

cit 

Hilton Pintor

Desenvolvedor (iOS/tvOS/watchOS)



hiltonpintor@gmail.com

// Aula 05

// Recapitulando

// Delegate

// Delegate

1. Definição do protocolo
2. Implementar protocolo em uma classe
3. adicionar propriedade delegate
4. chamar métodos do delegate

```
// delegate
```

```
import UIKit
```

```
class ViewController: UIViewController {  
    @IBOutlet weak var colorTextField: UITextField!  
    @IBOutlet weak var colorButton: UIButton!  
  
    @IBAction func tapColorButton(_ sender: Any) {  
        // ...  
    }  
}
```

// delegate

```
extension ViewController: UITextFieldDelegate {  
    func textField(_ textField: UITextField,  
                   shouldChangeCharactersIn range: NSRange,  
                   replacementString string: String) -> Bool {  
  
        let text = textField.text!  
  
        let swiftRange = Range(range, in: text)!  
        let newText = text.replacingCharacters(in: swiftRange, with: string)  
  
        if newText != "" {  
            self.colorButton.isEnabled = true  
        } else {  
            self.colorButton.isEnabled = false  
        }  
  
        return true  
    }  
}
```



```
// delegate
```

```
class ViewController: UIViewController {  
    @IBOutlet weak var colorTextField: UITextField!  
  
    override func viewDidLoad() {  
        super.viewDidLoad()  
  
        self.colorTextField.delegate = self  
    }  
}
```

// delegate

1. UITextFieldDelegate
2. ViewController: UITextFieldDelegate
3. `self.colorTextField.delegate = self`
4. chamar métodos do delegate (responsabilidade do Text Field)

// delegate

```
public protocol UITextFieldDelegate : NSObjectProtocol {
```

```
    @available(iOS 2.0, *)
```

```
    optional public func textFieldShouldBeginEditing(_ textField: UITextField) -> Bool // return NO to disallow editing.
```

```
    @available(iOS 2.0, *)
```

```
    optional public func textFieldDidBeginEditing(_ textField: UITextField) // became first responder
```

```
    @available(iOS 2.0, *)
```

```
    optional public func textFieldShouldEndEditing(_ textField: UITextField) -> Bool // return YES to allow editing to stop and to resign  
    first responder status. NO to disallow the editing session to end
```

```
    @available(iOS 2.0, *)
```

```
    optional public func textFieldDidEndEditing(_ textField: UITextField) // may be called if forced even if shouldEndEditing returns NO  
    (e.g. view removed from window) or endEditing:YES called
```

```
    @available(iOS 10.0, *)
```

```
    optional public func textFieldDidEndEditing(_ textField: UITextField, reason: UITextFieldDidEndEditingReason) // if implemented,  
    called in place of textFieldDidEndEditing:
```

```
    // ...
```

```
}
```

// Navegação

// navegação

Trocar de tela

Trocar de View

Trocar de View Controller



// Segues

// Segues

- Definem o fluxo de **navegação** do app
- **Transição** entre ViewControllers do StoryBoard
- **Início**: button, table row, or gesture recognizer
- **Destino**: ViewController a ser mostrado

▶ Apostila da Jornada 2017 > iPhone 7 Plus

Running Apostila da Jornada 2017 on iPhone 7 Plus

⚠ z

⌕ < > Apostila da Jornada 2017 > Apostila da Jornada 2017 > Main.storyboard > Main.storyboard (Base) > No Selection

< ⚠ >

▶ View Controller Scene

▼ Black Screen View Controller Scene

▼ Black Screen View Controller

Top Layout Guide

Bottom Layout Guide

▼ View

Ir para próxima tela

First Responder

Exit

→ Storyboard Entry Point

▼ Red Screen View Controller Scene

▼ Red Screen View Controller

Top Layout Guide

Bottom Layout Guide

▼ View

Voltar

First Responder

Exit

Black Screen View Controller

Red Screen View Controller

No Selection

Button

Bar Button Item

Fixed Space Bar Button Item

Filter

View as: iPhone 7 (wC hR)

52%

⌕ ⌕ ⌕ ⌕ ⌕ ⌕

Apostila da Jornada 2017

Button - intercepts touch events and sends an action message to a target object when it's tapped.

Bar Button Item - Represents an item on a UIToolbar or UINavigationController object.

Fixed Space Bar Button Item - Represents a fixed space item on a UIToolbar.

butt

▶ Apostila da Jornada 2017 > iPhone 7 Plus

Running Apostila da Jornada 2017 on iPhone 7 Plus

▶ Apostila da Jornada 2017 > Apostila 2017 > Main...yboard > Main...[Base] > View...r Scene > Black...ntroller > View > Ir para próxima tela < ⚠ >

▶ View Controller Scene

▼ Black Screen View Controller Scene

▼ Black Screen View Controller

Top Layout Guide

Bottom Layout Guide

View

Ir para próxima tela

First Responder

Exit

→ Storyboard Entry Point

⌚ Show segue to "Red Screen View Control..."

▼ Red Screen View Controller Scene

▼ Red Screen View Controller

Top Layout Guide

Bottom Layout Guide

View

Voltar

First Responder

Exit

→

Ir para próxima tela

→

View

Button

TypeSystem

State ConfigDefault

TitlePlain

Ir para próxima tela

FontSystem 15.0

Text ColorDefault

Shadow ColorLight Gray Color

ImageDefault Image

BackgroundDefault Background Image

Shadow Offset00

Reverses On Highlight

DrawingShows Touch On Highlight

Highlighted Adjusts Image

Disabled Adjusts Image

Line BreakTruncate Middle

Control

AlignmentHorizontal

Vertical

StateSelected

Enabled

Button - intercepts touch events and sends an action message to a target object when it's tapped.

ItemBar Button Item - Represents an item on a UIToolbar or UINavigationController object.

