Everything but the Kitchen Sink

Daniel Tull

I'm a contractor...

- Half my work is helping existing projects
- A lot of that is "firefighting"
  - Build-up of unexplained bugs
  - Features deemed impossible

Types of Bad Code

Errors

- Misconfigured build environment
- Missing dependencies
- Poor code review
- Lacking any form of integration (let alone continuous)

Errors

Poor project management

Warnings

- Incompatible assignments
- Unused variables
- Using deprecated methods
- Unimplemented methods
- Interface Builder Autolayout issues
- Undeclared selectors

Warnings

Lack of due diligence

Questionable Code

Not Coding Style!

- Tabs not spaces
- Opening brace on first line
- Single line if-returns
- Unless it looks ugly

Not Coding Style!

* I write nice looking code

Questionable Code

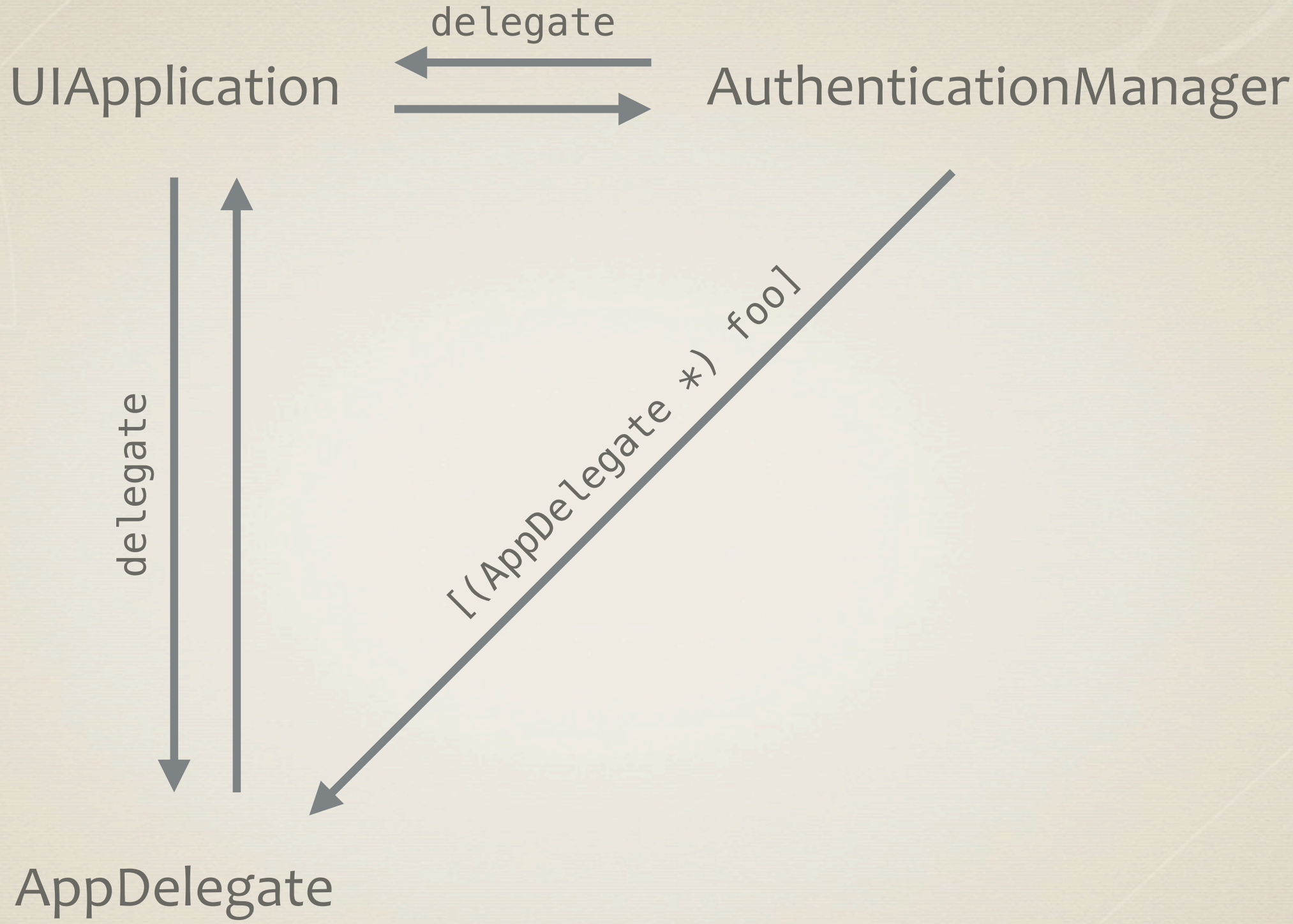
- Tightly coupled classes
- Random code in the app delegate
- “Massive View Controllers”

