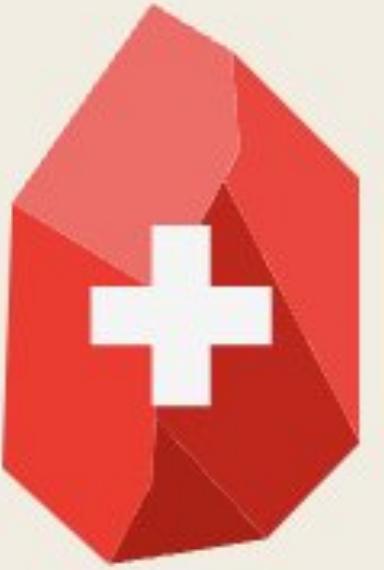


# Helvetica Ruby 2024



**When**  
17.05.2024

**Where**  
Zürich, Switzerland



## Marco Roth

Revisiting the Hotwire Landscape after  
Turbo 8

# Revisiting the Hotwire Landscape after Turbo 8



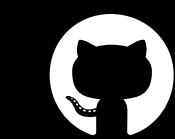
Marco Roth

Full-Stack Developer & Open Source Contributor



👋 Marco Roth

Full-Stack Developer & Open Source Contributor



@marcoroth



@marcoroth\_

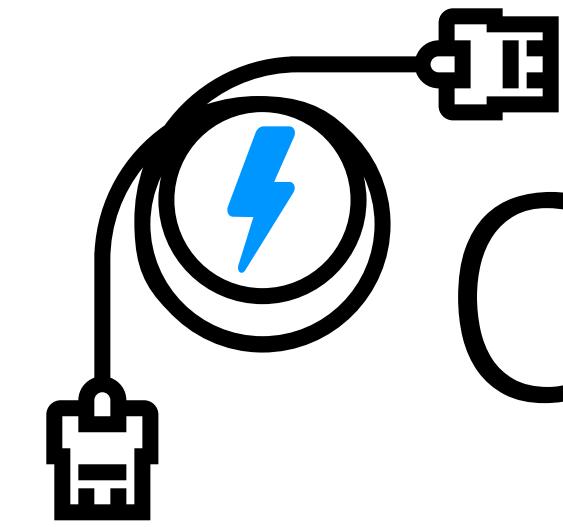
Ⓜ️ @marcoroth@ruby.social

🌐 marcoroth.dev

## Core Team



Stimulus**Reflex**



Cable**Ready**

## Maintainer



I ❤️ Open Source

# **Open Source Journey**

**Started to actively contribute in 2019**

**Started to actively contribute in 2019**

**Went full-time on OSS in January 2022**

**Started to actively contribute in 2019**

**Went full-time on OSS in January 2022**

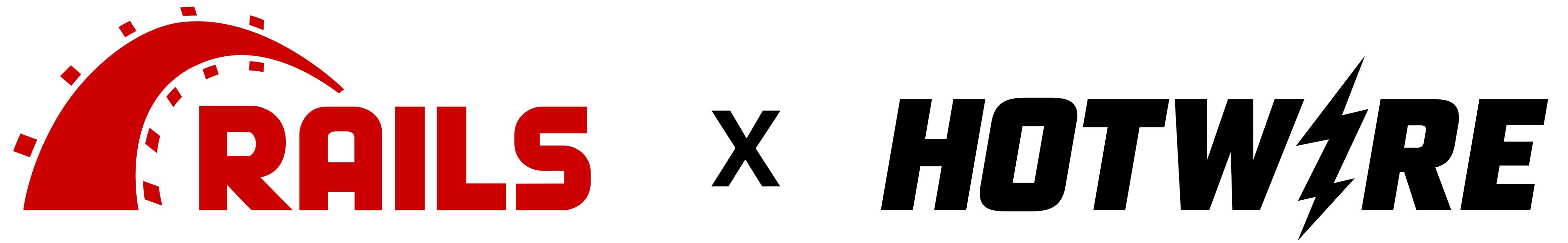
**Started contracting in July 2023 to support  
working on OSS 50% of my time**





**HOTWIRE**







# Superpower

# **The future of modern Rails apps**



---

Wednesday, December 15, 2021

# Rails 7.0: Fulfilling a vision

---

This version of Rails has been years in the conceptual making. It's the fulfillment of a vision to present a truly full-stack approach to web development that tackles both the front- and back-end challenges with equal vigor. An omakase menu that includes everything from the aperitif to the dessert.

# Rails Renaissance

**HOTWIRE**







**I want to build modern  
frontend tools and tooling**

**...that are worthy of the Rails  
framework and it's history.**

February 7, 2024

# Turbo 8 released

Turbo 8 introduces morphing for smooth page refreshes, view transitions, InstantClick, and more.



Alberto Fernández-Capel  
Programmer

---

**And I think that changed the trajectory  
for the ecosystem quite a bit.**

What is

**HOTWIRE**

# **HTML-over-the-wire**

**We want to use HTML as the  
format for our application.**

**The server is the  
single source of truth**

We want to use the HTML and the  
business logic we already have on  
the backend

**Without having to duplicate any  
logic on the frontend**

**Hotwire is not about getting rid of JavaScript.**

**Hotwire is about reducing the amount of  
application-specific JavaScript**

# **Timeline and History**

Turbolinks first released

2012

Rails 3.2

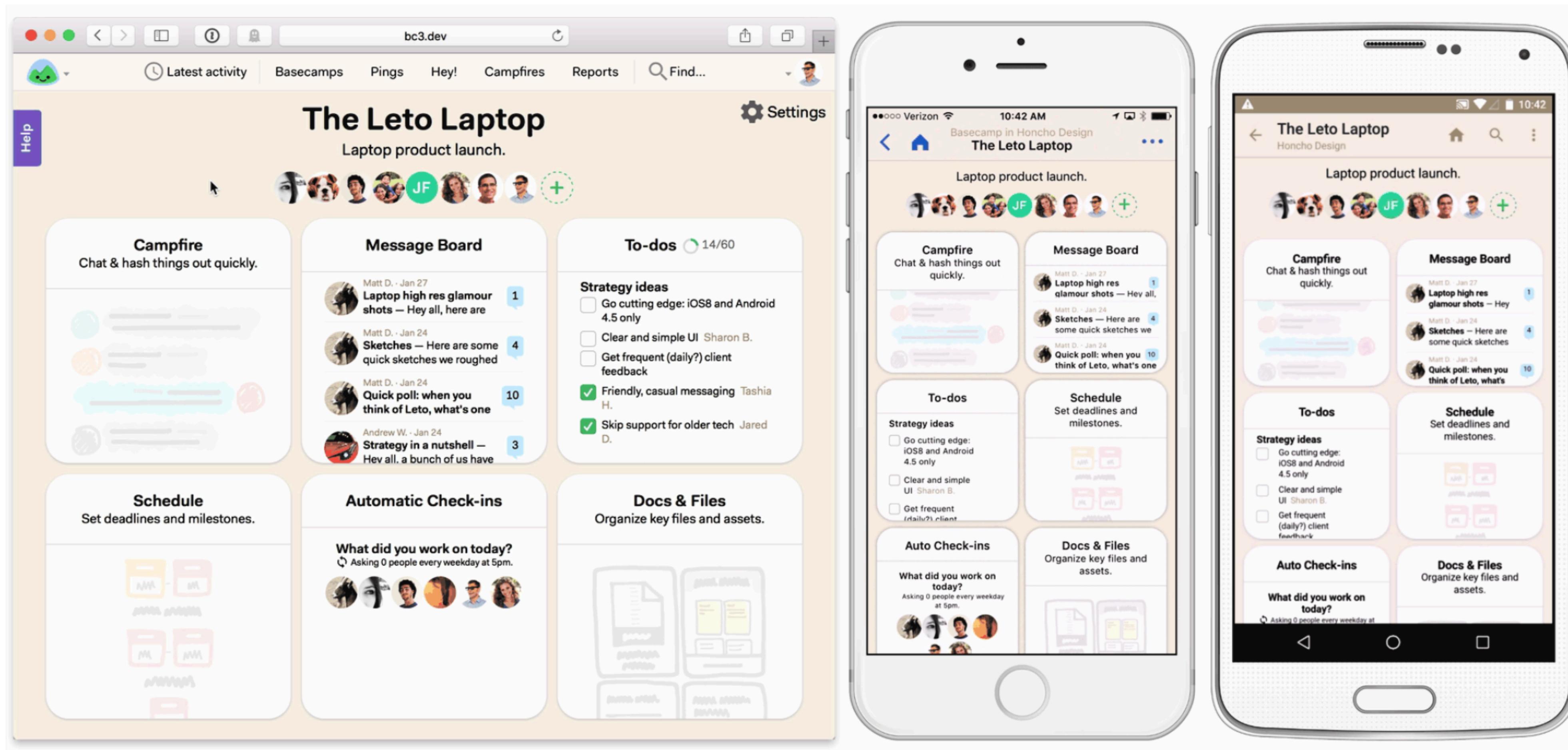
Turbolinks ships per default in Rails

2013

Rails 4.0

# Turbolinks

Turbolinks® makes navigating your web application faster. Get the performance benefits of a single-page application without the added complexity of a client-side JavaScript framework. Use HTML to render your views on the server side and link to pages as usual. When you follow a link, Turbolinks automatically fetches the page, swaps in its `<body>`, and merges its `<head>`, all without incurring the cost of a full page load.



```
$ rails new --skip-turbolinks
```

