
APP
EVOLUTION
with Swift

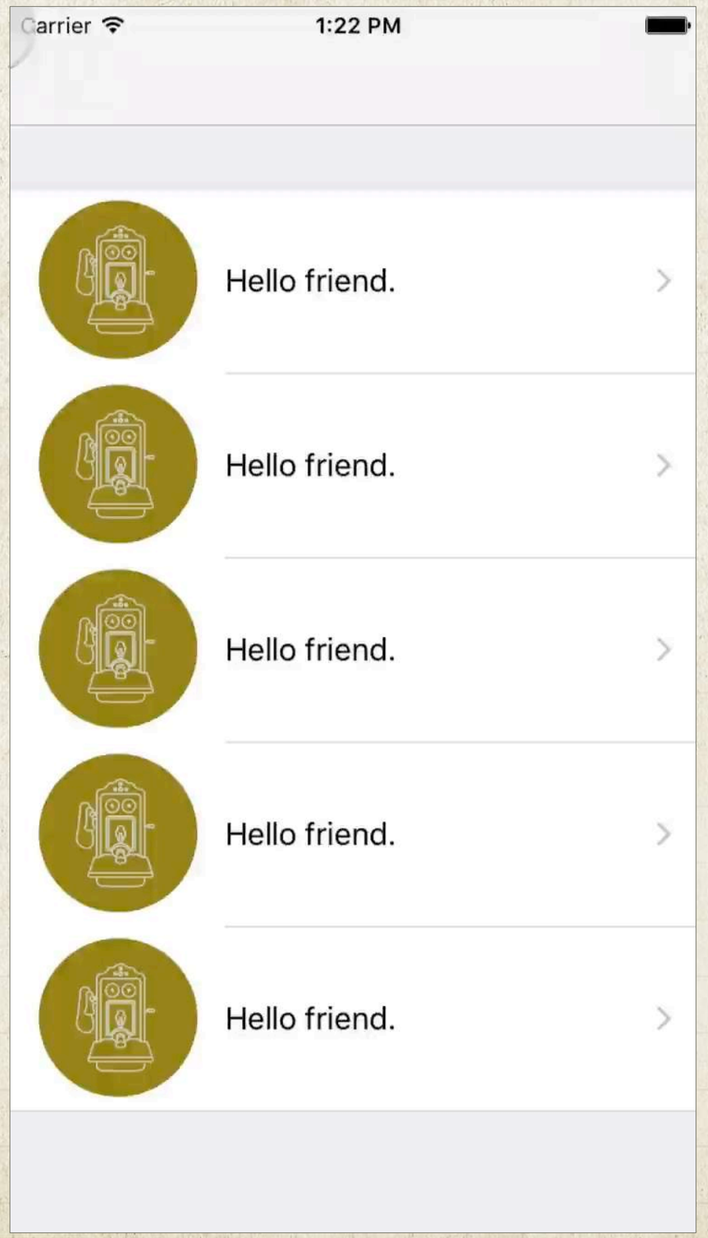
Level 5

Navigation

Section 1 - Transitioning Between View Controllers

APP EVOLUTION with Swift

Demo: Transitioning Between Screens



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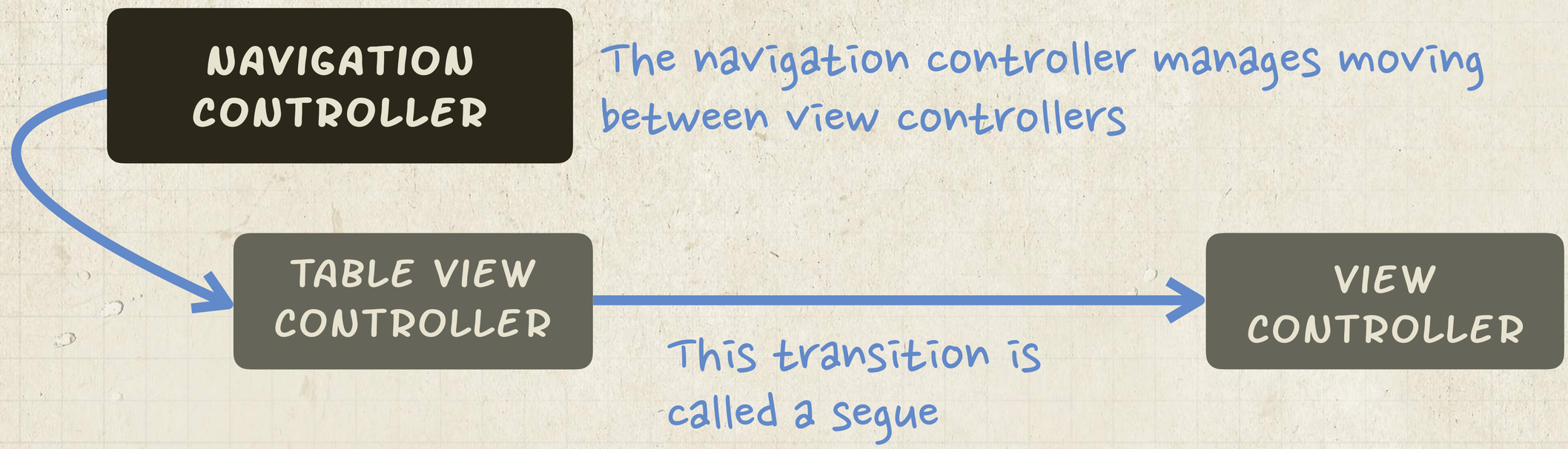
Where Navigation Controllers Fit in the Hierarchy

