

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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- 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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- Information
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 - Shimane, Japan
 - Since 2001 (My 10th Anniversary!)

My Company

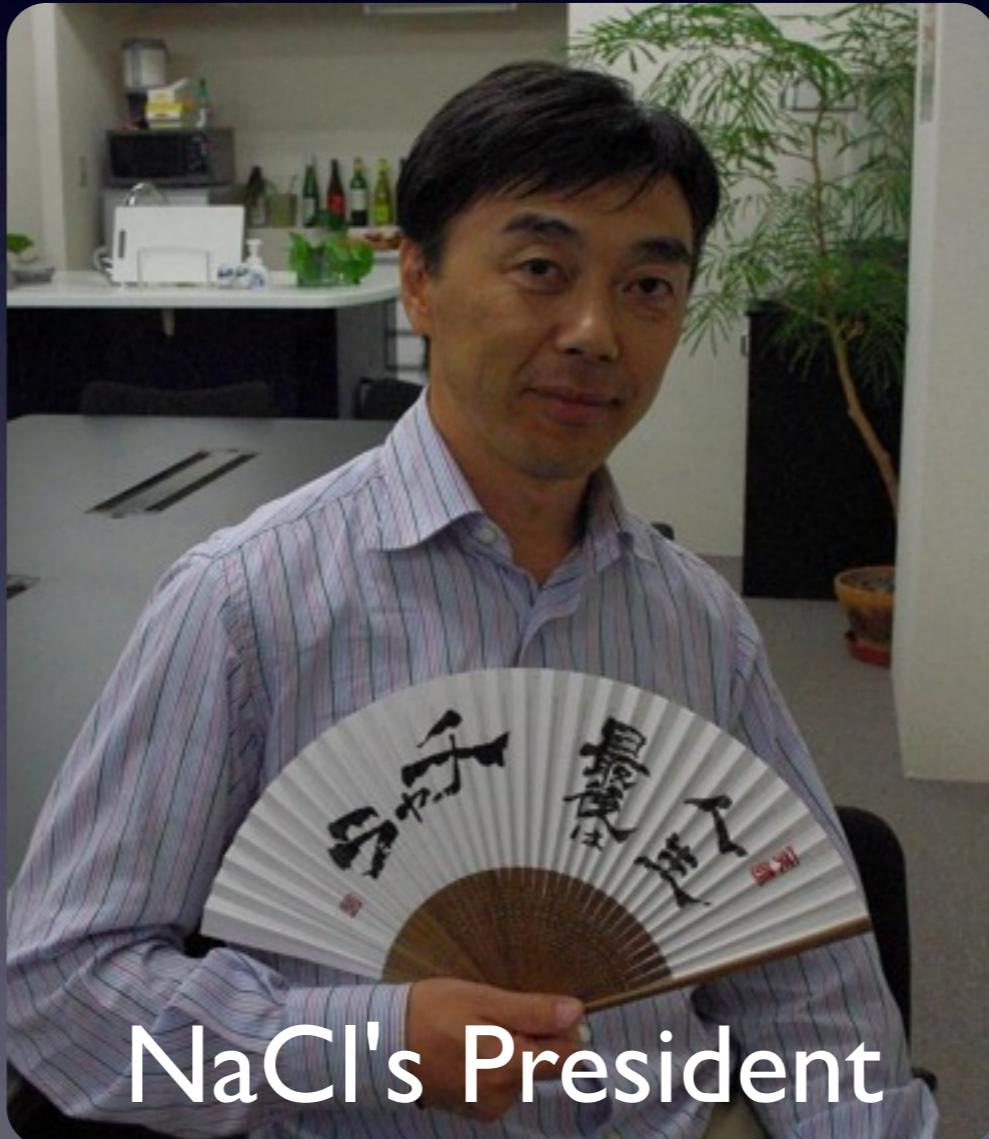
- Network Applied Communication Laboratory Ltd.
 - a.k.a NaCl
- Information
 - <http://www.netlab.jp/> (only Japanese)
 - Shimane, Japan
 - Since 2001 (My 10th Anniversary!)
 - 57 people (many Rubyists!?)

My Company

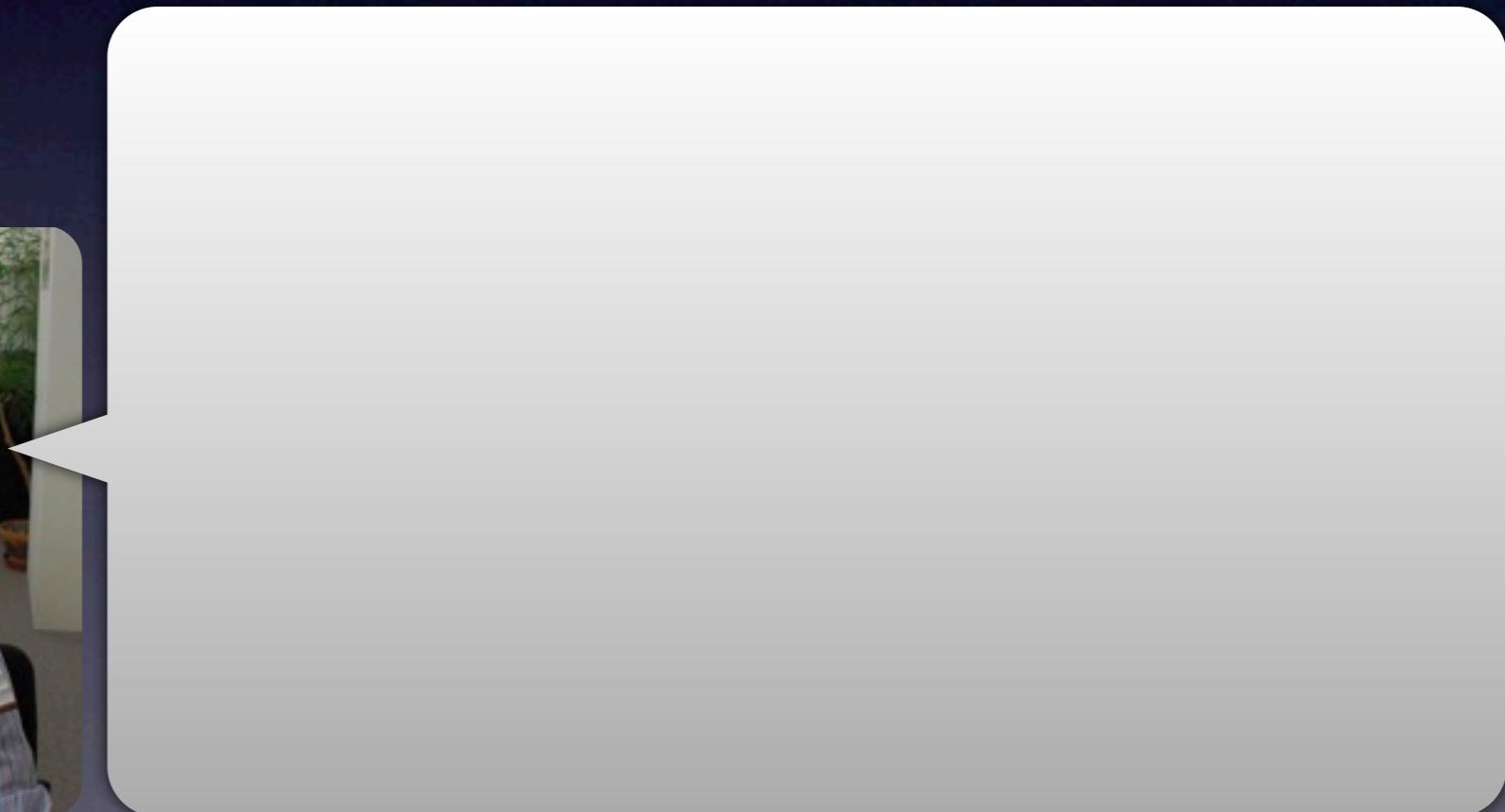
- Network Applied Communication Laboratory Ltd.
 - a.k.a NaCl
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 - Shimane, Japan
 - Since 2001 (My 10th Anniversary!)
 - 57 people (many Rubyists!?)
 - SI, Training, etc...

