Swift

Code snippets

Principles

- Modern syntax
- Beautiful and natural code
- Readable and maintainable
- Expressiveness

Topics

- Enums (Storyboard ids, urls, colors, images)
- Extensions (views, strings)
- Clousures
- Type alias

Enumerations

Simple to define, simple to use

Defines a common type for a group of related values in a type-safe way

— The Swift Programming Language

Basic enumeration

```
enum SomeEnumeration {
    // enumeration definition goes here
}
```

Basic enumeration

```
enum Direction {
    case Right
    case Left
}
```

Single line declaration

```
enum Direction {
    case Right, Left
}
```

Use

```
var direction = Direction.Left

direction = .Right

if direction == .Right {
  // code
}
```

Using other types

```
enum Scenes: String {
  case Main = "MainView"
  case Detail = "DetailView"
}

let scene = Scenes.Detail.rawValue

let viewController =
      self.storyboard?.instantiateViewControllerWithIdentifier(scene)
```

```
enum Scenes: String {
  case Main = "MainView"
  case Detail = "DetailView"

  var value: String {
    get {
      return self.rawValue
    }
  }
}

let scene = Scenes.Detail.value
```

```swift
enum Scenes: String {
  case Main = "MainView"
  case Detail = "DetailView"

  func value() -> String {
    return self.rawValue
  }
}

let scene = Scenes.Detail.value()
```

Using other types

```
enum Theme {
    case Auto, Life
}
```

```
enum Theme {
    case Auto, Life

    func color() -> UIColor {

    }
}
```

```
enum Theme {
    case Auto, Life

    func color() -> UIColor {
        switch self {
        case .Auto:
            return UIColor.blueColor()
        case .Life:
            return UIColor.whiteColor()
        }
    }
}
```

```
self.backgroundColor = Theme.Auto.color()
```

Enum inner Enum

```swift
enum Paths {

    enum Auth: String {
        case Login = "/users/login"
        case Logout = "/users/logout"
    }

    enum Accounts: String {
        case Create = "/accounts/create"
        case Update = "/accounts/update"
    }

}
```

```swift
let path = Paths.Users.Login.value

let url = NSURL(string: path)
```

Help with assets

```
enum Assets: String {

    case User = "user-icon"
    case Phone = "phone-icon"

}
```

```
enum Assets: String {

    case User = "user-icon"
    case Phone = "phone-icon"

    func image() -> UIImage {
        return UIImage(named: self.rawValue)!
    }

}
```

```
enum Assets: String {

    case User = "user-icon"
    case Phone = "phone-icon"

    func image() -> UIImage {
        return UIImage(named: self.rawValue)!
    }

}

imageView.image = Assets.Phone.image()
```

```
imageView.image = Assets.Phone.image()
```

Extensions

Where the magic happens

Extensions add new functionality to an existing class, structure, enumeration, or protocol type

— *The Swift Programming Language*

The problem

```
var text = " Apple "
// " Apple "

let charset =
NSCharacterSet.whitespaceAndNewlineCharacterSet()
text.stringByTrimmingCharactersInSet(charset)
// "Apple"
```

text.trim()

Basic syntax

```
extension SomeType {
    // new functionality to add to SomeType goes here
}
```

String extension

```
extension String {

    func trim() -> String {

    }

}
```

String extension

```
extension String {

    func trim() -> String {
      let charset =
      NSCharacterSet.whitespaceAndNewlineCharacterSet()
      return self.stringByTrimmingCharactersInSet(charset)
    }

}
```

text.trim()

"Apple"

Background problem

```
let window = UIApplication.sharedApplication().keyWindow!
window.backgroundColor = UIColor.yellowColor()
```

UIApplication extension

```
extension UIApplication {

    var backgroundColor: UIColor?

    // ❌Extensions may not contain stored properties

}
```

UIApplication extension

```
extension UIApplication {

    var backgroundColor: UIColor? {
        set {

        }
        get {

        }
    }

}
```

UIApplication extension

```
extension UIApplication {

    class var backgroundColor: UIColor? {
        set {
            let window = UIApplication.sharedApplication().keyWindow!
            window.backgroundColor = newValue
        }
        get {
            let window = UIApplication.sharedApplication().keyWindow!
            return window.backgroundColor
        }
    }

}
```

```
UIApplication.backgroundColor = UIColor.yellowColor()
```

