

# MacRuby on Rails

## Abstract

MacRuby is an implementation of Ruby 1.9 that is built directly on top of Mac OS X core technologies. Recently, MacRuby has become viable as a tool for developing useful desktop applications for Mac OS X. However, as of March 2011, MacRuby is still missing some functionality that is present in cRuby. Therefore, MacRuby is not able to run Ruby on Rails. In my presentation, I will explain how I modified MacRuby to make it a suitable foundation for running Rails. I would also like to explain some of the technical intricacies that I discovered along the way.



RubyConf 2011 - 2011/09/30  
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This presentation was made possible by **NaCl**



# Kouji Takao



# Kouji Takao

## ❖ Work

- Network Applied Communication Laboratory Ltd.



# Kouji Takao

## ❖ Work

- Network Applied Communication Laboratory Ltd.

## ❖ Hobby

- MacRuby committer
- cRuby committer (Readline module)



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## ❖ Hobby

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- cRuby committer (Readline module)

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# My Company

# My Company

- Network Applied Communication Laboratory Ltd.

# My Company

- Network Applied Communication Laboratory Ltd.
  - a.k.a NaCl

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- Network Applied Communication Laboratory Ltd.
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  - Since 2001 (My 10th Anniversary!)

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  - 57 people (many Rubyists!?)

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  - Since 2001 (My 10th Anniversary!)
  - 57 people (many Rubyists!?)
  - SI, Training, etc...

**NaCI**

Network Applied Communication Laboratory

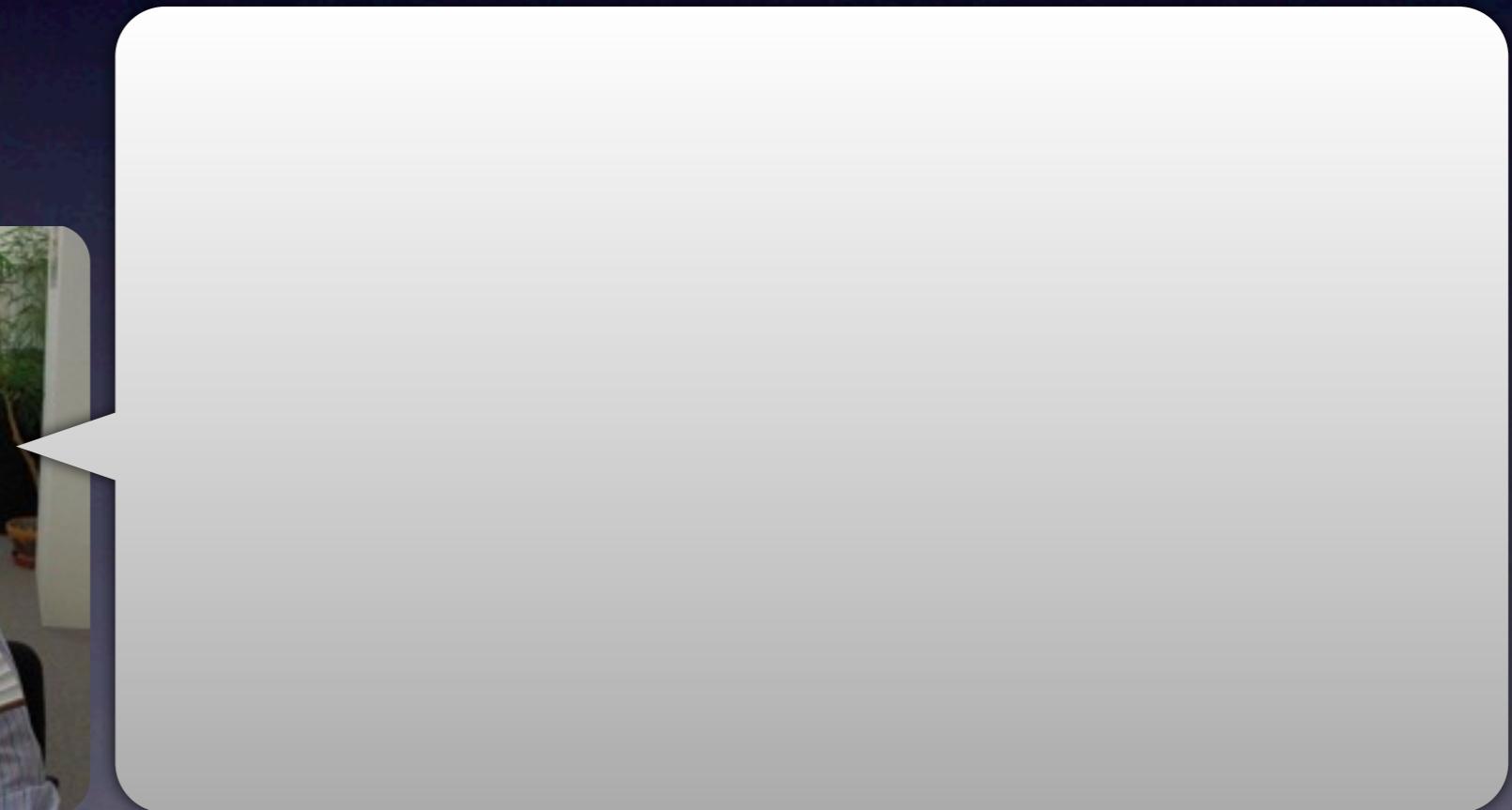
オースンソース・フロンティア  
株式会社ネットワーク応用通信研究所

# The NaCI Way

# The NaCl Way



# The NaCI Way



# The NaCI Way

First, I want **You** to be happy.



# The NaCI Way

First, I want **You** to be happy.

Next, I want you to make **Your Family** happy.



# The NaCI Way



First, I want **You** to be happy.

Next, I want you to make **Your Family** happy.

Finally, if you have more happiness left, then  
please share it with **Our Company** :)

# The NaCI Way

(as I see it)

# The NaCI Way

(as I see it)

Employee  
Oneself

- First: Employee Oneself

# The NaCI Way

(as I see it)

Employee  
Oneself



Employee  
Family

- First: Employee Oneself
- Next: Employee Family

# The NaCI Way

(as I see it)

Employee  
Oneself



Employee  
Family



Company

- First: Employee Oneself
- Next: Employee Family
- Then: Company

## The NaCI Way

(as I see it)

Employee  
Oneself

I love my  
company!!

.

.



# MacRuby on Rails

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MacRuby Unofficial Character  
Ruby Ninja @lrz

MacRuby on Rails

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# MacRuby

Ruby customized for Mac OS X

# MacRuby



# MacRuby

- MacRuby is a unique blend of Ruby 1.9 and Objective-C.

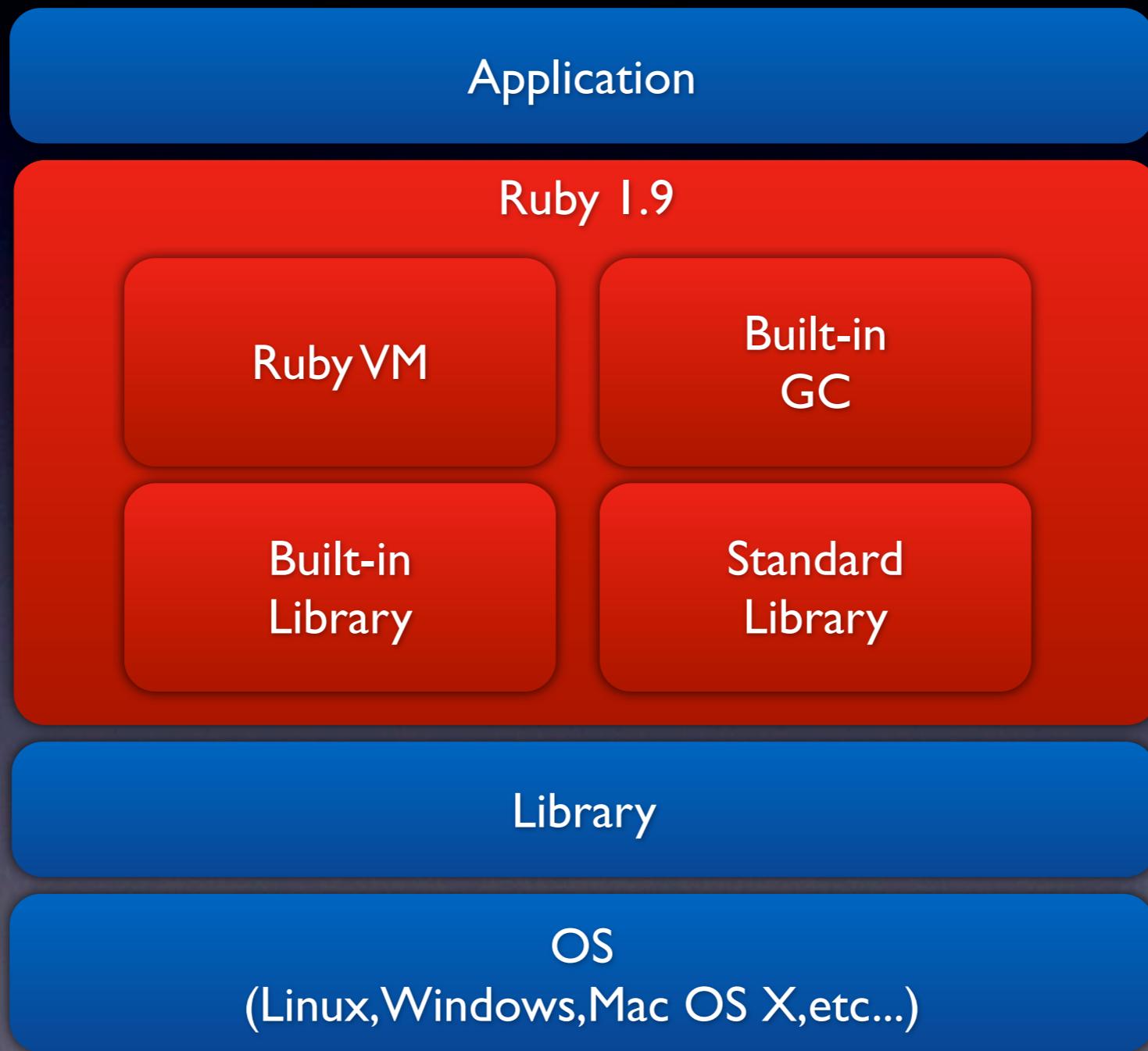


# MacRuby

- MacRuby is a unique **blend of Ruby 1.9 and Objective-C**.
- The goal of the MacRuby project is to be **100% compatible** syntactically and behaviorally with Ruby 1.9.