The NaCl 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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Illustrator: Yuki Morohoshi <morohoshi@netlab.jp>



MacRuby Unofficial Character
Ruby Ninja @lrz

MacRuby on Rails

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NetLab Applied Communication Laboratory Ltd.
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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.

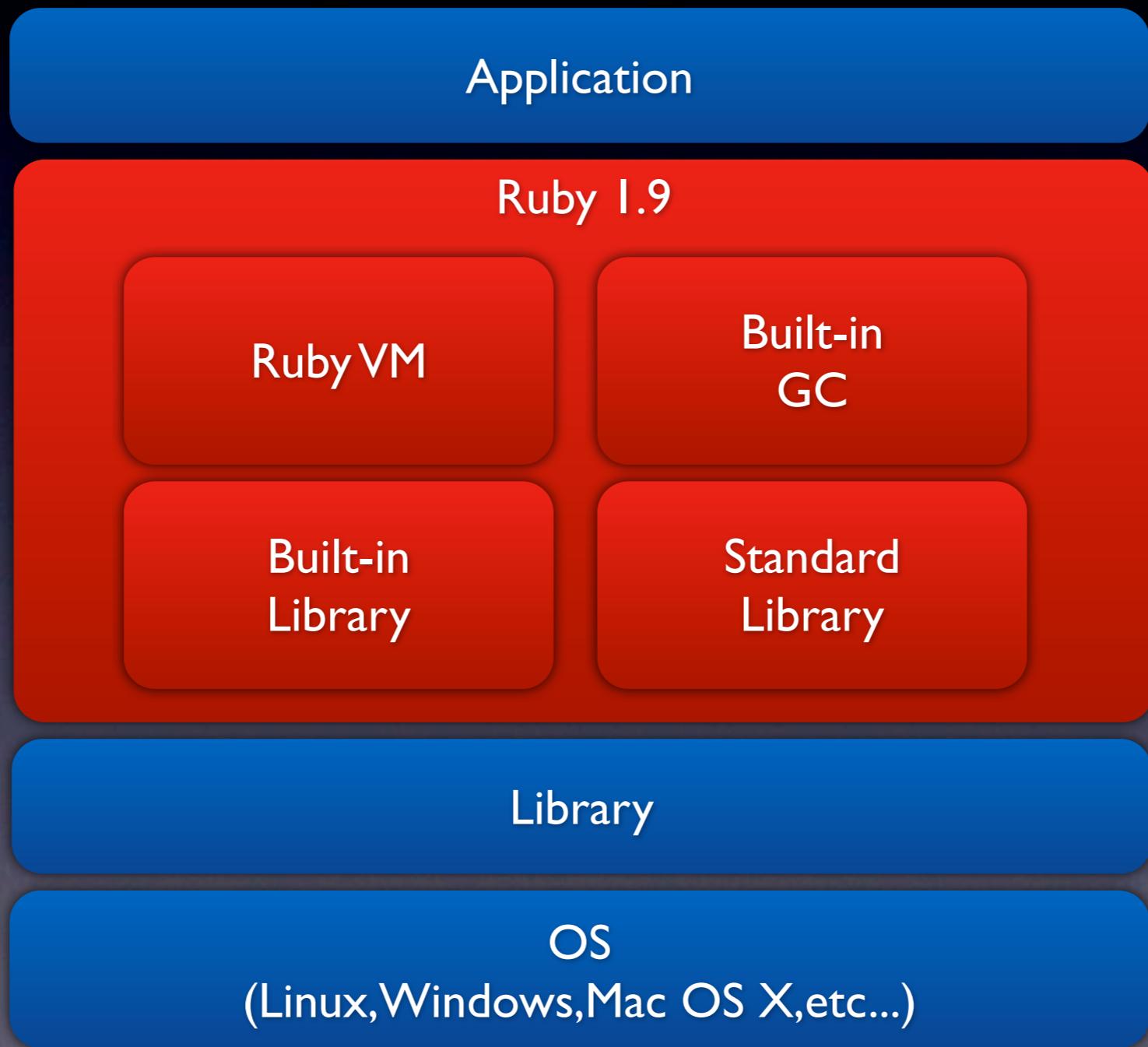


MacRuby

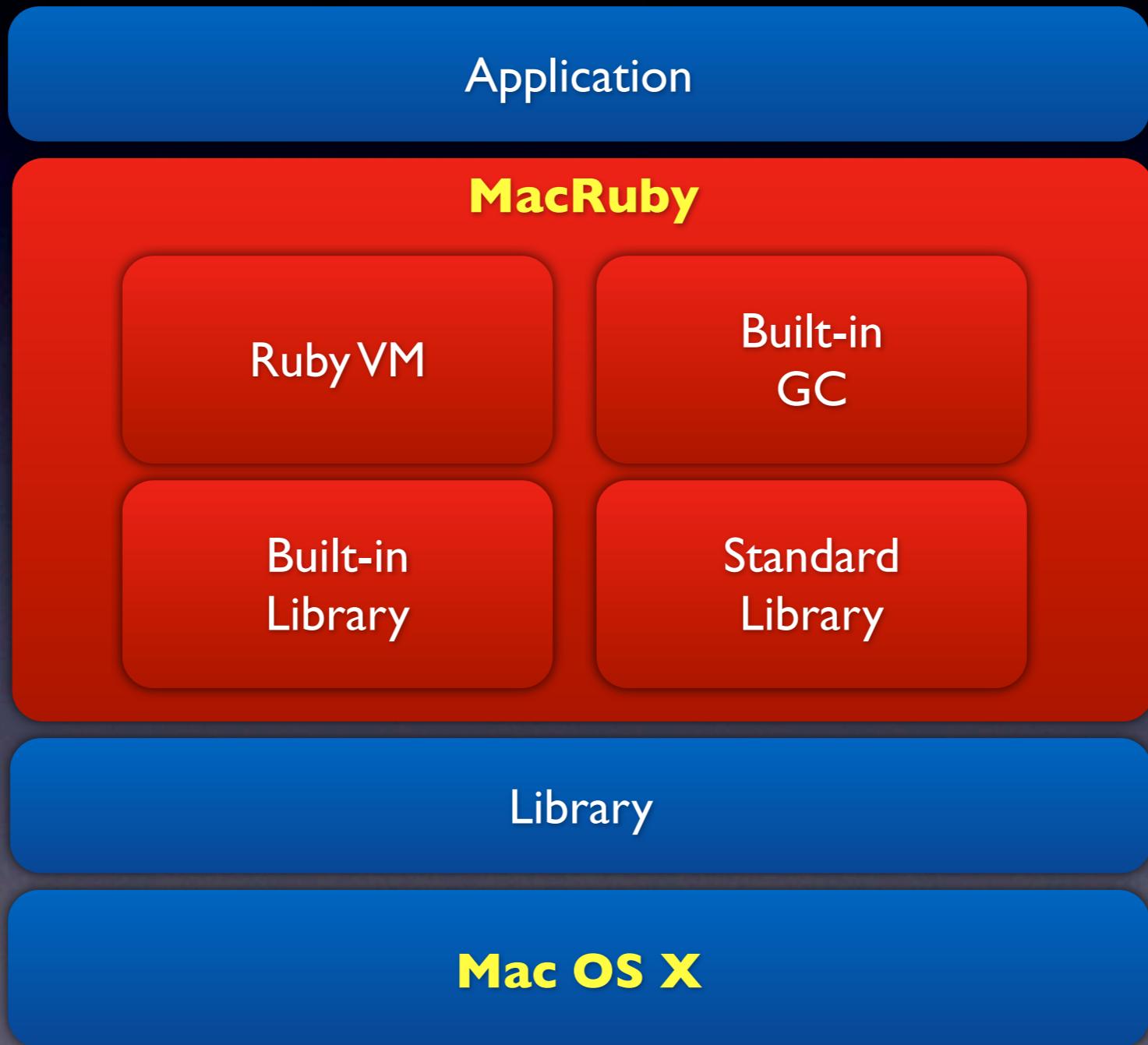
- MacRuby is a unique **blend of Ruby 1.9 and Objective-C**.
- The goal of the MacRuby project is to be **100% compatible** syntactically and behaviorally with Ruby 1.9.



