

The  
**Amazine**

Tech Stack

# **JavaScript Single Page Applications**

“At this point, saying ‘single-page application’ is like saying ‘horseless carriage’”  
Jeremy Ashkenas, creator of Backbone, Underscore and CoffeeScript

# Agenda

- What is Amazine
- JavaScript Single Page Applications (SPA)
- Tech Stack - JavaScript libraries
- Backbone Components/SPA Patters
- CoffeeScript

Create a new story...

AMAZINE

223 Your Magazine ▾



# Alexander Kong

Just collecting beautiful stories from all kinds of topics.



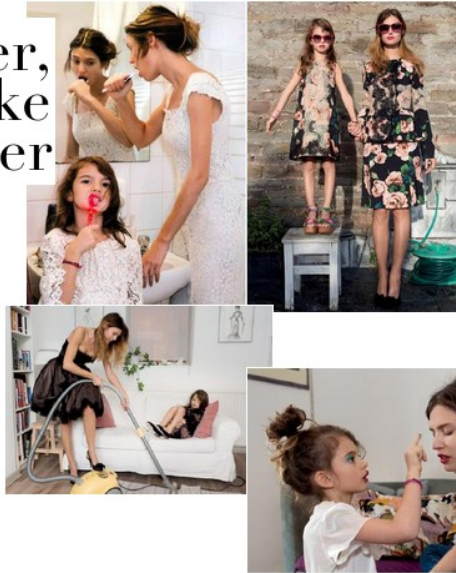
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## Like Mother, Like Daughter

by Alexander ... via Amalie ...  
(via Studded Heel [...])



## Roasted Butternut & Coconut Soup

by Alexander ... via Maggie Cohen

A yummy soup from Green Kitchen Stones See the website for the recipe [...]

## The Lives Of Hitchhikers And Freight Train Hoppers

by Alexander ... via Octavia ...



Mike Brodie hopped trains with this weathered group of youngsters armed with a camera in order to document their existence on the roofs of freight trains. Som [...]

## Are You Really Into Hamburger?

by Alexander ... via Linda  
Me not... but I couldn't resist taking some phc [...]



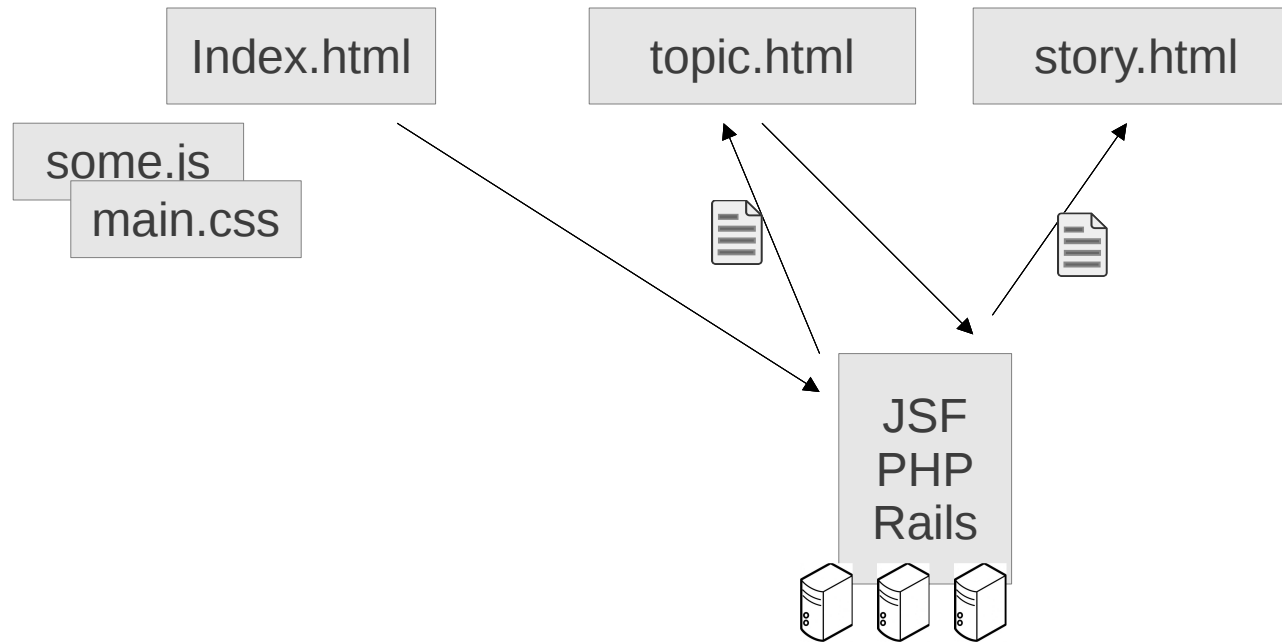
## Nocturnal Landscape Photography By Maurizio Pignotti

by Alexander ... via Shadow Dog ...

