geek



On Polymer tour since 2014



Web components == Revolution



bu.edu



Building a world brick by brick



[BitRebels](#) [Brickset](#)



Variations of the same questions



ideas.lego.com

Does it work in real life?



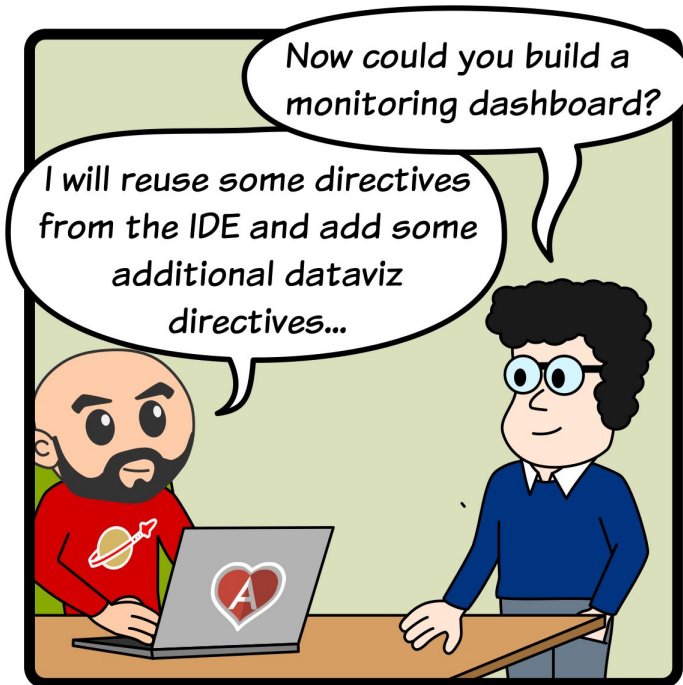
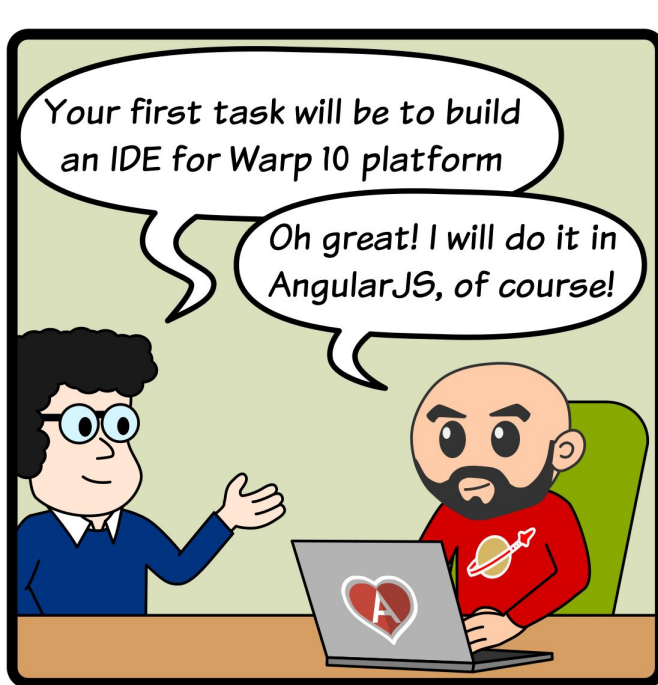


Why Polymer?

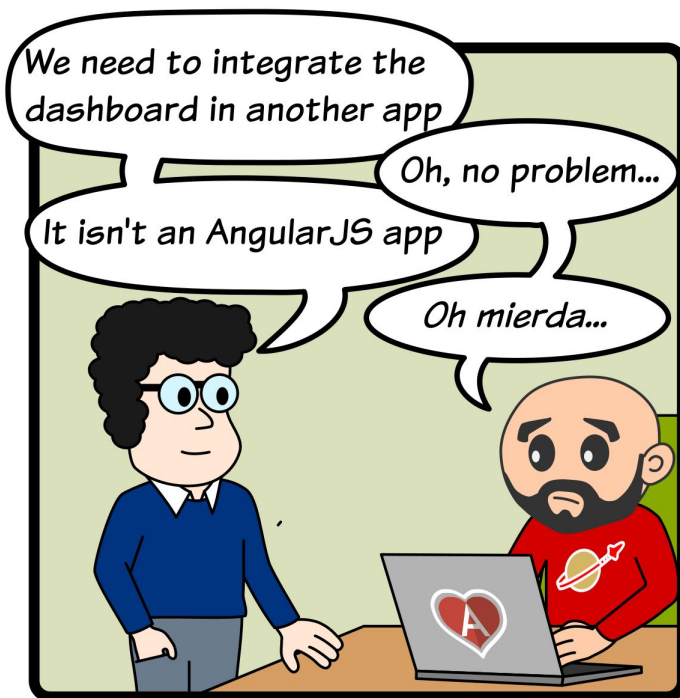
**"But it would be easier in
Angular/Vue/React/TotoJS!"**



