



AngularJS, WHY ?

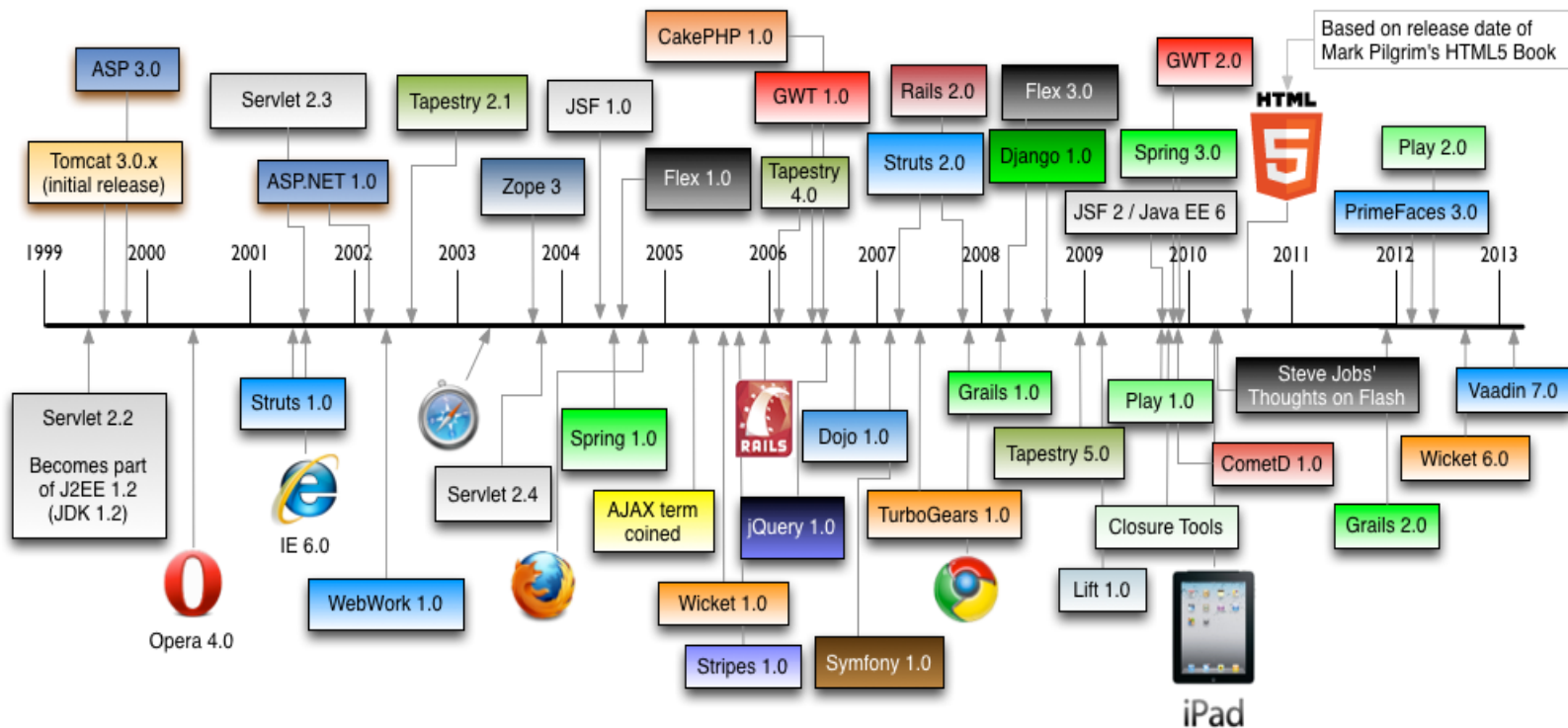
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@Deyine

Flashback...



