"Whenever you find yourself on the side of the majority, it's time to pause and reflect."

Mark Twain

5 pilares para uma aplicação Java Web bem-sucedida

Eder Ignatowicz
Sr. Software Engineer @ Red Hat
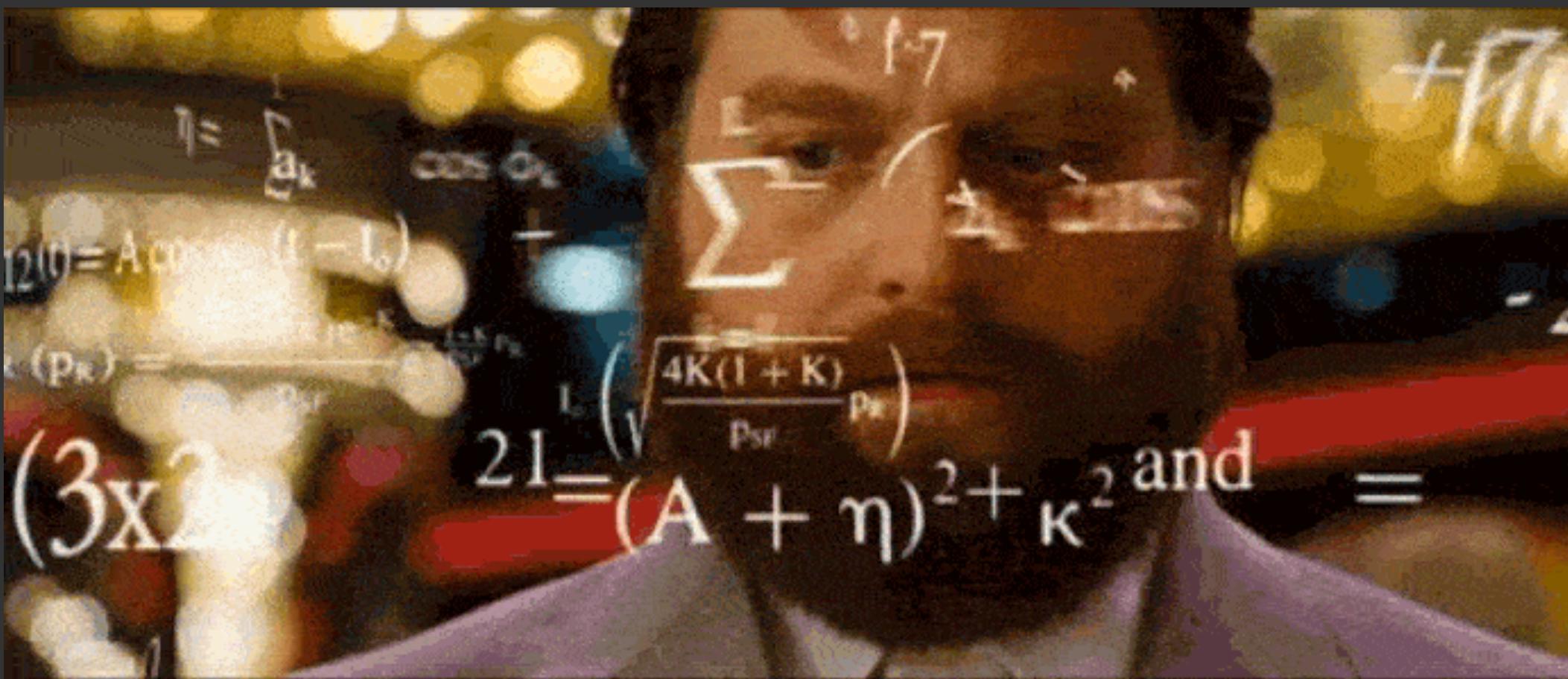
Qual arquitetura e frameworks para o backend?

E o front-end?
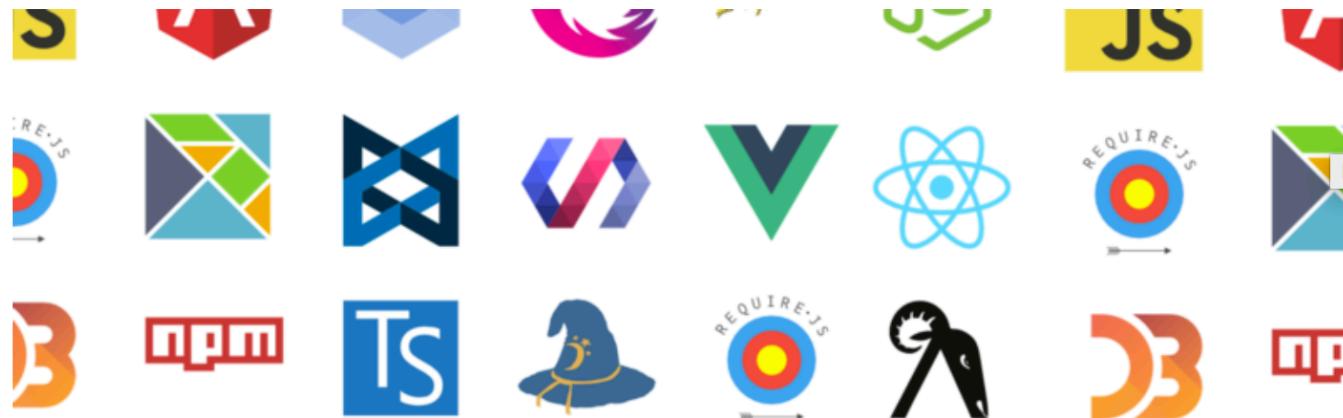
KEEP CALM AND JUST KEEP RANTING

Jose Aguinaga   Follow

Web Engineer. Previously @numbrs, @plaidhq, currently @getflynt. Javascript, #people, startups, fin...

Oct 3, 2016 · 12 min read

How it feels to learn JavaScript in 2016

How it feels to learn JavaScript in 2016 – Ha...

Desenvolvimento JavaScript é complexo
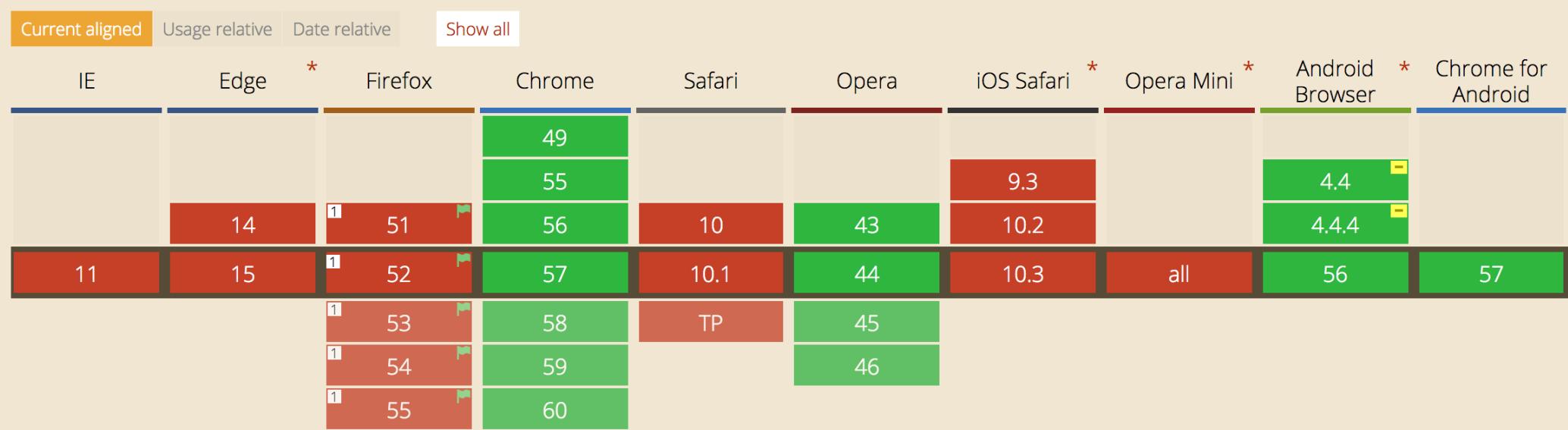
Desenvolvimento ~~JavaScript~~ **Web** é complexo

Desenvolvimento Web vai continuar sendo complexo

Shadow DOM v0 📄 - WD

Method of establishing and maintaining functional boundaries between DOM trees and how these trees interact with each other within a document, thus enabling better functional encapsulation within the DOM.