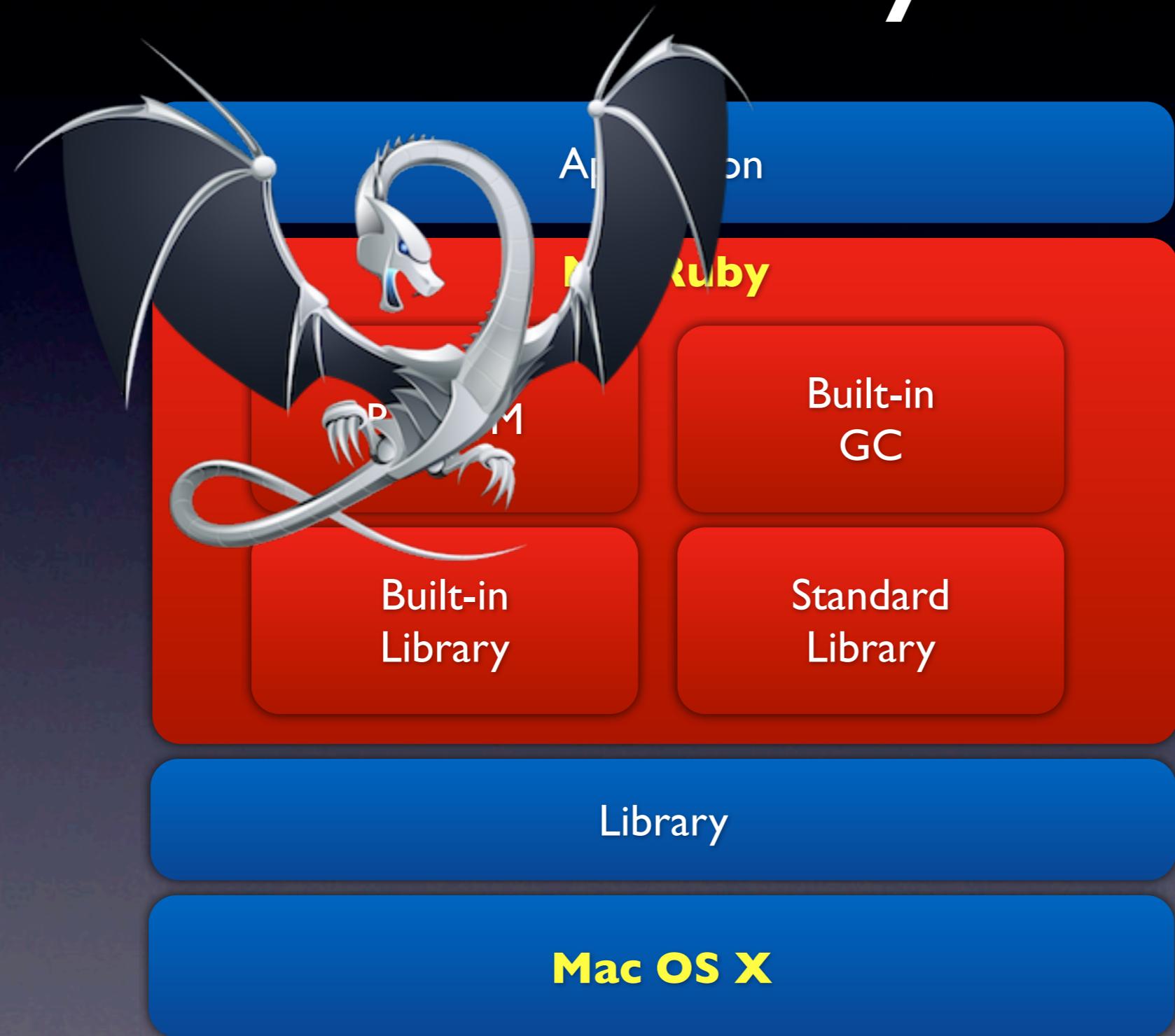
# Ruby 1.9



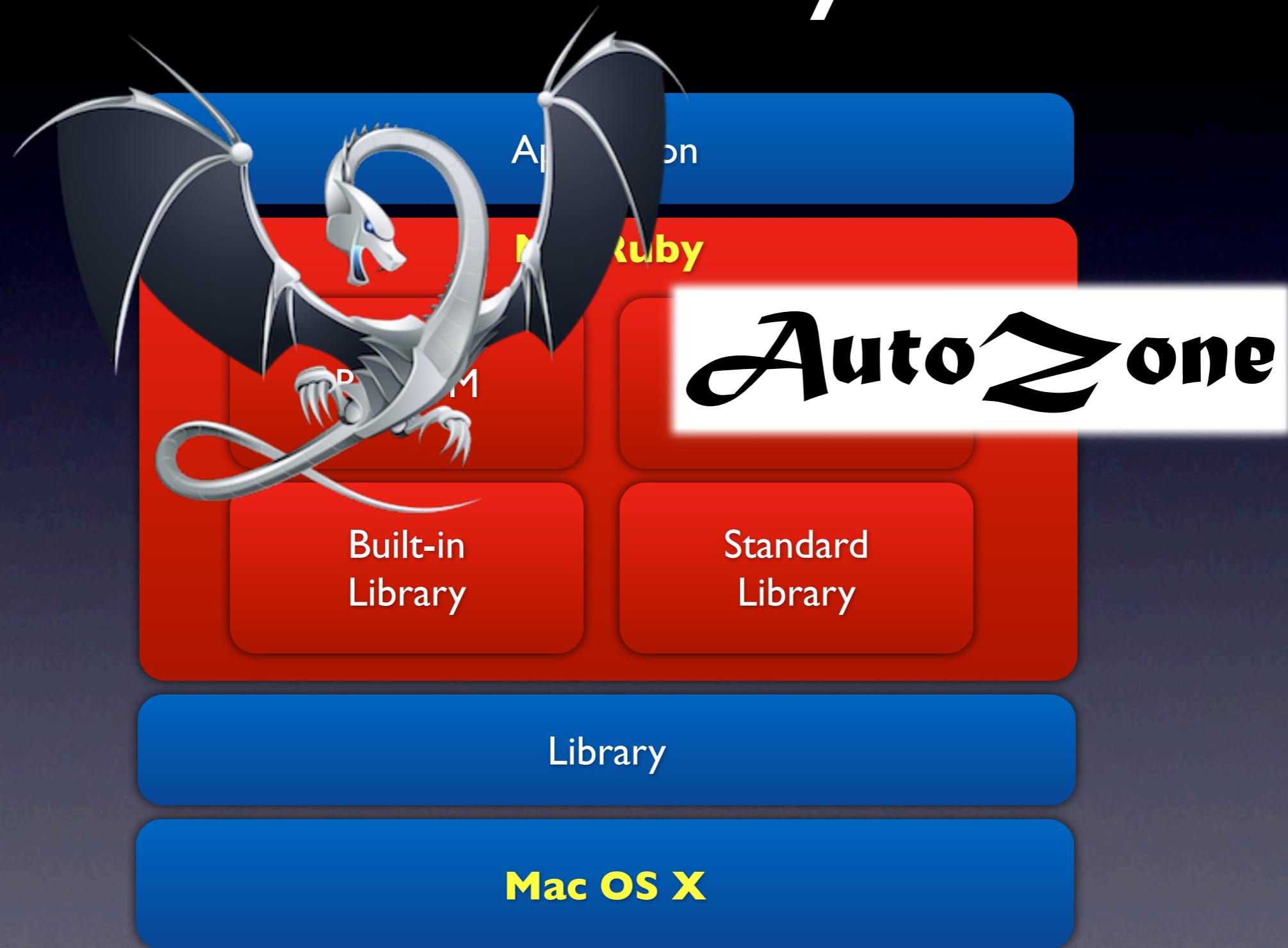
# MacRuby



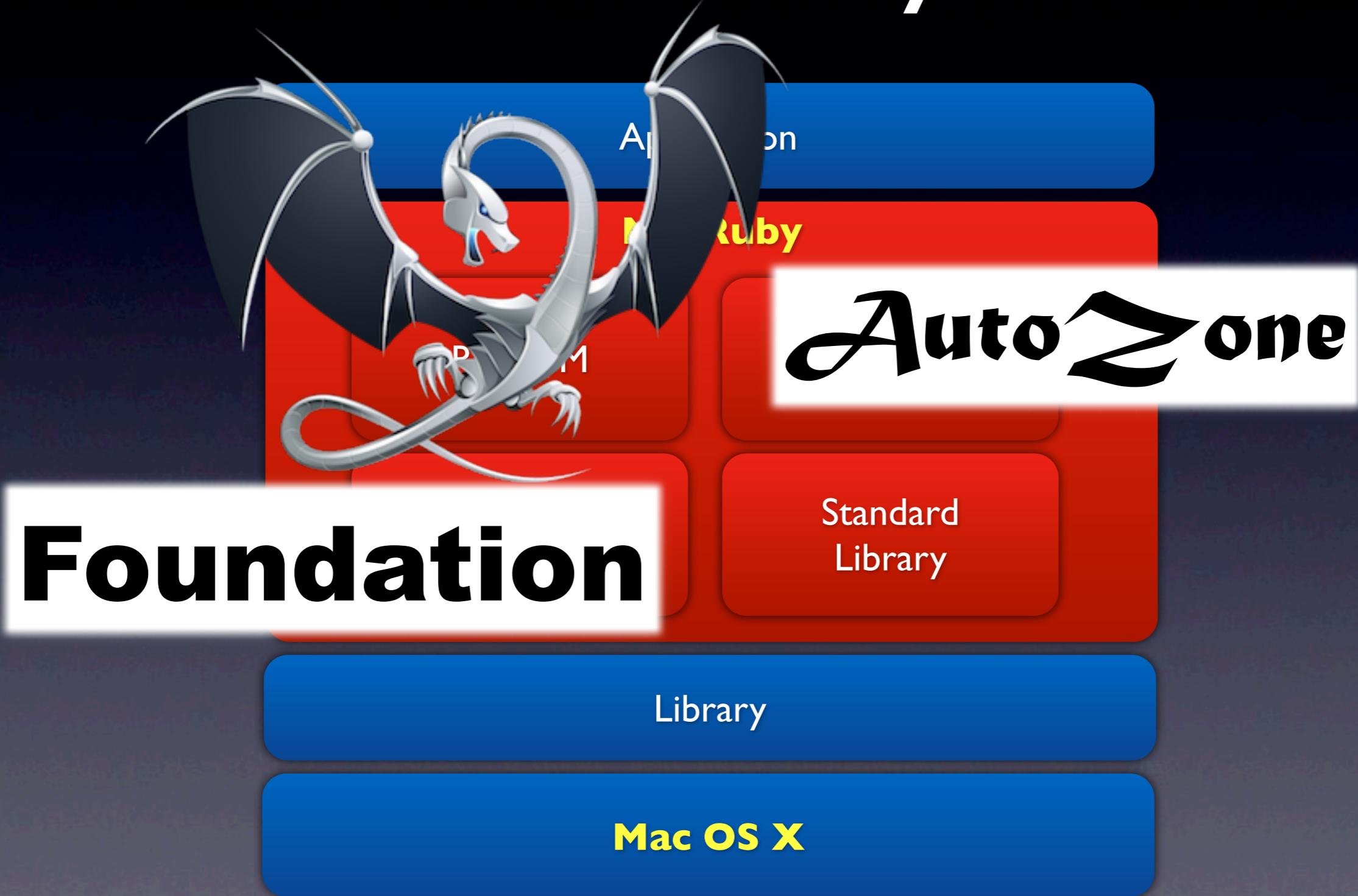
# MacRuby



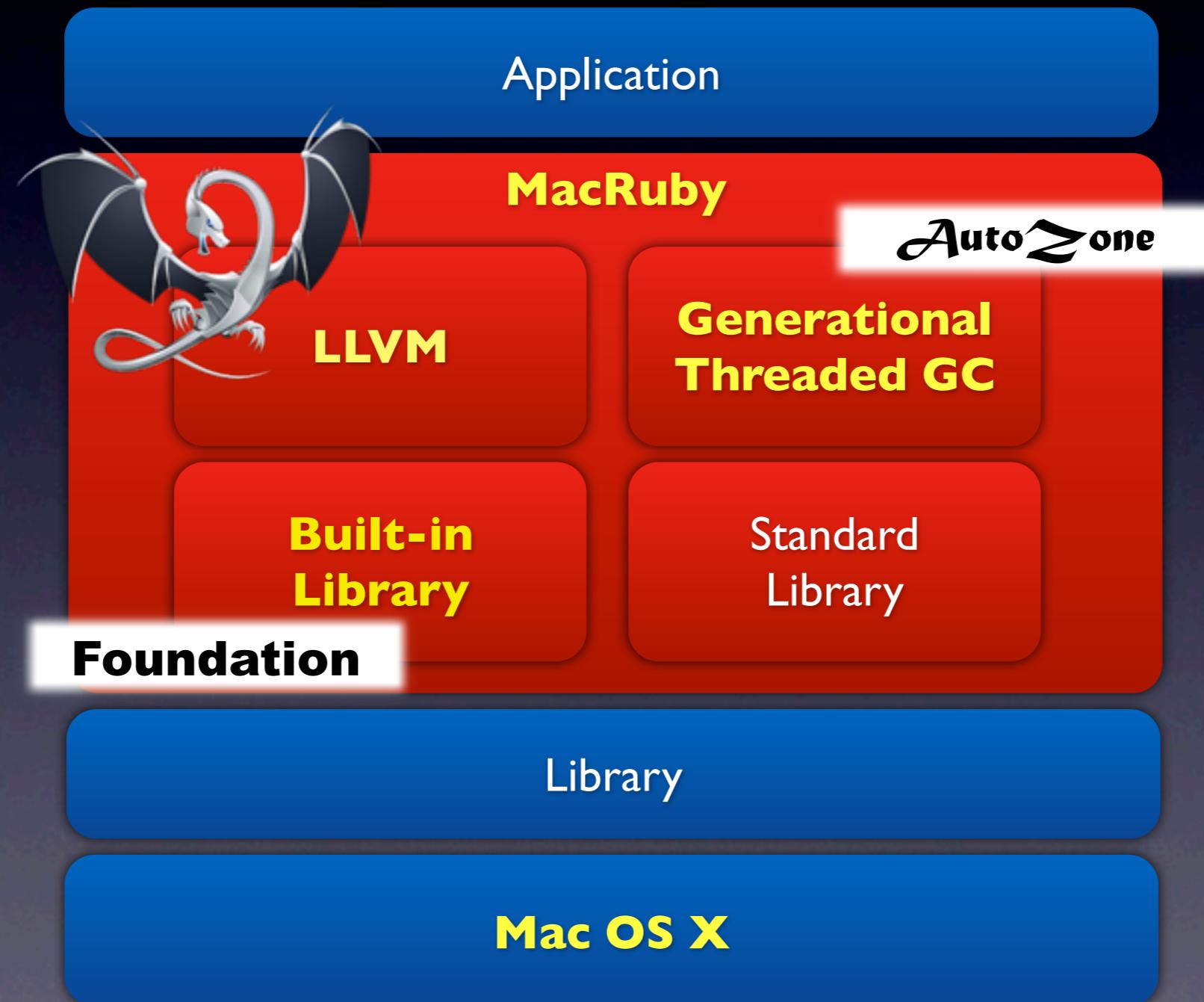
# MacRuby



# MacRuby



# MacRuby



# MacRuby x Cocoa

```
framework "cocoa"

def playSound(name)