Protocol extensions

Protocol extensions

```
extension SomeType: SomeProtocol, AnotherProtocol {
    // implementation of protocol requirements goes here
}
```

Allows you organize your

```
class SomeViewController: UIViewController {
    // code goes here
}
```

Allows you organize your

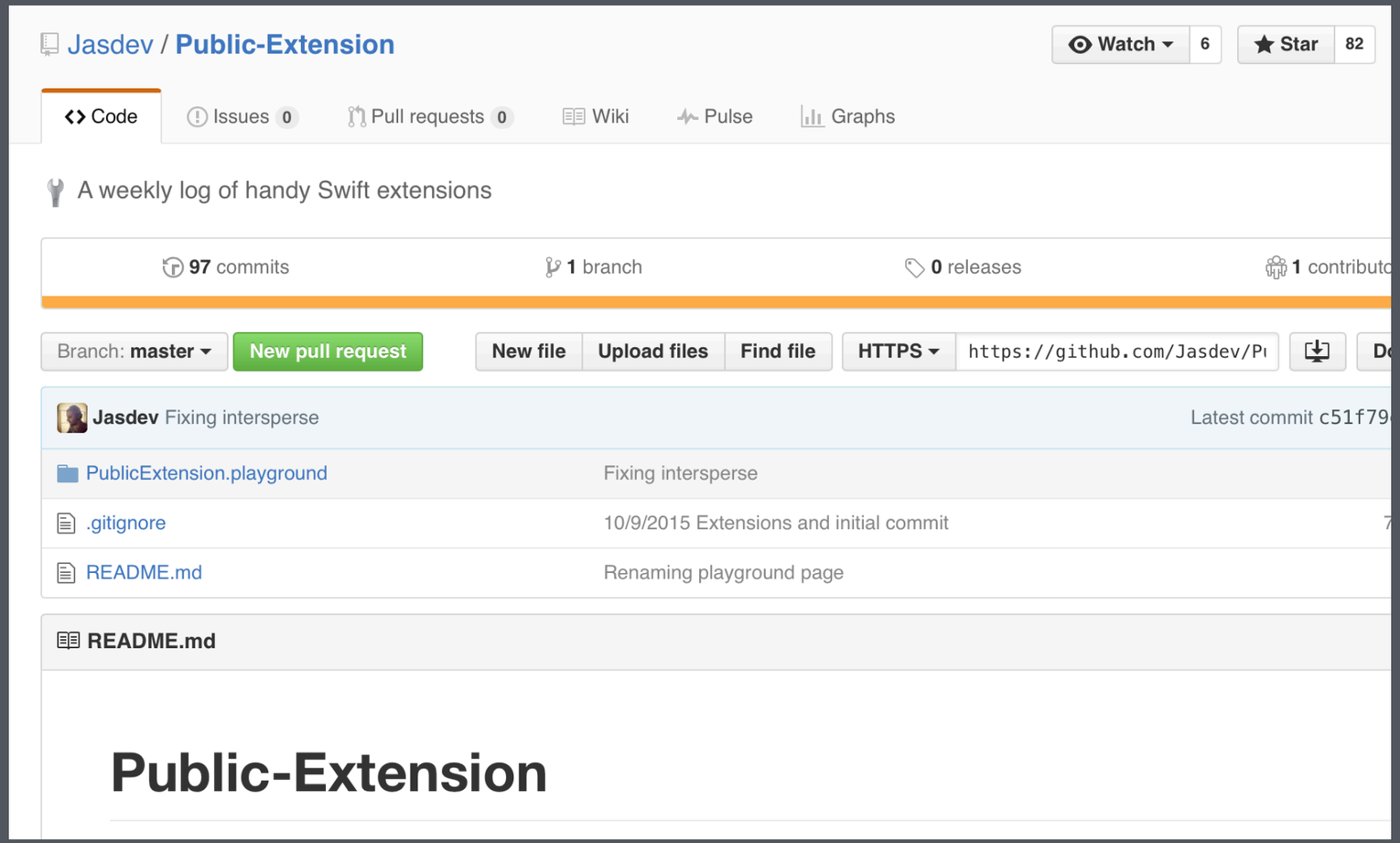
```
class SomeViewController: UIViewController, UITableViewDataSource {
    // code goes here
}
```

