View Controllers

The Role of View Controllers

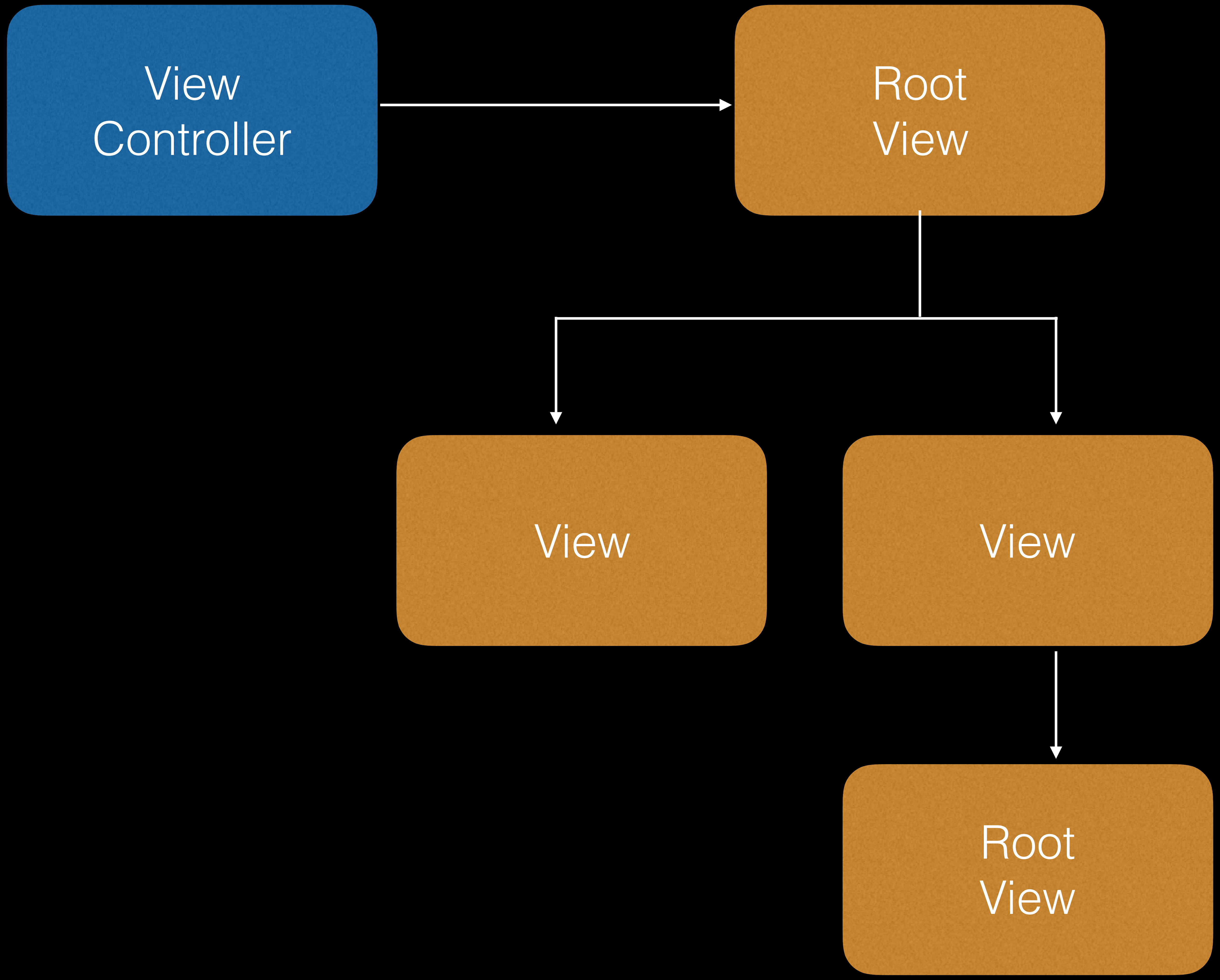
View controllers play an important role in your app, they manage a portion of your app’s user interface.

The Role of View Controllers

There are two types of controllers:

- Content view controllers manage a discrete piece of your app’s content and are the main type of view controller that you create.
- Container view controllers collect information from other view controllers.

Content View Controller

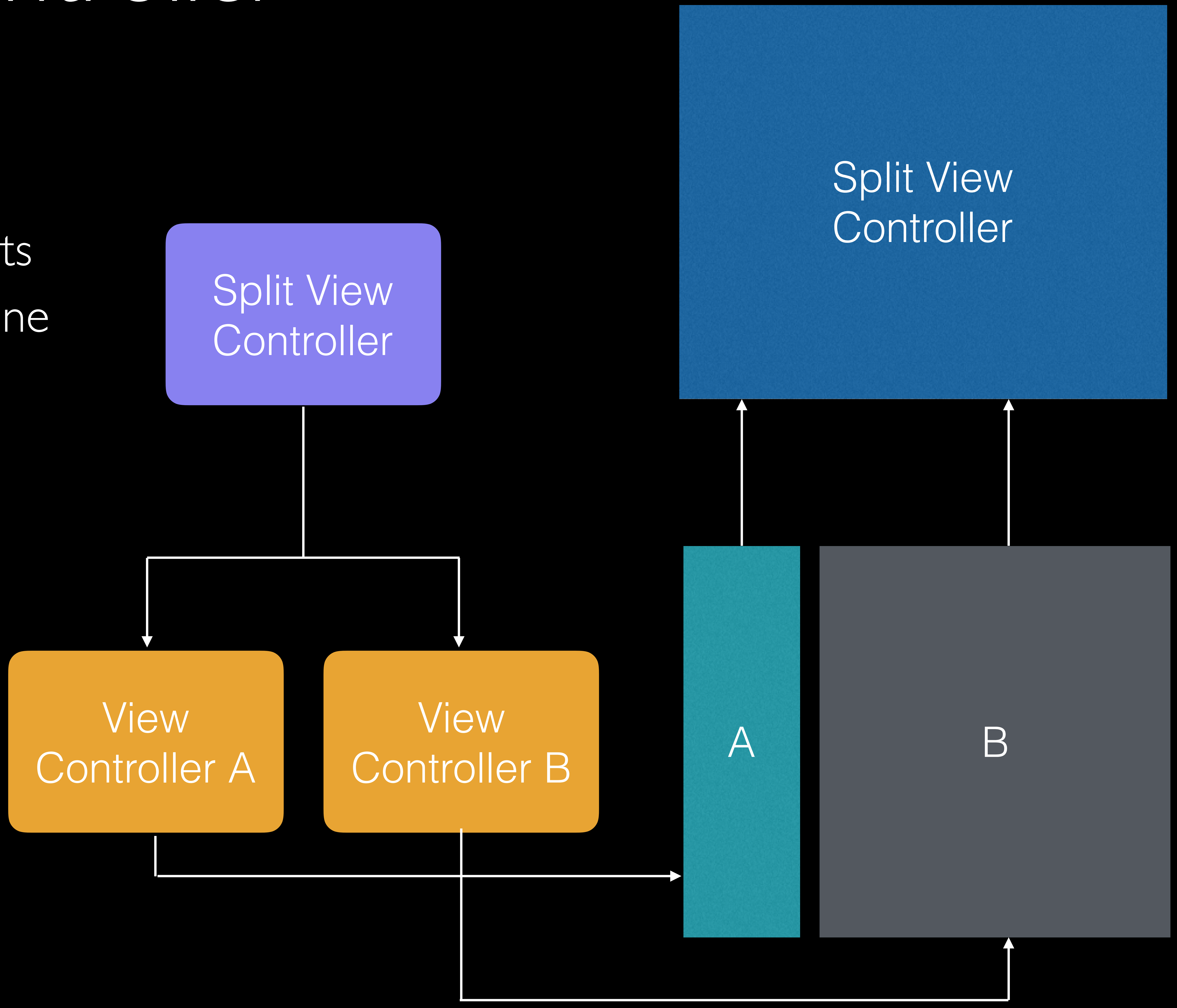


Every view controller has a single root view that encloses all of the view controller's content.

Container View Controller

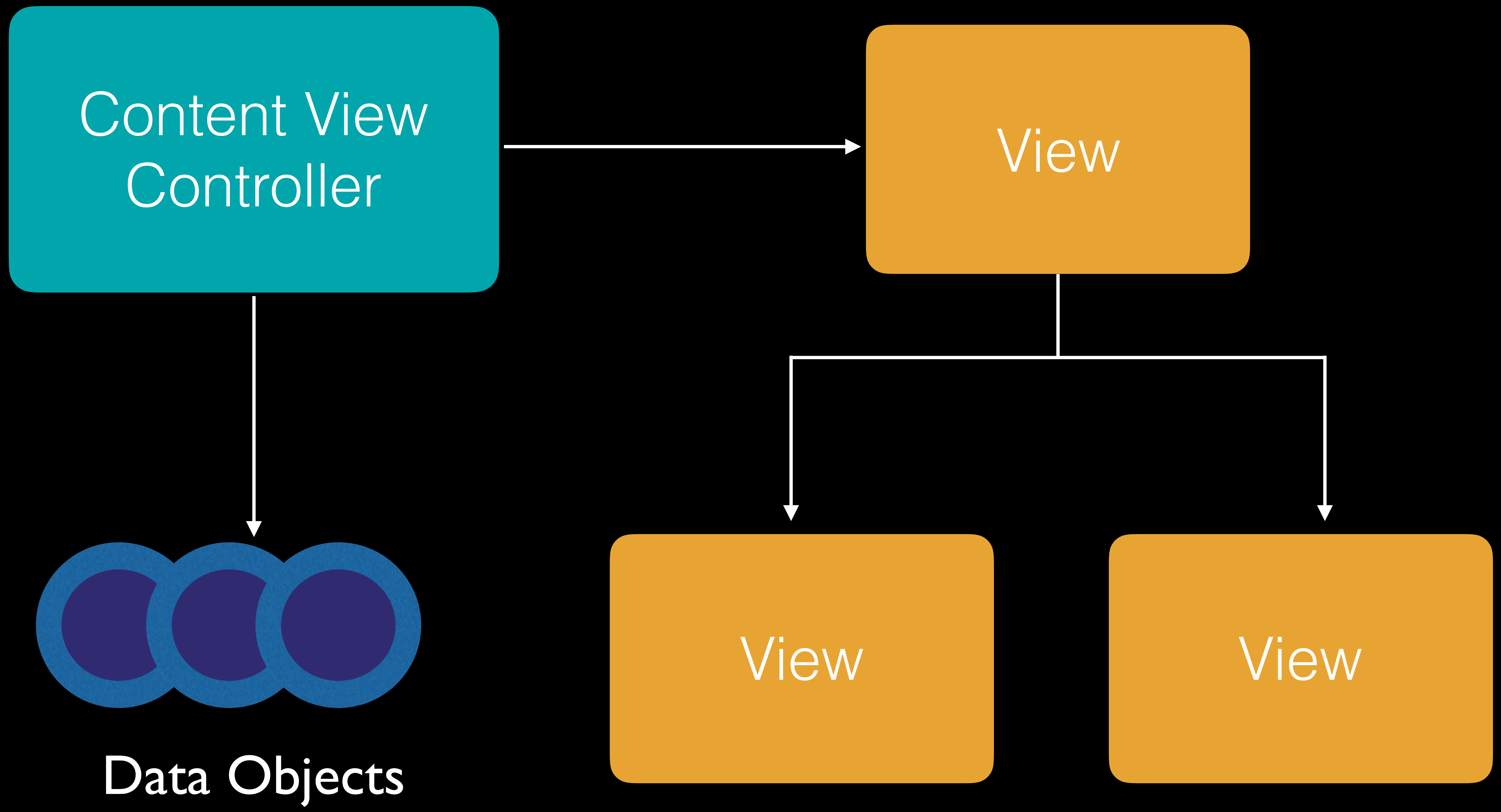
A container view controller manages its own views plus the root views from one or more of its child view controllers.

The container does not manage the content of its children



Data Marshaling

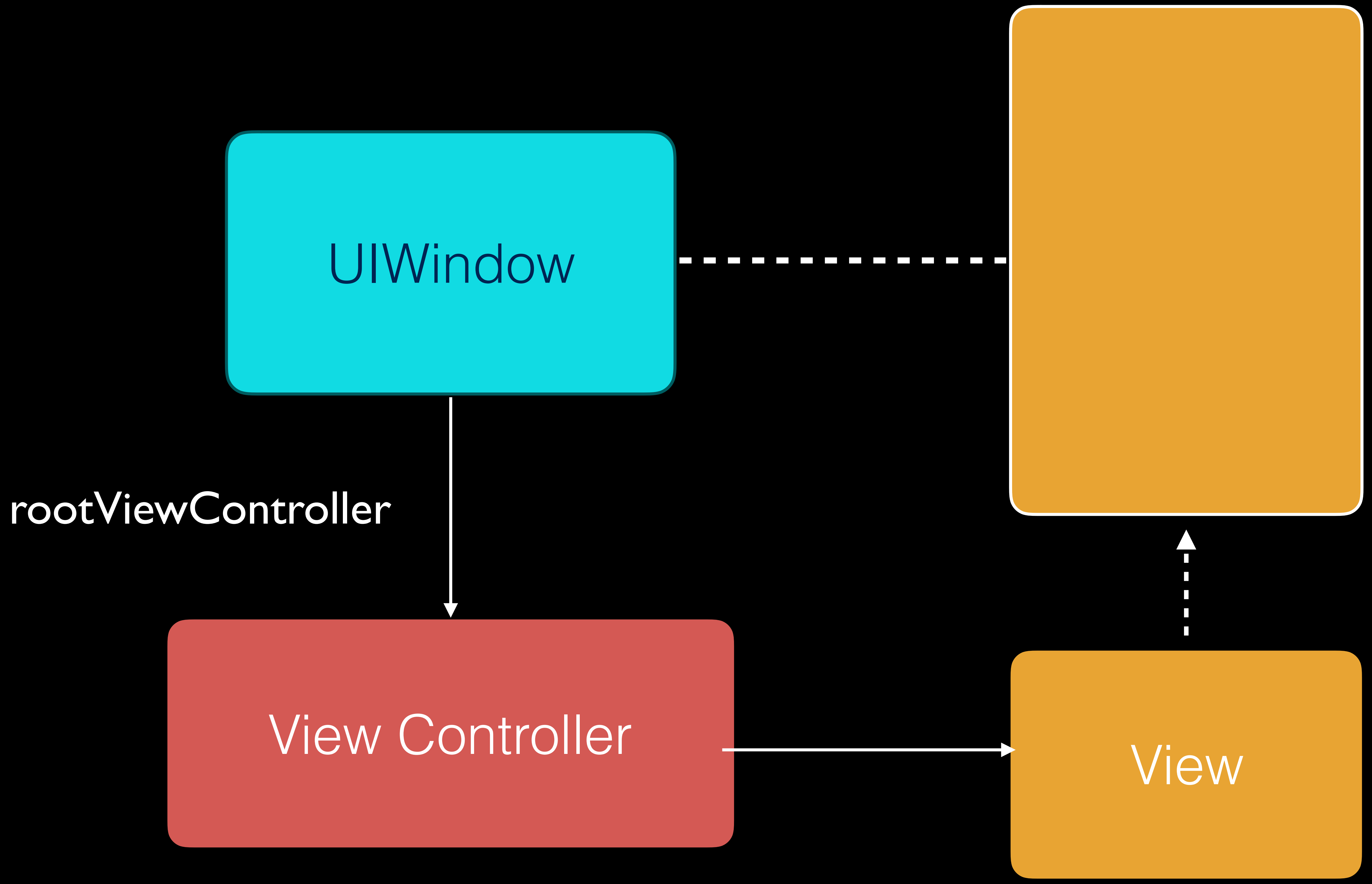
A view controller acts as an intermediary between the views it manages and the data of your app.



Root View Controller

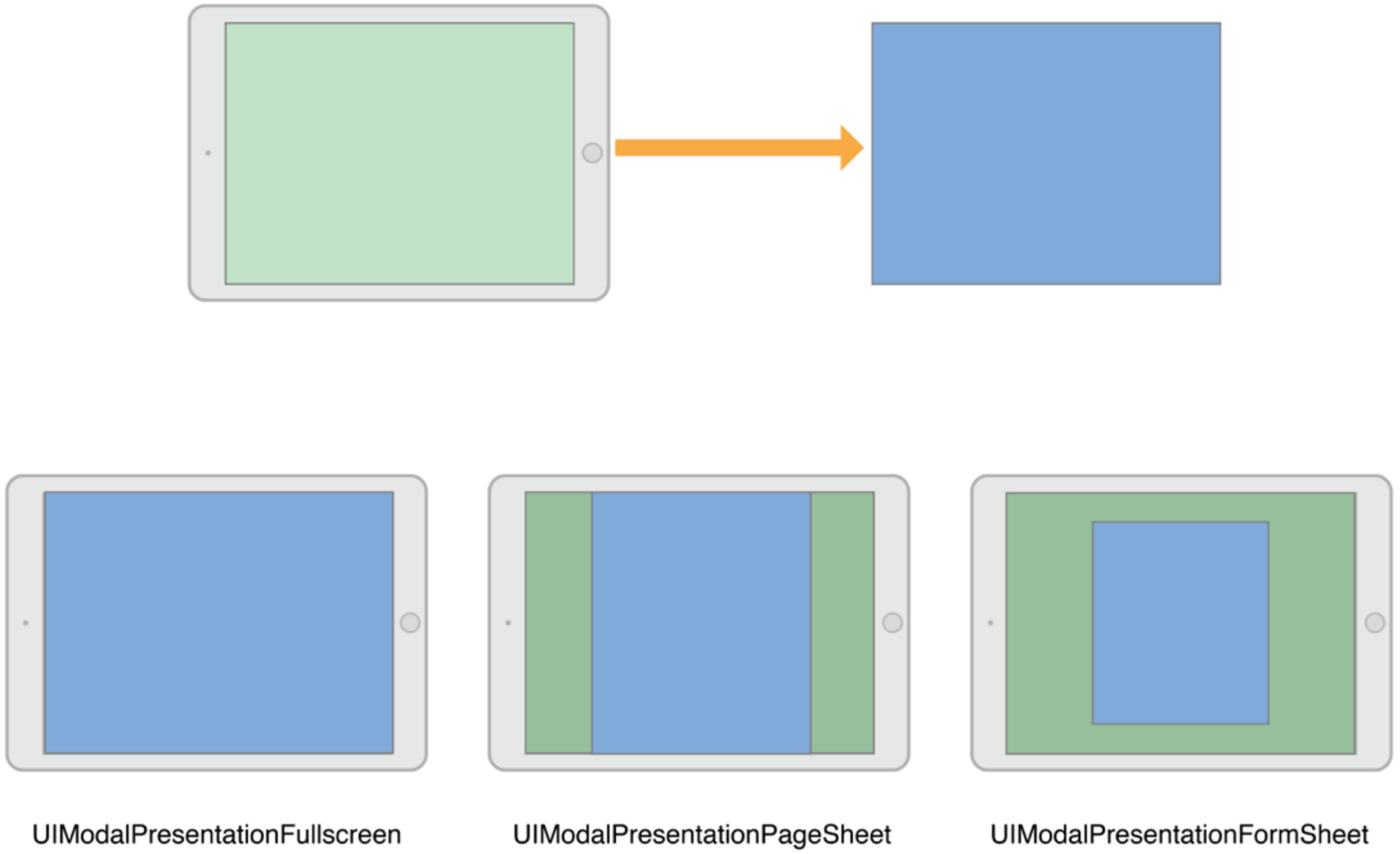
Every window has exactly one root view controller whose content fills that window.