The One and Only App Delegate

UIApplication

AuthenticationManager

AppDelegate

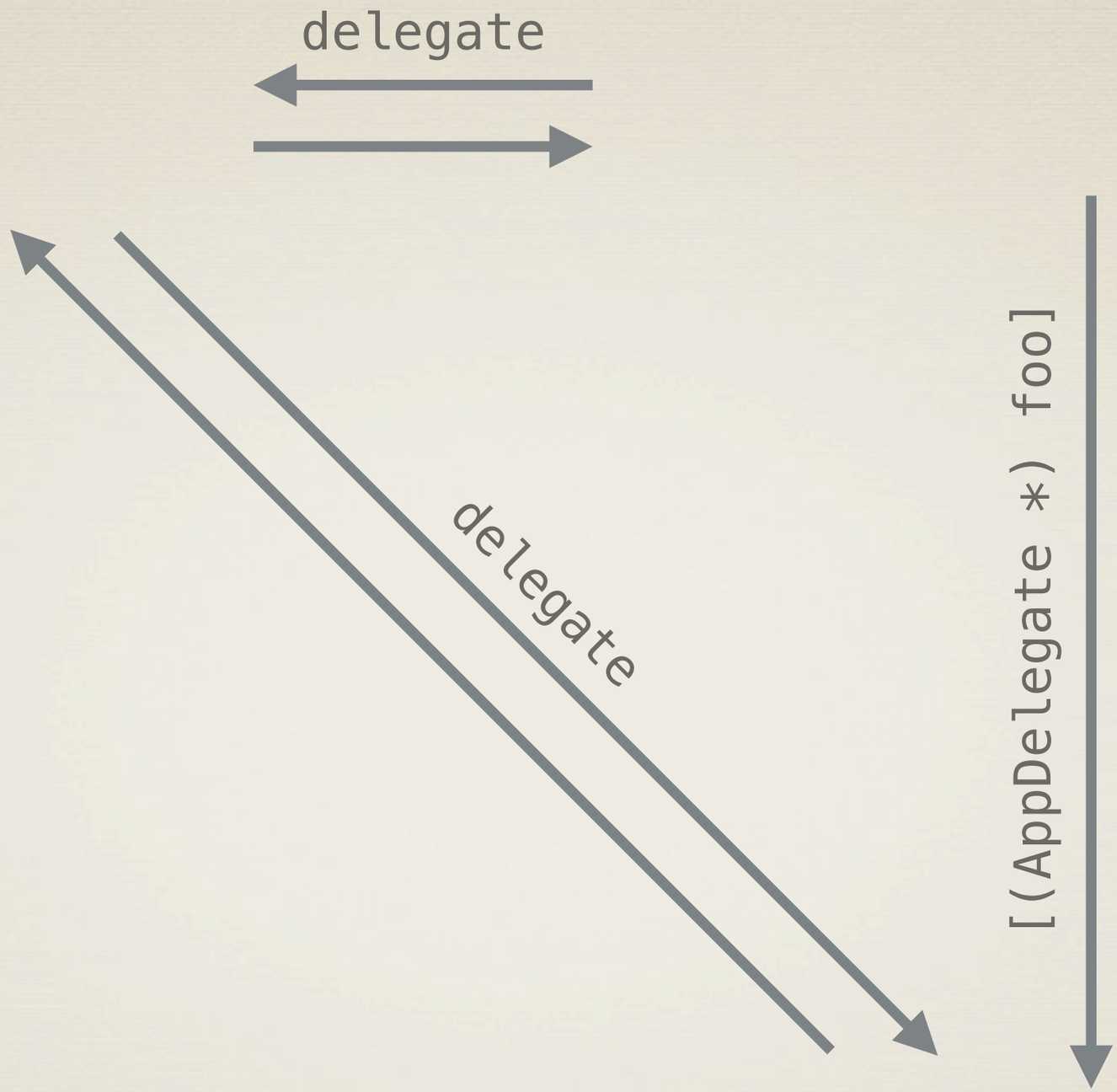

delegate
UIApplication
AuthenticationManager
delegate
[(AppDelegate *) foo]
AppDelegate

UIApplication

AuthenticationManager

AppDelegate

NewAppDelegate



AppDelegate

Solutions

* Add the missing methods to NewAppDelegate

Solutions

- Check the Application's Delegate's class
  - `[appDelegate isKindOfClass:[OldAppDelegate class]]`
- On deleting OldAppDelegate will cause an error

Massive View Controllers

Colin Campbell
@Colin_Campbell

Follow

iOS architecture, where MVC stands for Massive View Controller

Reply Retweet Favorite More

209 RETWEETS

82 FAVORITES

1:27 AM - 21 Jan 13

```
//
//  LDGEventsViewController.m
//  LiDG
//
//  Created by Daniel Tull on 23.08.2013.
//  Copyright (c) 2013 Daniel Tull. All rights reserved.
//

#import "LDGEventsViewController.h"

@interface LDGEventsViewController ()

@end

@implementation LDGEventsViewController

- (id)initWithStyle:(UITableViewStyle)style
{
    self = [super initWithStyle:style];
    if (self) {
        // Custom initialization
    }
    return self;
}

- (void)viewDidLoad
{
    [super viewDidLoad];

    // Uncomment the following line to preserve selection between presentations.
    // self.clearsSelectionOnViewWillAppear = NO;

    // Uncomment the following line to display an Edit button in the navigation bar for this view
controller.
    // self.navigationItem.rightBarButtonItem = self.editButtonItem;
}

- (void)didReceiveMemoryWarning
{
    [super didReceiveMemoryWarning];
    // Dispose of any resources that can be recreated.
}

#pragma mark - Table view data source

- (NSInteger)numberOfSectionsInTableView:(UITableView *)tableView
```

```
- (void)tableView:(UITableView *)tableView commitEditingStyle:(UITableViewCellEditingStyle)editingStyle
forRowAtIndexPath:(NSIndexPath *)indexPath
{
    if (editingStyle == UITableViewCellEditingStyleDelete) {
        // Delete the row from the data source
        [tableView deleteRowsAtIndexPaths:@[indexPath] withRowAnimation:UITableViewRowAnimationFade];
    }
    else if (editingStyle == UITableViewCellEditingStyleInsert) {
        // Create a new instance of the appropriate class, insert it into the array, and add a new row to
the table view
    }
}
*/

/*
// Override to support rearranging the table view.
- (void)tableView:(UITableView *)tableView moveRowAtIndexPath:(NSIndexPath *)fromIndexPath toIndexPath:
(NSIndexPath *)toIndexPath
{
}
*/

/*
// Override to support conditional rearranging of the table view.
- (BOOL)tableView:(UITableView *)tableView canMoveRowAtIndexPath:(NSIndexPath *)indexPath
{
    // Return NO if you do not want the item to be re-orderable.
    return YES;
}
*/

#pragma mark - Table view delegate

- (void)tableView:(UITableView *)tableView didSelectRowAtIndexPath:(NSIndexPath *)indexPath
{
    // Navigation logic may go here. Create and push another view controller.
    /*
     <#DetailViewController#> *detailViewController = [[<#DetailViewController#> alloc]
initWithNibName:@"<#Nib name#>" bundle:nil];
     // ...
     // Pass the selected object to the new view controller.
     [self.navigationController pushViewController:detailViewController animated:YES];
     */
}

@end
```