    sound = NSSound.soundNamed(name)
    sound.play
end
```

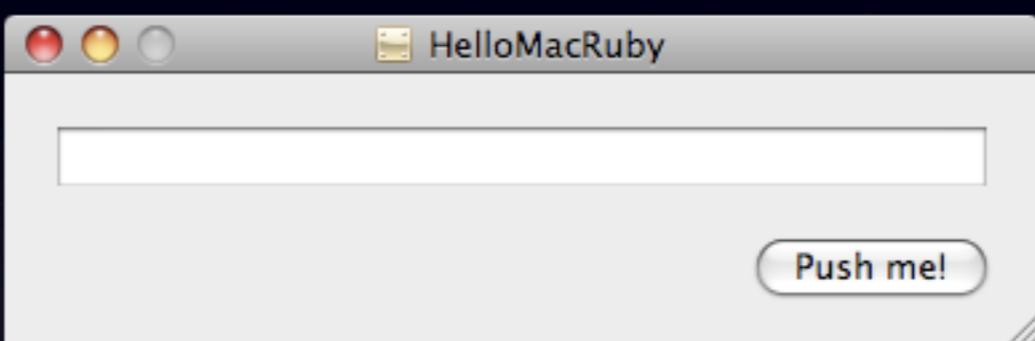
# MacRuby x Cocoa

This is a sample program that plays a sound.

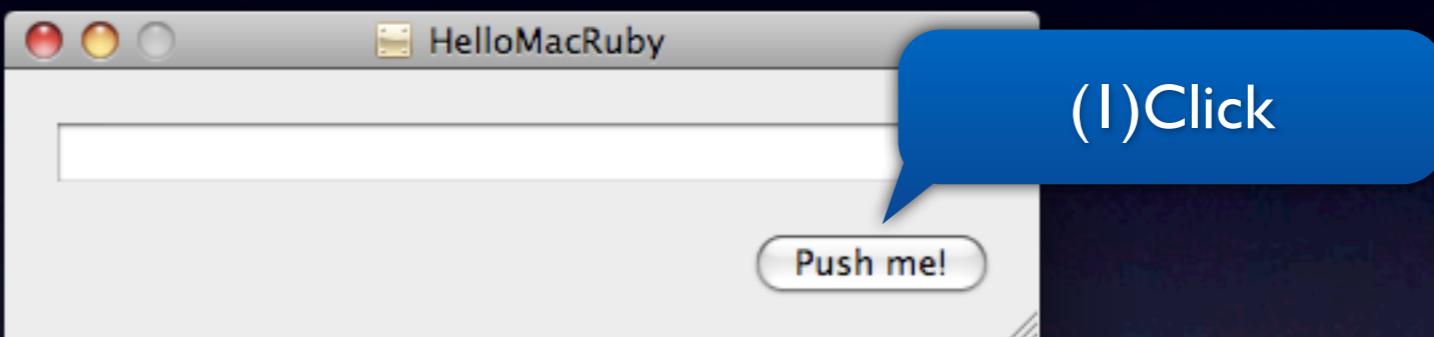
```
framework "cocoa"

def playSound(name)
    sound = NSSound.soundNamed(name)
    sound.play
end
```

