

RubyMotion



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@jonathanpenn



**RUBBER CITY
WIZARDS**

The
Pragmatic
Programmers

Test iOS Apps with UI Automation

Bug Hunting Made Easy



Jonathan Penn

Edited by Brian P. Hogan

pragprog.com/book/jptios


Goodies

cocoamanifest.net/features

Who are you?

**Will RubyMotion
make my life easier?**

Let's build an app...

Desktop • 

```
Desktop • motion create memories
  Create memories
  Create memories/.gitignore
  Create memories/app/app_delegate.rb
  Create memories/Rakefile
  Create memories/resources/Default-568h@2x.png
  Create memories/spec/main_spec.rb
```

```
Desktop • █
```

```
1 # -*- coding: utf-8 -*-  
2 $:.unshift("/Library/RubyMotion/lib")  
3 require 'motion/project/template/ios'  
4  
5 Motion::Project::App.setup do |app|  
6   # Use `rake config` to see complete project settings.  
7   app.name = 'memories'  
8 end
```

```
Rakefile (ruby)
```

```
1,01
```

```
"Rakefile" 8L, 221C
```

```
Desktop • motion create memories
  Create memories
  Create memories/.gitignore
  Create memories/app/app_delegate.rb
  Create memories/Rakefile
  Create memories/resources/Default-568h@2x.png
  Create memories/spec/main_spec.rb
```

```
Desktop • cd memories
```

```
memories • vi Rakefile
```

```
memories • █
```

```
Desktop • motion create memories
  Create memories
  Create memories/.gitignore
  Create memories/app/app_delegate.rb
  Create memories/Rakefile
  Create memories/resources/Default-568h@2x.png
  Create memories/spec/main_spec.rb
Desktop • cd memories
memories • vi Rakefile
memories • rake
(in /Users/jonathan/Desktop/memories)
  Build ./build/iPhoneSimulator-6.1-Development
Compile ./app/app_delegate.rb
  Create ./build/iPhoneSimulator-6.1-Development/memories.app
  Link ./build/iPhoneSimulator-6.1-Development/memories.app/memories
  Create ./build/iPhoneSimulator-6.1-Development/memories.app/Info.plist
  Create ./build/iPhoneSimulator-6.1-Development/memories.app/PkgInfo
  Copy ./resources/Default-568h@2x.png
  Create ./build/iPhoneSimulator-6.1-Development/memories.dSYM
Simulate ./build/iPhoneSimulator-6.1-Development/memories.app
(main)> █
```


memories • vi app/app_delegate.rb

```
1 class AppDelegate
2   def application(application, didFinishLaunchingWithOptions:launchOptions)
3     true
4   end
5 end
```

app/app_delegate.rb (ruby)

1,01

"app/app_delegate.rb" 5L, 113C


```
1 class AppDelegate
2   def application(application, didFinishLaunchingWithOptions:launchOptions)
3
4     screenBounds = UIScreen.mainScreen.bounds
5     @window = UIWindow.alloc.initWithFrame(screenBounds)
6
7     navController = UINavigationController.alloc.init
8     @window.rootViewController = navController
9
10    @window.makeKeyAndVisible
11    true
12  end
13 end
```

app/app_delegate.rb (ruby)

10,29

2 fewer lines; before #9 2 seconds ago

```
1 class AppDelegate
2   def application(application, didFinishLaunchingWithOptions:launchOptions)
3
4     screenBounds = UIScreen.mainScreen.bounds
5     @window = UIWindow.alloc.initWithFrame(screenBounds)
6
7     navController = UINavigationController.alloc.init
8     @window.rootViewController = navController
9
10    memoriesController = MemoriesTableViewController.alloc.init
11    navController.setViewControllers([memoriesController])
12
13    @window.makeKeyAndVisible
14    true
15  end
16 end
```

app/app_delegate.rb (ruby)

11,58

"app/app_delegate.rb" 16L, 474C written


```
10 memoriesController = MemoriesTableViewController.alloc.init
11 navController.setViewControllers([memoriesController])
12
13 @window.makeKeyAndVisible
14 true
15 end
16 end
17
18 class MemoriesTableViewController < UITableViewController
19
20 def viewDidLoad
21   super
22   self.title = "Memories"
23   ....
24 end
25
26 end
```

```
app/app_delegate.rb (ruby) [+]
```

```
23,05
```

```
-- INSERT --
```

```
10 memoriesController = MemoriesTableViewController.alloc.init
11 navController.setViewControllers([memoriesController])
12
13 @window.makeKeyAndVisible
14 true
15 end
16 end
17
18 class MemoriesTableViewController < UITableViewController
19
20 def viewDidLoad
21   super
22   self.title = "Memories"
23   @memories ||= ["Birth", "First heartbreak", "This session"]
24 end
25
26 end
```

app/app_delegate.rb (ruby)

23,63

"app/app_delegate.rb" 26L, 665C written

What is it?