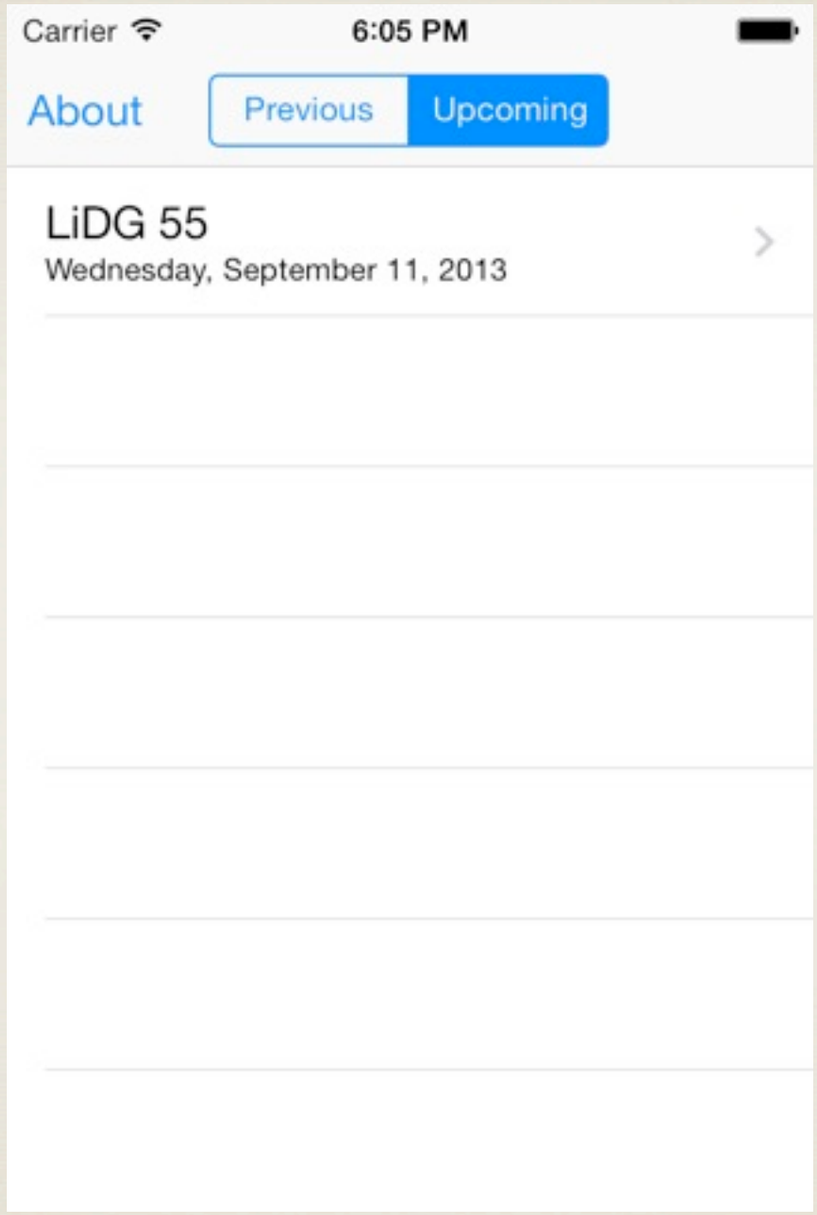
Apple Doesn't Help!

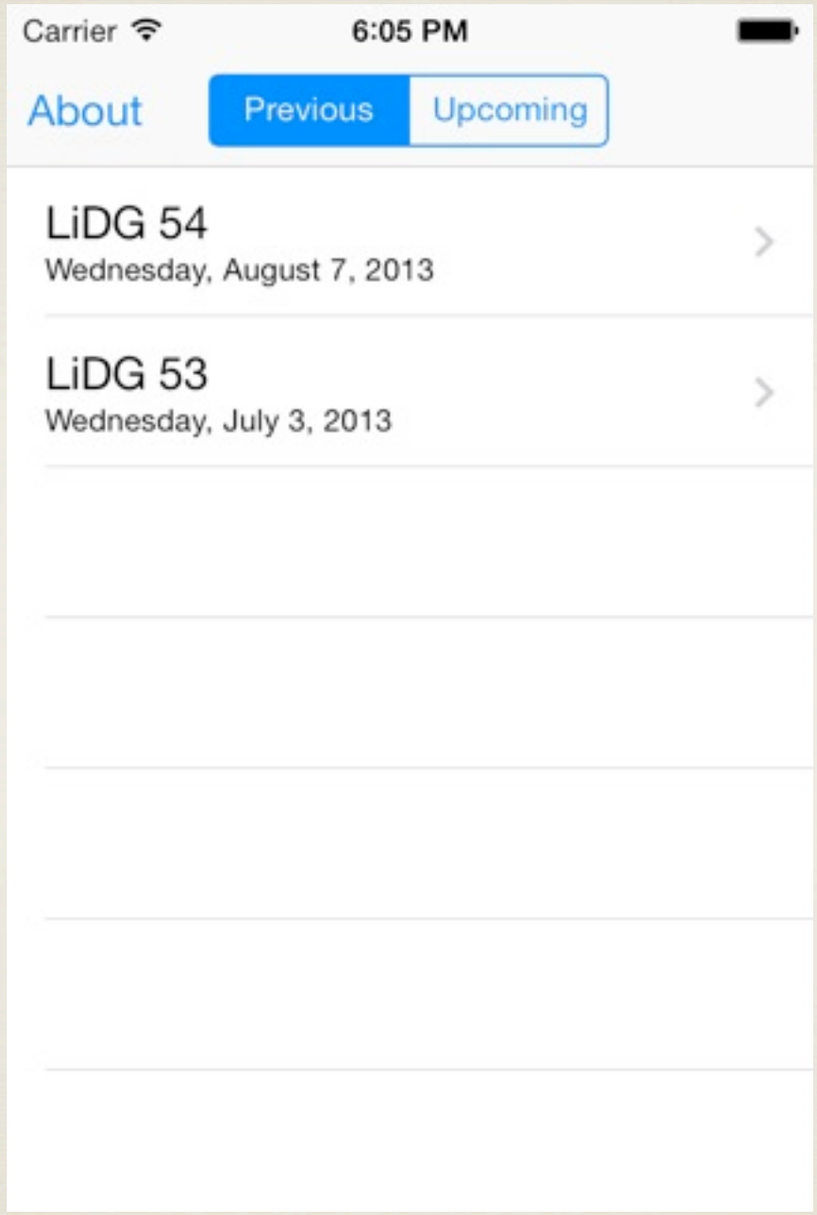
```
//
//  LDGEventsViewController.m
//  LiDG
//
//  Created by Daniel Tull on 23.08.2013.
//  Copyright (c) 2013 Daniel Tull. All rights reserved.
//

#import "LDGEventsViewController.h"

@interface LDGEventsViewController ()

@end

@implementation LDGEventsViewController

@end
```

