

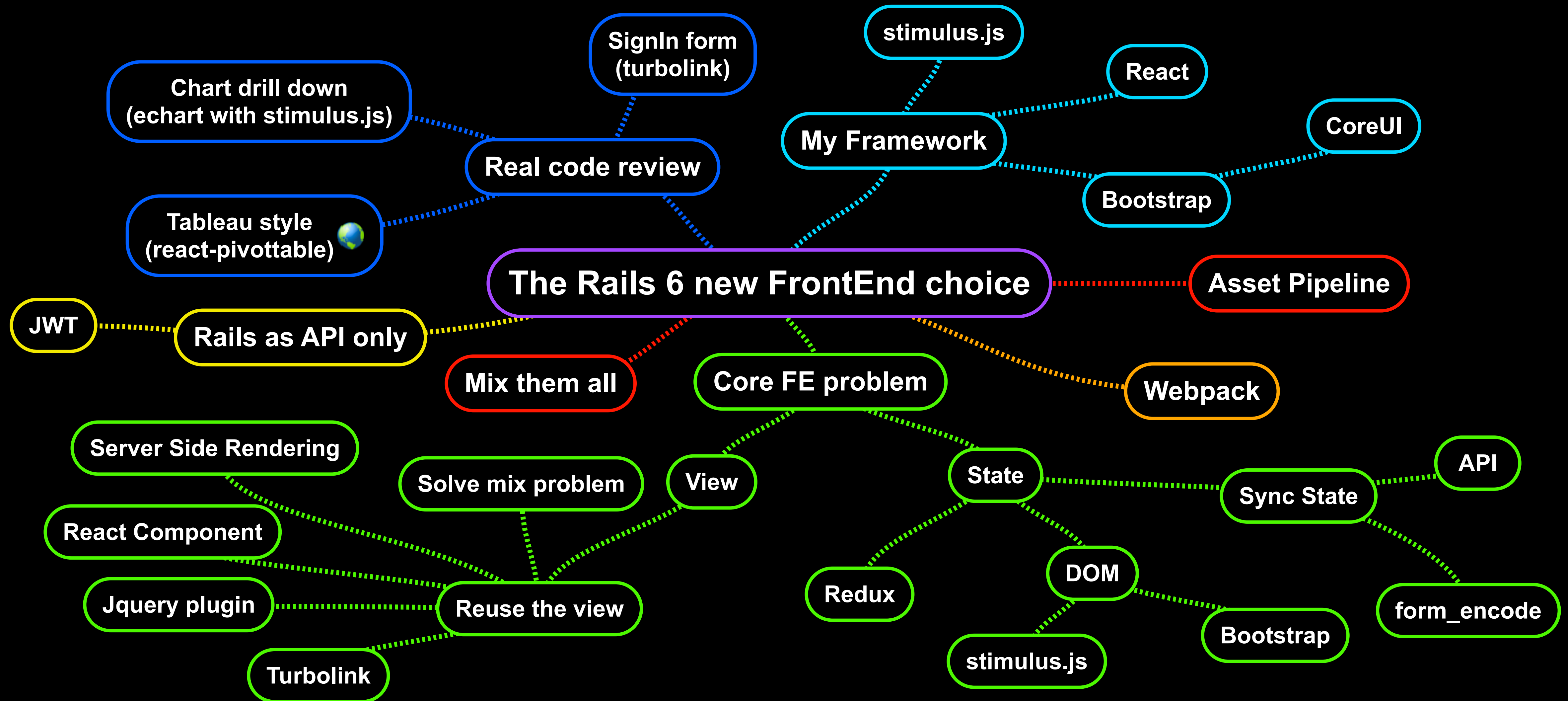


从 Assets Pipeline 到 Webpack, Rails 6 的前端方案们

From assets pipeline to web pack,
the Rails 6 frontend frameworks

过纯中 @Eric-Guo

演讲路线图 - Talk Roadmap



The **asset pipeline** provides a framework to concatenate and minify or compress JavaScript and CSS assets.

-https://guides.rubyonrails.org/asset_pipeline.html

The asset pipeline provides a framework to **concatenate** and minify or **compress** JavaScript and CSS assets.

-https://guides.rubyonrails.org/asset_pipeline.html

concatenate

Processors (Autoprefixer)

Transformers (CoffeeScript)

compress

Compressors (Uglify)

https://github.com/rails/sprockets/blob/master/guides/extending_sprockets.md

Assets pipeline usage

```
// = require activestorage  
// = require jquery  
// = require bootstrap-sprockets  
// = require jquery_ujs  
// = require turbolinks  
// = require_tree .
```

Assets pipeline usage optimization

```
// = require activestorage  
// = require jquery  
// = require bootstrap-sprockets  
// = require jquery_ujs  
// = require turbolinks  
// = require admin/infos  
// = require blackapp
```

Assets Pipeline Problem

- JS wrap gem
 - Webpack solution
 - Yarn usage without webpack
 - https://github.com/Eric-Guo/product_hunt
- Slowness
 - Do not use require require tree and require self in your SASS/SCSS files.
- ES 6 Support
 - Sprocket 4 and ruby-babel-transpiler

