iOS Dev Accelerator
Week 7 Day 4

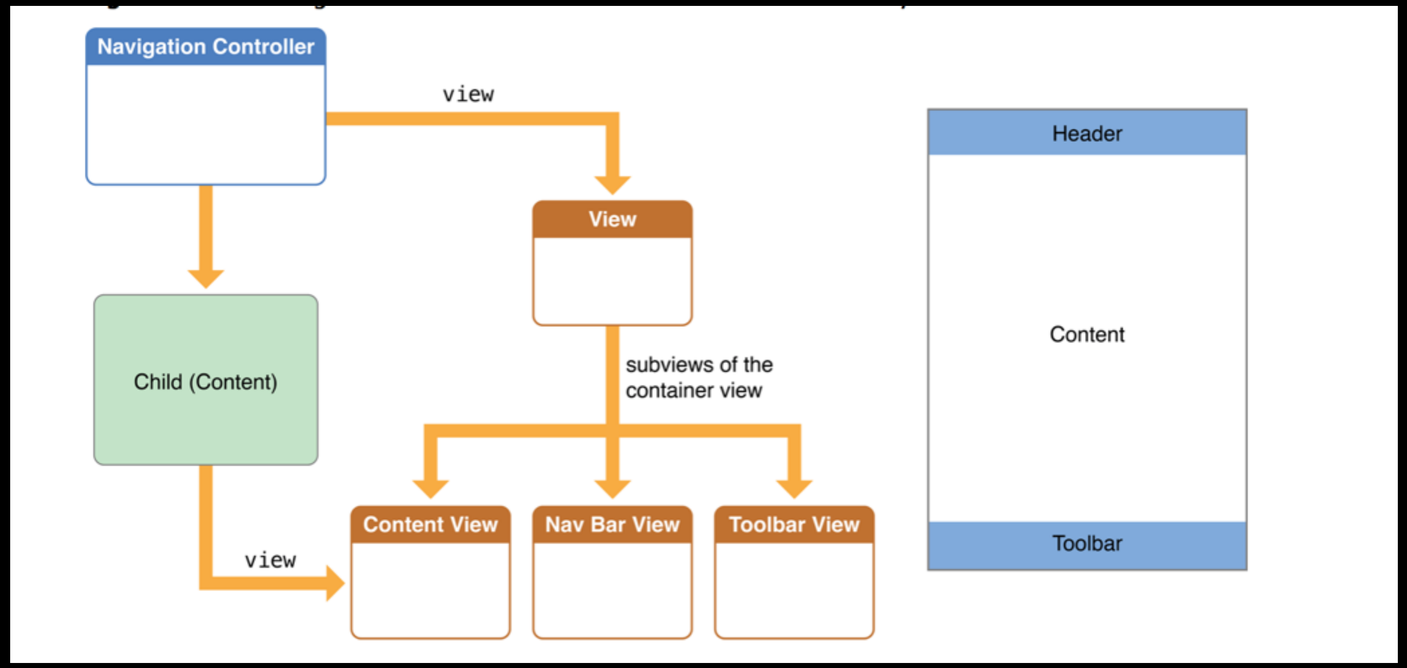
- Container View Controllers
- Notification Center
- Group Projects

Container View Controllers

- All of the view controllers you have created so far are considered ‘Content View Controllers’
- Container View Controllers are similar to Content View Controllers, except they manage parent-child relationships between the Container VC, the parent, and its Content VC(s), the children.
- The Container VC is in charge of displaying its children VC’s views.