Global 69.05%

unprefixed: 63.57%

Current aligned | Usage relative | Date relative | Show all

IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Chrome for Android
			49						
			55			9.3		4.4	
	14	51	56	10	43	10.2		4.4.4	
11	15	52	57	10.1	44	10.3	all	56	57
		53	58	TP	45				
		54	59		46				
		55	60						
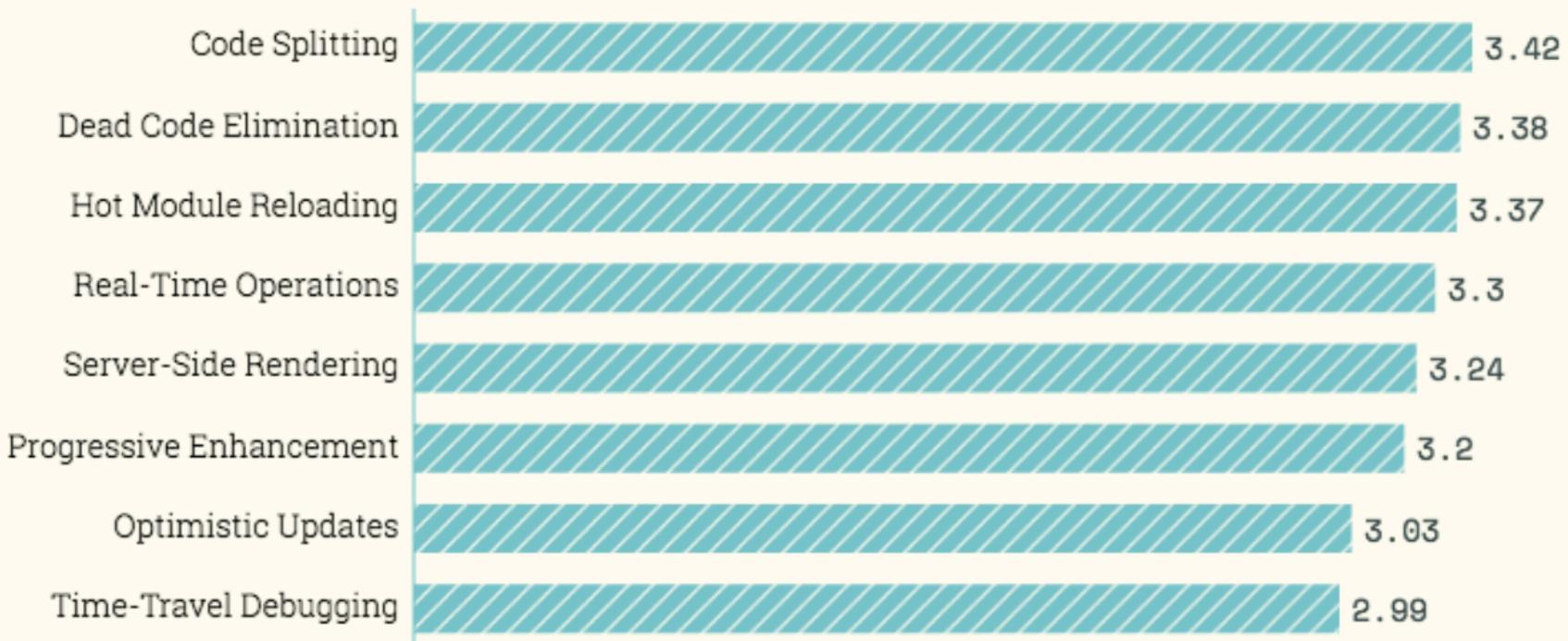
Make it work, make it right, make it fast.

— *Kent Beck* —

Highest-Rated Features

Feature	Rating
Code Splitting	3.42
Dead Code Elimination	3.38
Hot Module Reloading	3.37
Real-Time Operations	3.3
Server-Side Rendering	3.24
Progressive Enhancement	3.2
Optimistic Updates	3.03
Time-Travel Debugging	2.99

Screenshot from the excellent 2016 State Of JS survey

KIE Group

Open source projects for business systems automation and management.

Drools

Drools 5 introduces the **Business Logic integration Platform** which provides a unified and integrated platform for **Rules, Workflow** and **Event Processing**. It's been designed from the ground up so that each aspect is a first class citizen, with no compromises.

Drools team

jBPM

jBPM is a flexible Business Process Management (BPM) Suite. A business process allows you to model your business goals by describing the steps that need to be executed to achieve those goals, and the order of those goals are depicted using a flow chart...

jBPM team
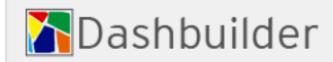
OptaPlanner

OptaPlanner optimizes business resource usage. Every organization faces planning problems: provide products or services with a limited set of constrained resources. OptaPlanner optimizes such planning to do more business with less resources...

Optaplanner team

UberFire

UberFire is a web based workbench framework inspired by Eclipse Rich Client Platform. This is a very strategic project for Drools & jBPM team, once this is the base technology for our next generation of web tooling.

Dashbuilder

Dashbuilder is a full featured web application for the visual composition of custom business dashboards. Data comes from heterogeneous sources of information such as JDBC databases or regular text files and can be displayed using different charting libraries.

Qual stack web escolher?

Qual a arquitetura
mais viável para este problema?

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

Aplicação de Larga Escala

1mi+ de linhas código web

5 produtos

~150 sub-projetos

~30 devs

7+ anos de base de código

Aplicação de Larga Escala

Static Typing

Refactoring

Project

PlaceManager.java

```
@  IsSplashScreen
C  LockDemandD
I  LockManager
C  LockManagerI
C  LockTitleWidg
I  PerspectiveAc
I  PerspectiveMa
C  PerspectiveMa
C  PlaceHistoryH
C  PlaceManager
C  PlaceManagerI
I  PlaceRequestH
C  PlaceRequestH
E  PlaceStatus
C  PluginActivity
C  PluginPlaceMa
I  PopupActivity
I  SplashScreenA
```

```java
41  /**
42   * A Workbench-centric abstraction over the browser's history mechanism. Allows the application to initiate r
43   * to any displayable thing: a {@link WorkbenchPerspective}, a {@link WorkbenchScreen}, a {@link WorkbenchPo
44   * {@link WorkbenchEditor}, a {@link WorkbenchPart} within a screen or editor, or the editor associated with
45   * located at a particular {@link Path}.
46   */
47  @JsType
48  public interface PlaceManager {
49
50      @JsMethod(name = "goToId")
51      void goTo(final String identifier);
52
53      @JsMethod(name = "goToPlace")
54      void goTo(final PlaceRequest place);
55
56      @JsMethod(name = "goToPath")
57      void goTo(final Path path);
58
59      @JsMethod(name = "goToPathAndPlace")
60      void goTo(final Path path,
```

Find Usages of goTo(String) in Project Files

```
▼ Method
    goTo(String)
▼ Found usages (4 usages)
    ▼ Unclassified usage (4 usages)
        ▼ uberfire-apps-client (1 usage)
            ▼ org.uberfire.ext.apps.client.home (1 usage)
                ▼ © AppsHomePresenter (1 usage)
                    ▼ generateComponentViewCommand() (1 usage)
                        (162: 30) placeManager.goTo(parameter);
        ▶ uberfire-preferences-ui-client (1 usage)
        ▶ uberfire-runtime-plugins-client (1 usage)
```

0: Messages   Java Enterprise   9: Version Control   Terminal   3: Find   4: Run   6: TODO   1 Event Log

Compilation completed successfully with 20 warnings in 16s 389ms (today 15:34)   4 chars   51:12   LF   UTF-8   Git: master

IFUF

uberfire › uberfire-workbench › uberfire-workbench-client › src › main › java › org › uberfire › client › mvp › PlaceManagerImpl

Project

PlaceManager.java   PlaceManagerImpl.java

- LockDemandDetec
- LockManager
- LockManagerImpl
- LockTitleWidgetEv
- PerspectiveActivity
- PerspectiveManage
- PerspectiveManage
- PlaceHistoryHandl
- PlaceM
- PlaceMa
- PlaceRequestHisto
- PlaceRequestHisto
- PlaceStatus
- PluginActivityMan
- PluginPlaceManage
- PopupActivity
- SplashScreenActiv
- TemplatedActivity

```java
/.../
16    package org.uberfire.client.mvp;
17
18    import ...
77
78    @SharedSingleton
79    @EnabledByProperty(value = "uberfire.plugin.mode.active", negated = true)
80    public class PlaceManagerImpl
81            implements PlaceManager {
```

Class 'PlaceManagerImpl' must either be declared abstract or implement abstract method 'goTo1(String)' in 'PlaceManager'

```java
84         * Activities that have been created by us but not destroyed (TODO: move this state tracking to Activit
85         */
86        private final Map<PlaceRequest, Activity> existingWorkbenchActivities = new HashMap<~>();
87
88        /**
89         * Places that are currently open in the current perspective.
90         */
91        private final Map<PlaceRequest, PartDefinition> visibleWorkbenchParts = new HashMap<~>();
92
```

Find: Usages of goTo(String) in Project Files   Refactoring Preview

Occurrences found in comments, strings and non-code files (2 occurrences in 2 files) (2 usages)
- Usage in comments (2 usages)
  - uberfire-simple-docks-client (1 usage)
    - org.uberfire.client.docks.view.bars (1 usage)
      - DocksExpandedBar (1 usage)
        - setupDockContentSize() (1 usage)
          - (144: 13) || goTo(PlaceRequest place, HasWidgets addTo) lost widget size
  - uberfire-workbench-client (1 usage)
- References in code to method goTo(String) (4 references in 4 files) (4 usages)
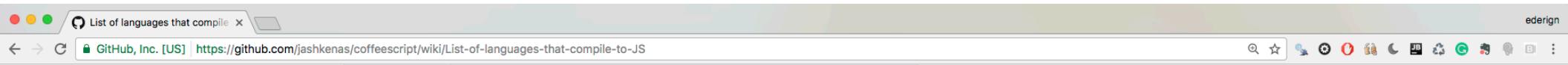
Cancel   Do Refactor

0: Messages   Java Enterprise   9: Version Control   Terminal   3: Find   4: Run   6: TODO   Event Log

Class 'PlaceManagerImpl' must either be declared abstract or implement abstract method 'goTo1(String)' in 'PlaceManager'   80:14   LF   UTF-8   Git: master

Transpilers para JS

| Dojo Secure | Framework for building secure mashups. |

Static typing

NOTE: Some of the projects listed below are also statically typed, such as mobl, GWT, JSIL, NS Basic, and Haxe.