Fixed Space Bar Button Item - Represents a fixed space item on a

Filter

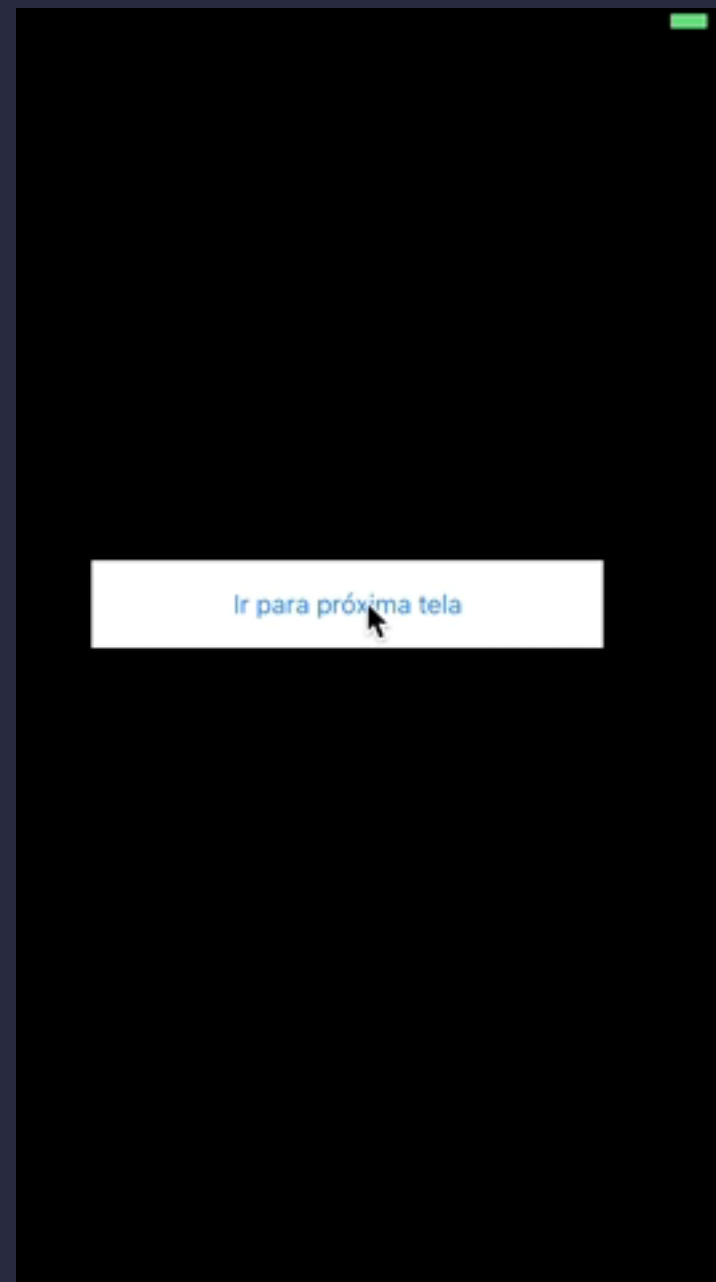
View as: iPhone 7 (wC hR)

52%

▶ Apostila da Jornada 2017

// Segues

- Apresentação Modal



▶ Apostila da Jornada 2017 ▶ iPhone 7 Plus

Running Apostila da Jornada 2017 on iPhone 7 Plus

▶ Apostila da Jornada 2017 ▶ A...017 ▶ M...rd ▶ M...se ▶ Red Screen View Controller Scene ▶ Unwind segue to "myUnwindActionWithUnwindSegue:" ▶

▶ View Controller Scene

▶ Black Screen View Controller Scene

▼ Red Screen View Controller Scene

- ▶ Red Screen View Controller
 - Top Layout Guide
 - Bottom Layout Guide
 - View
 - 3 Voltar
- First Responder
- Exit
- Unwind segue to "myUnwindActionWithU..."

Storyboard Unwind Segue

Identifier Identifier

Action myUnwindActionWithU... ▼

Class U storyboardSegue ▼

Module None ▼

☐ Inherit From Target

☒ Animates

Storyboard

Unwind segue to "myUnwindActionWithU..."

Ir para próxima tela

Voltar

View as: iPhone 7 (wC hR)

52%

Filter

Apostila da Jornada 2017

Button

Button - intercepts touch events and sends an action message to a target object when it's tapped.

Item

Bar Button Item - Represents an item on a UIToolbar or UINavigationController object.

Fixed Space Bar Button Item

Fixed Space Bar Button Item - Represents a fixed space item on a toolbar.

butt

// Segues

- Unwind

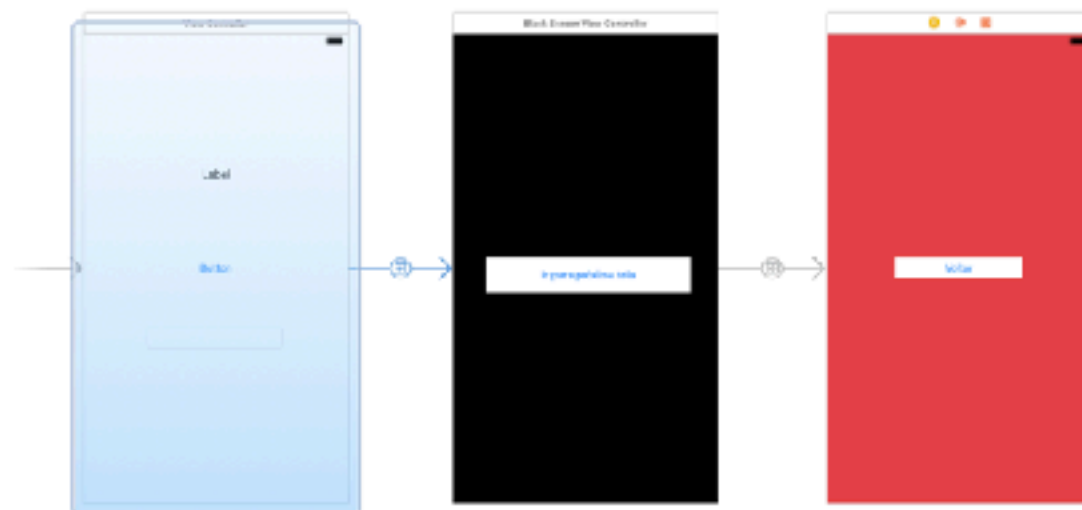
```
@IBAction func myUnwindAction(unwindSegue: UIStoryboardSegue)
```



// Chamando por Código

// Segues programáticas

Às vezes é necessário **chamar** uma segue pelo código



Identifier: FromVCToBlackScreen

Class: UICollectionSegue

Module: None

☐ Inherit From Target

Kind: Show (e.g. Push)

☒ Animates

Button – intercepts touch events and sends an action message to a target object when it's tapped.