<https://ruby-china.org/topics/38832#为什么要使用%20webpacker>

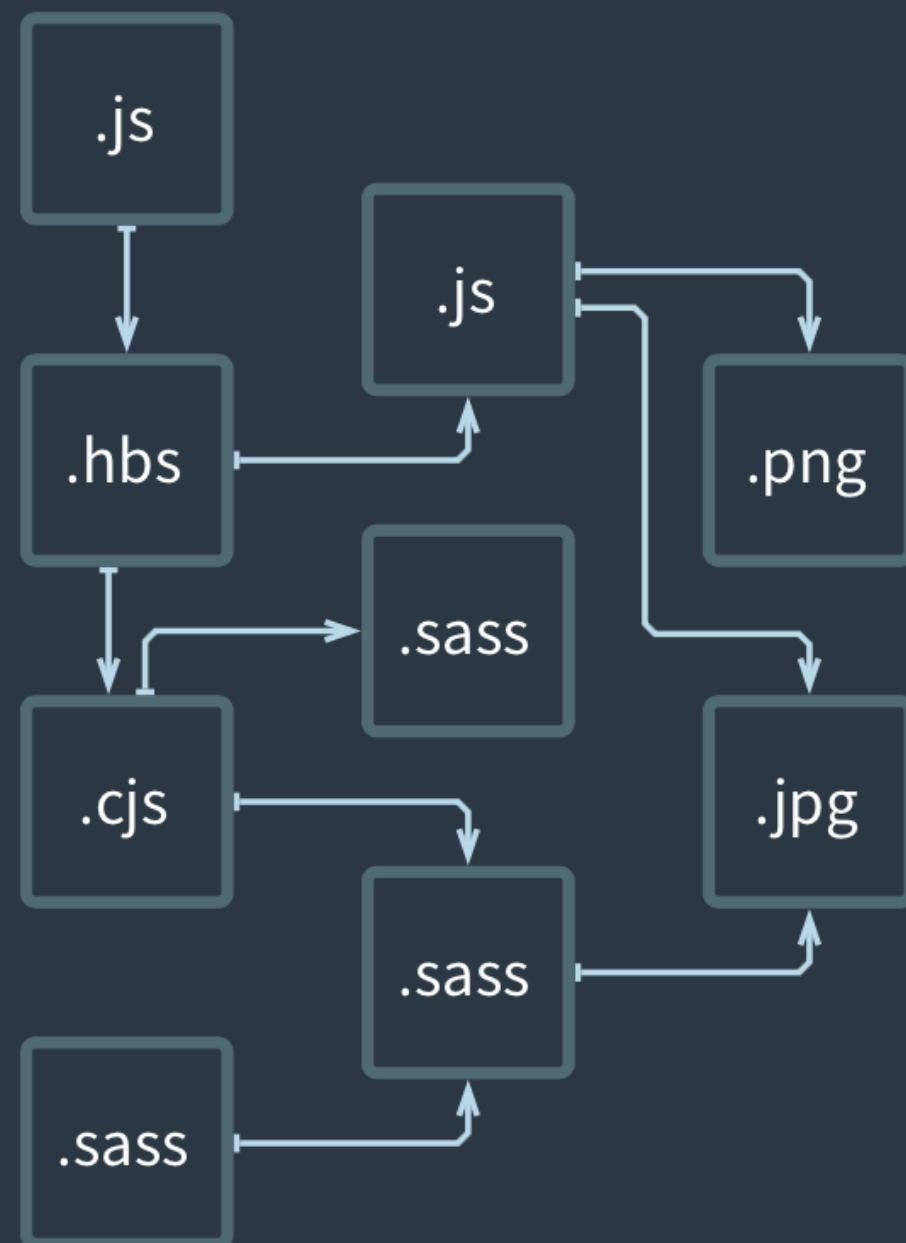
solution

**Webpack is a static module bundler for
modern JavaScript applications.**

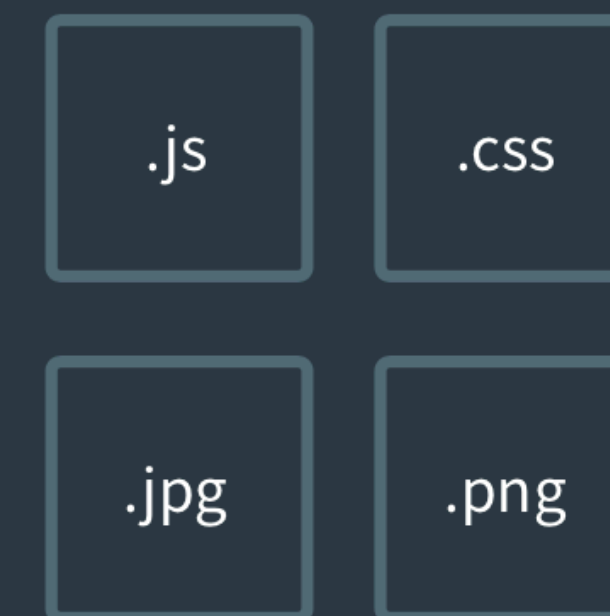
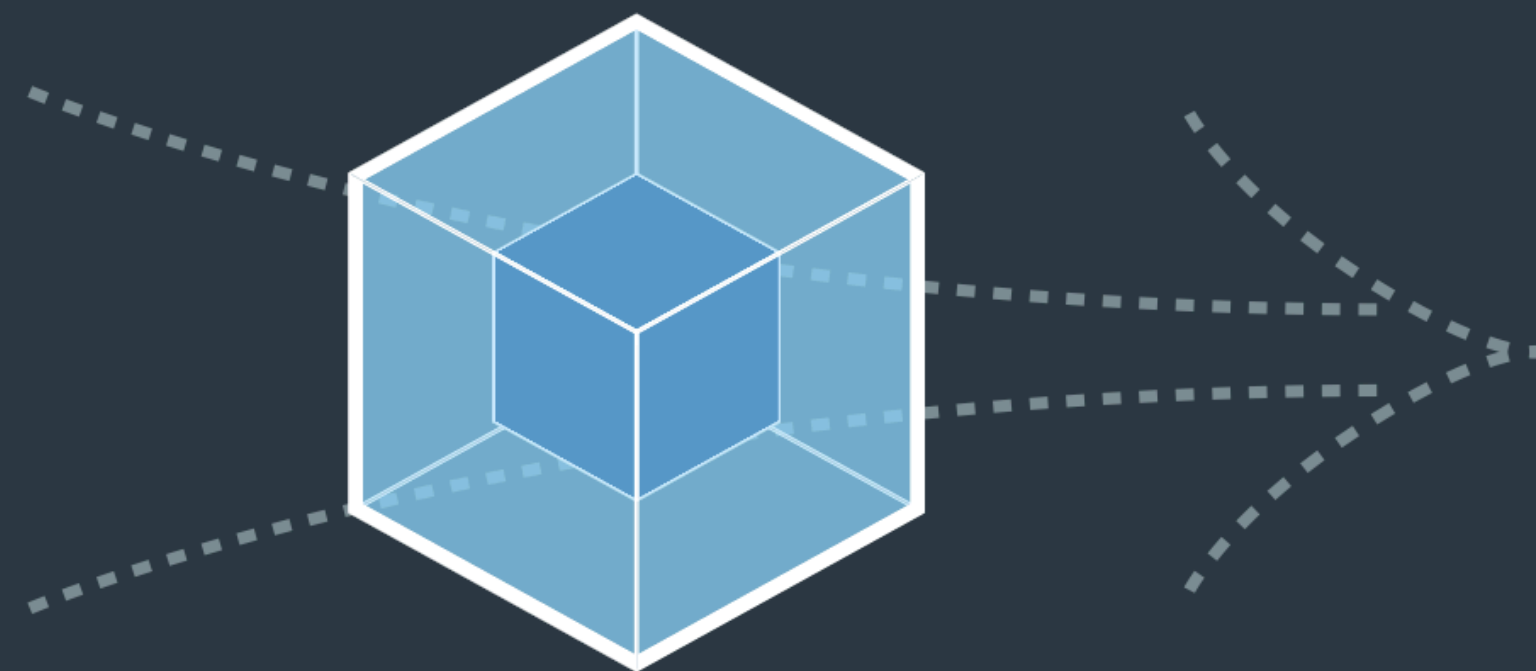
<https://webpack.js.org/concepts/>