**Turbolinks was a decade  
ahead of it's time.**

Turbolinks first released

2012

Rails 3.2

Turbolinks ships per default in Rails

2013

Rails 4.0

Turbolinks 5 released

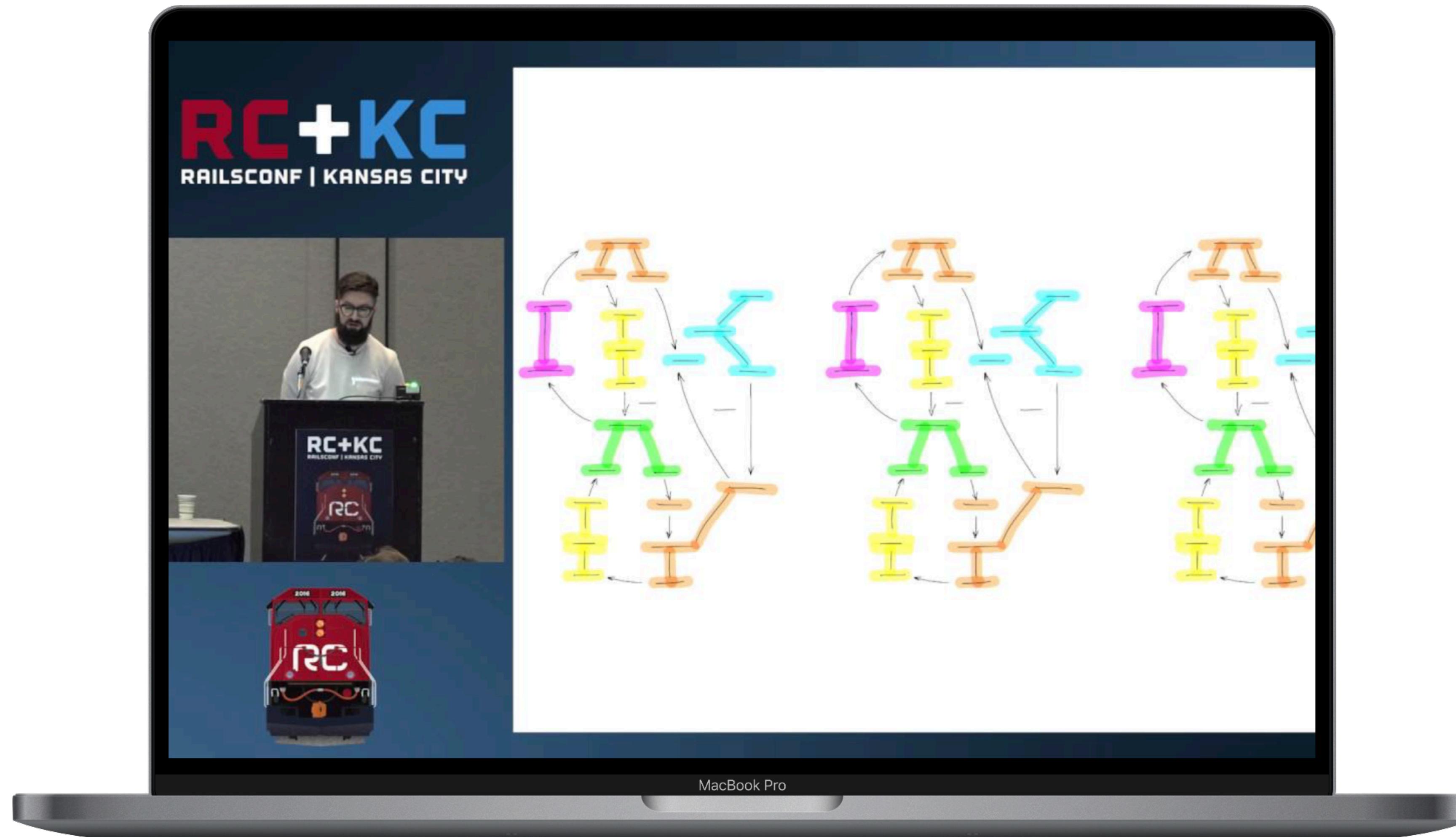
2014

Rails 4.1 and Rails 4.2

2016

Rails 5.0

# RailsConf 2016 - Turbolinks 5: I Can't Believe It's Not Native! by Sam Stephenson



<https://www.youtube.com/watch?v=SWEtsOrlezA>



*jQuery*

Turbolinks first released

2012

Rails 3.2

Turbolinks ships per default in Rails

2013

Rails 4.0

Turbolinks 5 released

2014

Rails 4.1 and Rails 4.2

Stimulus and CableReady released

2016

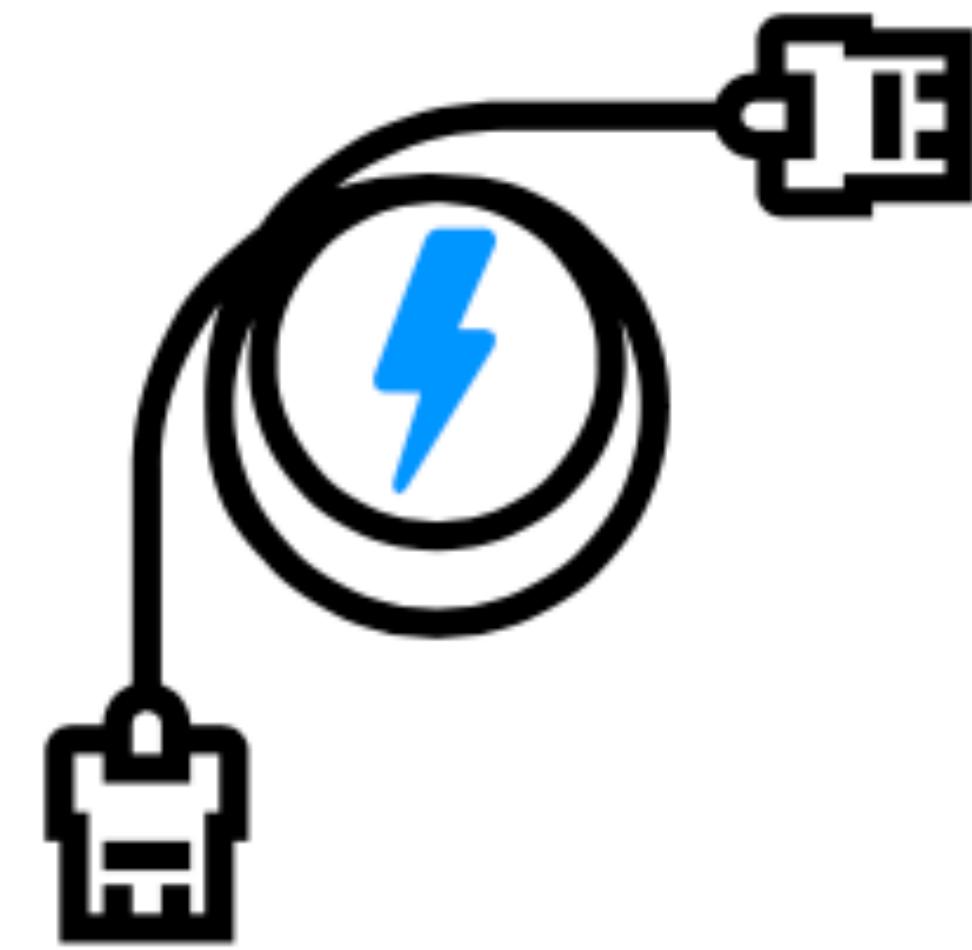
Rails 5.0

2017

Rails 5.1



**Stimulus**



**CableReady**

**We were missing a way to  
reactively reflect updates in  
our Rails frontend.**

**We wanted to build more  
sophisticated Rails  
applications.**

**Reactive  
Real-time  
High fidelity  
Applications**

Turbolinks first released

2012

Rails 3.2

Turbolinks ships per default in Rails

2013

Rails 4.0

Turbolinks 5 released

2014

Rails 4.1 and Rails 4.2

Stimulus and CableReady released

2016

Rails 5.0

Phoenix LiveView and  
StimulusReflex released

2017

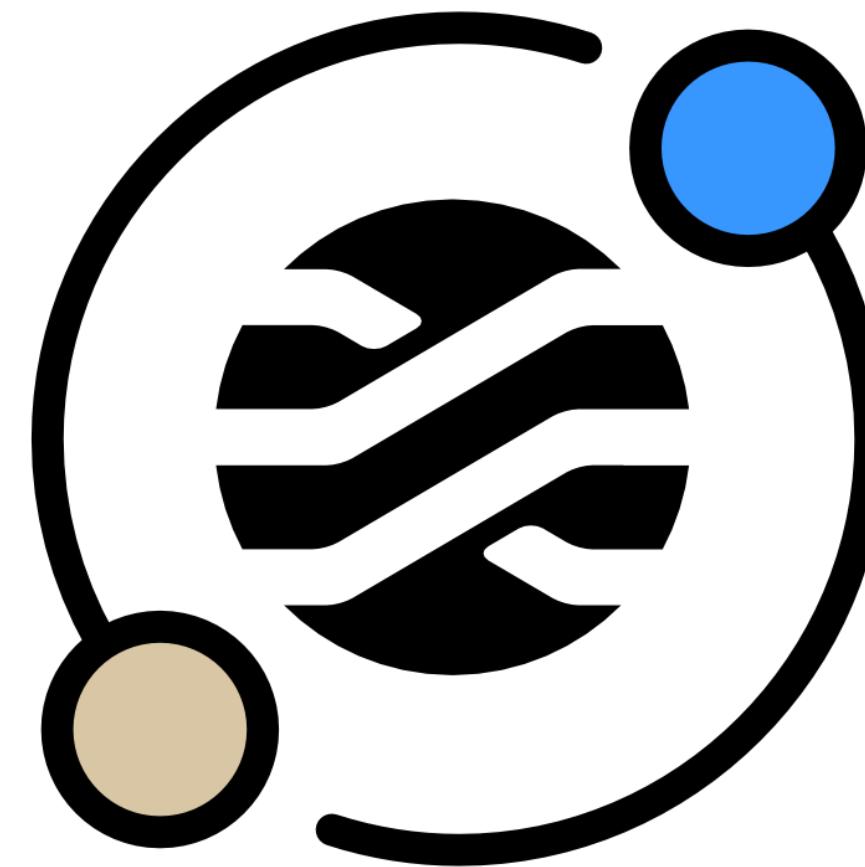
Rails 5.1

2018

Rails 5.2



**Phoenix LiveView**



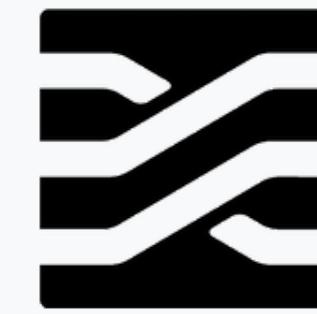
**StimulusReflex**

Build reactive applications with  
the Rails tooling you already  
know and love.

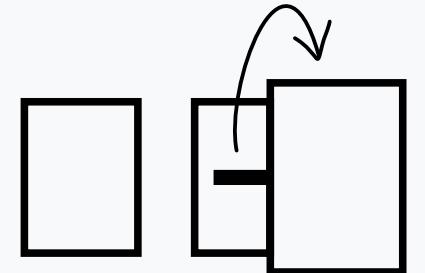
# 2018



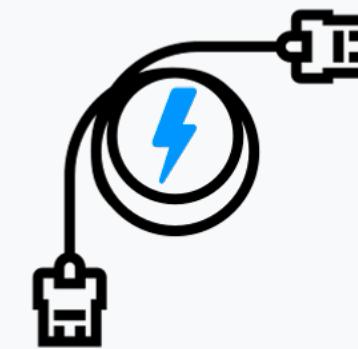
Rails



Stimulus



Turbolinks



CableReady



ActionCable



Rails UJS

```
<button data-reflex="click">  
  <%= Time.current.to_i %>  
</button>
```

1715061086223



```
class CounterController < ApplicationController
  def show
    @count = session[:count] || 0
  end
end
```

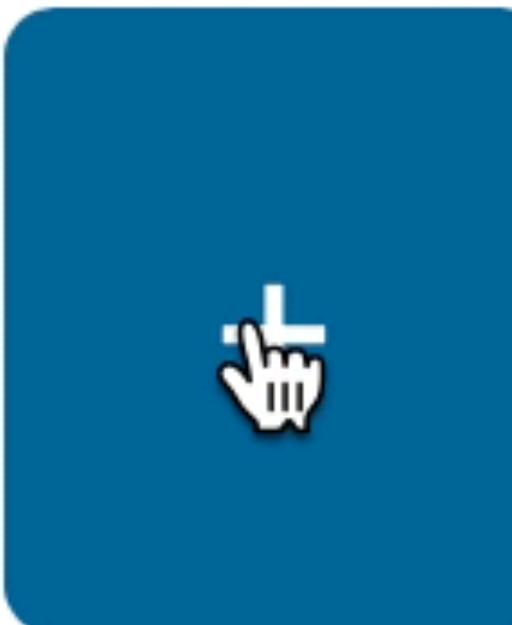
```
<button data-reflex="click->Counter#increment">+</button>
<button data-reflex="click->Counter#decrement">-</button>
```

Count:

```
<b><%= @count %></b>
```

```
class CounterReflex < ApplicationReflex
  def increment
    session[:count] += 1
  end

  def decrement
    session[:count] -= 1
  end
end
```