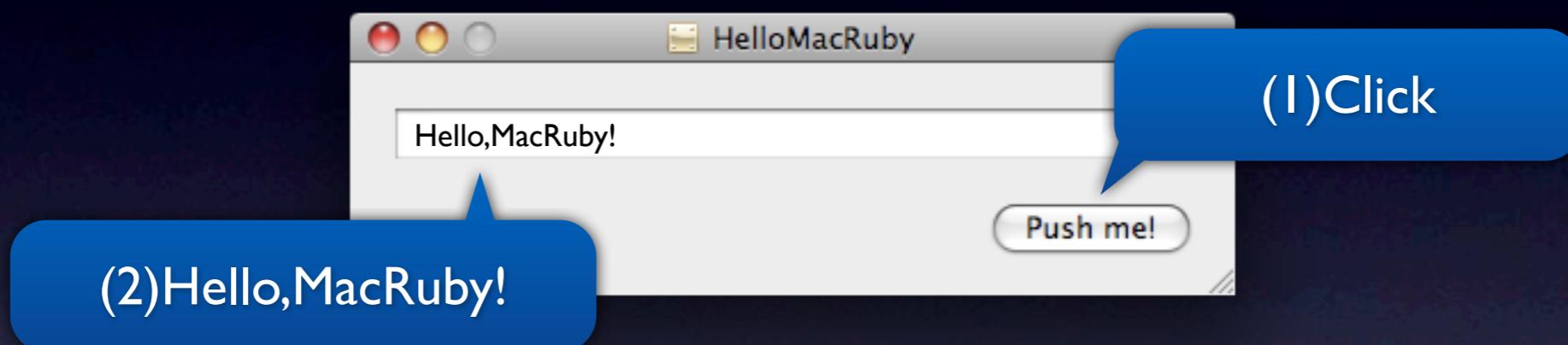
# HelloMacRuby



# HelloMacRuby



# HelloMacRuby

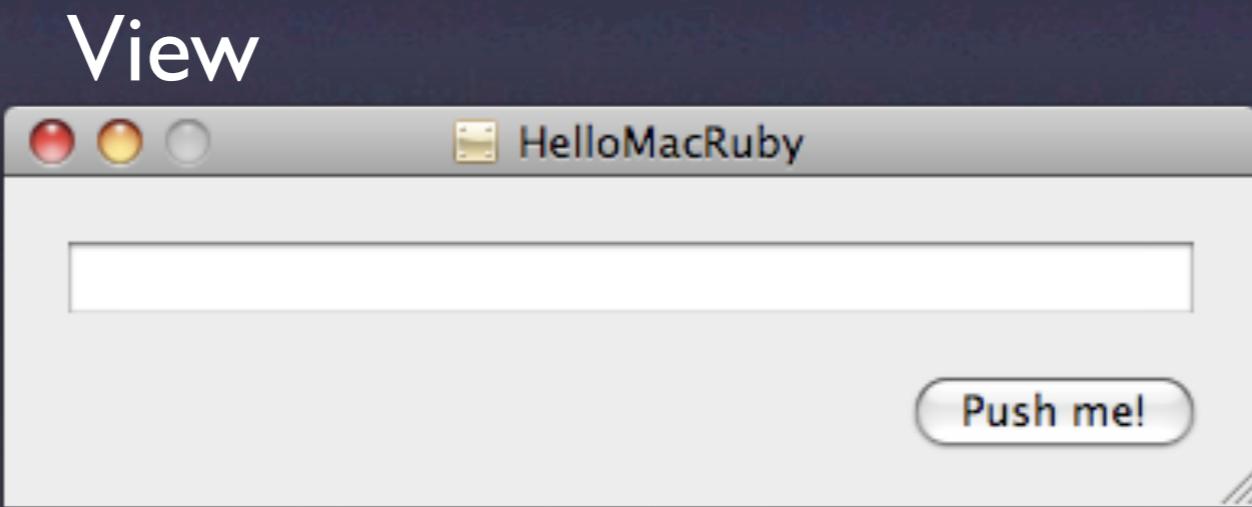


# HelloMacRuby

## Ruby script: Controller

```
class AppController
  attr_accessor :textField

  def hello(sender)
    @textField.stringValue = "Hello,MacRuby!"
  end
end
```

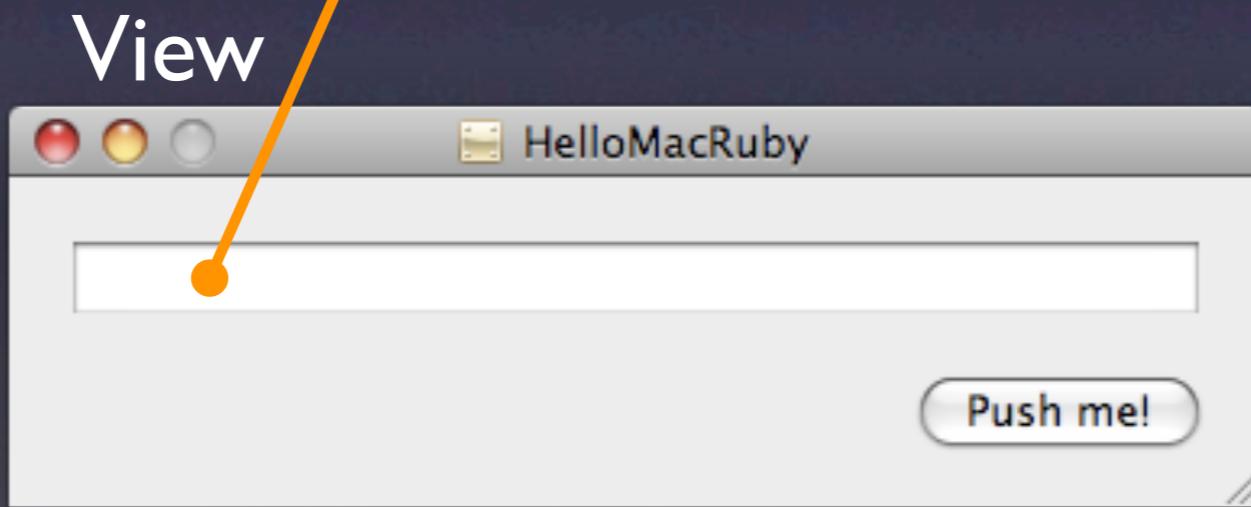


# HelloMacRuby

## Ruby script: Controller

```
class AppController
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  def hello(sender)
    @textField.stringValue = "Hello,MacRuby!"
  end
end
```

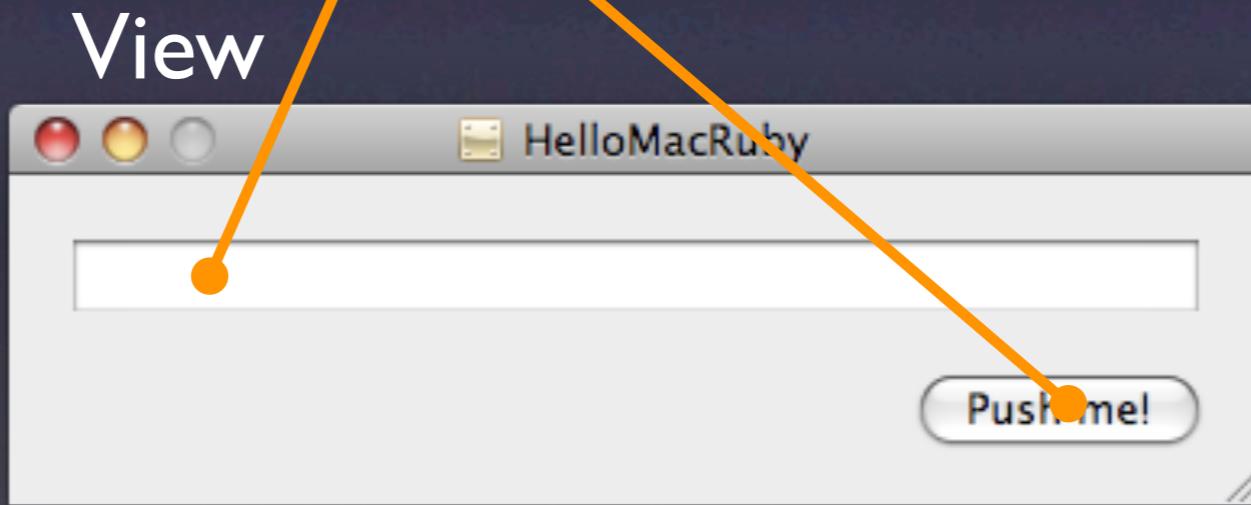


# HelloMacRuby

## Ruby script: Controller

```
class AppController
attr_accessor :textField

def hello(sender)
  @textField.stringValue = "Hello,MacRuby!"
end
end
```



# MacRuby on Rails

Making Ruby on Rails work on MacRuby



# Current Status



# Current Status

```
$ rails new demo
kouji:/Users/kouji/work/MacRuby/MacRuby/issues/work:0
dhcp219$ env VM_DISABLE_RBO=1 macruby -S rails new demo
create
create README
create Rakefile
create config.ru
create .gitignore
create Gemfile
create app
create app/controllers/application_controller.rb
create app/helpers/application_helper.rb
create app/mailers
create app/models
create app/views/layouts/application.html.erb
create config
create config/routes.rb
create config/application.rb
create config/environment.rb
create config/environments
create config/environments/development.rb
create config/environments/production.rb
create config/environments/test.rb
create config/initializers
create config/initializers/backtrace_silencers.rb
```



# Current Status

```
$ rails new demo
kouji:/Users/kouji/work/MacRuby/MacRuby/issues/work:0
dhcp219$ env VM_DISABLE_RBO=1 macruby -S rails new demo
create
create README
create Rakefile
create config.ru
create .gitignore
create Gemfile
create app
create app/controllers
create app/models
create app/views
create config
create config.ru
create config/database.yml
create config/application.rb
create config/environments
create config/environments/development.rb
create config/environments/test.rb
create config/environments/production.rb
create config/initializers
create config/initializers/assets.rb
create config/initializers/backtrace_silencers.rb
create config/initializers/cookies_serializer.rb
create config/initializers/filter_parameter_logging.rb
create config/initializers/mime_types.rb
create config/initializers/session_store.rb
create config/initializers/wrap_parameters.rb
create config/locales
create config/routes.rb
create config/timer.rb
create db
create db/migrate
create db/migrate/20110714234202_create_bookmarks.rb
create app/models/bookmark.rb
create test/unit
create test/unit/bookmark_test.rb
create test/fixtures/bookmarks.yml
create route resources :bookmarks
create scaffold_controller
create app/controllers/bookmarks_controller.rb
create erb
create app/views/bookmarks
create app/views/bookmarks/index.html.erb
create app/views/bookmarks/edit.html.erb
create app/views/bookmarks/show.html.erb
create app/views/bookmarks/new.html.erb
create app/views/bookmarks/_form.html.erb
create test_unit
create test/functional/bookmarks_controller_test.rb
create helper
create app/helpers/bookmarks_helper.rb
create invoke
```

```
$ rails generate scaffold ...
kouji:/Users/kouji/work/MacRuby/MacRuby/issues/work/demo:0
dhcp219$ env VM_DISABLE_RBO=1 macruby -S rails generate scaffold Bookmark title:
string description:text url:string
invoke active_record
create db/migrate/20110714234202_create_bookmarks.rb
create app/models/bookmark.rb
invoke test_unit
create test/unit/bookmark_test.rb
create test/fixtures/bookmarks.yml
route resources :bookmarks
scaffold_controller
create app/controllers/bookmarks_controller.rb
erb
create app/views/bookmarks
create app/views/bookmarks/index.html.erb
create app/views/bookmarks/edit.html.erb
create app/views/bookmarks/show.html.erb
create app/views/bookmarks/new.html.erb
create app/views/bookmarks/_form.html.erb
test_unit
create test/functional/bookmarks_controller_test.rb
helper
create app/helpers/bookmarks_helper.rb
invoke
```

