

Legend:

test

config

db

app

lib

Misc

rmacconnell

root

# Rails in the Large: *Building the Biggest (Enterprise) Rails Application in the World*

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English

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Type:

Make:

Model:

Trim:

Years:  -

VIN:

Seller:

Vehicles with Condition Reports

[» Facilitation Location](#)   [» Vehicle Location](#) All Locations**United States**

- All United States Locations
- AR - Central Arkansas Auto Auction (15)
- AZ - Manheim Arizona (205)
- AZ - Manheim Phoenix (250)
- AZ - Manheim Tucson (114)
- AZ - ADESA Phoenix (0)
- AZ - DAA Southwest (0)

[» Sellers by Type](#)   [» Sellers A to Z](#)[Expand All](#)  
[Collapse All](#)[Select All](#)  
[Unselect All](#)

- Captive Finance (Credit Cars)
- Dealer
- Factory
- Fleet/Lease
- Rental

[»Search](#)**BROWSE FOR VEHICLES**[- Hide](#)**Vehicle Type**

Passenger Vehicles

[Car](#) (16305)[Truck](#) (3591)[Van](#) (1904)[SUV](#) (6285)**Makes**[AM General](#) (6)[Acura](#) (202)[Adventure](#) (1)[Airstream](#) (3)[Alfa](#) (5)[Alfa Romeo](#) (1)[Flagstaff](#) (1)[Fleetwood](#) (12)[Fontaine](#) (3)[Ford](#) (4367)[Forest River](#) (15)[Formula](#) (1)[Monaco](#) (2)[Monon](#) (1)[Monterey](#) (1)[Nash](#) (2)[Nautique](#) (1)[New Holland](#) (1)**QUICK LINKS**[Make OVE your homepage](#)[Newly Listed!](#)[Expiring Soon!](#)[Fuel Efficient \(4-cylinders\)](#)[Hybrids / Alternative Fuel](#)[In-Service Rentals](#)[Specialty](#)[Salvage](#)**Announcement:**

Chrysler Financial has suspended dealer floor plan accounts. Please contact your preferred Facilitation Service Provider to arrange for alternate payment terms.

**ONLINE EVENT SALES**

## OVE.com – Search Results

Sort By: MMR Low to High

Displaying 1 - 50 of 27934 vehicles

1 2 3 4 5 ... 559 Next &gt;

Color Group	Year	Make	Model and Trim	Odometer	MMR	Buy Now	Current Bid	Time Left	Facilitation Location	Seller
									Vehicle Location	
	2006	Mercedes-Benz R-Class R350	4JGCB65E16A023560	29,137	Above: \$25,100 Average: \$23,100 Below: \$21,100	\$23,750 <a href="#">»BUY NOW</a>		3d 17hr 56m	FL - Manheim Central Florida At Dealership CFP MOTORS LTD FL - FORT PIERCE	<a href="#">Cfp Motors Ltd</a>
Blue <a href="#">»Add to Watchlist</a>			<a href="#">Seller Disclosure</a>							
	2004	Ford E-250	1FTNE24W94HB24289	119,919	Above: \$3,725 Average: \$2,900 Below: \$2,050	\$500 <a href="#">»BUY NOW</a>		2d 19hr 11m	PA - Manheim Pennsylvania At Auction Manheim Pennsylvania PA - MANHEIM	<a href="#">Manheim Pennsylvania</a>
Yellow <a href="#">»Add to Watchlist</a>			<a href="#">Seller Disclosure</a>							
	2003	Infiniti G35 Base	JNKCV54E73M212262	1 mi	Above: \$16,050 Average: \$14,550 Below: \$13,050	\$3,900 <a href="#">»BUY NOW</a>	\$2,900 <a href="#">»BID</a>	0d 02hr 26m	UT - Brasher's Salt Lake Auto Auction At Dealership WORLDWIDE AUTO INC UT - SALT LAKE CITY	<a href="#">Worldwide Auto Inc</a>
<a href="#">»Add to Watchlist</a>										
	2000	Chrysler Cirrus LX	1C3EJ56H0YN164882	1	Above: \$3,775 Average: \$3,225 Below: \$2,675	\$1,000 <a href="#">»BUY NOW</a>		10d 00hr 41m	LA - Manheim New Orleans At Dealership Jimmy Stockstill Motors Inc MS - PICAYUNE	<a href="#">Jimmy Stockstill Motors Inc</a>
Gold <a href="#">»Add to Watchlist</a>										
	2000	Oldsmobile Alero GX		84,140	Above: \$3,450 Average: \$2,550	\$900 <a href="#">»BUY NOW</a>	\$400	0d 15hr 11m	NJ - Manheim New Jersey	<a href="#">Fleet Street Remarketing Inc</a>

## Vehicle Details

[» Dealer View](#)   [» Retail View](#)[« Back to Search Results](#)[« Previous](#)

1 of 17

[Next »](#)[» View Larger Photos](#)

## REPORTS

View the full [Condition Report](#) for additional details.For more info, view the [Vehicle History Report](#)

## ANNOUNCEMENTS

Title Status: Title Present

Titled In: PA

## 2004 Ford E-250

[» Add to Watchlist](#)

## PRICING

Buy Now Price: \$500

[»BUY NOW](#)

Time Left: 2d 19hr 09m  
 End Date: 05/07/2009 12:00PM ET  
 Views: 27  
[View Fees](#)

Facilitated by: Manheim Pennsylvania  
 Vehicle Location: At Auction MANHEIM, PA, US

## MMR

Above: \$3,725  
 Average: \$2,900  
 Below: \$2,050  
 [View Details](#)

## Black Book

Extra Clean: \$8,550  
 Clean: \$5,125  
 Average: \$4,075  
 Rough: \$2,400  
 [Show Adds/Deducts](#)

## VEHICLE SPECIFICATIONS

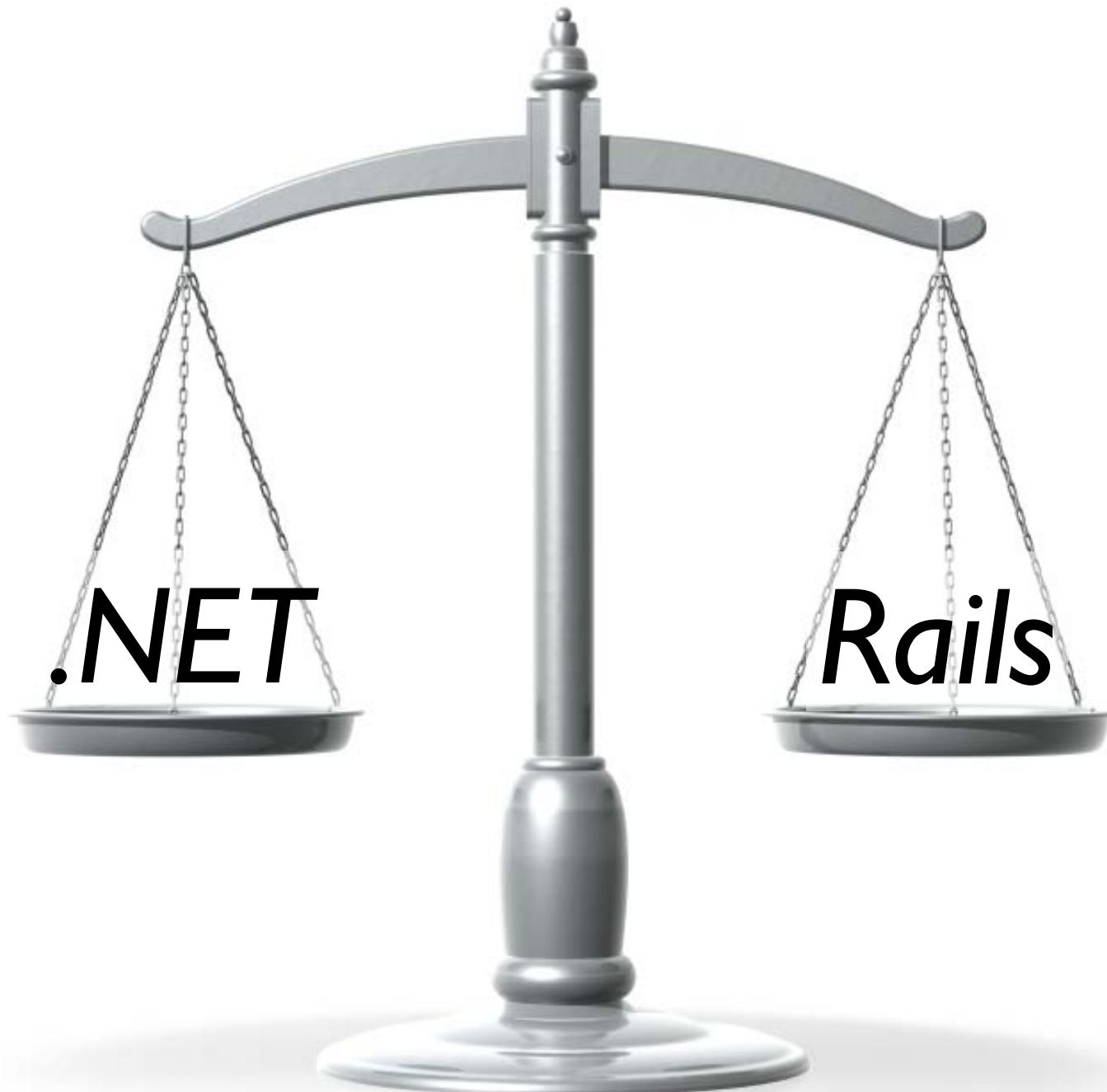
VIN: 1FTNE24W94HB24289  
 Odometer: 119,919  
 Transmission: Automatic  
 Engine Cylinders: 8 Cylinder  
 Drive Train: Not Specified  
 Fuel Used: Not Specified  
 Exterior Color: Yellow  
 Interior Color: GRY  
 Interior Type: Vinyl  
 Body Style: Van  
 Doors: Not Specified  
 Audio: AM/FM  
 Top Style: Hard Top