I was kinda an AngularJS fanboy



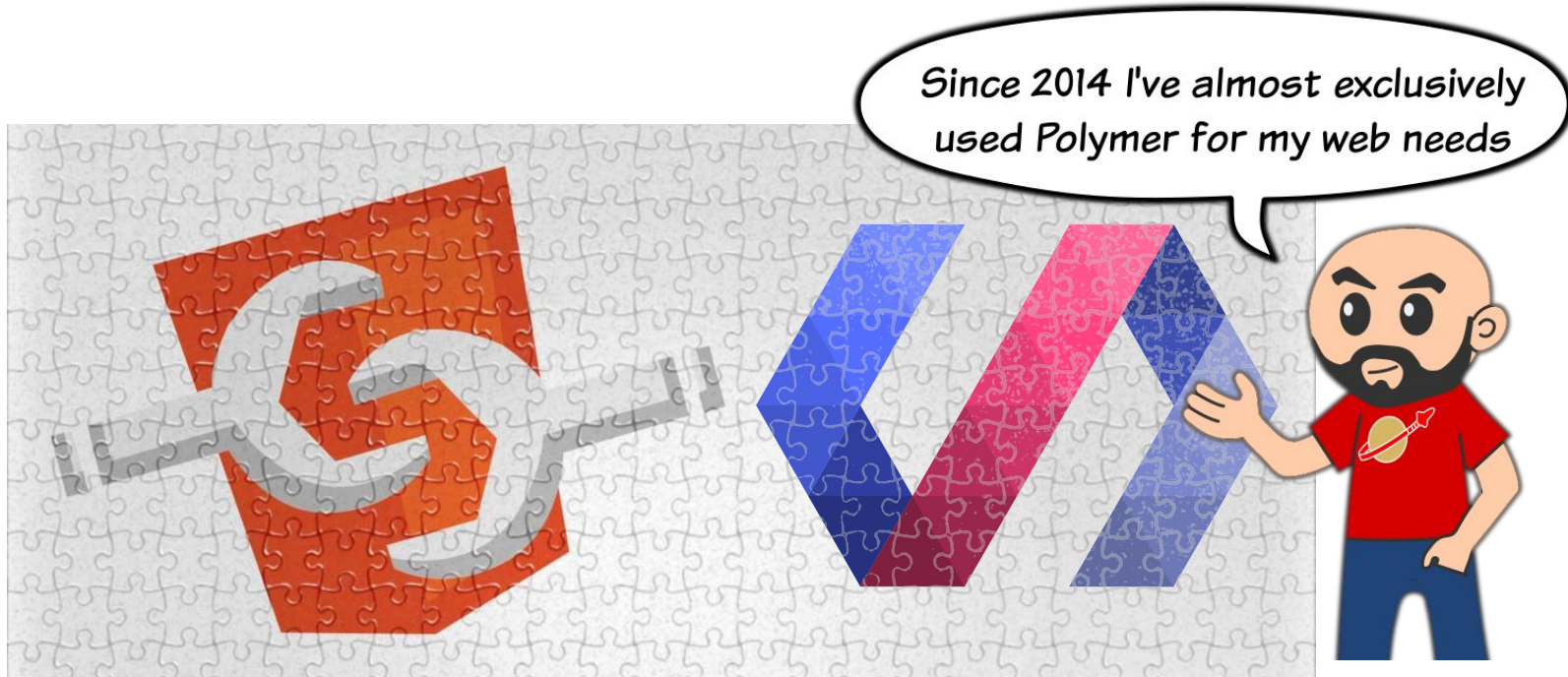
Until I hit a wall



Enter Web Components & Polymer



WebComponents, a modular approach to webapps





What have you build with Polymer?

Hmmm, lots of things, I must say...



Polymer is mature now...



Polymer 3.0 is here!

Version 3.0 of the Polymer library brings web components into the mainstream, embracing JavaScript modules and npm.

Update your apps and elements for seamless interop with popular frameworks and tools and easy access to the full JavaScript ecosystem.

[WHAT'S NEW](#)

[UPGRADE GUIDE](#)

Welcome to the future...

Starting a new project? Try our next-gen products, headed for release in the coming months:

LitElement

An ultra-light, highly performant custom element base class with a simple but expressive API.

[LIT-ELEMENT](#)

PWA Starter Kit

Your one-stop shop for building Progressive Web Apps that make the most of the modern web.

[PWA STARTER KIT](#)

Material Web Components

Pixel-perfect realizations of Google's Material Design spec that work anywhere on the web.

[MATERIAL WEB COMPONENTS](#)



But it wasn't in 2014...

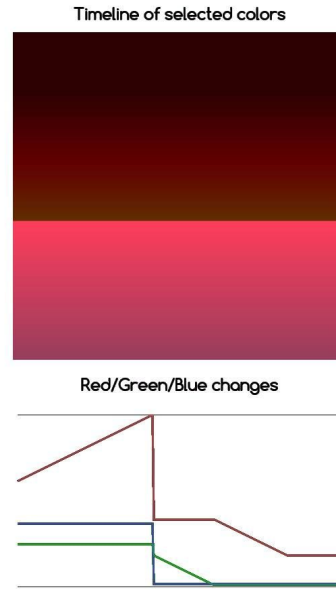


Google's @AlexisMP:

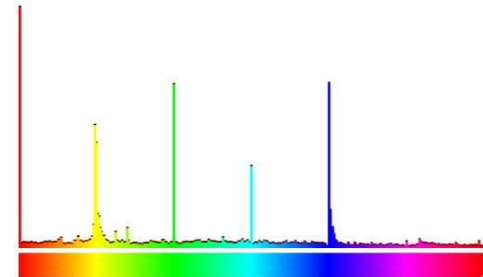
Don't do it, crazy Spaniard, it isn't production ready!



But it worked!



Hue popularity/display



Color changes ● Time spent in color



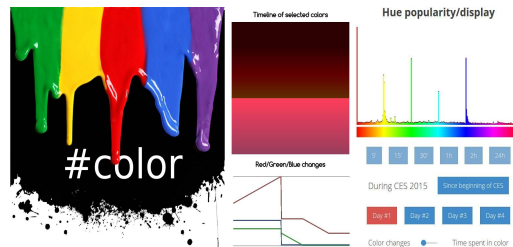
We put our first Polymer app in production on 2014 with Polymer 0.4
Full story: <http://blog.cityzendata.com/2015/02/07/behind-CES-colors/>



CES Colors was quite a challenge



- Technology wasn't mature and changed quickly
 - We followed the evolution and updated the app often
- Cross-browsing rendering and full responsiveness needed
 - On computer & smartphone, Android & iPhone...
- Rich graphic components using canvas et SVG
 - First experience integrating libraries in Polymer



And it worked!