Webpack

bundle your assets



MODULES WITH DEPENDENCIES



STATIC ASSETS

Webpack concept

- Dependency graph
 - Entry
 - Output
- Loaders
 - To load other file type, except .js
 - style-loader: Add CSS to the DOM by injecting a <style> tag
 - css-loader: interprets @import and url() and resolves them
 - sass-loader: compiles Sass to CSS, using Node Sass
 - vue-loader: .vue to .js, .css, .css.map
- Plugins
 - serve the purpose of doing anything else that a loader cannot do! (yes, it's on the official document!)

Webpacker

WEBPACKER QUICK LOOK

- Start in Rails 5.1+
- Current V4 same version of Webpack 4
- Guide to switch from Sprockets to Webpacker
- The **missing** guides
 - <https://github.com/rails/webpacker/tree/master/docs>

Legacy application.js support IE11

```
const importAll = (r) => r.keys().map(r)
importAll(require.context('images', false, /\.(png|jpe?g|svg)$/i));

import "regenerator-runtime/runtime";
import "@stimulus/polyfills";

import JQuery from 'jquery';
window.$ = window.JQuery = JQuery;

import "bootstrap"
import "@coreui/coreui"

import "stylesheets/application"
```

The @ scope indicates package ownership

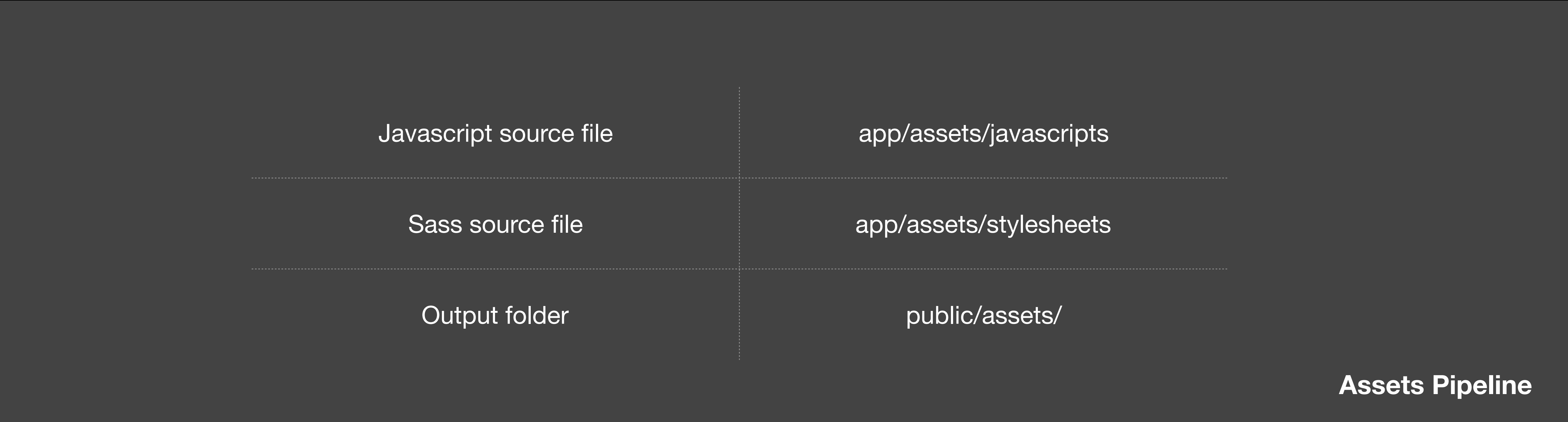
Legacy application.scss file

```
import "stylesheets/application" # Extract and emit a css  
# config/webpack.ymls  
extract_css: true
```