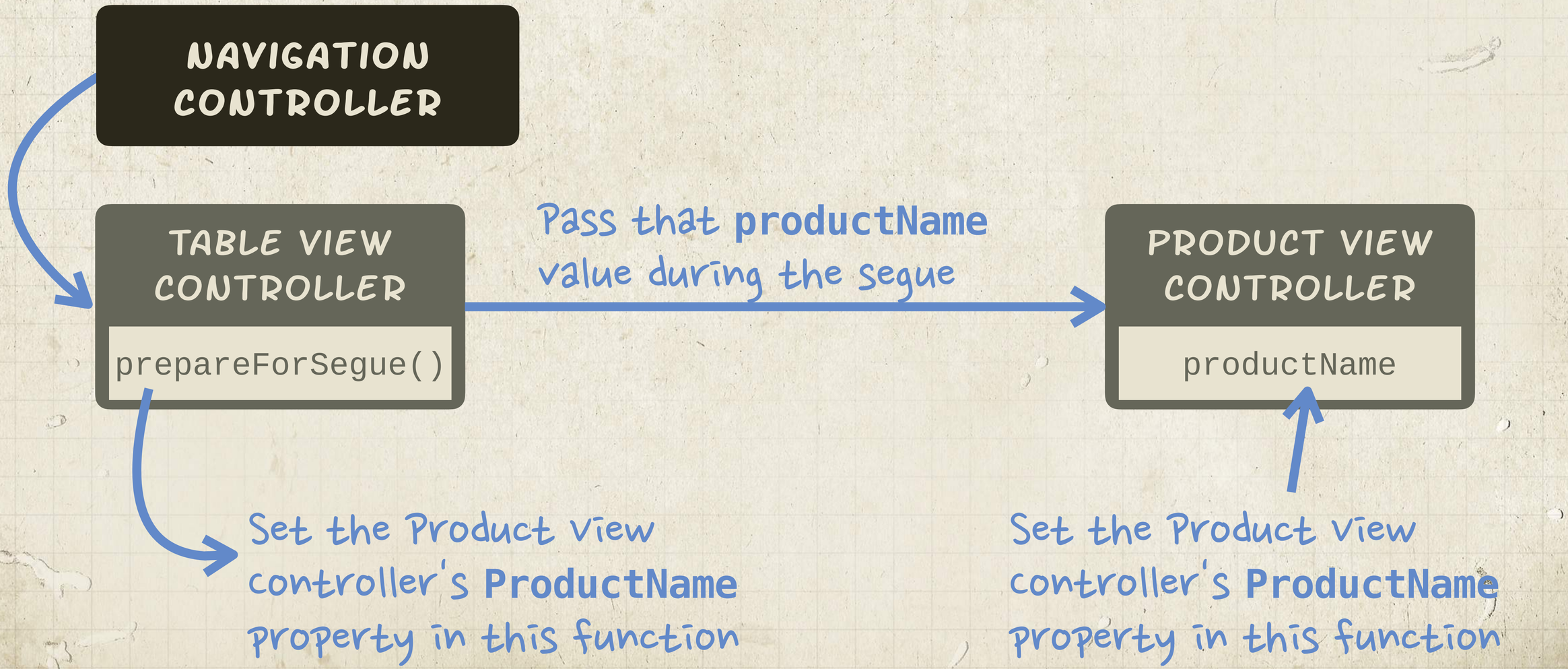
You can't switch between view controllers unless they are a part of a navigation controller stack.



Screencast: Adding a Navigation Controller

Where Navigation Controllers Fit in the Hierarchy

You can access the segue object right before the segue happens and pass some data along with it.