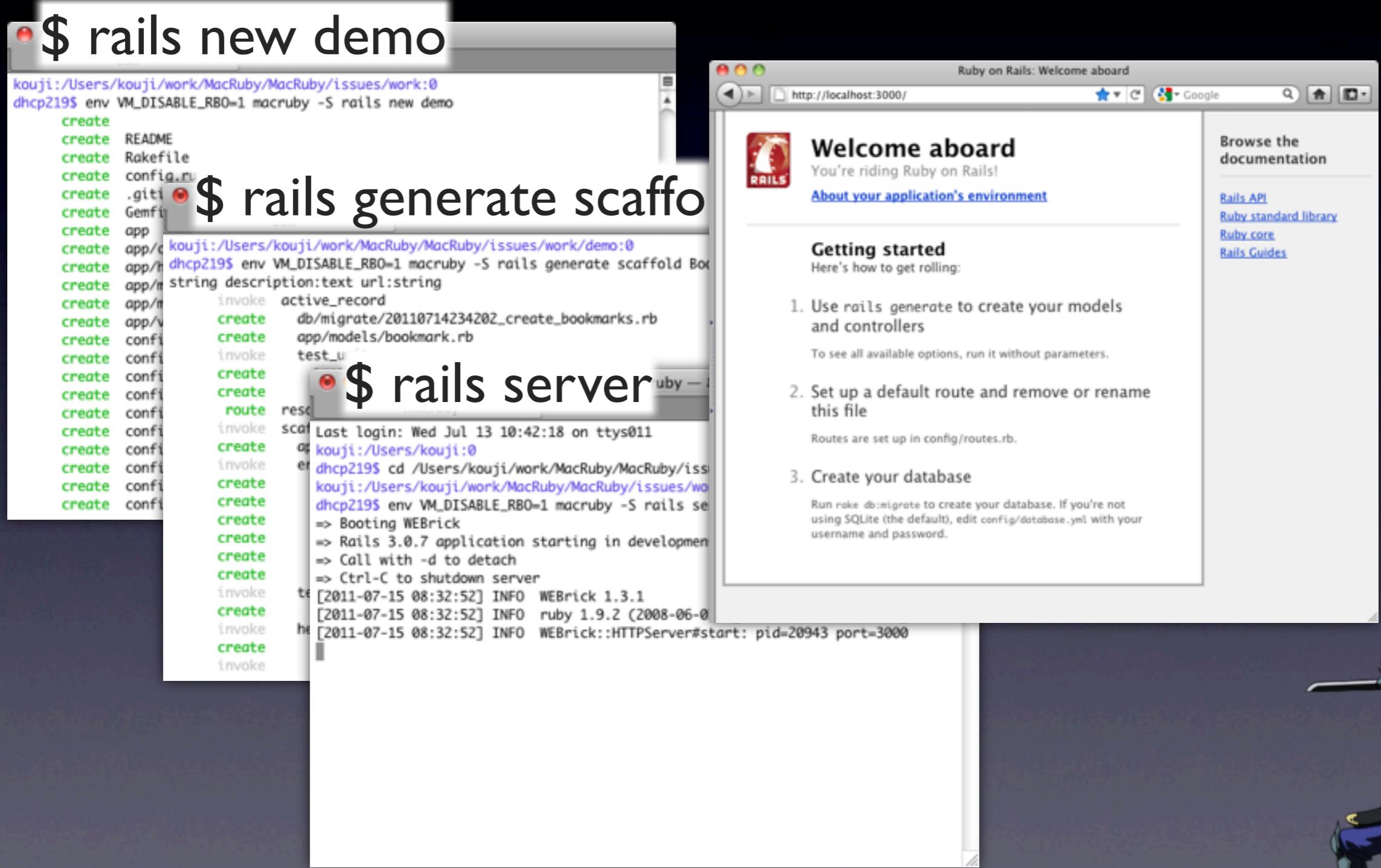


# Current Status

```
$ rails new demo
kouji:/Users/kouji/work/MacRuby/MacRuby/issues/work:0
dhcp219$ env VM_DISABLE_RBO=1 macruby -S rails new demo
create README
create Rakefile
create config.ru
create .gitignore
Gemfile
create app
create app/controllers
create app/models
create app/views
create config
create config/database.yml
create config/routes.rb
invoke active_record
create db/migrate/20110714234202_create_bookmarks.rb
create app/models/bookmark.rb
test_unit
create routes
create scaffold Bookmark title:string
string description:text url:string
invoke active_record
create db/migrate/20110714234202_create_bookmarks.rb
create app/models/bookmark.rb
test_unit
$ rails generate scaffold ...
kouji:/Users/kouji/work/MacRuby/MacRuby/issues/work/demo:0
dhcp219$ env VM_DISABLE_RBO=1 macruby -S rails generate scaffold Bookmark title:
string description:text url:string
invoke active_record
create db/migrate/20110714234202_create_bookmarks.rb
create app/models/bookmark.rb
test_unit
$ rails server
uby - 80x24
Last login: Wed Jul 13 10:42:18 on ttys011
kouji:/Users/kouji:0
dhcp219$ cd /Users/kouji/work/MacRuby/MacRuby/issues/work/demo
kouji:/Users/kouji/work/MacRuby/MacRuby/issues/work/demo:0
dhcp219$ env VM_DISABLE_RBO=1 macruby -S rails server
=> Booting WEBrick
=> Rails 3.0.7 application starting in development on http://0.0.0.0:3000
=> Call with -d to detach
=> Ctrl-C to shutdown server
[2011-07-15 08:32:52] INFO  WEBrick 1.3.1
[2011-07-15 08:32:52] INFO  ruby 1.9.2 (2008-06-03) [universal-darwin10.0]
[2011-07-15 08:32:52] INFO  WEBrick::HTTPServer#start: pid=20943 port=3000
```



# Current Status



# 7 months ago...



# 7 months ago...

March 2011



# 7 months ago...

March 2011

- I thought, "Does Rails work on MacRuby?".



# 7 months ago...

March 2011

- I thought, "Does Rails work on MacRuby?".
- I managed to **install** Rails.

```
$ sudo macgem install --verbose rails --no-ri --no-rdoc  
7 gems installed
```

```
$ sudo macgem install --verbose sqlite3-ruby --no-ri --no-rdoc  
2 gems installed
```



# Perhaps...



# Perhaps...

- I thought, "OK, it installed, but surely the Rails generators won't work...".



# Perhaps...

- I thought, "OK, it installed, but surely the Rails generators won't work...".
- However, I managed to **create a Rails project!?**

```
$ macruby -S rails new demo
  create
  create  README
  create  Rakefile
...
  create  vendor/plugins
  create  vendor/plugins/.gitkeep
```



# Are you kidding me?



# Are you kidding me?

- I tried to generate a scaffold...



# Are you kidding me?

- I tried to generate a scaffold...
- It failed. After all Rails didn't work on MacRuby.

```
$ macruby -S rails generate scaffold Bookmark title:string  
description:text url:string  
...  
Assertion failed: ((size_t)pos < current_exceptions.size()),  
function pop_current_exception, file vm.cpp, line 3434.  
zsh: abort    macruby -S rails generate scaffold Bookmark  
title:string description:text
```



# Are you kidding me?

- I tried to generate a scaffold...
- It failed. After all Rails didn't work on MacRuby.

```
$ macruby -S rails generate scaffold Bookmark title:string  
des...  
$ macruby -S rails server  
...  
Ass...  
func...  
zsh...  
title
```



```
Assertion failed: ((size_t)pos < current_exceptions.size()),  
function pop_current_exception, file vm.cpp, line 3434.  
zsh: abort    macruby -S rails server
```

# My approach

Run Rails

SEGV or abort

Research

Coding

Run RubySpec

Run Rails



# My approach



Required knowledge  
and technology

- cRuby
- Objective-C
- C++
- LLVM



# #860 catch/throw

→ MacRuby aborts if you use catch and throw inside a rescue clause.



# #860 catch/throw

→ MacRuby aborts if you use catch and throw inside a rescue clause.

```
begin
  raise
rescue
  catch(:foo) { throw :foo }
  p :ok
end
```



# #860 catch/throw

→ MacRuby aborts if you use catch and throw inside a rescue clause.

```
begin
  raise
rescue
  catch(:foo) { throw :foo }
  p :ok
end
```

```
:ok
Assertion failed: ((size_t)pos < current_exceptions.size()),
function pop_current_exception, file vm.cpp, line 3448.
```



# #860 catch/throw

→ MacRuby aborts if you use catch and throw inside a rescue clause.

```
begin
  raise
rescue
  catch(:foo) { throw :foo }
  p :ok
end
```

'throw' pops an Exception from the stack.

```
:ok
Assertion failed: ((size_t)pos < current_exceptions.size()),
function pop_current_exception, file vm.cpp, line 3448.
```



# #860 catch/throw

→ MacRuby aborts if you use catch and throw inside a rescue clause.

```
begin
  raise
rescue
  catch(:foo) { throw :foo }
  p :ok
end
```

'throw' pops an Exception from the stack.

```
:ok
```

MacRuby tries to pop an Exception when the rescue block ends, and causes an error!

```
Assertion failed. ((size_t)pos - current_exceptions.size()),
function pop_current_exception, file vm.cpp, line 3448.
```



# #860 catch/throw



# #860 catch/throw

```
catch(:ambiguous) {  
  begin  
    raise  
  rescue  
    throw :ambiguous  
  end  
}
```



# #860 catch/throw

```
catch(:ambiguous) {  
  begin  
    raise  
  rescue  
    throw :ambiguous  
  end  
}
```

If reached "end", pop Exception.  
However can't reach here in this case.



# #860 catch/throw

```
catch(:ambiguous) {  
    begin  
        raise  
    rescue  
        throw :ambiguous  
    end  
}
```

So we should pop Exception when we perform "throw".

If reached "end", pop Exception.  
However can't reach here in this case.



# #860 catch/throw

```
catch(:ambiguous) {  
    begin  
        raise  
    rescue  
        throw :ambiguous  
    end  
}
```

So we should pop Exception when we perform "throw".

If reached "end", pop Exception.  
However can't reach here in this case.

Before being fixed(60723bf~), 'throw' always popped the current Exception.