The root view controller defines the initial content seen by the user.

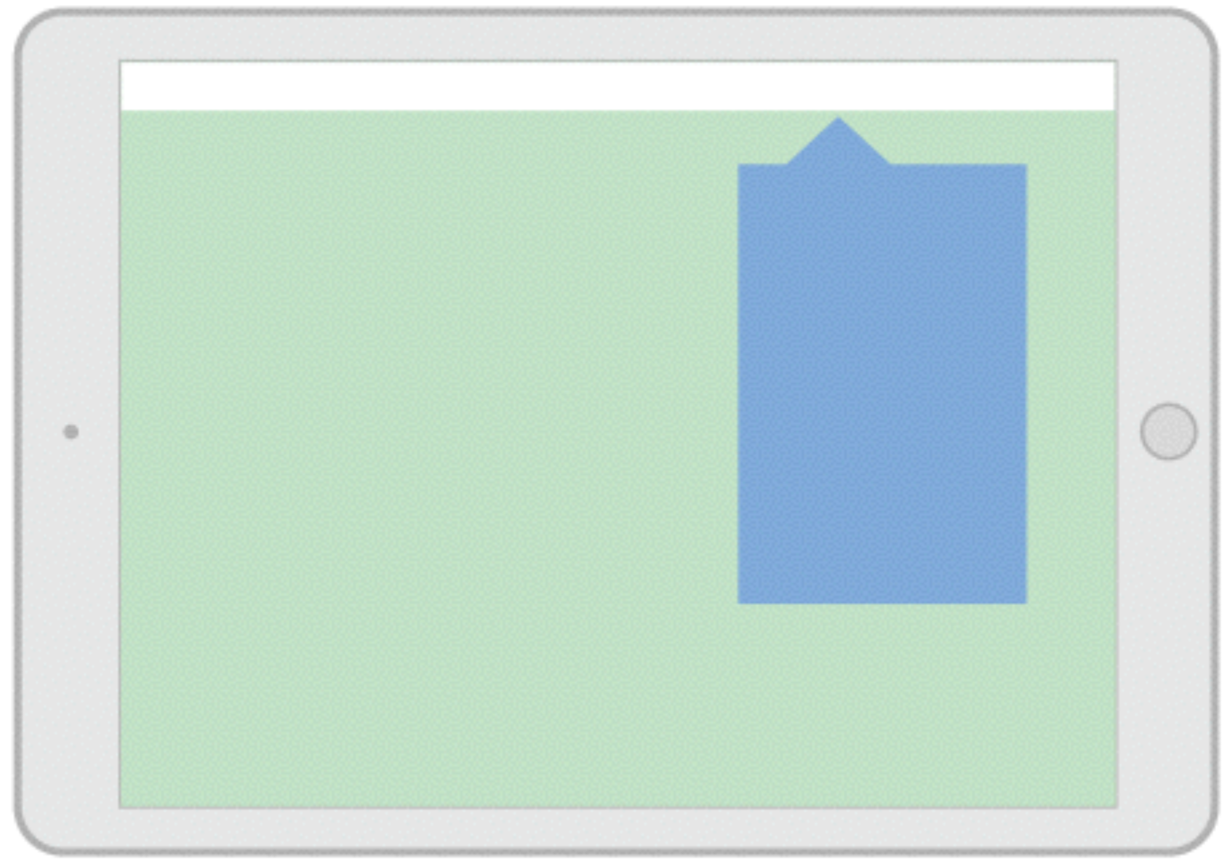


Presenting View Controllers

Presentation Styles

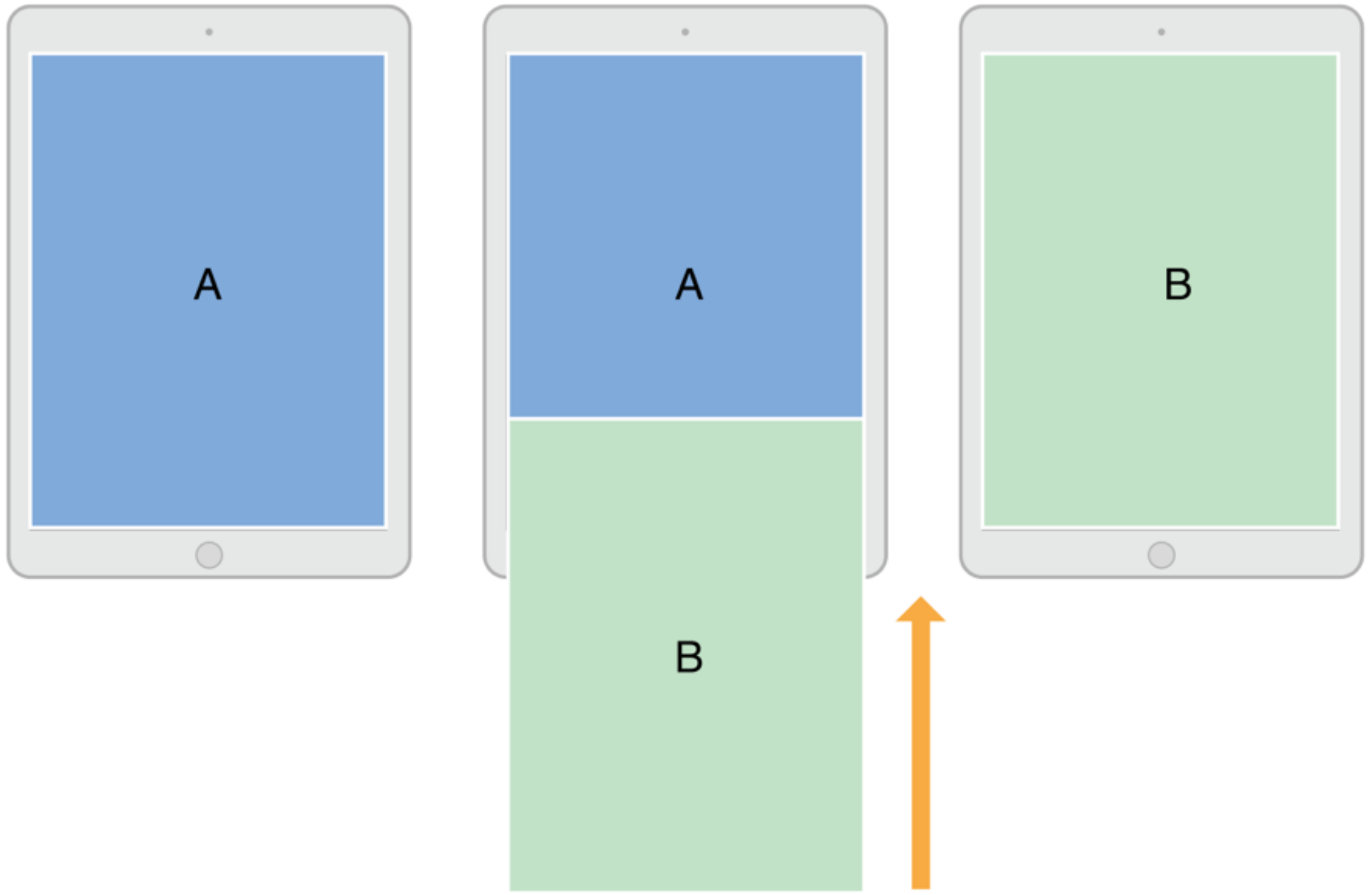

UIModalPresentationFullscreen
UIModalPresentationPageSheet
UIModalPresentationFormSheet

The Popover Styles



The UIModalPresentationPopover style displays the view controller in a popover view.

Transition Styles

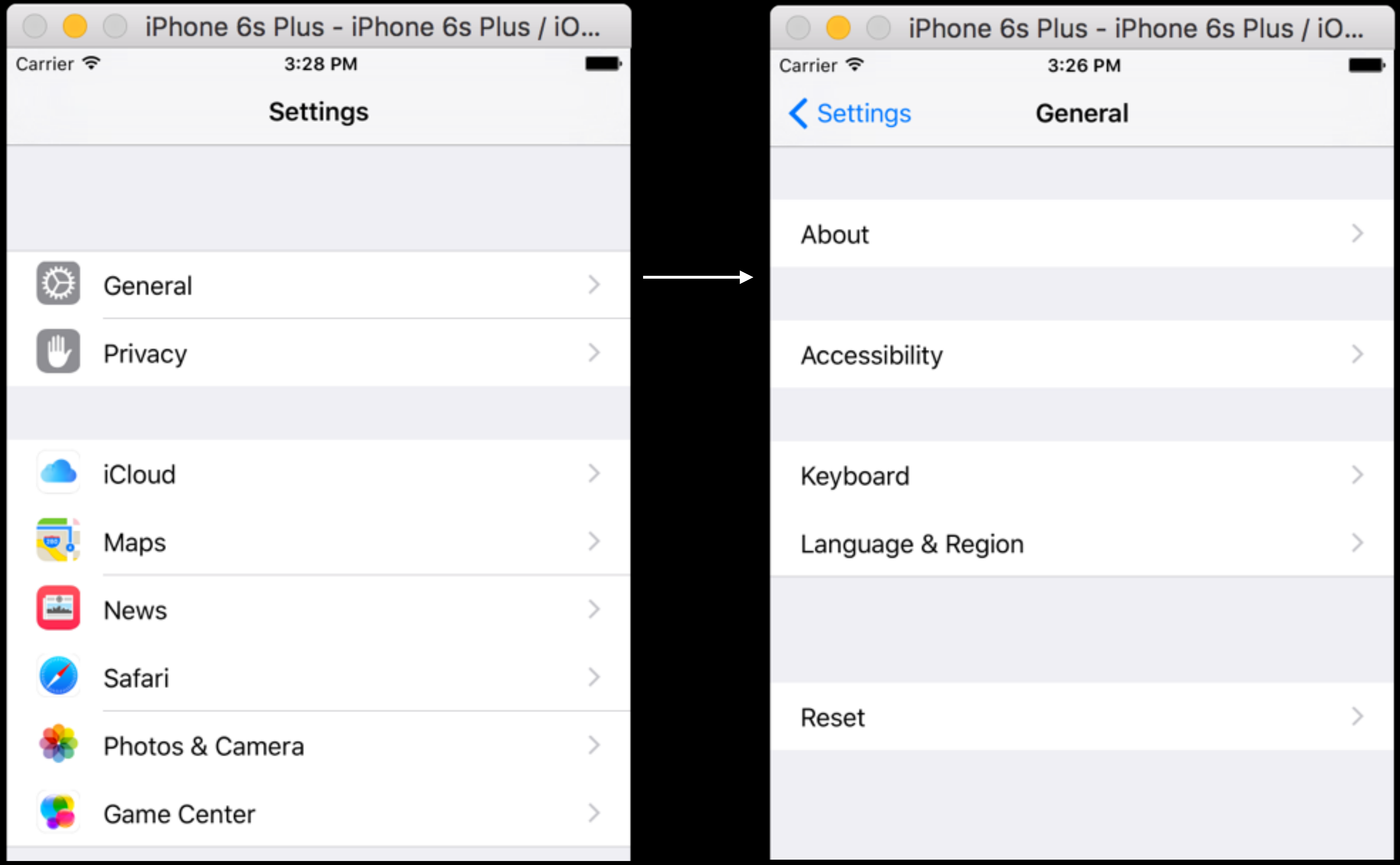


Transition styles determine the type of animations used to display a presented view controller.

Navigation Controllers

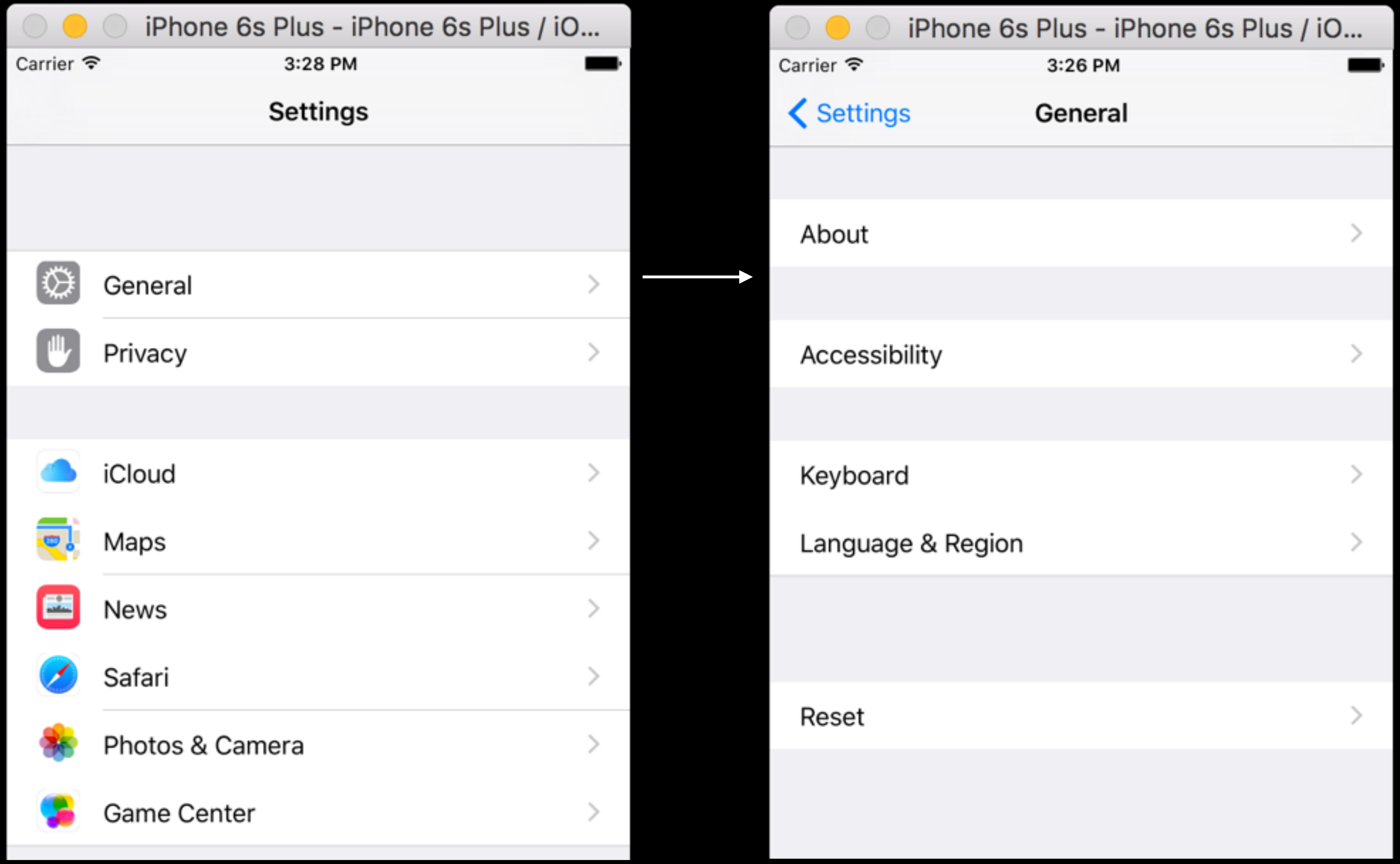
Navigation Controllers

Navigation controller is a UI Element very common in IOS apps. It manages a stack of view controllers known as the navigation stack.



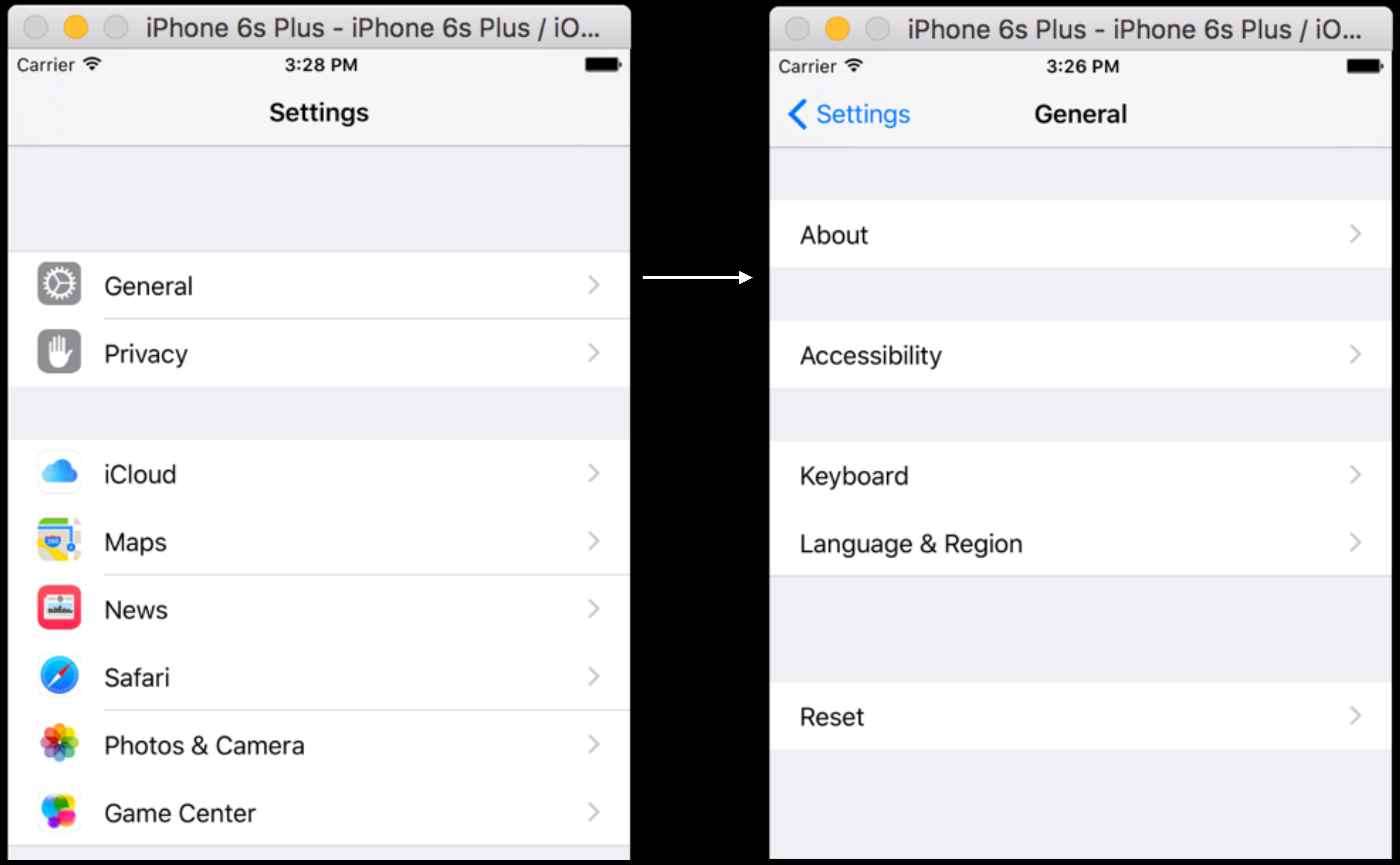
Navigation Controllers

The navigation stack is structured like an array of view controllers, and the first view controller in the array is called root view controller.