## EQUIPMENT

# the pursuit

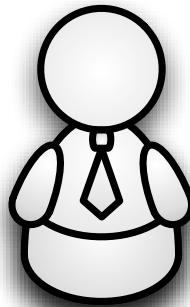
*Go for the one that'll beat the  
one that'll beat the one you  
last did*



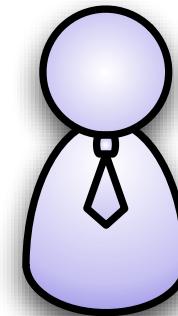




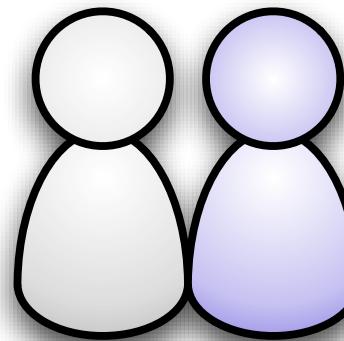
# quick start: october 2006



Project manager



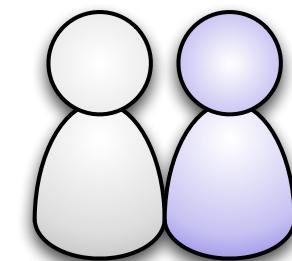
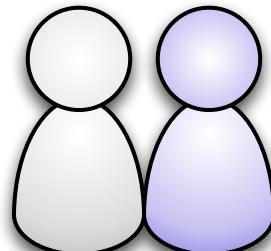
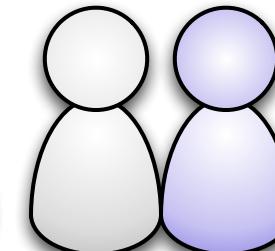
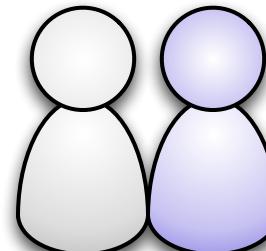
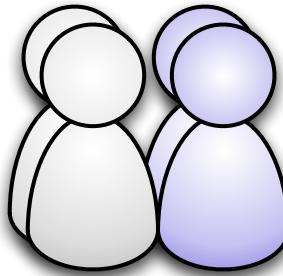
Business Analyst



Tech Lead

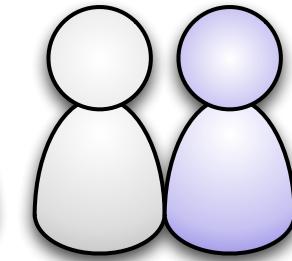
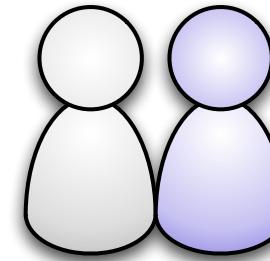
Developer

# inception: Jan 17, 2007

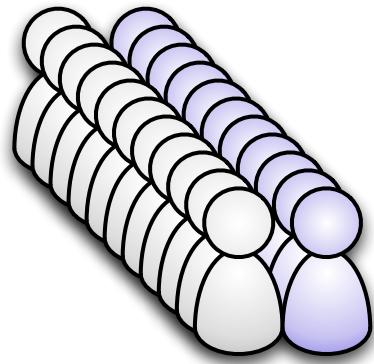


Started with 2 pairs

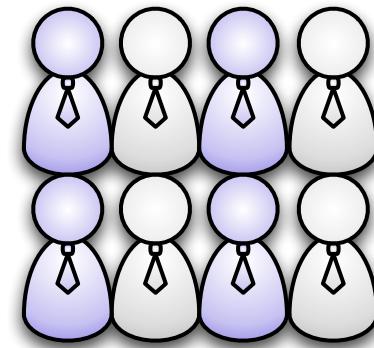
Added one pair every 2 weeks



8 or 9 pairs by July

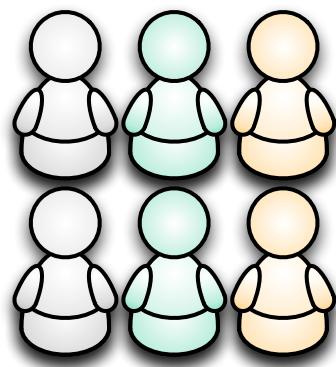


now



11 pairs of developers

8 business analysts

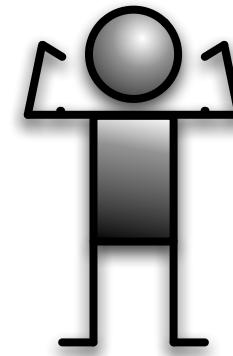


iteration manager



6 quality assurance

project manager



client principle

# lessons learned



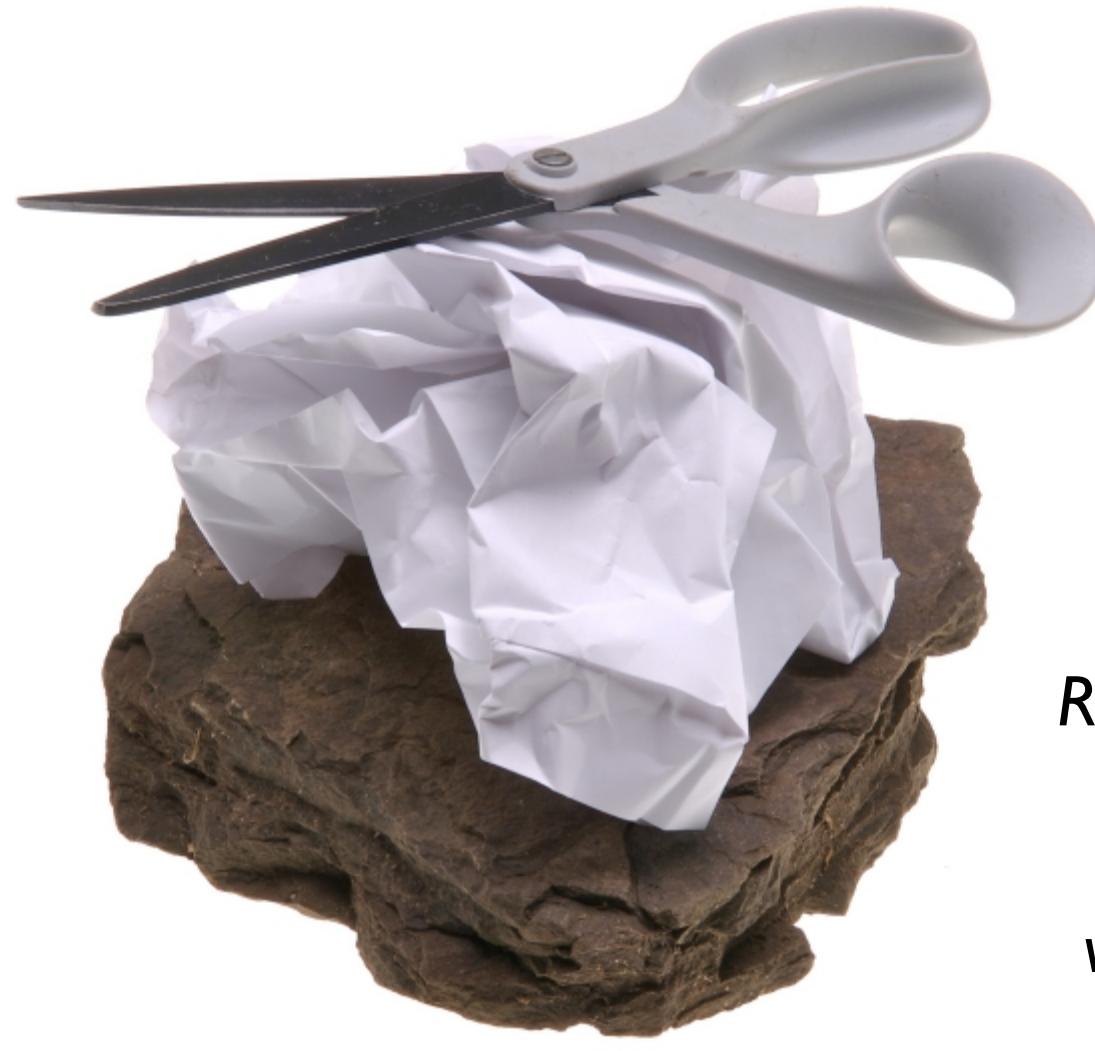
technology isn't as important as responsiveness  
to business needs