Count: 0

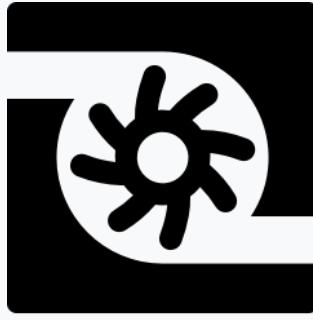


Turbolinks first released	2012	Rails 3.2
Turbolinks ships per default in Rails	2013	Rails 4.0
Turbolinks 5 released	2014	Rails 4.1 and Rails 4.2
Stimulus and CableReady released	2016	Rails 5.0
Phoenix LiveView and StimulusReflex released	2017	Rails 5.1
Hotwire umbrella and Turbo released	2018	Rails 5.2
	2019	Rails 6.0
	2020	Rails 6.1

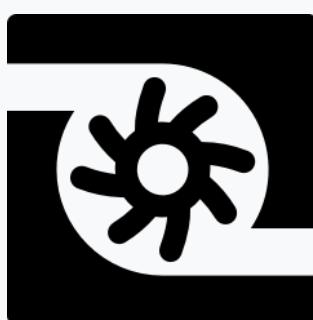
# December 2020



Turbo Drive



Turbo Streams



Turbo Frames

Turbolinks first released	2012	Rails 3.2
Turbolinks ships per default in Rails	2013	Rails 4.0
Turbolinks 5 released	2014	Rails 4.1 and Rails 4.2
Stimulus and CableReady released	2016	Rails 5.0
Phoenix LiveView and StimulusReflex released	2017	Rails 5.1
Hotwire umbrella and Turbo released	2018	Rails 5.2
Hotwire ships per default in Rails	2019	Rails 6.0
	2020	Rails 6.1
	2021	Rails 7.0

Turbolinks first released	2012	Rails 3.2
Turbolinks ships per default in Rails	2013	Rails 4.0
Turbolinks 5 released	2014	Rails 4.1 and Rails 4.2
Stimulus and CableReady released	2016	Rails 5.0
Phoenix LiveView and StimulusReflex released	2017	Rails 5.1
Hotwire umbrella and Turbo released	2018	Rails 5.2
Hotwire ships per default in Rails	2019	Rails 6.0
Turbo 8 with Morphing released	2020	Rails 6.1
	2021	Rails 7.0
	2023	Rails 7.1
	2024	

# February 2024



Turbo Page Refreshes



Turbo Model Broadcasts

# 2018

	Programming Language	Web Framework	HTML Rendering	Views/ Components	JavaScript Sprinkles	Websockets	Navigation	Form Submission	Live Form Validation	Lazy Loading	Server-Side DOM-Updates	Real-Time Apps	Custom Update Actions	Subscribe to model updates	Morphing	Full-Page Refreshes	Scoped-Page Updates	Partial-Page Refreshes	Optimistic UI
Rails Stack before Hotwire (before 2021)																			
StimulusReflex Stack																			

# 2018

	Programming Language	Web Framework	HTML Rendering	Views/ Components	JavaScript Sprinkles	Websockets	Navigation	Form Submission	Live Form Validation	Lazy Loading	Server-Side DOM-Updates	Real-Time Apps	Custom Update Actions	Subscribe to model updates	Morphing	Full-Page Refreshes	Scoped-Page Updates	Partial-Page Refreshes	Optimistic UI
Rails Stack before Hotwire (before 2021)																			
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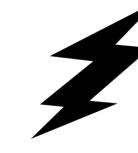
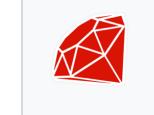
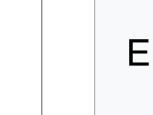
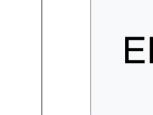
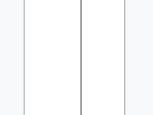
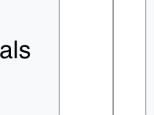
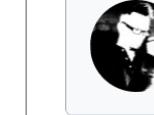
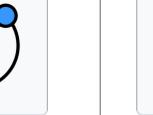
# 2018

	Programming Language	Web Framework	HTML Rendering	Views/ Components	JavaScript Sprinkles	Websockets	Navigation	Form Submission	Live Form Validation	Lazy Loading	Server-Side DOM-Updates	Real-Time Apps	Custom Update Actions	Subscribe to model updates	Morphing	Full-Page Refreshes	Scoped-Page Updates	Partial-Page Refreshes	Optimistic UI
Rails Stack before Hotwire (before 2021)																			
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# 2021

	Programming Language	Web Framework	HTML Rendering	Views/ Components	JavaScript Sprinkles	Websockets	Navigation	Form Submission	Live Form Validation	Lazy Loading	Server-Side DOM-Updates	Real-Time Apps	Custom Update Actions	Subscribe to model updates	Morphing	Full-Page Refreshes	Scoped-Page Updates	Partial-Page Refreshes	Optimistic UI
Hotwire Stack																			
StimulusReflex Stack																			

# 2024

	Programming Language	Web Framework	HTML Rendering	Views/ Components	JavaScript Sprinkles	Websockets	Navigation	Form Submission	Live Form Validation	Lazy Loading	Server-Side DOM-Updates	Real-Time Apps	Custom Update Actions	Subscribe to model updates	Morphing	Full-Page Refreshes	Scoped-Page Updates	Partial-Page Refreshes	Optimistic UI		
 Hotwire Stack with Turbo 8	 Ruby	 Svelte	 ERB	 Slim	 Partials	 Red Diamond	 Wavy Lines	 Dice	 Target	 Target	 Clock	 Lightning Bolt	 Target	 Target	 Target	 Target	 Target	 Target	 Target	 Target	 Target
 StimulusReflex Stack	 Ruby	 Svelte	 ERB	 Slim	 Partials	 Red Diamond	 Wavy Lines	 Dice	 Target	 Target	 Target	 Target	 Target	 Target	 Target	 Target	 Target	 Target	 Target	 Target	 Target

**The paths are converging**

**They have the same goal**

**Hotwire is the default  
in Rails now**

**Build reactive applications with  
the Rails tooling you already know  
and love.**

**Should you start new apps  
with StimulusReflex?**

**Probably not.**

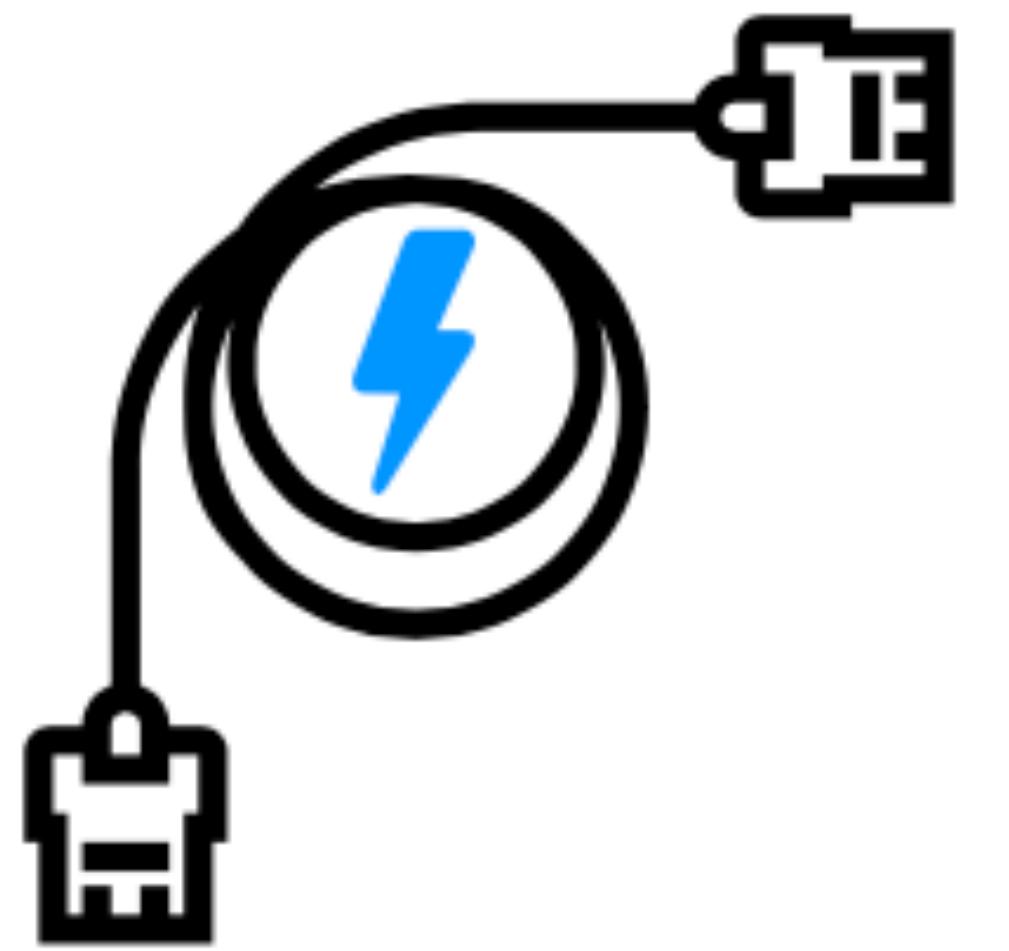
**Hotwire has come a long way  
over the years**

**Both projects have the same  
end goal**

**The projects are somewhat  
competing.**

**People are confused with the  
amount of projects and their  
boundaries**

**Simplifying the Hotwire  
ecosystem doesn't hurt**



**CableReady 5.0**



**StimulusReflex 3.5**



**StimulusReflex 3.5**  
**Is out now!**

**In the making  
for over 3+ years**

**The StimulusReflex Core team  
has decided that v3.5 is the  
last feature-release for now.**



**BOOST**

# HOW STANDARDS PROLIFERATE:

(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)

SITUATION:  
THERE ARE  
14 COMPETING  
STANDARDS.

14?! RIDICULOUS!  
WE NEED TO DEVELOP  
ONE UNIVERSAL STANDARD  
THAT COVERS EVERYONE'S  
USE CASES.



SOON:

SITUATION:  
THERE ARE  
15 COMPETING  
STANDARDS.

**Instead, we want to focus and  
help on improving the greater  
Hotwire ecosystem.**

**Going forward we would love  
to help make Hotwire the best  
framework in this space.**

**Make it the best for Rails**

**StimulusReflex inspired**

**StimulusReflex pushed  
what is possible**

**Turbo Frames**

**Turbo Streams**

**Custom Turbo Stream Actions**

**Turbo Broadcasts**

**Turbo Page Refreshes**

**Morphing**

**We were pushing what's  
possible with the HTML-over-  
the-wire approach**

**Before the Hotwire umbrella  
was even a thing**

**StimulusReflex has been  
innovative**

	StimulusReflex + CableReady	Hotwire / Turbo	Difference
DOM Updates	May 2017 CableReady Operations	Dec 2020 Turbo Streams	3 yrs 7 mo
Morphing as an individual concept	Aug 2019 CR Morph Action + SR Morphs	?	4 yrs 9 mo+
Scoped Navigation	Oct 2019 data-reflex-root	Dec 2020 Turbo Frames	1 yrs 2 mo
Custom Actions	May 2020 Custom CableReady Operations	Sep 2022 Custom Turbo Stream Actions	2 yrs 4 mo
Reactive Page Refreshes	May 2020* StimulusReflex Page Morph	Feb 2024 Turbo Page Refreshes	3 yrs 9 mo
Partial Page Refreshes	May 2020 StimulusReflex Selector Morph	?	4 yrs+
Subscribe to Models	Jan 2021 cable_ready_stream_from	Dec 2020 turbo_stream_from	-1 mo
Modal Change Broadcasts	Aug 2021 CableReady::Updatable	Feb 2024 Turbo Model Broadcasts	2 yrs 6 mo



**None of is to blame**

**What can we learn from it?**

**Missing a formal organizational  
structure to push things**

Tooling  
Education  
Marketing  
Documentation  
Addressing Issues  
Community Building  
Building new features  
Accelerating Adoption  
Framework integrations  
Answering Questions/Forums  
Guides/How tos/Best Practices  
Support Migrations/Transitions

**There are a lot of open issues  
and unaddressed pull requests.**

**Stimulus and Turbo are now  
default in Rails 7.0**

**Who's driving this?**

**There is no  
Hotwire "Core Team"**

# Rails is diverse

**...and all the people that have  
contributed and pushed Rails  
over the years**

**Building a community  
around Hotwire**

**To push things forward**

## Meet the Core team.

The direction of the framework is stewarded by the Rails Core. This group of long-term contributors manages releases, evaluates pull-requests, handles conduct complaints, and does a lot of the groundwork on major new features.