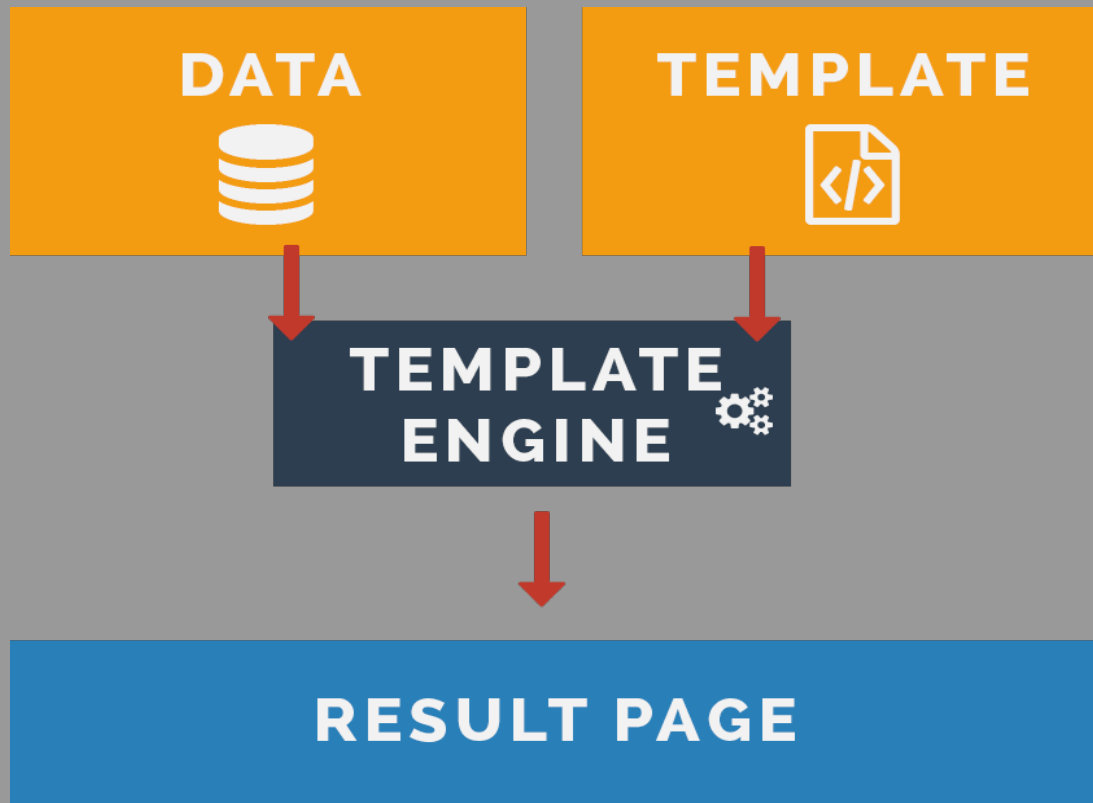


Old web frameworks

- Pattern MVC et variantes MVC2 / MVVM / MVP ...
- routes, données et templates gérés côté serveur
- View Template Engine