Start by Adding a Property to ProductViewController

ProductViewController.swift

```
import UIKit

class ProductViewController: UIViewController {

    ...
    var productName: String?

    override func viewDidLoad() {
        super.viewDidLoad()

        ...
        productNameLabel.text = "1937 Desk Phone"
    }
    ...
}
```

Any data that doesn't exist until after the app starts has to be optional

Assign the Passed-in Variable to the Label's Text

ProductViewController.swift

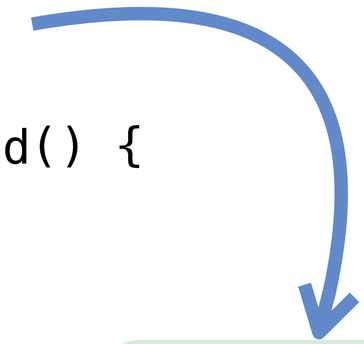
```
import UIKit

class ProductViewController: UIViewController {

    ...
    var productName: String?

    override func viewDidLoad() {
        super.viewDidLoad()

        ...
        productNameLabel.text = productName
    }
    ...
}
```



The value that's passed into this property will be displayed in the label

Adding the prepareForSegue Function

Add the prepareForSegue function in the controller that you're coming *from*. In this case, that's the table view controller.

ProductsTableViewController.swift

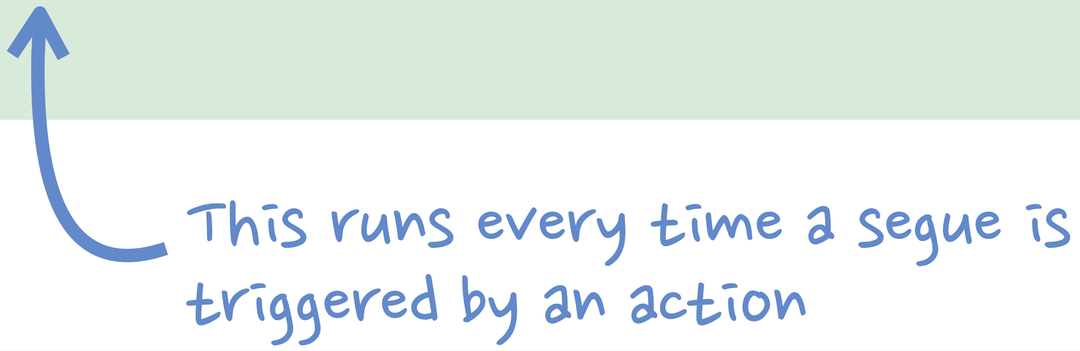
```
import UIKit

class ProductsTableViewController: UITableViewController {
  ...

  override func prepareForSegue(segue: UIStoryboardSegue, sender: AnyObject?) {

  }

}
```



Checking for the Right Segue

Since there can be multiple segues that all call the prepareForSegue function, we first have to check the current segue's identifier.

ProductsTableViewController.swift

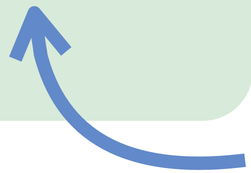
```
import UIKit

class ProductsTableViewController: UITableViewController {
  ...

  override func prepareForSegue(segue: UIStoryboardSegue, sender: AnyObject?) {
    if segue.identifier == "ShowProduct" {

    }
  }

}
```



Remember when we set this name in the storyboard?

A Quick Look Into the Storyboard Segue Docs

The segue keeps a copy of the view controller it is transitioning *to*.

We can access the "to" view controller with this segue property

Apple docs for UIStoryboardSegue

`destinationViewController` *Property*

The destination view controller for the segue. (read-only)

Declaration

SWIFT

```
var destinationViewController: UIViewController { get }
```

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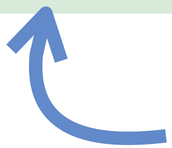
Capturing the Destination in a Variable

ProductsTableViewController.swift

```
import UIKit

class ProductsTableViewController: UITableViewController {
  ...

  override func prepareForSegue(segue: UIStoryboardSegue, sender: AnyObject?) {
    if segue.identifier == "ShowProduct" {
      let productVC = segue.destinationViewController
    }
  }

}
```



That's not enough — we need to say what kind of view controller this is

Using the “as” Keyword to Change the Data Type

We can use “as” to convert from 1 data type to another.