Maurizio Pignotti is a landscape photographer based in Italy. He especially [...]

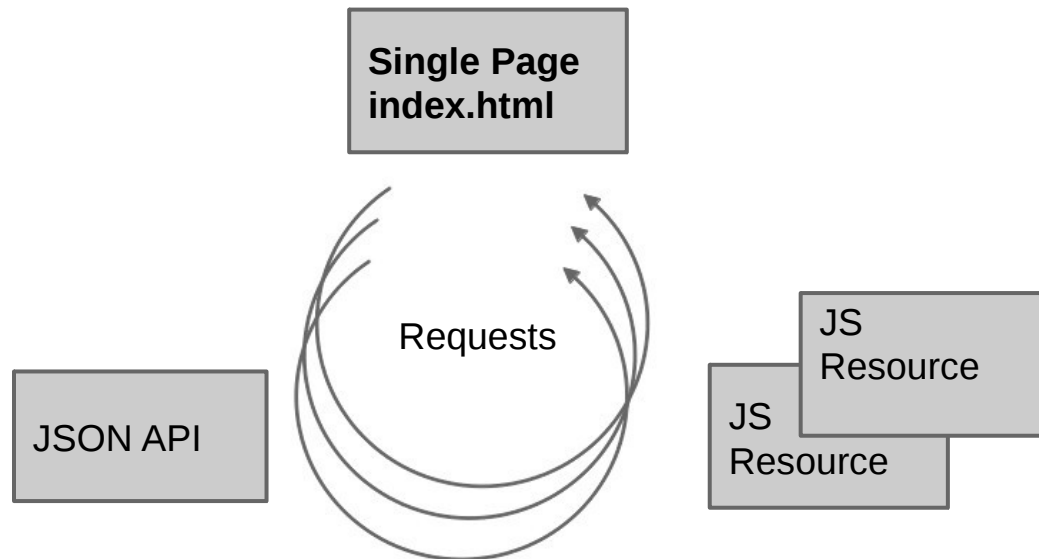


# General Web Application Flow



# JavaScript Single-Page-Application

emulate "normal" web behavior  
without leaving the page



# Single-Page-Application Advantages

- Better responsiveness
- Lower data transfer
  - reduced bandwidth
- Thin Server
  - reduced server CPU time, (stateless)
- Fat Client
  - structured, modular → closer to desktop application development

# Single-Page-Application Problems

- SEO
- Back/Forward Button
- Old browser compatibility
- Roca-Style → Progressive enhancement
- Stateful

# SPA Frameworks

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- Angular → 10.3k Stars, 2.1k Forks
- Rendr → 1.6k Stars, 0.1k Forks
- Meteor → 8.6k Stars, 1.1k Forks
- Ember → 7.1k Stars, 1.3k Forks
- Spine → 2.3k Stars, 0.3k Forks
- Marionette → 3k Stars, 0.5k Forks
- ...