Quantum, IDE for Warp 10



Quantum Console Documentation Quantum Contact

WarpScript
Ingress
Delete

Choose your backend:
 Distributed Warp Choose another backend

WarpScript

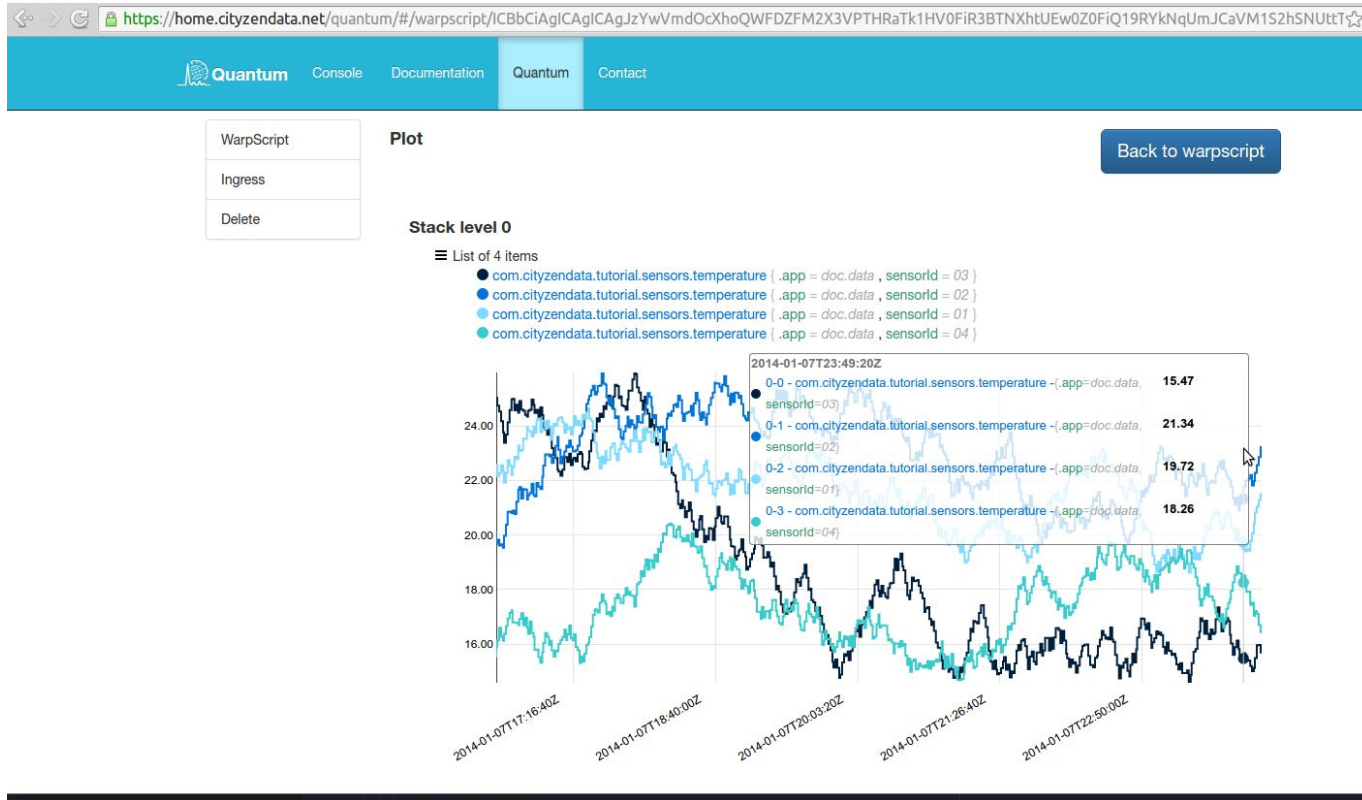
```
40 NEWGTS
41 $NOW 15000000 - 51.44 0.06 NaN true ADDVALUE
42 $NOW 35000000 - 51.48 0.05 NaN false ADDVALUE
43 $NOW 55000000 - 51.50 0.03 NaN true ADDVALUE
44 $NOW 75000000 - 51.52 0.02 NaN false ADDVALUE
45 $NOW 95000000 - 51.54 0.01 NaN true ADDVALUE
46
47 {
48   'positions' [ [ 51.50 -0.22 ] [ 51.46 -0.30 ] [ 51.42 -0.20 ] ]
49 }
50
51 {
52   'positions' [ [ 51.20 -0.12 42 ] [ 51.36 -0.00 21 ] [ 51.32 -0.20 84 ] ]
53 }
54
55 {
56   'positions' [ [ 51.20 -0.52 42 ] [ 51.36 -0.40 21 ] [ 51.32 -0.60 84 ] ]
57 }
58
59 {
60   'positions' [
61     [ 51.10 -0.52 42 10 ] [ 51.56 -0.40 21 30 ] [ 51.42 -0.60 84 40 ]
62     [ 51.30 -0.82 42 1 ] [ 51.76 -0.70 21 20 ] [ 51.62 -0.90 84 45 ]
63   ]
64 }
65
66
67 8 -->LIST
68 'gts' STORE
```

Permalink: [Tk9XICdfTk9XJyBTVE9SRQogIDUxLjQwCdfQkFTRV9MQVQnIFNUT1JFCiAgMC4wMCAx0JBU0VfTE90...](https://home.cityzendata.net/quantum/#/warpscript/Tk9XICdfTk9XJyBTVE9SRQogIDUxLjQwCdfQkFTRV9MQVQnIFNUT1JFCiAgMC4wMCAx0JBU0VfTE90...)

Execute!