Create Controller Classes

Using a DataSource class

- Implement the UITableViewDataSource methods
- Update the table view with new data
- Use properties to change behaviour


Carrier
6:05 PM
About
Previous
Upcoming
LiDG 55
Wednesday, September 11, 2013


Carrier
6:05 PM
About
Previous
Upcoming
LiDG 54
Wednesday, August 7, 2013
LiDG 53
Wednesday, July 3, 2013

Using a DataSource class

```
- (void)setupDataSource {

    NSManagedObjectContext *context = self.dataManager.managedObjectContext;
    NSFetchRequest *fetchRequest = [[NSFetchRequest alloc] initWithEntityName:[LDGEvent entityName]];

    if (self.segmentedControl.selectedSegmentIndex == 0) {
        fetchRequest.predicate = [NSPredicate predicateWithFormat:@"%K < %@",
                                  LDGEventAttributes.date, [NSDate new]];
        fetchRequest.sortDescriptors = @[[[NSSortDescriptor alloc] initWithKey:LDGEventAttributes.date
                                                                     ascending:NO]];
    } else {
        fetchRequest.predicate = [NSPredicate predicateWithFormat:@"%K > %@",
                                  LDGEventAttributes.date, [NSDate new]];
        fetchRequest.sortDescriptors = @[[[NSSortDescriptor alloc] initWithKey:LDGEventAttributes.date
                                                                     ascending:YES]];
    }

    self.dataSource = [[DCTFetchedResultsTableViewDataSource alloc] initWithManagedObjectContext:context
                                                                                    fetchRequest:fetchRequest];
    self.dataSource.cellReuseIdentifierHandler = ^(NSIndexPath *indexPath, id object) {
        return @"event";
    };

    self.tableView.dataSource = self.dataSource;
    self.dataSource.tableView = self.tableView;
    [self.tableView reloadData];

}
```

Using a DataSource class

```
- (void)viewDidLoad {
    [super viewDidLoad];
    [self setupDataSource];
    [self.dataManager fetchEventsWithCompletion:nil];
    [self.dataManager fetchPeopleWithCompletion:nil];
}


- (IBAction)segmentedControlValueChanged:(id)sender {
    [self setupDataSource];
}
```

Using a DataSource class

```
- (void)tableView:(UITableView *)tableView
  willDisplayCell:(UITableViewCell *)cell
forRowAtIndexPath:(NSIndexPath *)indexPath {

    LDGEvent *event = [self.dataSource objectAtIndexPath:indexPath];
    cell.textLabel.text = event.name;
    cell.detailTextLabel.text = [[[self class] dateFormatter] stringFromDate:event.date];
}



- (void)prepareForSegue:(UIStoryboardSegue *)segue sender:(id)sender {

    id viewController = segue.destinationViewController;

    if ([viewController isKindOfClass:[LDGEventViewController class]]) {
        LDGEventViewController *eventViewController = viewController;
        NSIndexPath *indexPath = [self.tableView indexPathForSelectedRow];
        eventViewController.event = [self.dataSource objectAtIndexPath:indexPath];
        eventViewController.dataManager = self.dataManager;
    }
}
```