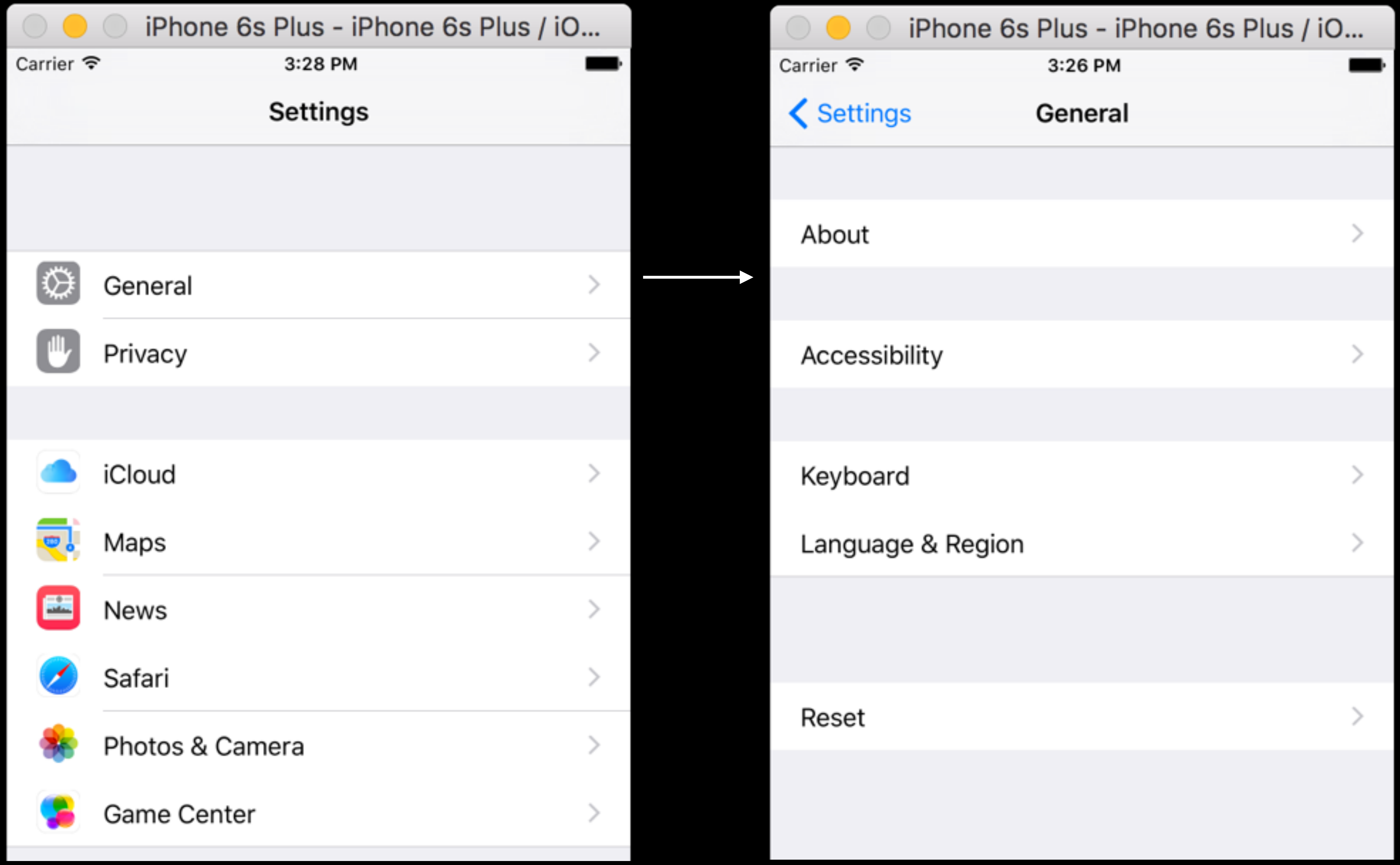
Navigation Controllers

You can add or remove view controllers using segues or using methods from UINavigationControllers.

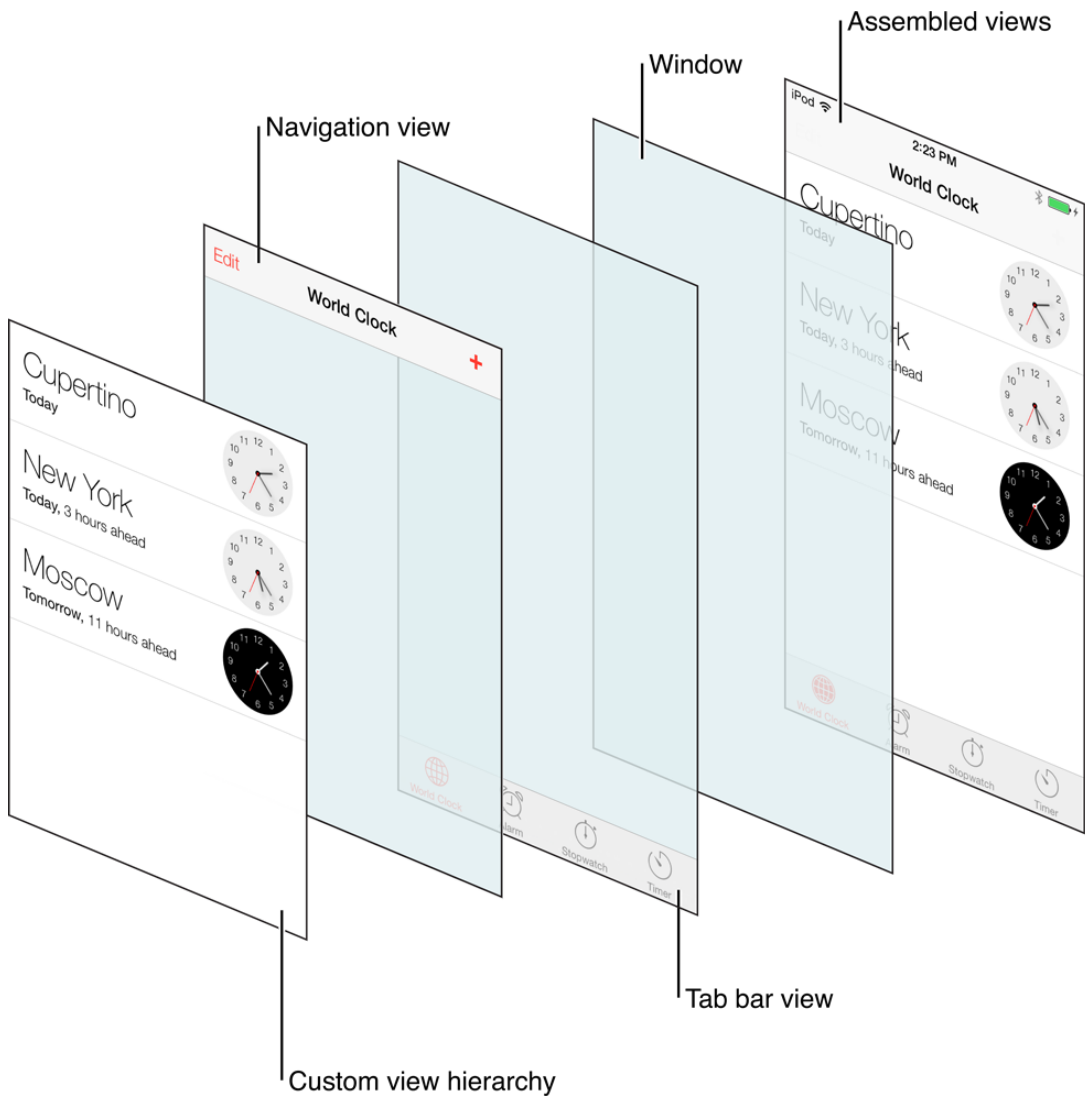


Navigation Controllers

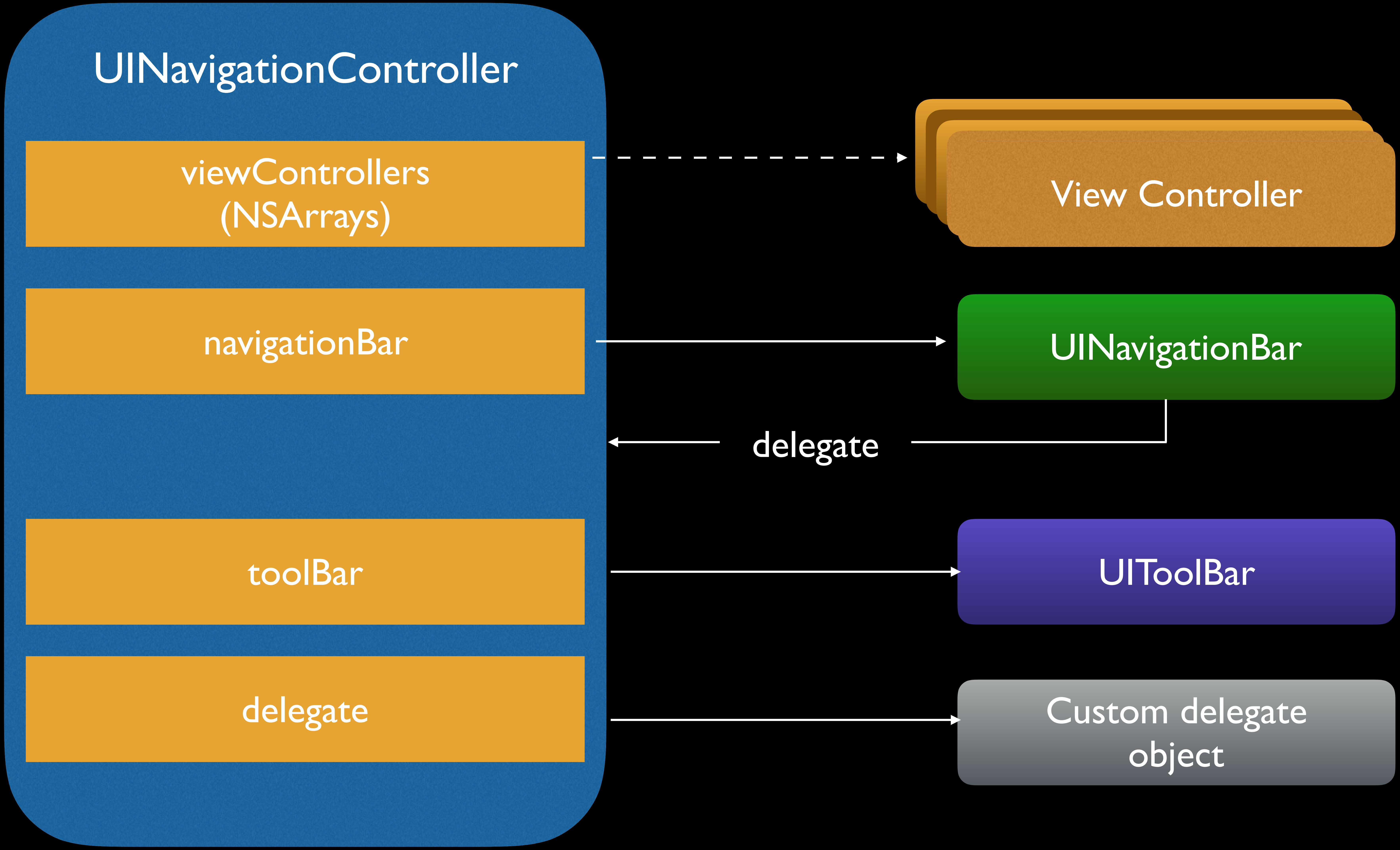
The user can remove the topmost view tapping in the back button in the navigation bar.



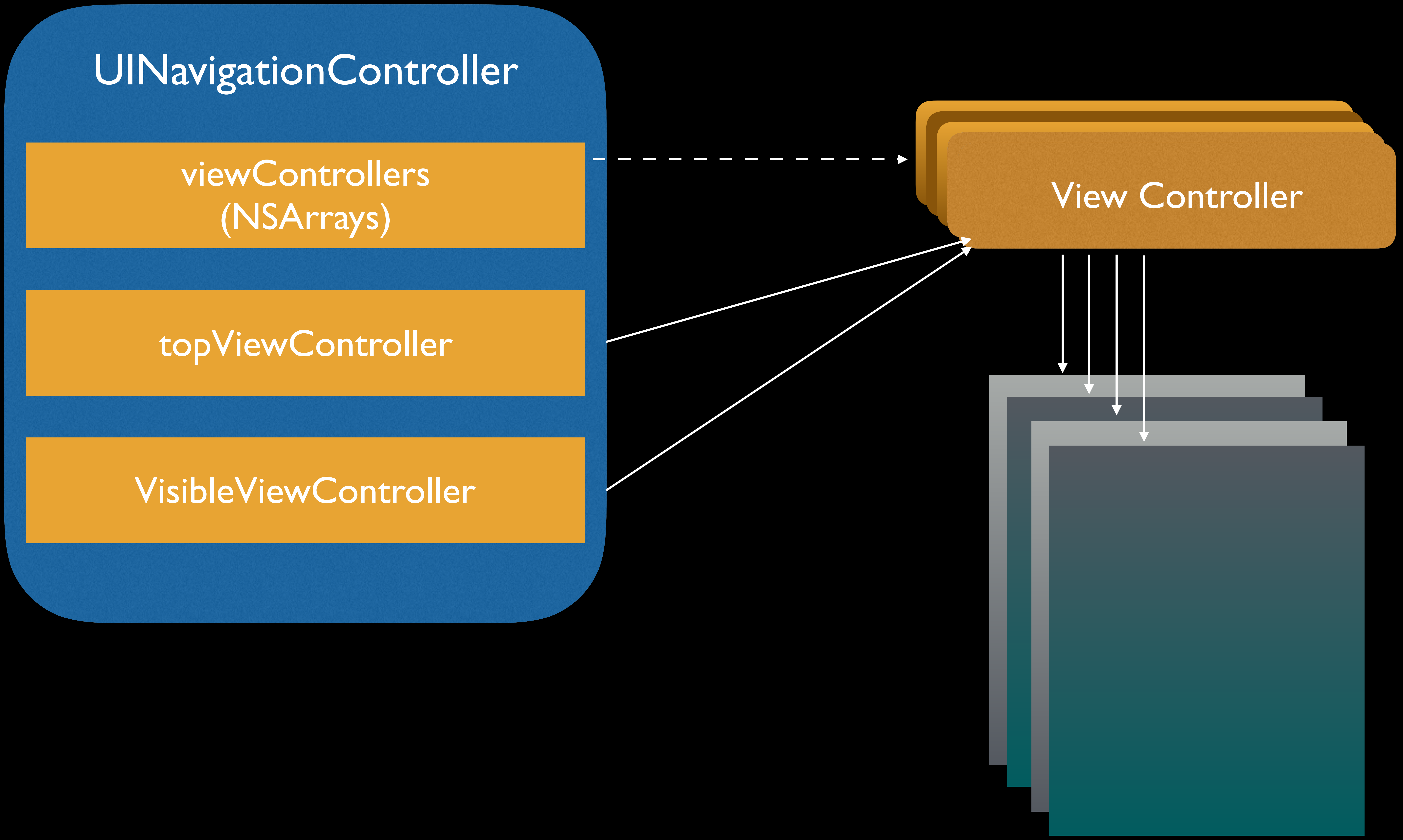
Anatomy of a Navigation Interface



The Objects of a Navigation Interface



The Navigation Stack



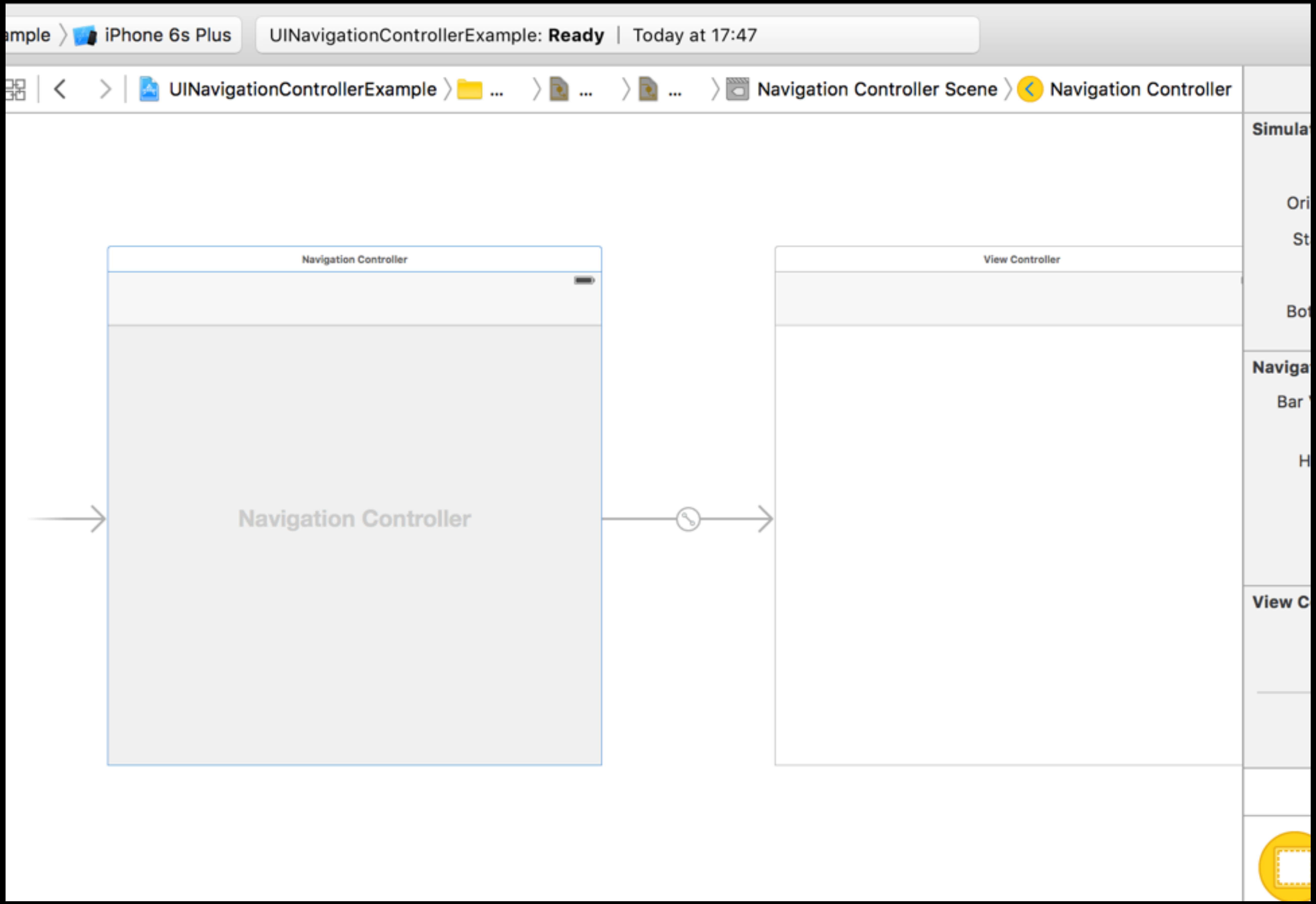
Using Segues

Navigation Controller

To setup navigationController, select the initial view controller in storyboard and select

