Improving Performance with MiniProfiler

What is MiniProfiler?

- Profiler for web apps that measures the performance of individual requests and displays results inside the browser

- Originally a .NET project for designed by the team at Stack Overflow for use on all the Stack Exchange sites

- Ruby version created in 2012

Getting started

```ruby
gem 'rack-mini-profiler'


gem 'rack-mini-profiler', group: :development
```

What it looks like

765.8 ms

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765.8 ms

/admin/users   localhost on Mon, 16 May 2016 17:37:18 GMT

	duration (ms)	from start (ms)	query time (ms)	
GET http://localhost:3000/admin/users	6.2	+0.0		
Executing action: index	14.9	+5.0	1 sql	0.3
Rendering: admin/users/index	58.8	+20.0	26 sql	5.9
Rendering: layouts/application	685.1	+79.0		

show time with children   0.8 % in sql

client event	duration (ms)	from start (ms)
Redirect	15.0	+198.0
Response	2.0	+911.0
Dom Content Loaded Event	10.0	+1330.0
First Paint Time		+1425.0
Load Event	3.0	+1433.0

share   more   show trivial

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share   more   show trivial

What gets measured

step time from start query type duration	call stack query
9.70 ms	GET http://localhost:3000/lists — 7.00 ms
Executing action: index T+9.7 ms Reader 0.3 ms	SELECT "users".* FROM "users" WHERE "users"."id" = ? ORDER BY "users"."id" ASC LIMIT 1
12.00 ms	Executing action: index — 8.00 ms
Rendering: item_lists/index T+22.0 ms Reader 1.0 ms	app/views/item_lists/index.html.erb:9:in `_app_views_item_lists_index_html_erb___4534692639833116391_70347025772560' SELECT 1 AS one FROM "item_lists" WHERE "item_lists"."deleted_at" IS NULL AND "item_lists"."user_id" = ? LIMIT 1
Rendering: item_lists/index T+24.7 ms Reader 0.3 ms	app/views/item_lists/index.html.erb:12:in `_app_views_item_lists_index_html_erb___4534692639833116391_70347025772560' SELECT "item_lists".* FROM "item_lists" WHERE "item_lists"."deleted_at" IS NULL AND "item_lists"."user_id" = ?
678.37 ms	Rendering: layouts/application — 665.19 ms

Measuring specific code

```ruby
Rack::MiniProfiler.step("fetch list of users") do
  ...
end
```


/admin/users	localhost on Wed, 18 May 2016 17:53:22 GMT			
	duration (ms)	from start (ms)	query time (ms)	
GET http://localhost:3000/admin/users	108.5	+0.0		
Executing action: index	26.2	+108.0	1 sql	0.2
fetch list of users	2.9	+124.0		
Rendering: admin/users/index	91.0	+137.0	26 sql	6.7
Rendering: layouts/application	677.9	+228.0		
show time with children			0.8 % in sql	

Measuring specific methods

In an initialiser:

```
Rack::MiniProfiler.profile_method(WeekView, "rows")
```

Use in production

Will be off by default so need to call `authorize_request` e.g. in `ApplicationController`:

```ruby
before_filter :enable_profiling

private

  def miniprofiler
    Rack::MiniProfiler.authorize_request
  end
```

Use in production

Will be off by default so need to call `authorize_request` e.g. in `ApplicationController`:

```ruby
before_filter :enable_profiling_for_admins

private

  def miniprofiler
    Rack::MiniProfiler.authorize_request if current_user.admin?
  end
```

Demo

Another example

Today's balance

Test's current account	Test's credit card	Test's savings
£1230.00	£0.00	£5000.00

Upcoming Entries

Date	Account	Description	Amount
20 May	Test's current account	Gym	-£22.00
23 May	Test's current account	Mobile bill	-£17.99
1 June	Test's current account	Mortgage	-£500.00

Forecast by Quarter

	6/2016	9/2016	12/2016	3/2017
Test's current account	£1281.00	£1281.00	£1281.00	£1281.00
Test's credit card	-£290.00	-£290.00	-£509.00	-£290.00
Test's savings	£5030.02	£5313.05	£5296.08	£5710.11

Before 😧

4546.4 ms

/dashboard

localhost on Thu, 19 May 2016 14:42:22 GMT

	duration (ms)	from start (ms)	query time (ms)	
GET http://localhost:3000/dashboard	6.7	+1.0	1 sql	0.3
Executing action: index	10.3	+7.0	2 sql	0.6
Rendering: dashboard/index	4394.5	+16.0	220 sql	169.9
Rendering: layouts/application	3.5	+4411.0		
Rendering: layouts/_header	130.4	+4412.0		

show time with children

3.8 % in sql

client event	duration (ms)	from start (ms)
Response	2.0	+4657.0
Dom Content Loaded Event	5.0	+5395.0
Load Event	4.0	+5509.0
First Paint Time		+5509.0

share   more   show trivial

After 😃

171.4 ms

400.0 ms

/dashboard/data   localhost on Thu, 19 May 2016 15:09:15 GMT

	duration (ms)	from start (ms)	query time (ms)	
GET http://localhost:3000/dashboard/data	6.6	+0.0	1 sql	0.3
Executing action: data	365.2	+6.0	34 sql	28.7
Rendering: dashboard/data	9.5	+371.0		
Rendering: dashboard/_data	18.8	+380.0		

share   more   show trivial   show time with children   7.2 % in sql

Questions?

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