Old web frameworks





Problème

- Html généré à chaque requête Http
- Cache html uniquement côté serveur
- > 80% de contenu statique dans chaque reponse

```
view-source:localhost:3000/presentations
Applications ★ Bookmarks 🏠 football stream 📄 localhost:3000/👤 🌐 Neticoa 🌐 Site Neticoa.sn 🖨️ My Marina 🔄 Replay 📁 Android 📁 Material icons - G 📁 kina4 📄 eGazety - Applic 📁 kina5 📁 kinafriday
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>DrugApp</title>
5   <link rel="stylesheet" href="https://fonts.googleapis.com/css?family=Roboto:regular,bold,italic,thin,light,bolditalic,black,medium&lang=en">
6   <link rel="stylesheet" href="https://fonts.googleapis.com/icon?family=Material+Icons">
7
8   <link rel="stylesheet" media="all" href="/assets/material.blue.grey-blue_min.self-45f0bc7f4804b40f9bef1999a0f7e1ab17f7ac86747cd97829477ef1caff9b24.css?body=1" data-turbolinks-track="true" />
9   <link rel="stylesheet" media="all" href="/assets/presentations.self-e3b0c44298fc1c149afb4c8996fb92427a4e1e4649b934ca495991b7852b855.css?body=1" data-turbolinks-track="true" />
10  <link rel="stylesheet" media="all" href="/assets/scaffolds.self-40bf6a4bc204f06f82ed9dec9a51f04fe80d44ebf4600bd9105de1189f17b7a7.css?body=1" data-turbolinks-track="true" />
11  <link rel="stylesheet" media="all" href="/assets/application.self-60d6ea48dfca705c222f7cd960182f70035c7dc487c1160d3af3fa7908abbc09.css?body=1" data-turbolinks-track="true" />
12  <script src="/assets/quiry.self-a714331225dda820228db323939889f149aec0127aeb06255646b616ba1ca419.js?body=1" data-turbolinks-track="true"></script>
13  <script src="/assets/quiry.wjs.self-d456baa54c1fa6be2ec3711f0a72dd77a5b2f34a6b4f515f33767d6207b7d4b3.js?body=1" data-turbolinks-track="true"></script>
14  <script src="/assets/material_min.self-4b8145748c5ef665a5b39d1e8733ca1198ed7c74e0290e64fb37b20b121188b1.js?body=1" data-turbolinks-track="true"></script>
15  <script src="/assets/presentations.self-877aef30ae1b040ab8a3aba4e3e309a11d7f2612f44dde450b5c157aa5f95c05.js?body=1" data-turbolinks-track="true"></script>
16  <script src="/assets/application.self-2b00c68320848afe54cf9919a7a76ed257f93bdb6e12dc2160d07a8b1fe5e9f4.js?body=1" data-turbolinks-track="true"></script>
17  <meta name="csrf-param" content="authenticity_token" />
18  <meta name="csrf-token" content="PbSKGXXc69YkDMOILyHNI36D7r84n0X1KDUZsdXNE/m14nTmJGc4psb5aYFDwciCau0qPGZcxmq6dM0HqBYA==" />
19  <meta name="viewport" content="width=device-width, initial-scale=1.0">
20 </head>
21 <body class="mdl-demo mdl-color--grey-100 mdl-color-text--grey-700 mdl-base">
22
23   <div class="mdl-layout mdl-js-layout mdl-layout--fixed-header">
24     <header class="mdl-layout__header mdl-layout__header--scroll mdl-color--primary">
25       <div class="mdl-layout--large-screen-only mdl-layout__header-row">
26       </div>
27       <div class="mdl-layout--large-screen-only mdl-layout__header-row">
28         <h3>Dakar Ruby User Group</h3>
29       </div>
30       <div class="mdl-layout--large-screen-only mdl-layout__header-row">
31       </div>
32       <div class="mdl-layout__tab-bar mdl-js-ripple-effect mdl-color--primary-dark">
33         <a href="#overview" class="mdl-layout__tab is-active">Slides</a>
34         <a href="#features" class="mdl-layout__tab">About</a>
35         <button class="mdl-button mdl-js-button mdl-button--fab mdl-js-ripple-effect mdl-button--colored mdl-shadow--4dp mdl-color--accent" id="add">
36           <i class="material-icons" role="presentation">add</i>
37           <span class="visuallyhidden">Add</span>
38         </button>
39       </div>
40     </header>
41     <main class="mdl-layout__content">
42
43       <div class="mdl-layout__tab-panel is-active" id="slides">
44         <section class="section--center mdl-grid mdl-grid--no-spacing mdl-shadow--2dp">
45           <header class="section_play-btn mdl-cell mdl-cell--3-col-desktop mdl-cell--2-col-tablet mdl-cell--4-col-phone mdl-color--teal-100 mdl-color-text--white">
46             
47           </header>
48           <div class="mdl-card mdl-cell mdl-cell--9-col-desktop mdl-cell--6-col-tablet mdl-cell--4-col-phone">
49             <div class="mdl-card__supporting-text">
50               <h4>Functional programming with Lisp</h4>
51               Ea nihil est dolor animi odio enim. Praesentium quia ullam ipsa et quo. Consequatur consequuntur sed quis eveniet numquam ea. Quos quis et autem cupiditate. Fuga libero aliquid nostrum aut quia dolor. Qui al
52             </div>
53             <div class="mdl-card__actions">
54               <a href="#" class="mdl-button">Watch video</a>
55               <a href="#" class="mdl-button">Slides</a>
56             </div>
57           </div>
58           <button class="mdl-button mdl-js-button mdl-js-ripple-effect mdl-button--icon" id="btn1">
59             <i class="material-icons">more_vert</i>
60           </button>
61           <ul class="mdl-menu mdl-js-menu mdl-menu--bottom-right" for="btn1">
62             <li class="mdl-menu__item">Lorem</li>
63             <li class="mdl-menu__item" disabled>Ipsum</li>

```



Angular, la réponse ?