# #860 catch/throw

```
vm.cpp:4321:  
VALUE  
RoxorVM::ruby_throw(VALUE tag, VALUE value)  
{  
...  
    // We must pop the current VM exception in case we are in a rescue handler,  
    // since we are going to unwind the stack.  
    if (current_exception() != Qnil) {  
        pop_current_exception();  
    }  
...  
popped the current exception.
```



# #860 catch/throw

- Fixed that MacRuby pop Exceptions if it only needs.(60723bf)



# #860 catch/throw

- Fixed that MacRuby pop Exceptions if it only needs.(60723bf)

```
vm.cpp:4318:  
VALUE  
RoxorVM::ruby_throw(VALUE tag, VALUE value)  
{  
...  
    rb_vm_catch_t *catch_ptr = iter->second;  
    while (catch_ptr->current_exception != current_exception()) {  
        pop_current_exception();  
    }  
...}
```



# #860 catch/throw

- Fixed that MacRuby pop Exceptions if it only needs.(60723bf)

```
vm.cpp:4318:  
VALUE  
RoxorVM::ruby_  
{  
...  
    rb_vm_catch_t *catch_ptr = iter->second;  
    while (catch_ptr->current_exception != current_exception()) {  
        pop_current_exception();  
    }  
...}
```

pop Exception if processing Exception by catch(catch\_ptr->current\_exception) and current Exception (current\_exception()) are equal.



# #860 catch/throw

```
begin
  raise
rescue
  catch(:ambiguous) {
    begin
      raise
    rescue
      begin
        raise
      rescue
        throw :ambiguous
      end
    end
  }
  p :ok
end
```



# #860 catch/throw

```
begin
  raise
rescue
  catch(:ambiguous) {
    begin
      raise
    rescue
      begin
        raise
      rescue
        throw :ambiguous
      end
    end
  }
  p :ok
end
```

Exception A



# #860 catch/throw

```
begin
  raise
rescue
  catch(:ambiguous) {
    begin
      raise
    rescue
      begin
        raise
      rescue
        throw :ambiguous
      end
    end
  }
  p :ok
end
```

Exception A

store Exception A  
catch\_ptr->current\_exception = current\_exception();



# #860 catch/throw

```
begin
  raise
rescue
  catch(:ambiguous) {
    begin
      raise
    rescue
      begin
        raise
      rescue
        throw :ambiguous
      end
    end
  }
  p :ok
end
```

Exception A

store Exception A  
catch\_ptr->current\_exception = current\_exception();

Exception B



# #860 catch/throw

```
begin
  raise          Exception A
rescue
  catch(:ambiguous) {
    begin
      raise          Exception B
    rescue
      begin
        raise          Exception C
      rescue
        throw :ambiguous
      end
    end
  }
  p :ok
end
```

store Exception A  
catch\_ptr->current\_exception = current\_exception();



# #860 catch/throw

```
begin  
  raise  
rescue  
  catch(:ambiguous) {  
    begin  
      raise  
    rescue  
      begin  
        raise  
      rescue  
        throw :ambiguous  
      end  
    end  
  }  
  p :ok  
end
```

Exception A

store Exception A  
catch\_ptr->current\_exception = current\_exception();

Exception B

Exception C

pop Exception C and Exception B in  
comparison with Exception A which we  
recorded in order of Exception C, B, A



# #860 catch/throw

```
begin  
  raise  
rescue  
  catch(:ambiguous) {  
    begin  
      raise  
    rescue  
      begin  
        raise  
      rescue  
        throw :ambiguous  
      end  
    end  
  }  
  p :ok  
end
```

Exception A

store Exception A  
catch\_ptr->current\_exception = current\_exception();

Exception B

Exception C

pop Exception C and Exception B in  
comparison with Exception A which we  
recorded in order of Exception C, B, A

pop Exception A



# #| | 92 Lookup Constants

→ Almost can't lookup nested constants.



# #| | 92 Lookup Constants

→ Almost can't lookup nested constants.

```
module A
  B = 10
  Object.class_eval { B }
end
```

cRuby

MacRuby



B = 10

Object.class\_eval { B }



# #1192 Lookup Constants

→ Almost can't lookup nested constants.

```
module A
  B = 10
  Object.class_eval { B }
end
```

cRuby

MacRuby



reduction.rb:3:in `block': uninitialized constant  
B (NameError)



# #| | 92 Lookup Constants

cRuby

Lexical Scope

Lexical Constant Lookup



# #| | 92 Lookup Constants

```
1 module A
2   module B
3     CONST = "B's Const"
4     module ::A
5       p CONST
6     end
7   end
8 end
```

cRuby

Lexical Scope

Lexical Constant Lookup



# #| | 92 Lookup Constants

Before fixed (6b101bd~), didn't implement  
the Lexical Constant Lookup



MacRuby



# #1192 Lookup Constants

Before fixed (6b101bd~), didn't implement  
the Lexical Constant Lookup

```
1:module A
2: module B
3: CONST = "B's Const"
4: module ::A
5:   p CONST
6: end
7: end
8: end
```

MacRuby



# #1192 Lookup Constants

Before fixed (6b101bd~), didn't implement  
the Lexical Constant Lookup

```
1:module A
2: module B
3: CONST = "B's Const"
4: module ::A
5:   p CONST
6: end
7: end  MacRuby
8: end
```

-e:5:in `block': uninitialized constant A::CONST (NameError)



# Lookup Constants is complex

class\_eval(&Block)

```
module A
  CONST = "A's CONST"
  def f
    class_eval {
      p CONST
    }
  end
end

class K
  CONST = "K's CONST"
  extend A
  f
end
```

class\_eval(String)

```
01:module A
02: CONST = "A's CONST"
03: def f
04:   class_eval <<-EOS
05:     p CONST
06:   EOS
07: end
08:end
09:
10:class K
11: CONST = "K's CONST"
12: extend A
13: f
14end
```

```
class_eval(&Block)
```

cRuby

```
01: module A
02:   CONST = "A's CONST"
03:   def f()
04:     class_eval {
05:       p CONST
06:     }
07:   end
08: end
09:
10: class K
11:   CONST = "K's CONST"
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13:   f()
14: end
```

Lexical Scope



```
class_eval(&Block)
```

cRuby

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01: module A
02:   CONST = "A's CONST"
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04:     class_eval {
05:       p CONST
06:     }
07:   end
08: end
09:
```

Lexical Scope

"A's CONST"

```
11: CONST = "K's CONST"
12: extend A
13: f()
14: end
```



## class\_eval(String)

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01: module A
02:   CONST = "A's CONST"
03:   def f()
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08: end
09:
10: class K
11:   CONST = "K's CONST"
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14: end
```

cRuby

Dynamic Scope



## class\_eval(String)

```
01: module A
02:   CONST = "A's CONST"
03:   def f()
04:     class_eval <<-EOS
05:       p CONST
06:     EOS
07:   end
08: end
09:
```

cRuby

"K's CONST"

```
11: CONST = "K's CONST"
12: extend A
13: f()
14: end
```

Dynamic Scope



# Lookup Constants is complex

class\_eval(String)

```
01:module A
02: CONST = "A's CONST"
03: def f
04:   class_eval <<-EOS
05:     p CONST
06:   EOS
07: end
08:end
09:
10:class K
11: CONST = "K's CONST"
12: extend A
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```

class\_eval(&Block)

```
module A
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def f
  class_eval {
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  }
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CONST = "K's CONST"
extend A
f
end
```



# Lookup Constants is complex

class\_eval(String)

```
01:module A
02: CONST = "A's CONST"
03: def f
04:   class_eval <<-EOS
05:     p CONST #> "K's CONST"
06:   EOS
07: end
08:end
09:
10:class K
11: CONST = "K's CONST"
12: extend A
13: f
14end
```

class\_eval(&Block)

```
module A
CONST = "A's CONST"
def f
  class_eval {
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  }
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class K
CONST = "K's CONST"
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end
```



# Lookup Constants is complex

class\_eval(String)

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class\_eval(&Block)

```
module A
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def f
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end
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# Lookup Constants is complex

class\_eval(String)

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class\_eval(&Block)

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CONST = "A's CONST"
def f
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extend A
f
end
```

lookup CONST in order  
of Constant K,A, Object



# Lookup Constants is complex

class\_eval(String)

```
01:module A
02: CONST = "A's CONST"
03: def f
04:   class_eval <<-EOS
05:     p CONST #=> "K's CONST"
06:   EOS
07: end
08:end
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10:class K
11: CONST = "K's CONST"
12: extend A
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14end
```

class\_eval(&Block)

```
module A
CONST = "A's CONST"
def f
  class_eval {
    p CONST #=> "A's CONST"
  }
end
end

class K
CONST = "K's CONST"
extend A
f
end
```

lookup CONST in order  
of Constant K,A, Object

lookup CONST in order  
of Constant A, Object.  
Does not lookup from K.



# Managed somehow



# A very complex bug

Lexical



# A very complex bug

```
01: module A
02:   B = 42
03: end
04:
05: A.class_eval do
06:   def self.f
07:     p B
08:   end
09: end
10:
11: A.f
```

Lexical



# A very complex bug

## CAUTION

'class\_eval' doesn't add receiver(A) to  
constant lookup scope.

```
04:  
05: A.class_eval do  
06:   def self.f  
07:     p B  
08:   end  
09: end  
10:  
11: A.f
```

Lexical



# A very complex bug



# A very complex bug

Ruby 1.9  
42



# A very complex bug

Ruby 1.9  
42

Ruby 1.8.7  
-e:8:in `f': uninitialized constant B (NameError)



# A very complex bug

A CRuby's Bug

ed constant B (NameError)



# A very complex bug