Editor > Embed in > Navigation Controller

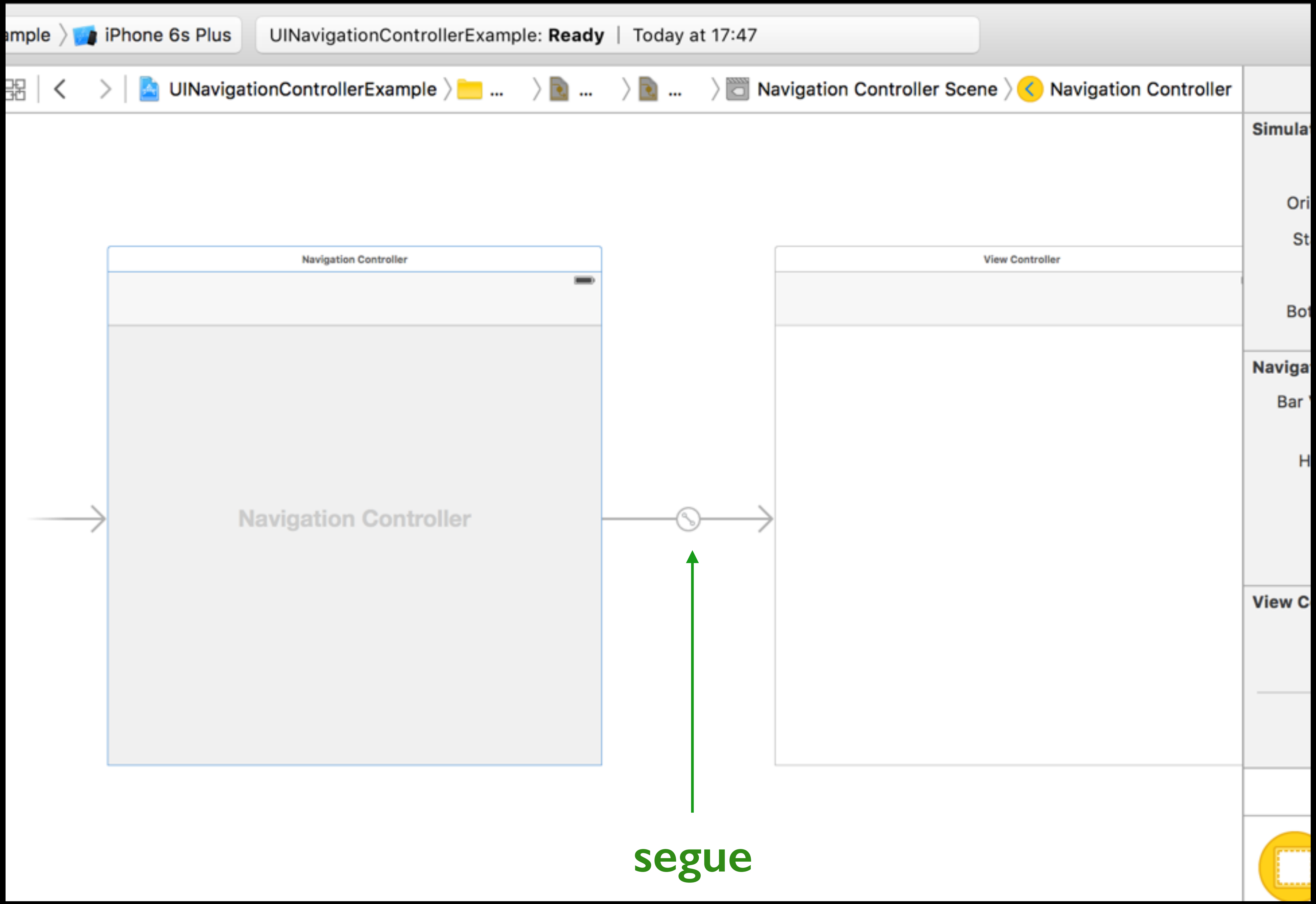
The component Navigation Controller will appear in the storyboard.



Segues

UIStoryboardSegue

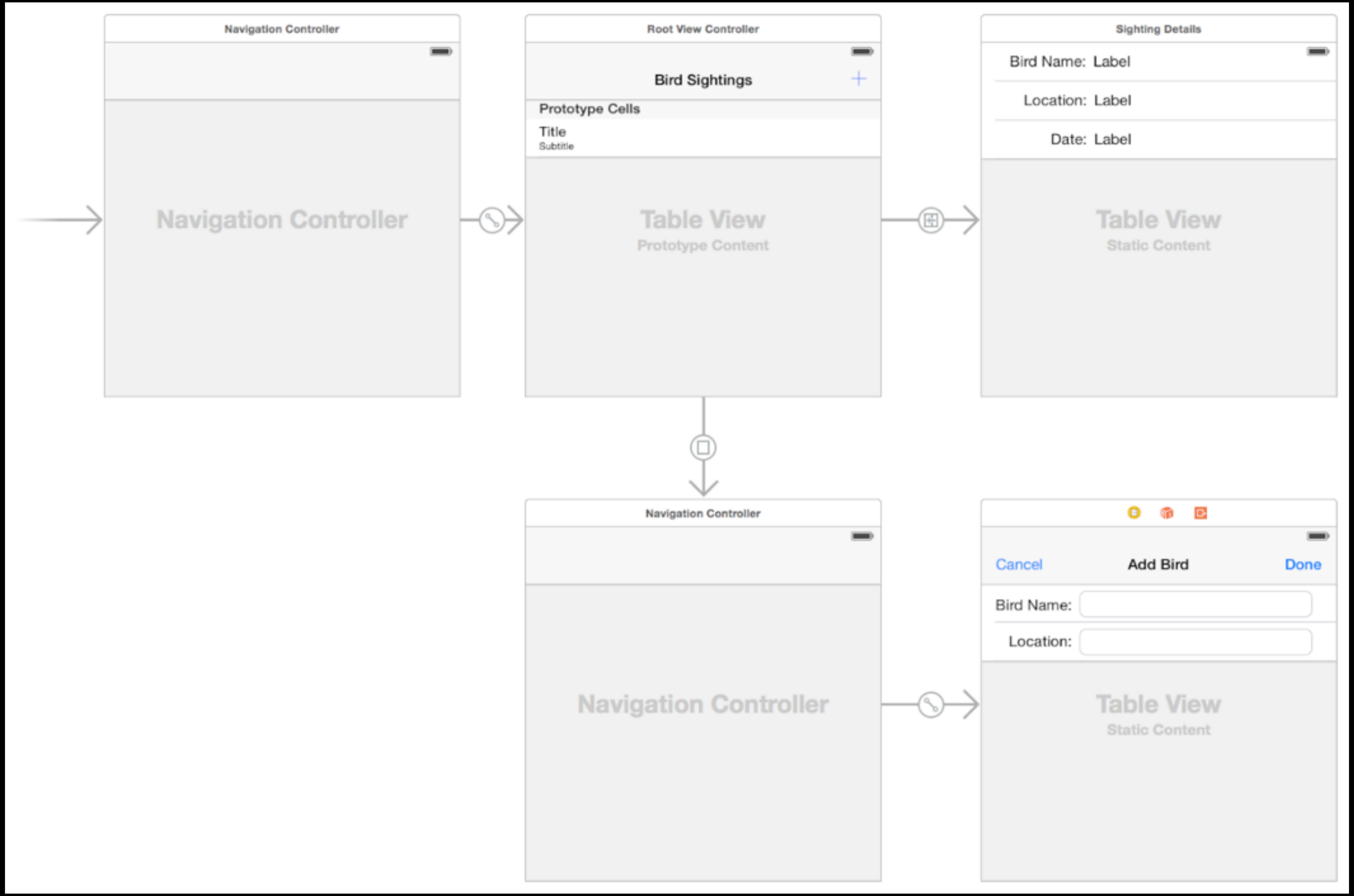
Segue is a connection that provides mechanism to perform a transition between two view controllers/scene.


ample
iPhone 6s Plus
UINavigationControllerExample: Ready | Today at 17:47
UINavigationControllerExample
...
Navigation Controller Scene
Navigation Controller
Navigation Controller
View Controller
Navigation Controller
segue

Types of Segues

There are many kinds of segues:

1. Show/Push
2. Show Detail
3. Present Modally
4. Popover presentation
5. Custom



Types of Segues

Show/Push

This segue pushes the view controller onto the navigation stack.

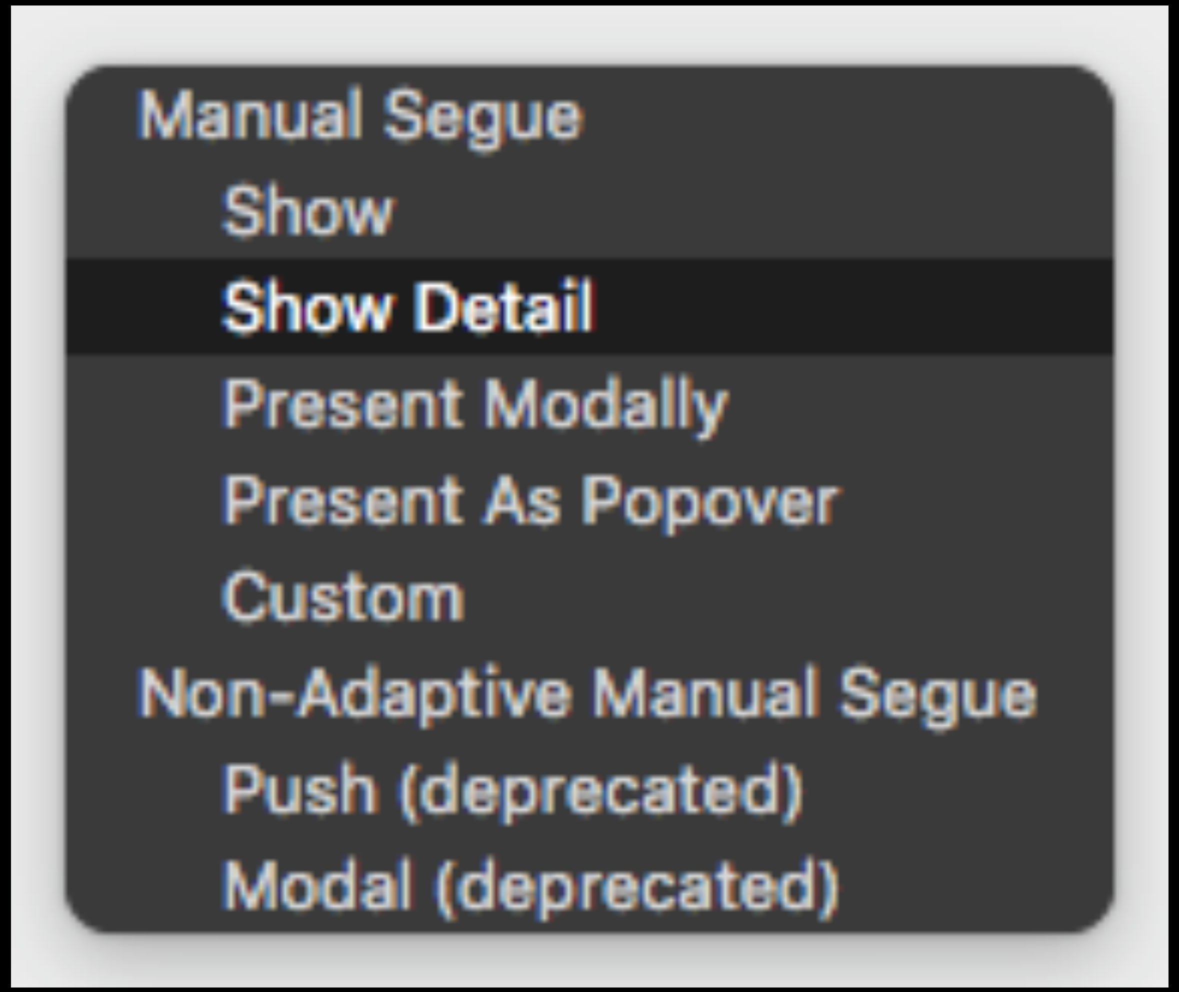
The user can tap back button in the navigation bar to return to the previous screen.

Types of Segues

Show Detail

This kind of segue is used when you have a master detail screen (UISplitViewController). The next view controller will be presented in the detail area.

In cases that your app is not master detail type, the current content will be replaced with the new view controller.



Types of Segues

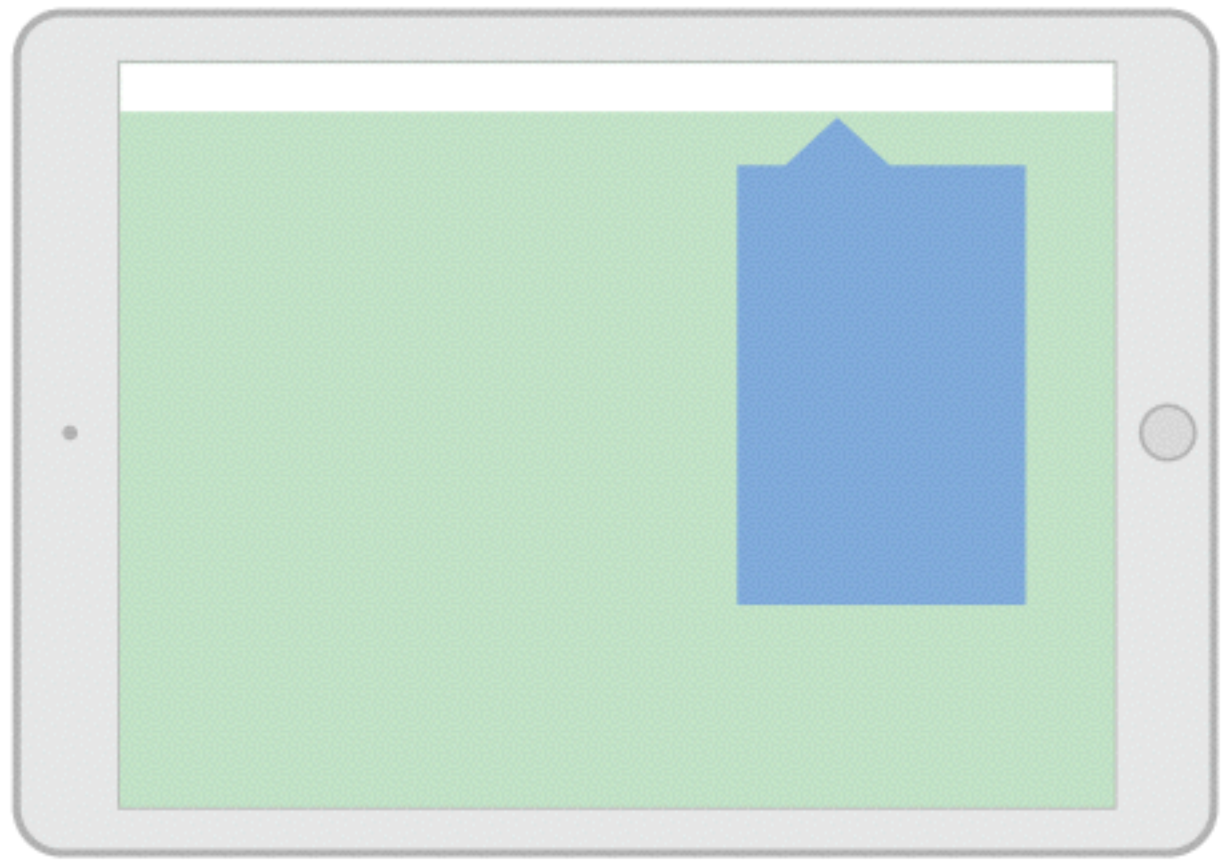
Present Modally

Present content as modal dialog.

Types of Segues

Popover presentation

Present the content as a popover anchored to an existing view.



Types of Segues

Custom

Create your own behaviors by using a custom segue.

Segues

UIStoryboardSegue

To pass data from one ViewController to another use prepareForSegue method.

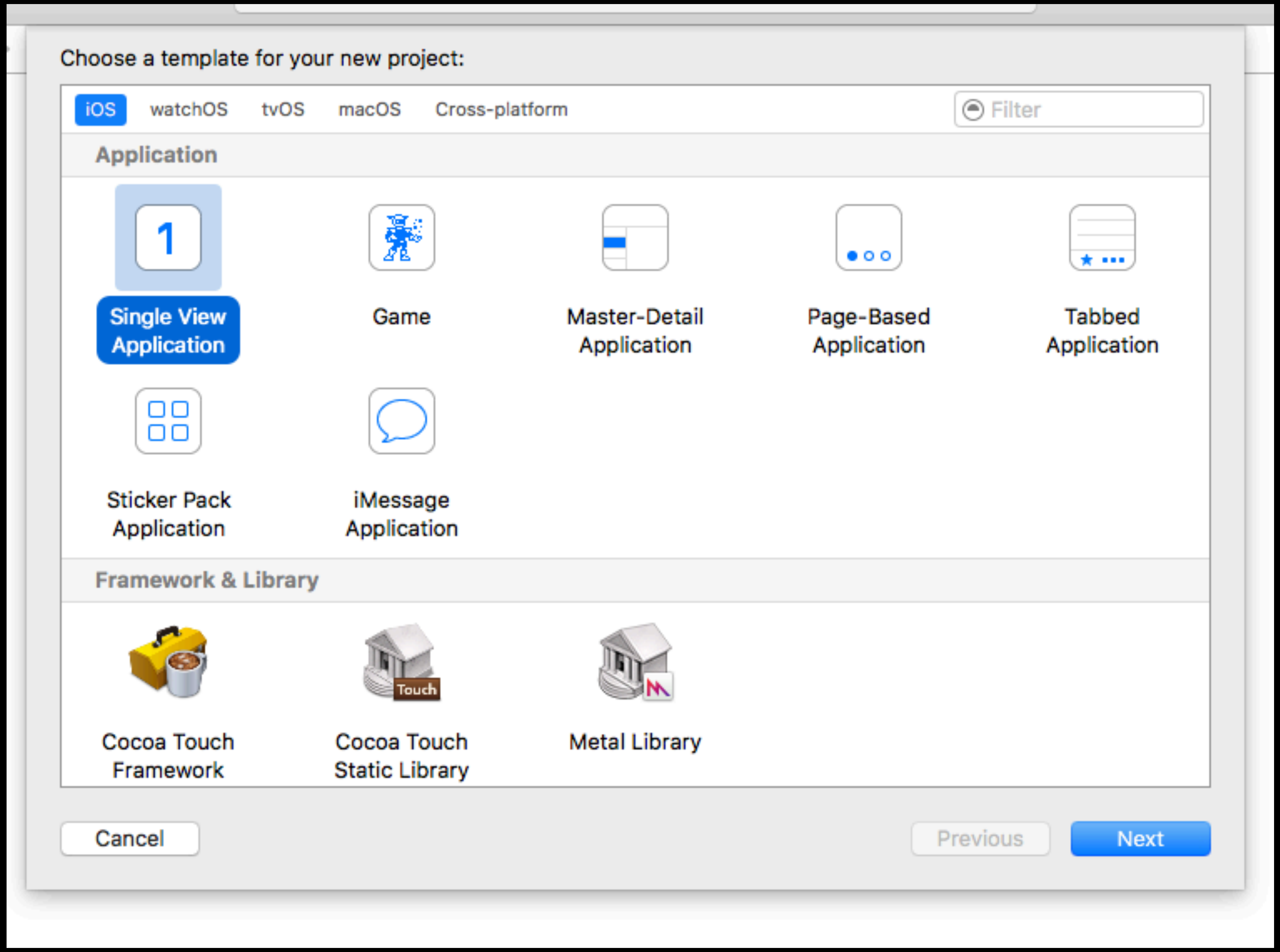
Unwind

Unwind

Let's create an example.