# Tech Stack

BACKBONE.JS

AMD & Require.js

handlebars

UNDERSCORE.JS

jQuery  
*write less, do more.*

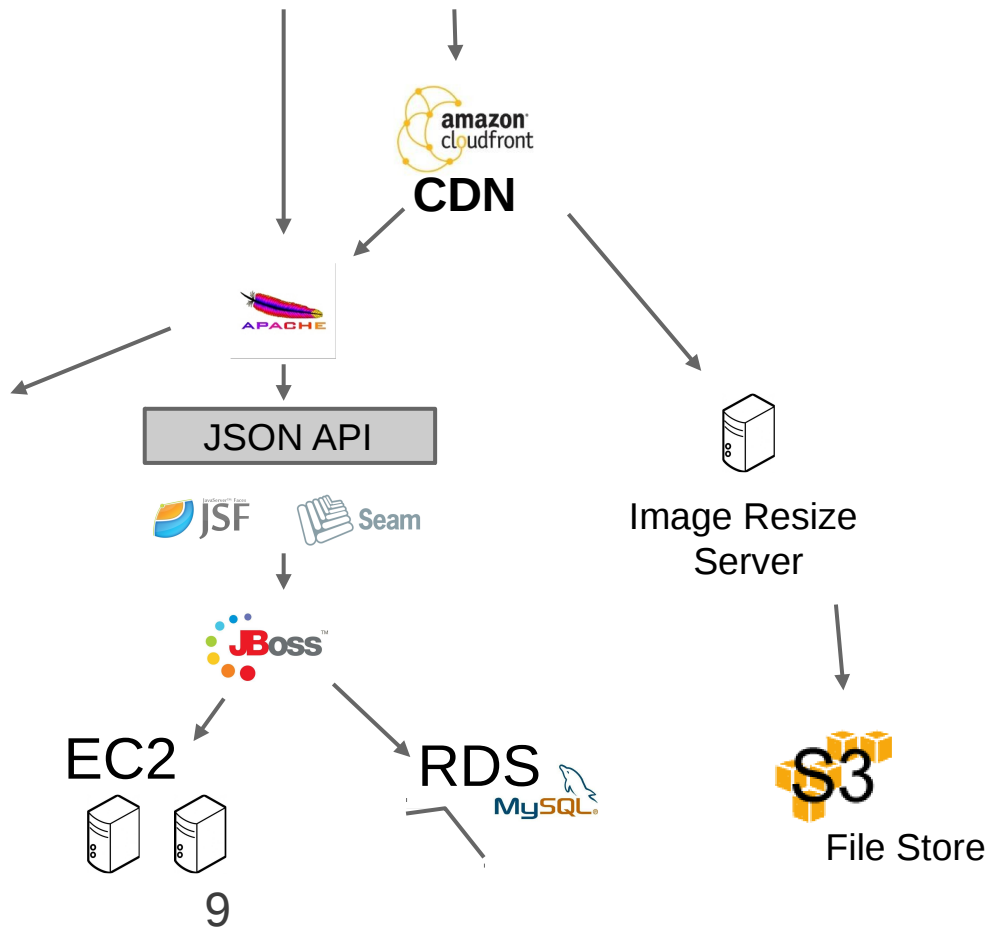
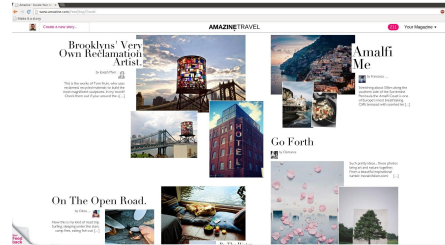
CoffeeScript

Sass

GRUNT

Static JavaScript Files

## Browser



# Used Libraries



MVP/C Pattern



Module Loading



precompiled templates



Utility Belt



Clean/Compact/Easy to read



CSS extension like less



JavaScript Build Tool → CS/Sass/Handlebars

compile, Minify/uglify, stringify, concat

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- **Model:** Backbone.Model/JSON (contains db model, business logic and ui secondary state)

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- **Controller:** instantiate views/called by router and initial data loading model fetching
- **Events:** Model <-> View
- **Router/History:** navigate, open controller → fundamental state



# CoffeeScript

- shorter syntax → meaningful whitespaces, less brackets
- Generates the good parts of JavaScript
- Functional style Fat Arrow → “myfun: (param) -> “
- String interpolation
- Conditional modifiers
- Class keyword + super()
- ECMA Script 6 → Classes, Destructuring, Default function parameters, Array Comprehension ...

# Links

## Airbnb Tech Stack & Rendr

<http://nerds.airbnb.com/weve-open-sourced-rendr-run-your-backbonejs-a/>

[http://nerds.airbnb.com/weve-launched-our-first-nodejs-app-to-product?utm\\_source=javascriptweekly&utm\\_medium=email](http://nerds.airbnb.com/weve-launched-our-first-nodejs-app-to-product?utm_source=javascriptweekly&utm_medium=email)

## Trello Tech Stack

<http://blog.fogcreek.com/the-trello-tech-stack/>

## Roca-style

<http://roca-style.org/>

## SPA Manifesto

[http://itsnat.sourceforge.net/php/spim/spi\\_manifesto\\_en.php](http://itsnat.sourceforge.net/php/spim/spi_manifesto_en.php)

## Rich JavaScript Applications Comparison

<http://blog.stevensanderson.com/2012/08/01/rich-javascript-applications-the-seven-frameworks-throne-of-js-2012/>

## Google Ajax Crawling

<https://developers.google.com/webmasters/ajax-crawling/docs/getting-started>