Alex Coles | Goto Conference, Berlin

not really about choice

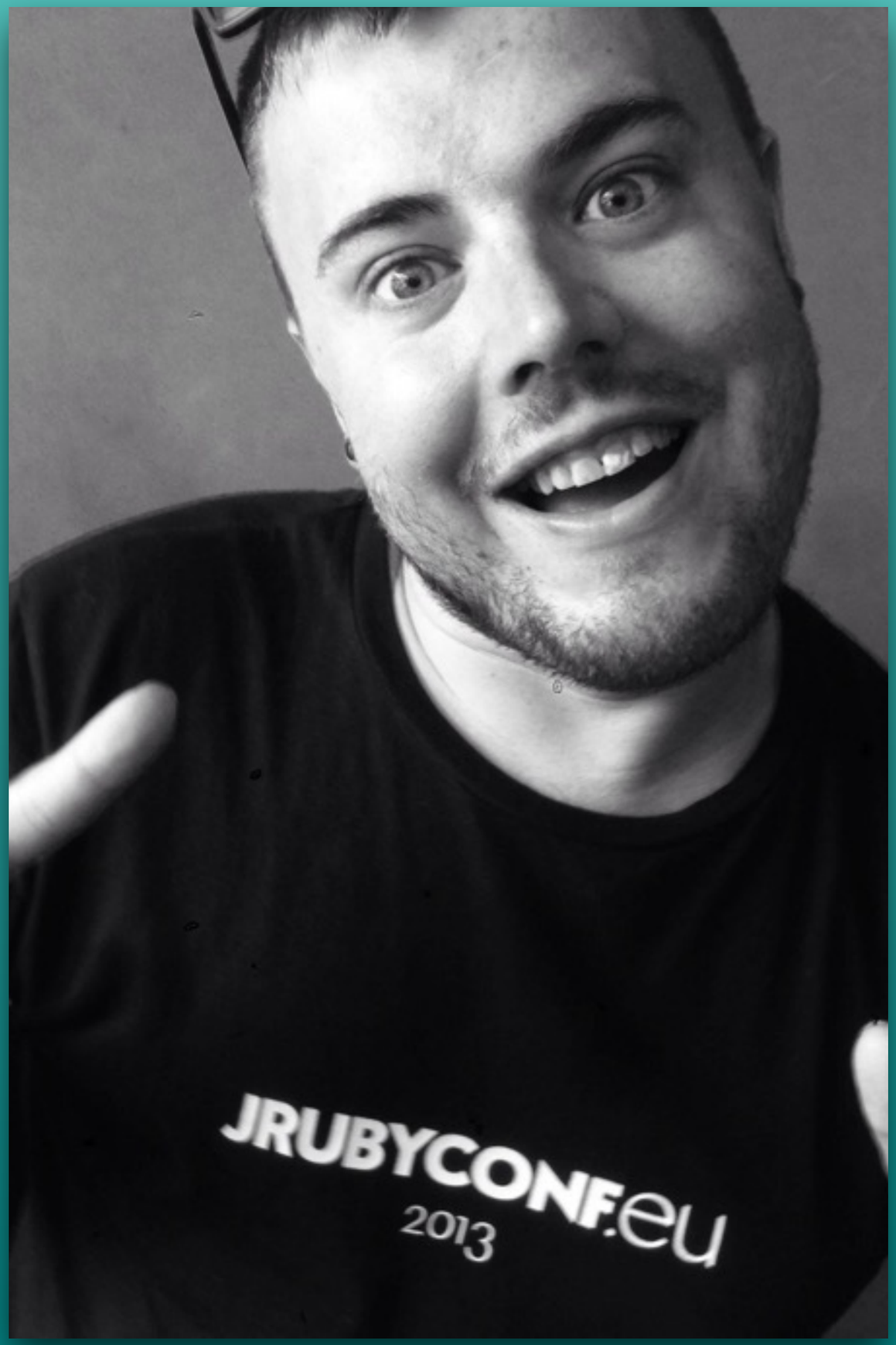
hallo Berlin

I'm a backend guy
living in a
frontend world

wer bin ich?

@myabc

Alex Coles
Berlin, Germany
Finn GmbH



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Video tour

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OpenProject

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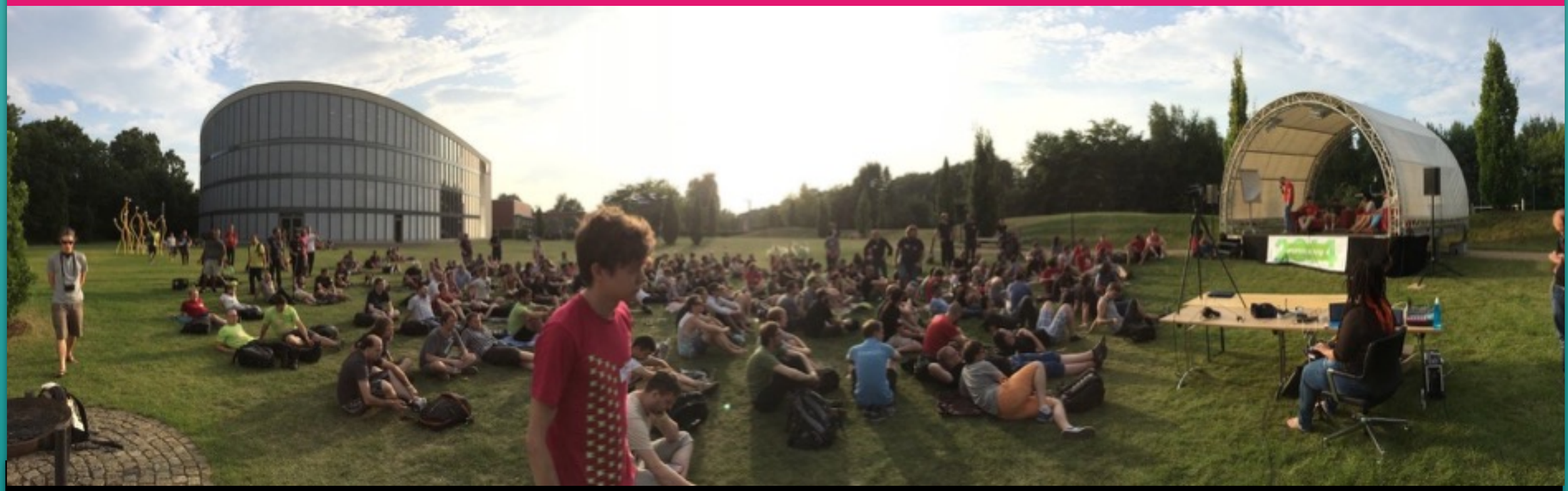
2014 eurucamp

eurucamp.org



jrubyconf.eu

JRUBYCONF.eu

10 years ago

10 years ago

2004

10 years ago

what was
I
doing?

10 years ago

what was
I
doing?

10 years ago

what was
I
doing?

10 years ago

what was
the world
doing?