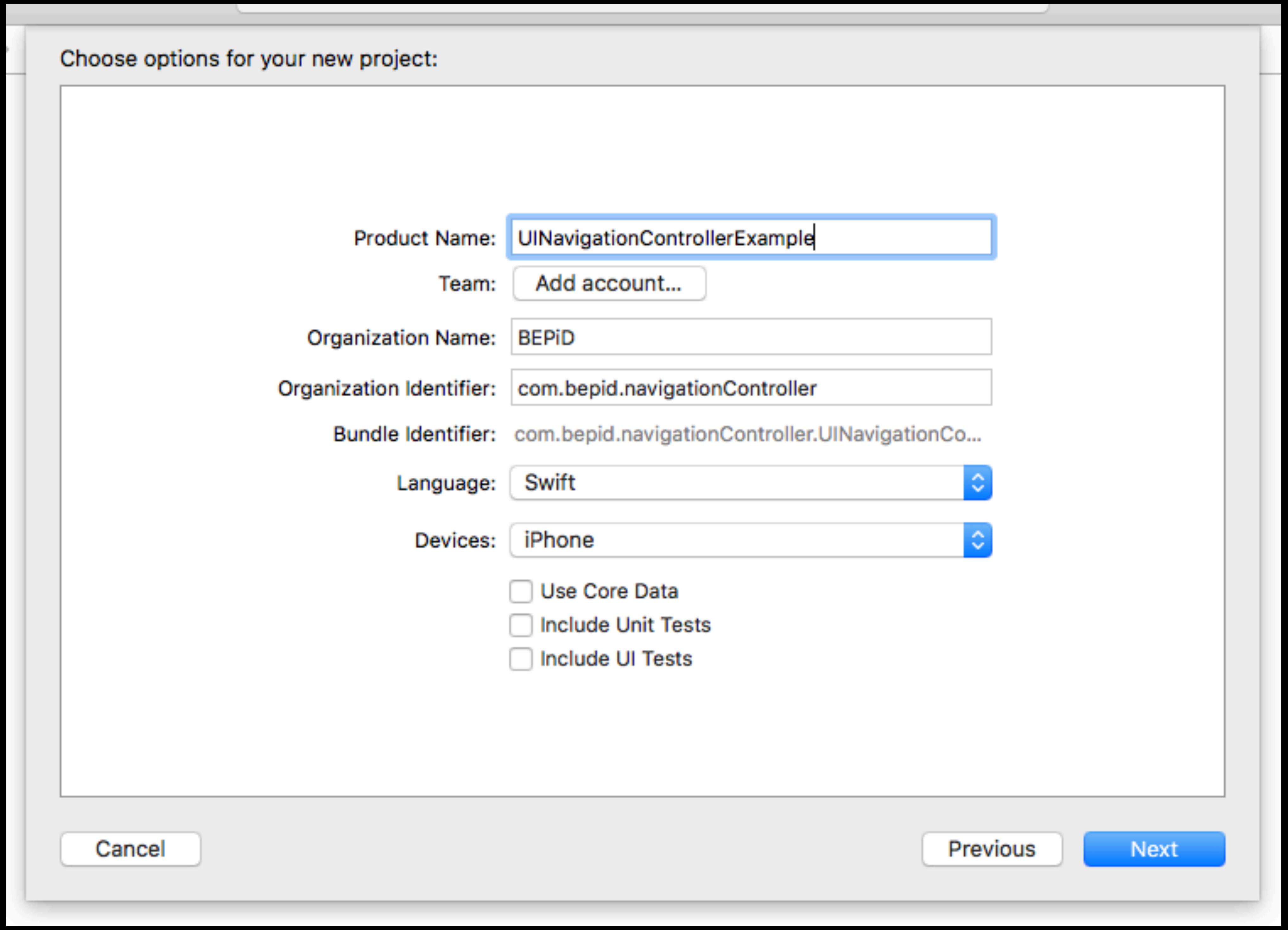
Here, we are selecting "Single View Application" from iOS project.

Select "Next" to proceed.



Unwind

We will create an example named UINavigationControllerExample in Swift for iPhone.

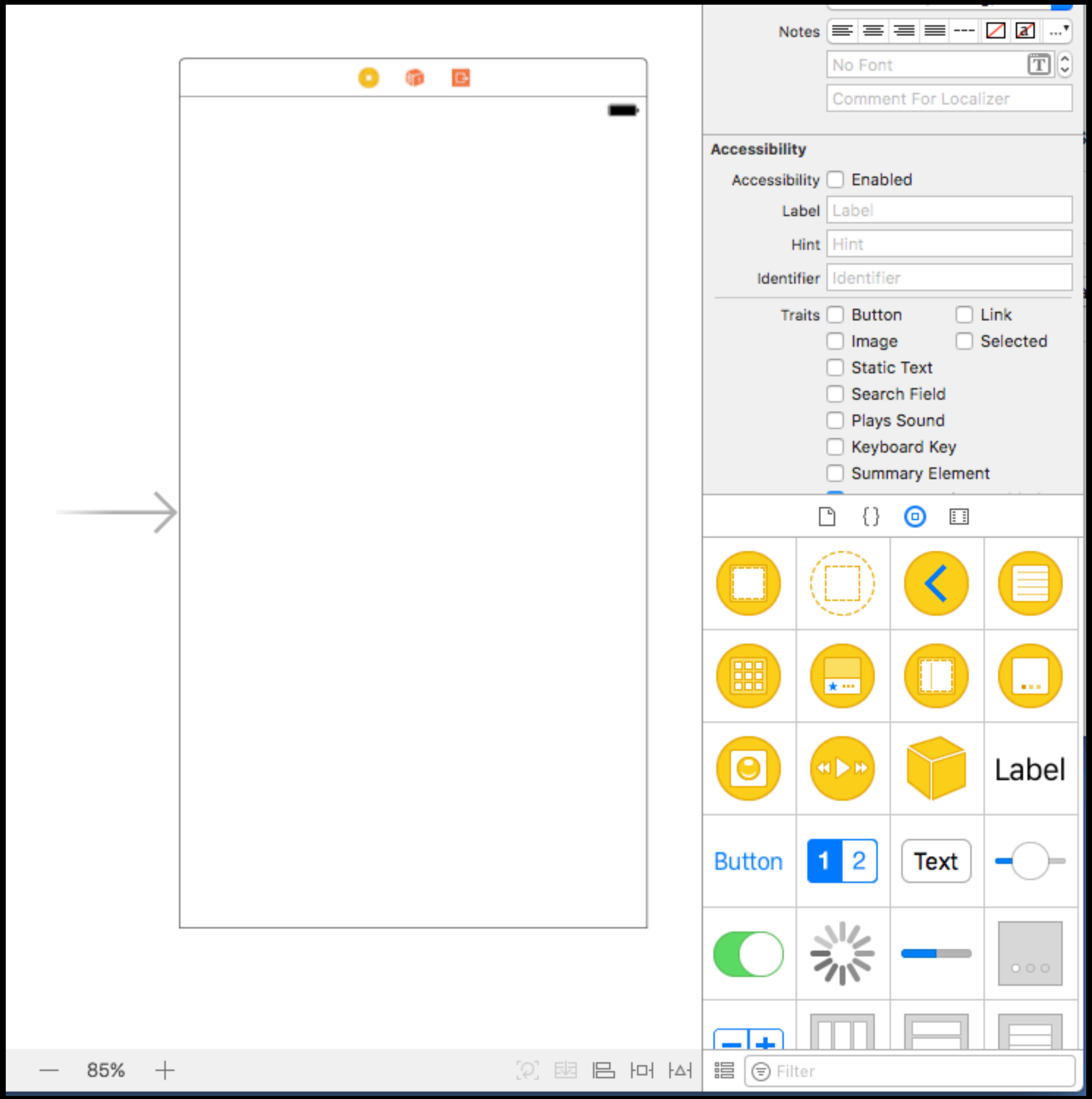

Choose options for your new project:

Product Name:	UINavigationControllerExample
Team:	Add account...
Organization Name:	BEPiD
Organization Identifier:	com.bepid.navigationController
Bundle Identifier:	com.bepid.navigationController.UINavigationCo...
Language:	Swift
Devices:	iPhone