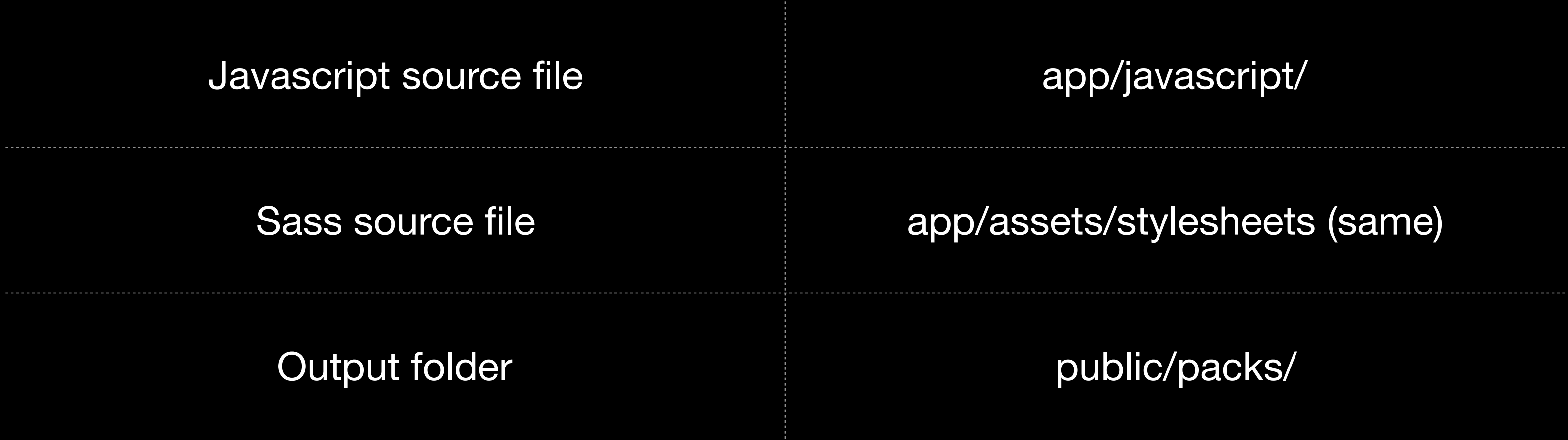
```
@import "variables";  
@import "~@coreui/coreui/scss/coreui";  
@import "custom";
```

```
$fa-font-path: "~@fontawesome/fontawesome-free/webfonts";  
@import "~@fontawesome/fontawesome-free/scss/fontawesome";  
@import "~@fontawesome/fontawesome-free/scss/regular";  
@import "~@fontawesome/fontawesome-free/scss/solid";
```

~ to tell webpack that this is not a relative import:



Webpack



```
<%= stylesheet_link_tag      'application', media: 'all', 'data-turbolinks-track': 'reload' %>
<%= javascript_include_tag  'application', 'data-turbolinks-track': 'reload' %>
```

Sprockets concatenates

Assets Pipeline

Webpack

Webpack adds unique dependencies

```
<%= stylesheet_pack_tag 'application', media: 'all', 'data-turbolinks-track': 'reload' %>
<%= javascript_pack_tag 'application', 'data-turbolinks-track': 'reload' %>
```

Webpacker official frontend framework

- React
- Angular with TypeScript
- Vue
- Elm
- Stimulus
- Svelte
- CoffeeScript
- Bootstrap
- Erb

<https://github.com/rails/webpacker#integrations>

My frontend framework

- React
 - Redux
 - Taro
- Stimulus
 - Easy integrating Turbolinks and echarts
 - Middle code solution
- Bootstrap
 - CoreUI / Cybros as backend
 - Low code solution

cybros / Bootstrap login with JWT AUD

```
function ready(fn) {
  if (document.readyState !== 'loading'){
    fn();
  } else {
    document.addEventListener('DOMContentLoaded', fn);
  }
}

ready(function() {
  const sign_form = document.getElementById("user-sign-in")

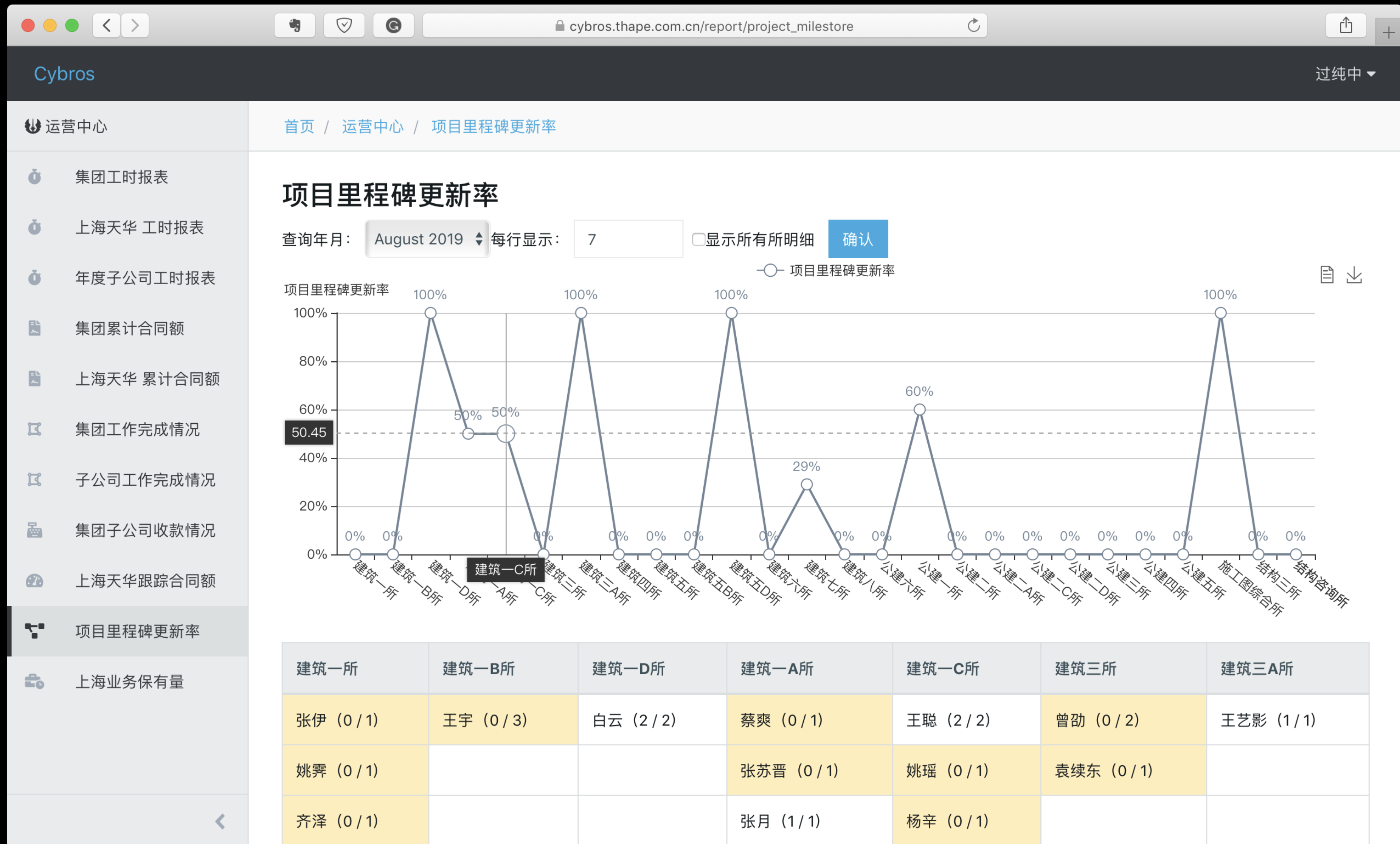
  if (sign_form !== null) {
    sign_form.addEventListener('ajax:beforeSend', function(event, settings) {
      const xhr = event.detail[0];
      xhr.setRequestHeader('JWT_AUD', 'cybros_core');
    });
  }
});
```