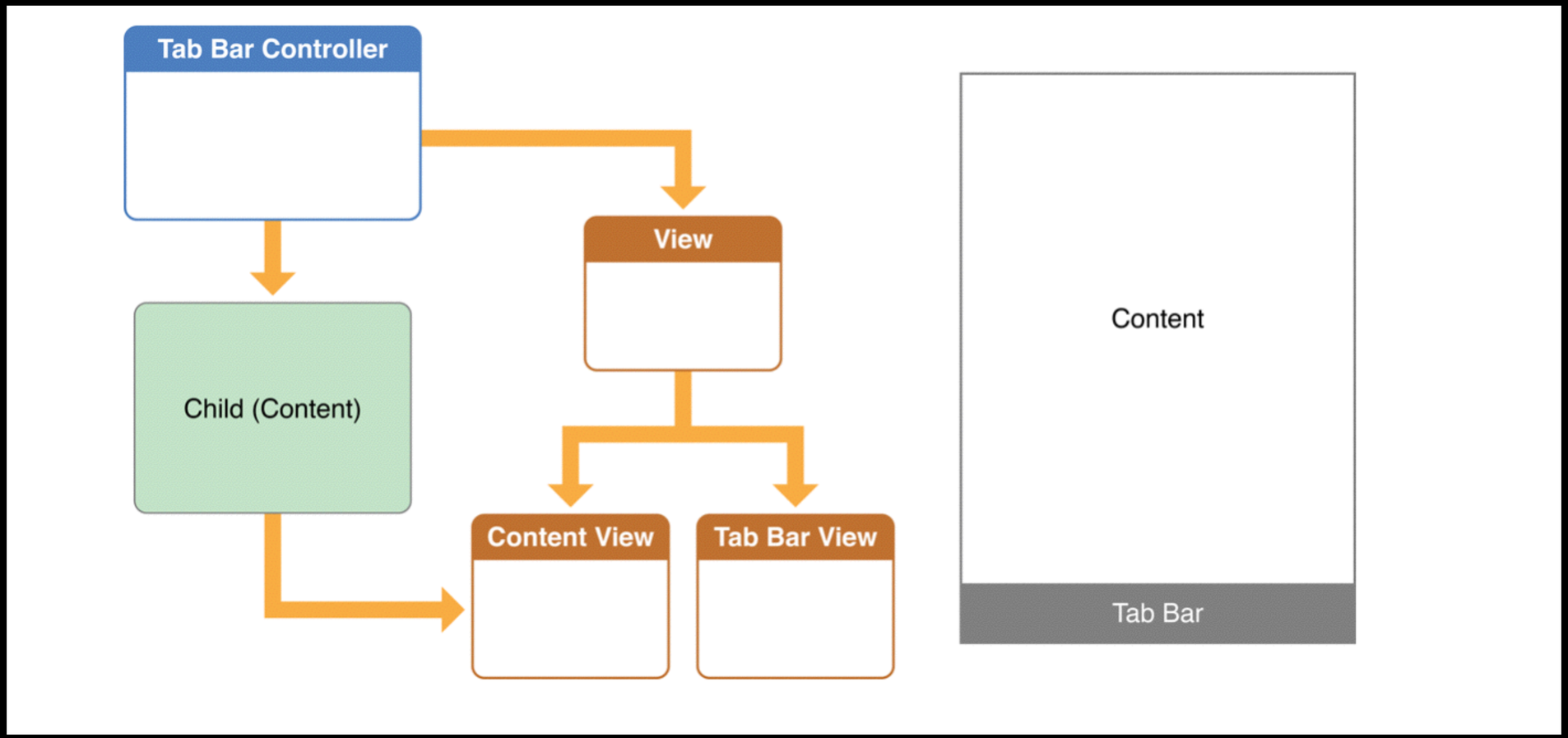
Container View Controllers

- An example of a Container View Controller you have used is the Navigation Controller:



Container View Controllers

- Same Idea with a Tab Bar Controller:



Container View Controllers

- “The goal of implementing a container is to be able to add another view controller’s view as a subview in your container’s view hierarchy”
- When a new VC is added on screen, you can ensure the right events (viewDidLoad, willAppear,etc) are given to all VC’s by associating the new VC as a child of the container VC.

Getting your child on screen

```
func setupChildVC() {
    //create a new VC
    var childVC = UIViewController()
    //tell this VC that we are adding a child VC
    self.addChildViewController(childVC)
    //set the child VC's view's frame, in this case it will
        completely cover the container VC
    childVC.view.frame = self.view.frame
    //add the child view to the parent view
    self.view.addSubview(childVC.view)
    //notify the child vc he is now on screen
    childVC.didMoveToParentViewController(self)
}
```

Taking the child off screen

```
childVC.willMoveToParentViewController(nil)
childVC.view.removeFromSuperview()
childVC.removeFromParentViewController()
```

Transitioning your Child VCs

```
//being process of removing old one and adding new one
childVC.willMoveToParentViewController(nil)
self.addChildViewController(nextChildVC)

//set the new child's frame to be off screen to the left, and create an end frame
    that is off the screen to the right
nextChildVC.view.frame = CGRectMake(-700, 0, self.view.frame.width, self.view.
    frame.height)
var endFrame = CGRectMake(700, 0, childVC.view.frame.width, childVC.view.frame.
    height)

//call the transition method on our container view controller
self.transitionFromViewController(childVC, toViewController: nextChildVC,
    duration: 0.5, options: UIViewAnimationOptions.TransitionCrossDissolve,
    animations: { () -> Void in
    //give our new child a frame equal to our containers view, putting him fully
        on screen. set our old child's view to the end frame so it slides off to
        the right
    nextChildVC.view.frame = self.view.frame
    childVC.view.frame = endFrame

}) { (success) -> Void in

    //finish the operation
    childVC.removeFromParentViewController()
    nextChildVC.didMoveToParentViewController(self)

}
```