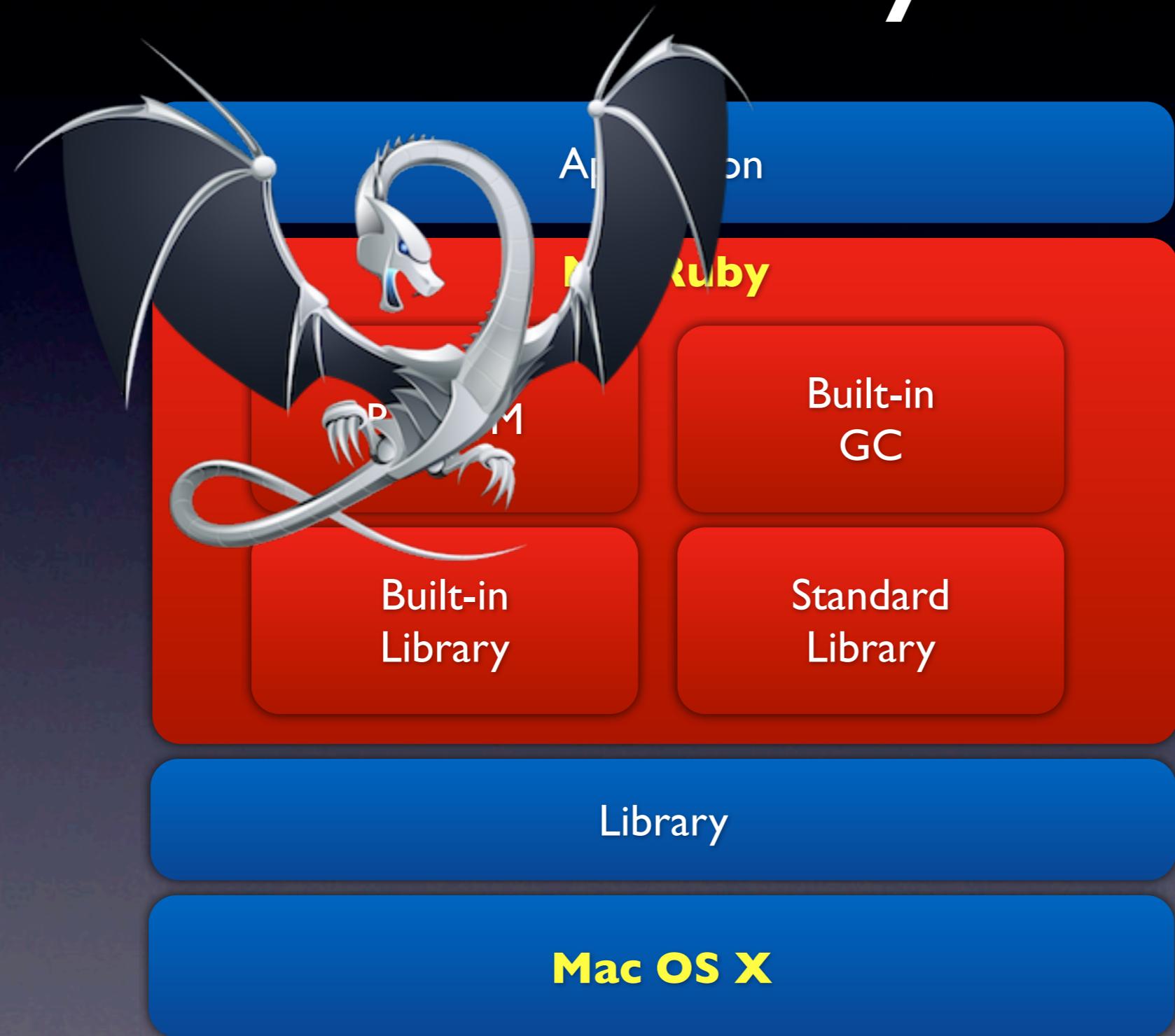
Ruby 1.9



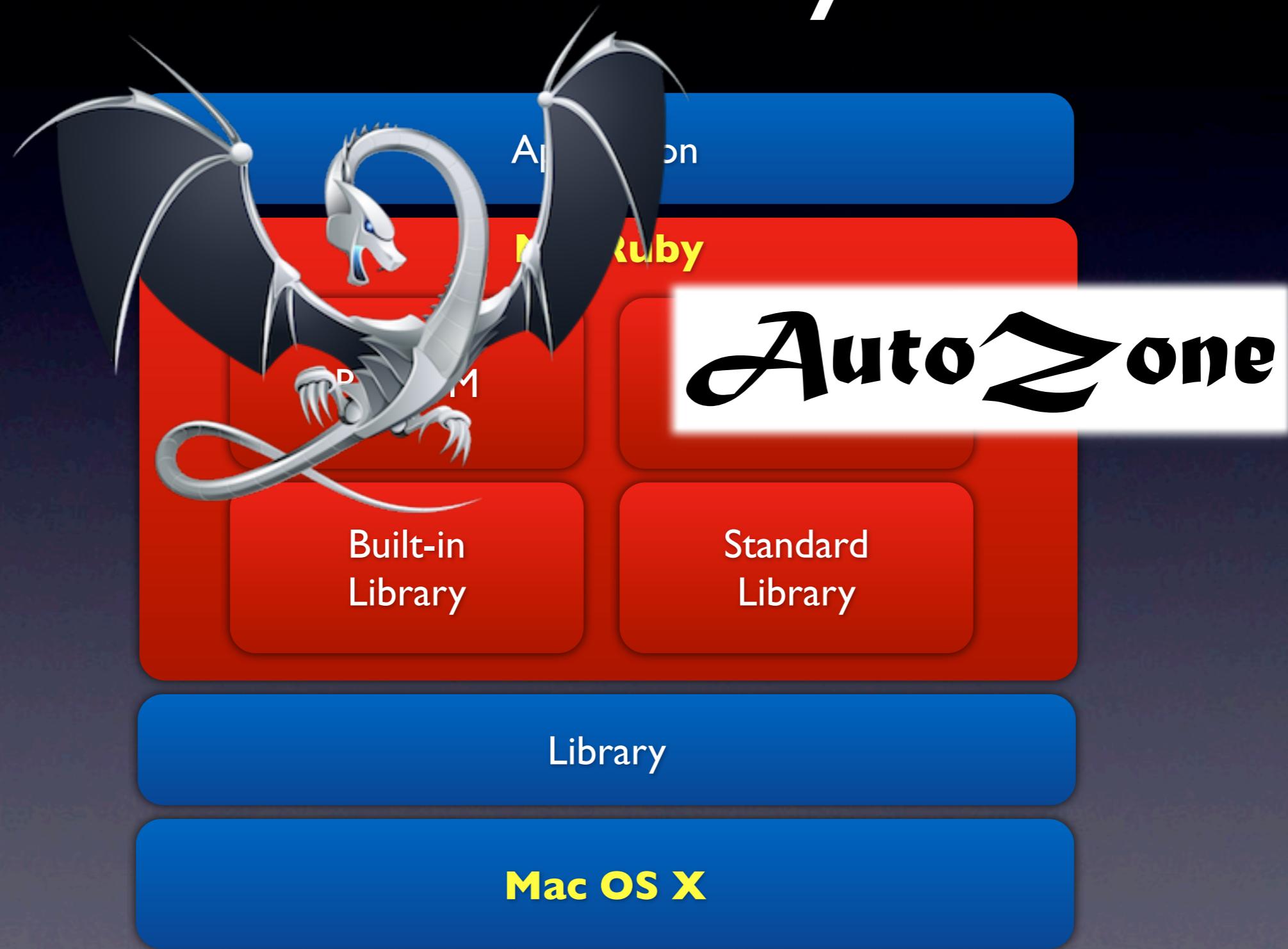
MacRuby



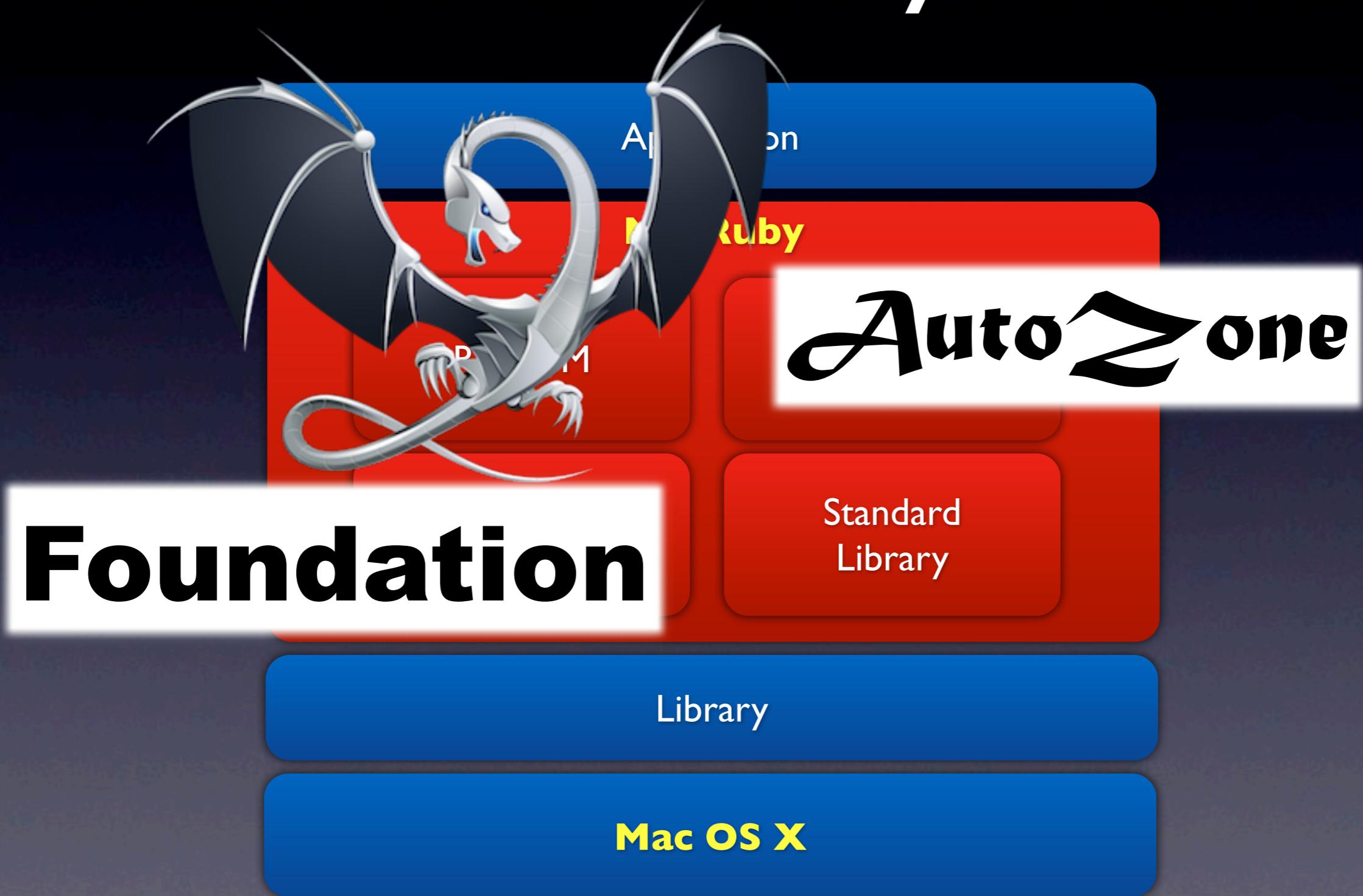
MacRuby