https://github.com/jasl/cybros_core/pull/16/commits/fdbf67161c32b54864a0f7f581b4285aa16b0c5c

cybros_core / Bootstrap State

- Cybros not integrated jQuery
 - Low code means low level code instead of small amount of code 😂
- Need to fully understanding @rails/ujs
 - Need reading ujs source code
- Many js component available
 - Bootstrap: Modals, Toast, Dropdown, Navbar, Carousel, Popover
 - CoreUI: Aside menu
- Most solid/popular CSS framework

Stimulus with echarts



Stimulus with Turbolinks is SPA

```
<div class="row">
<div class="col-lg-12">
  <div id="project-milestore-chart"
    data-controller="project-milestores"
    data-action="resize@window->project-milestores#layout"
    data-project-milestores-x_axis="<%= @deptnames_in_order.to_json -%>"
    data-project-milestores-milestore_rate="<%= @milestore_rate.to_json -%>"
    style="width: 100%;height: 350px;"
  </div>
</div>
</div>
```



```
1 import { Controller } from "stimulus"
2
3 let projectMilestoneChart;
4
5 export default class extends Controller {
6   connect() {
7     projectMilestoneChart = echarts.init(document.getElementById('project-milestore-chart'));
8
9     const xAxisData = JSON.parse(this.data.get("x_axis"));
10    const milestoneUpdateRate = JSON.parse(this.data.get("milestore_update_rate"));
11
12    const option = {...
13    };
14
15    function drill_down_contract_detail(params) {...}
16
17    projectMilestoneChart.on('click', drill_down_contract_detail);
18
19    projectMilestoneChart.setOption(option, false);
20    setTimeout(() => { projectMilestoneChart.resize(); }, 200);
21  }
22
23  layout() {
24    projectMilestoneChart.resize();
25  }
26
27  disconnect() {
28    projectMilestoneChart.dispose();
29  }
30 }
```

Enable the drill down echart

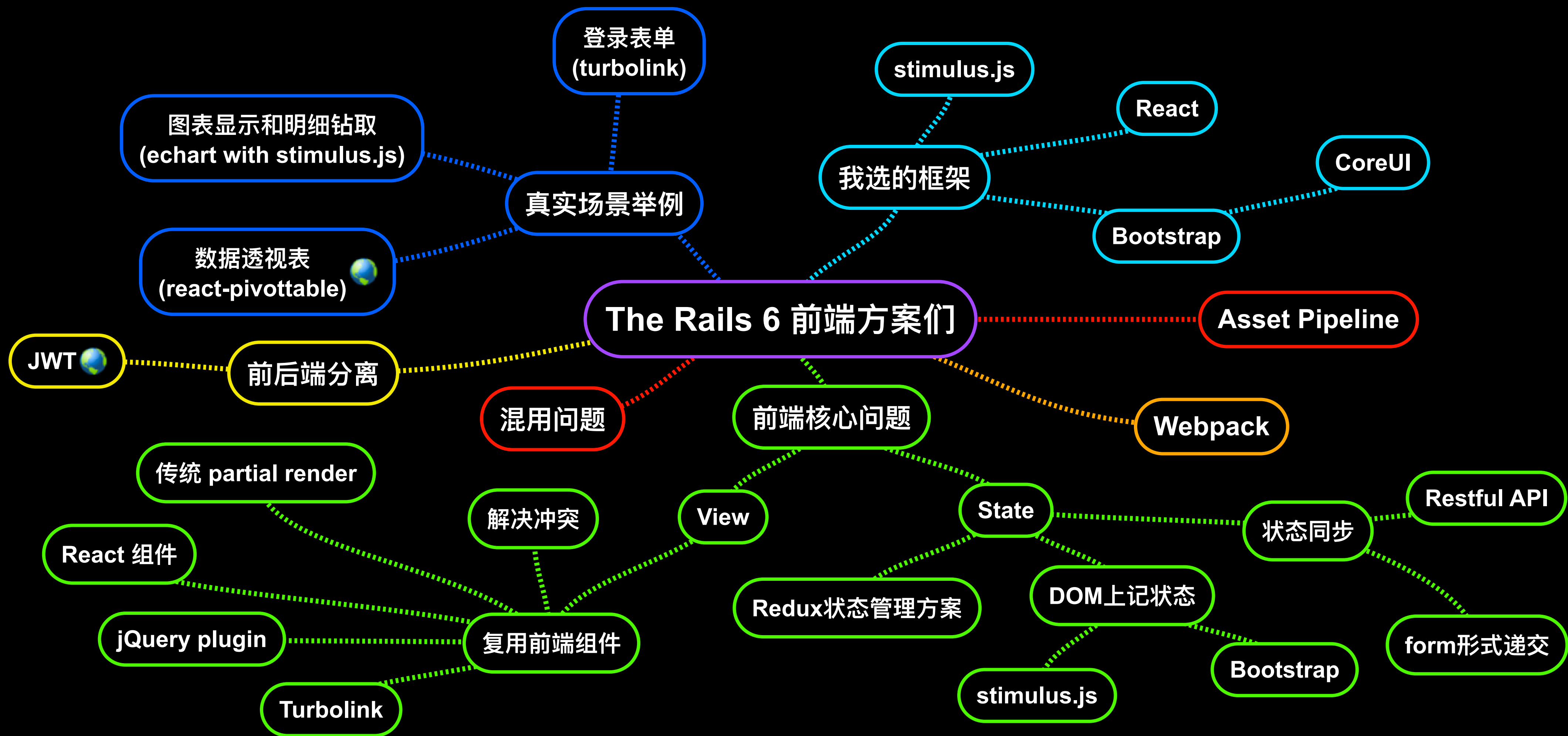
```
$("#project-milestore-modal")  
  .html('<%= j render partial: "modal", locals: { rows: @rows } -%>');  
$("#project-milestore-modal").modal();
```

```
function drill_down_contract_detail(params)  
{  
  if (params.componentType === 'series') {  
    if (params.seriesType === 'line') {  
      const department_name = xAxisData[params.dataIndex];  
      const month_name = $('#month_name').val();  
      const sent_data = { department_name, month_name };  
      const drill_down_url = '/report/project-milestore/detail_drill_down';  
  
      $.ajax(drill_down_url, {  
        data: sent_data,  
        dataType: 'script'  
      });  
    }  
  }  
}
```