10 years ago

what was
the world
doing?

10 years ago

what was
the world
doing?

10 years ago

what was
the world
doing?

10 years ago

what was
the world
doing?

10 years ago

what were you doing?

10 years ago

what were you doing?

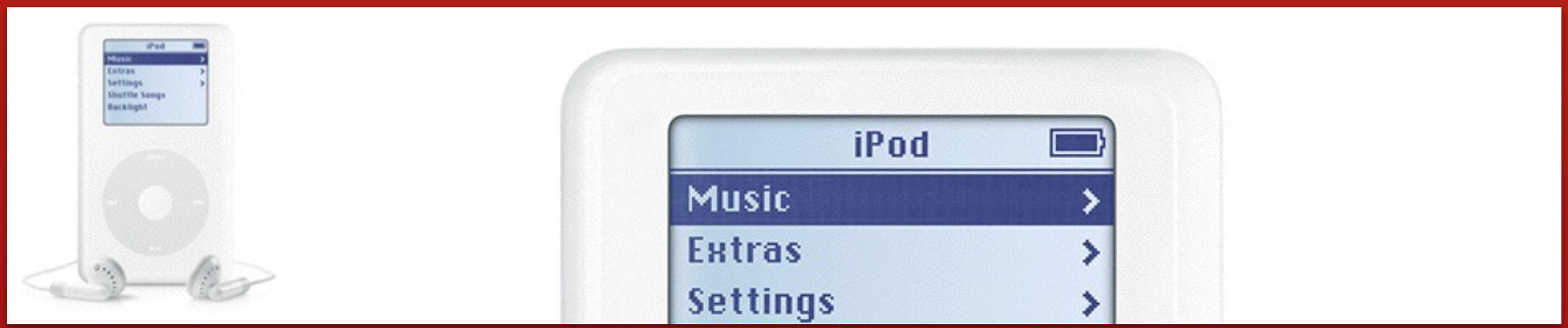
?

10 years ago

what was Apple doing?

10 years ago

what was Apple doing?



10 years ago

what was Apple doing?

10 years ago

what was
the web
doing?

10 years ago

what was
the web
doing?

10 years ago

there was no jQuery!

10 years ago

but the end of 2004
was to mark a
transition

Are you fed up with your web browser?

You're not alone. We want you to know that there *is* an alternative...

Introducing Mozilla

Firefox 1.0

"I installed Firefox on my laptop today. It's so fast — I never knew there could be that much of a difference."
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"I was tired of my browser crashing everyday, so I tried Firefox. Now I can't live without it. Pop-up blocking, secure browsing and no spyware. Best of all... not a crash since I switched."
— Justin Henderson, USA

"I thought changing and learning a new web browser would be difficult, but with Firefox I had no problems at all. Browsing is now smooth."
— Jouni Hiltinen, Finland

Firefox is the free, open source web browser from the Mozilla Foundation that lets you surf faster and more efficiently and helps avoid annoying pop-ups and spyware. Join us and make the switch today — Firefox imports your Favorites, settings and other information, so there's nothing to lose.

Find out what more than 10 million users from around the world already know: there *is* an alternative!

Download today from

GetFirefox.com

This message has been brought to you by the thousands who contributed funds to the Mozilla Foundation, a non-profit organization dedicated to promoting choice and innovation on the Internet. Special thanks to the employees of **Haberman & Associates**, **MozSource**, **Oracle**, **Red Herring**, **Red Hat**, **Sourceforge.net**, **Speakeasy** and **Sun Microsystems** for helping to make this possible.

```
commit db045dbbf60b53dbe013ef25554fd013baf88134
Author: David Heinemeier Hansson <david@loudthinking.com>
Date:   Wed Nov 24 01:04:44 2004 +0000

    Initial

    git-svn-id: http://svn-commit.rubyonrails.org/rails/trunk@4 5ecf4fe2-1ee6-0310-87b1-e25e094e27de
~
~
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~
~
~
~
~
(END)
```