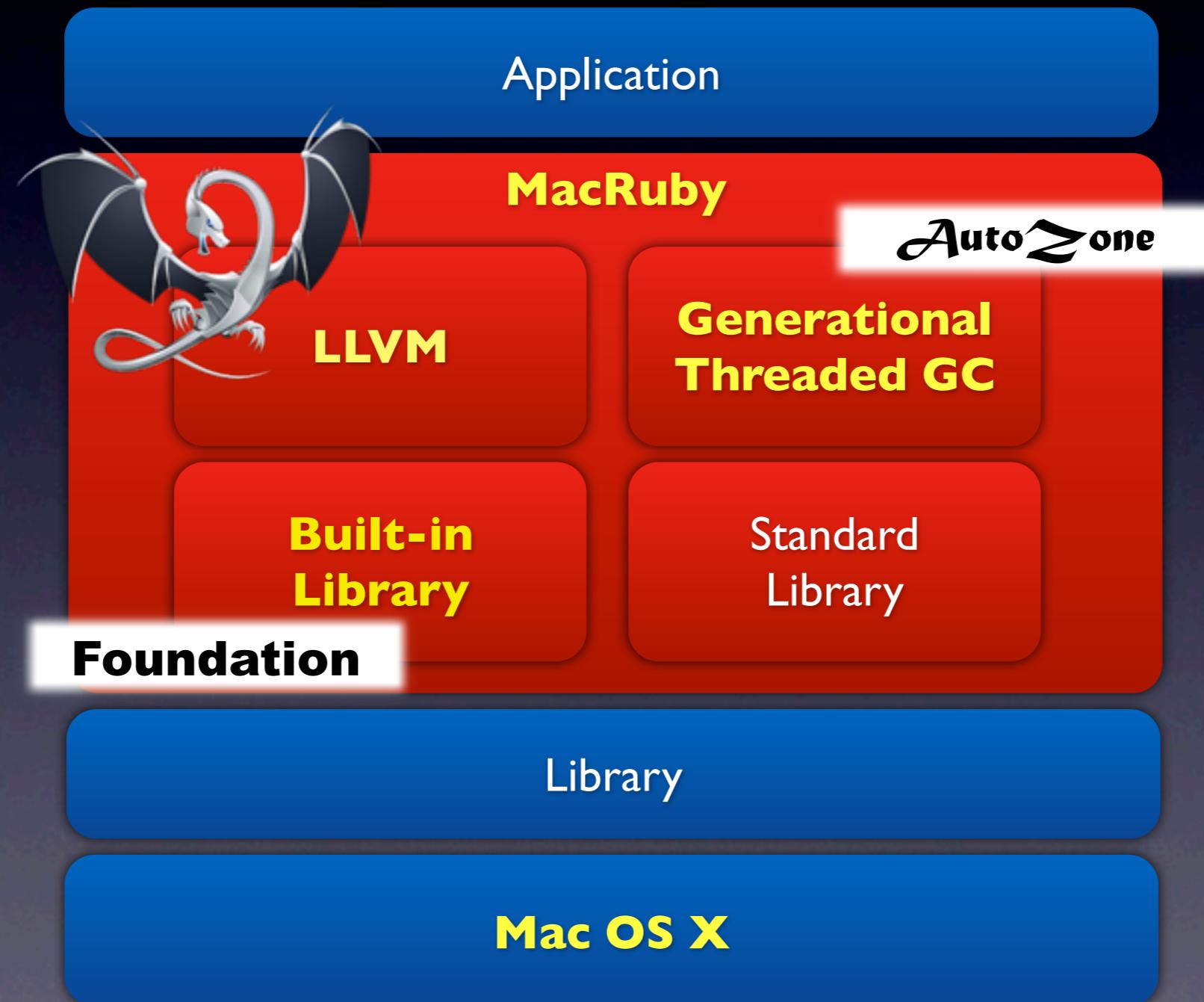
MacRuby



MacRuby



MacRuby



MacRuby x Cocoa

```
framework "cocoa"

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