don't try to convince too early

spikes are your friends!

demonstration over arguments

# infrastructure



*Rock is for Rookies:  
males have a  
tendency to lead  
with Rock on their  
opening throw*

# physical infrastructure



pairing workstations



XServe (Selenium Grid)



BA



standalone QA

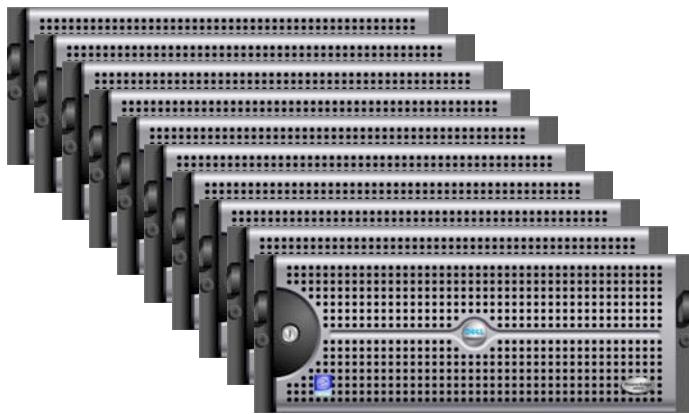


integrated QA



UAT  
(sneak peak)

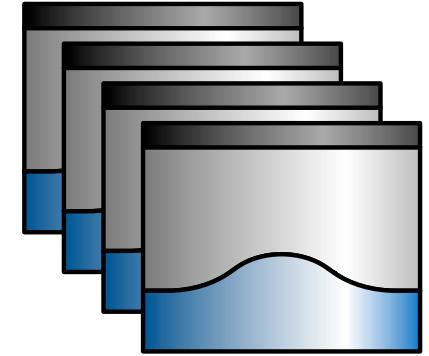
# deployment stack



10 web boxes



2 image servers



4 database  
servers



background server



memcache

```
pgmac:~/work/ove-ruby% rake metrics:stats  
(in /Users/pgross/work/ove-ruby)
```

Name	Lines	LOC	Classes	Methods	M/C	LOC/M
app/controllers	4283	3483	75	443	5	5
app/form_builders	102	83	4	16	4	3
app/handlers	98	85	2	10	5	6
app/helpers	871	704	0	95	0	5
app/models	17514	14239	311	1829	5	5
app/modules	1639	1340	3	189	63	5
app/observers	0	0	0	0	0	0
app/presenters	5913	4663	133	907	6	3
app/services	3431	2863	91	278	3	8
app/utils	85	72	5	9	1	6
app/view_states	780	624	10	98	9	4
app/workers	1043	867	37	112	3	5
extensions	2141	1743	16	237	14	5
lib	1929	1613	42	182	4	6
test/unit	54262	44757	681	150	0	296
test/functional	52858	43174	293	62	0	694
test/view	17056	13657	72	17	0	801
test/externals	1359	1063	23	8	0	130
test/search	598	512	5	2	0	254
test/vicki	295	258	4	11	2	21
Total	166257	135800	1807	4655	2	27

Code LOC: 32379

Test LOC: 103421

Code to Test Ratio: 1:3.2





# lessons learned

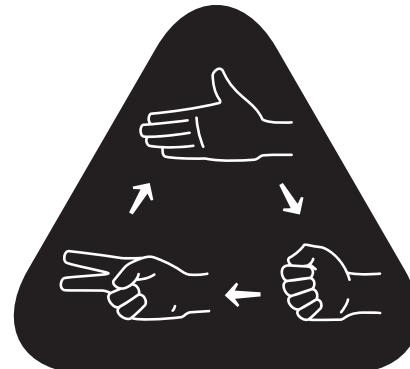
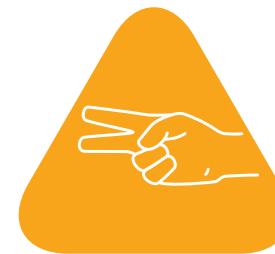
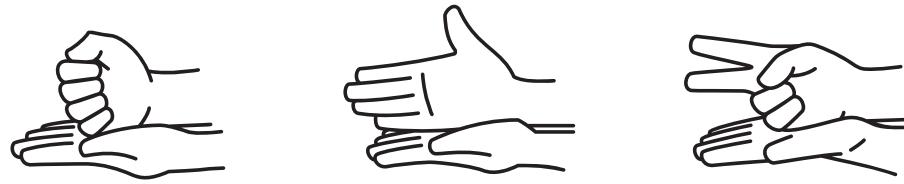


scale infrastructure opportunistically...

...but don't wait too long

Mac OS X rocks

have fun



# testing

*Scissors on First:  
play scissors as your  
opening move against a  
more experienced player*

# disconnected unit tests

UnitRecord and the evolution of unit  
tests that don't hit the database

<http://github.com/dan-manges/unit-record>



Terminal — zsh — 104x33

zsh

ruby

# unit tests

.....  
Finished in 41.353372 seconds.

8996 tests, 12746 assertions, 0 failures, 0 errors

the rule:

unit tests don't hit the  
database

mock everything

Terminal – zsh – 104x33

zsh

**ruby**

Finished in 248.573856 seconds.

3964 tests, 8288 assertions, 0 failures, 0 errors

**no mocking allowed in  
functional tests**

**tests that hit the database are  
slooooow**

# DeepTest

<http://github.com/qxjit/deep-test>

Tue 5:32 PM

ruby

zsh

```
tworker/work/release_1.31/db/deep_test_schema.sql
[2009-04-28 17:31:19] mysql -u ove -pove -S /tmp/mysql.sock deep_test_worker_5_pid_13999 < /Users/tworker/work/release_1.31/db/deep_test_schema.sql
Loaded suite #<DeepTest::Test::SupervisedTestSuite:0x530960c>
[2009-04-28 17:31:25] mysql -u ove -pove -S /tmp/mysql.sock deep_test_worker_0_pid_13994_parking_lot < /Users/tworker/work/release_1.31/db/deep_test_schema_parking_lot.sql
[2009-04-28 17:31:25] mysql -u ove -pove -S /tmp/mysql.sock deep_test_worker_6_pid_14000_parking_lot < /Users/tworker/work/release_1.31/db/deep_test_schema_parking_lot.sql
[2009-04-28 17:31:25] mysql -u ove -pove -S /tmp/mysql.sock deep_test_worker_1_pid_13995_parking_lot < /Users/tworker/work/release_1.31/db/deep_test_schema_parking_lot.sql
[2009-04-28 17:31:25] mysql -u ove -pove -S /tmp/mysql.sock deep_test_worker_2_pid_13996_parking_lot < /Users/tworker/work/release_1.31/db/deep_test_schema_parking_lot.sql
[2009-04-28 17:31:25] mysql -u ove -pove -S /tmp/mysql.sock deep_test_worker_5_pid_13999_parking_lot < /Users/tworker/work/release_1.31/db/deep_test_schema_parking_lot.sql
[2009-04-28 17:31:25] mysql -u ove -pove -S /tmp/mysql.sock deep_test_worker_4_pid_13998_parking_lot < /Users/tworker/work/release_1.31/db/deep_test_schema_parking_lot.sql
[2009-04-28 17:31:25] mysql -u ove -pove -S /tmp/mysql.sock deep_test_worker_7_pid_14001_parking_lot < /Users/tworker/work/release_1.31/db/deep_test_schema_parking_lot.sql
[2009-04-28 17:31:25] mysql -u ove -pove -S /tmp/mysql.sock deep_test_worker_3_pid_13997_parking_lot < /Users/tworker/work/release_1.31/db/deep_test_schema_parking_lot.sql
....
```