Bar Button Item - Represents an item on a `UIToolbar` or `UINavigationController` object.

Fixed Space Bar Button Item -
Represents a fixed space item on a

View Controller Scene

View Controller

[Top Layout Guide](#)

 Bottom Layout Guide

[view](#)

 **First Responder** Exit

→ Storyboard Entry Point


⌚ Show segue "FromVCToBlackScreen" to...

⌚ Show segue "FromVCtoRecScreen" to "..."

▶ **Black Screen View Controller Scene**

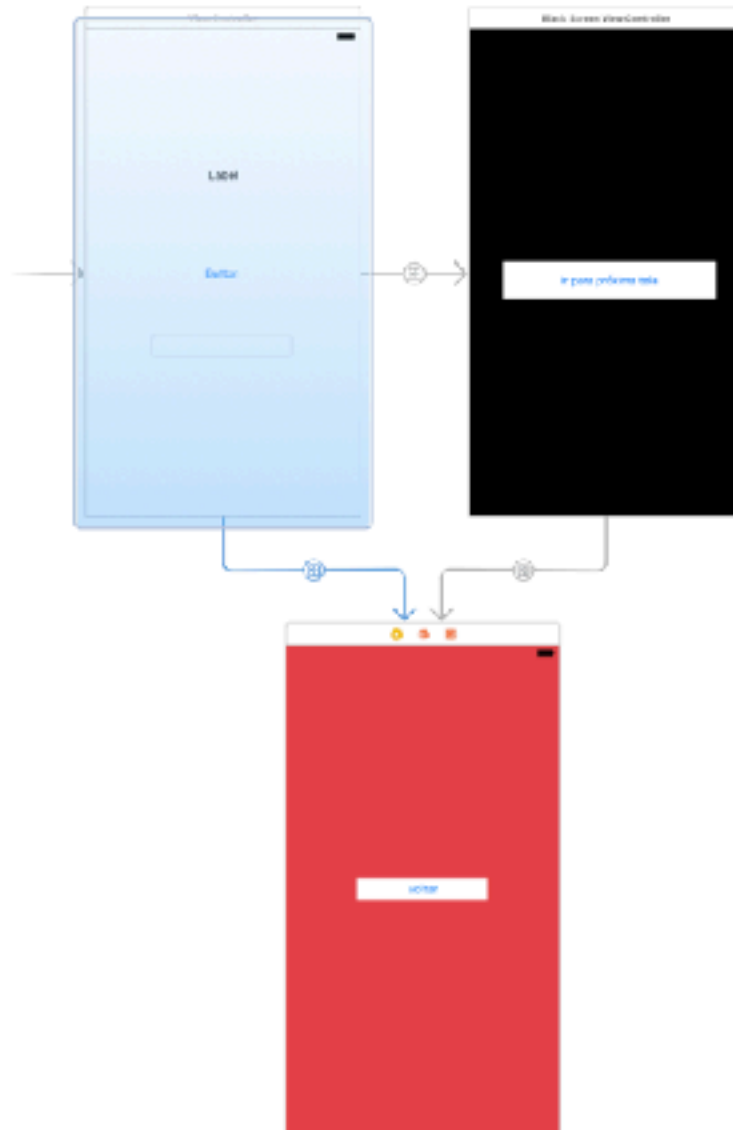
▼ Red Screen View Controller Scene

► **Red Screen View Controller**

 **First Responder**

 Exit

- ④ Unwind segue to "myUnwindActionWithU..."



Storyboard Segue

Identifizier **FromVCToRedScreen**

Class `UINavigationController`

Module None

☐ Inherit From Target

kind Show (e.g. Push)


- ✓ **Animates**

Button

Button – intercepts touch events and sends an action message to a target object when it's tapped.

Item

BarButtonItem - Represents an item on a UIToolbar or UINavigationController object.



Fixed Space Bar Button Item -
Represents a fixed space item, i.e. a

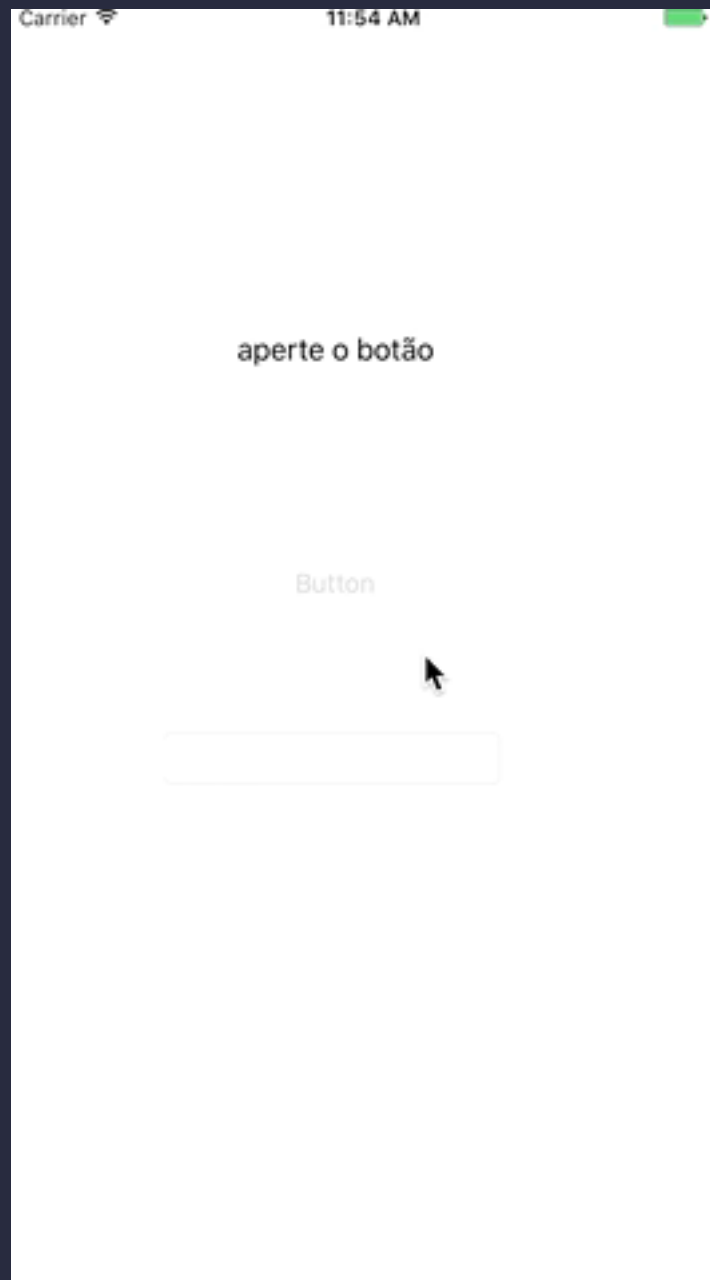
Filter

View as: iPhone 7 (wC nR)