**David**

USA

Since 2003



**Jeremy**

USA

Since 2005



**Aaron**

USA

Since 2011



**Xavier**

Catalonia

Since 2011



**Rafael**

Canada

Since 2012



**Guillermo**

Canada

Since 2012



**Carlos**

Brazil

Since 2012



**Matthew**

Australia

Since 2015



**Eileen**

USA

Since 2017



**Ryuta**

Japan

Since 2022



**Jean**

France

Since 2022

## The Committers.

The Committer team assists with processing pull requests and making changes to the framework, but does not have the keys to make final releases or set policy. All members of the Core team came up through working on this team: [Akira Matsuda](#), [Eugene Kenny](#), [Gannon McGibbon](#), [Jonathan Hefner](#), [Yasuo Honda](#)

## The Issues team.

The Issues team assists with issues triage, pull request reviews, and documentation improvements. They are often the first point of interaction of users with the Rails team: [Adam Hess](#), [Adrianna Chang](#), [Akhil G Krishnan](#), [Alex Ghiculescu](#), [Dima Fakto](#), [Edouard Chin](#), [Haroon Ahmed](#), [Hartley McGuire](#), [John Crepezzi](#), [Jorge Manrubia](#), [Keeran Raj Hawoldar](#), [Leo Correa](#), [Luan Vieira](#), [Matheus Richard](#), [Mike Dalessio](#), [Nikita Vasilevsky](#), [Paul Reece](#), [Petrik de Heus](#), [Prem Sichanugrist](#), [Robin Dupret](#), [Vipul A M](#), [Zak Scott](#)

**Can we have something  
similar for Hotwire?**

**Should we have something  
similar for Hotwire?**

**I think we should.**

**What can we take over from  
StimulusReflex?**

**DX**

**Installer experience**

**Partial page updates**

**Morphing beyond Page Refreshes**

**Optimistic UI**

**Plugability**

**Bringing over as much  
as possible.**

**It would benefit everyone.**

**More diversity and  
advanced uses cases**

**The needs of those  
companies must be heard**

**Rails integration and  
documentation is key**

**So many companies use  
and rely on Hotwire**

**I want to keep building  
Full-stack apps with Rails**

**Hotwire should  
enables it**

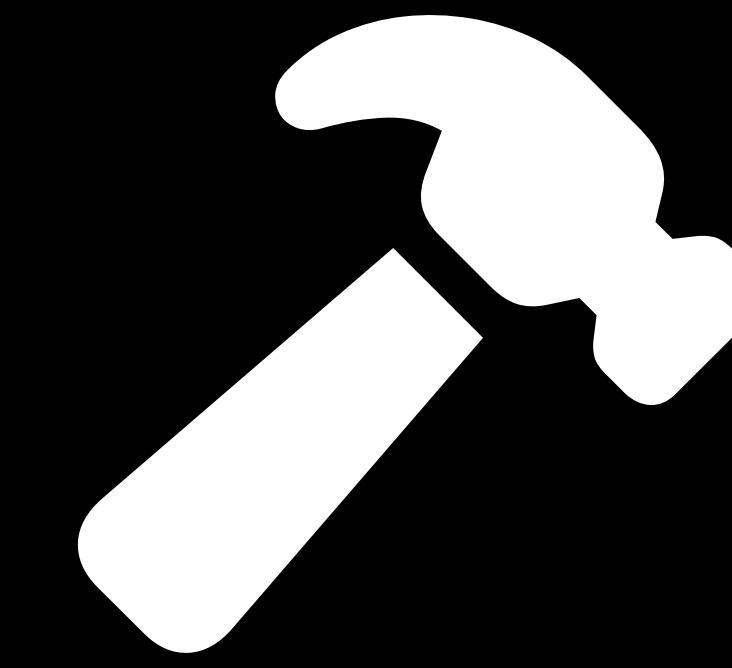
# Ecosystem

**Frameworks**

**Tooling**

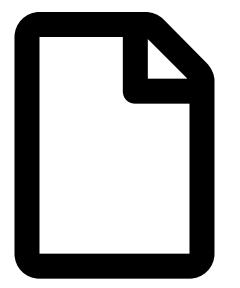
**Documentation**

**Community**



# Tools

# Developer Experience Improvements in Stimulus



app/javascript/controllers/user\_profile\_controller.js

```
import { Controller } from "@hotwired/stimulus"

export default class extends Controller {
  connect() {
    console.log("User Profile connected")
  }
}
```

```
import { Controller } from "@hotwired/stimulus"

export default class extends Controller {
  connect() {
    console.log("User Profile connected")
  }
}
```

```
import { Controller } from "@hotwired/stimulus"

export default class extends Controller {
  connect() {
    console.log("User Profile connected")
  }
}
```

```
<div data-controller="user_profile">  
  </div>
```



All

Evaluations

Errors

Warnings

Logs



Emulate User Gesture



Console opened at 5:20:56 PM



Auto — favorites://

```
<div data-controller="user_profile">  
  </div>
```

```
<div data-controller="user-profile">  
  </div>
```

**These mistakes  
happen so easily**

**Can we do better?**

Available Now

# Stimulus LSP



Visual Studio Code



NeoVim



```
<div data-controller=""></div>
```

- ⠁ application
- ⠁ circular-progressbar
- ⠁ collapse-buttons
- ⠁ filter-checkbox
- ⠁ filter-slider
- ⠁ form
- ⠁ range-slider
- ⠁ tippy
- ⠁ tooltip
- ⠁ worker-list

```
<div data-controller="filter"></div>
```

- └ **filter-checkbox**
- └ **filter-slider**

```
<div data-controller="filter-checkbox"></div>
```

```
<div data-controller="filter_checkbox"></div>
```

"filter\_checkbox" isn't a valid Stimulus controller.  
Did you mean "filter-checkbox"? Stimulus  
LSP(stimulus.controller.invalid)

[View Problem \(F8\)](#) [Quick Fix... \(#.\)](#)

```
<div data-controller="new-controller"></div>
```

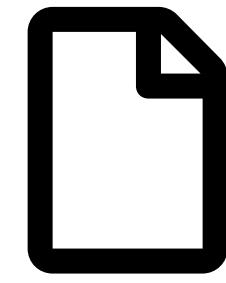
Quick Fix

 Create "new-controller" Stimulus Controller

```
<div data-controller="new-controller"></div>
```

Quick Fix

 Create "new-controller" Stimulus Controller



app/javascript/controllers/new\_controller\_controller.js

```
<div data-controller="filter-checkbox">  
  <a data-action="click"  
  </div>
```

- └ **click**
- └ **click->application**
- └ **click->circular-progressbar**
- └ **click->circular-progressbar#calculateDashOffset**
- └ **click->circular-progressbar#connect**
- └ **click->circular-progressbar#getColorForPercent...**
- └ **click->circular-progressbar#initializeCircularP...**
- └ **click->circular-progressbar#updateCircularProgr...**
- └ **click->collapse-buttons**
- └ **click->collapse-buttons#connect**
- └ **click->collapse-buttons#initializeCollapse**
- └ **click->filter-checkbox**

```
<div data-controller="filter-checkbox">  
  <a data-action="click->filter">  
</div>
```

- └ **click->filter-checkbox**
- └ **click->filter-checkbox#applyClasses**
- └ **click->filter-checkbox#checkDisabledState**
- └ **click->filter-checkbox#checkedValueChanged**
- └ **click->filter-checkbox#connect**
- └ **click->filter-checkbox#toggle**
- └ **click->filter-slider**
- └ **click->filter-slider#checkSliderStatus**
- └ **click->filter-slider#connect**
- └ **click->filter-slider#disconnect**
- └ **click->filter-slider#updateLegend**
- └ **click@window->filter-checkbox**

```
<div data-controller="filter-checkbox">
```

```
  <a data-action="click->filter-checkbox#"
```

```
</div>
```

- └ [click->filter-checkbox#applyClasses](#)
- └ [click->filter-checkbox#checkDisabledState](#)
- └ [click->filter-checkbox#checkedValueChanged](#)
- └ [click->filter-checkbox#connect](#)
- └ [click->filter-checkbox#toggle](#)
- └ [click@window->filter-checkbox#applyClasses](#)
- └ [click@window->filter-checkbox#checkDisabledState](#)
- └ [click@window->filter-checkbox#checkedValueChanged...](#)
- └ [click@window->filter-checkbox#connect](#)
- └ [click@window->filter-checkbox#toggle](#)
- └ [click@document->filter-checkbox#applyClasses](#)
- └ [click@document->filter-checkbox#checkDisabledSt...](#)

```
<div data-controller="filter-checkbox">  
  <a data-action="click->filter-checkbox#applyClasses"></a>  
</div>
```

```
<div data-controller="filter-checkbox">  
  <a data-action="click->filter-checkbox#unknown"></a>  
</div>
```

"unknown" isn't a valid Controller Action on the "filter-checkbox" controller. Did you mean "connect"?  
Stimulus LSP(stimulus.controller.action.invalid)

[View Problem \(F8\)](#) No quick fixes available

# New features

# marcoroth/ stimulus-parser



Statically analyze Stimulus controllers in your project.

