MacRuby

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DESIGNING

INTERACTIVE

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INTERACTIVE

cocoamanifest.net

What is Ruby?

Yukihiro Matsumoto

Papa Perl,
Mama Smalltalk

Papa Perl,
Mama Smalltalk
(and a lil' Lisp)

Old

Is *NOT* Rails

Dynamically Typed

```
user = User.new
```

Dynamic Class Definitions

```
class User
  def first_name
    # ...
  end

  def last_name
    # ...
  end
end
```

Dynamic Class Definitions

```
# elsewhere in the code

class User
  def full_name
    [first_name, last_name].join(“ ”)
  end
end
```

Message Passing

```
user.send :first_name
# equivalent to

user.first_name
```

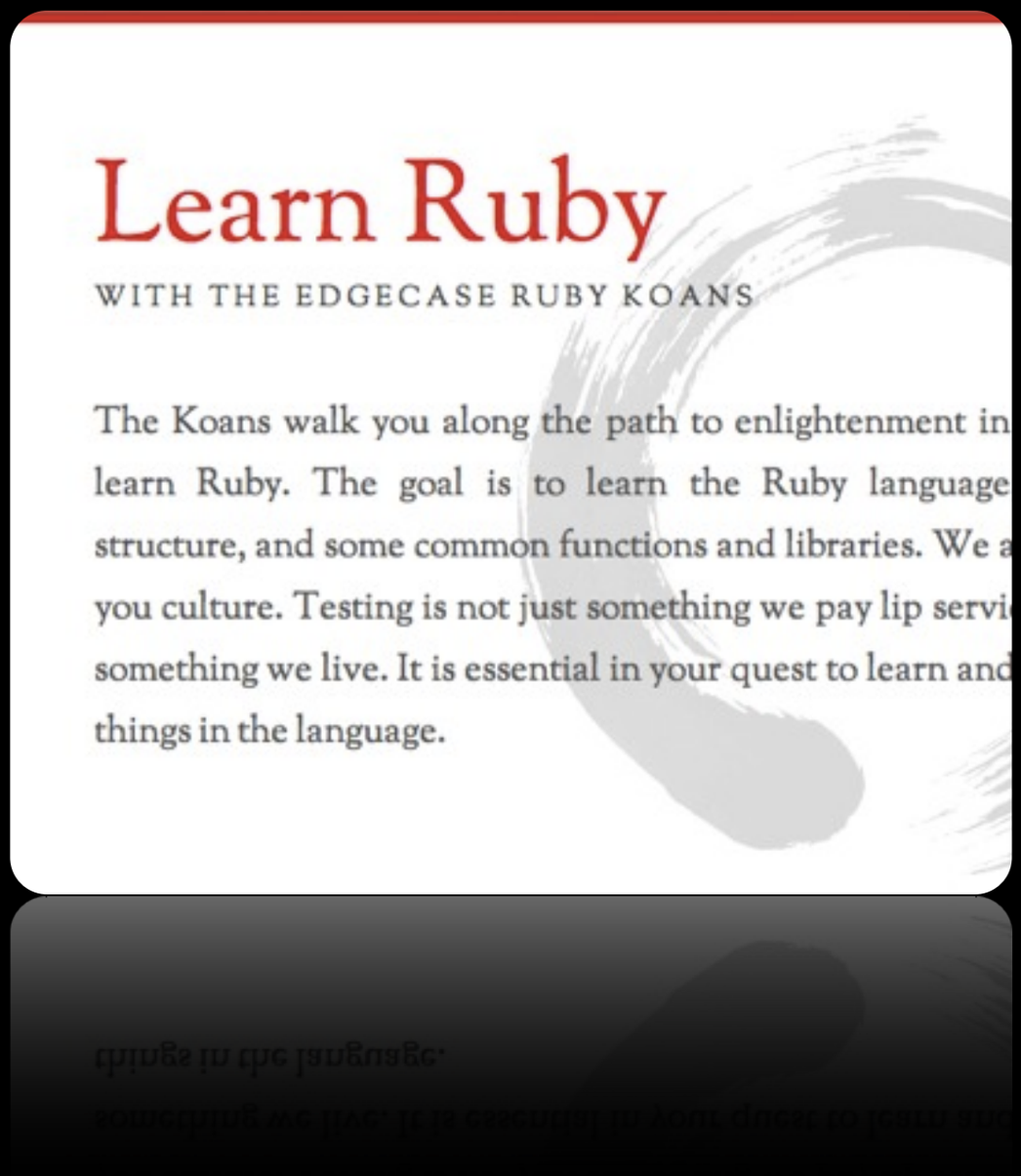
Syntax

```
puts(“hello world”)
puts “hello world”

Dir[“*.html”].each do |name|
  puts name
end

users.map { |u| u.first_name }.join(“, ”)
```