— 41% —

2015. 12. 15. 14:52

// chamando segue



// chamando segue

```
if tituloLabel.text == "Black" {  
    self.performSegue(withIdentifier: "FromVCToBlackScreen", sender: self)  
  
} else if tituloLabel.text == "Red"{  
    self.performSegue(withIdentifier: "FromVCToRedScreen", sender: self)  
}
```

// Passando Dados

// passando dados

- Se precisarmos passar informações entre view controllers
- Podemos passá-las pela segue

Apostila da Jornada 2017 > iPhone 7 Plus Running apresentacao

Apostila da Jornada 2017 > Apostila...da 2017 > Main.storyboard > Main.st...rd (Base) > Red Scr...er Scene > Red Scr...ontroller > View > L Origin Label

View Controller Scene

- Black Screen View Controller Scene
- Red Screen View Controller Scene
 - Red Screen View Controller
 - Top Layout Guide
 - Bottom Layout Guide
 - View
 - 3 Voltar
 - L Origin Label
 - First Responder
 - Exit
 - Unwind segue to "myUnwindActionWithU...

Diagram:

Label Properties:

- Text: Plain
- Text: De onde eu vim
- Color: Default
- Font: System 17.0
- Dynamic Type: Automatically Adjusts Font
- Alignment: Center
- Lines: 1
- Behavior: Enabled
- Highlighted: Highlighted
- Baseline: Align Baselines
- Line Break: Truncate Tail
- Autoshrink: Fixed Font Size
- Tighten Letter Spacing
- Highlighted: Highlighted
- Shadow: Default
- Shadow Offset: 0
- Width: -1
- Height: -1

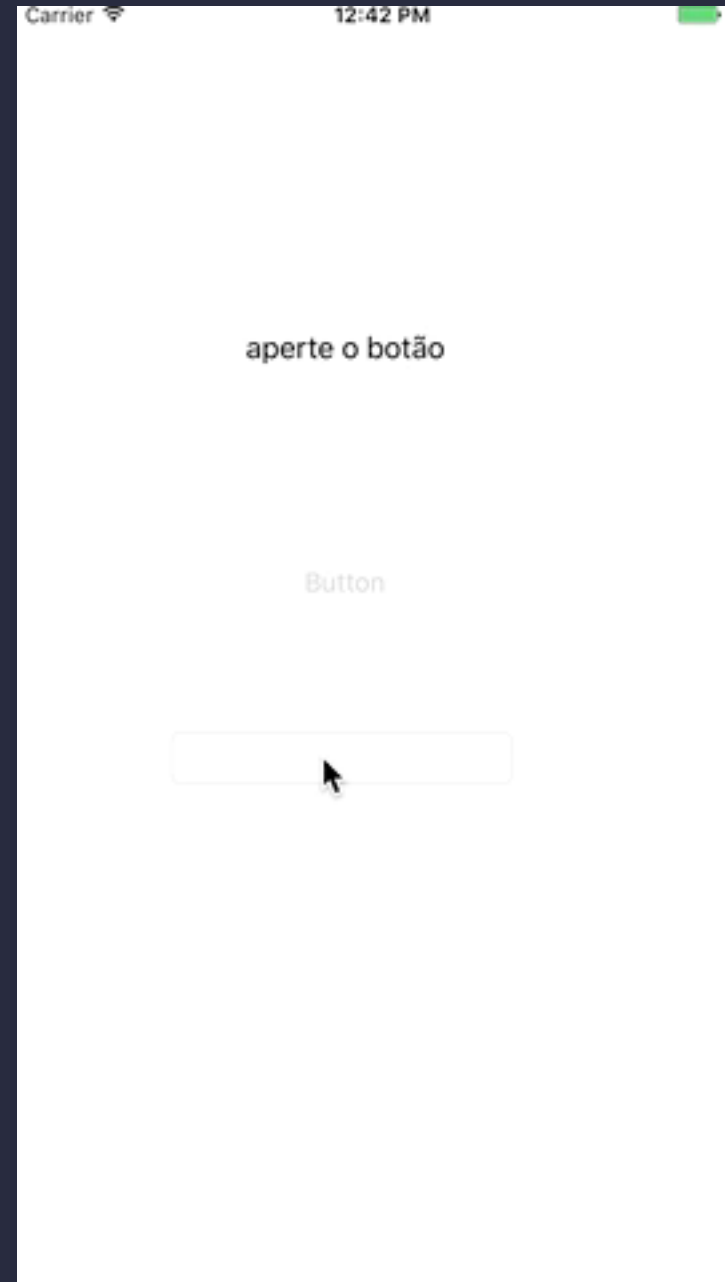
View Properties:

- Content Mode: Left
- Semantic: Unspecified
- Tag: 0
- Information: Use Semantic Class

Label Label - A variably sized amount of static text.