- [ ] Use Core Data
- [ ] Include Unit Tests
- [ ] Include UI Tests

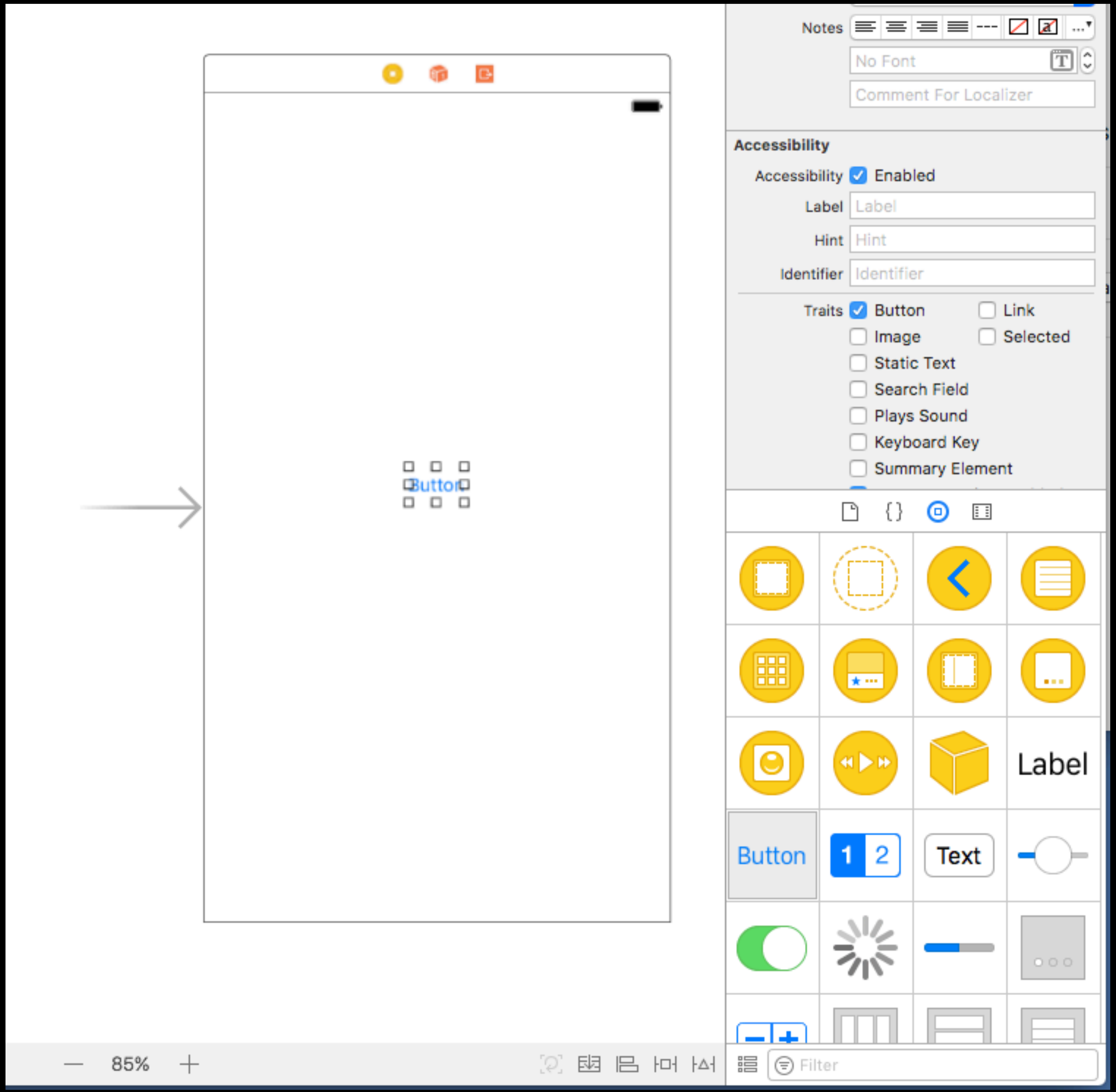
Unwind

1. Select Main.storyboard



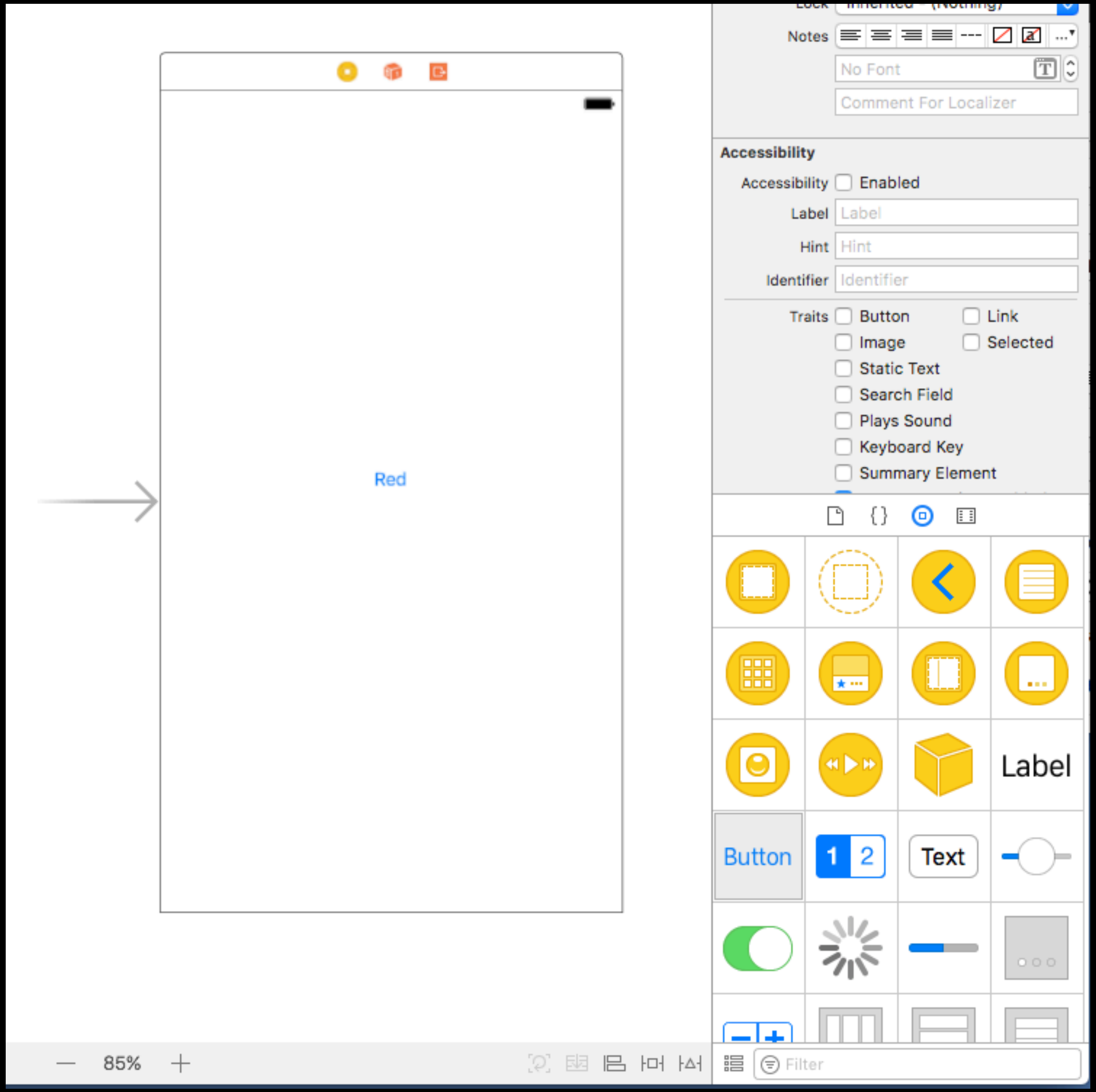
Unwind

1. Select Main.storyboard
2. On the ViewController add a button



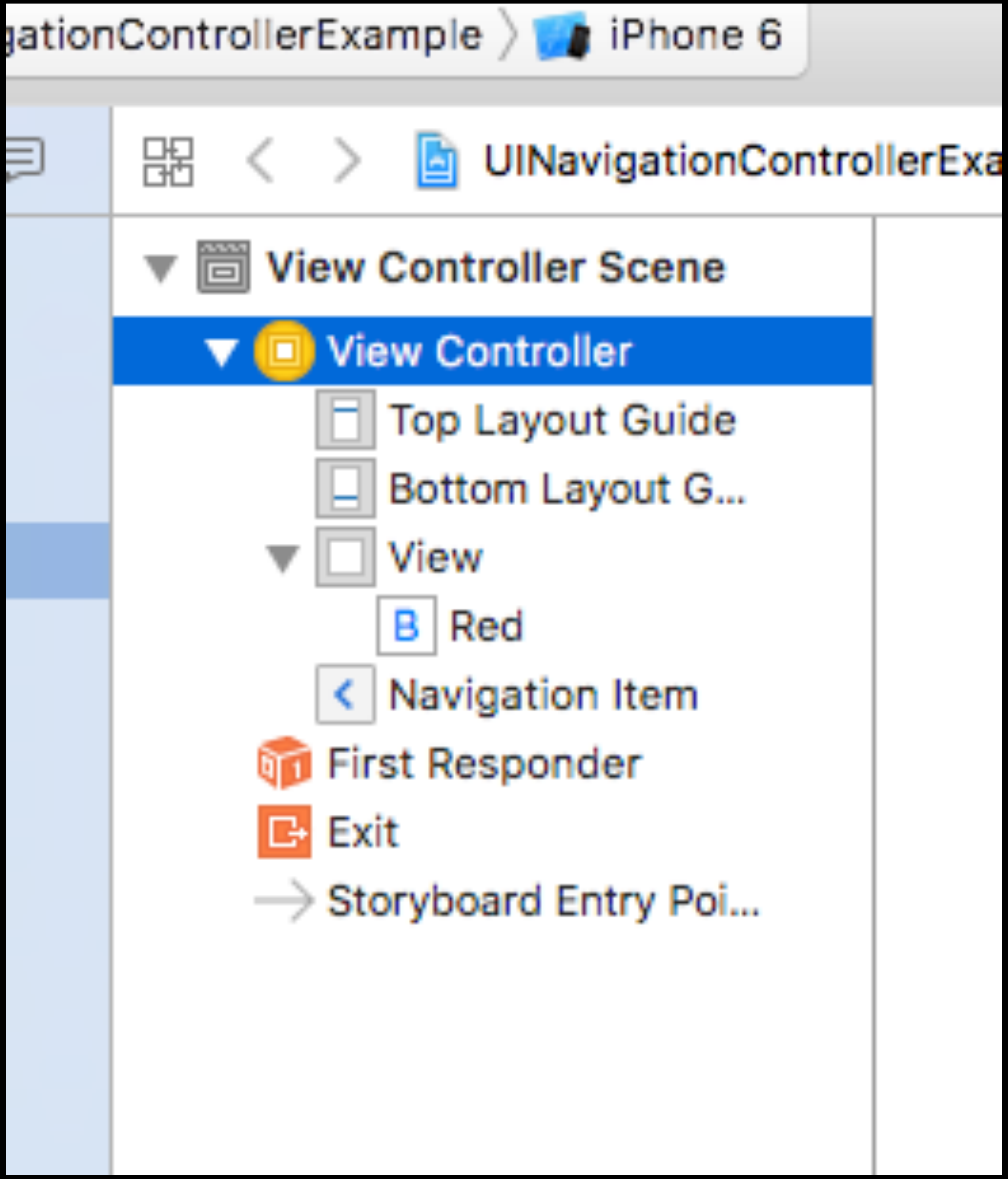
Unwind

1. Select Main.storyboard
2. On the ViewController add a button
3. Set some title



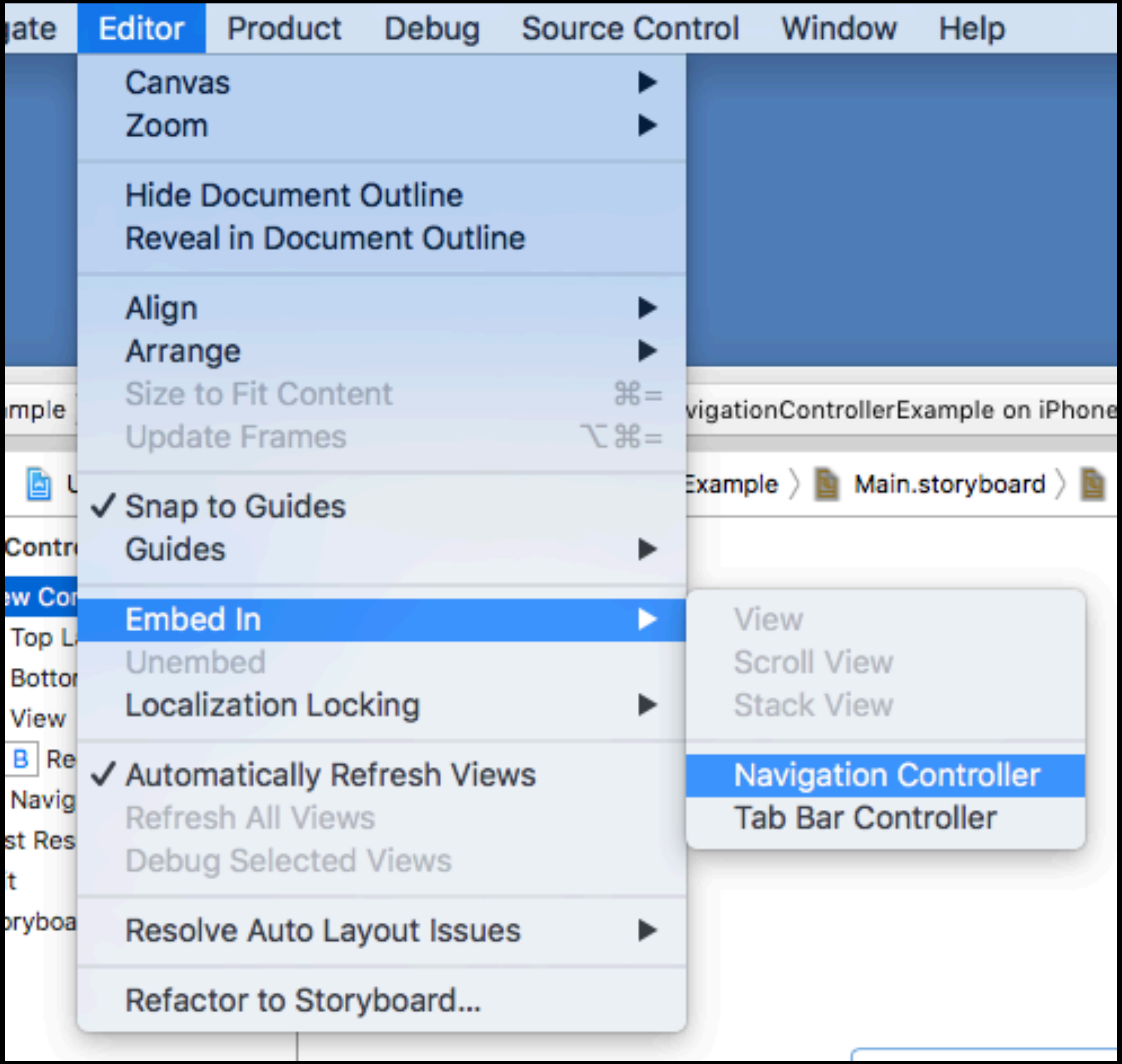
Unwind

1. Select Main.storyboard
2. On the ViewController add a button
3. Set some title
4. In the navigator area, select View Controller item



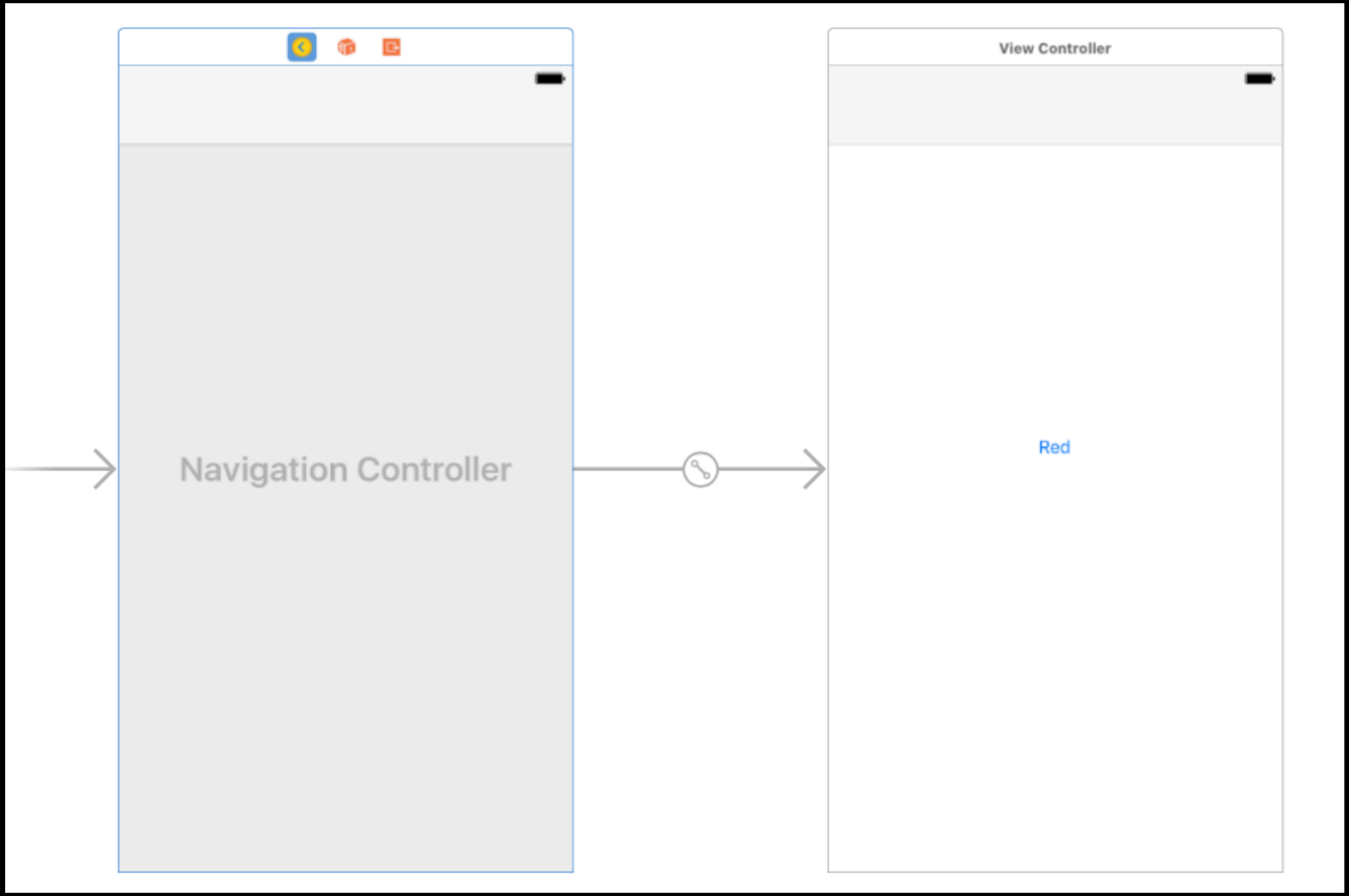
Unwind

1. Select Main.storyboard
2. On the ViewController add a button
3. Set some title
4. In the navigator area, select View Controller item
5. Select menu Editor>Embed In>Navigation Controller



Unwind

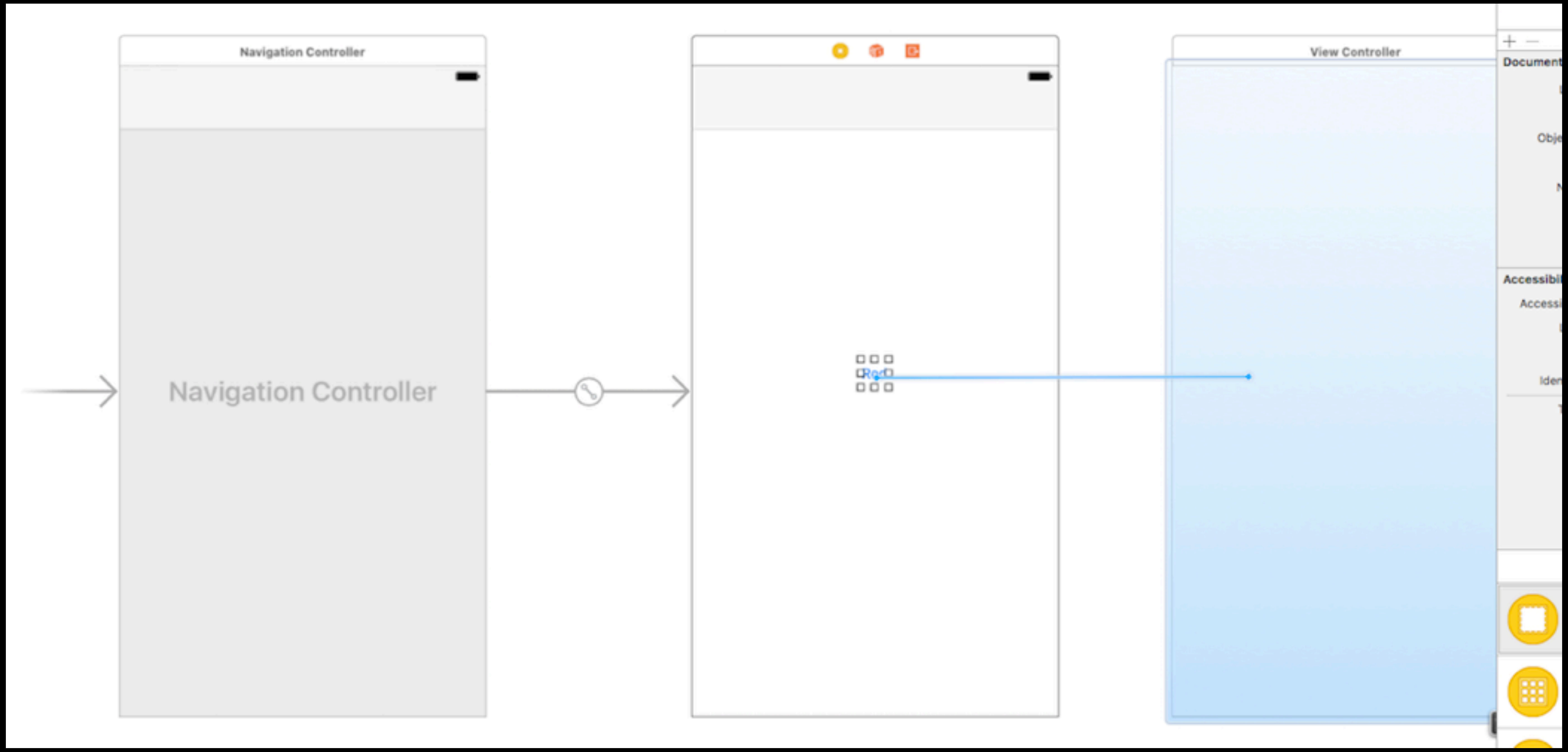
1. Select Main.storyboard
2. On the ViewController add a button
3. Set some title
4. In the navigator area, select View Controller item
5. Select menu Editor>Embed In>Navigation Controller
6. Verify the Navigation Controller at Storyboard