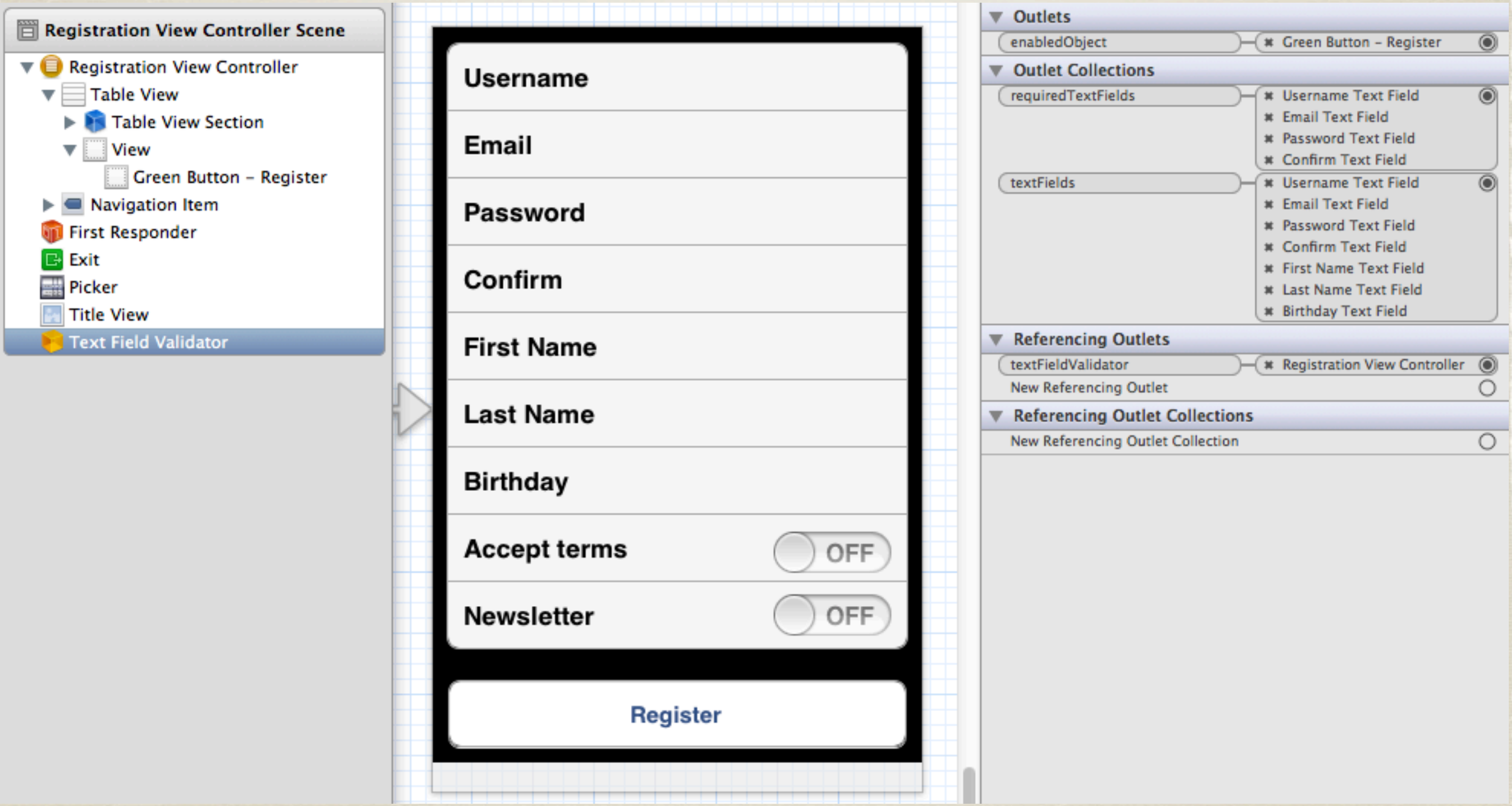
What else to separate?

* Anything that you feel yourself re-writing!
* View Controllers should glue logic bits together