# DistributedDeepTest



**prefer factories over  
fixtures**



# Selenium grid



# CruiseControl.rb

Continuous Integration in Ruby

Continuous Integration isn't rocket science. We keep it simple!

continuous integration

# CruiseControl.rb

Continuous Integration in Ruby

Continuous Integration isn't rocket science. We keep it simple!

continuous integration

# CruiseControl.rb

Continuous Integration in Ruby

Continuous Integration isn't rocket science. We keep it simple!

continuous integration

# CruiseControl.rb

Continuous Integration in Ruby

Continuous Integration isn't rocket science. We keep it simple!

continuous integration

# CruiseControl.rb

Continuous Integration in Ruby

Continuous Integration isn't rocket science. We keep it simple!

new instances added  
as needed

VMware  
Fusion



deployment & testing

# lessons learned



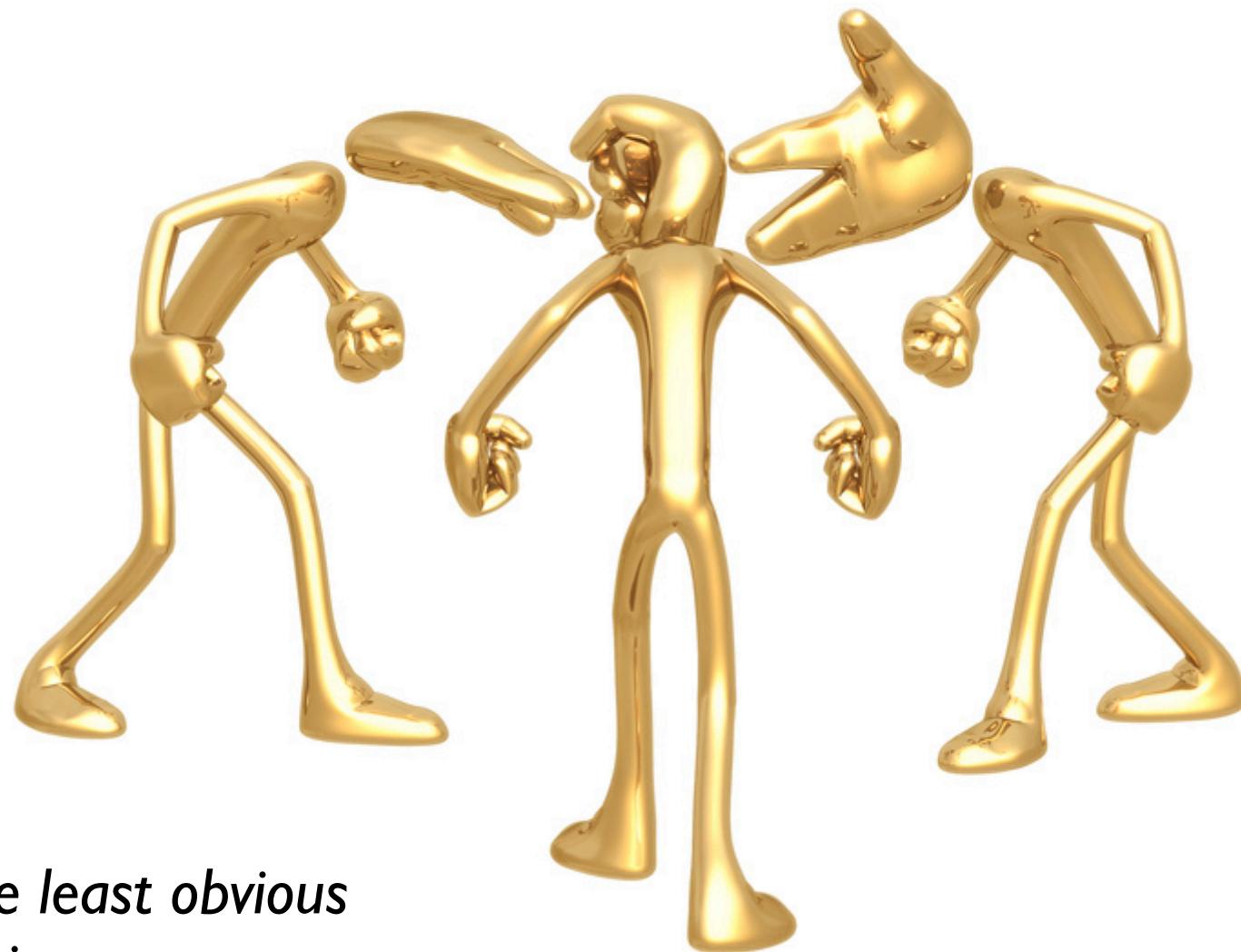
fight the battle to keep tests fast

invent stuff if you have to

write smart tests

scale development infrastructure just like  
production infrastructure

# knowledge transfer



*Paper is the least obvious  
of opening moves.*

Firefox File Edit View History Bookmarks Tools Window Help

Online Solutions Project Ruby Card Wall PI - Mingle

[Link to this page](#) [Add 7 review issues](#)

**Blocked (0)**

**Ready for Development (0.25)**

**In development (7)**

**UVIS - #9875** **SUSI - #9878** **EMPLOYEE - #9878**  
Inbound Email - Standard of Employees - Tasks  
Emails - Aging Report to do  
to be done  
An. Roles

**SUSI - #9553** **#9606** **SUSI - #9878**  
Setup ActiveMQ Role and reference ids  
Infrastructure

**Search #9531** **#1956** **#9058**  
Set up Endeca production LISTINGS LIMIT  
environment. Auto-select on An. Roles

**Setting #9102** **#9102** **#9382**  
Activity to LISTINGS  
Cache Memory

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**Ready for BA Signoff (1)**