The Rails Way

“Rails is so 2005”
@myabc - probably quoting someone else

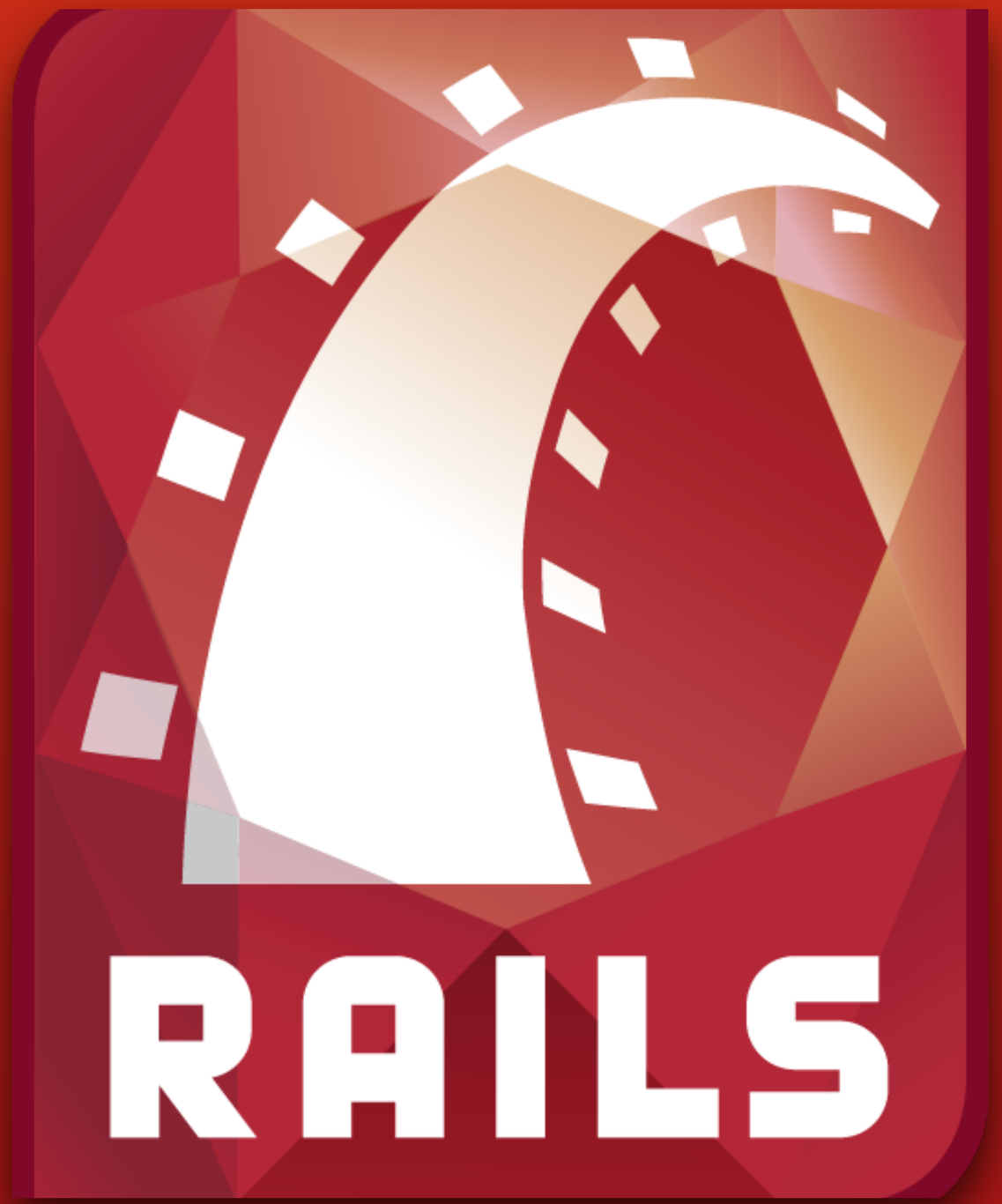
“

Rails is so 2005

“Rails Way” back in 2005

“Rails Way” back in 2005

- Server Generated HTML (ERB, etc.)



“Rails Way” back in 2005

- Server Generated HTML (ERB, etc.)
- Prototype

“Rails Way” back in 2005

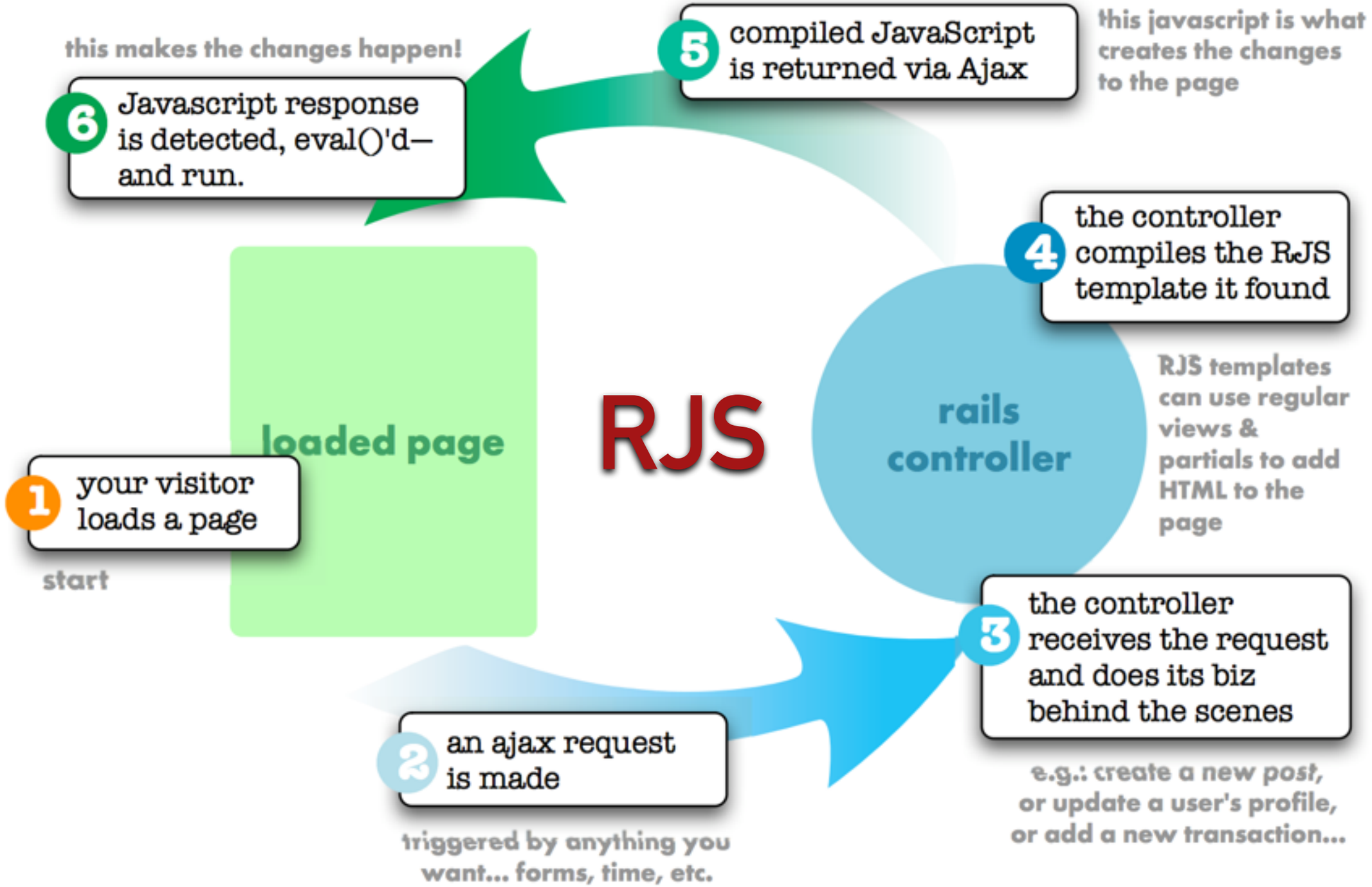
- Server Generated HTML (ERB, etc.)
- Prototype
- Scriptaculous

“Rails Way” back in 2005

- Server Generated HTML (ERB, etc.)
- Prototype
- Scriptaculous
- RJS

RJS

http://slash7.com/assets/2006/10/8/RJS-Demistified_Amy-Hoy-slash7_1.pdf



http://slash7.com/assets/2006/10/8/RJS-Demistified_Amy-Hoy-slash7_1.pdf

RJS

RJS

erb view

```
<div id="items"></div>
<%= link_to_remote 'Add to cart', url: { controller: 'cart', action:
'add_to_cart' }%>
```

RJS

erb view

```
<div id="items"></div>
<%= link_to_remote 'Add to cart', url: { controller: 'cart', action:
'add_to_cart' }%>
```

controller

```
class CartController < ActionController::Base
  def add_to_cart
    @item = CartItem.new
    @cart.items << @item
  end
end
```