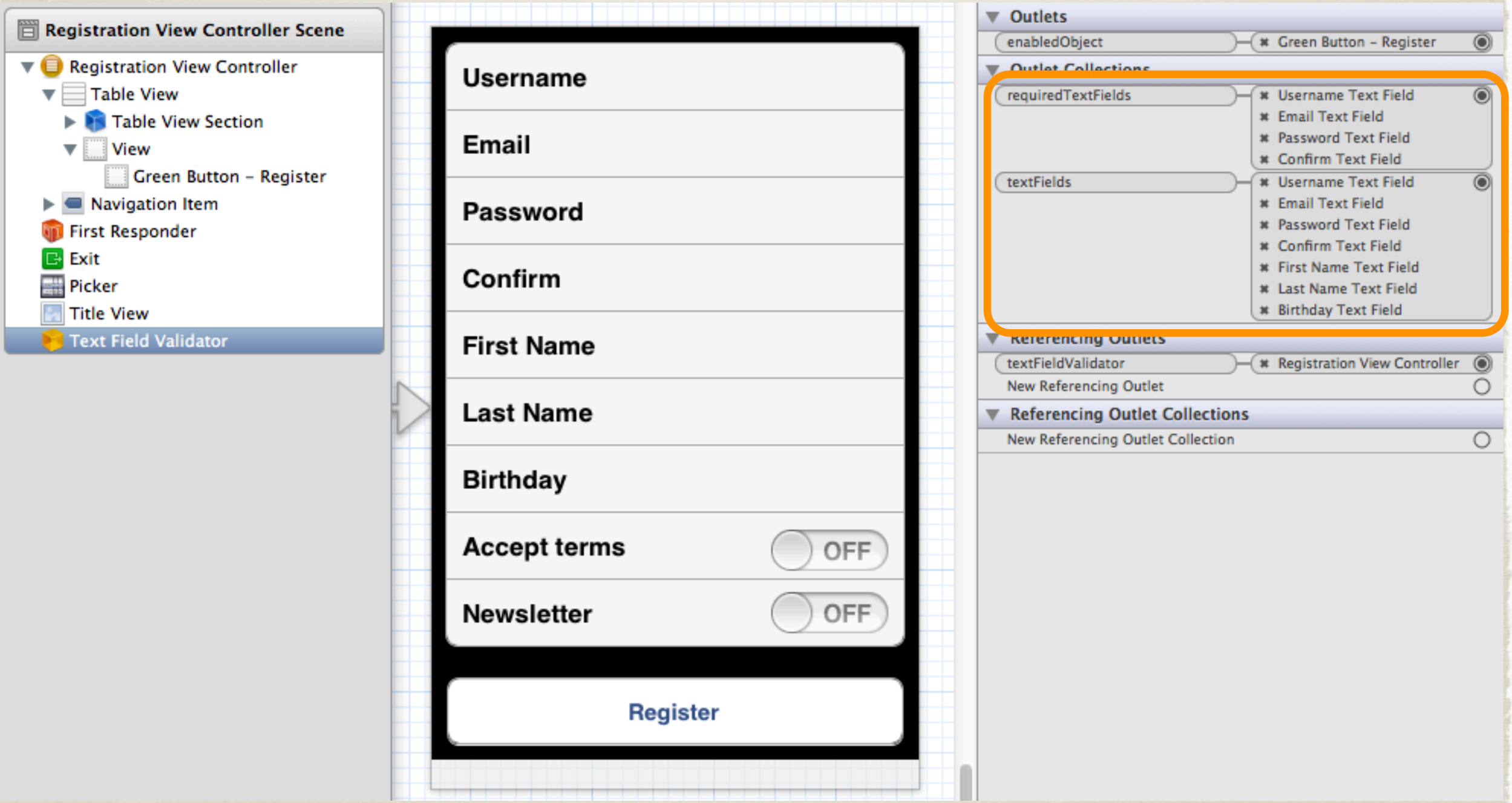
Use IBOutlets

- Using Interface Builder will save time
- Have objects with IBOutlet properties
- Instantiate them in the nib/storyboard
- Make a strong property for them in the view controller
- I've rarely had to reference them beyond that