En 4 mots clés

- Framework Javascript
- Single page application
- MVW (Whatever)
- Google



<demo/>



Modules

Un module est composé des composants

- routes
- controllers
- services
- directives
- filters



Modules

- Démarrage d'Angular

```
<html ng-app="drug-app">
```

- Création du module principal

```
angular
  .module('drug-app', [
    // Bower modules
    'ui.router',
    'ngAria',
    'ngSanitize',
    'ngCookies',
    // Slides module
    'slide'
  ])
```



Routes

- Chaque route est gérée par un controller

```
$stateProvider
  .state('application.case1', {
    url: '/slide/case1',
    templateUrl: 'slide/views/case1.html',
    controller: 'slideController'
  })
```



Controllers / Scope

- Le controller expose les données via le scope.
- Notion de **Two way Binding**

```
angular.module('slide')  
  
  .controller('slideController', ['$scope', 'slideService',  
    function($scope, slideService) {  
      // Loading | Slides  
      $scope.slides = [];  
      slideService.getAll().then(function(result){  
        $scope.slides = result.data;  
      });  
    }  
  ]);
```



Services

- Les services permettent d'effectuer des traitements sur les données.

```
angular.module('slide')
  .factory('slideService', ['$http',

    function($http) {
      return {

        /**
         * Get all slides
         * @return Slides
         */
        getAll: function() {
          var url = '/drug-api/api/slides';
          return $http({
            method: 'GET',
            cache: false,
            url: url,
            headers: {
              'Accept': 'application/json',
              'Cache-Control' : 'no-cache'
            }
          });
        }
      };
    }
  ]);
```



Directives

- Permettent d'enrichir HTML
- Possibilité de créer de nouvelles balises / attributs etc.
- Un avant goût des Web Components



Directives

```
angular.module('slide')  
  
  .directive('slideItem', function() {  
    return {  
      restrict: 'E',  
      replace: true,  
      templateUrl: 'slide/directives/slide-item/slide-item.html',  
      scope: {  
        item: '='  
      }  
    };  
  });  
});
```



Tools



- Npm : cycle de vie de l'application, lanceur de tâche
- Gulp : système de build
- Bower : Dépendances applicatives
- Packaging / Minification / Obfuscation



Benchmark

Rails App

```
ab -n 1000 -c 10 http://localhost:3000/presentations
```

```
Concurrency Level:      10
Time taken for tests:   33.514 seconds
Complete requests:     1000
Failed requests:        0
Write errors:           0
Total transferred:     20534000 bytes
```

Angular backend app

```
ab -n 1000 -c 10 http://localhost:3000/api/slides
```

```
Concurrency Level:      10
Time taken for tests:   7.043 seconds
Complete requests:     1000
Failed requests:        0
Write errors:           0
Total transferred:     4815000 bytes
```