Name	Description
Dart	C/Java-like syntax with optional typing by Google.
TypeScript	Typed superset of JavaScript by Microsoft.
TeJaS	From Brown PLT. Types for JavaScript (itself).
asm.js	Subset of JavaScript that can be used as a low-level, efficient target language for compilers. Now included in Firefox.
JavaScript++	JavaScript superset with classes, type checking, among other features
Mascara	[commercial] Enhances JavaScript with powerful features like classes, namespaces and type-checking.
Roy	Tries to meld JavaScript semantics with some features common in static functional languages
Elm	Type-safe functional language that compiles to HTML, CSS, and JavaScript.
Swym	Statically typed, with type inference and generics
Typecast.js	JavaScript platform for statically typed variables without a custom compiler.
PureScript	A small, strongly typed programming language that compiles to JavaScript and C++, featuring extensible records and effects, and type classes.
Flow	Static type checker for JavaScript, supports optional types and null checks by Facebook.
ActionScript	With Apache FlexJS - Based on ECMAScript 4, ActionScript provides typing and can be compiled to JavaScript.

Synchronous to Asynchronous JavaScript Compilers (CPS)

Name	Description
Streamline.js	Uses underscore (_) to stand for callbacks. This fork preserves line numbers for debugging.

.java

javac

.class

JS

GWT

Google Web Toolkit especialmente para o QC

Presented by **HOT** <u>Errai</u> **HOT** <u>Uberfire</u> **HOT** <u>App Former</u>

http:// redhat.com

Submit
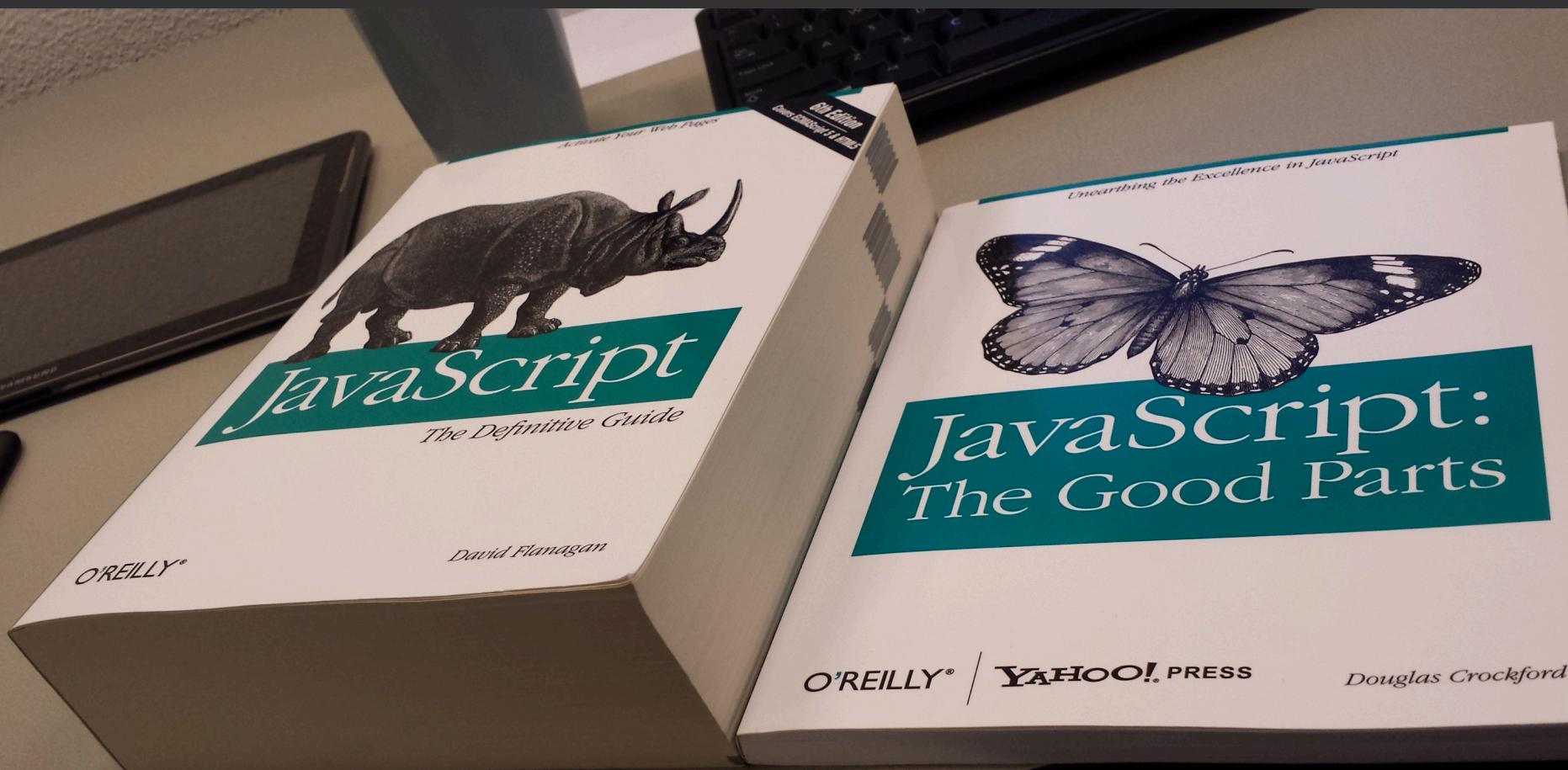
Some pages may work very slowly or not all. Many webapps are just too advanced for GWT.

Created by <u>Eder Ignatowicz</u>

Have a problem? <u>Contact us</u>

1 4 7
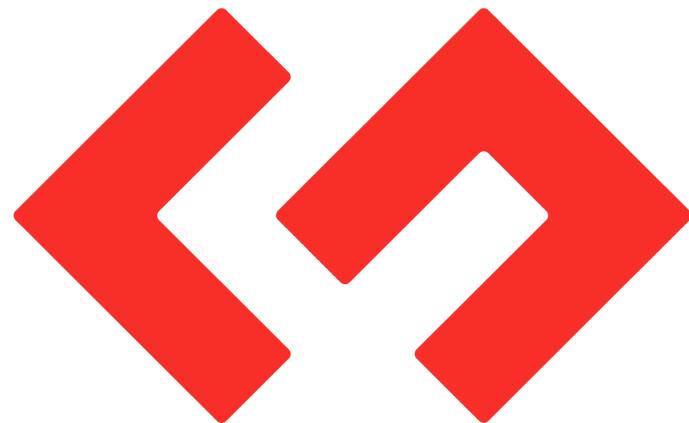
NETSCAPE Now! | Microsoft Internet Explorer | Campaign Against FRAMES! | SITE CREATED WITH NOTEPAD THE RIGHT WAY

JavaScript
The Definitive Guide

Activate Your Web Pages

6th Edition

O'REILLY®

David Flanagan

Unearthing the Excellence in JavaScript

JavaScript:
The Good Parts

O'REILLY® | YAHOO! PRESS

Douglas Crockford
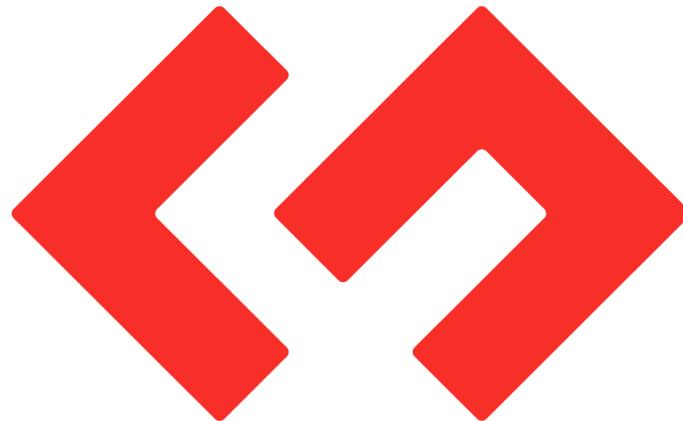
VOCÊ PODE SUBSTITUIR GWT

POR TYPESCRIPT, POR EXEMPLO

memegenerator.net

GWT

<3

GWT

The Good Parts

Java to JavaScript

java.* emulation

DOM APIs

Java 8
"client side"