8 7

Contributors

4

Used by

☆

28

Stars

7

Forks



**Parses JavaScript classes and  
traces imports and exports**

# **Registers and tracks identifiers**

## STIMULUS CONTROLLERS



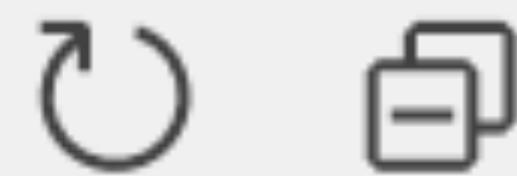
- ↳ laravel
- ↳ name
- ↳ nested--laravel
- ↳ nested--twice--laravel
- ↳ nested--twice--webpack
- ↳ nested--webpack
- ↳ some-thing
- ↳ typescript
- ↳ user--nested--update
- ↳ user--status
- ↳ user-profile
- ↳ webpack

## JS user\_profile\_controller.js ×

```
app > javascript > controllers > JS user_profile_controller.js > 📁  
1 import { Controller } from "@hotwired/stimulus"  
2  
3 export default class extends Controller {  
4   connect() {  
5     console.log("Hello, Stimulus!", this.element)  
6   }  
7 }
```

## JS name\_controller.js

## STIMULUS CONTROLLERS



### ✓ Unregistered (6 controllers)

- ↳ alert (tailwindcss-stimulus-components)
- ↳ autosave (tailwindcss-stimulus-components)
- ↳ color-preview (tailwindcss-stimulus-components)
- ↳ modal (tailwindcss-stimulus-components)
- ↳ slideover (tailwindcss-stimulus-components)
- ↳ strada (@hotwired/strada)

### > Registered (40 controllers)

<> index.html >  div

1   <div data-controller="alert">

2

Quick Fix

3

</

 Register "alert" from "app/javascript/controllers/alert\_controller.js" on Stimulus Application

 Register "alert" from "tailwindcss-stimulus-components" on Stimulus Application

 Create "alert" Stimulus Controller

 Fix using Copilot

 Explain using Copilot

**JS** profile\_controller.js ●

app > javascript > controllers > user > **JS** profile\_controller.js > ...

```
1 import { Controller } from "@hotwired/stimulus"
2
3 Stimulus: Connects to data-controller="user--profile"
4 export default class extends Controller {
5   connect() {
6     // ...
7
8     // ...
9   }
10
```

src > controllers > **JS** alert\_controller.js > ...

```
1 import { Controller } from "@hotwired/stimulus"
```

```
2
```

Stimulus: The "alert" controller isn't registered on your Stimulus Application

```
3 export default class extends Controller {
```

```
4   static targets = ["item"];
```

```
5   static classes = ["active", "inactive"];
```

```
6
```

```
7   connect() {
```

```
8     console.log("connect")
```

```
9   }
```

```
10
```

```
11   show(event) {
```

```
12     console.log("alert#show", event)
```

```
13   }
```

Better. [GoToDefinition\(\)](#)



Code Actions  
6 New Code Actions  
For more productivity

## Reduced False-Positives



Support for **TypeScript** Files and Stimulus Controllers

## Inheritance Support



Support for Stimulus Controllers imported from NPM packages

# Stimulus LSP 1.0

## New Diagnostics



Over 5+ new supported kinds

## @Decorators

Support and Diagnostics for Stimulus Decorators

## CodeLens

```
import { } from ""  
import * as  
export default  
export * from  
export { }
```

Full **import** and **export** tracing for more accurate results and diagnostics

### STIMULUS CONTROLLERS

- tree-list-view
- to-show-available
- and-registered
- controller-identifiers

# **Stimulus LSP**

## **Next steps**

## Full support for HTML+ERB and Rails-specific helpers

```
<%= tag.div(  
  data: {  
    controller: "filter",  
    filter_open_class: "border-white",  
    filter_close_class: "hover:bg-gray-100 border-gray-300"  
  }  
) %>
```



Ruby LSP

## Full support for importmap-rails

```
# Pin npm packages by running ./bin/importmap

pin "application", preload: true

pin "@hotwired/turbo-rails", to: "turbo.min.js", preload: true
pin "@hotwired/stimulus", to: "stimulus.js", preload: true
pin "@hotwired/stimulus-loading", to: "stimulus-loading.js", preload: true

pin "@rails/request.js", to: "requestjs.js", preload: true

pin_all_from "app/javascript/controllers", under: "controllers"
pin_all_from "app/javascript/config", under: "config"
```



marcoroth / stimulus-lsp



Type / to search

<> Code Issues 67 Pull requests 6 Actions Security Insights Settings

Filters ▾

Q is:open is:issue label:diagnostic

Labels 19

Milestones 0

New issue

Clear current search query, filters, and sorts 19 Open  4 Closed

Author ▾

Label ▾

Projects ▾

Milestones ▾

Assignee ▾

Sort ▾

- Diagnostic: Calling `application.register` with a non-controller should warn you  
`diagnostic enhancement feature`

#204 opened on Mar 2 by marcoroth

- Diagnostic: Put controller actions in specific order `diagnostic enhancement feature`

#201 opened on Mar 1 by marcoroth

- Diagnostic: Warn if target is never referenced in app `diagnostic enhancement feature find-references`

#172 opened on Feb 17 by marcoroth

- Diagnostic: Implement `stimulus.controller.class.missing` diagnostic `diagnostic enhancement feature`

#165 opened on Feb 15 by marcoroth

# Diagnostics

## HTML Files

- Missing controllers ( `stimulus.controller.invalid` )
- Missing controller actions ( `stimulus.action.invalid` )
- Missing controller targets ( `stimulus.controller.target.missing` )
- Missing controller values ( `stimulus.controller.value.missing` )
- Invalid action descriptors ( `stimulus.action.invalid` )
- Data attributes format mismatches ( `stimulus.attribute.mismatch` )
- Controller values type mismatches ( `stimulus.controller.value.type_mismatch` )

## JavaScript Files/Stimulus Controller Files

- Controller value definition default value type mismatch  
( `stimulus.controller.value_definition.default_value.type_mismatch` )
- Unknown value definition type ( `stimulus.controller.value_definition.unknown_type` )
- Controller parsing errors ( `stimulus.controller.parse_error` )
- Import from deprecated packages ( `stimulus.package.deprecated.import` )

Coming Soon

# Stimulus Lint

**Errors  
Diagnostics  
Best Practices  
Recommendations**

```
$ stimulus-lint
```

```
Stimulus Lint is inspecting 25 files
```

```
.....
```

```
25 files inspected, 0 offenses detected, 0 offenses autocorrectable
```

Planned

# Turbo LSP

Planned

# Stimulus/Turbo Browser Extension

DC

Create a post

+

DC

Default Contact Admin · 28 days ago

posted in Nate's Space Also really long name here

...

**New Post 1**

Test update the body

Like Comment

18 comments

  
ReflexBehaviors  toggles(trigger/target)



Create a post



Default Contact Admin · 28 days ago

posted in Nate's Space Also really long name here



### New Post 1

Test update the body



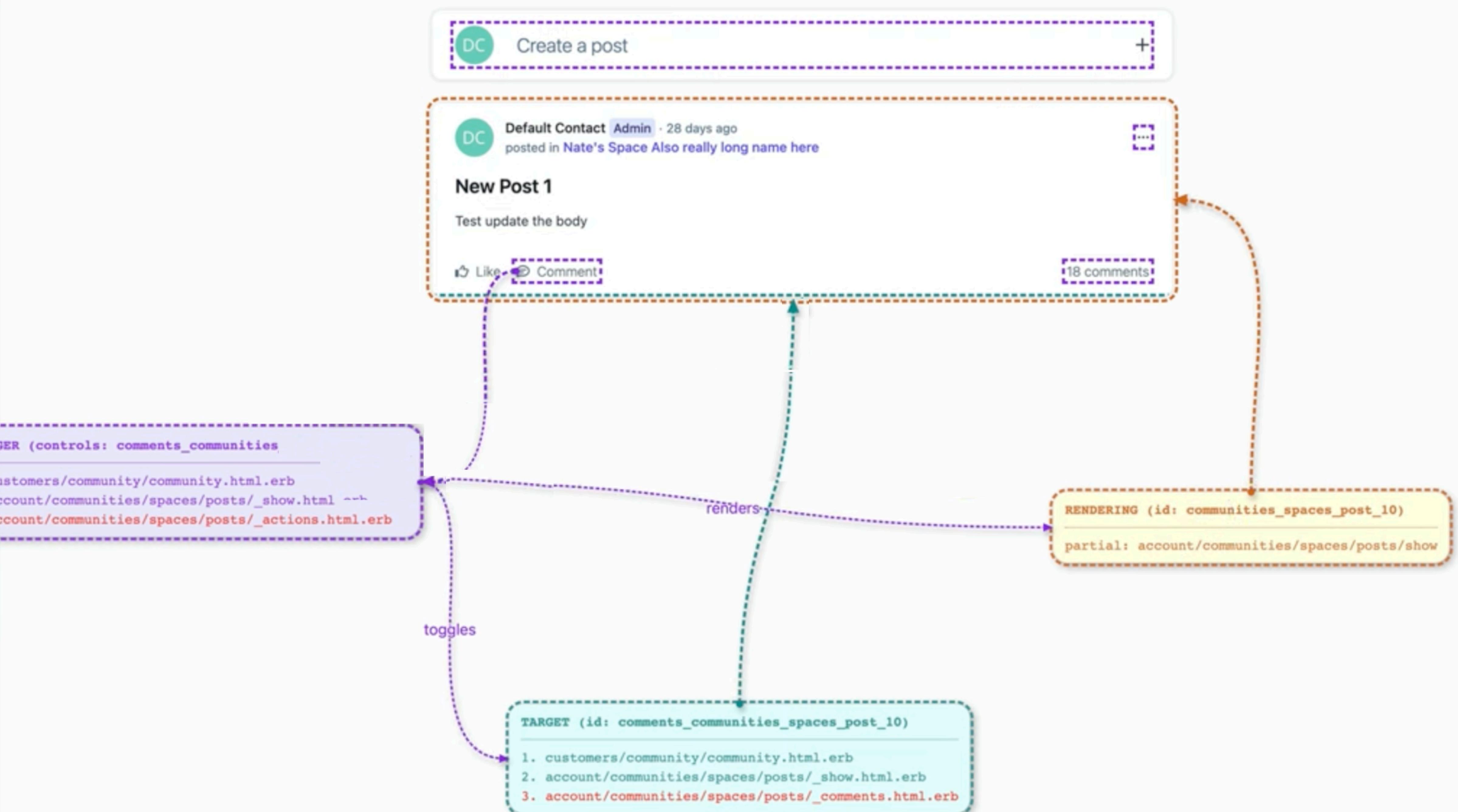
Like



Comment

18 comments

ReflexBehaviors  toggles(trigger/target)



**Developer Experience and  
Developer Ergonomics matter.**

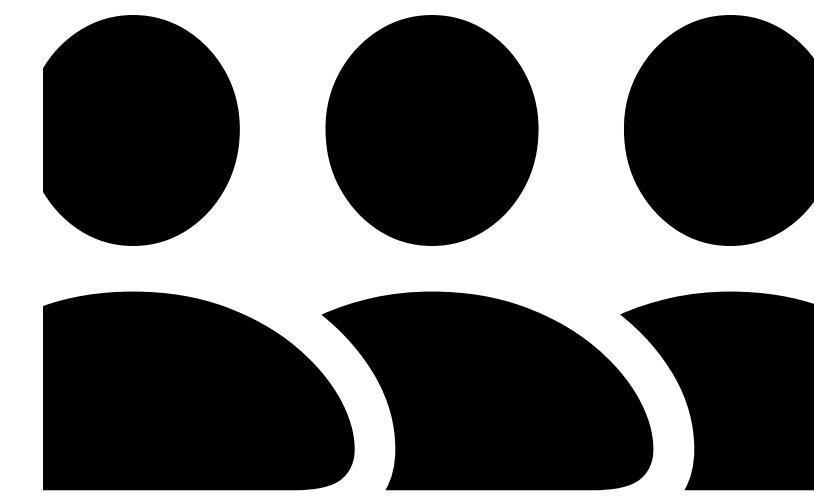
**This is the kind of tooling  
Hotwire is currently missing.**



# Documentation



# Documentation



# Community

# What's lacking in Hotwire?

Framework-specific documentation

In-depth guides

Discoverability

Navigating the ecosystem

Presentation and marketing

Staying up-to-date

ActionCable

**AnyCable**

CableReady

Cubism

current.js

Debounced

**Formulus**

Futurism

Hotwire

Kredis

Local Time

Rails Request.js

**Skeletons**

**Stimulus**

Stimulus Intellisense

**Stimulus LSP**

**Stimulus Parser**

Stimulus Rails

**Stimulus Use**

**StimulusReflex**

Strada

Strada Android

Strada Web

Strada iOS

tippy.js

Tom Select

**Turbo**

**Turbo Boost**

Turbo Boost Commands

Turbo Boost Dev Tools

Turbo Boost Elements

Turbo Boost Streams

**Turbo LSP**

**Turbo Morph**

Turbo Native

Turbo Native Android

Turbo Native iOS

**Turbo Power**

Turbo Power Rails

Turbo Rails

View Components

....