**Search #9681** Endeca sort should handle  
dropdown items.

**#9455** Back-end update  
changes in  
http://www.endeca.com

**#9106** DRAG & DROP  
Add support to request  
functionality

**In BA Signoff (6-75)**

**EVENT #9495** SALES  
Editing Activity Ability to  
office/locations

**Search #9444** Add  
Feeding  
Settings have to  
Endeca sort

**#9106** DRAG & DROP  
Add support to request  
functionality

**IN #9391** SERVICE Increase the  
Mileage Bands

**Search #9351** Use  
Endeca to Sort  
the Browse results

**#9039** PROBLEM FILE  
- Show Problem File  
attachment in PA

**#2994** PROBLEM FILE  
- Allow Problem File  
attachment in PA

**#8270** LISTINGS  
- Limit Auto-  
relief for Open  
Issues

**#9680** InService -  
Email sorts

**Ready for Testing (0-35)**

**100: #9877** EMPLOYEE  
Error displayed  
when changing  
location/role

**100: #9674** EMPLOYEE  
#9511. Teller  
Information  
link unavailable

**#9430** SECURITY Fix  
sorting of  
settings on My  
Business Attende

**#9276** SEARCH Counts in the  
Browse form  
checkboxes

**#5221** Implement  
iron-like  
background  
checkboxes

**#9173** CONDITION  
INFO : Make  
Prior Part and  
Item

**Search #9079** Render Review  
results page  
from Endeca

**Search #9972** Create Browse  
form using  
Tables

**Editing #9825** Use  
Lookups with  
Dwight's  
Categories table

**SUSI - #9541** Error  
Managing

**#9285** Information  
not populating

**In Standalone Testing (3)**

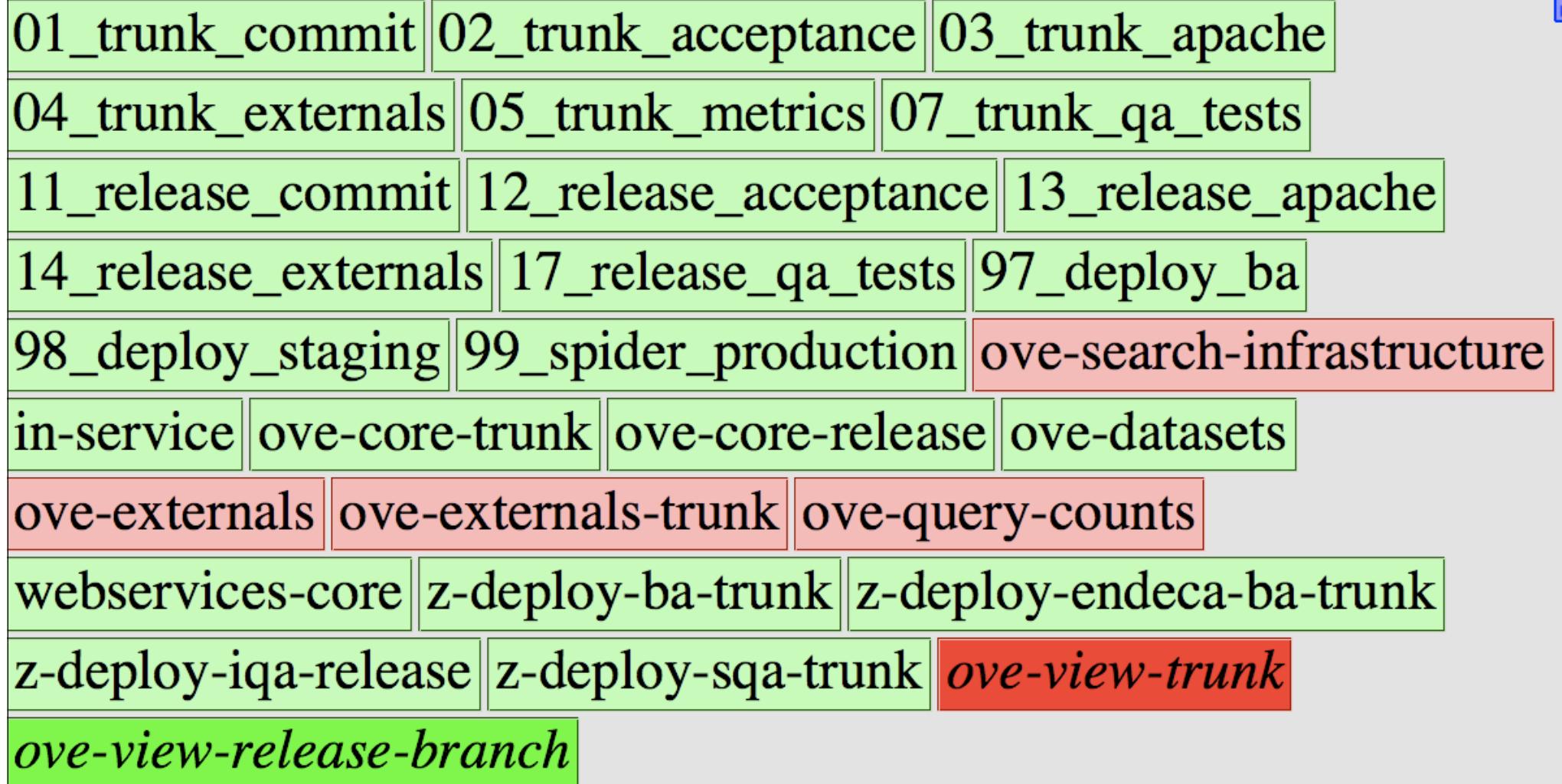
**#9132** Change Ruby  
Initialization to  
Rails  
Database

**#9815** Employees -  
Add New  
Financing  
Attende

**#7903** Change the  
price and click  
some changes  
and see how

**Waiting for Defect Fix (2)**

# cc\_board



[http://github.com/qxjit/cc\\_board/](http://github.com/qxjit/cc_board/)



jukebox.rb

currently in alpha

**[http://subversion.hammersforge.com/  
jukebox.rb/trunk/](http://subversion.hammersforge.com/jukebox.rb/trunk/)**

play a song when a  
build breaks

pairing stations

adium

no email

# internal Jabber server chat rooms

devs  
BAs  
QAs  
shared buddy list

automatically set pair  
name

adium

Mingle card (upon commit)

# lessons learned



software is more about communication than technology

use information radiators

co-location rocks

pairing really rocks

have fun



# automate everything

*When playing with someone who is not experienced at the RPS, look out for double runs or, in other words, the same throw twice.*

I-click deploy to any  
environment

using cc.rb as easy deployment  
tool

# rake commit

run all unit tests

run all functional tests

verification (language keys)

commit

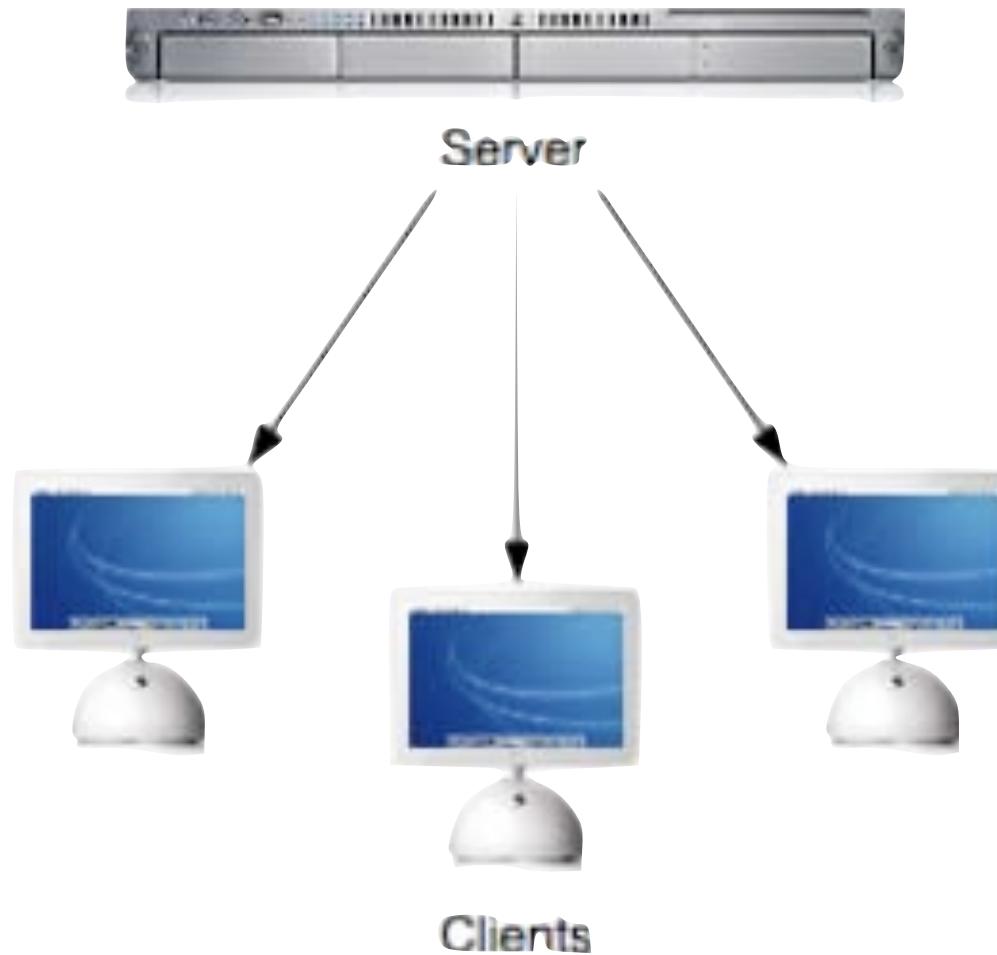
[http://github.com/pgr0ss/rake\\_commit\\_tasks](http://github.com/pgr0ss/rake_commit_tasks)

# **canonical pairing station maintenance**

**cap pairing\_stations**

# radmind

<http://rsug.itd.umich.edu/software/radmin/>



# strict rules for advanced language features

*Tell your opponent  
what you are going to  
throw and then actually  
throw what you said.*



Rock beats scissors.



Paper beats rock.