View as: iPhone 7 (wC hR) 51%

// pass



// passando dados

```
class RedScreenViewController: UIViewController {  
    var recievedData: String?  
  
    @IBOutlet weak var originLabel: UILabel!  
  
    override func viewDidLoad() {  
        super.viewDidLoad()  
  
        self.originLabel.text = self.recievedData  
    }  
}
```

// passando dados

No ViewController:

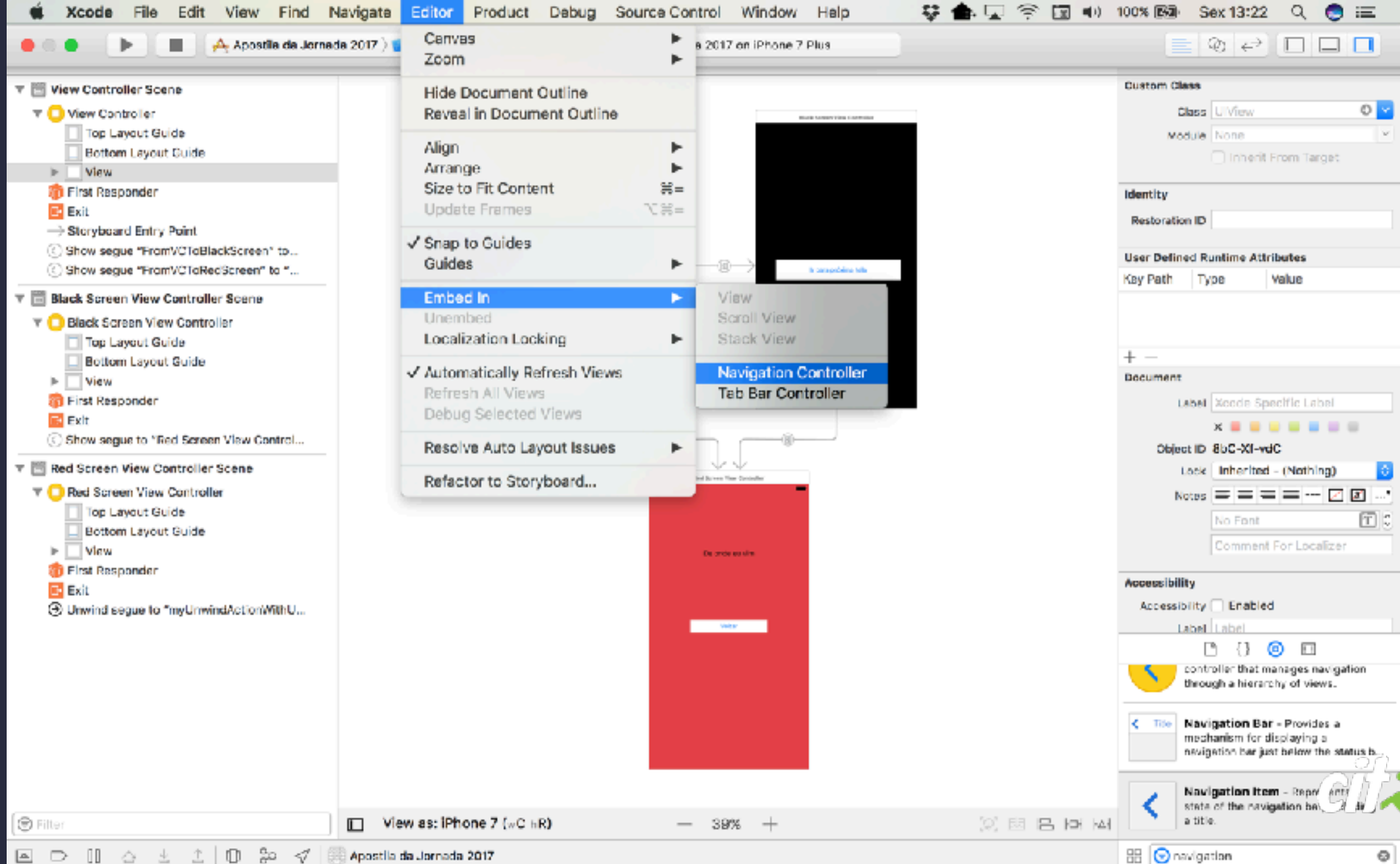
```
override func prepare(for segue: UIStoryboardSegue, sender: Any?) {  
    if let redVC = segue.destination as? RedScreenViewController {  
        redVC.recievedData = "Vim do VC"  
    }  
}
```

No BlackScreenViewController:

```
override func prepare(for segue: UIStoryboardSegue, sender: Any?) {  
    if let redVC = segue.destination as? RedScreenViewController {  
        redVC.recievedData = "Vim do BlackVC"  
    }  
}
```


// Navigation Controller





Apostila da Jornada 2017 > iPhone 7 Plus Running Apostila da Jornada 2017 on iPhone 7 Plus

Apostila da Jornada 2017 > Apostila da Jornada 2017 > Main.storyboard > Main.storyboard (Base) > No Selection

View Controller Scene

- View Controller
 - Top Layout Guide
 - Bottom Layout Guide
 - View
 - Navigation Item
 - First Responder
 - Exit
 - Show segue "FromVCtoBlackScreen" to...
 - Show segue "FromVCtoRedScreen" to "..."

Black Screen View Controller Scene

- Black Screen View Controller
 - Top Layout Guide
 - Bottom Layout Guide
 - View
 - First Responder
 - Exit
 - Show segue to "Red Screen View Control..."

Red Screen View Controller Scene

- Red Screen View Controller
 - Top Layout Guide
 - Bottom Layout Guide
 - View
 - First Responder
 - Exit
 - Unwind segue to "myUnwindActionWithU..."

Navigation Controller Scene

- Navigation Controller
 - Navigation Bar
 - First Responder
 - Exit
 - Storyboard Entry Point
 - Relationship "root view controller" to "View..."

Navigation Controller → View Controller → Black Screen View Controller

View Controller → Red Screen View Controller

Black Screen View Controller → Red Screen View Controller

No Selection

controller that manages navigation through a hierarchy of views.

Navigation Bar - Provides a mechanism for displaying a navigation bar just below the status bar.

Navigation Item - Represents the state of the navigation bar, including a title.

View as: iPhone 7 (wC hR) 39%

Apostila da Jornada 2017

navigation

Running Apostila da Jornada 2017 on iPhone 7 Plus

Apostila da Jornada 2017 > Apostila da Jornada 2017 > Main.storyboard > Main.storyboard (Base) > Red Screen Vie...controller Scene > Title > RedScreen

VC Scene

- Title
 - Top Layout Guide
 - Bottom Layout Guide
 - View
 - VC
- First Responder
- Exit
- Show segue "FromVCtoBlackScreen" to...
- Show segue "FromVCtoRedScreen" to "..."

BlackScreen Scene

- Title
 - Top Layout Guide
 - Bottom Layout Guide
 - View
 - BlackScreen
- First Responder
- Exit
- Show segue to "Red Screen View Control..."