Stimulus.js / eChart State

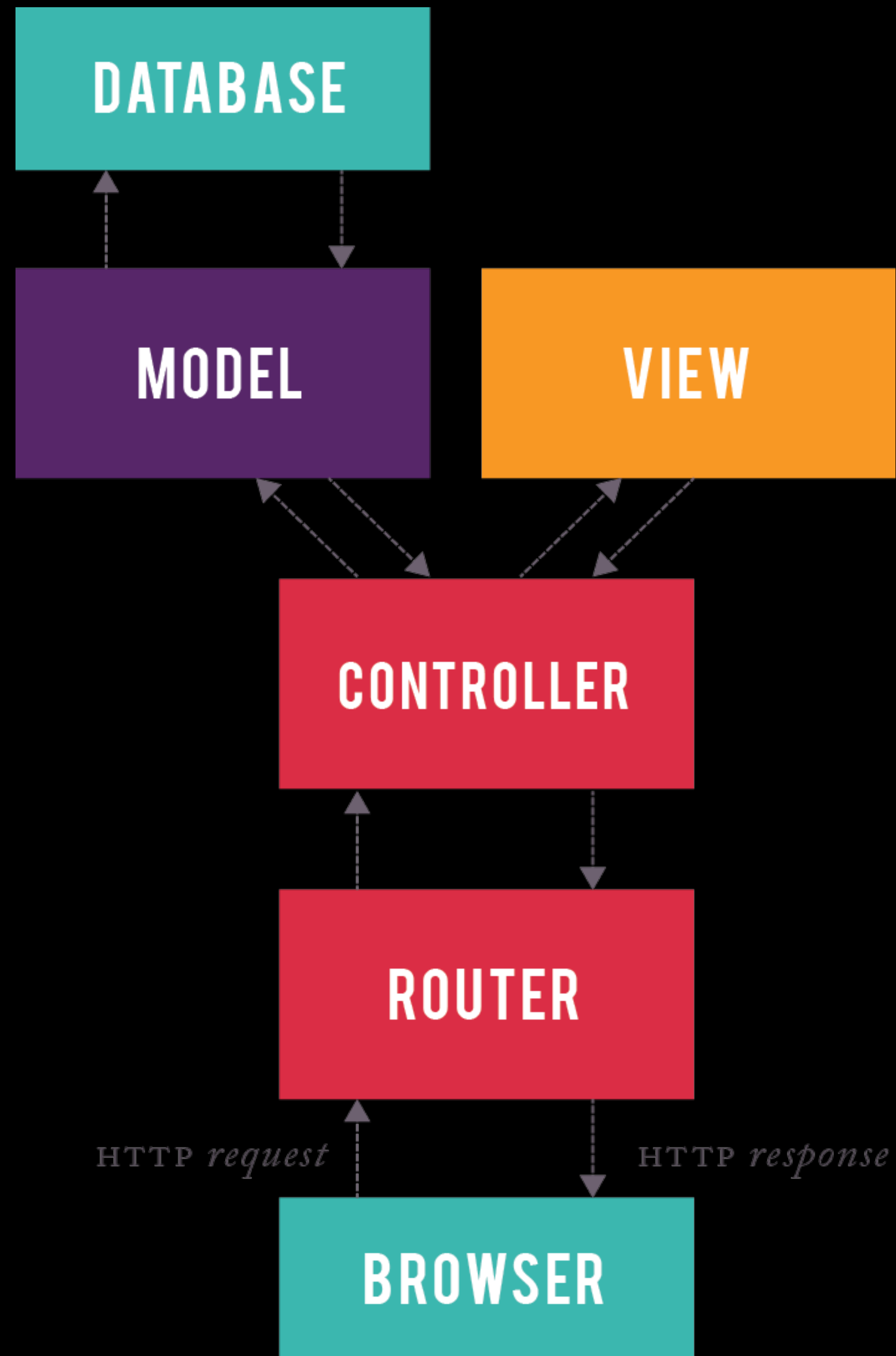
- Written by Sam Stephenson (who wrote prototype.js 15 years ago)
- No UI render support
 - SSR (Server Side Rendering using Rails render method)
- Easy to integrate 3rd party js package.
- 99.9% reliable with Turbolink.
- Minority population

Where are our **STATE** now?