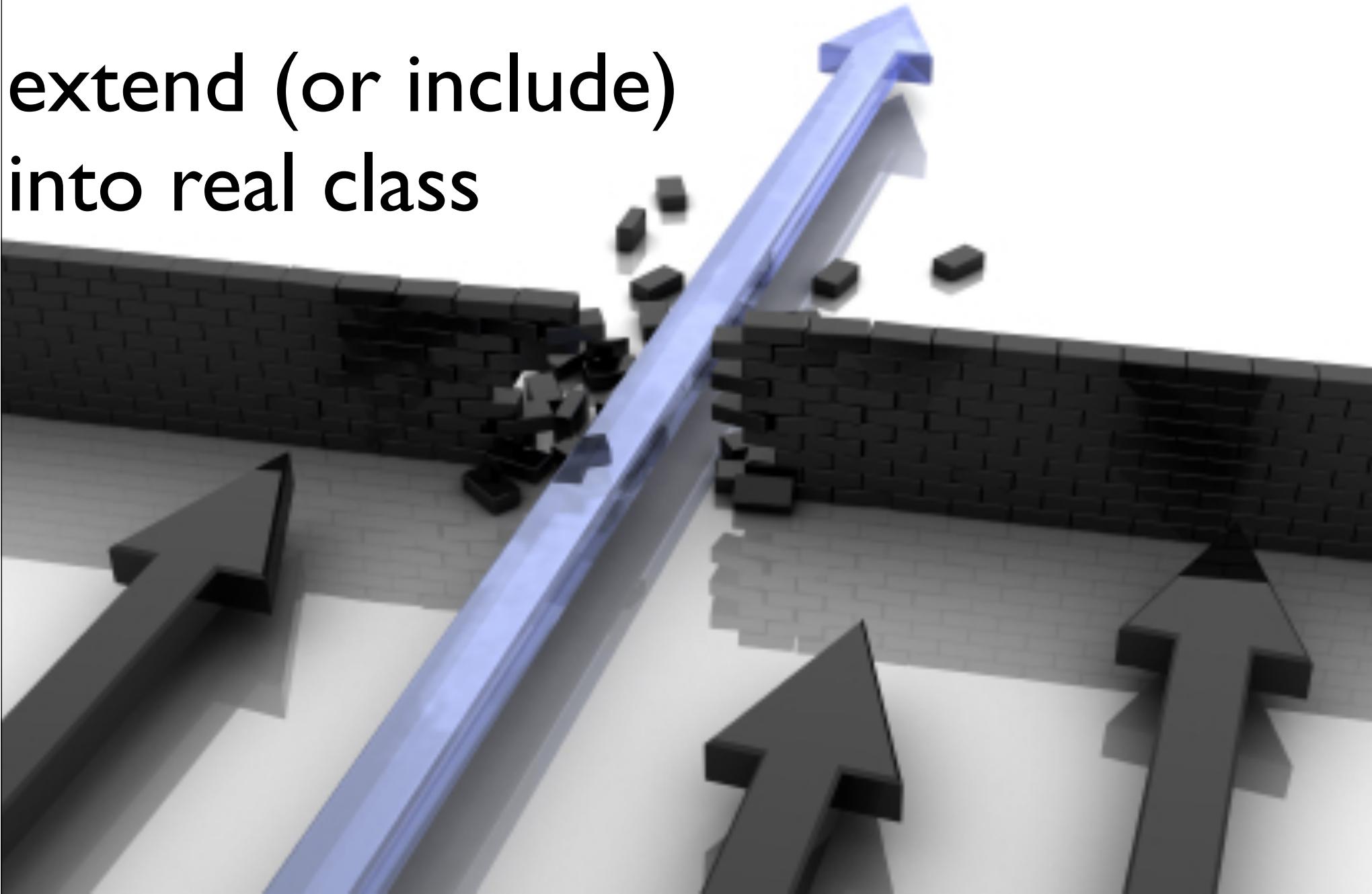
Scissors beats paper.

**monkey patches all live  
in extensions folder**



# modularize extensions

extend (or include)  
into real class



# ancestors

```
>> String.ancestors
=> [String, StringExtension,
    ActiveSupport::CoreExtensions::String::Multibyte,
    ActiveSupport::CoreExtensions::String::Behavior,
    ActiveSupport::CoreExtensions::String::Filters,
    ActiveSupport::CoreExtensions::String::Conversions,
    ActiveSupport::CoreExtensions::String::Access,
    ActiveSupport::CoreExtensions::String::Inflections,
    Enumerable, Comparable, Object, InstanceExecHelper,
    Mixology, ActiveSupport::Dependencies::Loadable,
    Base64::Deprecated, Base64, LocalMethods,
    Wirble::Shortcuts, PP::ObjectMixin, Kernel]
```

where did you come  
from again?

```
"".method :md5sum
#<Method: String(StringExtension)#md5sum>
```

test the extensions

duh!

include a version test  
to break upon upgrade

**use meta-names  
somewhere**

**ack is your friend**

The background of the slide features five hands arranged in a 2x3 grid. The top row shows a closed fist on the left and an open palm on the right. The bottom row shows a hand making a 'V' sign on the left and a closed fist on the right. This visual representation serves as a backdrop for the text.