RedScreen Scene

- Title
 - Top Layout Guide
 - Bottom Layout Guide
 - View
 - RedScreen
- First Responder
- Exit
- Unwind segue to "myUnwindActionWithU..."

Navigation Controller Scene

- Navigation Controller
 - Navigation Bar
- First Responder
- Exit
- Storyboard Entry Point
- Relationship "root view controller" to "View..."

Navigation Item

Title: Red Screen

Prompt:

Back Button:

controller that manages navigation through a hierarchy of views.

Navigation Bar - Provides a mechanism for displaying a navigation bar just below the status bar.

Navigation Item - Represents a state of the navigation bar, including a title.

View as: iPhone 7 (wC hR) 38%

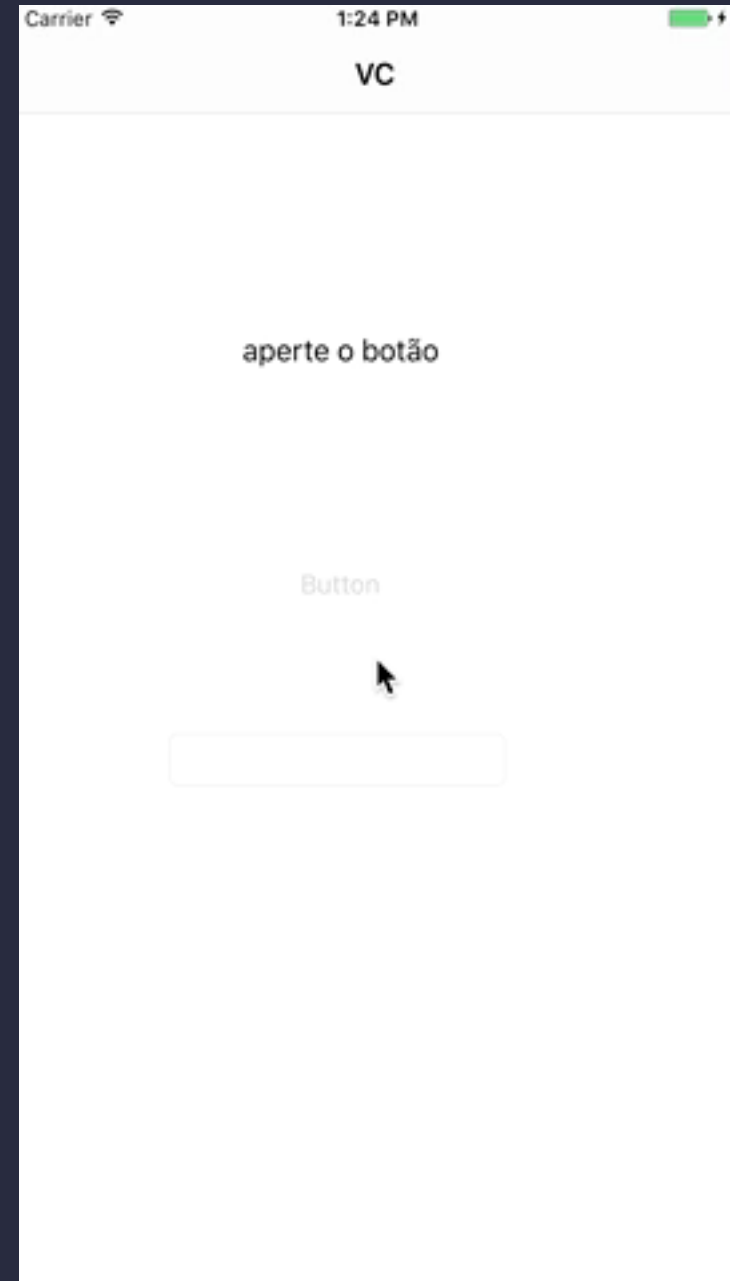
Apostila da Jornada 2017

navigation

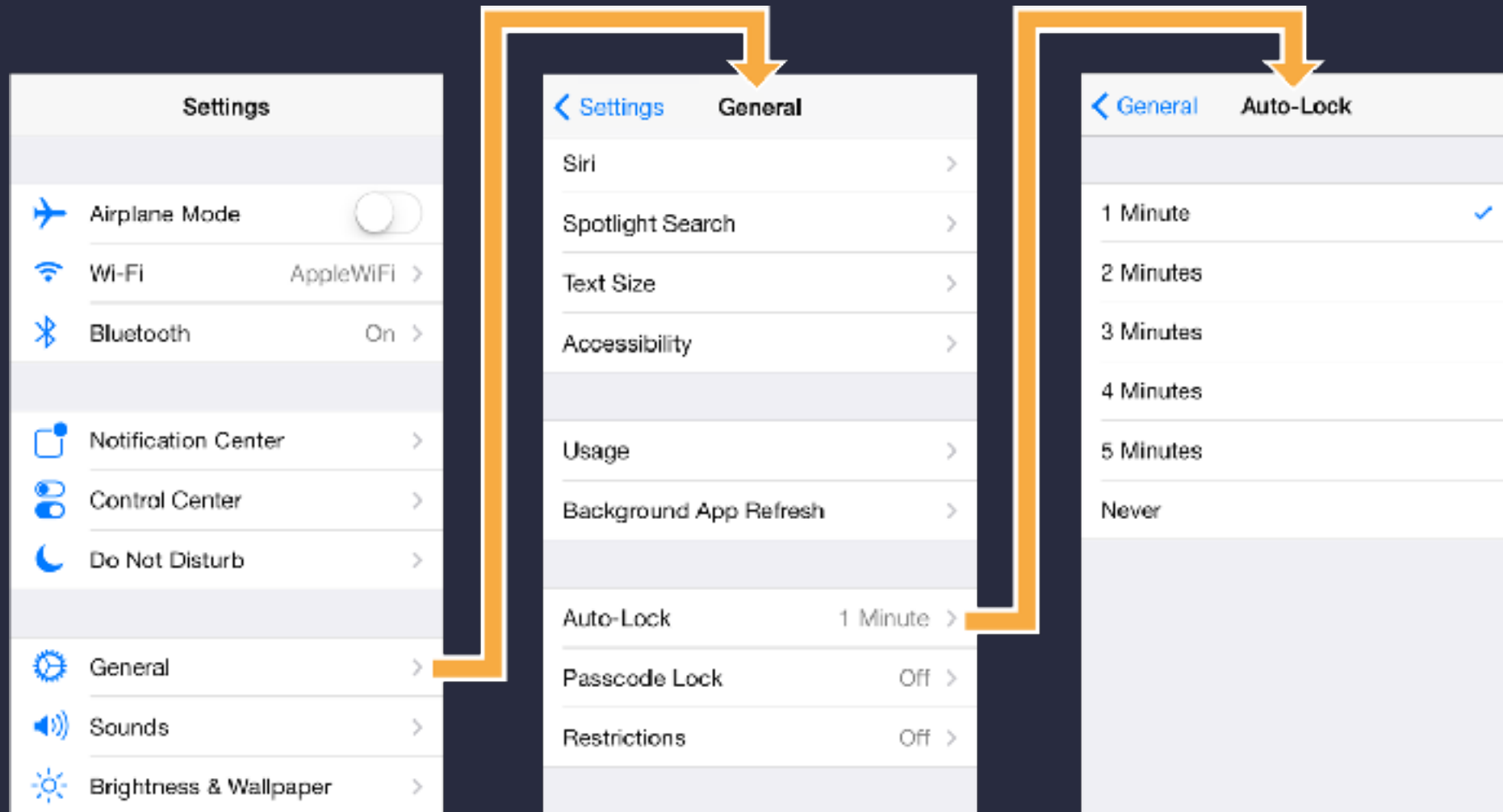
```
graph LR
    VC[VC Scene] -- "Segue: FromVCtoBlackScreen" --> BS[BlackScreen Scene]
    BS -- "Segue: Show segue to 'Red Screen View Control...'" --> RS[RedScreen Scene]
    VC -- "Segue: FromVCtoRedScreen" --> RS
    RS -- "Segue: Unwind segue to 'myUnwindActionWithU...'" --> VC
    NC[Navigation Controller Scene] -- "Storyboard Entry Point" --> VC
    NC -- "Relationship 'root view controller' to 'View...'" --> VC
```