Java 8
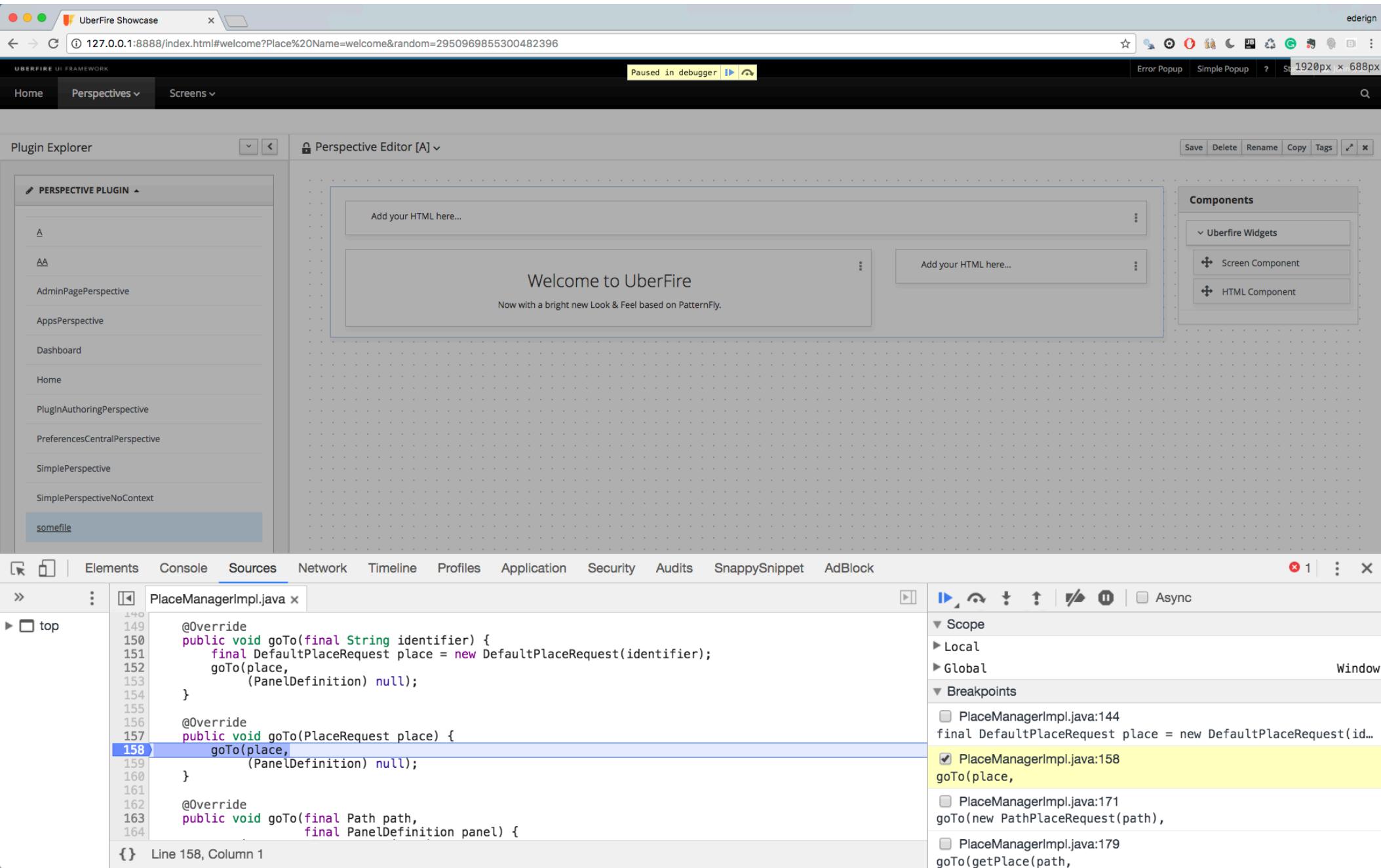
```java
List<String> myList =
    Arrays.asList("Java7", "Java8",
        "Java6", "Kotlin");

myList
    .stream()
    .filter(s -> s.startsWith("J"))
    .map(String::toUpperCase)
    .sorted()
    .forEach(Console::log);
```

```
Prints:
JAVA6
JAVA7
JAVA8
```

Dev Tools

127.0.0.1:8888/index.html#welcome?Place%20Name=welcome&random=2950969855300482396

UBERFIRE UI FRAMEWORK   Paused in debugger ▮▶ ⟳   Error Popup | Simple Popup | ?   St| 1920px × 688px

Home   Perspectives ⌄   Screens ⌄

Plugin Explorer   ⌄ ◁   🔒 Perspective Editor [A] ⌄   Save | Delete | Rename | Copy | Tags | ⤢ | ✕

✏ PERSPECTIVE PLUGIN ▲

A   Add your HTML here...   ⋮   Components

AA   ⌄ Uberfire Widgets

AdminPagePerspective   ✛ Screen Component

AppsPerspective   Welcome to UberFire   ⋮   ✛ HTML Component

Dashboard   Now with a bright new Look & Feel based on PatternFly.   Add your HTML here...   ⋮

Home

PlugInAuthoringPerspective

PreferencesCentralPerspective

SimplePerspective

SimplePerspectiveNoContext

somefile

⚏ ⧉   Elements   Console   **Sources**   Network   Timeline   Profiles   Application   Security   Audits   SnappySnippet   AdBlock   ⊗ 1   ⋮   ✕

» ⋮ |◀   PlaceManagerImpl.java ✕   ▶| ▶| ↷ ↧ ↥ ⊘ ⏸ ☐ Async

```
148
149       @Override
150       public void goTo(final String identifier) {
151           final DefaultPlaceRequest place = new DefaultPlaceRequest(identifier);
152           goTo(place,
153               (PanelDefinition) null);
154       }
155
156       @Override
157       public void goTo(PlaceRequest place) {
158           goTo(place,
159               (PanelDefinition) null);
160       }
161
162       @Override
163       public void goTo(final Path path,
164               final PanelDefinition panel) {
```

▼ Scope

▶ Local

▶ Global   Window

▼ Breakpoints

☐ PlaceManagerImpl.java:144
final DefaultPlaceRequest place = new DefaultPlaceRequest(id...

☑ PlaceManagerImpl.java:158
goTo(place,

☐ PlaceManagerImpl.java:171
goTo(new PathPlaceRequest(path),

☐ PlaceManagerImpl.java:179
goTo(getPlace(path,

{ } Line 158, Column 1

JS Interop

Java

```java
@JsType(isNative = true)
public abstract class JQuery {

    @JsMethod(namespace=GLOBAL)
    public native static JQuery $(String selector);

    public native JQuery css(String prop, String val);

    public native JQuery attr(String name, String val);

}
```

Java

```java
import static jquery.JQuery.$;
// ...
$("ul > li").css("color", "red").attr("data-level", "first");
```

Java

```java
package foo;

@JsType
public class Dora {
  public boolean late = true;
  public Dora() {}
  public String auAu() { return "Hello QCon!";}
}
```

JavaScript

```javascript
var dora = new foo.Dora();
if (dora.late) {
  alert(dora.auAu());
}
```

Refactoring

Aplicação de Larga Escala

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

Devs Full Stack

Desenvolvedores "end-to-end"