Plenty of opportunity to shoot yourself in the foot



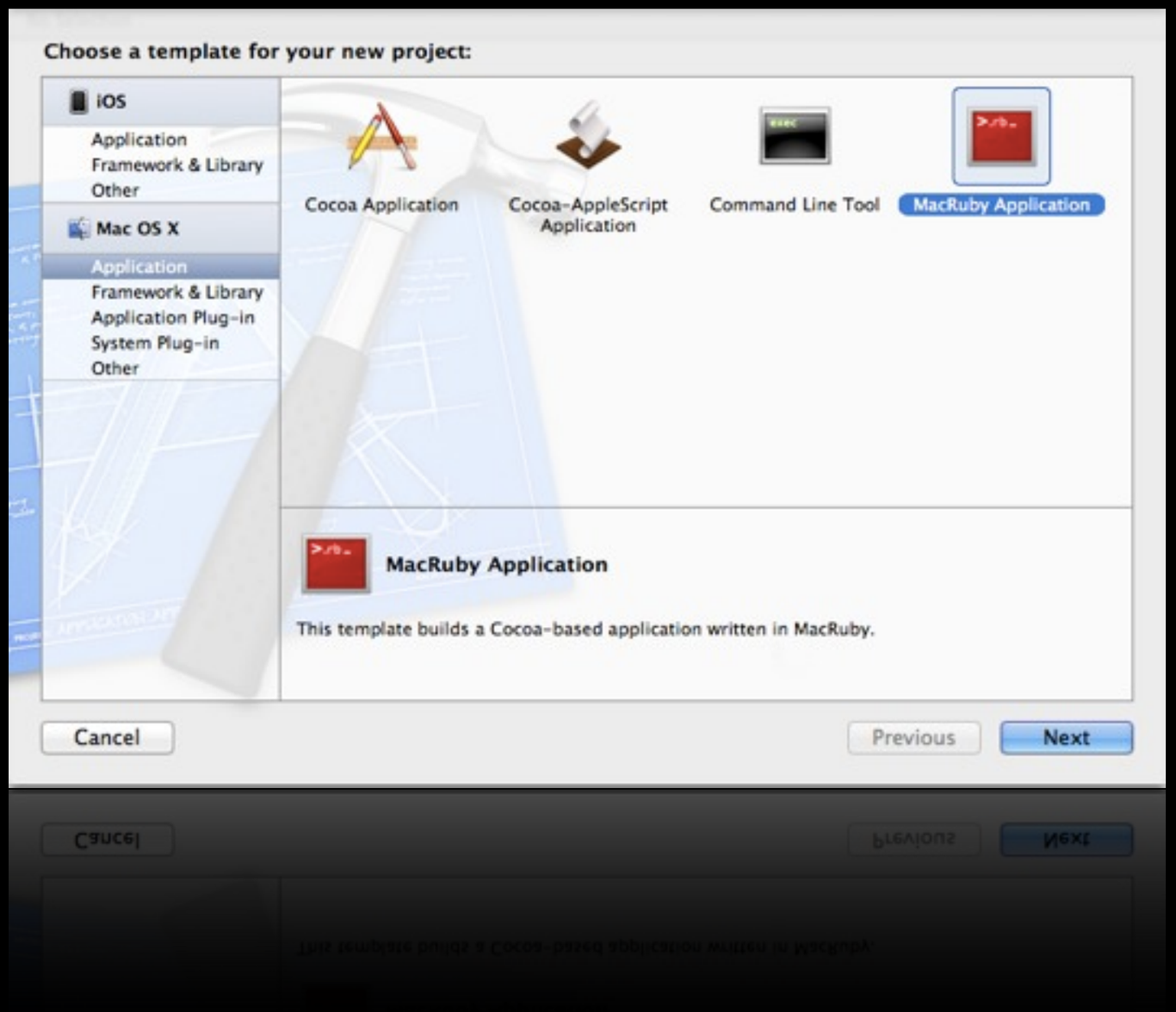
Ruby Koans

rubykoans.com

MacRuby

Install from

www.macruby.org



New Project from template

http://bit.ly/mrxcode43

Resources

Submit your MacRuby app to the app store

http://astonj.com/tech/how-to-submit-your-macruby-app-to-the-mac-app-store/

Excellent two part video presentation on the low level details

http://bostonrb.org/presentations/month/June-2011

MacRuby: The Definitive Guide

http://ofps.oreilly.com/titles/9781449380373/

http://cocoamanifest.net/features

MacRuby

Object creation, message passing
all on the ObjC runtime

Base object is NSObject

Common objects are NS equivalent

```
hash = {“key” => “value”}
```

```
NSMutableDictionary *dict =
  [NSMutableDictionary
   dictionaryWithValuesAndKeys:
    @“value”, @“key”, nil];
```

Common objects are NS equivalent

```
array = [1, 2, 3, 4]
```

```
NSMutableArray *array = ...
```

Use Objective C objects
and Ruby objects interchangeably

```
dict = NSMutableDictionary.dictionary

dict.addValue “value”, forKey: “key”

dict[‘foo’] = ‘bar’
```

Compiles to LLVM byte code

Runs as fast as any Objective C objects

Uses Objective C garbage collector

Why?

Don’t change just because

Less syntax noise

Quick prototyping

Excellent flexibility
with less ceremony

Dynamic typing is not evil

iOS?

iOS?

Technical limitations

iOS?

Technical limitations

Cultural limitations

Why?

Syntax level changes previously
in the realm of Apple

```
@property ...
```

```
@autorelease { ... }
```

Ruby runtime definitions

(what if we had that power?)

```ruby
class User

  def first_name
    @first_name
  end

  def first_name= new_name
    @first_name = new_name
  end

end
```

```ruby
class User
  extend PropertyMethods

  property :first_name
  property :last_name
end
```

```ruby
module PropertyMethods

  def property name