Unwind

7. Include other viewController at StoryBoard

8. Press control key and link button to the new viewController

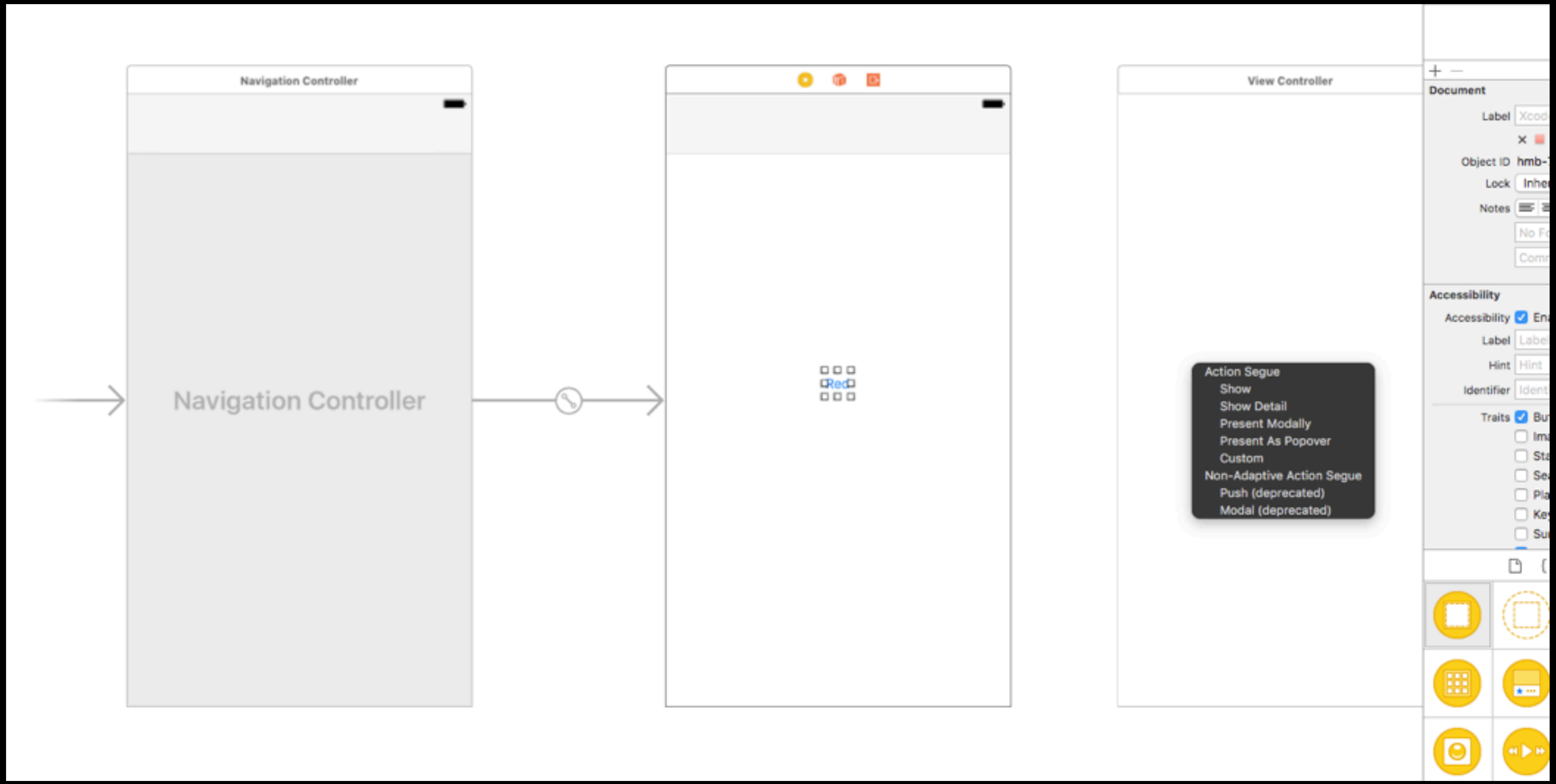


Unwind

7. Include other viewController at StoryBoard

8. Press control key and link button to the new viewController

9. Select Show action segue.



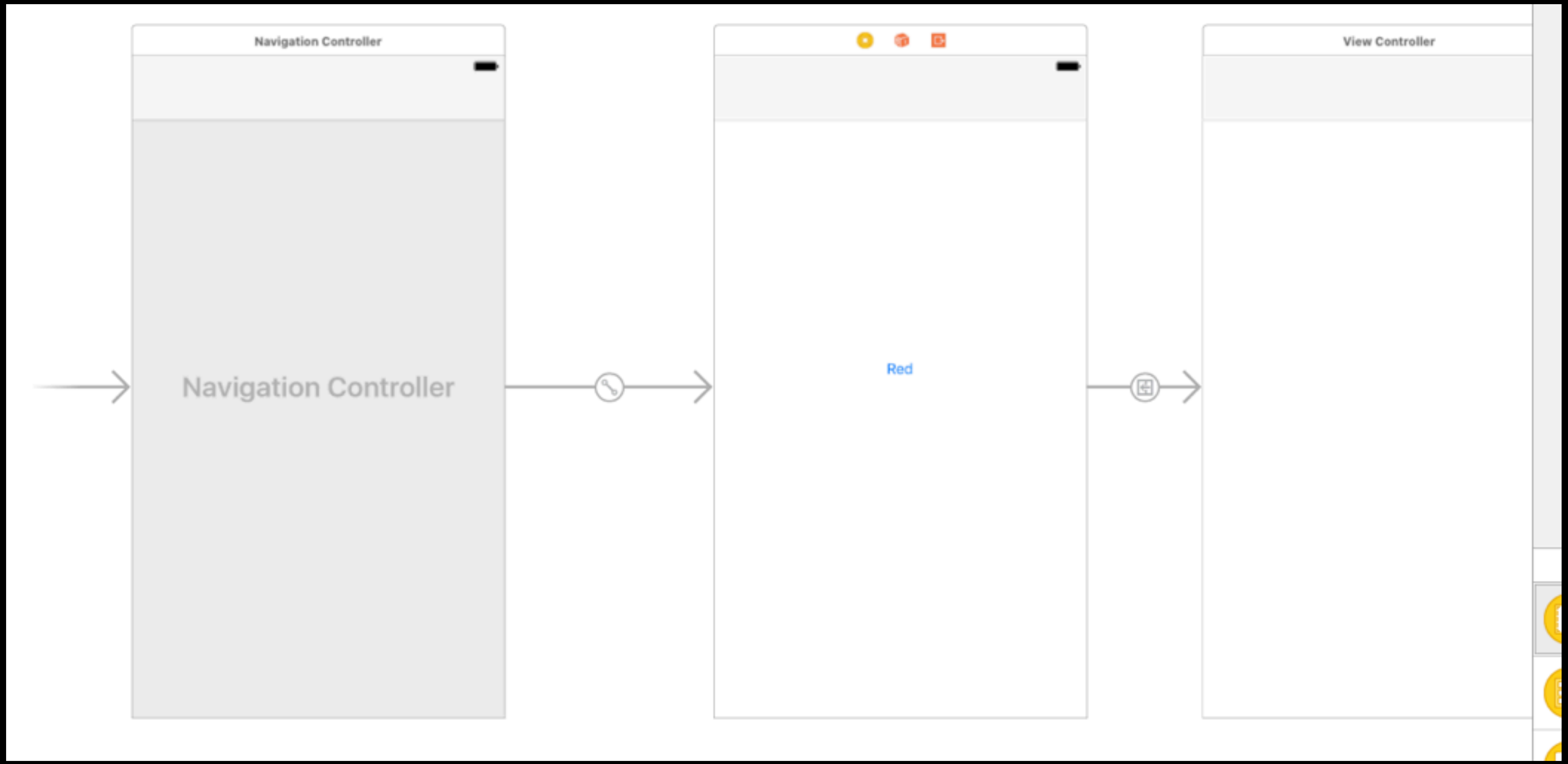
Unwind

7. Include other viewController at StoryBoard

8. Press control key and link button to the new viewController

9. Select Show action segue.

10. Change the color of new viewController



Unwind

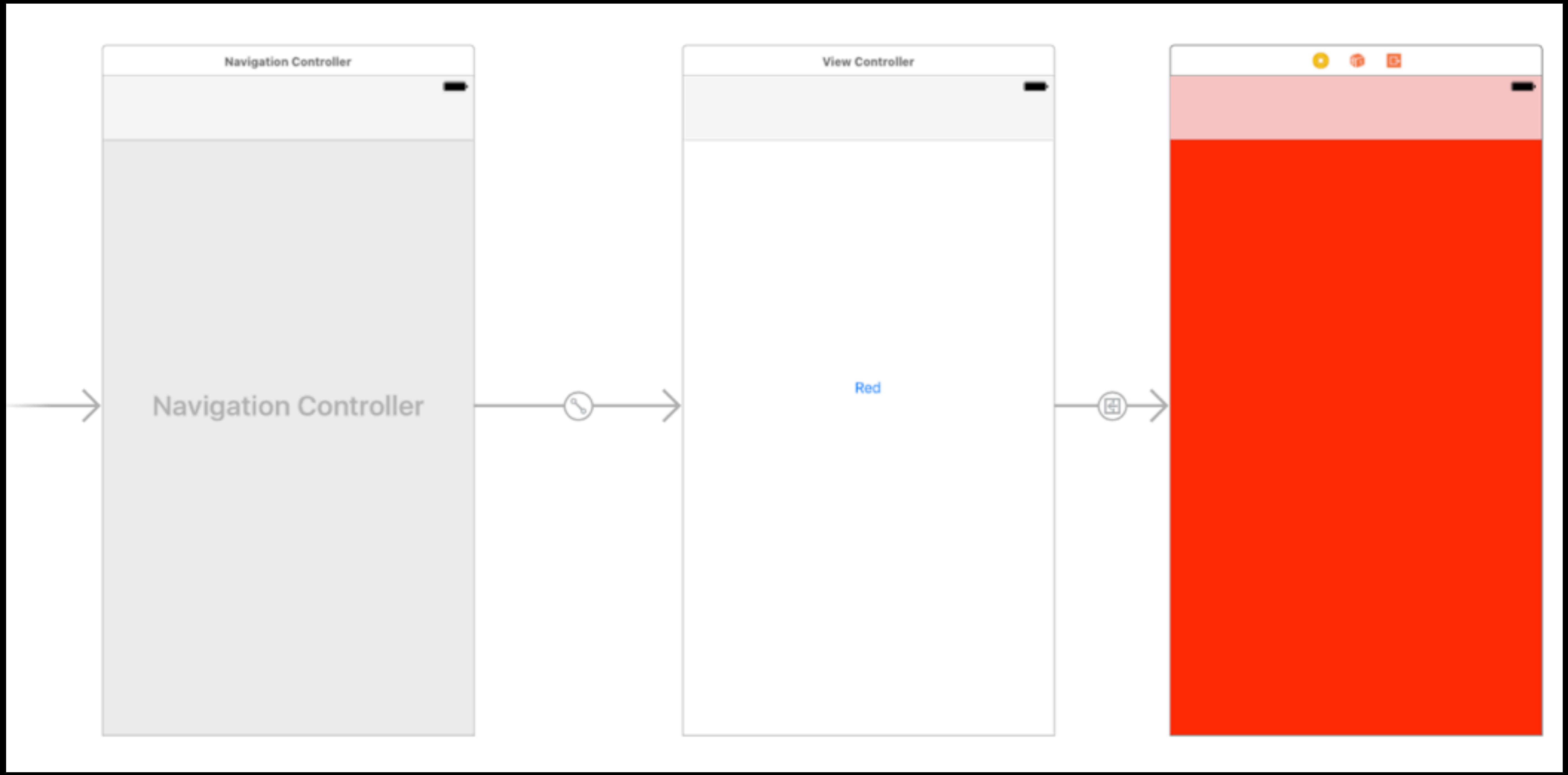
7. Include other viewController at StoryBoard

8. Press control key and link button to the new viewController

9. Select Show action segue.

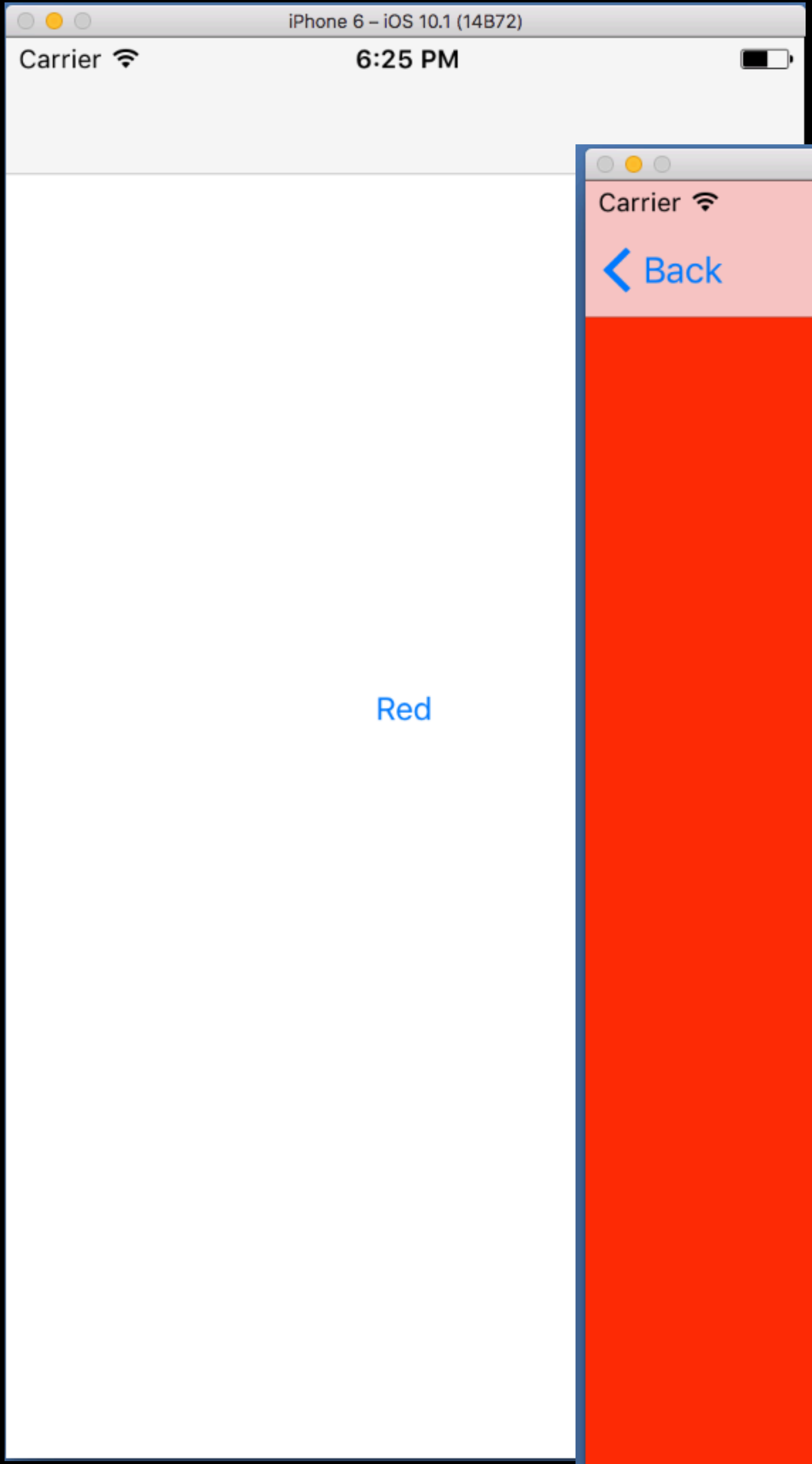
10. Change the color of new viewController

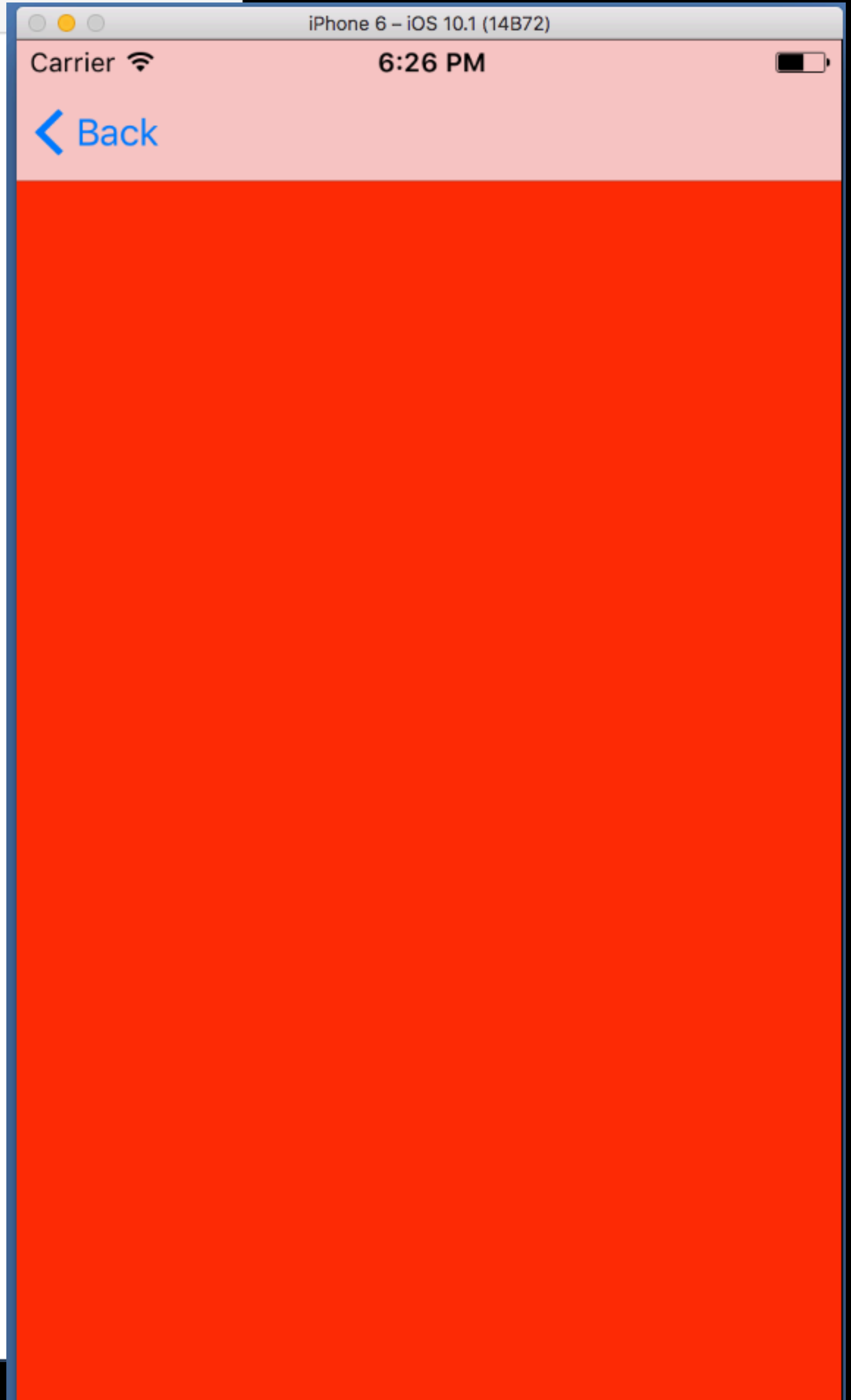
11. Build and execute.



Unwind

7. Include other viewController at StoryBoard
8. Press control key and link button to the new viewController
9. Select Show action segue.
10. Change the color of new viewController
11. Build and execute.

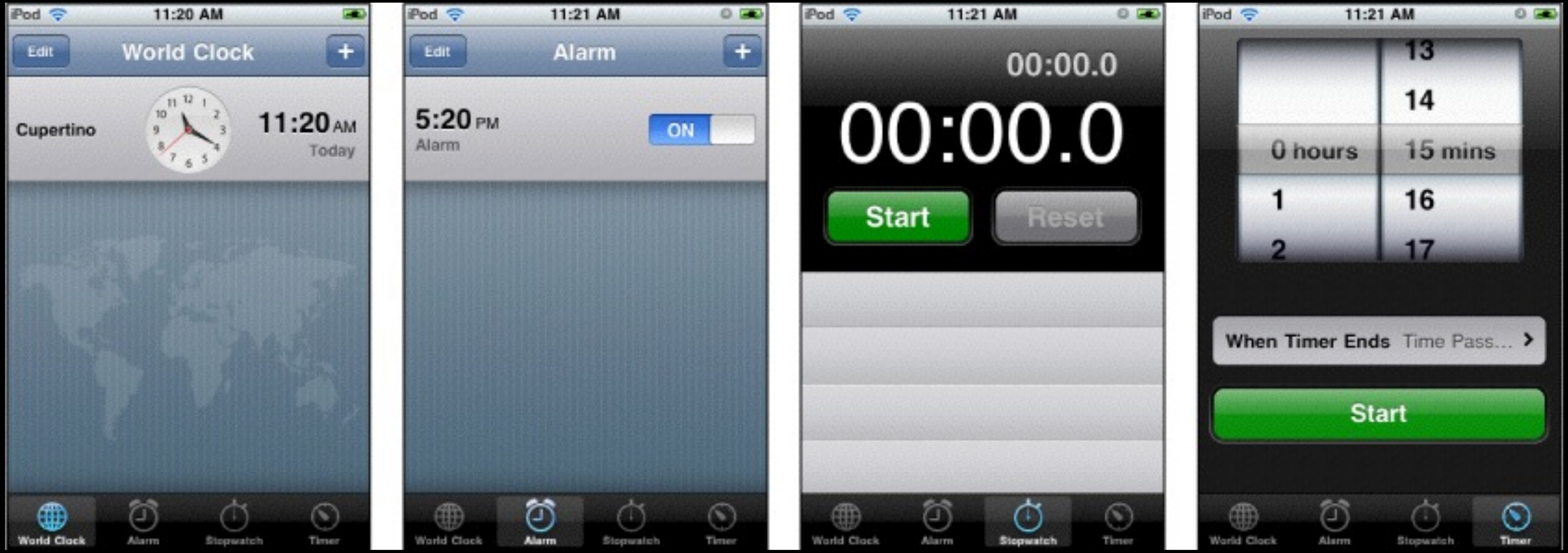




UITabBarController

UITabBarController

The UITabBarController class is a kind of view controller that manage an array of view controllers that have no relation with each other.



Delegates

Delegation is an approach to treat callbacks events. It defines a set of functions called every time an event occurs.

Delegates

Delegation is a design pattern that allows a class to hand off (or delegate) some activities to an object of another class.

This is made by some protocols that defines delegates responsibilities.

Delegates

For instance, UITextFiledDelegate protocols defines methods that you use to manage the editing and validation of UITextField content.

Data source

A data source represent your app’s data model and handles the creation and configuration of objects to display your data.

Data source

For instance, UITableViewDataSource protocol is used to mediate the data model for a UITableView object.

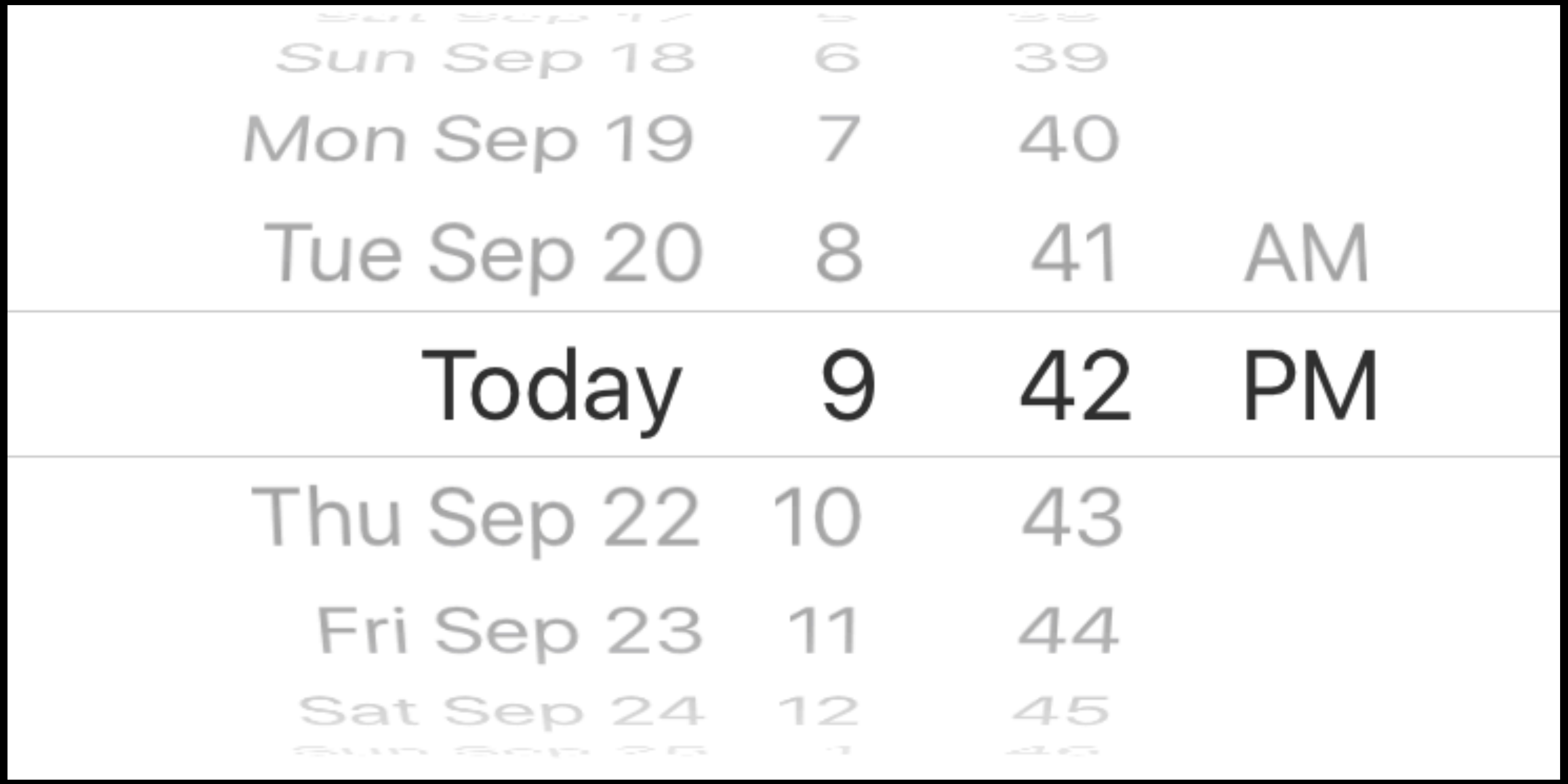
Picker View

Picker View

Allows quickly choose between a set of distinct options by spinning a wheel on the screen.

It is good for choose things that have a limited number of options, like dates and times.

Picker views are implemented in the UIPickerView class.