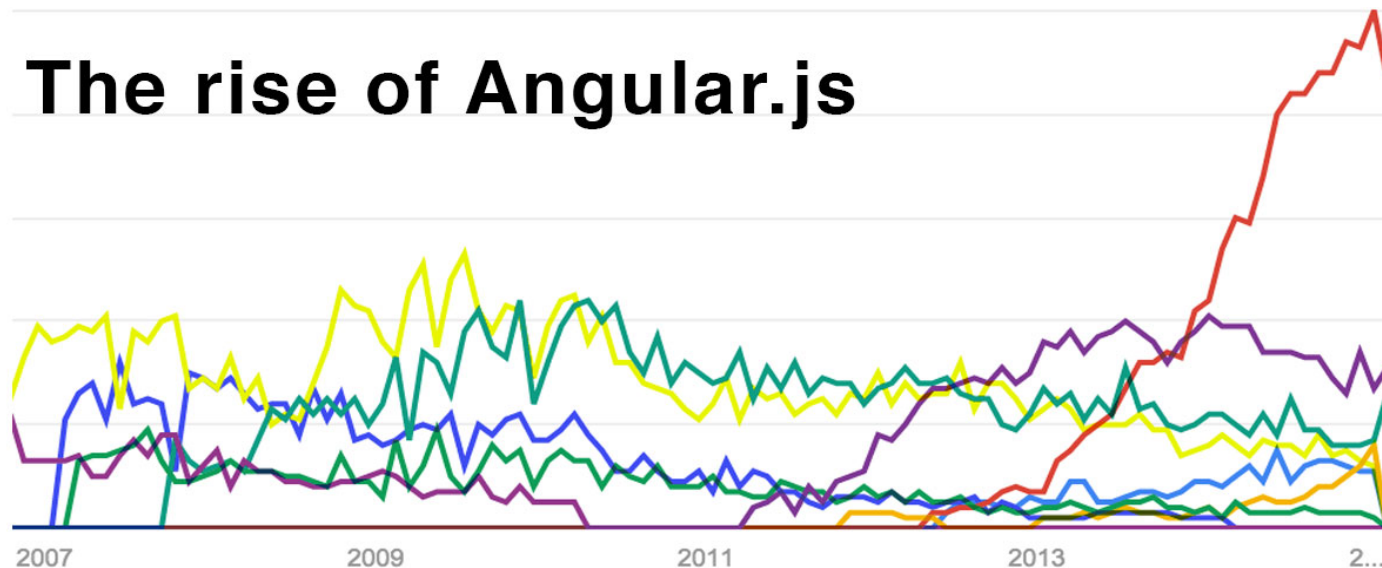


Avantages

- Backend allégé (~ 5x Faster)
- Faible couplage : Même Backend pour tous les clients
- Coder en parallèle : 2 développeurs Frontend and Backend
- Webapp statique
- Extensibilité via les directives
- Engagement de la communauté



The rise of Angular.js



angular t...
Search term

mootool...
Search term

dojo tuto...
Search term

extjs tut...
Search term

scriptac...
Search term

ember tu...
Search term

react tut...
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yui tutorial
Search term

backbon...
Search term

Composition of Google Trends searches of "%s tutorial" for 9 frameworks in Feb 2015, from allenpike.com.



Inconvenients

- Plus de 2000 watchers sur une page, peut dégrader l'UI (angular-tips.com)

```
$apply: function(expr) {  
  try {  
    beginPhase('$apply');  
    try {  
      return this.$eval(expr);  
    } finally {  
      clearPhase();  
    }  
  } catch (e) {  
    $exceptionHandler(e);  
  } finally {  
    try {  
      $rootScope.$digest();  
    } catch (e) {  
      $exceptionHandler(e);  
      throw e;  
    }  
  }  
},
```



Inconvenients



Dakar Ruby User Group

SLIDES ABOUT

`$rootScope.apply()`

`$scope.digest()`

Functional programming with Lisp

Ea nihil est dolor animi odio enim. Praesentium quia ullam ipsa et quo. Consequatur consequuntur sed quis eveniet numquam ea. Quos quis et autem cupiditate. Fuga libero aliquid nostrum aut quia dolor. Quisquam officis incidunt natus culpa placeat.

WATCH VIDEO SLIDES

LEARN AND UNDERSTAND

AngularJS, WHY?

Vero sit hic quia et omnis architecto molestias. Deserunt culpa repellat. Et est officia. Est delectus molestiae minus et ut eos vel. Consequatur ut vero. Voluptas rerum aut dolore id accusantium.

WATCH VIDEO SLIDES

USING REACT.JS

Real world ReactJS

Deleum amet est. Quis accusatates ille qui enim placeat omnis. Voluptas porro et ut aut.



Future, Angular 2

Bonne nouvelle

- Les lacunes de Angular 1.X ont été adressées/corrigées dans Angular 2 prévu pour fin d'année

Mauvaise nouvelle

- Pour bien faire, l'équipe a décidé de réécrire tout Angular. Aucune retrocompatibilité n'est prévue



Merci pour votre attention

QuestionJS ?

Links



- https://farm9.staticflickr.com/8529/8588701778_91aeb65377_o.png
- <http://www.allenpike.com/2015/javascript-framework-fatigue/>
- angular-tips.com