Quantum, IDE for Warp 10

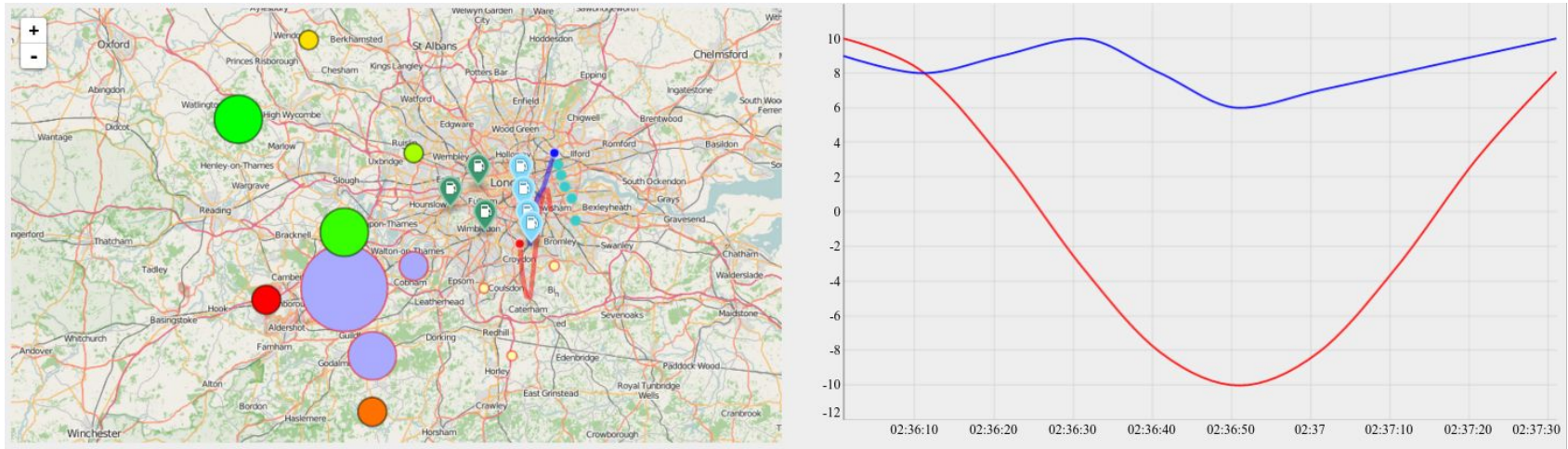


Quantum is a complete application



- Write and execute WarpScript scripts, plot results
 - Integrating non Polymer libraries : nvd3, ace editor...
 - Many custom components
- Several views to execute WarpScript and to push and delete data
 - A router is needed
 - At first page.js was encapsulated in a Polymer element
 - Then we changed to excess-router, done with Polymer
 - And then changed for the official solution, app-route
- Lots of components, lots of imports
 - Using Polymer toolchain to build the releases





Visualization widgets for Warp 10



Functionally rich



- **Widget must be integrable everywhere**
 - From full Polymer apps to plain old static pages, from AngularJS to ReactJS
 - Even in Apache Zeppelin notebooks
 - Any modern browser, with reasonable performances

- **Several modes**
 - Either sending WarpScript to a Warp 10 to get data or Receiving data from other components / applications
 -



Widgets, apps, one shots

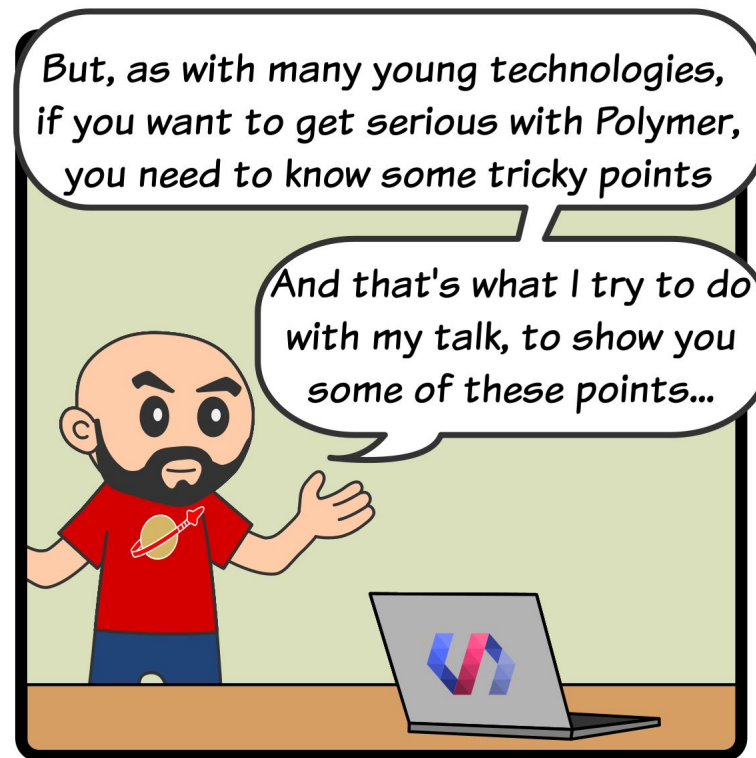
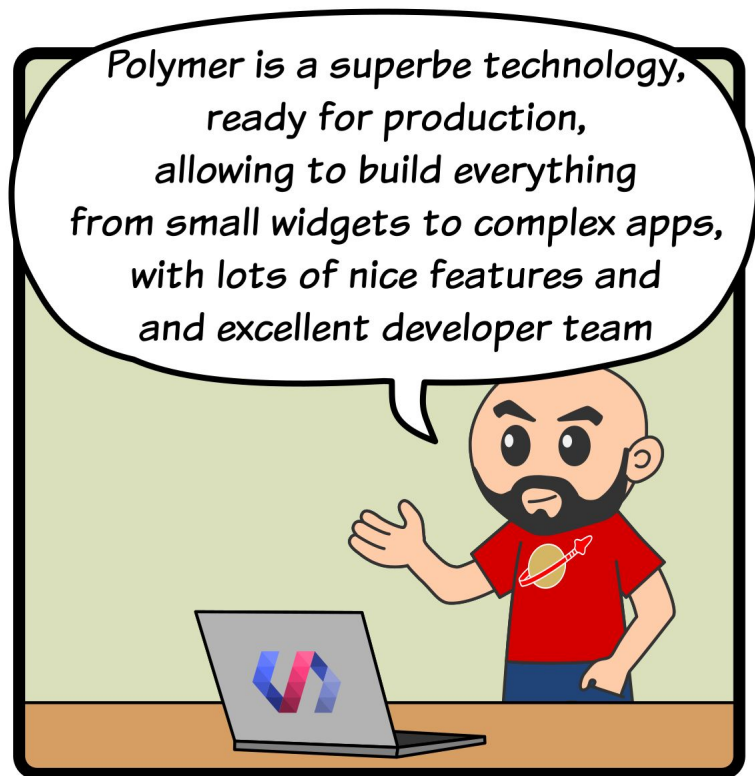


And a beer-themed
tutorial: [Polymer-beers](#)

Since 2014 I've almost exclusively
used Polymer for my web needs



So what have I learnt?