**HOTWIRE .IO**

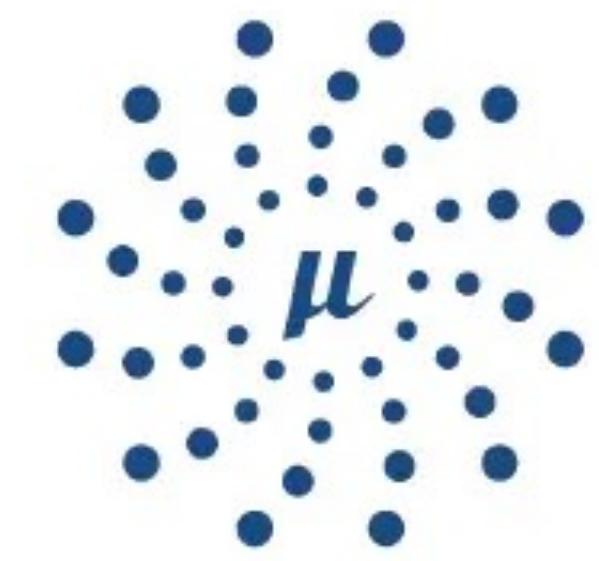
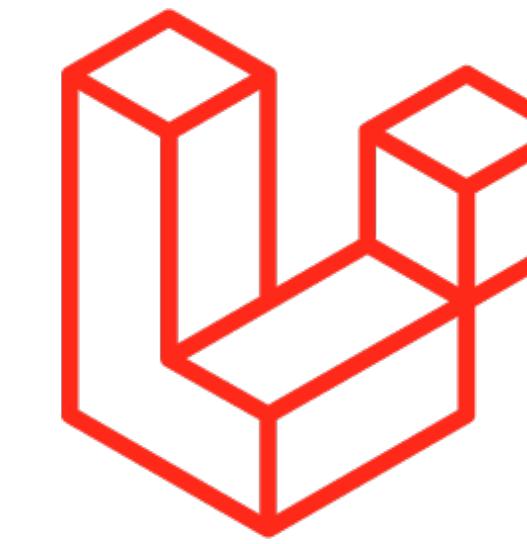
**Community-maintained documentation and resource Hub**

**Frameworks**

**Tooling**

**Documentation**

**Community**



# An elegant way to combine **Hotwire** and **Laravel**

An alternative way of building web and hybrid native applications with minimal JavaScript that relies on sending HTML over the wire.

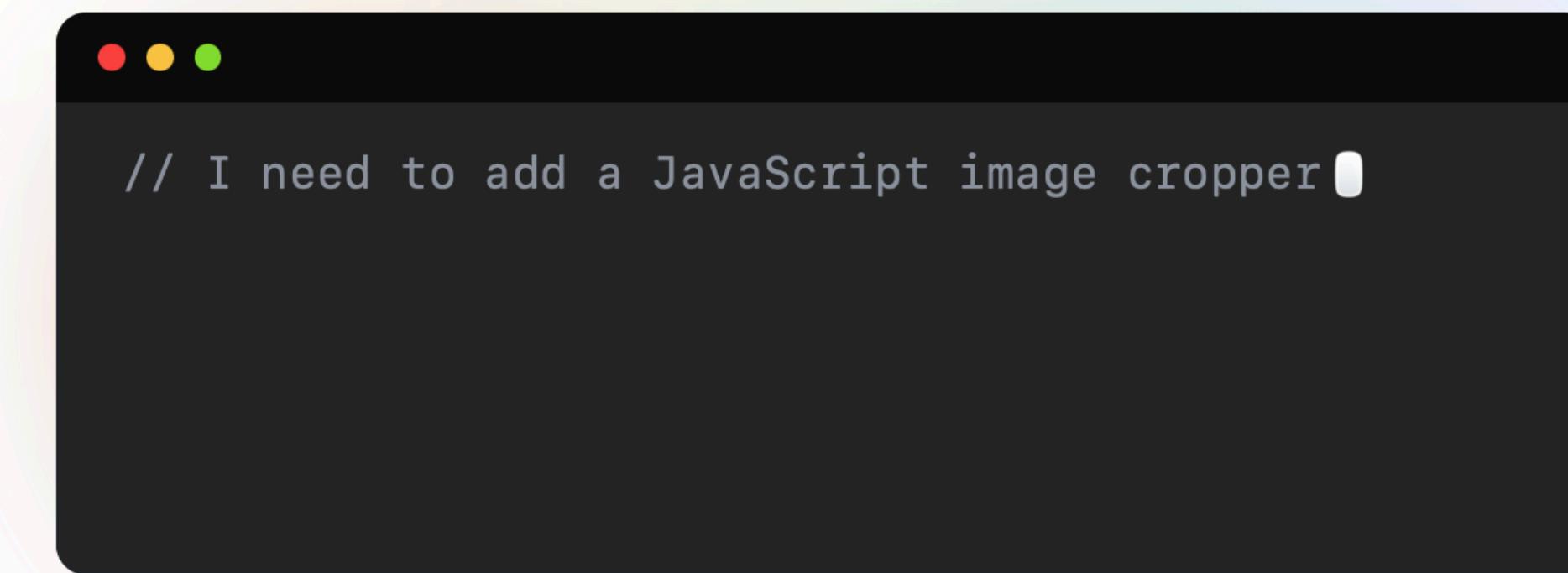
[Get Started](#)

<https://turbo-laravel.com/>

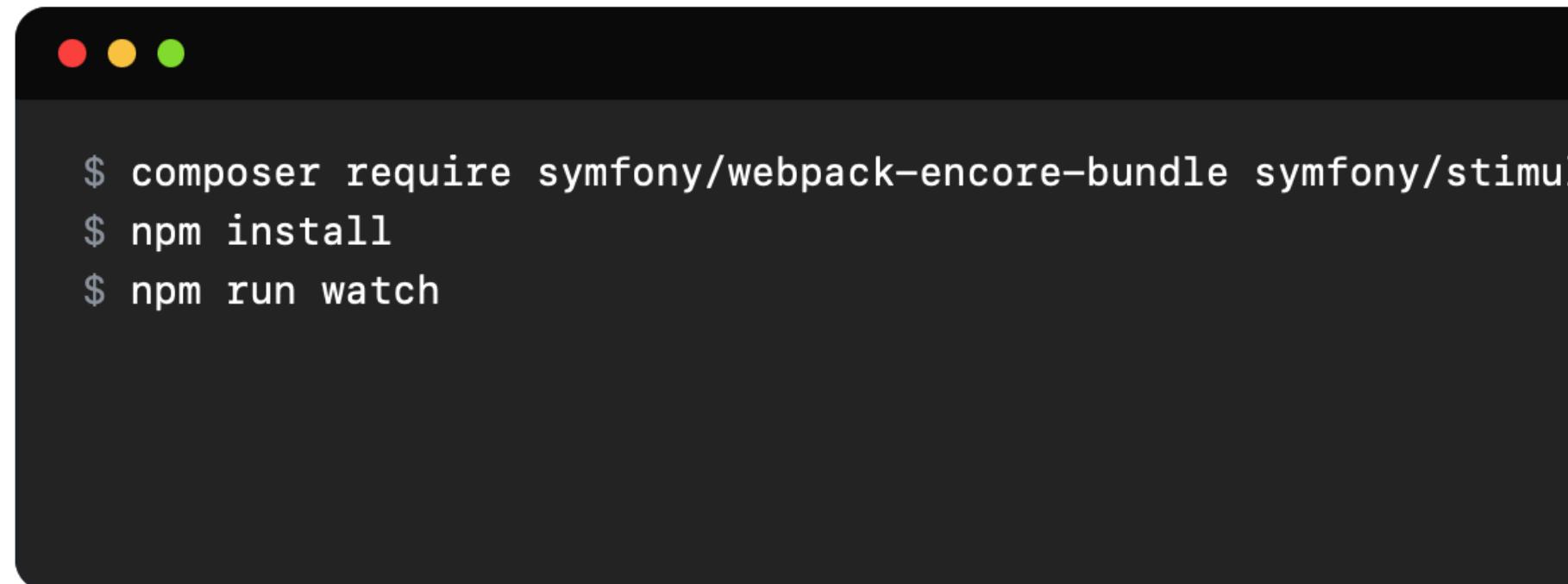
CURATED BY SYMFONY

# JavaScript **tools** you can't live without.

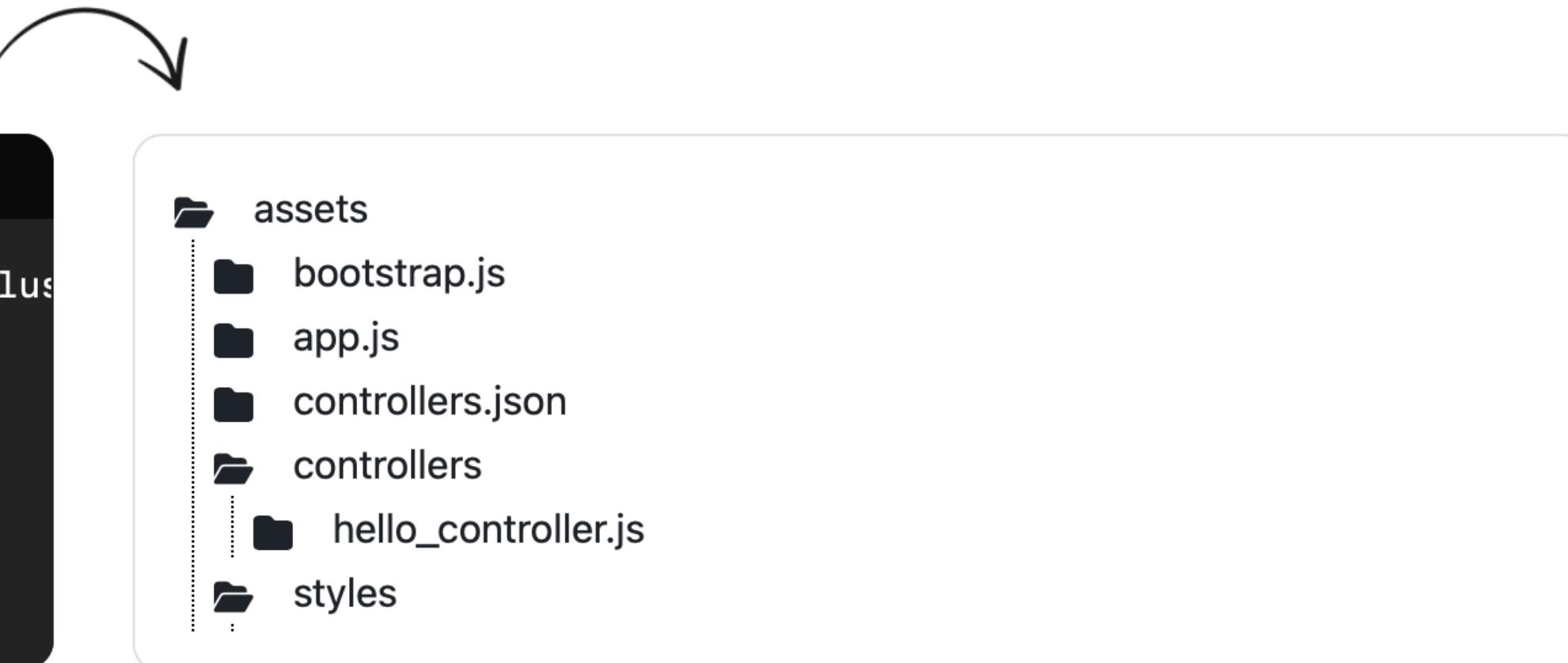
A set of PHP & JavaScript packages to solve every day frontend problems featuring Stimulus and Turbo.