An example of Picker View

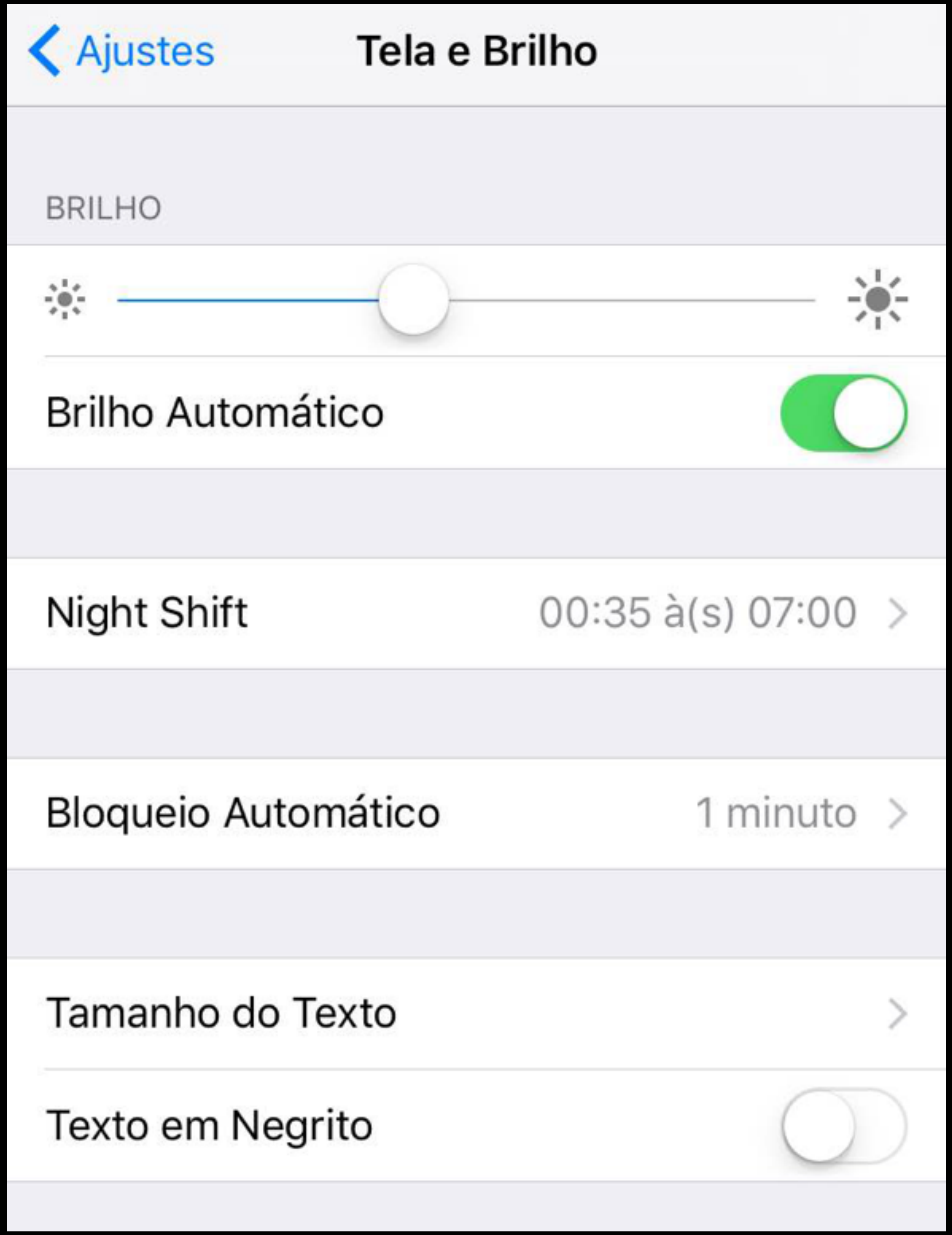
UITableView

Table View

A table view allows users to view an indexed list of items and interact with them.

The information may be presented in groups and the navigation is hierarchical.

Table views are implemented in the UITableView.



BRILHO

Brilho Automático

Night Shift 00:35 à(s) 07:00

Bloqueio Automático 1 minuto

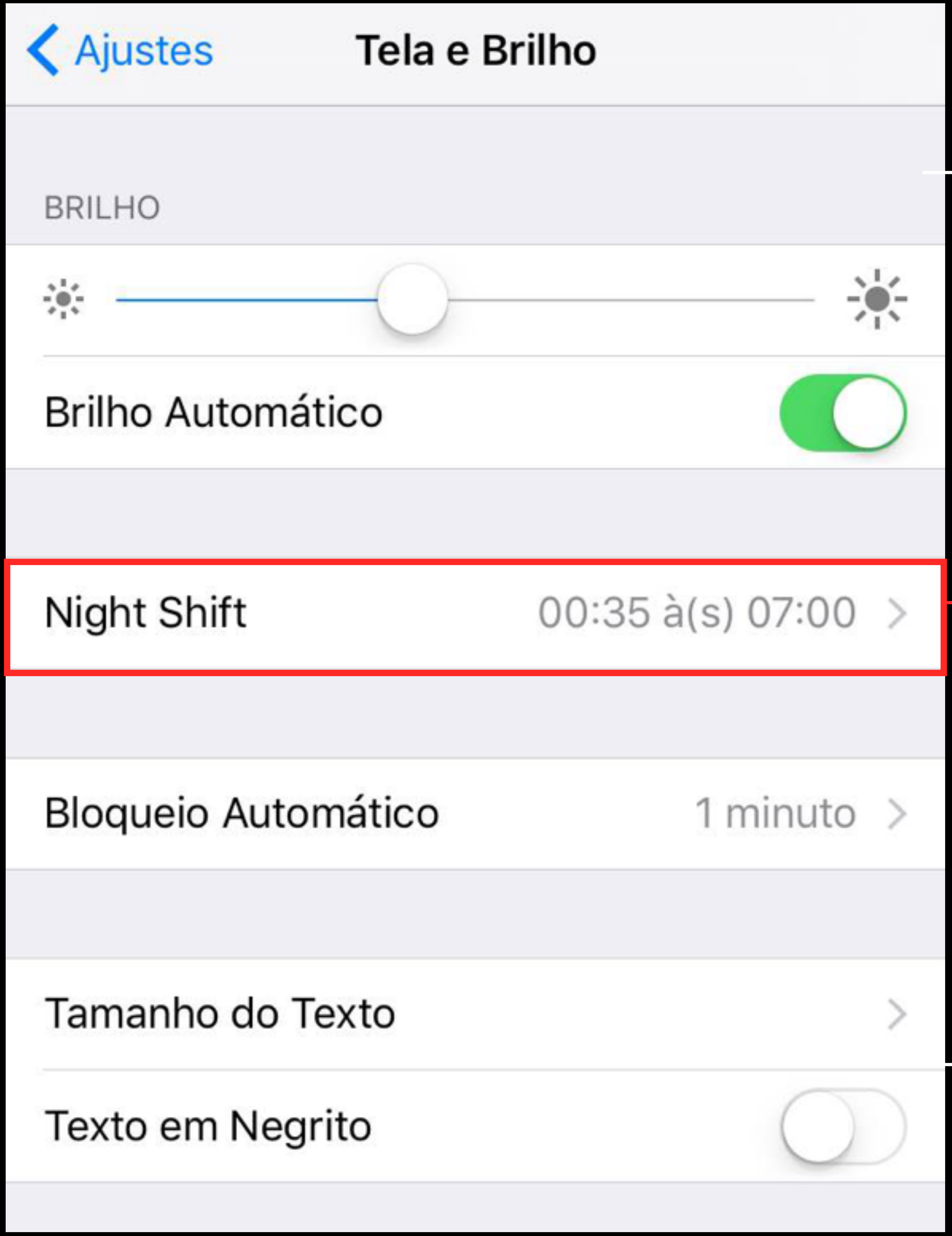
Tamanho do Texto

Texto em Negrito

The iOS Screen settings uses Table View

Table View

Appearence


Ajustes
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BRILHO

Brilho Automático

Night Shift 00:35 à(s) 07:00

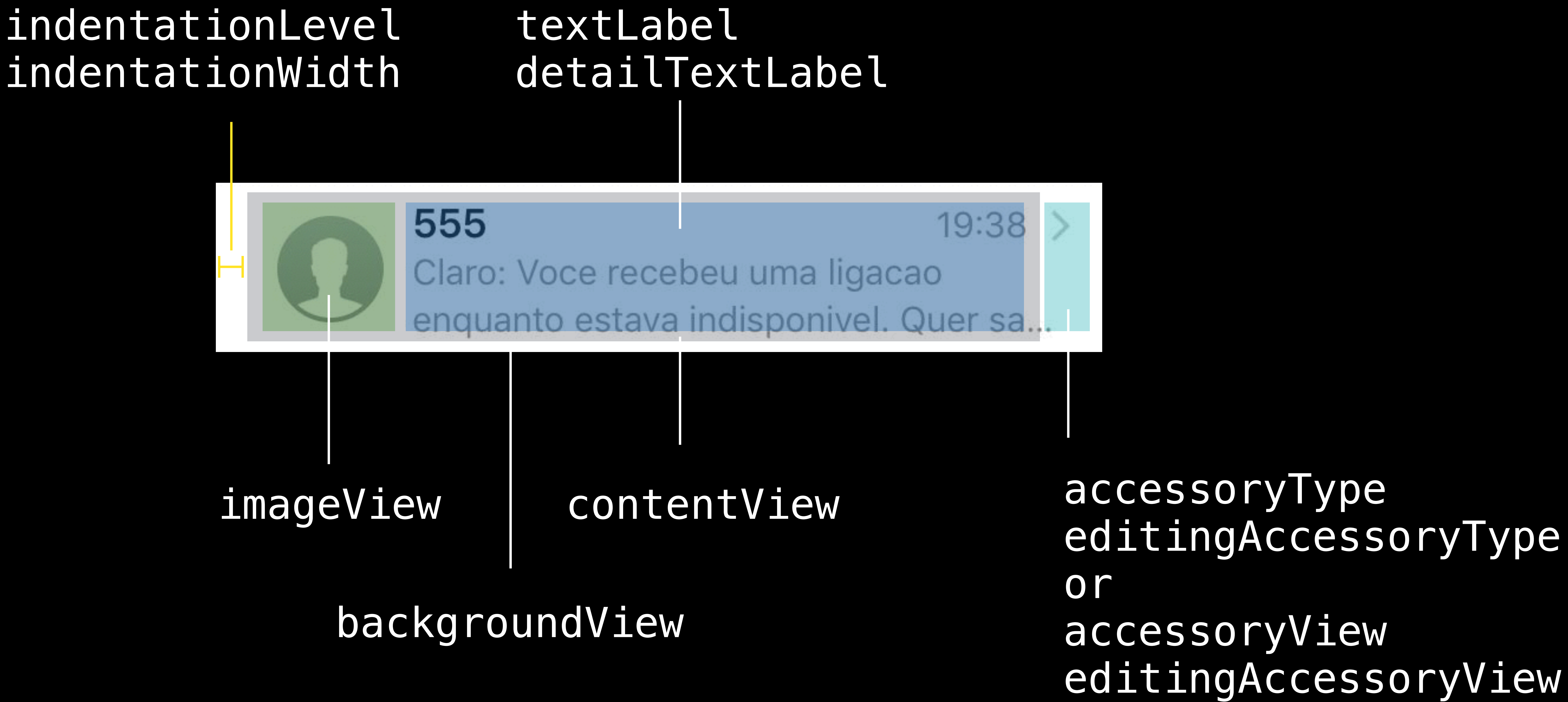
Bloqueio Automático 1 minuto

Tamanho do Texto

Texto em Negrito

Table View

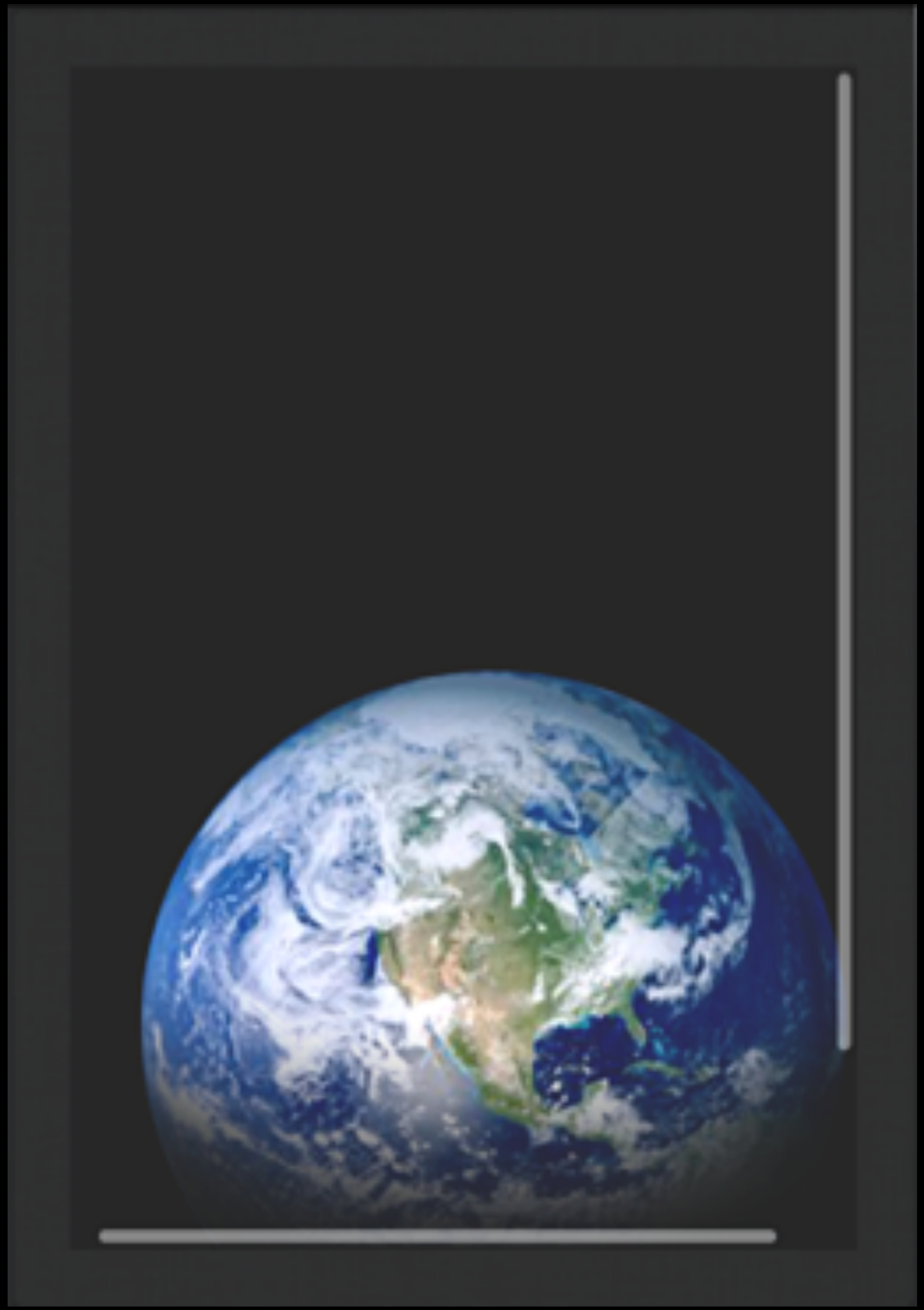
UITableViewCell Structure



UIScrollView

Scroll View

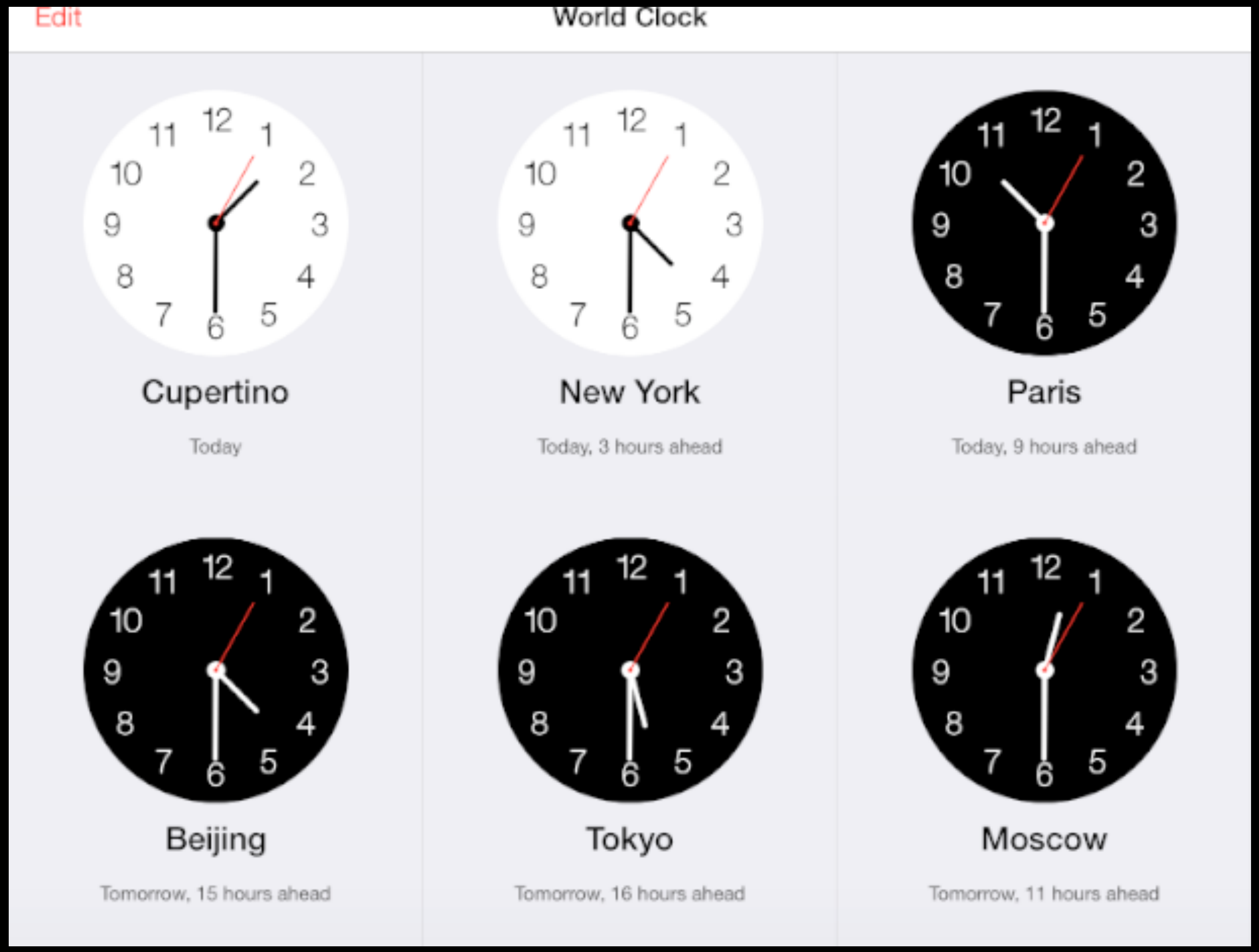
Scroll view allow user to visualize content that is greater than the portion presented on the screen. The vertical and horizontal scroll bars can be used to navigate in that screen.



UICollectionView

Collection View

Collection Views are used to present a collection of information. These datas can be displayed in standard or custom layout.


Edit
World Clock
Cupertino
Today
New York
Today, 3 hours ahead
Paris
Today, 9 hours ahead
Beijing
Tomorrow, 15 hours ahead
Tokyo
Tomorrow, 16 hours ahead
Moscow
Tomorrow, 11 hours ahead