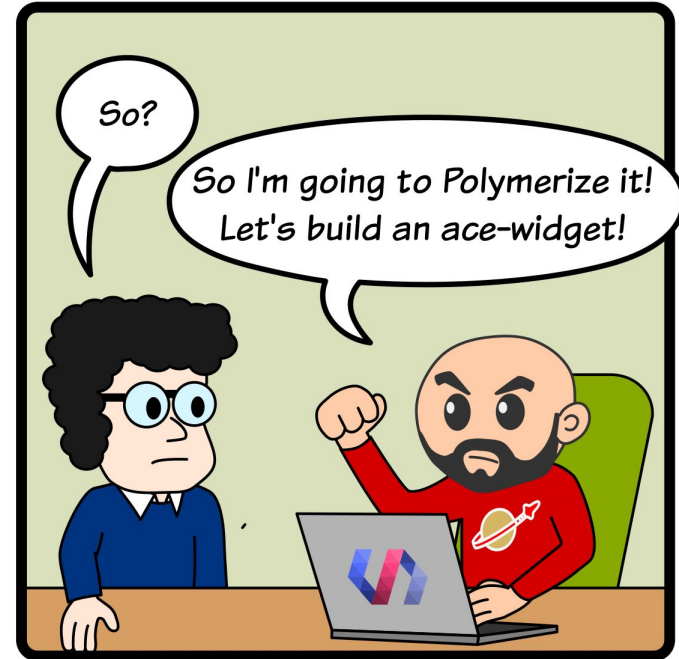
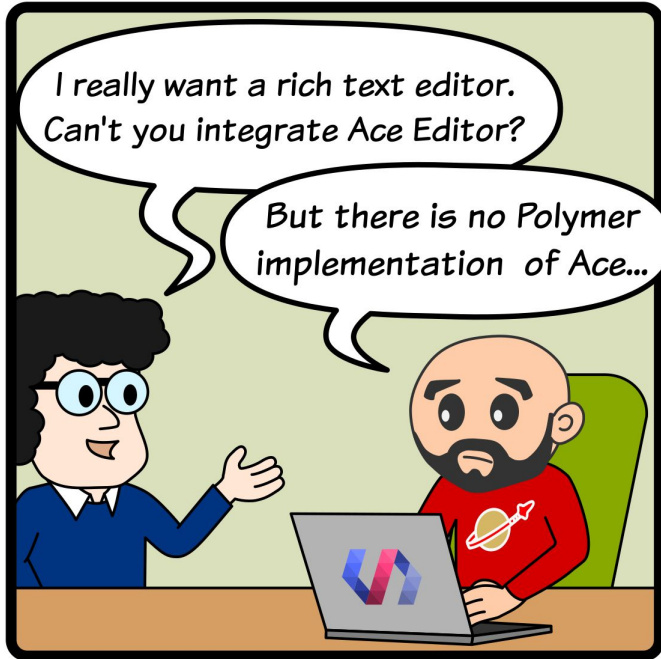


But there is no Web Component for that!

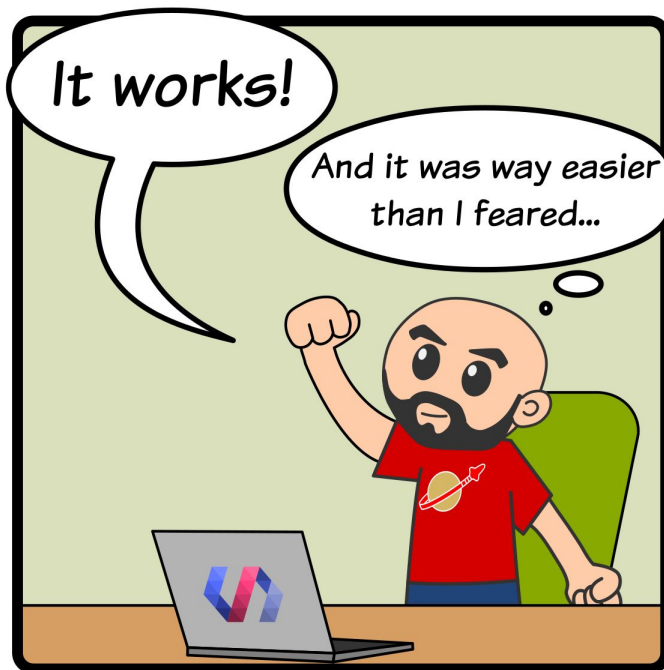
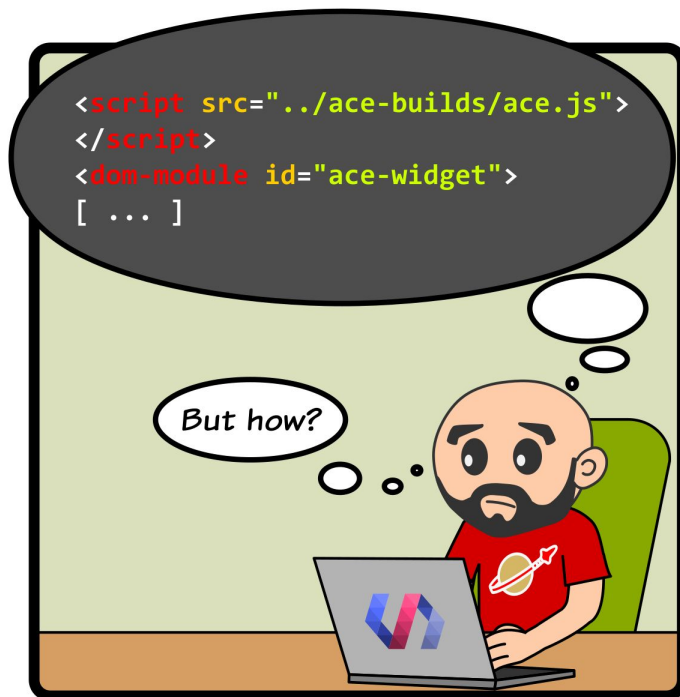
Componentalizing libraries



It was only the first time...



How do I componentalize them?