RJS

erb view

```
<div id="items"></div>
<%= link_to_remote 'Add to cart', url: { controller: 'cart', action:
'add_to_cart' }%>
```

controller

```
class CartController < ActionController::Base
  def add_to_cart
    @item = CartItem.new
    @cart.items << @item
  end
end
```

rjs view

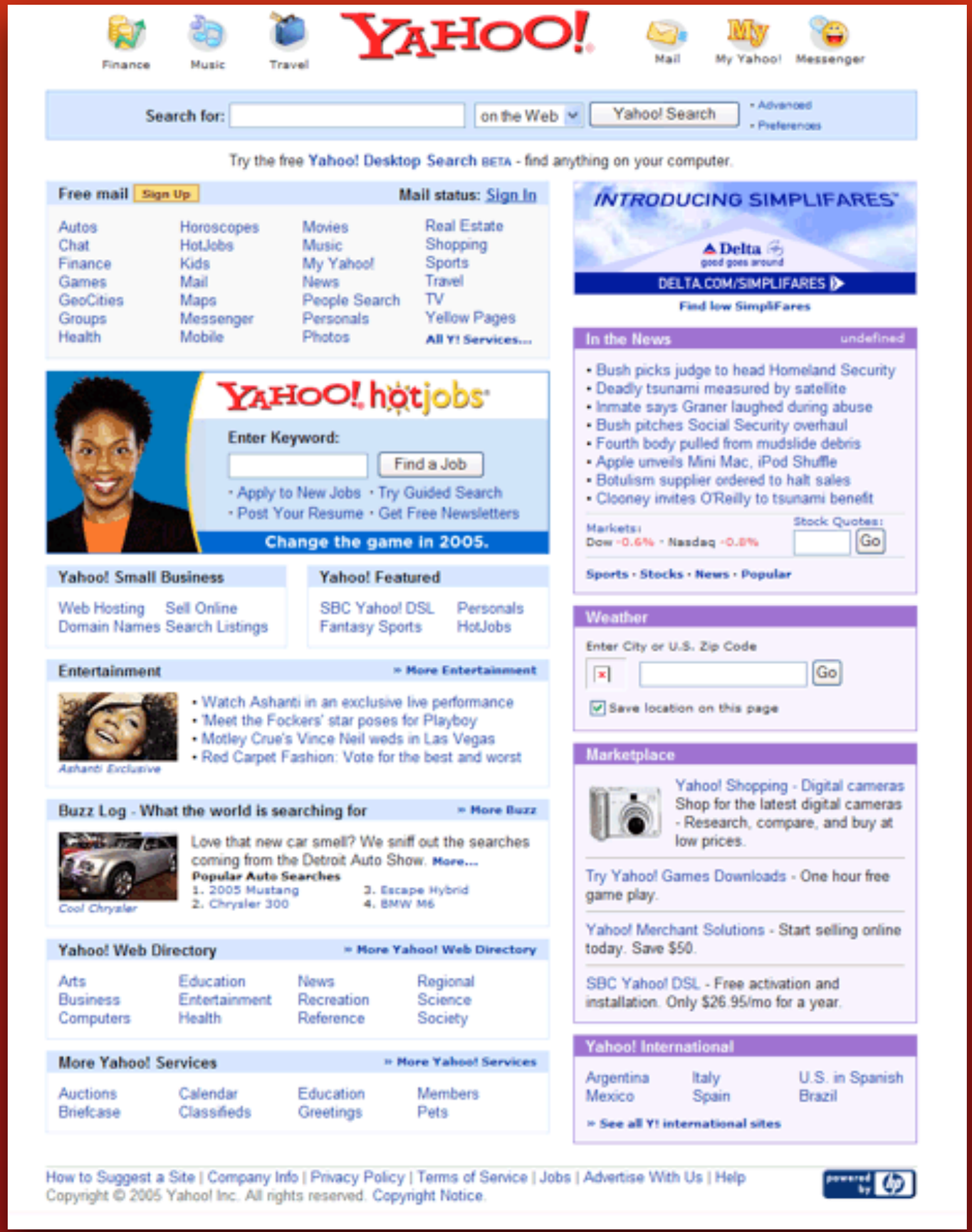
```
page.insert_html  :bottom, :items, partial: 'item', object: @item
page.replace_html :items_count, I18n.t(:item, count:
@cart.items.count)
```

…we mostly had “websites”

Yahoo!