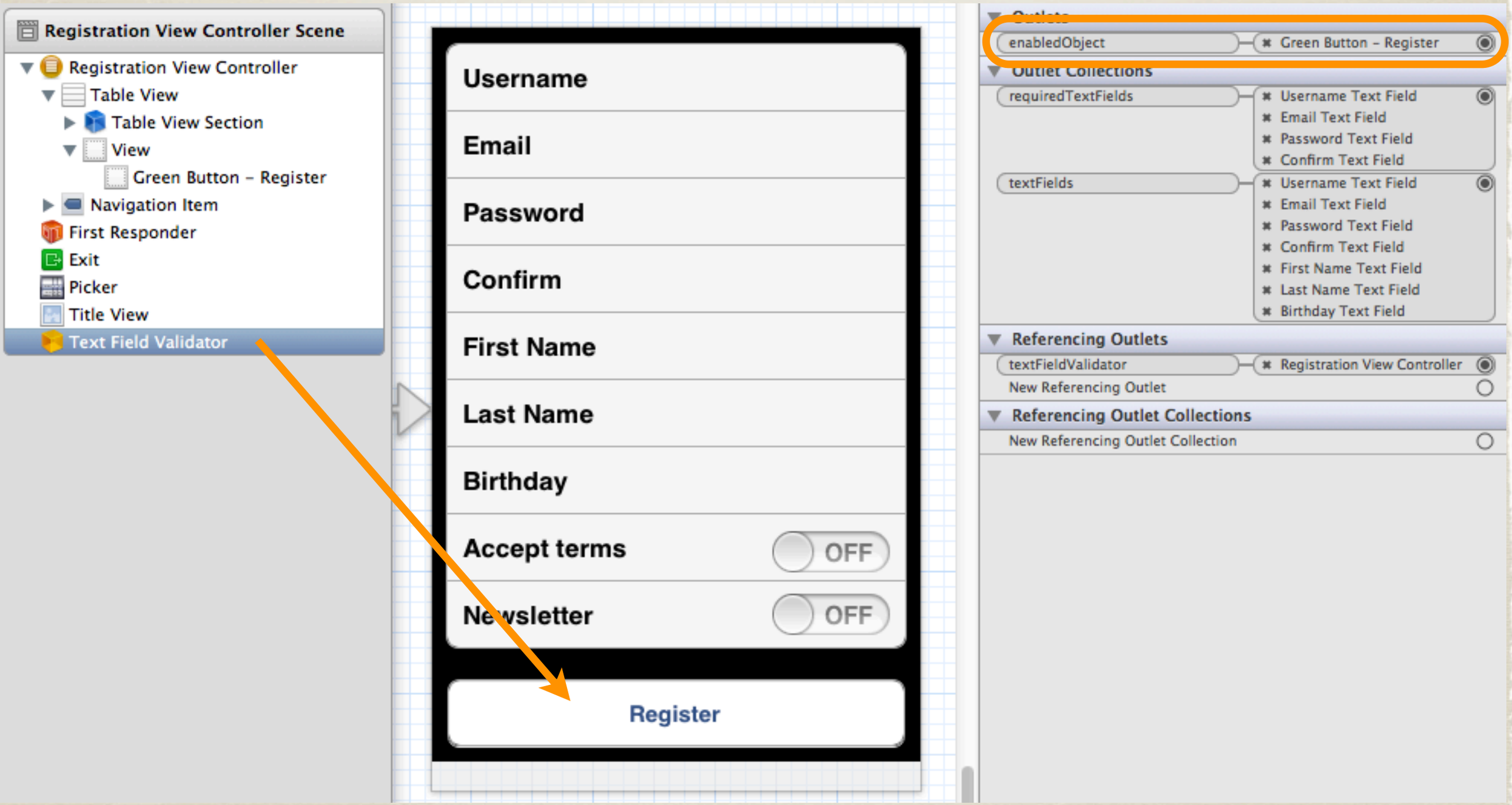
Use IBOutlets



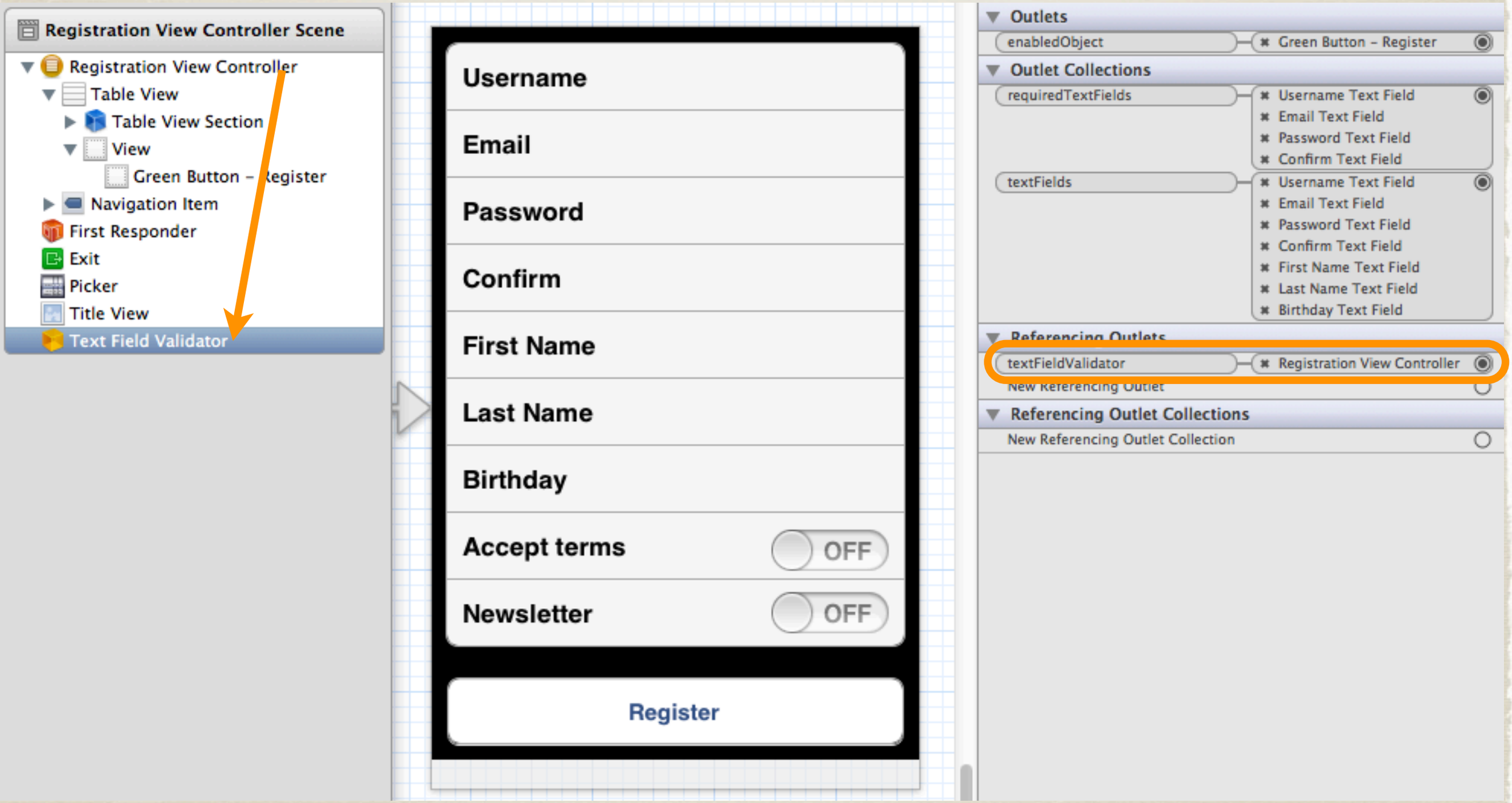
Use IBOutlets



Use IBOutlets



Use IBOutlets



Example controller classes

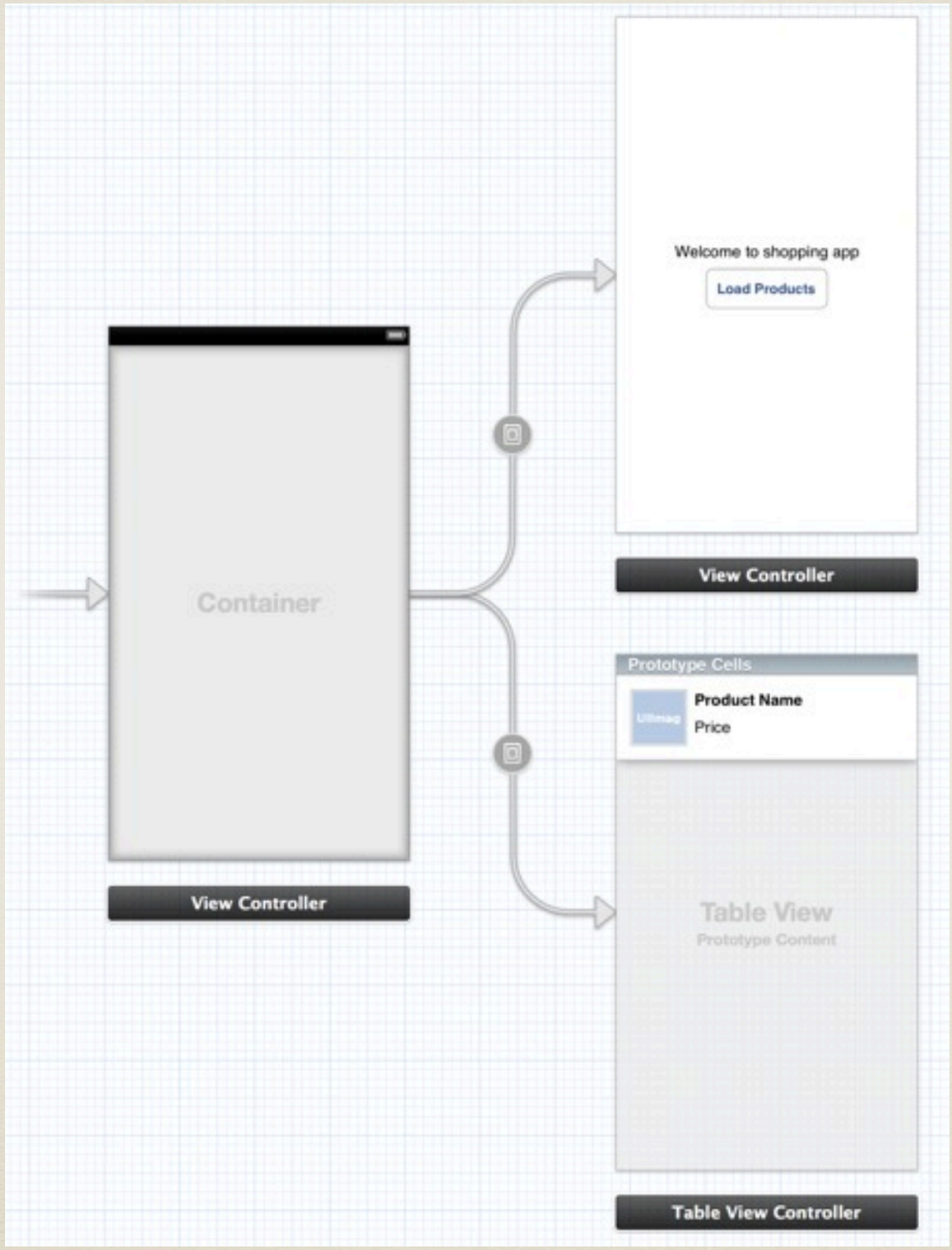
- DCTTableViewDataSources
- DSLFetchedResultsControllerDelegate
- DCTTextFieldValidator