LostInBrittany/ace-widget



GitHub - LostInBrittany/ace-widget: Polymer wrap around Ace editor - Chromium

LostInBrittany / ace-widget

27 commits 1 branch 13 releases 2 contributors

| File | Commit | Time |
|------------------|--|--------------|
| bower_components | Initial commit | 5 months ago |
| demo | Fix #10 and adding initial-focus attribute | 6 days ago |
| .bowerrc | Initial commit | 5 months ago |
| .gitignore | Initial commit | 5 months ago |
| README.md | Adding initial-focus attribute doc | 6 days ago |
| ace-widget.html | Fix #9 Explicit initialization | 5 days ago |
| bower.json | Fix #4 - Adding a real demo page | 18 days ago |
| favicon.ico | Initial commit | 5 months ago |
| index.html | Fix #9 Explicit initialization | 5 days ago |

ace-widget

Even more embeddable code editor Custom Element - just one tag, and no JS needed to provide Ace - The High Performance Code Editor

ace-widget with empty content and initial focus

```
<ace-widget initial-focus>
</ace-widget>
```

ace-widget with content coming from 'value' attribute

```
<ace-widget theme="ace/theme/eclipse" softtabs="true" wrap="true" value="This is a nice widget">
</ace-widget>
```

ace-widget with content coming from HTML content

```
<ace-widget>
  This is a nice widget
</ace-widget>
```

ace-widget with some options (theme, softtabs, wrap)

```
<ace-widget theme="ace/theme/ambiance" softtabs="true" wrap="true">
  This is a nice widget... and we are writing a long text here to show the effects of the 'wrap' attribute.
</ace-widget>
```





```
<granite-qr-code-generator  
  data="https://github.com/lostinbrittany/granite-elements"  
  mode="alphanumeric"  
  auto>></granite-qr-code-generator>
```



LostInBrittany/granite-qr-code-scanner



Scanned QR code: 97777782

Scanner status

Off On

```
<granite-qr-code-scanner active></granite-qr-code-scanner>
```



A whole talk on that



But there is no web component for that

A presentation at [Devoxx France](#) in April 2018 in [Paris, France](#) by [Horacio Gonzalez](#)



<https://noti.st/lostinbrittany/MoDsPr/but-there-is-no-web-component-for-that>



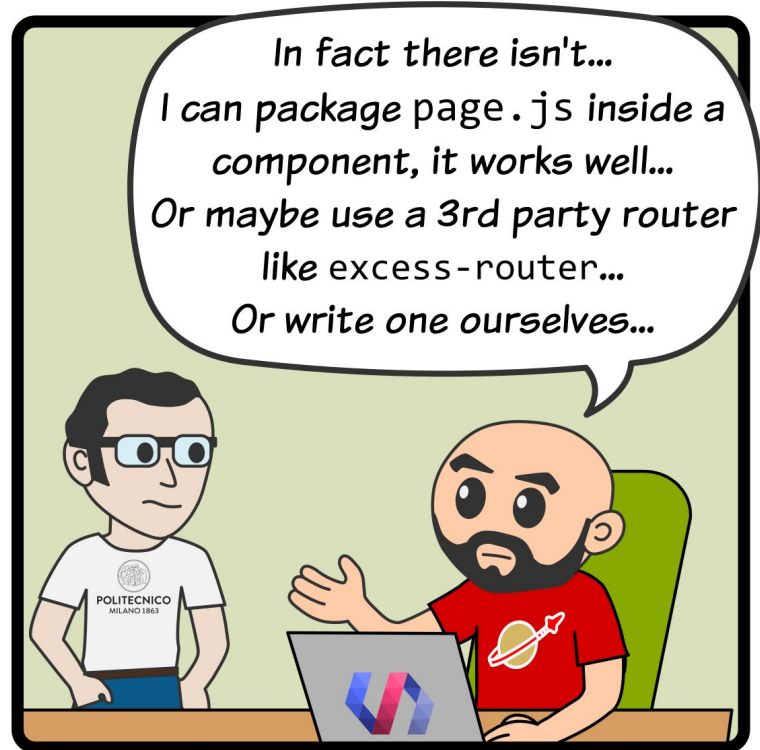
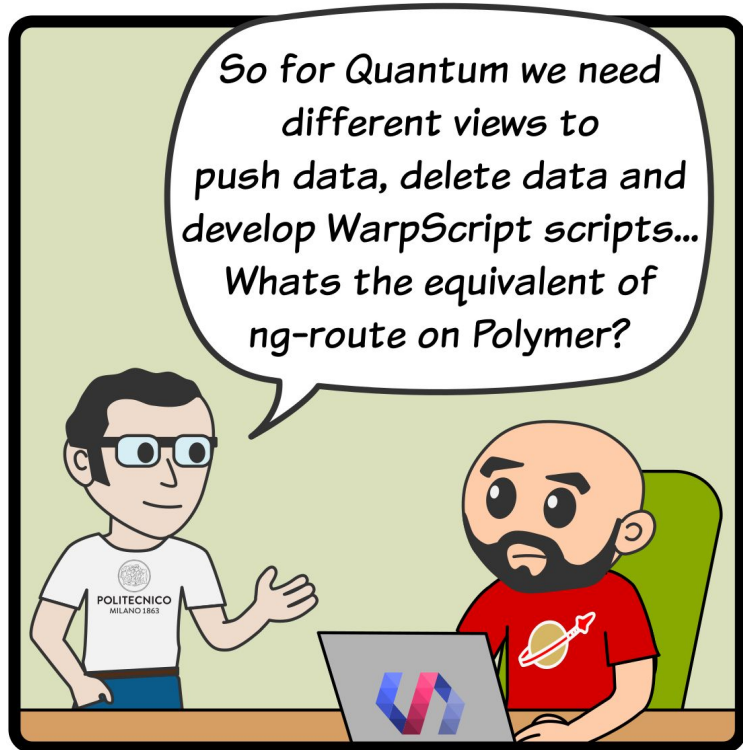


Ecosystem

Alone we go faster, together we go farther...



At the beginning there was none...