2004

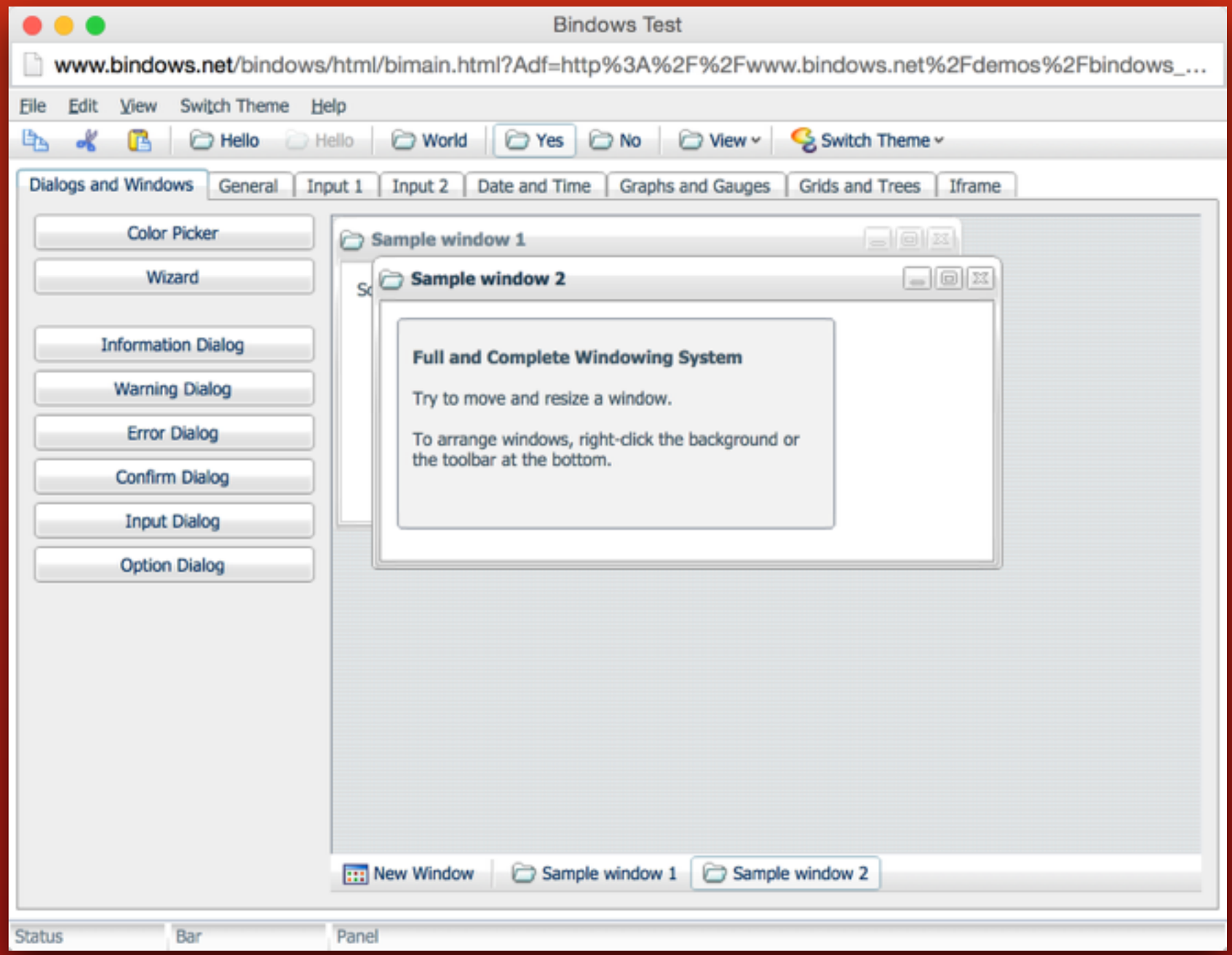
yahoo.com



Bindows

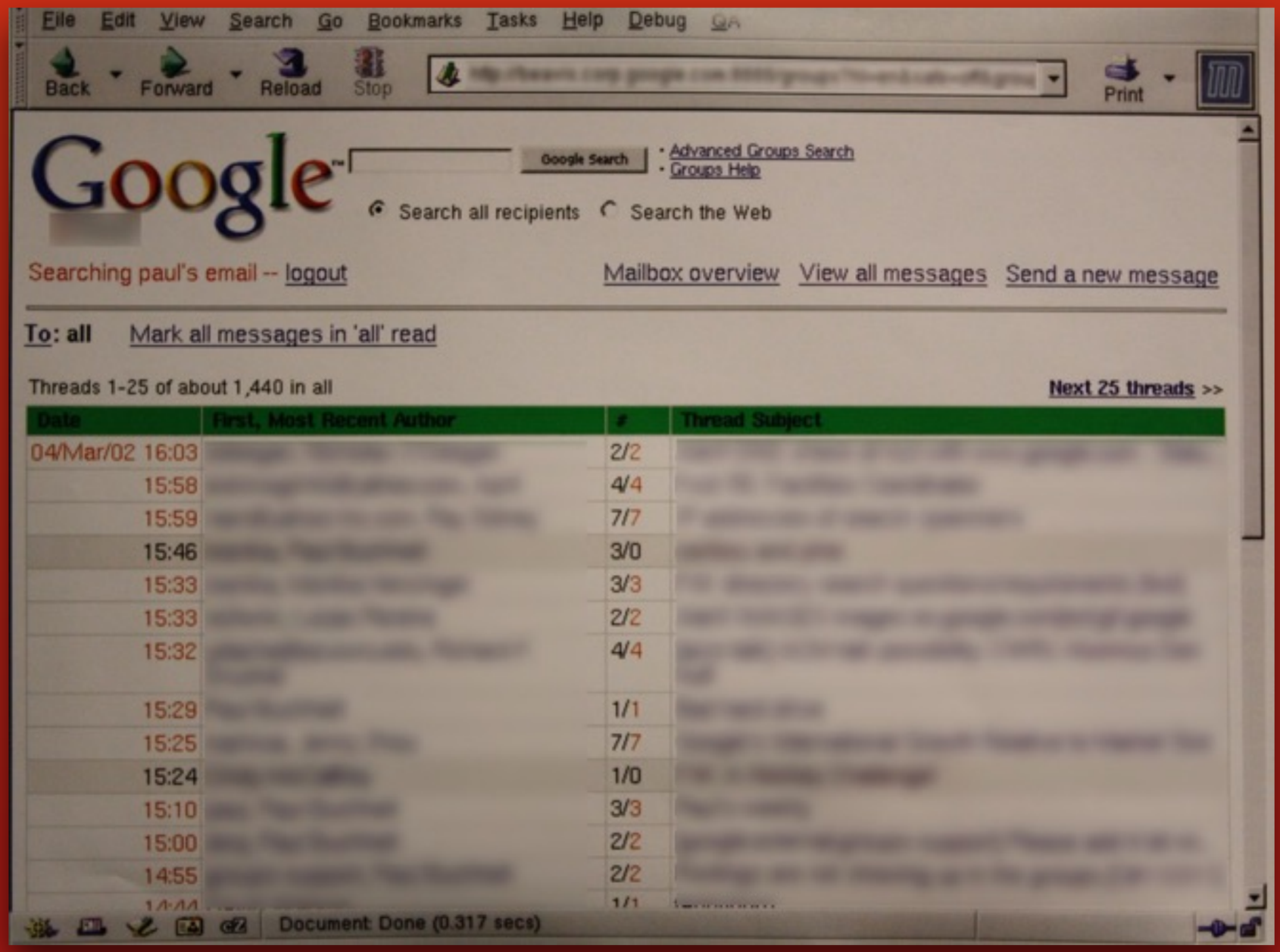
2004

bindows.net



Gmail pre-β

2002-4



gmail.com

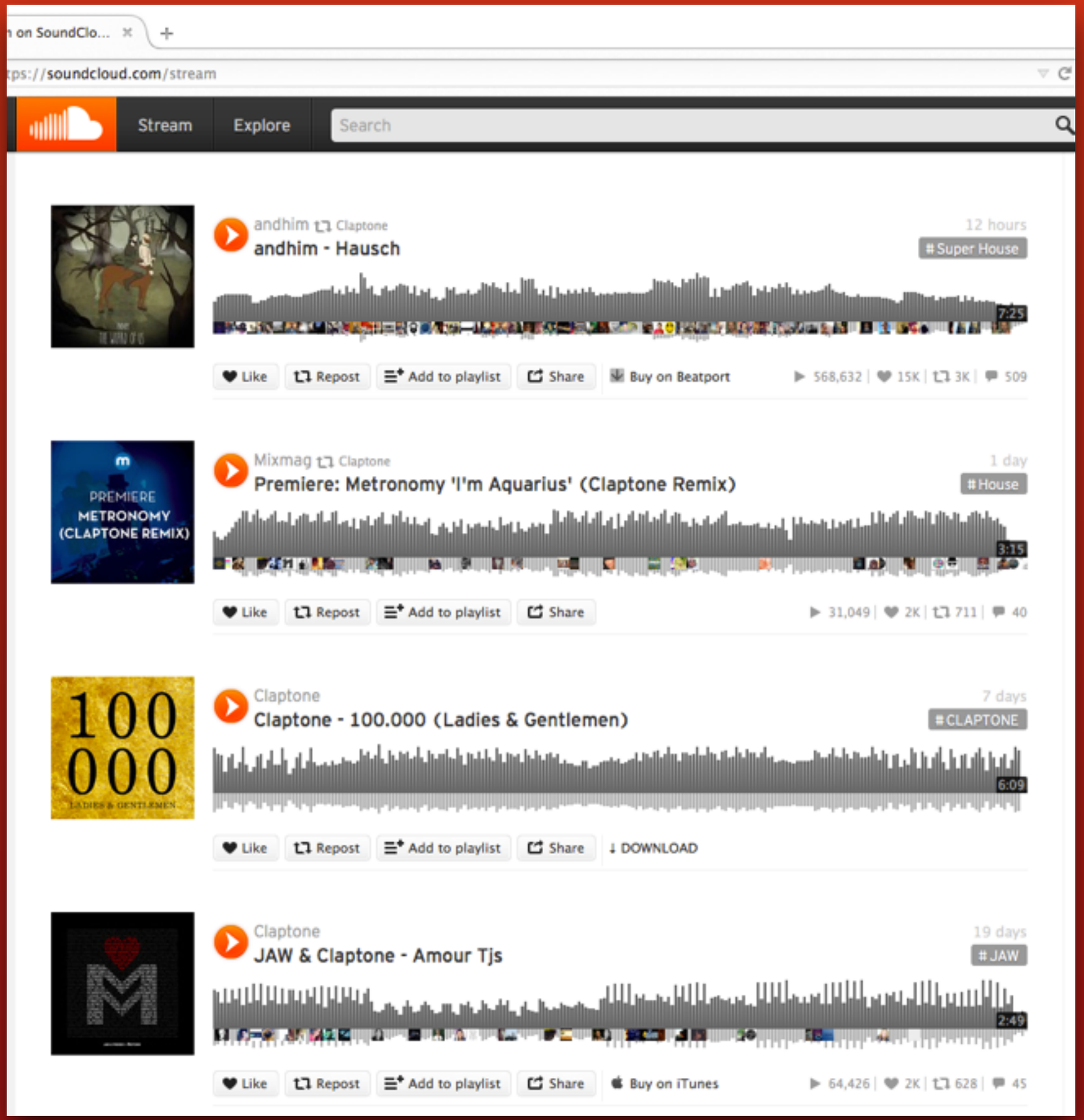
http://techcrunch.com/2008/06/06/the-evolution-of-pre-launch-gmail-in-screenshots/