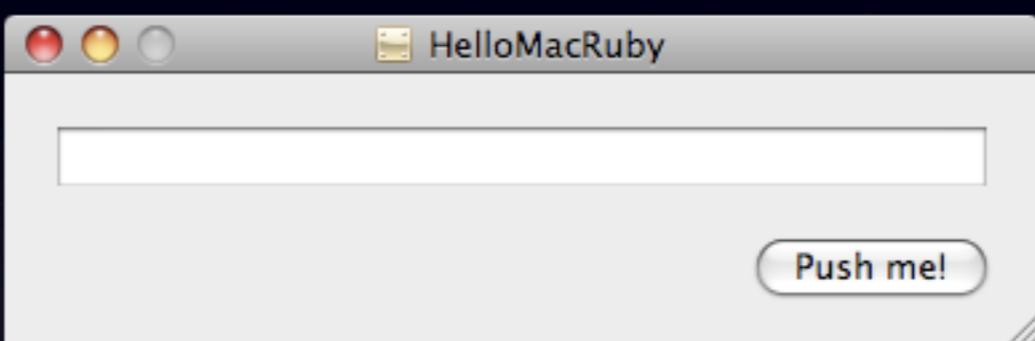
MacRuby x Cocoa

This is a sample program that plays a sound.

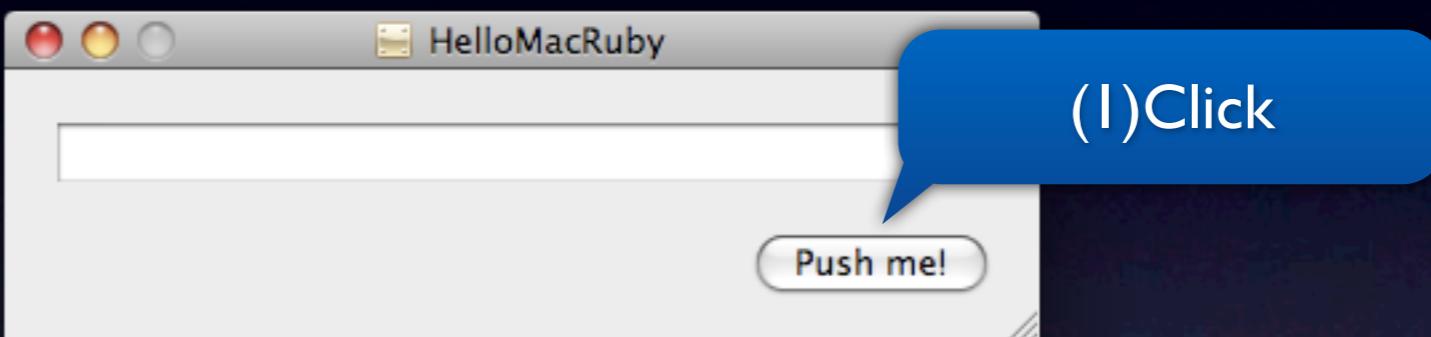
```
framework "cocoa"