Then we got a toolbox



Polymer Project

Start Polymer 2.0 Preview **App Toolbox** News Element Catalog

What's in the box?

What's in the box?

Polymer App Toolbox

EDIT ON GITHUB

Polymer App Toolbox is a collection of components, tools and templates for building **Progressive Web Apps** with Polymer. App Toolbox features:

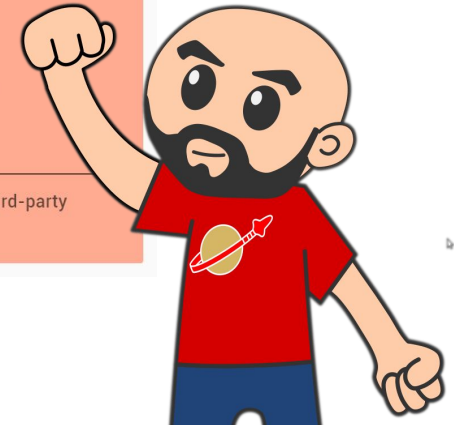
- Component-based architecture using Polymer and web components.
- Responsive design using the **app layout components**.
- Modular routing using the `<app-route>` elements.
- Localization with `<app-localize-behavior>`.
- Turnkey support for local storage with **app storage elements**.
- Offline caching as a progressive enhancement, using service workers.
- Build tooling to support serving your app multiple ways: unbundled for delivery over HTTP/2 with server push, and bundled for delivery over HTTP/1.



And official catalogs of elements



| | | | |
|---|--|--|--|
| <p>0.10.1</p> <h2>App</h2> <p>App Elements</p> <hr/> <p>App elements</p> | <p>1.0.10</p> <h2>Fe</h2> <p>Iron Elements</p> <hr/> <p>Polymer core elements</p> | <p>1.0.7</p> <h2>Md</h2> <p>Paper Elements</p> <hr/> <p>Material design elements</p> | <p>1.1.1</p> <h2>Go</h2> <p>Google Web Components</p> <hr/> <p>Components for Google's APIs and services</p> |
| <p>1.0.1</p> <h2>Au</h2> <p>Gold Elements</p> <hr/> <p>Ecommerce Elements</p> | <p>1.0.0</p> <h2>Ne</h2> <p>Neon Elements</p> <hr/> <p>Animation and Special Effects</p> | <p>2.0.0</p> <h2>Pt</h2> <p>Platinum Elements</p> <hr/> <p>Offline, push, and more</p> | <p>1.0.0</p> <h2>Mo</h2> <p>Molecules</p> <hr/> <p>Wrappers for third-party libraries</p> |



And a extensive 3rd party catalog



The screenshot shows the WebComponents.org website. At the top, there's a navigation bar with 'Getting started', 'Community', 'Chat', and a 'Publish element' button. Below that is a search bar for 'Search custom elements' and a list of categories: 'BUTTON', 'ROUTING', 'IMAGE', 'EMOJI', 'FORM', 'TOOLBAR'. The main content area features the 'granite-elements' package page, which includes a description: 'A collection of web-components made on the granite coast of Brittany'. Below this, there are sections for 'Current Elements' and 'Native' elements, with a 'View all of README.md' button. A list of 24 elements is shown, including 'ace-widget', 'granite-ajax-saver', and 'granite-alert'. To the right, there's a profile for Horacio Gonzalez, a Spaniard living in Brittany, with 163 followers and various social media links.

granite-elements
A collection of web-components made on the granite coast of Brittany

A collection of Web Components made in the granitic coast of Brittany

Current Elements

Native

[View all of README.md](#)

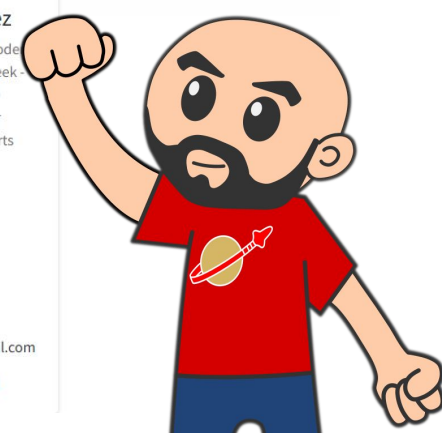
24 Elements

- ace-widget**
Polymer wrap around Ace editor
★ 20 ▼ 18
- granite-ajax-saver**
A lightweight element to save the response from an AJAX call into a file on the local filesystem
★ 1 ▼ 0
- granite-alert**
A set of Bootstrap-like alert elements.
★ 3 ▼ 3