Allows you organize your

```
class SomeViewController: UIViewController, UITableViewDataSource {

  func tableView(tableView: UITableView, numberOfRowsInSection section: Int) -> Int {
      return 1
  }

  func tableView(tableView: UITableView, numberOfRowsInSection section: Int) -> Int {
     return items.count
  }

  func tableView(tableView: UITableView, cellForRowAtIndexPath indexPath: NSIndexPath) -> UITableViewCell {
      return tableView.dequeueReusableCellWithIdentifier("id")!
  }

}
```

@PublicExtension

github.com/Jasdev/Public-Extension



Allows you organize your

```
class SomeViewController: UIViewController {
    // code goes here
}

extension SomeViewController: UITableViewDataSource {

    func tableView(tableView: UITableView, numberOfRowsInSection section: Int) -> Int {
        return 1
    }

    func tableView(tableView: UITableView, numberOfRowsInSection section: Int) -> Int {
       return items.count
    }

    func tableView(tableView: UITableView, cellForRowAtIndexPath indexPath: NSIndexPath) -> UITableViewCell {
        return tableView.dequeueReusableCellWithIdentifier("id")!
    }

}
```

Clousures

a.k.a. blocks

Closures are self-contained blocks of functionality that can be passed around and used in your code

— *The Swift Programming Language*

Clousures syntax

```
{ (parameters) -> (return type) in
    // code
}
```

Signature

```
(parameters) -> (return type)
```

Clousure in a method signature

```
func POST(URLString: String!,
          success: ((task: NSURLSessionDataTask!, object: AnyObject!) -> Void)!,
          failure: ((task: NSURLSessionDataTask!, error: NSError!) -> Void)!) {

}
```

Clousure in a method signature

```
func POST(URLString: String!,
          success: ((task: NSURLSessionDataTask!, object: AnyObject!) -> Void)!,
          failure: ((task: NSURLSessionDataTask!, error: NSError!) -> Void)!) {

}

(task: NSURLSessionDataTask!, object: AnyObject!) -> Void
```

Clousure in a method signature

```
func POST(URLString: String!,
          success: ((task: NSURLSessionDataTask!, object: AnyObject!) -> Void)!,
          failure: ((task: NSURLSessionDataTask!, error: NSError!) -> Void)!) {

}

(task: NSURLSessionDataTask!, object: AnyObject!) -> Void

(parameters) -> (return type)
```

(in) -> (out)

```
( ) -> ( )
```

Type Aliases

Type aliases define an alternative name for an existing type

Type Aliases syntax

```
typealias AudioSample = UInt16
```

Type Aliases syntax

```
typealias AudioSample = UInt16

typealias Success =
```

Type Aliases syntax

```
typealias AudioSample = UInt16

typealias Success = (parameters) -> (return type)
```

Type Aliases syntax

```
typealias AudioSample = UInt16

typealias Success = (task: NSURLSessionDataTask!, object: AnyObject!) -> Void
```

Type Aliases syntax

```
typealias AudioSample = UInt16

typealias Success = (task: NSURLSessionDataTask!, object: AnyObject!) -> Void
typealias Failure = (task: NSURLSessionDataTask!, error: NSError!) -> Void
```

Type Aliases syntax

```
typealias AudioSample = UInt16

typealias Success = (task: NSURLSessionDataTask!, object: AnyObject!) -> Void
typealias Failure = (task: NSURLSessionDataTask!, error: NSError!) -> Void

func POST(URLString: String!,
          success: Success!,
          failure: Failure!) {

}
```

Type Aliases syntax

```
func POST(URLString: String!,
          success: Success!,
          failure: Failure!) {

}
```

Just to remember

```
func POST(URLString: String!,
          success: ((task: NSURLSessionDataTask!, object: AnyObject!) -> Void)!,
          failure: ((task: NSURLSessionDataTask!, error: NSError!) -> Void)!) {

}


func POST(URLString: String!,
          success: Success!,
          failure: Failure!) {

}
```

Q & A

Thank you!

@madsonmac

madsonmac@gmail.com