Devs Full Stack

Shared Programming Model

"Java EE" no browser

ERRAI

CDI no Browser

```
@Dependent
public class ProjectsView {

    @Inject
    Document document;

    @Inject
    @DataField( "projects-view" )
    Div view;

    @Inject
    @DataField( "new-project" )
    Button newProject;

    @Inject
    @DataField( "projects-list" )
    UnorderedList projectsList;

    @Inject
    Instance<ProjectItem> projects;
```
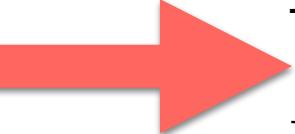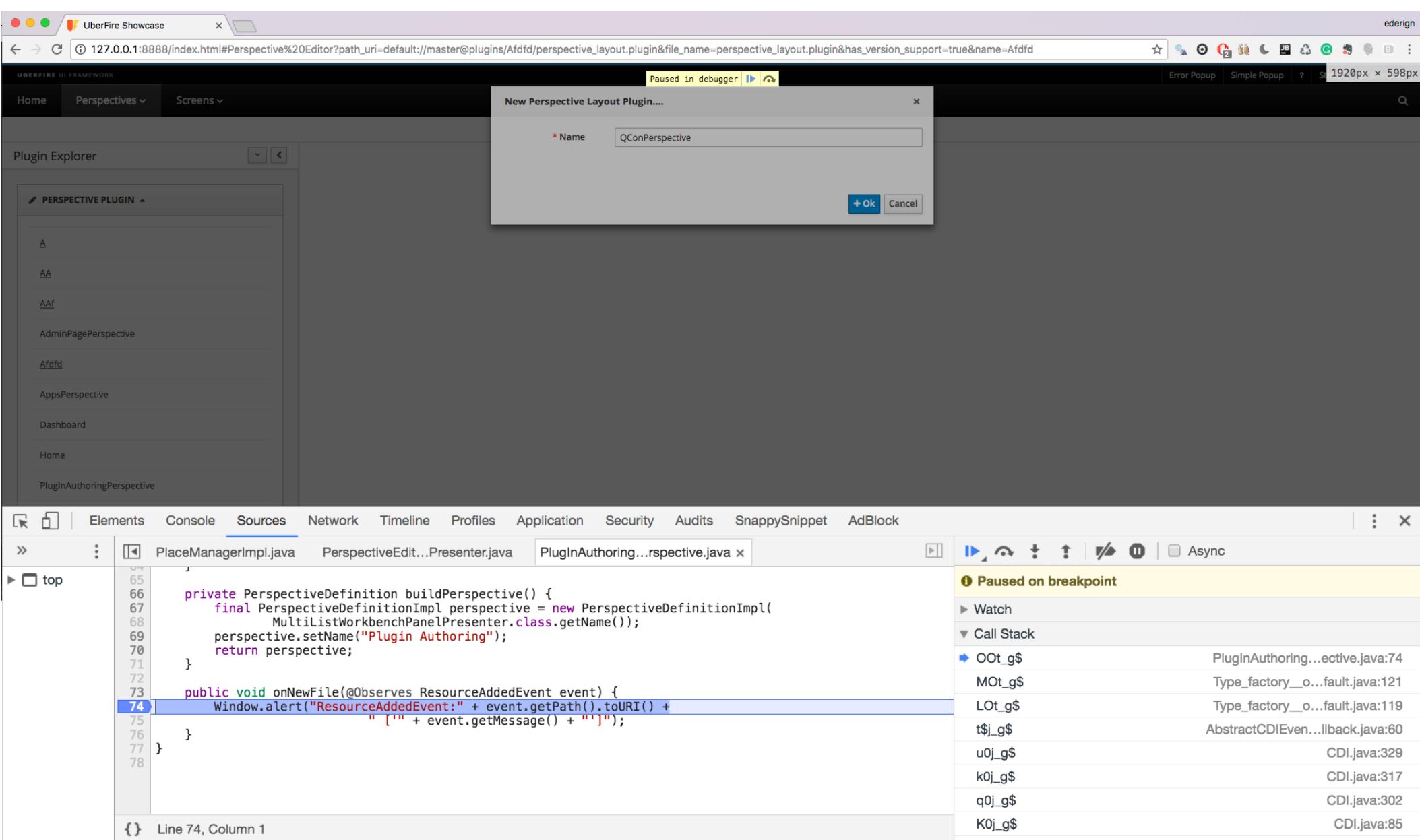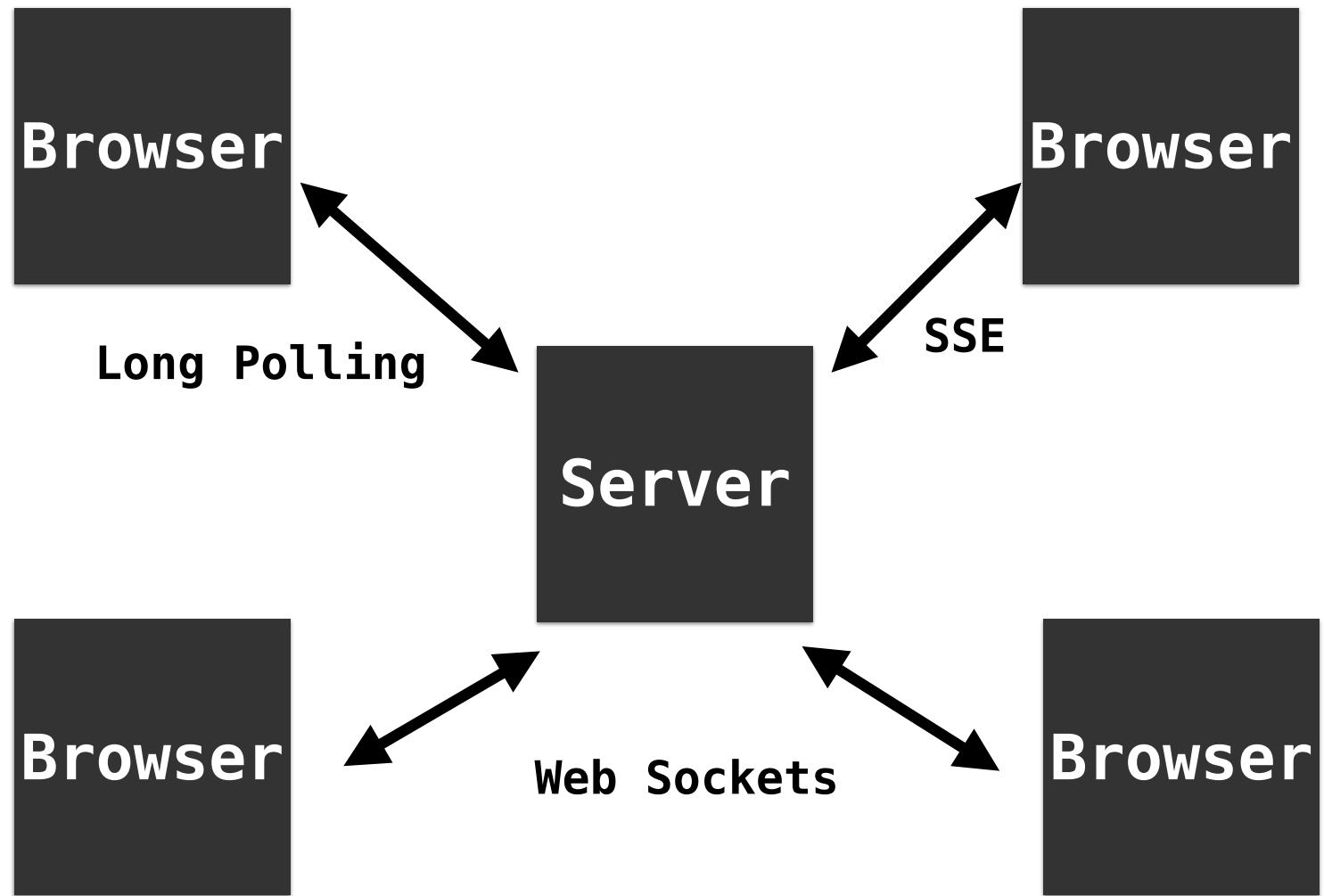
```java
if (!filter.doFilter(event)) {
    if (event.kind().equals(StandardWatchEventKind.ENTRY_ADD)) {
        resourceAddedEvent.fire(buildEvent(ResourceAddedEvent.class,
                                event).getK2());
    }
…
}
```

```java
public void onNewFile(@Observes ResourceAddedEvent event)
{

    Window.alert(
        "ResourceAddedEvent:" +
        event.getPath().toURI() +
        " ['" + event.getMessage() + "']");

}
```

127.0.0.1:8888/index.html#Perspective%20Editor?path_uri=default://master@plugins/Afdfd/perspective_layout.plugin&file_name=perspective_layout.plugin&has_version_support=true&name=Afdfd

UBERFIRE UI FRAMEWORK

Home   Perspectives ⌄   Screens ⌄

Paused in debugger ▶ ⟳

Error Popup   Simple Popup   ?   Su   1920px × 598px

New Perspective Layout Plugin....   ×

* Name   QConPerspective

+ Ok   Cancel

Plugin Explorer

✎ **PERSPECTIVE PLUGIN** ⌃

A

AA

AAf

AdminPagePerspective

Afdfd

AppsPerspective

Dashboard

Home

PluginAuthoringPerspective

Elements   Console   **Sources**   Network   Timeline   Profiles   Application   Security   Audits   SnappySnippet   AdBlock   ⋮   ✕

»   ⋮   ▮◀   PlaceManagerImpl.java   PerspectiveEdit...Presenter.java   **PlugInAuthoring...rspective.java** ✕   ▶▮

▶ ☐ top

```
64
65
66        private PerspectiveDefinition buildPerspective() {
67            final PerspectiveDefinitionImpl perspective = new PerspectiveDefinitionImpl(
68                    MultiListWorkbenchPanelPresenter.class.getName());
69            perspective.setName("Plugin Authoring");
70            return perspective;
71        }
72
73        public void onNewFile(@Observes ResourceAddedEvent event) {
74            Window.alert("ResourceAddedEvent:" + event.getPath().toURI() +
75                            " ['" + event.getMessage() + "']");
76        }
77    }
78
```

{} Line 74, Column 1

▶▮ ⟳ ⤓ ⤒ ⇥ ⏸ ☐ Async

ⓘ **Paused on breakpoint**

▶ **Watch**

▼ **Call Stack**

➡ OOt_g$ PlugInAuthoring...ective.java:74
  MOt_g$ Type_factory__o...fault.java:121
  LOt_g$ Type_factory__o...fault.java:119
  tj_g AbstractCDIEven...llback.java:60
  u0j_g$ CDI.java:329
  k0j_g$ CDI.java:317
  q0j_g$ CDI.java:302
  K0j_g$ CDI.java:85

Devs Full Stack

Shared Programming Model

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

```jsp
<form action="orderResult.jsp" method="POST">
    <h3>Pizza Types</h3>
    <div>
        <ul>
            <% for ( Pizza pizza : pizzaTypes ) { %>
            <li>
                <input type="radio" name="pizzaTypeOptions" value="<%=pizza.getName()%>" checked />
                <span class="pizzaType"><%=pizza.getName()%></span>
                <span class="pizzaPrice"><%=pizza.getPrice()%>$</span>
            </li>
            <% } %>
        </ul>
    </div>
    <h3>Size</h3>
    <ul>
        <li id="li_1">
            <input id="pizza_size1" type="radio" name="pizzaSizeOptions" value="Small" checked/>
            <span class="pizzaSize">Small</span>
            <input id="pizza_size2" type="radio" name="pizzaSizeOptions" value="Medium"/>
            <span class="pizzaSize">Medium ( + 2$ )</span>
            <input id="pizza_size3" type="radio" name="pizzaSizeOptions" value="Large"/>
            <span class="pizzaSize">Large ( + 3$ )</span>
        </li>
    </ul>
    <h3>Extra Toppings</h3>
    <div class="section group">
        <% for ( int j = 0; j < 3; j++ ) { %>
        <div class="col span_1_of_3">
            <ul class="ul_2">
                <% for ( int i = sliceSize * j; i < ( j + 1 ) * sliceSize; i++ ) { %>
                <li class="li_2">
                    <input type="checkbox" name="pizzaToppings" value="<%=pizzaToppings.get( i )%>"/>
                    <%=pizzaToppings.get( i )%>
                </li>
                <% }

                if ( j == 0 && remainder > 0 ) {
                %>
                <li class="li_2">
                    <input type="checkbox" name="pizzaToppings" value="<%=pizzaToppings.get( pizzaToppings.size() - 2 )%>"/>
                    <%=pizzaToppings.get( pizzaToppings.size() - 2 )
                </li>
                <% } else if ( j == 1 && remainder > 1 ) { %>
                <li class="li_2">
                    <input type="checkbox" name="pizzaToppings" value="<%=pizzaToppings.get( pizzaToppings.size() - 1 )%>"/>
                    <%=pizzaToppings.get( pizzaToppings.size() - 1 )%>
                </li>
                <% } %>
            </ul>
        </div>
        <% } %>
    </div>
    <h4>Each extra topping is 0.65$</h4>
    <input type="submit" value="Order"/>
</form>
...
```

```html
<h1>{{title}}</h1>
<h2>My favorite hero is: {{myHero}}</h2>
<p>Heroes:</p>
<ul>
  <li *ngFor="let hero of heroes">
    {{ hero }}
  </li>
</ul>
```

```html
<div>

    <ul class="list-group" data-field="projects-list">

    </ul>

    <button type="button" class="btn"
        data-field="new-project">

        <i class="fa fa-plus"></i> New Project

    </button>

</div>
```