// Navigation controller

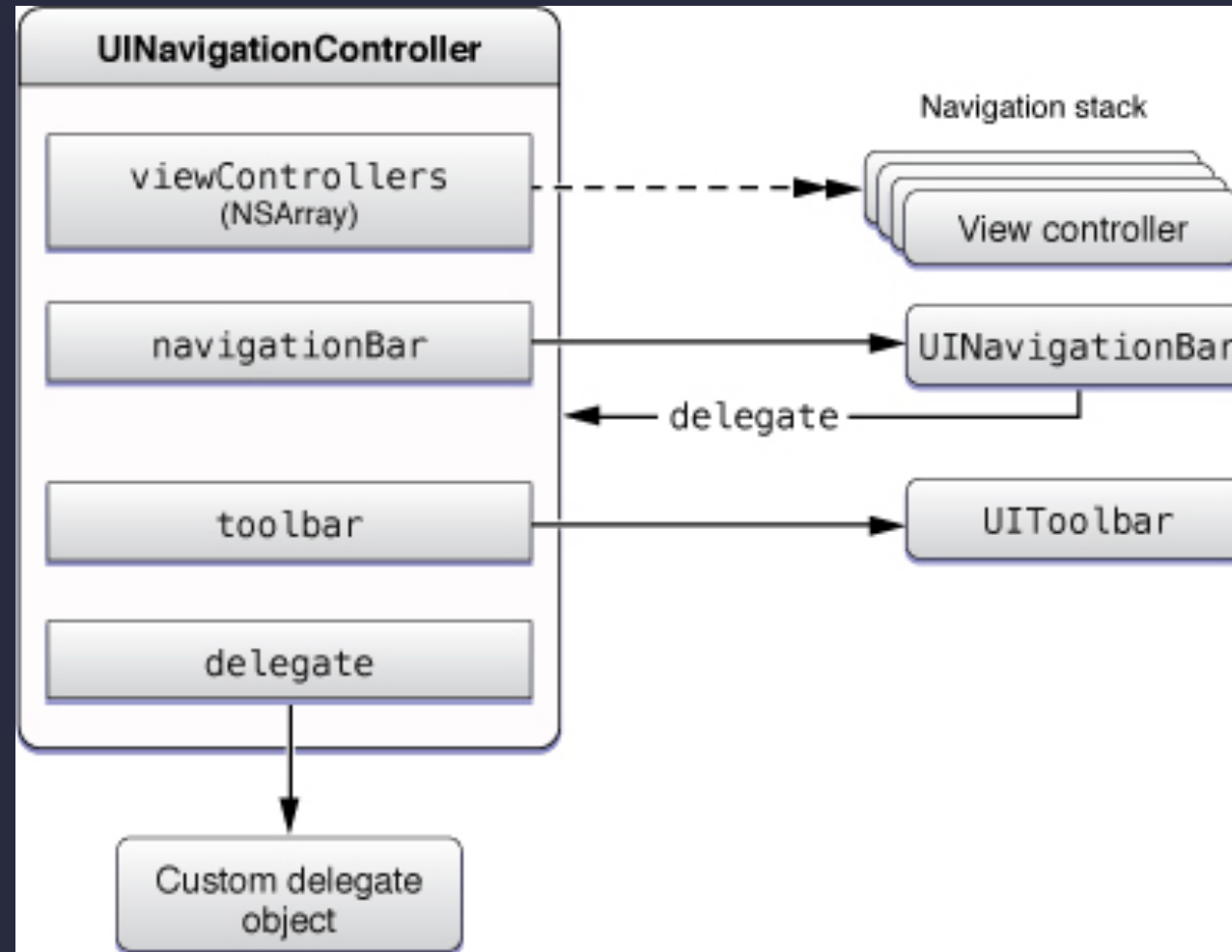
- UINavigationController
- Navegação hierárquica
- Pilha de VCs