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

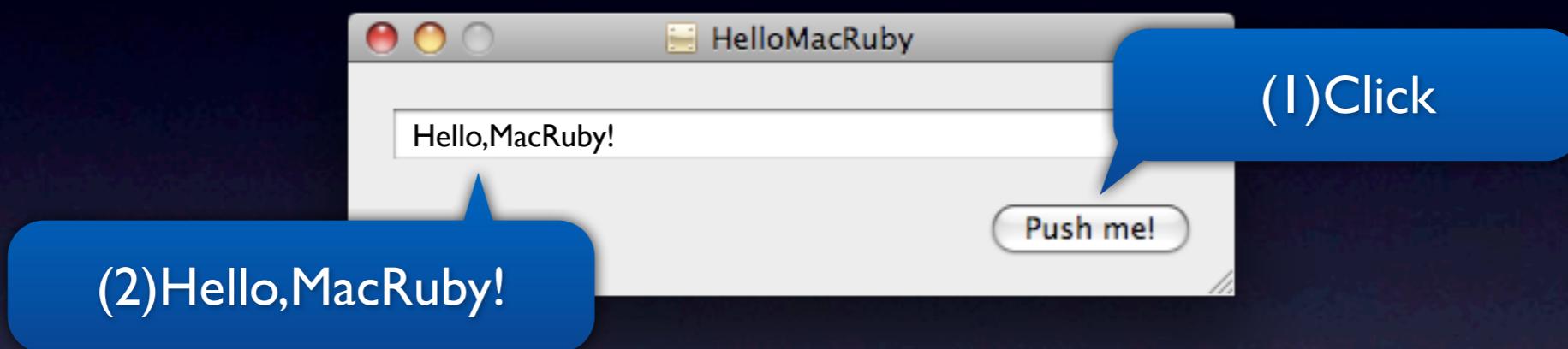
HelloMacRuby



HelloMacRuby



HelloMacRuby

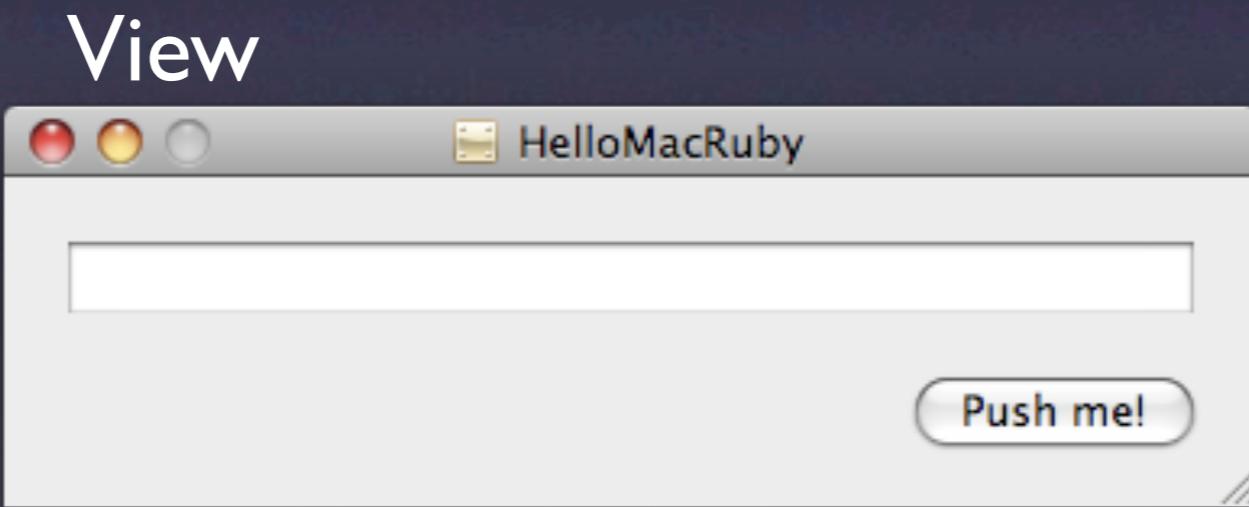


HelloMacRuby

Ruby script: Controller

```
class AppController
  attr_accessor :textField

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

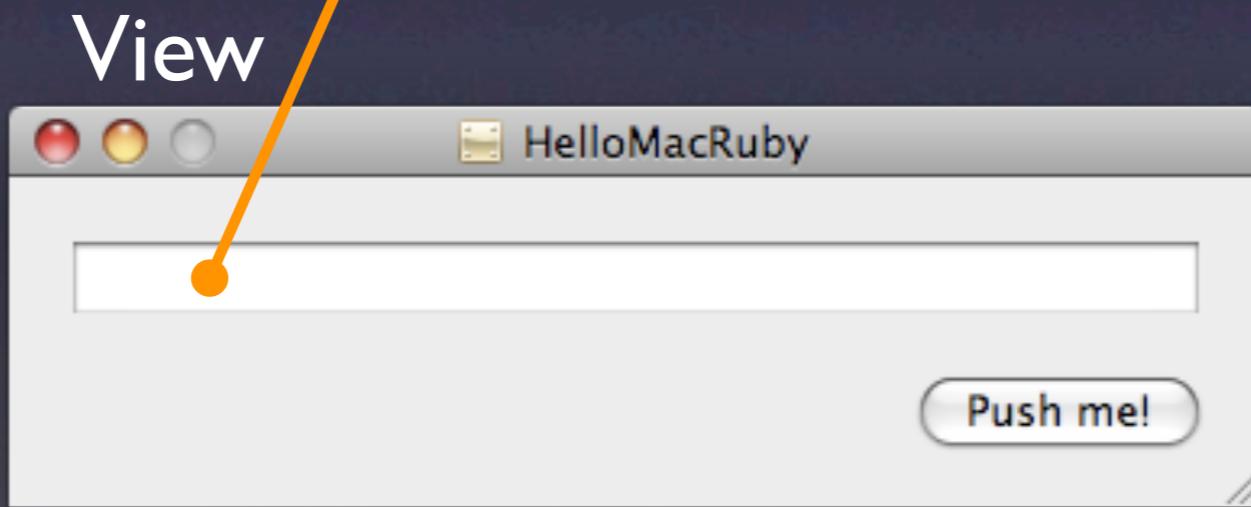


HelloMacRuby

Ruby script: Controller

```
class AppController
  attr_accessor :textField

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

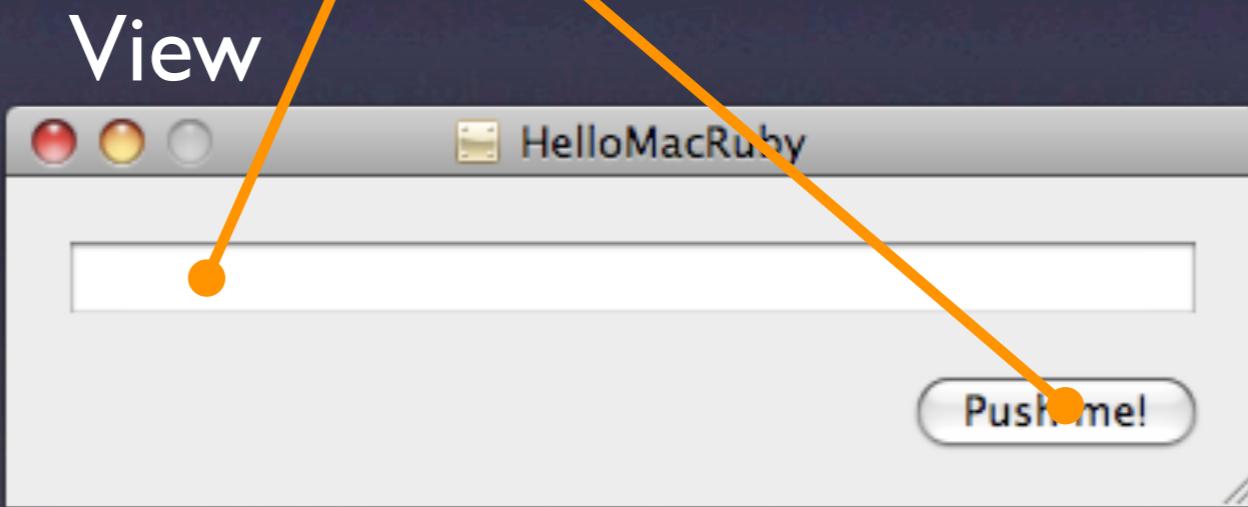


HelloMacRuby

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 README
  create Rakefile
  create config.ru
  create .gitignore
  create Gemfile
  create app
  create app/controllers
  create app/helpers
  create app/models
  create app/views
  create app/stylesheets
  create app/javascripts
  create app/assets
  create app/jobs
  create app/mailers
  create app/controllers/bookmarks_controller.rb
  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
  create route resources :bookmarks
  invoke scaffold_controller
    create app/controllers/bookmarks_controller.rb
  invoke 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
  invoke test_unit
    create test/functional/bookmarks_controller_test.rb
  invoke helper
    create app/helpers/bookmarks_helper.rb
  invoke test_unit
```

\$ rails generate scaffold ...



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
Gemfile
create app
create app/controllers
create app/models
create app/views
create config
create config/routes.rb
create config/application.rb
create config/environments
create config/initializers
create config/locales
create config/polyfills
create config/test
create db
create db/migrate
create db/migrate/20110714234202_create_bookmarks.rb
create app/models/bookmark.rb
create test/unit/bookmark_test.rb
$ rails generate scaffold Bookmark title:string description:text url:string
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/bookmark_test.rb
$ 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
```



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

store Exception A
catch_ptr->current_exception = current_exception();



#860 catch/throw

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

store Exception A
catch_ptr->current_exception = current_exception();



#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 }



#| | 92 Lookup Constants

→ Almost can't lookup nested constants.

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

A blue arrow points to the line "Object.class_eval { B }". A green rounded rectangle highlights the entire code block. The word "cRuby" is written in green next to the green box, and "MacRuby" is written in red below it.