where we are now

…we have “applications”

Soundcloud

soundcloud.com



Single Page Application Architecture

Single Page Application Architecture

Single Page Application Architecture

chunking

Single Page Application Architecture

chunking

controller

Single Page Application Architecture

chunking

controller

templating

Single Page Application Architecture

chunking

controller

templating

routing

Single Page Application Architecture

chunking

controller

templating

routing

real-time communicaton

Single Page Application Architecture

chunking
controller
templating
routing
real-time communicaton
local storage

“Rails Way” now

“Rails Way” now

- Server Generated HTML
  (ERB, Slim, HAML etc.)

“Rails Way” now

- Server Generated HTML (ERB, Slim, HAML etc.)
- jQuery

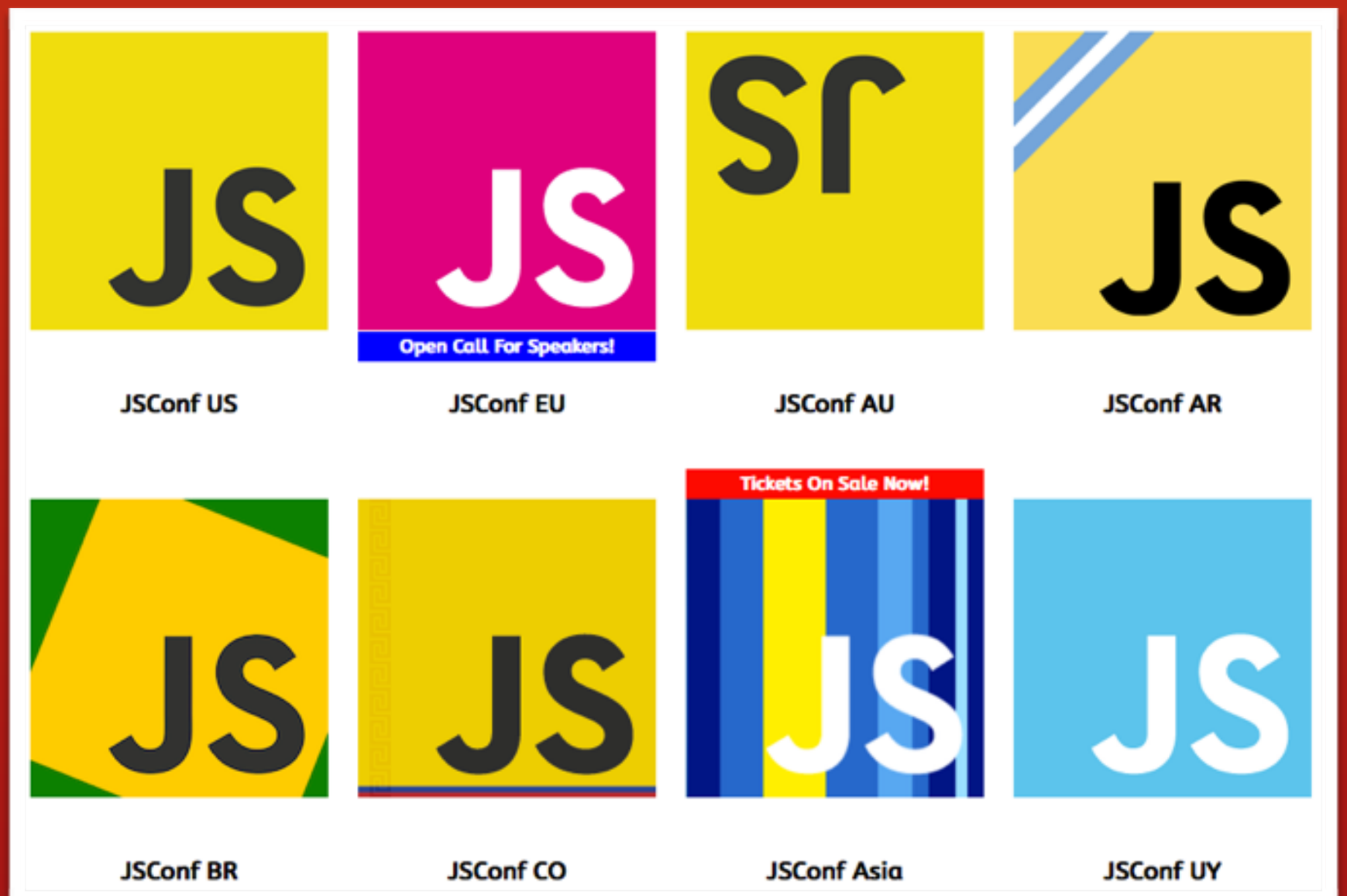
“Rails Way” now

- Server Generated HTML (ERB, Slim, HAML etc.)
- jQuery
- jQuery UI

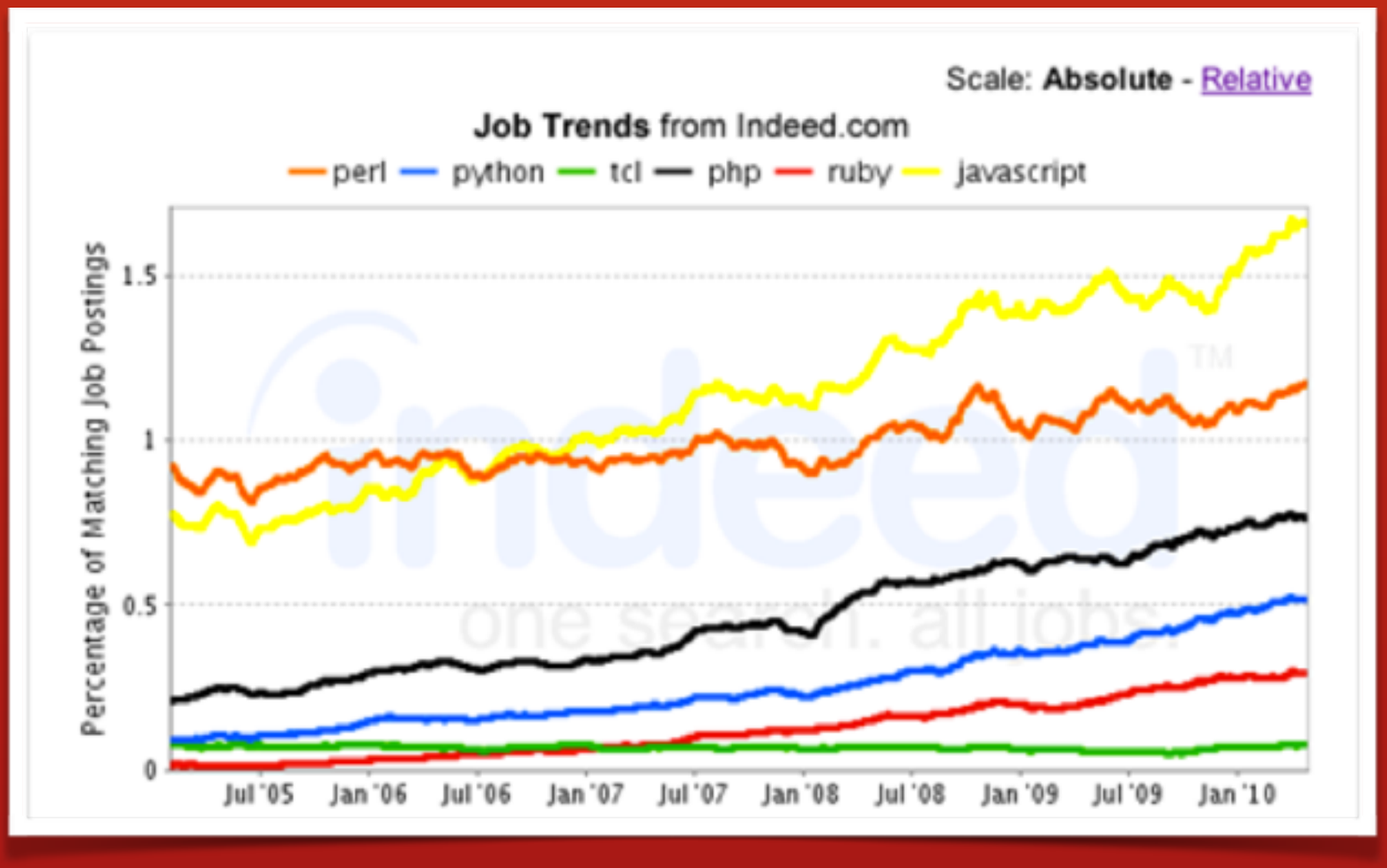
“Rails Way” now

- Server Generated HTML (ERB, Slim, HAML etc.)
- jQuery
- jQuery UI
- Server generated JavaScript Responses (SJR)

JavaScript has grown up



JavaScript has grown up



indeed.com

percentage of total JS developer jobs has doubled from 2005 to 2010

JavaScript has grown up

W3Techs.com

Server-side usage of JS has been multiplied by 6 from Jan 2012 to Oct 2014

no backend

nobackend.org

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isomorphism

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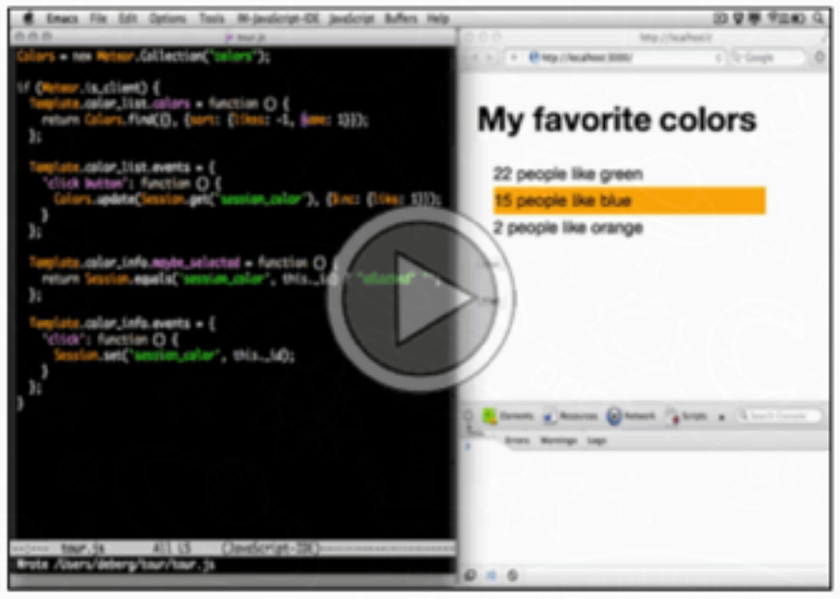
A better way to build apps.