```
01: module A  
02:   B = 42  
03: end  
04:  
05: A  
06:  
07:  
08:  
09: end  
10: A
```

A CRuby's Bug

undefined constant B (NameError)



# Demo

\$ rails new demo

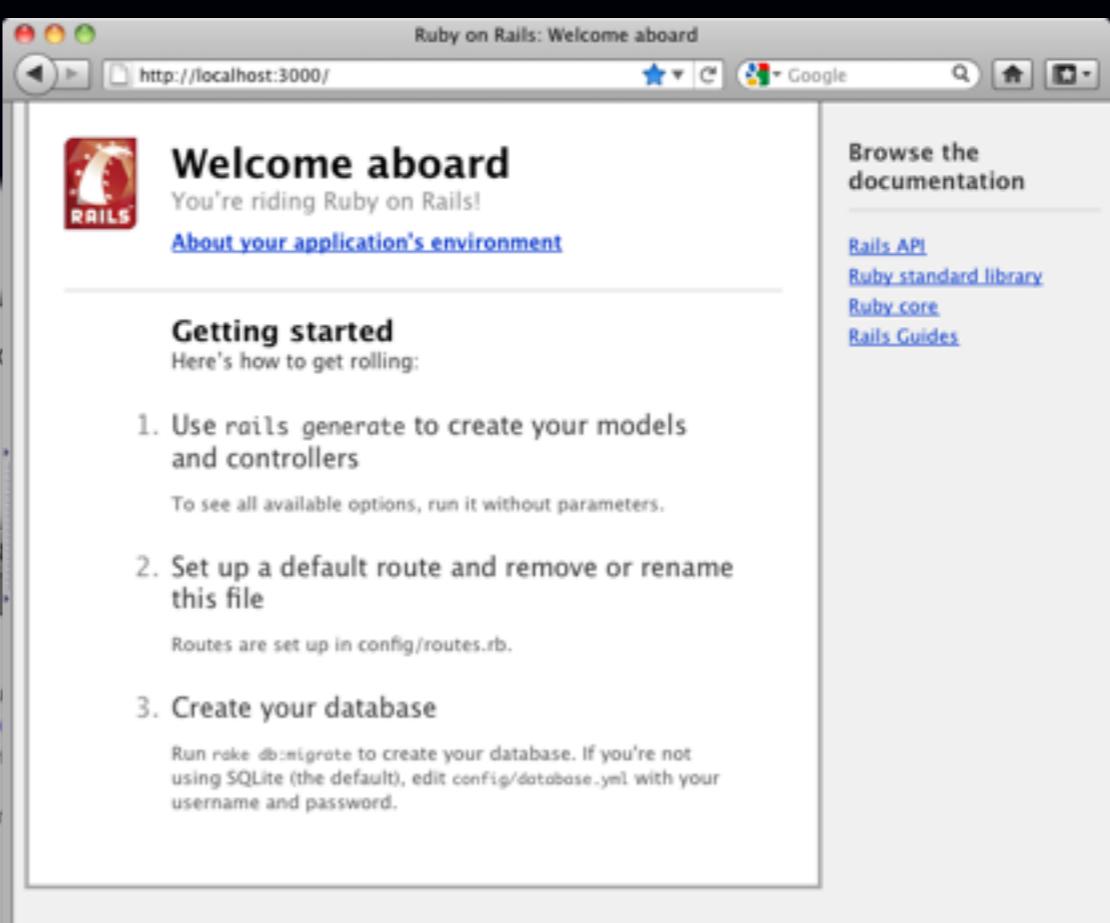
```
kouji:/Users/kouji/work/MacRuby/MacRuby/issues/work:0
dhcp219$ env VM_DISABLE_RBO=1 macruby -S rails new demo
create
create README
create Rakefile
create config.ru
create .gitignore
create Gemfile
create app
create app/controllers
create app/models
create app/views
create config
create config.ru
create config/database.yml
create config/routes.rb
create test/unit
create test/integration
create test/fixtures
create sc
create db/migrate
create db/migrate/20110714234202_create_bookmarks.rb
create app/models/bookmark.rb
create test/unit/bookmark_test.rb
create test/integration/bookmarks_integration_test.rb
create test/fixtures/bookmarks.yml
```

\$ rails generate scaffold Box

```
kouji:/Users/kouji/work/MacRuby/MacRuby/issues/work/demo:0
dhcp219$ env VM_DISABLE_RBO=1 macruby -S rails generate scaffold Box
string description:text url:string
  invoke  active_record
    create  db/migrate/20110714234202_create_bookmarks.rb
    create  app/models/bookmark.rb
  invoke  test_unit
    create  test/unit/bookmark_test.rb
    create  test/integration/bookmarks_integration_test.rb
    create  test/fixtures/bookmarks.yml
```

\$ rails server

```
Last login: Wed Jul 13 10:42:18 on ttys011
kouji:/Users/kouji:0
dhcp219$ cd /Users/kouji/work/MacRuby/MacRuby/issues/work/
kouji:/Users/kouji/work/MacRuby/MacRuby/issues/work:0
dhcp219$ env VM_DISABLE_RBO=1 macruby -S rails server
=> Booting WEBrick
=> Rails 3.0.7 application starting in development environment
=> Call with -d to detach
=> Ctrl-C to shutdown server
[2011-07-15 08:32:52] INFO  WEBrick 1.3.1
[2011-07-15 08:32:52] INFO  ruby 1.9.2 (2008-06-01) [universal-darwin10.0]
[2011-07-15 08:32:52] INFO  WEBrick::HTTPServer#start: pid=20943 port=3000
```



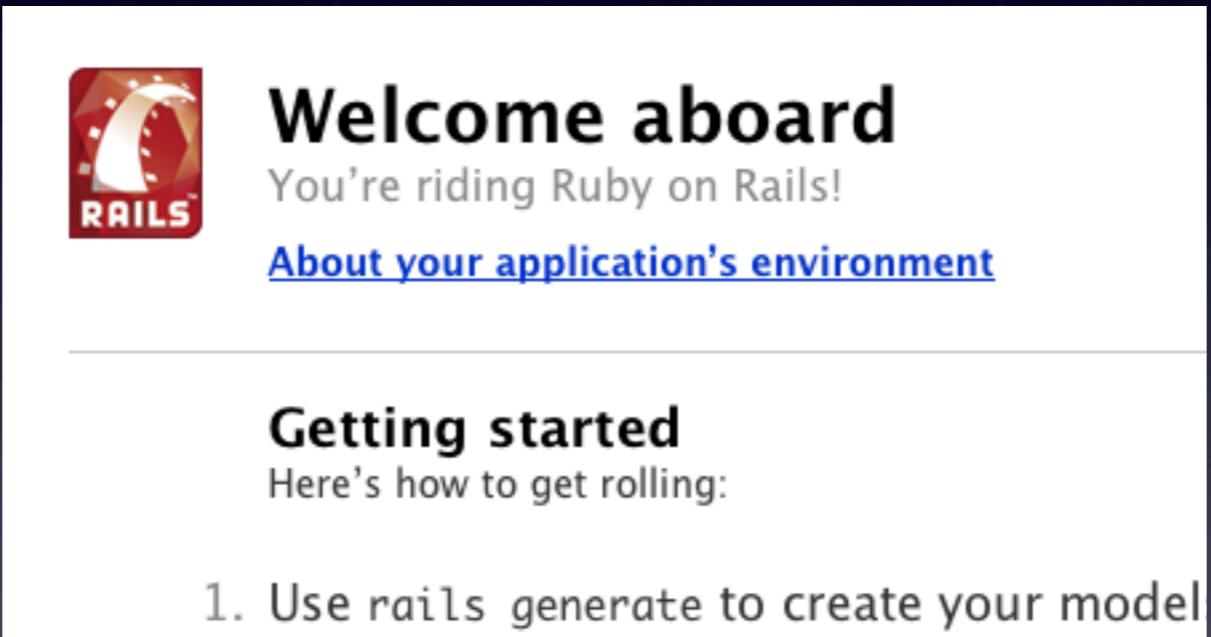
# #I390 rb\_vm\_prepare\_block

➡ Abort when I pressed “About your application’s environment” in rails 3.0.7 Welcome Page.



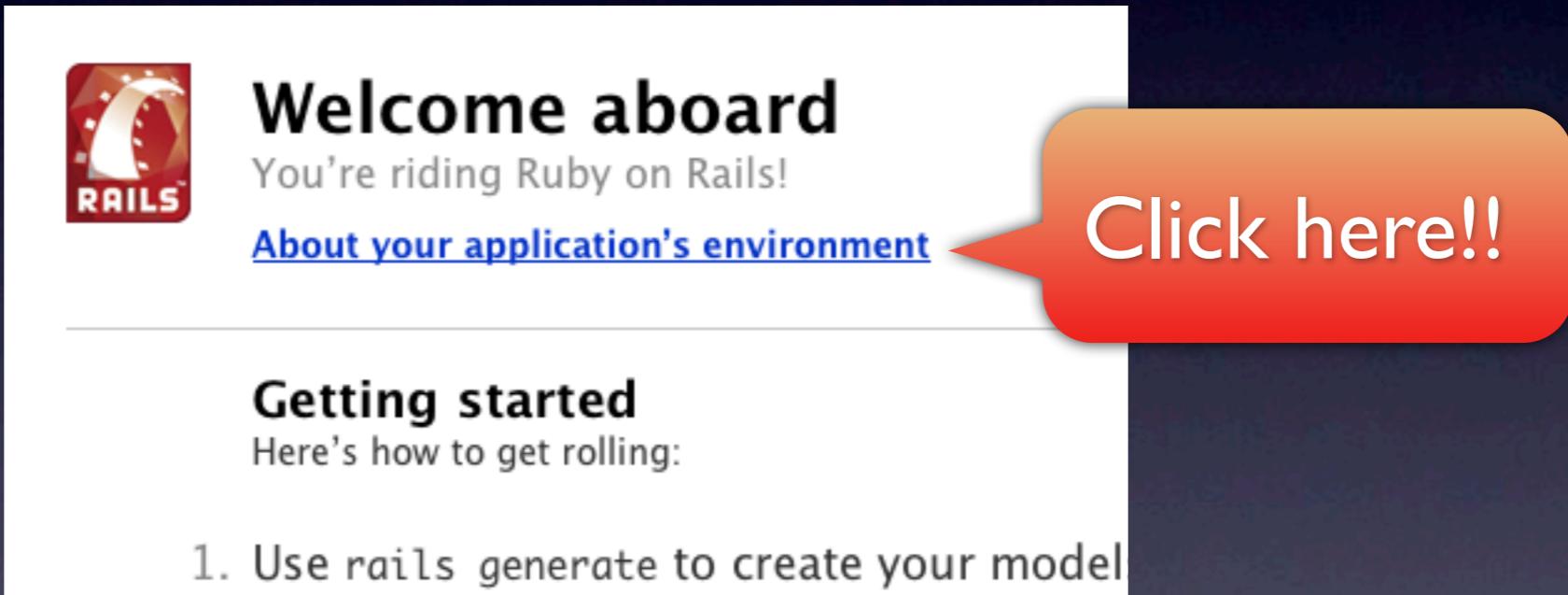
# #I390 rb\_vm\_prepare\_block

➡ Abort when I pressed “About your application’s environment” in rails 3.0.7 Welcome Page.



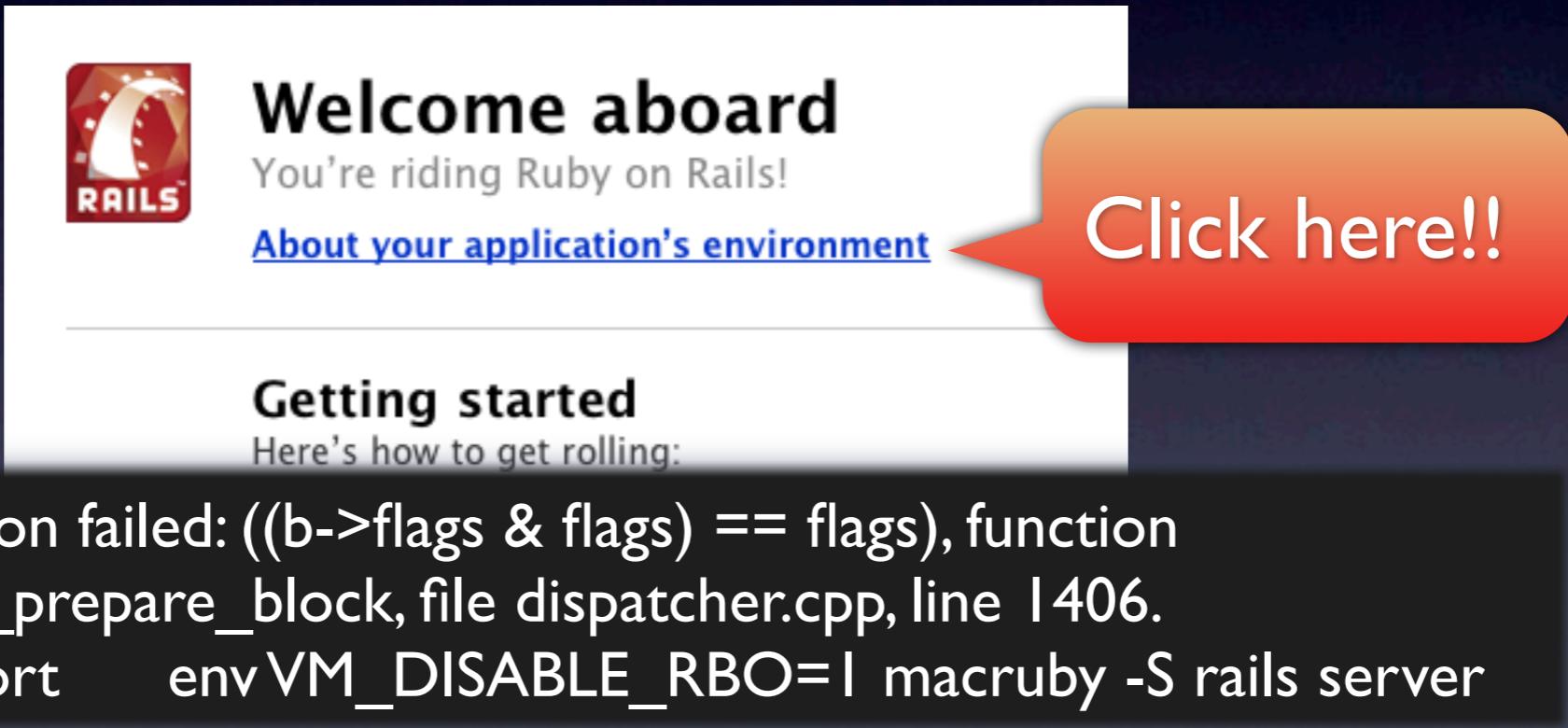
# #I390 rb\_vm\_prepare\_block

➡ Abort when I pressed “About your application’s environment” in rails 3.0.7 Welcome Page.



# #I390 rb\_vm\_prepare\_block

➡ Abort when I pressed “About your application’s environment” in rails 3.0.7 Welcome Page.



# Workaround

- Ignored if we get an abort that is described above.



# Workaround

- ➡ Ignored if we get an abort that is described above.