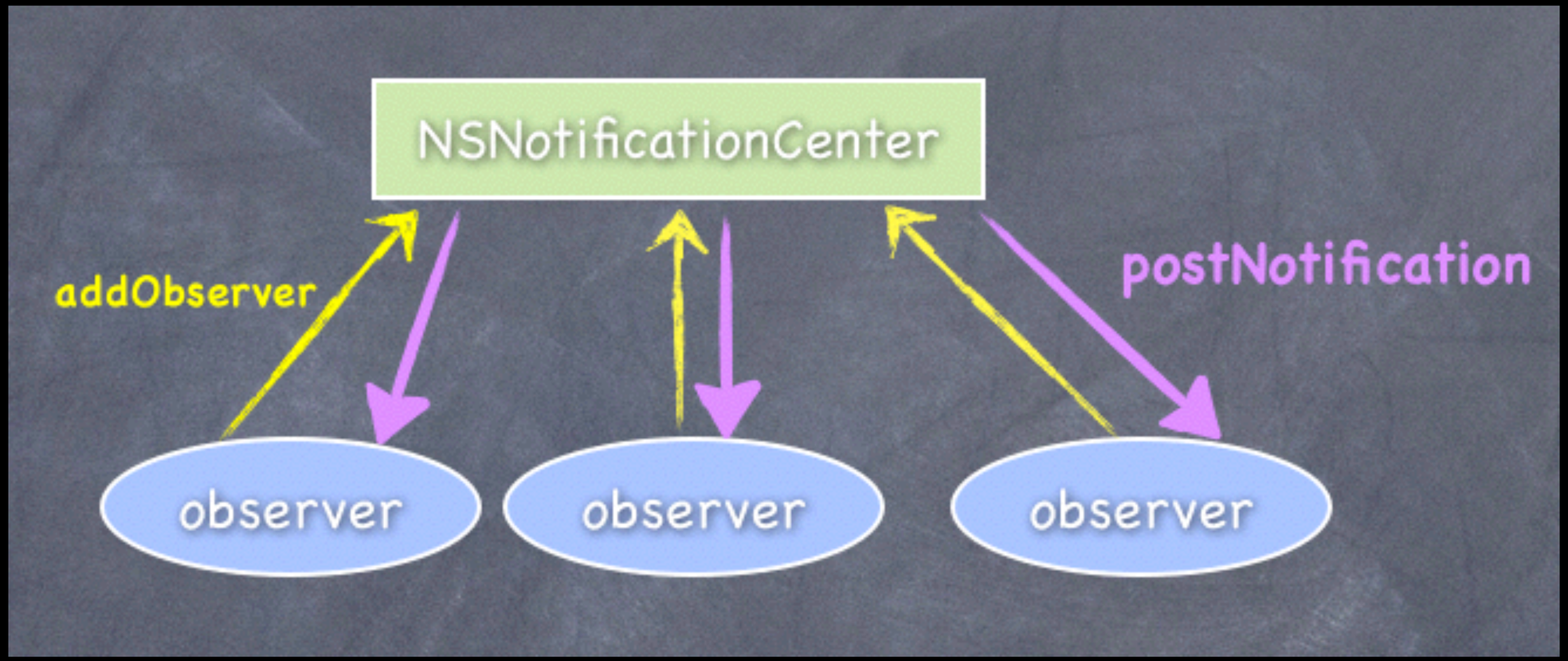
KVO (Key-Value Observing)

- Key-value observing provides a mechanism that allows objects to be notified of changes to specific properties of other objects.
- A controller object typically observes properties of model objects
- A view object typically observes properties of model objects through a controller

3 Steps of KVO in Cocoa

1. Register as an observer `addObserver:forKeyPath:options:context:`
2. Implement `observeValueForKeyPath:ofObject:change:context:`
3. Remove your observer when finished `removeObserver:forKeyPath:`

NSNotificationCenter



NSNotificationCenter Prerequisites

1. Name of the notification
2. Optionally listen to a specific object
3. Optionally specify a callback queue
4. Code inside a closure to run every time notification fires

```
NSNotificationCenter.defaultCenter().addObserverForName(
  UITextFieldTextDidChangeNotification,
  object: nil,
  queue: NSOperationQueue.mainQueue() ) {
        (note) in
      // any code written here will run every time notification fires
}
```

How To Observe Everything
(don’t do this in production)

```
NSNotificationCenter.defaultCenter().addObserverForName(nil, object: nil, queue: nil) {
    (note) -> Void in
    println("Notification Received: \(note.name)")
}
```