Meteor is an open-source platform for building **top-quality web apps** in a **fraction of the time**, whether you're an expert developer or just getting started.



Watch the screencast

Also see the sequel

Get started now!

```
$ curl https://install.meteor.com/ | sh
```

001 **Pure JavaScript.**

Write your entire app in pure JavaScript. All the same APIs are

This is the web

Meteor

meteor.com

frontend frameworks

frontend (MV*) frameworks

frontend (MV*) frameworks

AngularJS

frontend (MV*) frameworks

AngularJS

KnockoutJS

frontend (MV*) frameworks

AngularJS

KnockoutJS

Ember.js

frontend (component) frameworks

frontend (component) frameworks

Ractive.js

frontend (component) frameworks

Ractive.js

ReactJS

frontend (component) frameworks

Ractive.js

ReactJS

Backbone View (alone)

frontend (component) frameworks

Ractive.js

ReactJS

Backbone View (alone)

ExtJS

TodoMVC

todomvc.com

More on MV* ...

Knockout.

ANGULARJS
by Google

ember

!

but I <3 Ruby

so here is the question

Andrzej Krzywda
@andrzejkrzywda

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How can Rails react to the rise of the JavaScript applications?

andrzejonsoftware.blogspot.com/2013/12/how-ca…

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7:53 PM - 28 Dec 2013

is there room for Rails?

Not his [DHH's]
responsibility to tell us how
to do these things.

— Marcin Stecki @madsheepPL at wroc_love.rb

single page

vs.

traditional HTML

naturally content-dependent

what is your content?

general ⟷ personal

what is your content?

general ⟷ personal

Information pages

what is your content?

general ⟷ personal

Information pages

Membership sites

airbnb

what is your content?