ERRAI UI

```java
@Dependent
@Templated
public class ProjectsView {

    @Inject
    @DataField( "projects-view" )
    Div view;

    @Inject
    @DataField( "new-project" )
    Button newProject;

    @Inject
    @DataField( "projects-list" )
    UnorderedList projectsList;

}
```

127.0.0.1:8888/drools-wb.html#org.kie.workbench.common.screens.home.client.HomePresenter

Drools Workbench

? | ℹ | 🖿 | 👤 admin ⌄

Home | Admin - Preferences | Perspectives ⌄

Search 🔍

The KIE Knowledge Development Cycle

Discover and Author:

Author

Deploy:

Manage and Deploy Your Assets

Assets Repository

Author

Formalize your Business Knowledge

```html
<!-- Masthead -->
<nav class="navbar navbar-default navbar-pf ">
  <div class="navbar-header ">
    <button type="button" class="navbar-toggle" data-toggle="collapse" data-target=".navbar-collapse-2">
      <span class="sr-only">Toggle navigation</span>
      <span class="icon-bar"></span>
      <span class="icon-bar"></span>
      <span class="icon-bar"></span>
    </button>
    <a href="/" class="navbar-brand">
      <img src="images/BPMSuite.svg" alt="JBoss BPM Suite" />
    </a>
  </div>

  <div class="collapse navbar-collapse navbar-collapse-2">

    <ul class="nav navbar-nav "><!-- navbar-iconic -->
      <li class="dropdown">
        <a class="dropdown-toggle nav-item-iconic" id="dropdownMenu2" data-toggle="dropdown" aria-haspopup="true" aria-expanded="true">
          Home
          <span class="caret"></span>
        </a>
        <ul class="dropdown-menu" aria-labelledby="dropdownMenu2">
          <li><a href="#">Design</a></li>
          <li><a href="#">Processes &amp; Tasks</a></li>
          <li><a href="#">Runtime</a></li>
          <li><a href="#">Settings</a></li>
        </ul>
      </li>
    </ul>

    <ul class="nav navbar-nav navbar-right">
      <li class="dropdown">
        <a class="dropdown-toggle nav-item-iconic" id="notifications" data-toggle="dropdown" aria-haspopup="true" aria-expanded="true">
          <span title="Notifications" class="fa pficon-warning-triangle-o"></span>
          Messages: 0
        </a>
        <div class="dropdown-menu infotip bottom-right">
          <div class="arrow"></div>
          <ul class="list-group">
            <li class="list-group-item">
              <span class="i pficon pficon-info"></span> Modified Datasources ExampleDS
            </li>
            <li class="list-group-item">
              <span class="i pficon pficon-info"></span> Error: System Failure
            </li>
          </ul>
          <div class="footer">
            <a>Clear Messages</a>
          </div>
        </div>
      </li>
      <li class="dropdown">
        <a class="dropdown-toggle nav-item-iconic" id="dropdownMenu2" data-toggle="dropdown" aria-haspopup="true" aria-expanded="true">
          <span title="Username" class="fa pficon-user"></span>
          Brian Johnson
          <span class="caret"></span>
        </a>
        <ul class="dropdown-menu" aria-labelledby="dropdownMenu2">
          <li><a href="#">Preferences</a></li>
          <li><a href="#">Logout</a></li>
        </ul>
      </li>

    </ul>


  </div>

</nav>

<div class="container-fluid kie-blank-slate">

<!-- blank state content -->
<div class="blank-slate-pf row">
  <div class="col-xs-12 col-lg-9" style="text-align:right;"><a href=""><span class="fa fa-gear"></span> Settings</a></div>
  <h1 id="welcome">
    <!--<div style="float:right;"><a href=""><span class="fa fa-gear"></span> Settings</a></div>-->
    Welcome to <b>BPM Suite</b>
  </h1>
  <p>
    Business Process Management (BPM) Suite offers a set of flexible, process management tools that support the way you need to work. Select a BPM tool below to get started.
  </p>
  <div class="blank-slate-pf-secondary-action">
```

⚙ Settings

Welcome to **BPM Suite**

Business Process Management (BPM) Suite offers a set of flexible, process management tools that support the way you need to work. Select a BPM tool below to get started.

✏

🗹

⋌

Design

Model build, and publish.

Processes & Tasks

Run, assign, and keep track of your business processes.

Runtime

Monitor and manage servers and active instances.

[Design]   [Run & Assign]   [Monitor & Manage]

Getting
Started

Applications

ABC Loans
Loan Management tool

Home mortgage
Loan Management tool

DEF Credit
Loan Management tool

⊕ **View All Apps**

Integração com UX

Deixe o HTML/CSS em paz

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

Arquitetura

Hexagonal Architecture - Alistair Cockburn

Onion Architecture - Jeffrey Palermo

DCI - James Coplien e Trygve Reenskaug.

BCE - Ivar Jacobson

Clean Architecture - Robert C. Martin

Princípios

Independente de Frameworks
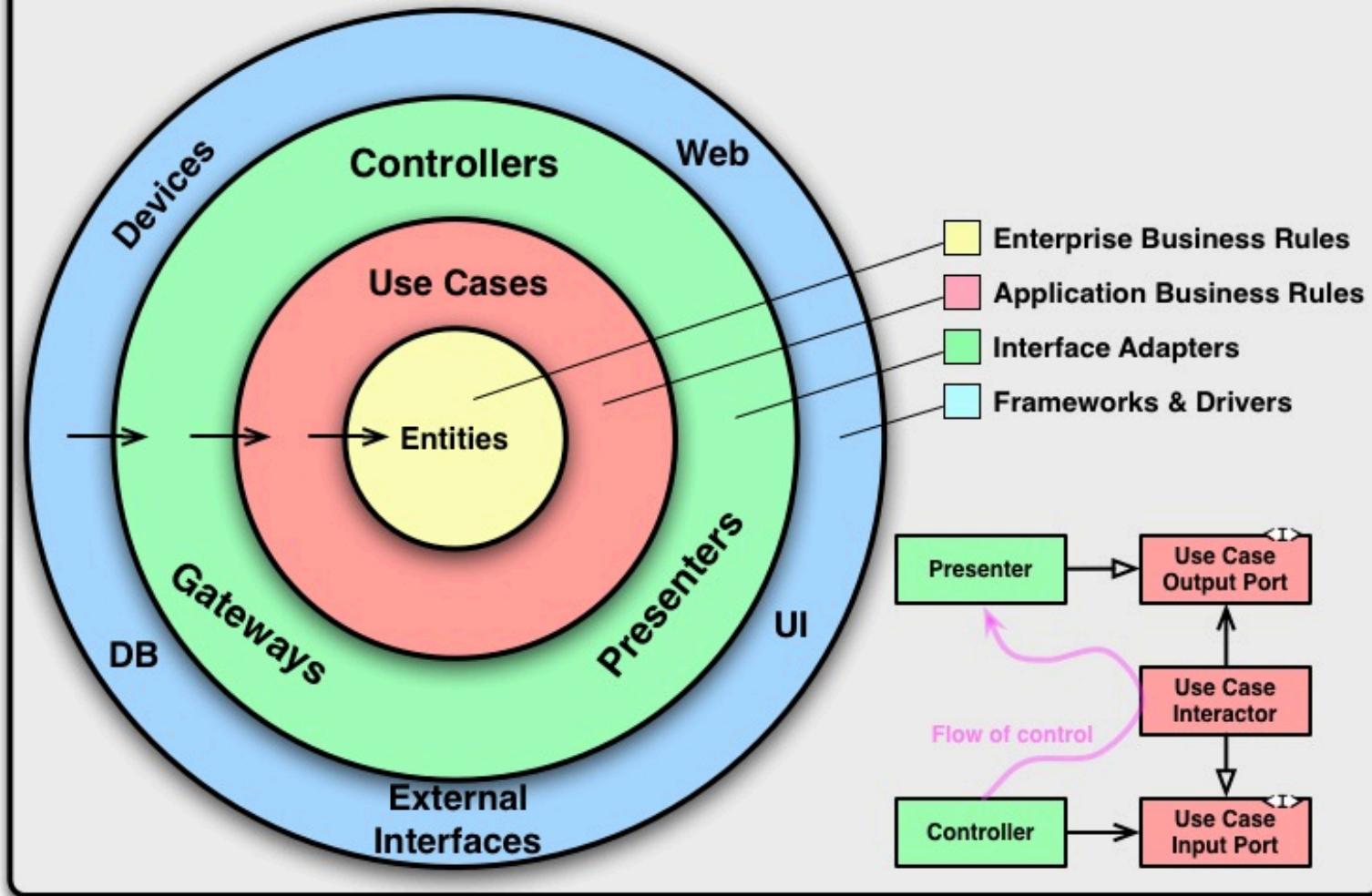
Testável

Independente de UI

Independente de Database

Independente de Agentes Externos

The Clean Architecture

- Enterprise Business Rules
- Application Business Rules
- Interface Adapters
- Frameworks & Drivers

Devices
Controllers
Web
Use Cases
Entities
Gateways
Presenters
DB
UI
External Interfaces