## Install it



```
$ composer require symfony/webpack-encore-bundle symfony/stimulus
$ npm install
$ npm run watch
```



<https://ux.symfony.com/>

## Class List

[Classes](#) | [Methods](#) | [Files](#)

Search:

### Top Level Namespace

#### ▼ Turbo

▶ [Broadcastable](#)

[DriveHelper](#)

[Engine < Engine](#)

[FramesHelper](#)

[IncludesHelper](#)

[StreamsChannel < Base](#)

[StreamsHelper](#)

▶ [TestAssertions](#)

[Turbo::Frames::FrameReque](#)

[Turbo::Native::Navigation](#)

[Turbo::Native::NavigationCo](#)

[Turbo::Streams::ActionBroa](#)

[Turbo::Streams::ActionHelp](#)

[Turbo::Streams::BroadcastJo](#)

[Turbo::Streams::Broadcasts](#)

▼ [Turbo::Streams::StreamNam](#)

[ClassMethods](#)

[Turbo::Streams::TagBuilder](#)

[Turbo::Streams::TurboStrea](#)

## Table of Contents

1. [Navigate with Turbo Drive](#)
2. [Decompose with Turbo Frames](#)
  1. [A note on custom layouts](#)
3. [Come Alive with Turbo Streams](#)
4. [Installation](#)
5. [Usage](#)
  1. [RubyDoc Documentation](#)
6. [Compatibility with Rails UJS](#)
7. [Testing](#)
8. [Development](#)
9. [License](#)

## Turbo

[Turbo](#) gives you the speed of a single-page web application without having to write any JavaScript. Turbo accelerates links and form submissions without requiring you to change your server-side generated HTML. It lets you carve up a page into independent frames, which can be lazy-loaded and operate as independent components. And finally, helps you make partial page updates using just HTML and a set of CRUD-like container tags. These three techniques reduce the amount of custom JavaScript that many web applications need to write by an order of magnitude. And for the few dynamic bits that are left, you're invited to finish the job with [Stimulus](#).

On top of accelerating web applications, Turbo was built from the ground-up to form the foundation of hybrid native applications. Write the navigational shell of your [Android](#) or [iOS](#) app using the standard platform tooling, then seamlessly fill in features from the web, following native navigation patterns. Not every mobile screen needs to be written in Swift or Kotlin to feel native. With Turbo, you spend less time wrangling JSON, waiting on app stores to approve updates, or reimplementing features you've already created in HTML.

Turbo is a language-agnostic framework written in TypeScript, but this gem builds on top of those basics to make the integration with Rails as smooth as possible. You can deliver turbo updates via model callbacks over Action Cable, respond to controller actions with native navigation or standard redirects, and render turbo frames with helpers and layout-free responses.

## Navigate with Turbo Drive

Turbo is a continuation of the ideas from the previous [Turbolinks](#) framework, and the heart of that past approach lives on as Turbo Drive. When installed, Turbo automatically intercepts all clicks on `<a href>` links to the same domain. When you click an eligible link, Turbo prevents the browser from following it. Instead, Turbo changes the browser's URL using the History API, requests the new page using `fetch`, and then renders the HTML response.

<https://rubydoc.info/github/hotwired/turbo-rails/main>

Introducing Hotwire.io →

# The JavaScript Ecosystem for Server-rendered Web- Applications

Hotwire is an alternative approach to building modern web applications without using much JavaScript by sending HTML instead of JSON over the wire.

Get Started →

❖ Read the docs

# Helping you navigate and discover the ecosystem

## Ecosystem

### Core Libraries



[View all →](#)

### Extending Core Functionality

Stimulus Use



[View all →](#)

### New Concepts



Skeletons



# Use-Cases and Best practices



Ecosystem Documentation Use-Cases Frameworks Community Newsletter

## Use Cases

[AJAX](#)

[Bulk Operations](#)

[Dropdown](#)

[Infinite Scroll](#)

[Lazy Loading](#)

[Optimistic UI](#)

[Select Boxes](#)

[Tooltips](#)

[WYSIWYG Editors](#)

[Animations](#)

[Date- and Timepicker](#)

[Form Validation](#)

[Inline Editing](#)

[Modals](#)

[Pagination](#)

[Skeletons](#)

[Typeahead](#)

[Autocomplete](#)

[Drag and Drop](#)

[Forms](#)

[Keyboard Shortcuts](#)

[Morphing Content](#)

[Presence](#)

[Toasts](#)

[View Transitions](#)

**Backed by community content**

# Backed by community content

If you write a post, we want to feature it next to the relevant documentation section so it can also be discovered by the community.

**We would love to see your contribution.**

# For the community, by the community.

Hotwire.io is a **community-driven** effort and is **not** affiliated with the **official Hotwire project** in any way.

The purpose is to promote the entire Hotwire ecosystem, show framework-specific documentation, have a place to discover tools and libraries built for the Hotwire ecosystem and also have a place to showcase community created content like blog posts and videos.

## Hotwire.io is brought to you by these awesome members of the Hotwire community:



**Tony Messias**  
Contributor



**LB (Ben Johnston)**  
Contributor



**Ariel**  
Contributor



**Joshua Wood**  
Contributor



**Paul Kim**  
Contributor



**Omar Luq**  
Contributor



**Teppei Taguchi**  
Contributor



**Michael Yin**  
Contributor



**Guillaume Briday**  
Contributor



**redbarOn**  
Contributor



**Adrian Marin**  
Contributor



**Connor Bey 13**  
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**Martin Arce**  
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**Marco Roth**  
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**e**  
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**Joan Njuguna**  
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**SHUBHAM SHARMA**  
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**Julian Rubisch**  
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**Konnor Rogers**  
Contributor



**Sebastian Scholl**  
Contributor



**Dom Christie**  
Contributor



**Smith**  
Contributor

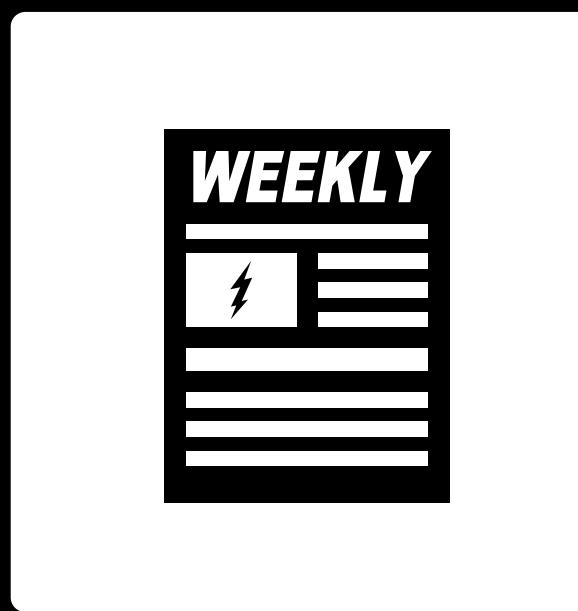


**Valerio Francescangeli**  
Contributor



**Tabish Iqbal**  
Contributor

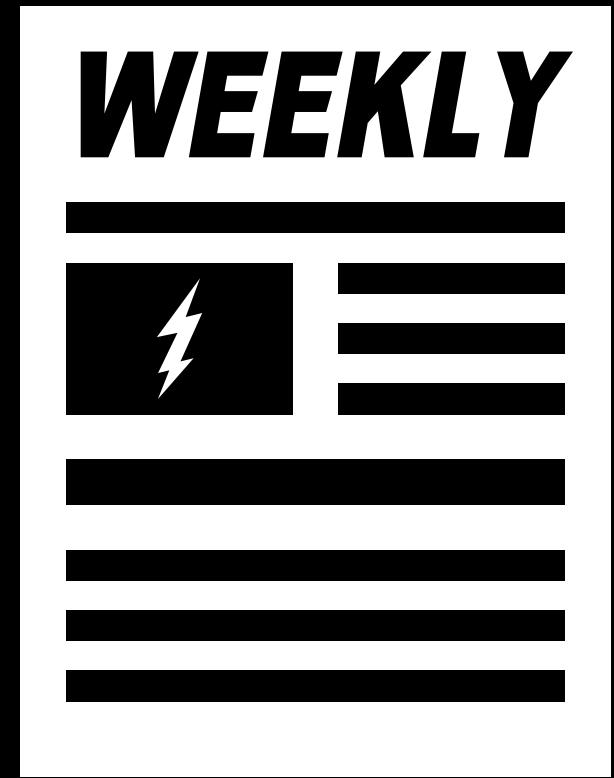
**The framework is not worth  
anything if people do not know  
about it and can not learn about it.**



# WEEKLY

# Hotwire Weekly

- A new Hotwire-focused newsletter
- Delivered Weekly
- Explore what's happening in the world of Hotwire
- Progress and updates while we are building out [hotwire.io](#)
- Been running since Oct 2023
- Over 1200+ subscribers and growing





# WEEKLY

## Welcome to Hotwire Weekly!

Welcome to the another issue of Hotwire Weekly! [RailsConf](#) is happening in Detroit next week. There are also going to be a few Hotwire-adjacent talks:

- "Revisiting the Hotwire Landscape after Turbo 8" by **Marco Roth** on Thursday at 9 am.
- "Insights Gained from Developing a Hybrid Application Using Turbo-Native and Strada" by **John Pollard** on Thursday at 10 am.
- "Dungeons & Dragons & Rails" by **Joël Quenneville** on Thursday at 11 am.
- "Progressive Web Apps with Ruby on Rails" by **Avi Flombaum** on Thursday at 2:30 pm.

If you want to hack on anything Hotwire-related on the Hackday on Tuesday come find Marco Roth!

Happy reading! 🚀✨

## Articles, Tutorials, and Videos

[How to build a Cmd+k search modal with Hotwire](#) - **Alexandre Ruban** published a blog post in which he describes how he built a keyboard shortcuts interface with Hotwire.

[From React to Hotwire: The Adventures of a Frontend Migration](#) - **Weldys Santos** gave a talk at [Tropical.rb](#) in April which is now available on YouTube.

[AnyCable for Ruby on Rails: How Does it Improve over Action Cable?](#) - **Abiodun Olowode**

wrote an article on the [AppSignal Blog](#) where he compares ActionCable with AnyCable in Rails.

## Libraries and Tools

[stimulus-use](#) - A collection of composable behaviors for your Stimulus Controllers.

[@rails/request.js](#) - A thin wrapper around the `fetch` API built for the use with Rails Hotwire.

## Releases

[turbo-android v7.1.3](#) - Android framework for making Turbo native apps.

[hotwire\\_combobox v0.3.0](#) - An autocomplete combobox implementation for apps using Hotwire.

[tailwindcss-rails v2.6.0](#) and [v2.4.1](#) - TailwindCSS for Rails.

[hotwire-livereload v1.4.0](#) - Live reload gem for Hotwire Rails apps.