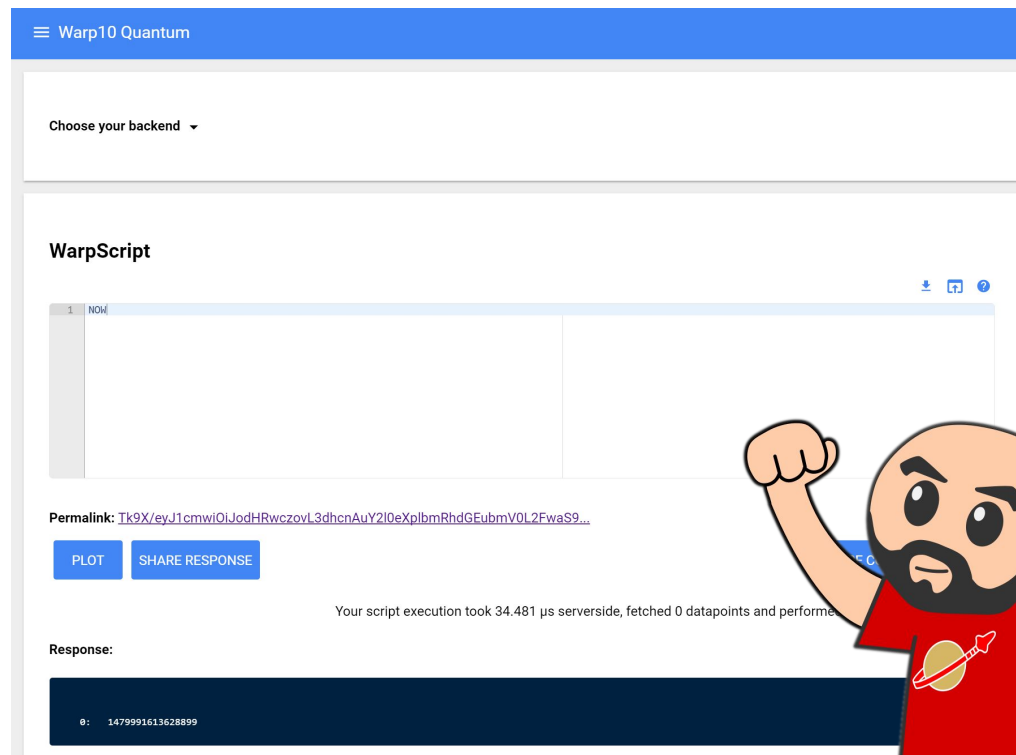
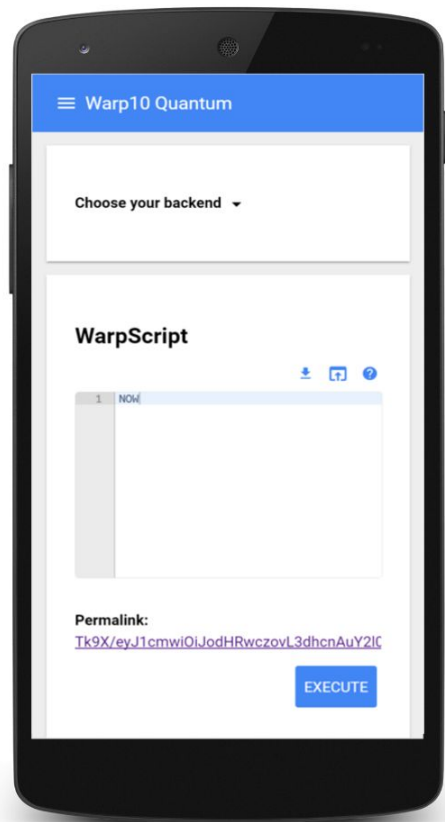
Horacio Gonzalez
Spaniard lost in Brittany, code dreamer and all-around geek
DevRel @ovh - Warp10 contributor - #Polymer @GoogleDeveloperExperts

FOLLOWERS
163

- [LostInBrittany](#)
- [@OVH](#)
- Brest, Brittany, France
- horacio.gonzalez@gmail.com
- <http://lostinbrittany.org>



And full PWA support





One more thing...*



*Let's copy from the master



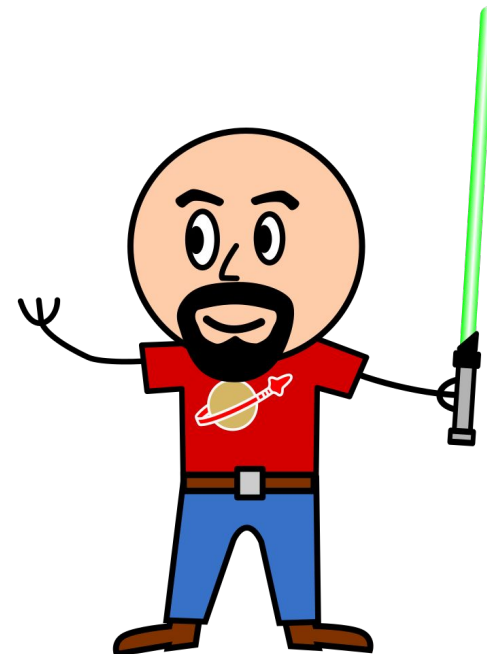
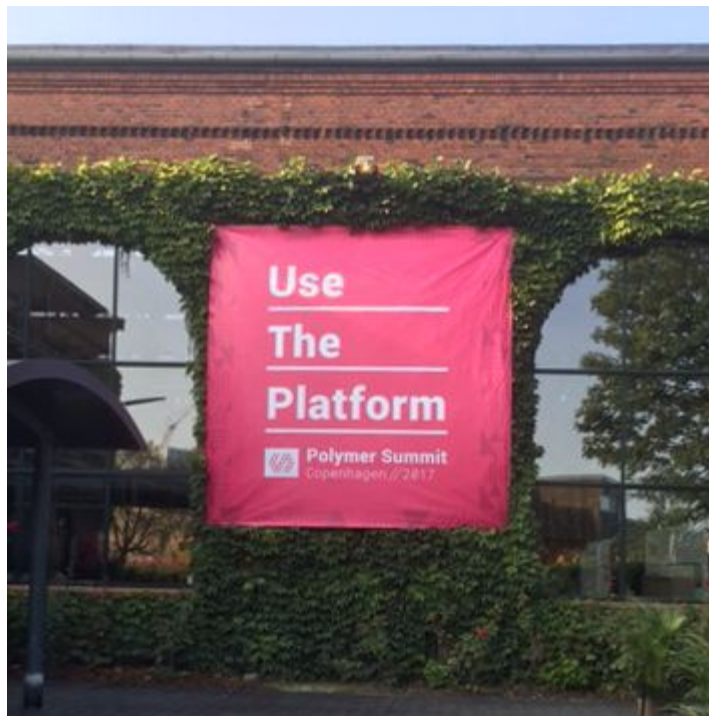
Polymer is not important



WebComponents ARE



Use the Platform, Luke...



WebComponents ARE native



Do you love your framework?



Oh yeah, we all do



Would you marry your framework?



Like until death...



How much does cost the divorce?



Do you remember when you dropped AngularJS for Angular?



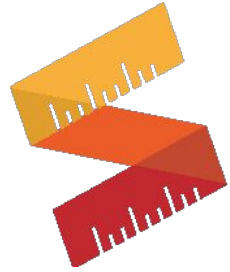
Why recode everything again?



Reuse the bricks in your new framework



Lots of web components libraries



slim.js



STENCIL



For different need and sensibilities



And some good news



Angular Elements



Vue Web Component
Wrapper

Frameworks begin to understand it



So for your next app



Choose a framework, no problem...

But please, help your future self

Use Web Components!