Presenter → Use Case Output Port `<I>`

Use Case Interactor

Controller → Use Case Input Port `<I>`

Flow of control
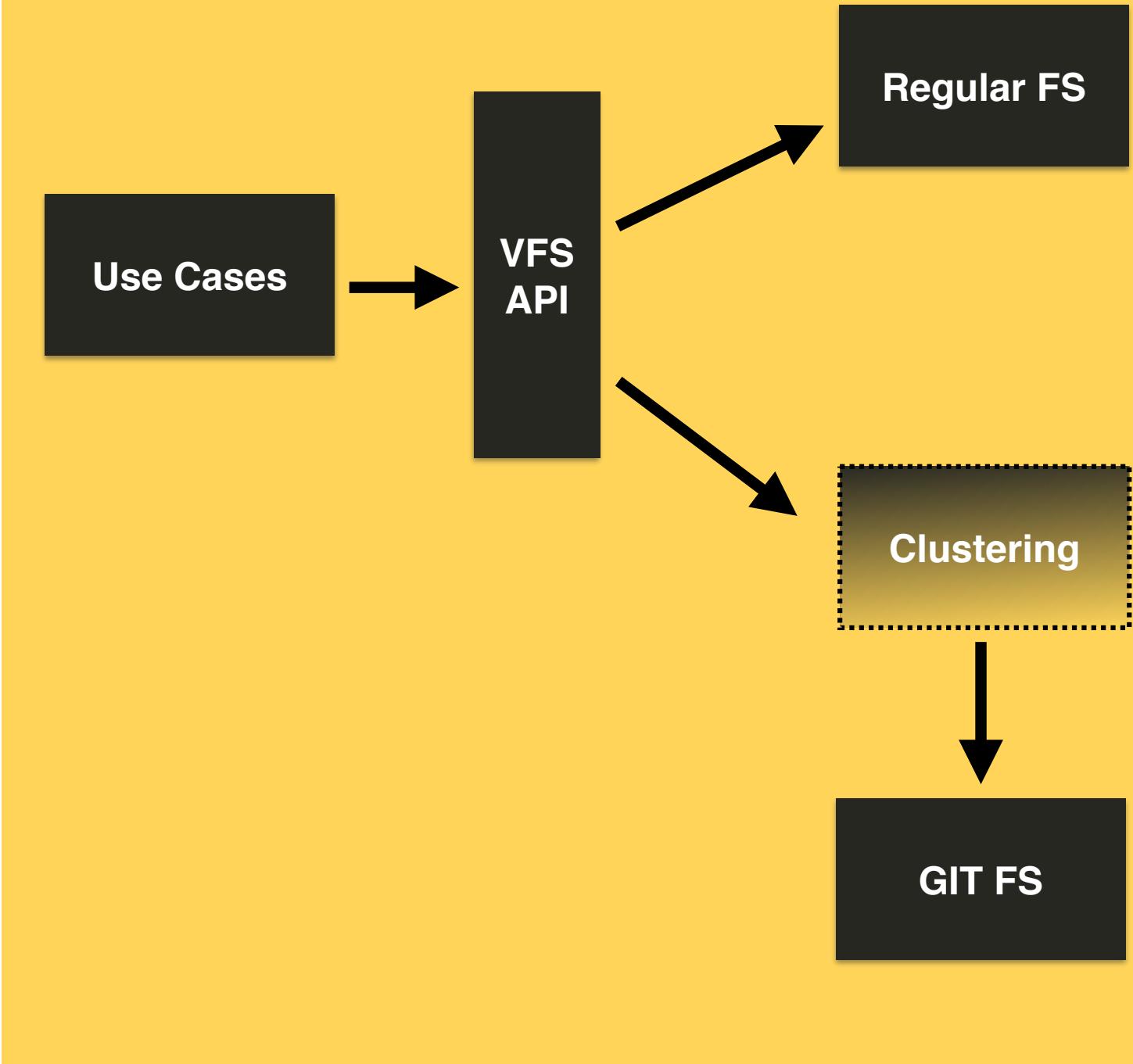
"Architecture is about intent. We have made it about frameworks and details"

Robert C. Martin

Qual framework Web escolher?

Qual framework JS escolher?

What's next for Angular 1.x?
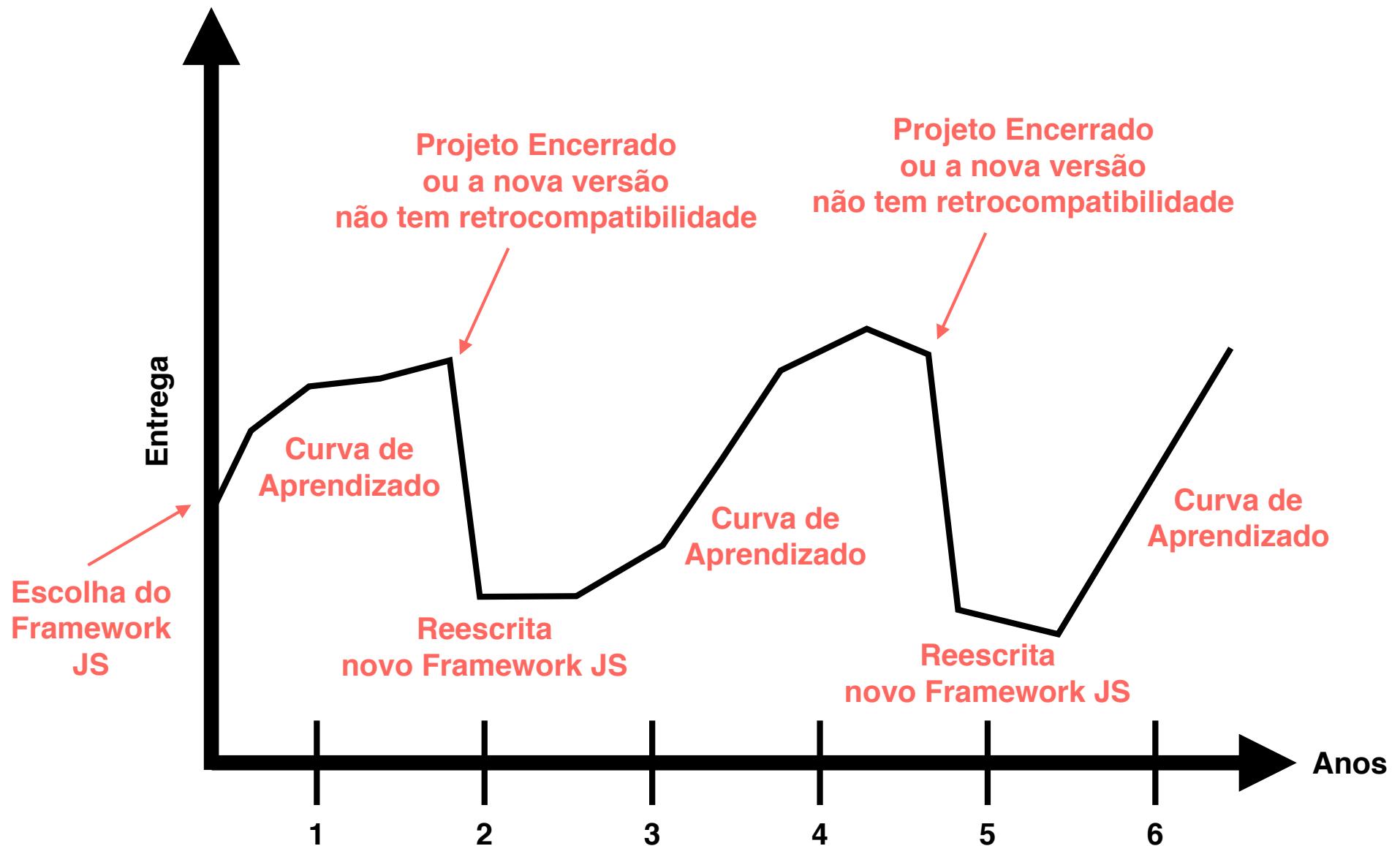
"In all honesty, no one really knows what will happen"

I'm Todd, I teach the world Angular through @UltimateAngular. Conference speaker and Developer Expert at Google.

Follow @toddmotto   33.6K followers

https://toddmotto.com/future-of-angular-1-x
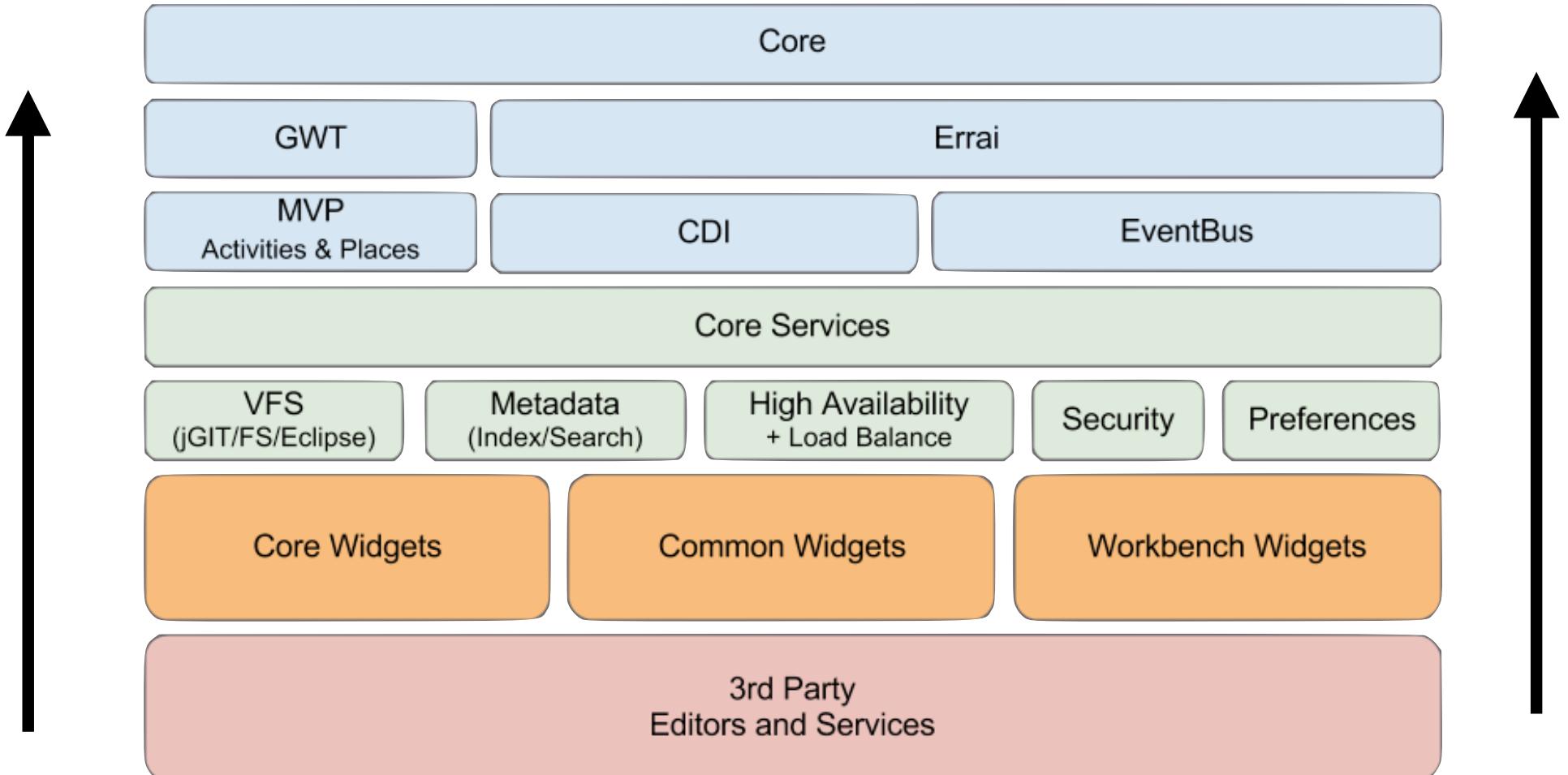
"A good architecture allows volatile decisions to be easily changed"