```
--- a/dispatcher.cpp
+++ b/dispatcher.cpp
@@ -1403,7 +1403,10 @@ rb_vm_prepare_block(...  
    }  
    else {  
        assert(b->dvars_size == dvars_size);  
-        assert((b->flags & flags) == flags);  
+        //assert((b->flags & flags) == flags);  
+        if ((b->flags & flags) != flags) {  
+            printf(...);  
+        }  
    }  
}
```



# However...

→ I didn't show my Rails Info.

The screenshot shows a Ruby on Rails application's error page. At the top left is the Ruby on Rails logo, which is a red icon of a person riding a horse with the word "RAILS" below it. To the right of the logo is the text "Welcome aboard" in bold, followed by "You're riding Ruby on Rails!" in a smaller font. Below this is a blue link "About your application's environment". The main error message is displayed in a yellow box with a black border. It says "500 Internal Server Error" in large bold letters, followed by a smaller text: "If you are the administrator of this website, then please read this web application's log file and/or the web server's log file to find out what went wrong." Below the error message is a "Getting started" section with the text "Here's how to get rolling:" and a numbered list: "1. Use rails generate to create your models".

Welcome aboard  
You're riding Ruby on Rails!  
[About your application's environment](#)

**500 Internal Server Error**

If you are the administrator of this website, then please read this web application's log file and/or the web server's log file to find out what went wrong.

---

**Getting started**  
Here's how to get rolling:

1. Use rails generate to create your models

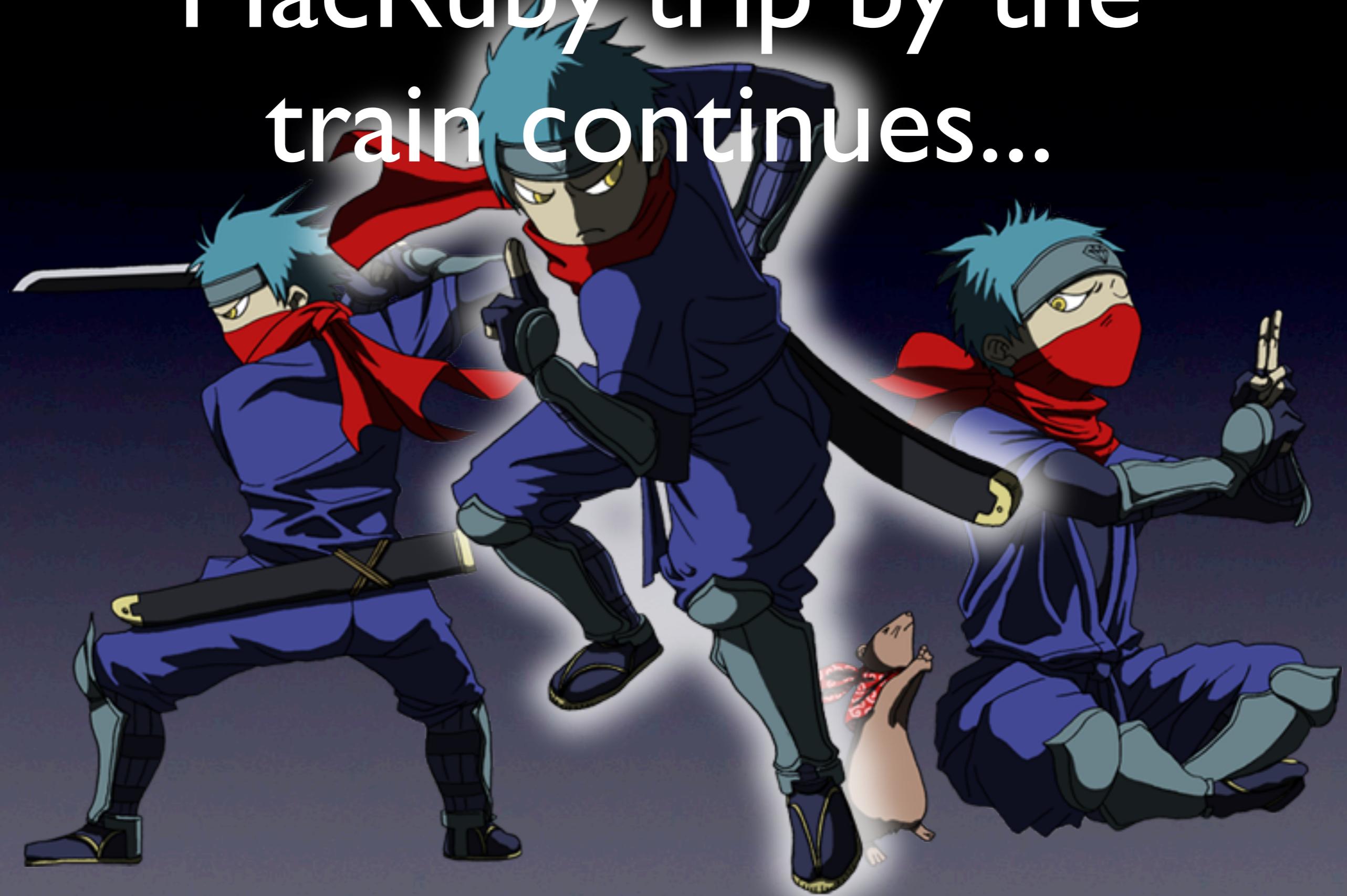
# However...

→ I didn't show my Rails Info.

The screenshot shows a standard Ruby on Rails error page for a 500 Internal Server Error. At the top, there's a "Welcome aboard" header with a small "RAILS" logo. Below it, a yellow box contains the text "500 Internal Server Error". To the left of this box, there's a note: "If you are the admin, check your application's log file to see what went wrong." The main content area displays the stack trace of the error:

```
Error during failsafe response:ActionView::Template::Error  
/Library/Frameworks/MacRuby.framework/Versions/0.11/usr/lib/  
ruby/Gems/1.9.2/gems/actionpack-3.0.7/lib/action_view/  
template.rb:135:in `block'  
/Library/Frameworks/MacRuby.framework/Versions/0.11/usr/lib/  
ruby/Gems/1.9.2/gems/activesupport-3.0.7/lib/active_support/  
notifications.rb:54:in `instrument'  
/Library/Frameworks/MacRuby.framework/Versions/0.11/usr/lib/  
ruby/Gems/1.9.2/gems/actionpack-3.0.7/lib/action_view/  
template.rb:127:in `render'  
/Library/Frameworks/MacRuby.framework/Versions/0.11/usr/lib/  
ruby/Gems/1.9.2/gems/actionpack-3.0.7/lib/action_view/render/  
rendering.rb:59:in `block'
```

# MacRuby trip by the train continues...



# Conclusion

- MacRuby
  - A unique blend of Ruby 1.9 and Objective-C.
  - The goal is to be 100% compatible with Ruby 1.9.
- MacRuby on Rails
  - We became to show the Welcome Page.
  - But we have many things to complete.