// Navigation controller



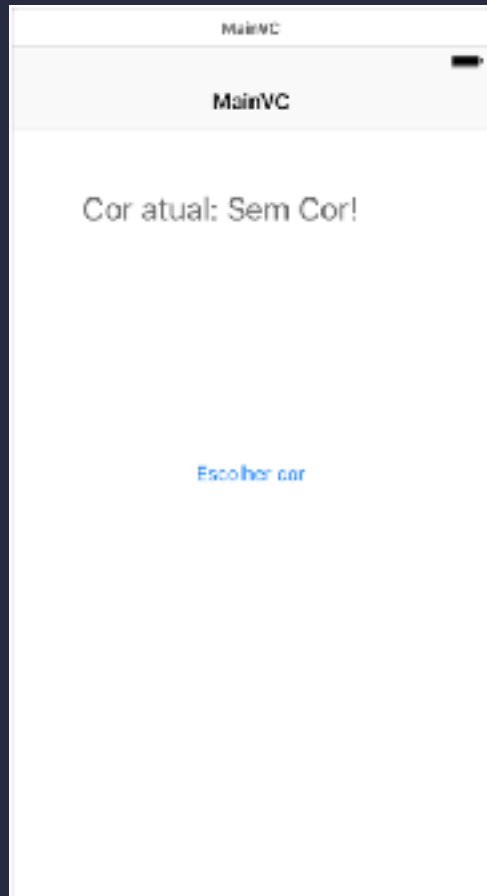
// Navigation controller



// Exercício

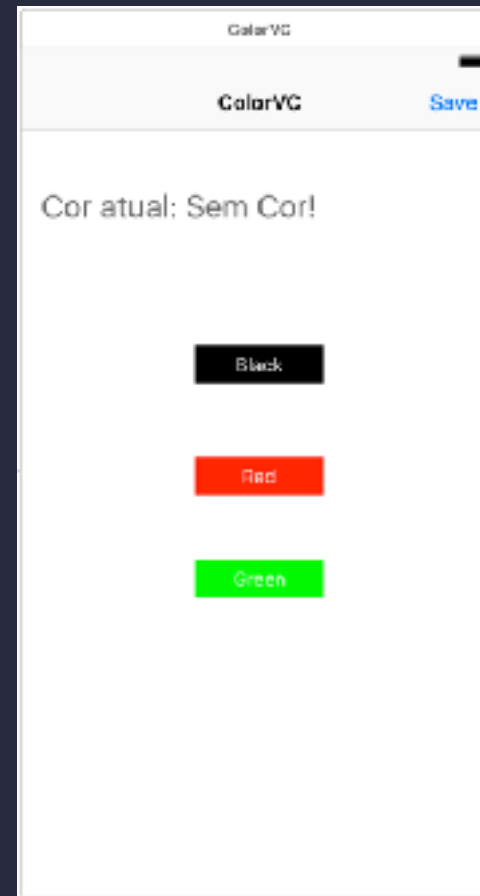
// Exercício 11-a

Navegação



Apertar em **Escolher cor** leva para ColorVC

O background de MainVC deve ser da cor escolhida, em ColorVC, e a label deve indicar o nome da cor.

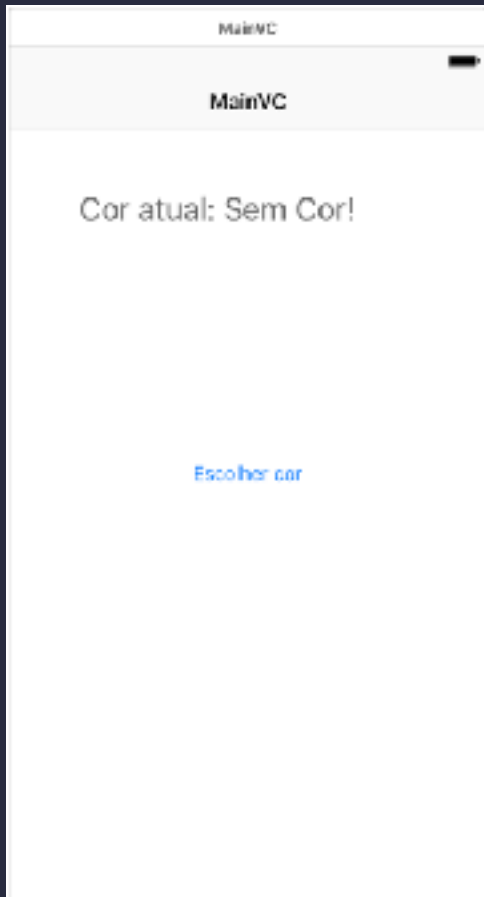


Apertar em um **botão de cor** muda o conteúdo da **label**.

Apertar em **save** retorna para o MainVC, passando a **cor** escolhida

// Exercício 11-b

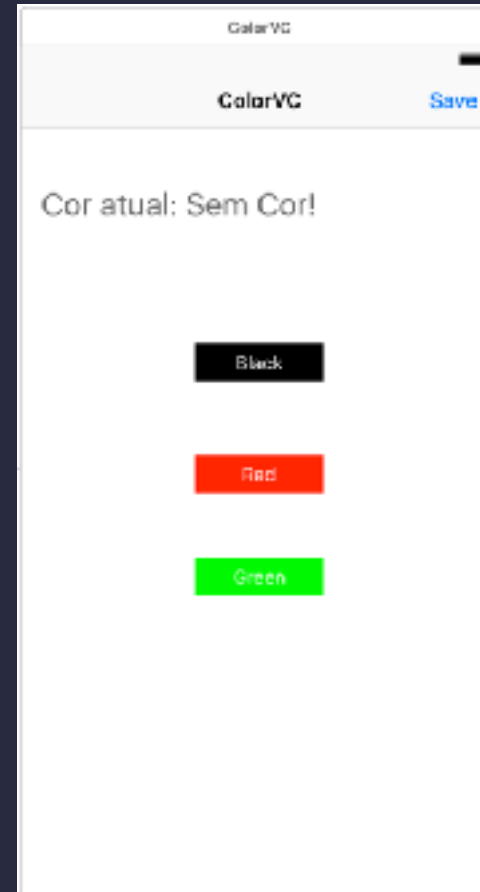
Navegação com Delegate



Implementa um protocolo **ColorVCDelegate**:

```
func chosen(color: UIColor,  
            by colorVC: ColorViewController)
```

retira o **ColorViewController** da **pilha** de navegação e atualiza interface do **MainViewController**



tem uma propriedade **delegate** do tipo **ColorVCDelegate**

ao apertar **save**, chama método **chosen(color: by:)** de seu **delegate**

DÚVIDAS