Robert C. Martin

E se eu tratasse a volatilidade dos frameworks JS como fato?

Core		
GWT	Errai	
MVP Activities & Places	CDI	EventBus
Core Services		
VFS (jGIT/FS/Eclipse)	Metadata (Index/Search)	High Availability + Load Balance	Security	Preferences
Core Widgets	Common Widgets	Workbench Widgets
3rd Party Editors and Services		

Modelo de Programação

Componentes:

- **Screen**
- **Editors**
- **Perspectives**
- **Popups**

Modelo de Programação

LifeCycle:

- **OnStart**

- **OnSave**

- **IsDirty**

- **OnClose**

- **OnFocus**

- **OnLostFocus**

- **OnMayClose**

- **OnReveal**

Baseado em Contratos

Screen -> Interface WorkbenchScreenActivity

Editor -> Interface WorkbenchEditorActivity

Perspective -> Interface PerspectiveActivity

Código de 7 anos atrás com GWT "old school"

Live-Span de 5~10 anos

Trate a arquitetura Web com o mesmo respeito que você trata seu backend.

5 pilares:

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Interoperabilidade

```java
@WorkbenchPerspective(identifier = "HomePerspective",
        isDefault = true)
@Templated
public class HomePerspective implements IsElement {

    @Inject
    @DataField
    @WorkbenchPanel(parts = "MoodScreen?uber=fire&uber1=fire1")
    Div moodScreen;

    @Inject
    @DataField
    @WorkbenchPanel(parts = "HomeScreen?uber=fire")
    Div homeScreen;

    @Inject
    @DataField
    @WorkbenchPanel(parts = "AnotherScreen")
    Div anotherScreen;
}
```

```java
@JsType
public interface PerspectiveActivity{

    PerspectiveDefinition getDefaultPerspectiveLayout();

    @Override
    default String getName() {
        return getDefaultPerspectiveLayout().getName();
    }

    boolean isDefault();

    Menus getMenus();

    ToolBar getToolBar();

}
```

```javascript
function TodoCtrl($scope) {

    $scope.placeText = "MiscellaneousFeatures";

    $scope.todos = [
        {text: 'learn angular', done: true},
        {text: 'build an angular app', done: false}
    ];

    $scope.addTodo = function () {
        $scope.todos.push({text: $scope.todoText, done: false});
        $scope.todoText = '';
    };

    $scope.remaining = function () {
        var count = 0;
        angular.forEach($scope.todos, function (todo) {
            count += todo.done ? 0 : 1;
        });
        return count;
    };

    $scope.archive = function () {
        var oldTodos = $scope.todos;
        $scope.todos = [];
        angular.forEach(oldTodos, function (todo) {
            if (!todo.done) {
                $scope.todos.push(todo);
            }
        });
    };

    $scope["goto"] = function () {
        $goToPlace($scope.placeText);
    };
}
```

```html
<div class="container-fluid" ng-controller="TodoCtrl">
    <div class="row">
        <div class="col-md-12">
            <p class="pull-right" style="margin-top: 10px;">{{remaining()}} of {{todos.length}} remaining [
                <a href="" ng-click="archive()">archive</a> ]
            </p>
            <h4>Todos</h4>
            <ul class="list-group">
                <li class="list-group-item" ng-repeat="todo in todos">
                    <span class="done-{{todo.done}}">{{todo.text}}</span>
                    <input class="pull-right" type="checkbox" ng-model="todo.done">
                </li>
            </ul>
        </div>
    </div>
    <div class="row">
        <div class="col-md-6">
            <form class="form-inline" ng-submit="goto()">
                <div class="form-group">
                    <input type="text" ng-model="placeText" size="30" class="form-control" placeholder="place to go">
                    <input class="btn btn-primary" type="submit" value="GoTo">
                </div>
            </form>
        </div>
        <div class="col-md-6">
            <form class="form-inline pull-right" ng-submit="addTodo()">
                <div class="form-group">
                    <input type="text" ng-model="todoText" size="30" class="form-control" placeholder="add new todo here">
                    <input class="btn btn-primary" type="submit" value="Add">
                </div>
            </form>
        </div>
    </div>
</div>
```

```javascript
$registerPlugin({
    id: "my_angular_js",
    type: "angularjs",
    templateUrl: "angular.sample.html",
    title: function () {
        return "angular " + Math.floor(Math.random() * 10);
    },
    on_close: function () {
        alert("this is a pure JS alert!");
    }
});
```

Perspectives

Uberfire Lookup Perspective → ERRAI CDI BEAN MANAGER → Scan all Perspective Activity Implementations

GWT Perspective Adapter → OLD GWT WIDGET

ERRAI UI Perspective Adapter → Plain HTML Errai UI

Angular Perspective Adapter → Angular native Perspective

Any JS Perspective Adapter → Any JS Framework

angular 2

Todos

1 of 3 remaining [archive]

learn angular ☑

build an angular app ☑

Talk at QCon ☐

MiscellaneousFeatures | GoTo | add new todo here | Add

Angular JS Screen

Todo List ∨

Save | Delete | Edit ∨

UberFire Todo List

UberFire is an amazing project, with a bright future, but as an Alpha version we know that it needs **some** improvements. Here are some things in our todo list:

- Improve Look & Feel
- Implement Themes
- Grid/Tile layout manager
- ...

Links

- Source @ GitHub
- UberFire User List
- UberFire Dev List
- Drools Project
- jBPM Project

Contribution

If you were looking for a fun project, to get involved with some cool tech. It doesn't get much better than contribute to UberFire :).

Quick Tour

A quick tour that shows UberFire cool features.

▶ Play

Sample App

Here a good example of an application build on top of UberFire.

▶ Play

Criação de Componentes em Runtime

Dashbuilder   👤 admin ˅

Administration ˅   Dashboards ˅   Test ˅

Perspectives   Navigation

| Test | > | Expenses |
| | | Sales |

📁 Menu bar
   📁 🗑 Administration
     🖥 🗑 Datasets
     🖥 🗑 Security
     🖥 🗑 Content manager
   📁 🗑 Dashboards
     🖥 🗑 Sales dashboard
     🖥 🗑 Sales reports
   📁 🗑 Test
     📁 🗑 Test
       🖥 🗑 Expenses
       ▬ 🗑 --------------
       🖥 🗑 Sales

Content Management

From here you can create & customize both the application content and its navigation menus. You can start by creating a new Perspective

New Perspective

Home ∨   Authoring ∨   Deploy ∨   Process Management ∨   Tasks   Dashbo

Example   New Item ∨   Repository ∨

Messages   Asset Search

Project Explorer   Open Project Editor ‹

default-ou ∨ › playground ∨ › online-shop ∨

BUSINESS PROCESS (PREVIEW) ∨

DATA OBJECTS ▲

Client

🔒 Order

OrderLine

FORM DEFINITIONS (PREVIEW) ▲

Client

Order

OrderLine

Form Modeler [Order] ∨

Editor   Overview

Save   Delete   Rename   Copy   Latest Version ∨

Total

Total

Status

Comments

Comments

Field properties

Field Type

MultipleSubForm ▾

Label

Lines

Create Form

OrderLine ▾

Edit Form

OrderLine ▾

☐ Required

☐ Readonly

☑ Validate on Value Change

Table Columns

+ New Instance

Property	Caption		
product	Product	✎ Edit	🗑 Delete
amount	Amount	✎ Edit	🗑 Delete

« ‹   1-2 of 2   ›

Field binding

lines ▾

+ Ok

Components

› Tools

∨ order

✛ id

✛ client

Messages

Clear

Level	Text	File	Column	Line

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

Desenvolvimento Web
é complexo

Aplicações Web são parte da nossa arquitetura

Princípios

Independente de Frameworks

Testável

Independente de UI

Independente de Database

Independente de Agentes Externos

Arquitetura de software é exercício de trade-offs

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

http://bit.ly/5-pilares-web

Eder Ignatowicz
@ederign

redhat.