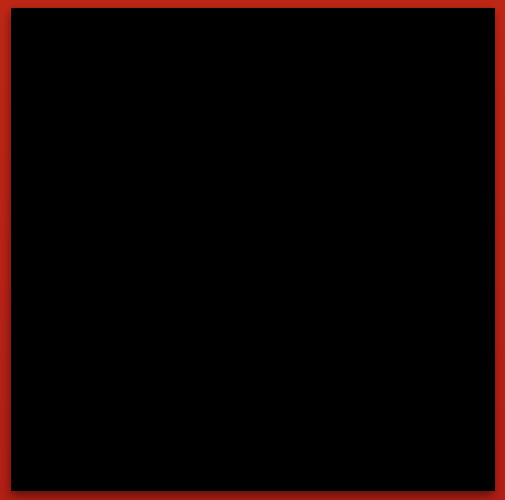
general ⟷ personal

Information pages

Membership sites

airbnb

Closed systems



content criteria

content criteria

- authentication

content criteria

- authentication
- how real is real-time

content criteria

- authentication
- how real is real-time
- caching

content criteria

- authentication
- how real is real-time
- caching
- indexing (SEO)

how unique is the view to be rendered?

how unique is the view to be rendered?

how many combinations of a unique set of data?

how unique is the view to be rendered?

how many combinations of a unique set of data?

- a blog with comments

how unique is the view to be rendered?

how many combinations of a unique set of data?

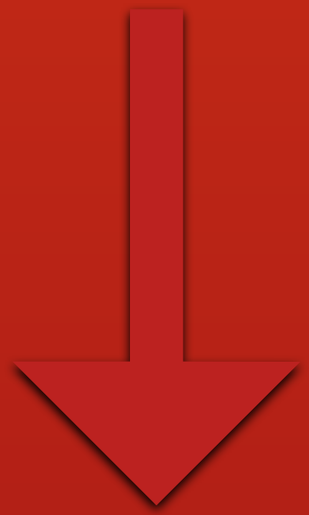
- a blog with comments
- a hotel page with reviews

how unique is the view to be rendered?

how many combinations of a unique set of data?

- a blog with comments
- a hotel page with reviews
- a dashboard

if it is curated
content



Rails way

if it is SPA

other ways are better

some

tips

tip 1: familiarity

what is most like Rails?

tip 1: familiarity

wha ails?

tip 1: familiarity

Ember.js is most like Rails

Ember.js is most like Rails

Ember.js is most like Rails

- everything should inherit from main object

Ember.js is most like Rails

- everything should inherit from main object

```
ActiveRecord::Base.inherited)
```

Ember.js is most like Rails

- everything should inherit from main object

```
ActiveRecord::Base.inherited)
```

Ember.Object

Ember.js is most like Rails

- everything should inherit from main object

`ActiveRecord::Base.inherited)`

Ember.Object

Plain Old JavaScript Objects

Ember.js is most like Rails

Ember.js is most like Rails

- routing DSL

Ember.js is most like Rails

- routing DSL

built-in routing

Ember.js is most like Rails

- routing DSL

built-in routing

built-in routing

Ember.js is most like Rails

- routing DSL

built-in routing

built-in routing

not in core, third party solutions

Ember.js is most like Rails

Ember.js is most like Rails

- vocabulary (templates, partials, etc.)

Ember.js is most like Rails

- vocabulary (templates, partials, etc.)

Models, Controllers, Views, Initializers

Ember.js is most like Rails

- vocabulary (templates, partials, etc.)

Models, Controllers, Views, Initializers

Models, Controllers, Views, Initializers

Ember.js is most like Rails

- vocabulary (templates, partials, etc.)

Models, Controllers, Views, Initializers

Models, Controllers, Views, Initializers

Dependency Injection, Factories, Services, Providers, Transclusion

how to make things work with Rails?

tip 2: Rails "the non-Rails way

using asset pipeline / sprockets

use Bower

3 options for using Bower

option

1

gem

```
gem install bower-rails
```

option

2

Rails 4 (Sprockets 2+)

```
config.assets.paths <<
File.join(Rails.root,
'vendor', 'assets',
‘components')
```

option

3

rails-assets.org

Gemfile

```
  source 'https://rubygems.org'
+source 'https://rails-assets.org'

  gem 'rails'

  # Assets
  gem 'sass-rails'
  gem 'uglifier'
  gem 'coffee-rails'
+gem 'rails-assets-bootstrap'
+gem 'rails-assets-angular'
+gem 'rails-assets-leaflet'
```

ember-rails-api

github.com/dockyard/ember-appkit-rails

the app/assets/javascripts silo

- `config/application.js` the main loader referenced in your Rails layout view. (replaces `app/assets/javascripts/application.js`)
- `config/adapter.js.erb` configure the ember-data adapter. Pre-set for `ActiveModelAdapter` and will set the API version to `Rails.application.config.ember.api_version`
- `config/router.js` your Ember Router. The actual routes will go in `app/routes`
- `config/initializers` any files that compile to JavaScript in this directory will be automatically required.
- `config/initializers/csrf.js` sets up the `CSRF` token for doing `POST` requests back to the Rails backend via AJAX.
- `config/initializers/teaspoon.rb` teaspoon's configuration file (https://github.com/modeset/teaspoon#configuration).
- `config/environment.js` the general environment settings object. You should put settings in here that will be common across all environments.
- `config/environments/` hold environment specific settings. The correct environment file will be loaded. Name matches value of `Rails.env`. Settings added to these files will overwrite settings in `config/environment.js`
- `config/environments/development.js` development environment settings
- `config/environments/production.js` production environment settings
- `config/environments/test.js` test environment settings
- `config/serializers/` where Rails and Ember serializers will go

one more thing…

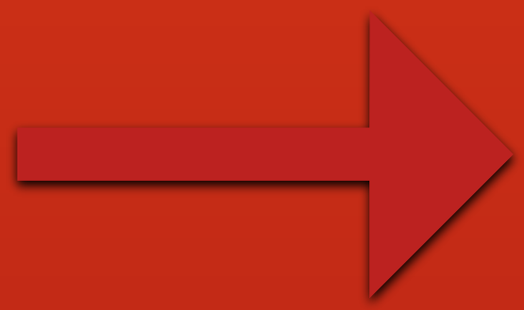
(sidetrack)

Home Getting Started Docs API Blog Community

Volt is a framework for building data rich web applications shockingly fast.

Volt Framework

voltframework.com



what is the way forward?

(IMHO)

tip 3: split

!

split completely

I don’t like monoliths

2 applications

2 applications

2 applications = 1 API +

2 applications

1 API

1 frontend

API

API

Rails

API

Rails

Sinatra

API

Rails

Sinatra

Lotus.rb

API

Rails

Sinatra

Lotus.rb

frontend

API

Rails

Sinatra

Lotus.rb

frontend

JS workflows

stick to client-server model

JavaScript tooling

isomorphism is possible

http://nerds.airbnb.com/isomorphic-javascript-future-web-apps/

surprisingly well testable
(and fast)

danke schön!

Fragen?

@myabc