*Try playing the throw that would have  
lost to your opponents last throw*

**background**

**processing**

# 3 kinds

**continually run**

    updating cached values

    counts

**CRON-like behavior**

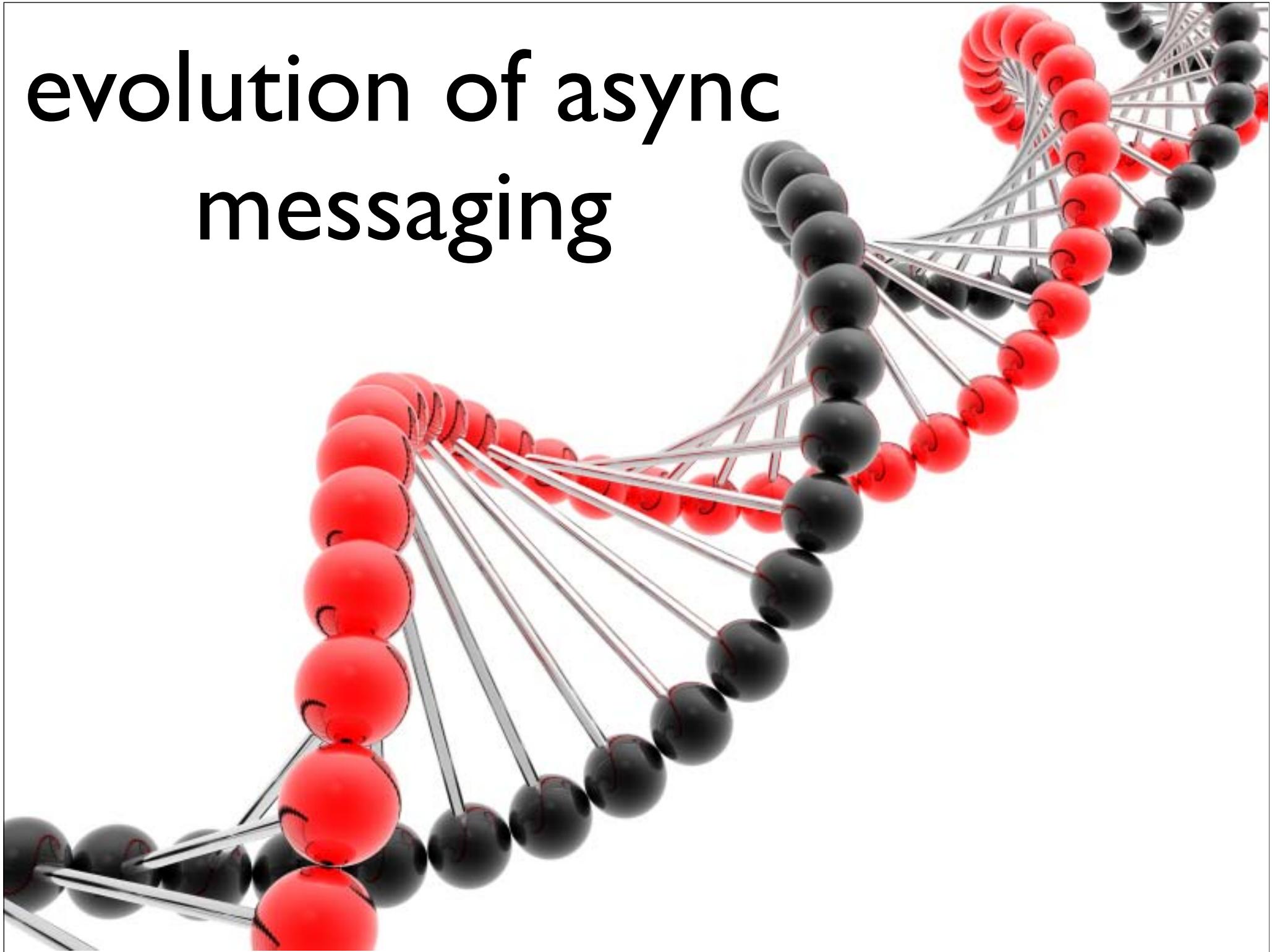
    run at a certain time

**Asynchronous behavior**

    progress bars

    image downloading

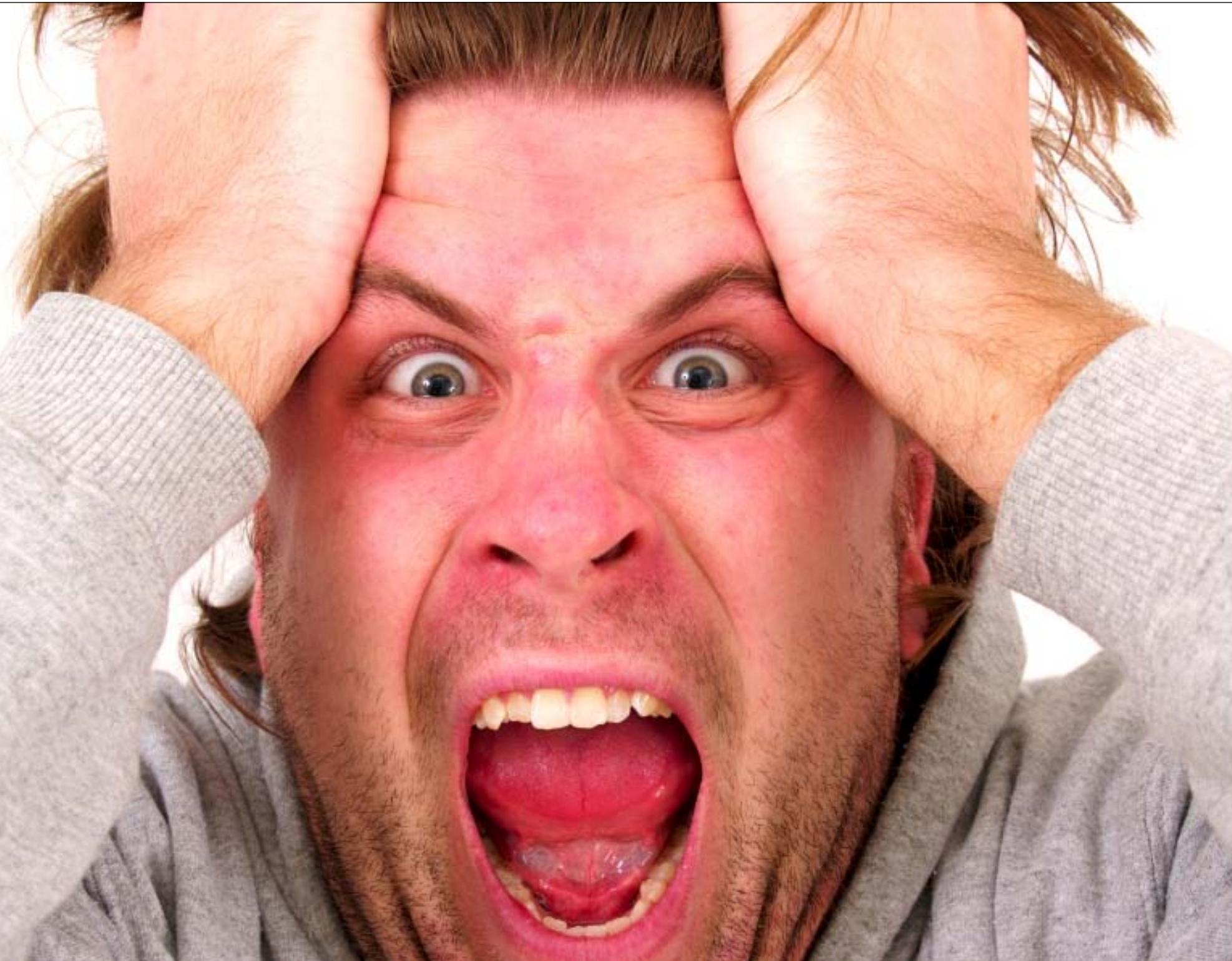
# evolution of async messaging



do work inline

gets slower over time

traffic goes up



**switch to a real  
messaging queue  
(Starling)**

# YAGNI

emergent design around async  
messaging

# lessons learned



avoid anticipatory design

gradually add complexity

don't use databases as message queues (for too long anyway)

DBA's can sometimes get grumpy

# external dependencies



*When playing against someone who asks you to remind them about the rules, take the opportunity to subtly "suggest a throw" as you explain to them by physically showing them the throw you want them to play.*

**make well defined  
boundaries**

**mock and stub  
boundaries**

externals builds to test  
service changes

we often catch bugs &  
downtime in other services

tests to validate WSDLs  
haven't changed

# tests to call services

check that responses haven't  
changed

tests to check against  
content & html editors

non-printable characters

duplicate ids

# performance & optimization



*When all else fails, go with paper: Statistically, in competition play, it has been observed that scissors is thrown the least often.*

not that many page  
views...

*...really complex pages!*

# custom hand-tuned SQL

```
Listing.find(:all,  
  :from => "listings USE INDEX (PRIMARY,  
    idx_listings_simple_basic_search,  
    idx_search_fsp)")  
  
find :all,  
  :include => [{:fsp => [:parent_company, :state]},  
  :currency, :account, :default_image, :make,  
  :model, :trim, :vehicle_type, :exterior_color,  
  :high_bid, {:_search_postal_code => :state},  
  :state, :vehicle_location, :distribution_center,  
  {:_buyer_group => :owner_group}, :title_status, :event_sale]
```

**Memcache sessions &  
many database lookups**

# MySQL replication

**use separate boxes for  
ETL schemas**

**write priority**

# challenges



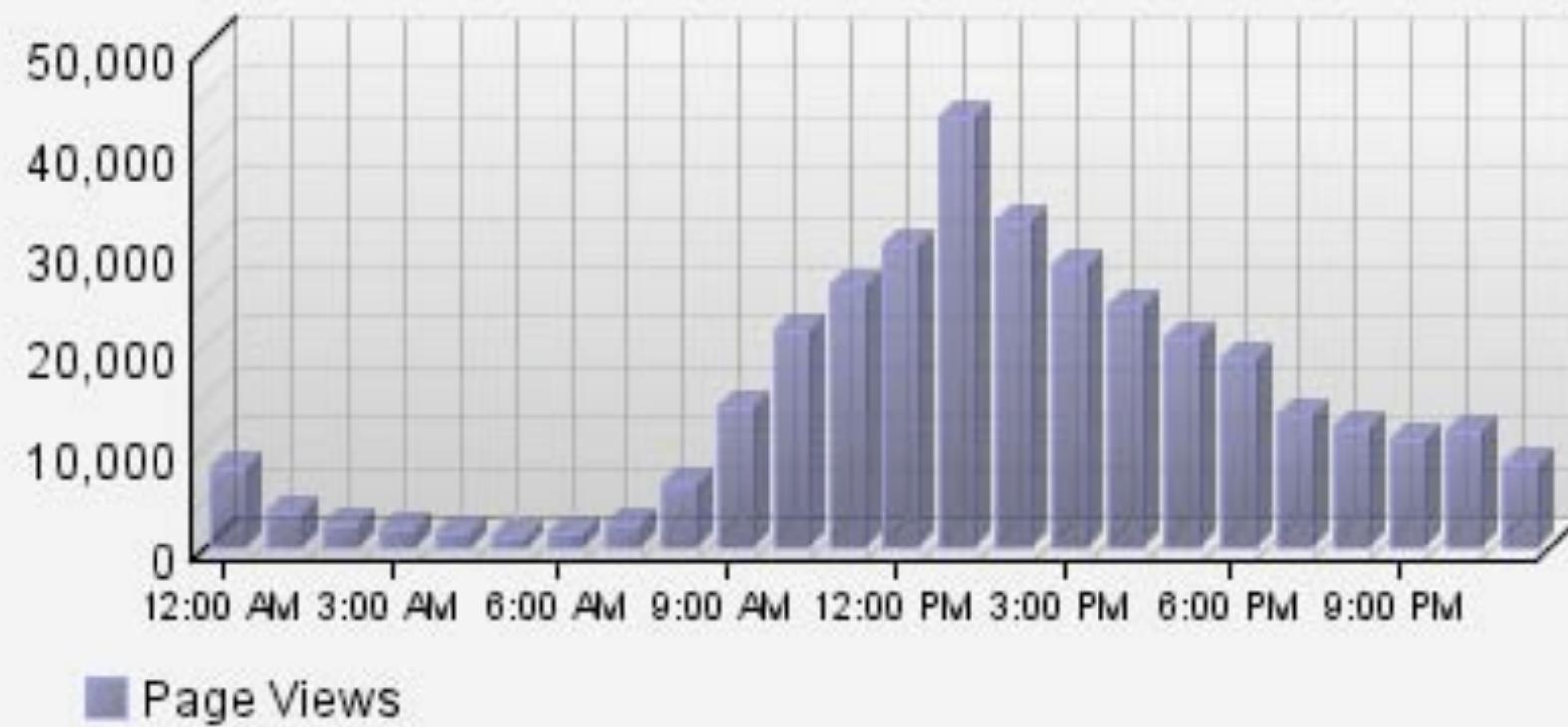
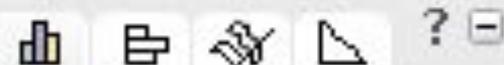
*For tournament play, learn the Great Eight Gambits.*