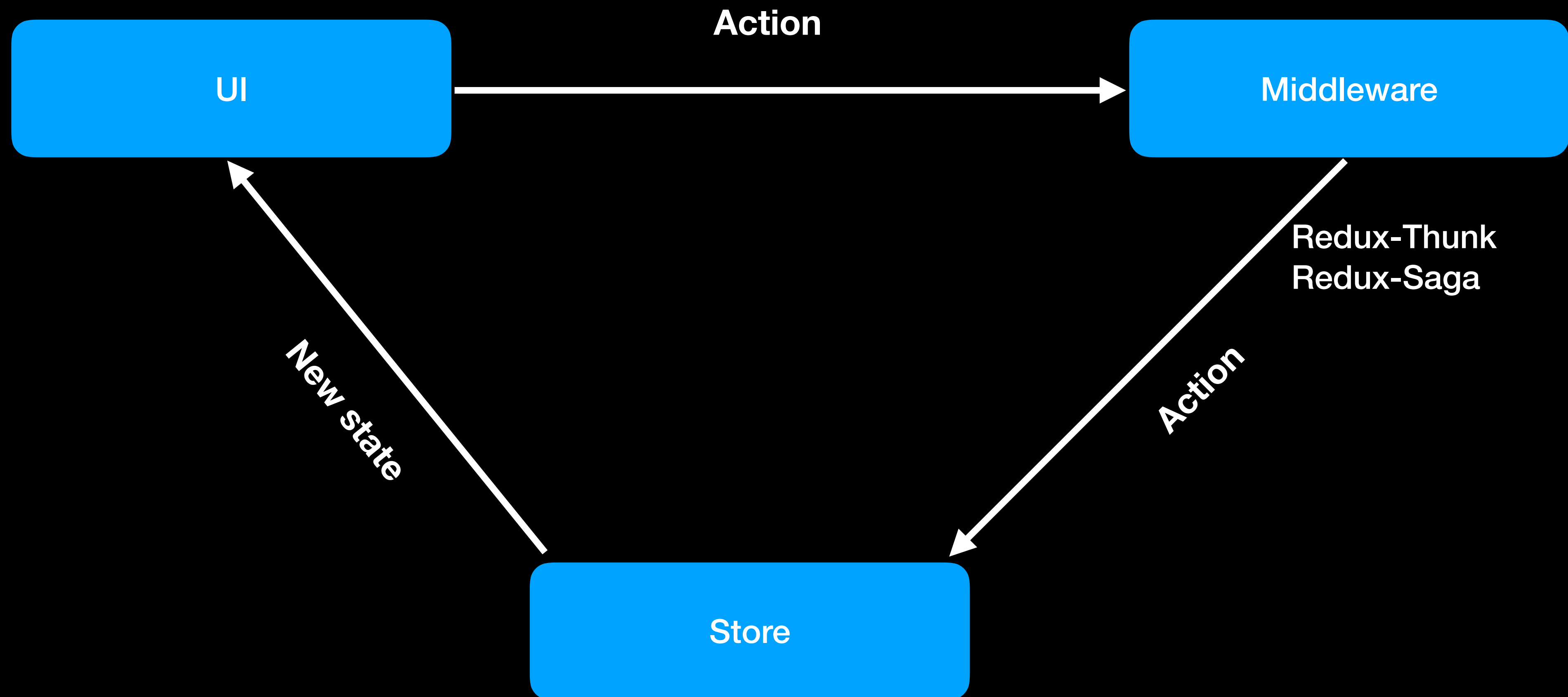


Rails MVC

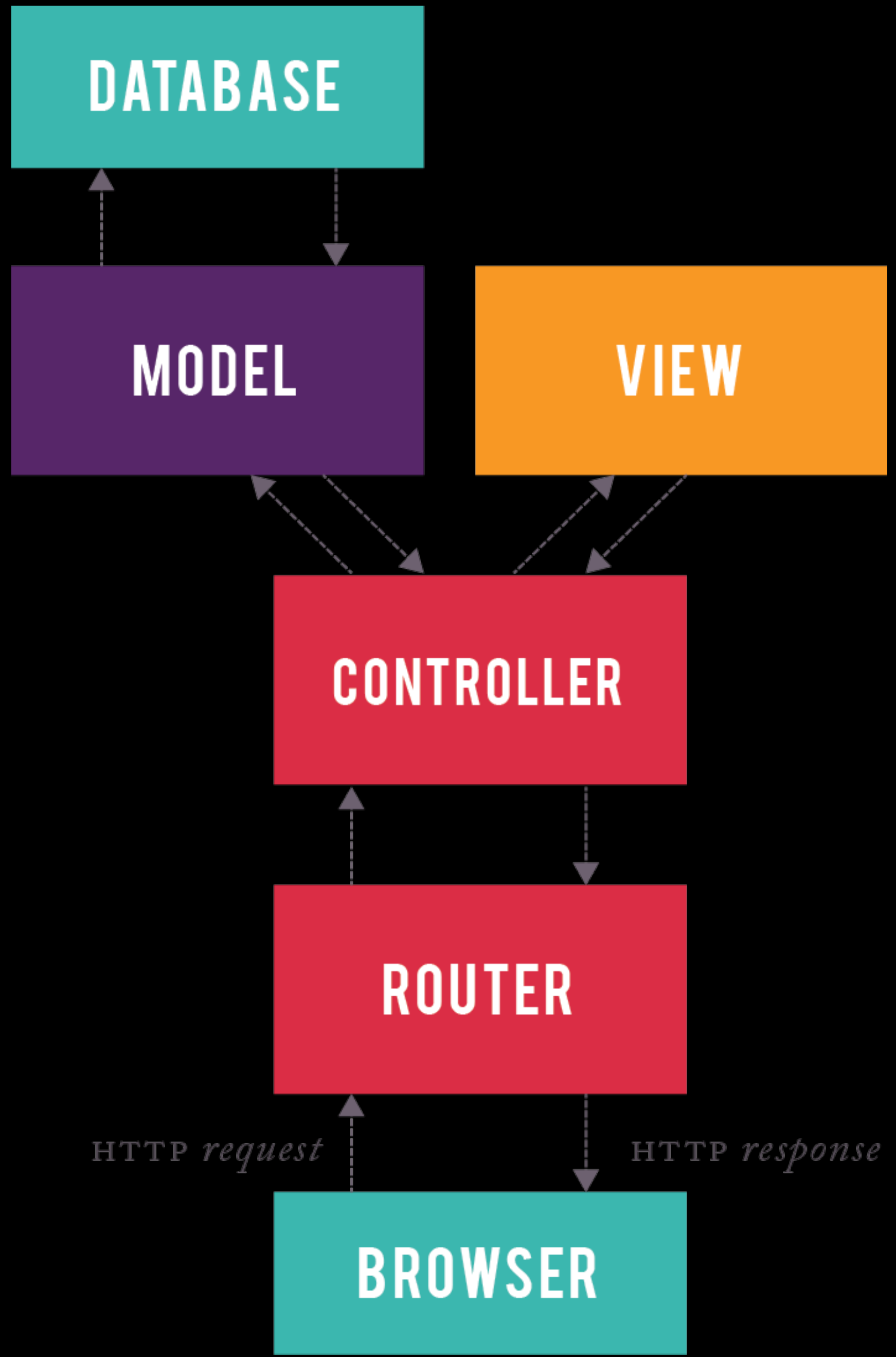
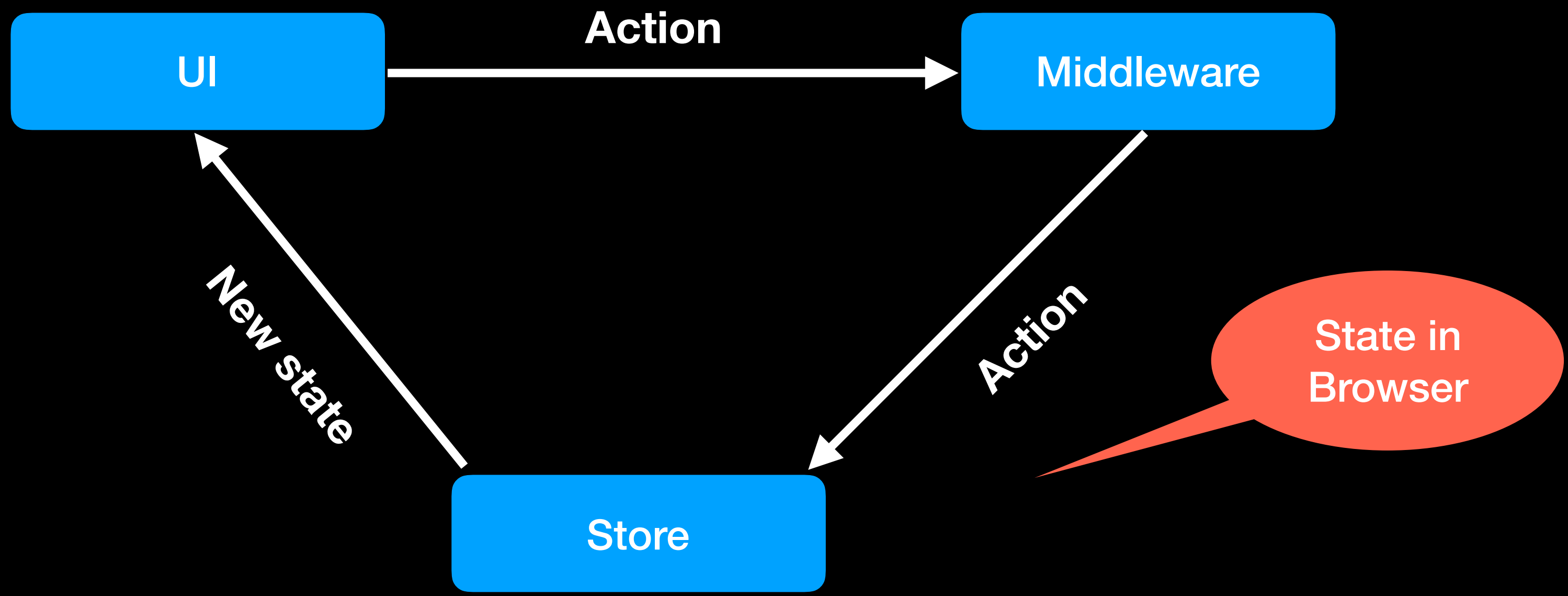
- State at DB
- Stateless in Browser
- No ajax



React with Redux



Mix the React and Redux with Rails will cause two state problem



React in Rails options

- Do not using Redux
- react-rails gem
- See bluedoc.io as example ❤️ 李华顺
- Using Rails as API only.

React-Redux with Rails API

- Book code
 - React 进阶之路 Blog 实现
 - <https://github.com/Eric-Guo/the-react-way-in-blog>
- Frontend
 - [Todo App example](#)
 - https://github.com/Eric-Guo/react-redux-loginform/commits/pangu_backend
- Backend
 - devise-jwt
 - <https://github.com/Eric-Guo/rails-pangu/tree/react-redux-loginform-backend>

My Rails 6 Frontend Framework

Options	Pro	Cons	State Storage
jQuery	Quick and Short	No state concept	DOM
Stimulus.js	Simple and modest	Less popular	data-*
React	High salary	Hard to learn	Redux
Taro	Wechat MP+H5+React Native	Unknown	Redux



Mix them all

jQuery

React

Stimulus.js

Taro

Reference

- RailsConf 2019 - Webpacker vs Asset Pipeline by Danielle Gordon
- webpack (1)——核心概念的理解
- Rails 6 template
 - https://github.com/jasl/cybro_core
- Rails 6 API temple
 - <https://github.com/paiyou-network/rails-pangu>
- 《React 进阶之路》