A subset of Ruby.



Yukihiro Matsumoto

Papa Smalltalk

+ Mother Perl

Ruby

What if?

Objective-C

+ Ruby Syntax

+ LLVM

+ ARC

RubyMotion

**Like an Objective-C
Preprocessor**

```
dict = NSMutableDictionary.dictionary
```

```
dict.setValue "value", forKey: "key"
```

```
dict["key"] = "value"
```

```
dict = {"key" => "value"} # mutable!
```

```
Dir["/etc"].each do |name|  
  puts name  
end
```



```
[UIView animateWithDuration:2 animations:^(  
    // Animations go here  
)];
```

```
UIView.animateWithDuration(2) do  
    # animations go here  
end
```



```
UIView.animateWithDuration(2, animations: -> {  
    # animations go here  
})
```

History Lesson

```
id age = objc_msgSend(objc_getClass("NSNumber"),
                      sel_getUid("numberWithInt"), 20);
```

```
id params = objc_msgSend(objc_getClass("NSMutableDictionary"),
                          sel_getUid("dictionaryWithObjectsAndKeys"),
                          @"Sam", @"name",
                          age, @"age",
                          nil);
```

```
objc_msgSend(params, sel_getUid("setObject:forKey:"),
              "Hello", "greeting");
```

```
NSMutableDictionary *params;  
params = [NSMutableDictionary dictionaryWithObjectsAndKeys:  
    @"Sam", @"name",  
    [NSNumber numberWithInt:20], @"age",  
    nil];  
  
[params setObject:@"Hello" forKey:@"greeting"];
```

Syntactical Sugar

```
NSDictionary *immutableParams = @{@"name": @"Sam",  
                                  @"age": @(20)};
```

```
NSMutableDictionary *params = [immutableParams mutableCopy];  
params[@"greeting"] = @"Hello";
```

Namespaces!!

```
[[JMPPlayerModel alloc] init];
```

```
UIViewAutoresizingFlexibleBottomMargin;
```

```
kBluetoothAMPManagerCreatePhysicalLinkResponseAMPDisconnectedPhy
```

```
module MyApp
  module Models
```

```
    VERSION = "1.0"
```

```
    class Player
```

```
      # ...
```

```
    end
```

```
  end
```

```
end
```



```
MyApp::Models::Player.new("First")
```

```
# Or...
```

```
include MyApp  
Models::Player.new("Second")
```

```
# Or...
```

```
include MyApp::Models  
Player.new("Second")  
puts VERSION
```

Bottom line...

So...what's the catch?

So...what the #\$\$%^@?!

No “require”

No gems...as we know them

No “binding” on blocks

No static typing

Mmmmm...Layers!

Method Declaration

Normal Ruby

```
def something arg1, options={}  
  puts arg1, options[:andOther]  
end
```

```
something "a", andOther: "b"
```

```
send "something", "a", {andOther: "b"}
```

RubyMotion

```
def something arg1, andOther: arg2  
  puts arg1, arg2  
end
```

```
something "a", andOther: "b"
```

```
send "something:andOther:", "a", "b"
```


Automatic Reference Counting

Dangers of Exception Handling

Weak References

Grand Central Dispatch

...and other dangers lurk in the dark!



**Let's paint
a happy little
binary tree**

Live REPL / Command Line Workflow

RubyMine and other IDEs

Motion gems & CocoaPods!

Drop in Objective-C

Retain Cycle Detection

OS X

Build as a static library

Hipbyte

[insert demo here]

Commercial Apps

EverClip

`clip.ignition.hk`

Temple

`thetempleapp.com`

Basecamp for iOS

`basecamp.com/mobile`

Resources

Awesome Tutorial on RubyMotion and iOS

rubymotion-tutorial.com

HipByte Samples

github.com/HipByte/RubyMotionSamples

MotionCasts

motioncasts.tv

#inspect 2013 Session Videos

vimeo.com/groups/199097

Low Level Presentation on MacRuby

bostonrb.org/presentations/month/June-2011

RubyMotion





Thanks!
(and please feedback)

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August 11th – 13th 2014

Same Place, Same Time