scaling is hard

no matter the technology

**rails can scale!**

## Page Views Trend



■ Page Views

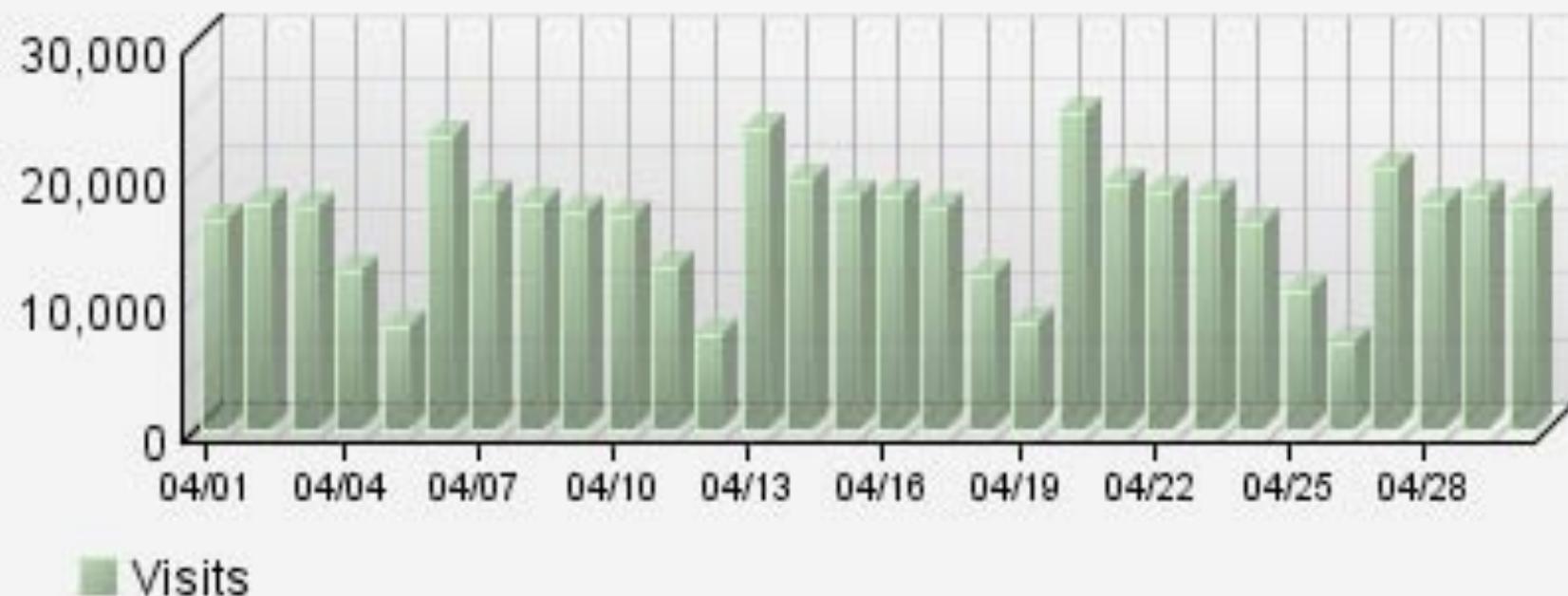
## Page View Summary

Page Views	346,265
Average per Day	346,265
Average Page Views per Visit	17.07

## Visits Trend



Visits



Visits

## Page View Summary

Page Views	7,160,586
Average per Day	238,686
Average Page Views per Visit	14.76

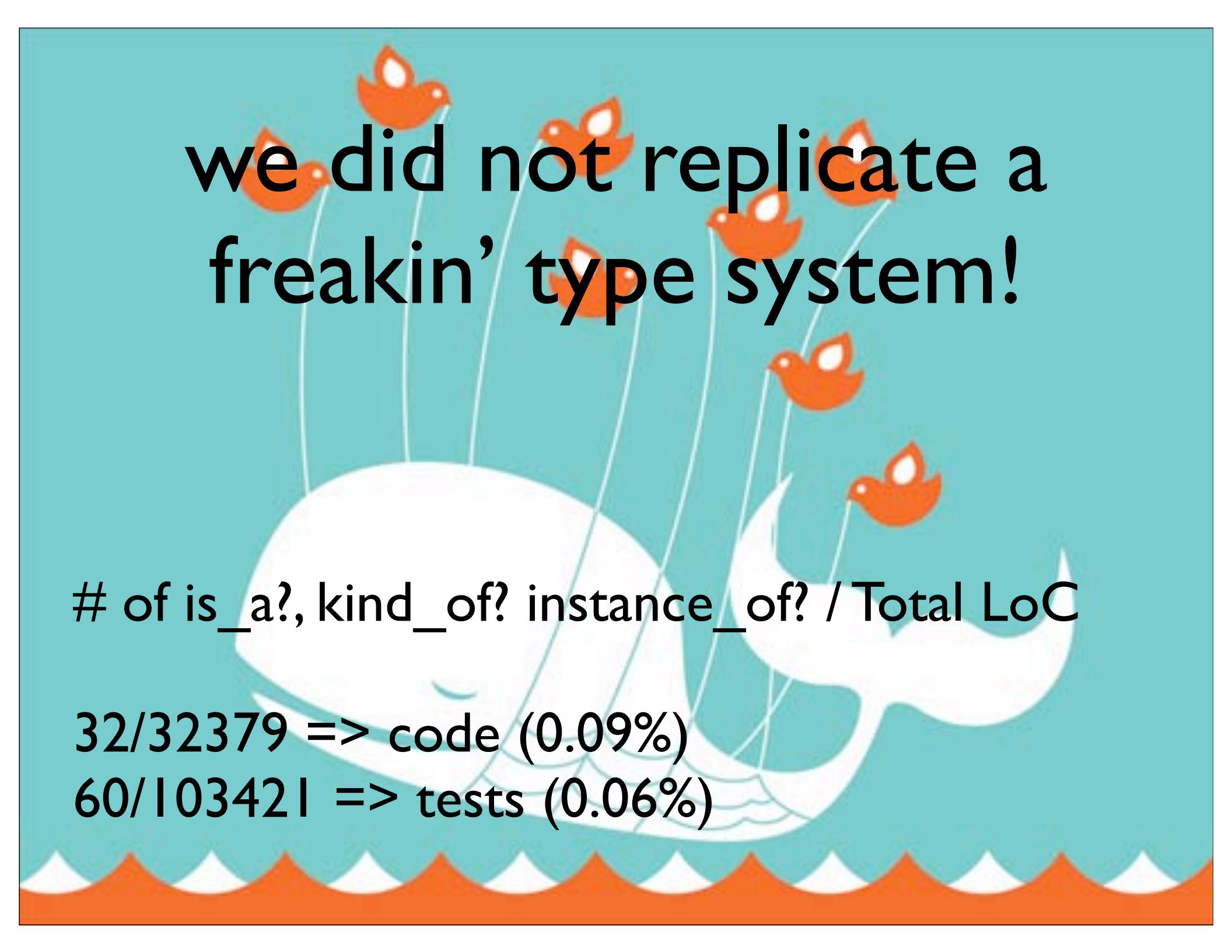
# upgrading is hard

1 pair => 6 weeks to upgrade from 1.2.3 to 2.2

back port fixes &  
improvements

rails

other plugins



we did not replicate a  
freakin' type system!

# of `is_a?`, `kind_of?` `instance_of?` / Total LoC

$32/32379 \Rightarrow$  code (0.09%)

$60/103421 \Rightarrow$  tests (0.06%)

A photograph showing two hands from different people, both wearing dark suits and white shirts. The hand on the left is making the 'scissors' gesture (thumb and index finger touching) while the hand on the right is making the 'paper' gesture (hand flat). They are positioned in front of a solid blue background.

why all the  
rochambeau stuff?

view builds are fragile =>

separate cc.rb build =>

view builds are slow =>

I pair assigned as view  
masters

worst...job...ever



today's view master  
assigned by  
yesterday's...

*...or play RPS*



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What do you think of Rock?

- Most overrated throw in the game
- Solid throw, I use it often
- Only when backed into a corner
- Rock is for rookies

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[Results](#)



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would we do it again?

hell yeah!

? ' S



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