[phlex v1.10.2](#) - A framework for building object-oriented views in Ruby.

Feel free to follow us on [Twitter/X](#) or on [Mastodon!](#)

See you next week!

Coming Soon

# Hotwire.io Improvements

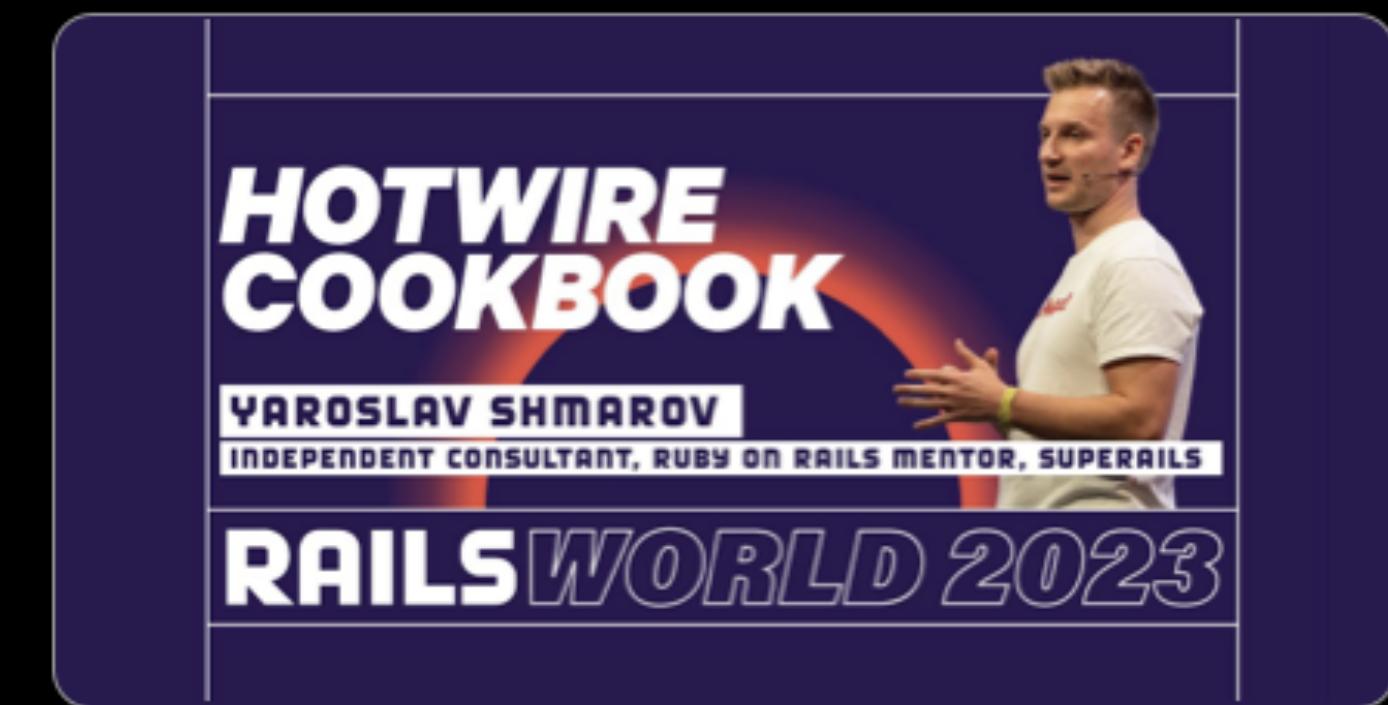
## Hotwire Videos



Generate Barcodes with JsBarcode. StimulusJS, Importmaps



Jorge Manrubia - Making a difference with Turbo - Rails World 2023



Yaroslav Shmarov - Hotwire Cookbook: Common Uses, Essential Patterns & Best Practices - Rails World

# Hotwire Articles

Turbo

Stimulus

Turbo Streams

Turbo Frames

Turbo Drive

Ruby on Rails

Laravel

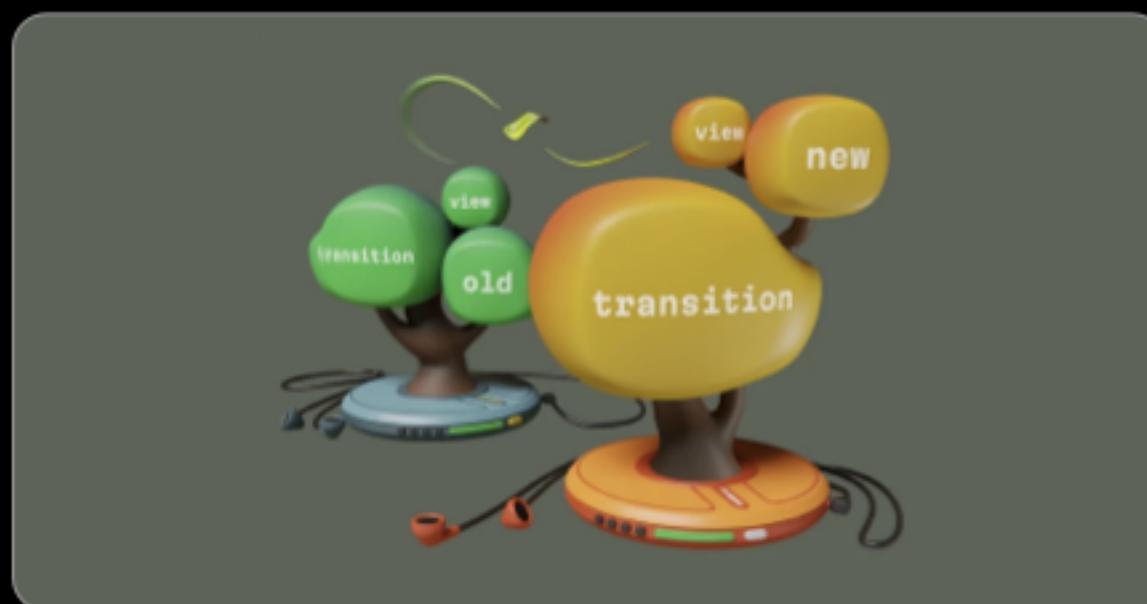
Symfony

Phoenix

Ruby

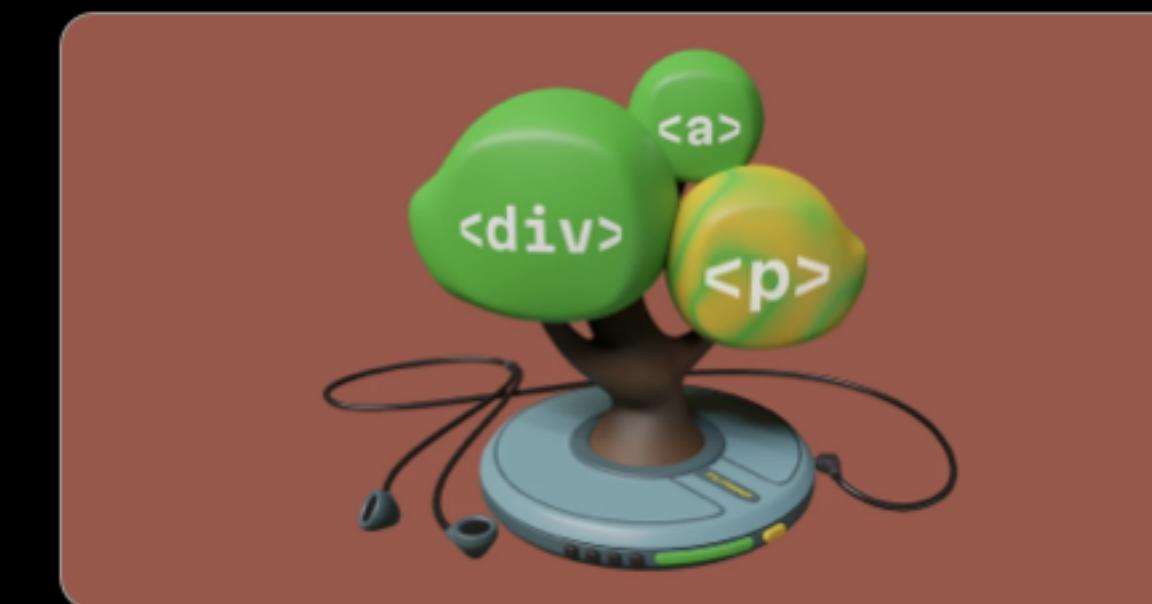
PHP

Elixir



## The future of full-stack Rails II: Turbo View Transitions

The Web continues to evolve at a fast pace. New, exciting features are being proposed and adopted by web browsers at regular intervals.



## The future of full-stack Rails: Turbo Morph Drive

The “getting-back-into-full-stack” trend in web development communities is gaining more traction.



## Supercharge your app: latency and rendering optimizations in Phoenix LiveView

LiveView's unique integration between server and client allows it to drastically optimize both latency and bandwidth

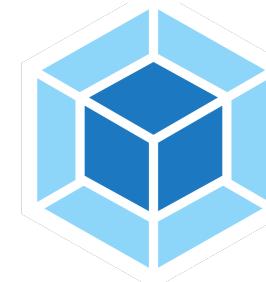
**esbuild, importmaps or something else?**



sprockets-rails



webpacker



webpack



shakapacker



jsbundling-rails



cssbundling-rails



esbuild

An extremely fast JavaScript bundler



rollup.js



importmap-rails



esbuild-rails



Vite



Vite Ruby



propshaft



dartsass-rails



tailwindcss-rails



BULMA

Coming Soon

# Hotwire.io Rails Asset Setup Guide

# Asset Setup-Guide for new Rails apps

Answer a few questions to get the best asset bundling setup for your needs.

Is your Rails app going to be a regular app or an API-only app?

Classic

API-only

How many JavaScript packages/dependencies do you anticipate to use?

0-5

5-10

10 or more

Do you need customized styles?

# Asset Setup-Guide for new Rails apps

Based on your answers, here's the result

## JavaScript Bundler



Vite Ruby

## CSS Framework



Tailwind via tailwindcss-rails

## Asset Pipeline



Propshaft

## JavaScript Framework(s)



Turbo and Stimulus

**JavaScript Framework(s)**

 Turbo and Stimulus

**Setup this configuration in your Rails app**

To get your app setup, please install vite-rails first:

```
$ bundle add vite-rails
```

Run the installer:

```
$ bundle exec vite install
```

# **Future and Vision**

All these projects and efforts  
need to be seen by the people  
in the community.

**It is a loss if people don't know  
these tools exist**

**My wish is that we as a  
community can continue  
pushing what's possible with  
Hotwire.**

**Turbo 8 has been awesome  
and is going in right direction.**

**But we need more of it.**

**..and that we have a more  
formal and "official" way of  
pushing things forward.**

**Optimistic UI**

**Optimistic client-side rendering**

**"Frameless"-Turbo Frames**

**Partial Page Morph Updates**

**Independent Morphing**

**Plugins/Extensibility**

**Web Components**

**PWA**

**Better React-compatibility**

**HOTWIRE**

**A more unified Hotwire  
ecosystem**

# Keep Building

**Keep Pushing**

**Build reactive applications with  
the Rails tooling you already know  
and love.**



# Hotwire Weekly

 @Hotwire\_Weekly

 @Hotwire\_Weekly@ruby.social

Sign up on [hotwireweekly.com](http://hotwireweekly.com)

# Stickers





@marcoroth

🌐 marcoroth.dev

🐦 @marcoroth\_

🐘 @marcoroth@ruby.social

Thank you 🙏