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



#| | 92 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



#| | 92 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

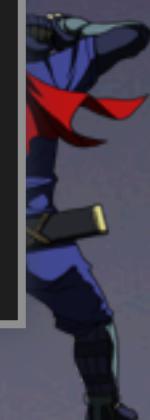
class_eval(&Block)

```
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
```

Lexical Scope

```
09:
10: class K
11:   CONST = "K's CONST"
12:   extend A
13:   f()
14: end
```



```
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:
```

Lexical Scope

"A's CONST"

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

cRuby

Dynamic Scope



class_eval(String)

```
01: module A
02:   CONST = "A's CONST"
03:   def f()
04:     class_eval <<-EOS
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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
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14end
```

class_eval(&Block)

```
module A
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def f
  class_eval {
    p CONST
  }
end
end

class K
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)

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class_eval(&Block)

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end
```



Lookup Constants is complex

class_eval(String)

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class_eval(&Block)

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CONST = "K's CONST"
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"
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04:   class_eval <<-EOS
05:     p CONST #=> "K's CONST"
06:   EOS
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class_eval(&Block)

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

undefined 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)

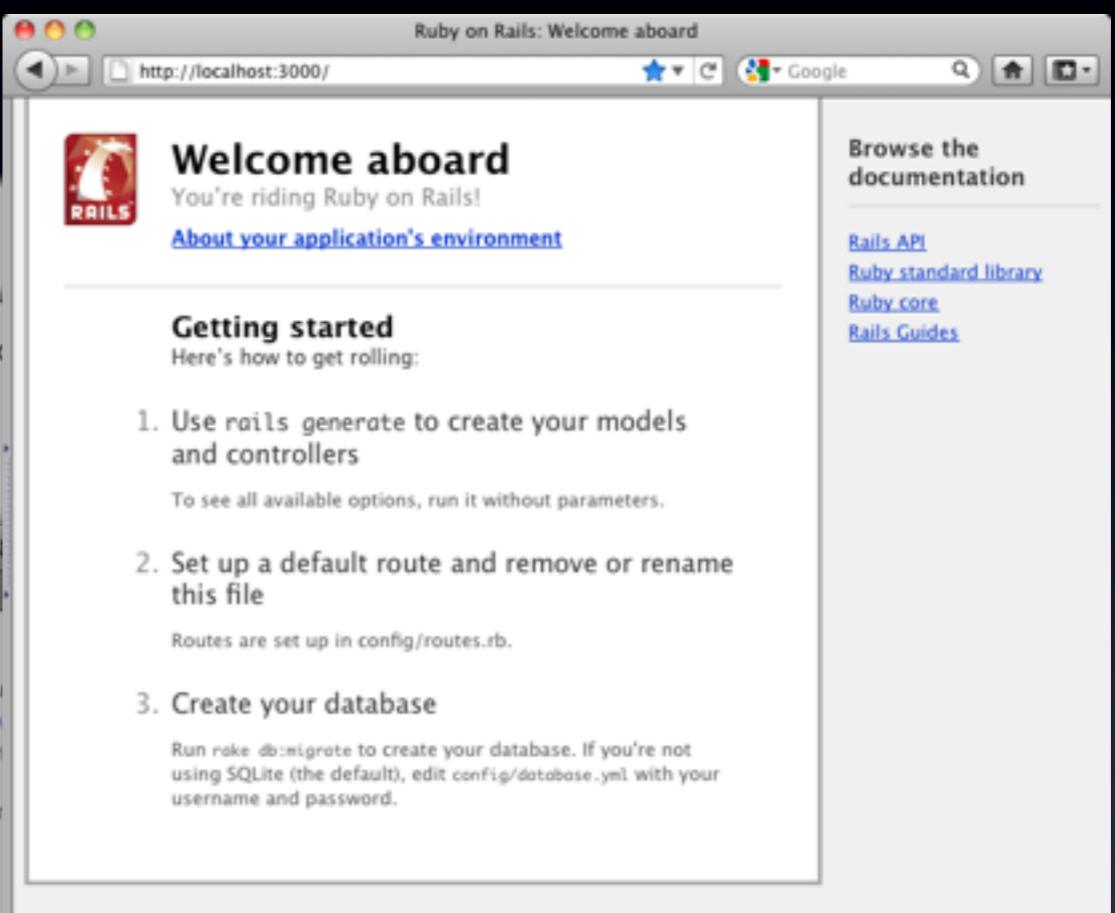


Demo

```
$ 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
Gemfile
app
app/controllers
create app/controllers/bookmarks_controller.rb
app/models
create app/models/bookmark.rb
test/unit
create app/test/unit/bookmarks_test.rb
create config/environments
create config/environments/development.rb
create config/environments/test.rb
create config/initializers
create config/initializers/backtrace_silencers.rb
create config/initializers/cache_store.rb
create config/initializers/cookies_expiration.rb
create config/initializers/session_store.rb
create config/initializers/wrap_parameters.rb
create config/locales
create db
create db/migrate/20110714234202_create_bookmarks.rb
create db/schema.rb
create lib
create lib/tasks
create log
create log/development.log
create public
create public/404.html
create public/422.html
create public/500.html
create routes
create routes/bookmarks
create scss
create scss/bookmarks.scss
create test
create test/unit
create test/unit/bookmarks_test.rb
resource :bookmarks
  string :description, :text
  url :url, :string
  active_record
  db/migrate/20110714234202_create_bookmarks.rb
  create app/models/bookmark.rb
  invoke test_unit
  create app/test/unit/bookmarks_test.rb
route :bookmarks
  get '/bookmarks' => 'bookmarks#index'
  post '/bookmarks' => 'bookmarks#create'
  get '/bookmarks/:id' => 'bookmarks#show'
  get '/bookmarks/:id/edit' => 'bookmarks#edit'
  patch '/bookmarks/:id' => 'bookmarks#update'
  delete '/bookmarks/:id' => 'bookmarks#destroy'

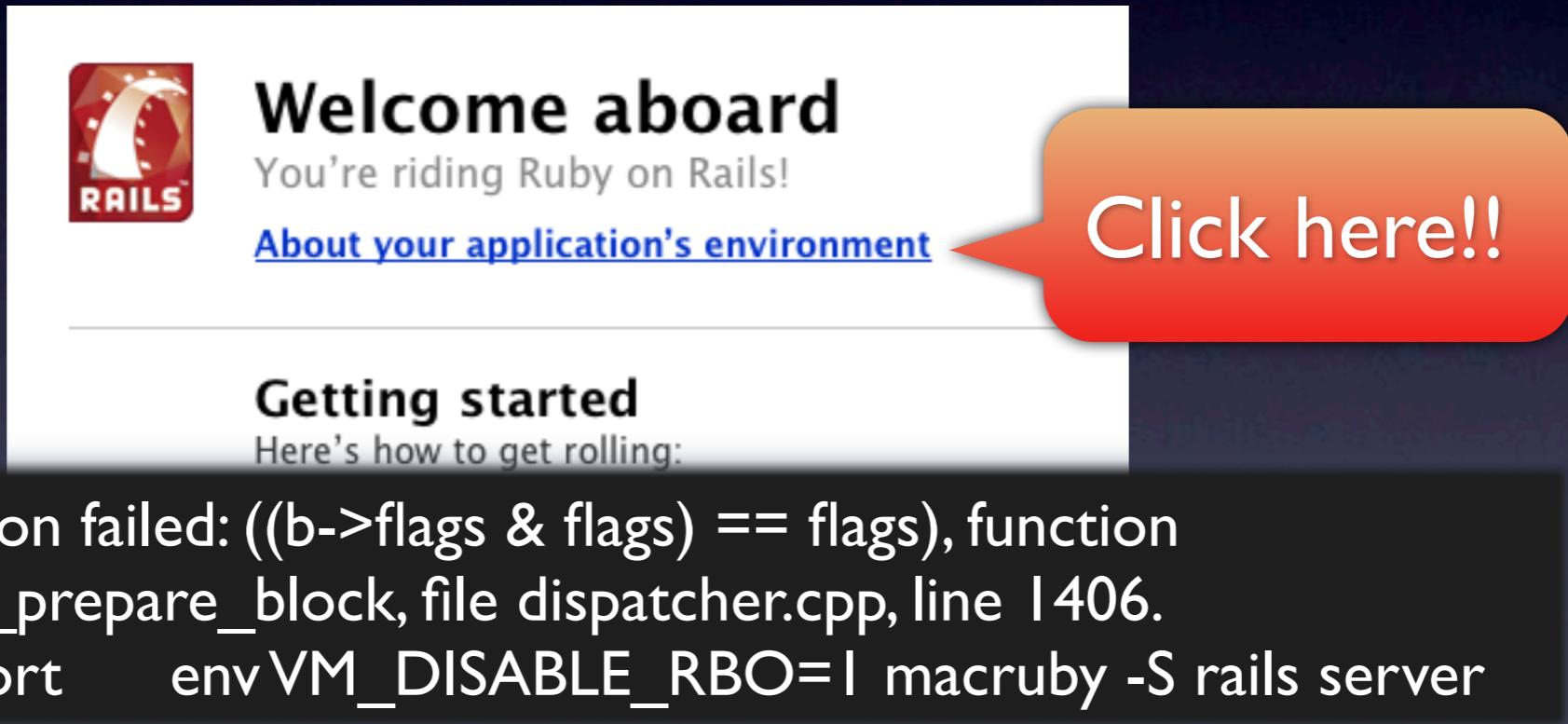
$ rails generate scaffold Box
string description:text url:string
  invoke active_record
  create db/migrate/20110714234202_create_bookmarks.rb
  create app/models/bookmark.rb
  invoke test_unit
  create app/test/unit/bookmarks_test.rb
route :bookmarks
  get '/bookmarks' => 'bookmarks#index'
  post '/bookmarks' => 'bookmarks#create'
  get '/bookmarks/:id' => 'bookmarks#show'
  get '/bookmarks/:id/edit' => 'bookmarks#edit'
  patch '/bookmarks/:id' => 'bookmarks#update'
  delete '/bookmarks/:id' => 'bookmarks#destroy'

$ 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/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 mode
=> 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 (2008-06-08) [universal-darwin10.0]
[2011-07-15 08:32:52] INFO  WEBrick::HTTPServer#start: pid=20943 port=3000
```