ProductsTableViewController.swift

```
import UIKit

class ProductsTableViewController: UITableViewController {
  ...

  override func prepareForSegue(segue: UIStoryboardSegue, sender: AnyObject?) {
    if segue.identifier == "ShowProduct" {
      let productVC = segue.destinationViewController as ProductViewController
    }
  }

}
```

Here, we're trying to let the compiler know that our destination view controller is a **ProductViewController**

Problem: Error When We Try to Set the Type

ProductsTableViewController.swift

```
import UIKit

class ProductsTableViewController: UITableViewController {
  ...

  override func prepareForSegue(segue: UIStoryboardSegue, sender: AnyObject?) {
    if segue.identifier == "ShowProduct" {
      let productVC = segue.destinationViewController as ProductViewController
    }
  }

}
```

This code shows a compiler error

'UIViewController' is not convertible to 'ProductViewController'; did you mean to use 'as!' to force downcast?

If the compiler isn't sure, it won't let you compile code

If it guesses and is wrong, the app will crash!

Using Downcasting to Suggest Object Types

The compiler doesn't know for sure if this is a **ProductViewController** object

```
let productVC = segue.destinationViewController as? ProductViewController
```

Optional now

Adding the question mark to "**as**" here returns an optional **ProductViewController**

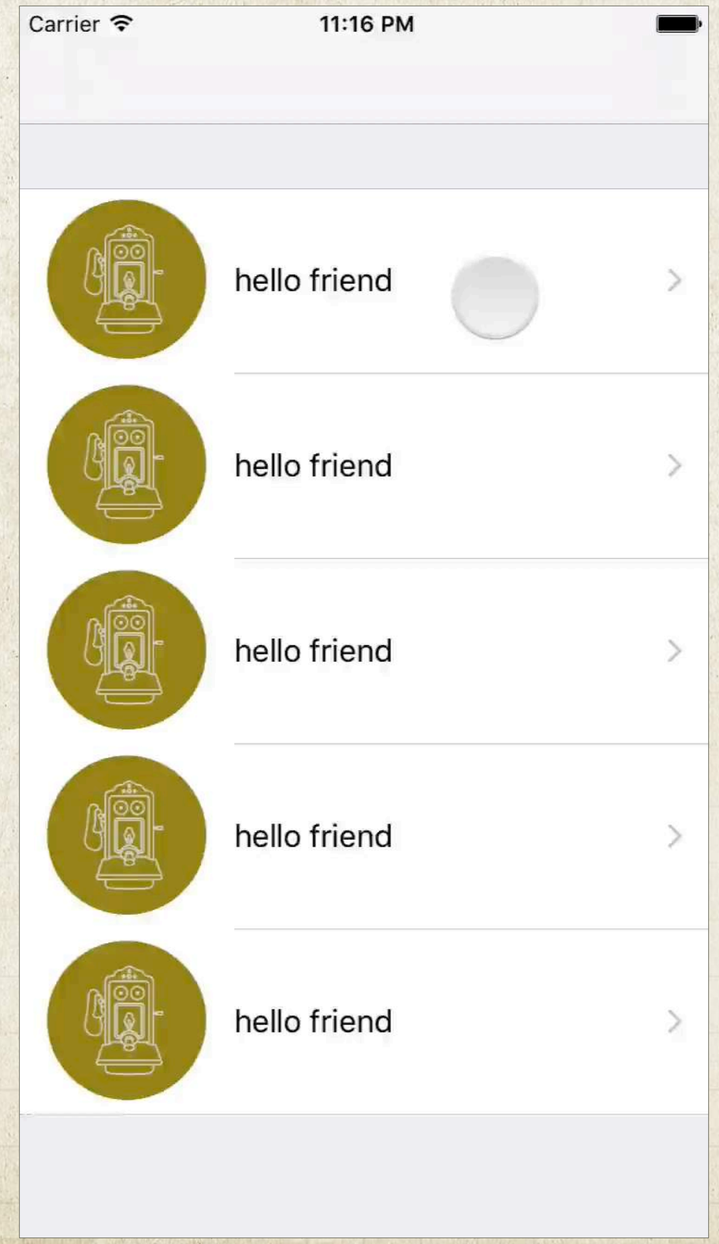
Set the Property on the ProductViewController

ProductsTableViewController.swift

```
import UIKit

class ProductsTableViewController: UITableViewController {
  ...

  override func prepareForSegue(segue: UIStoryboardSegue, sender: AnyObject?) {
    if segue.identifier == "ShowProduct" {
      let productVC = segue.destinationViewController as? ProductViewController
      productVC?.productName = "Really old phone"
    }
  }

}
```

Means "only set the name if **productVC** exists"

Demo: Passing a Value to Another View Controller



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