    define_method name do
      instance_variable_get “@#{name}”
    end
    define_method “#{name}=” do |value|
      instance_variable_set “@#{name}”, value
    end
  end

end
```

```ruby
class User
  attr_accessor :first_name
  attr_accessor :last_name
end
```

```
class User
  include AutoreleasePoolMethods

  def compute_friendships
    autorelease {
      # Do lots of stuff
    }
  end
end
```

```
module AutoreleasePoolMethods
  # only for example, not needed in MacRuby

  def autorelease
    pool = NSAutoreleasePool.alloc.init
    yield
    pool.drain
  end

end
```

```
module AutoreleasePoolMethods
  # only for example, not needed in MacRuby

  def autorelease
    pool = NSAutoreleasePool.alloc.init
    yield
    pool.drain
  end

end
```

Contrived, but you get the point

Future?

```ruby
class User
  include DataMapper::Resource

  property :id, Serial
  property :first_name, String, length: 50
  property :last_name,  String, length: 50

  validates_presence_of :first_name,
                        :last_name

  has 1, :account
  has n, :friends, ‘User’

end
```

```ruby
describe “User model” do

  let(:user) { User.new }

  describe “full_name” do
    it “generates from first and last” do
      user.first_name = “Jonathan”
      user.last_name  = “Penn”
      user.full_name.should == “Jonathan Penn”
    end
  end

end
```

```
class TweetsViewController < UIViewController

  def viewWillAppear animated
    super
    self.navigationController.
      setNavigationBarHidden false,
                             animated: animated
    end

    # ...

end
```

What if?

```
class TweetsViewController < UIViewController
  extend AwesomeViewController

  title "Tweets"

  on_appear do
    show_toolbar
  end

  after_appear do
    # ...
  end
```

MacRuby

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Thank You.

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Questions?