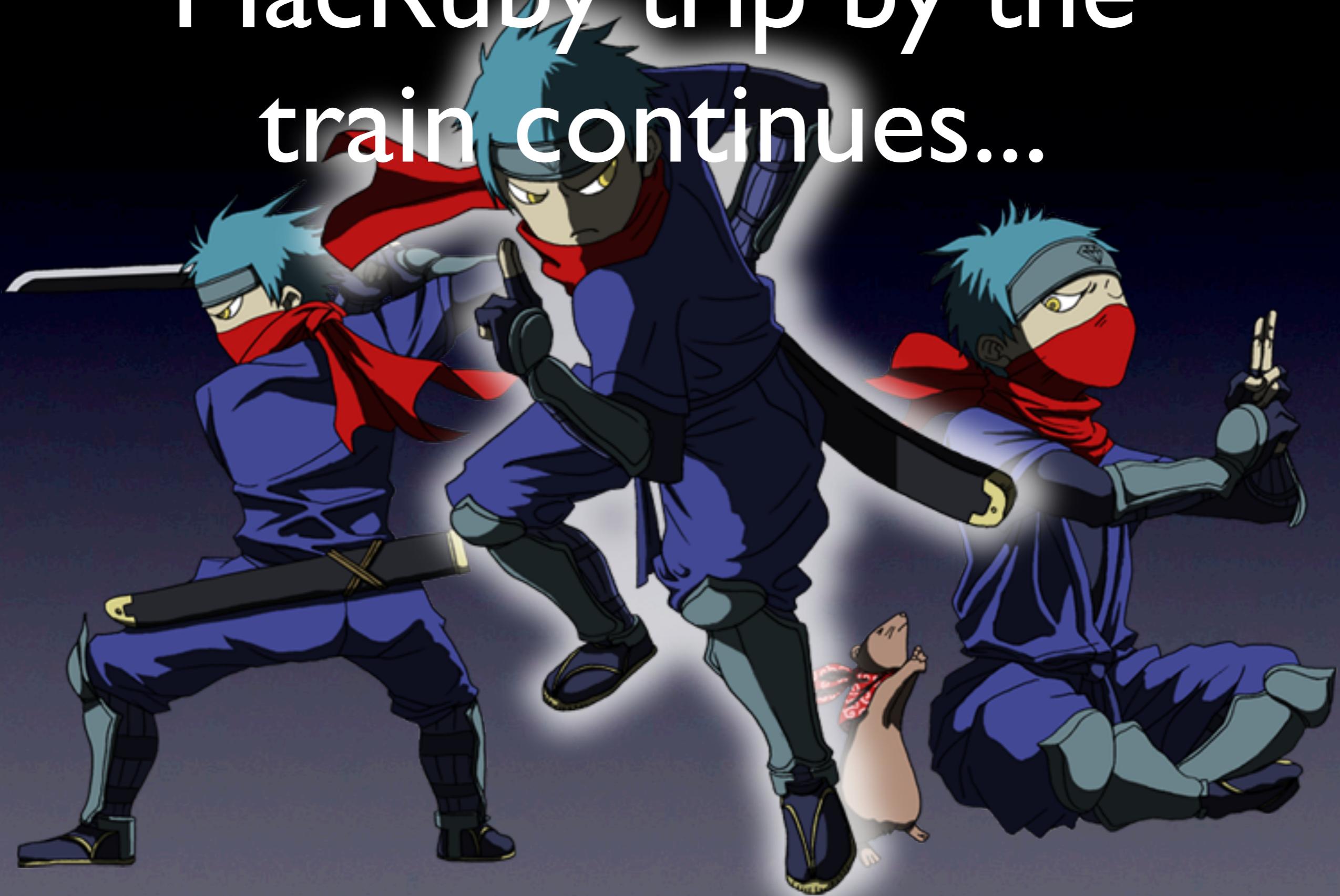


#I390 rb_vm_prepare_block

→ Abort when I pressed "About your application's environment" in rails 3.0.7 Welcome Page.



MacRuby trip by the train continues...



MacRuby trip by the

<http://www.macruby.org/> ...



MacRuby trip by the

<http://www.macruby.org/> ...

@macruby



MacRuby trip by the

<http://www.macruby.org/> ...

@macruby

GitHub:MacRuby/MacRuby





MacRuby trip by the

<http://www.macruby.org/> ...

@macruby

GitHub:MacRuby/MacRuby

macruby-devel@lists.macosforge.org

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.

Q & A

- I'd like you to give me a simple question and speak more slowly.
- or contact [@takaokouji_en](https://twitter.com/takaokouji_en) by Twitter
- or send e-mail to MacRuby ML

Acknowledgment

- RubyConf team
- Tor
- Everyone