Container View Controllers

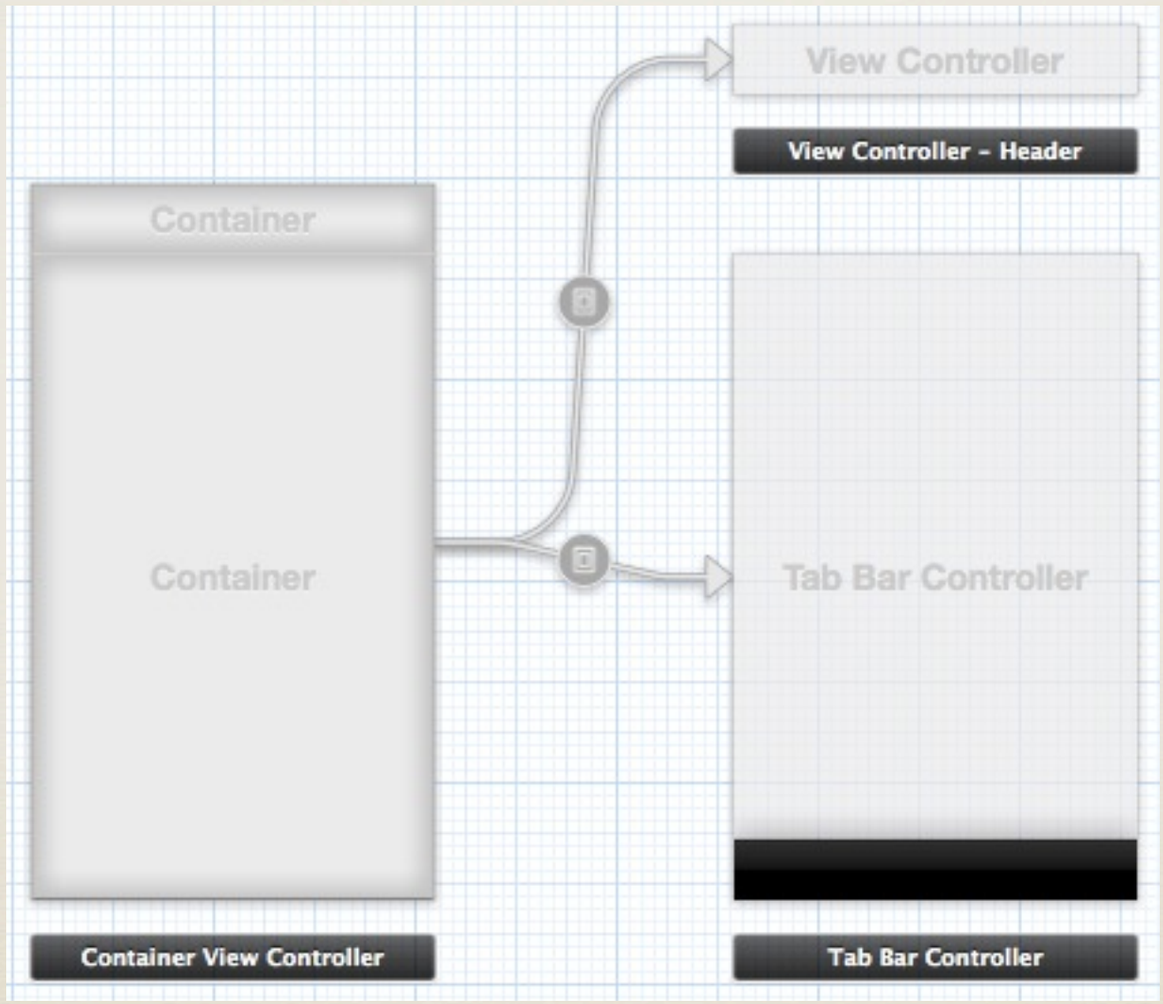
Use container view controllers

- You can split the UI between view controllers
- Allows flexibility with iPad/iPhone layouts

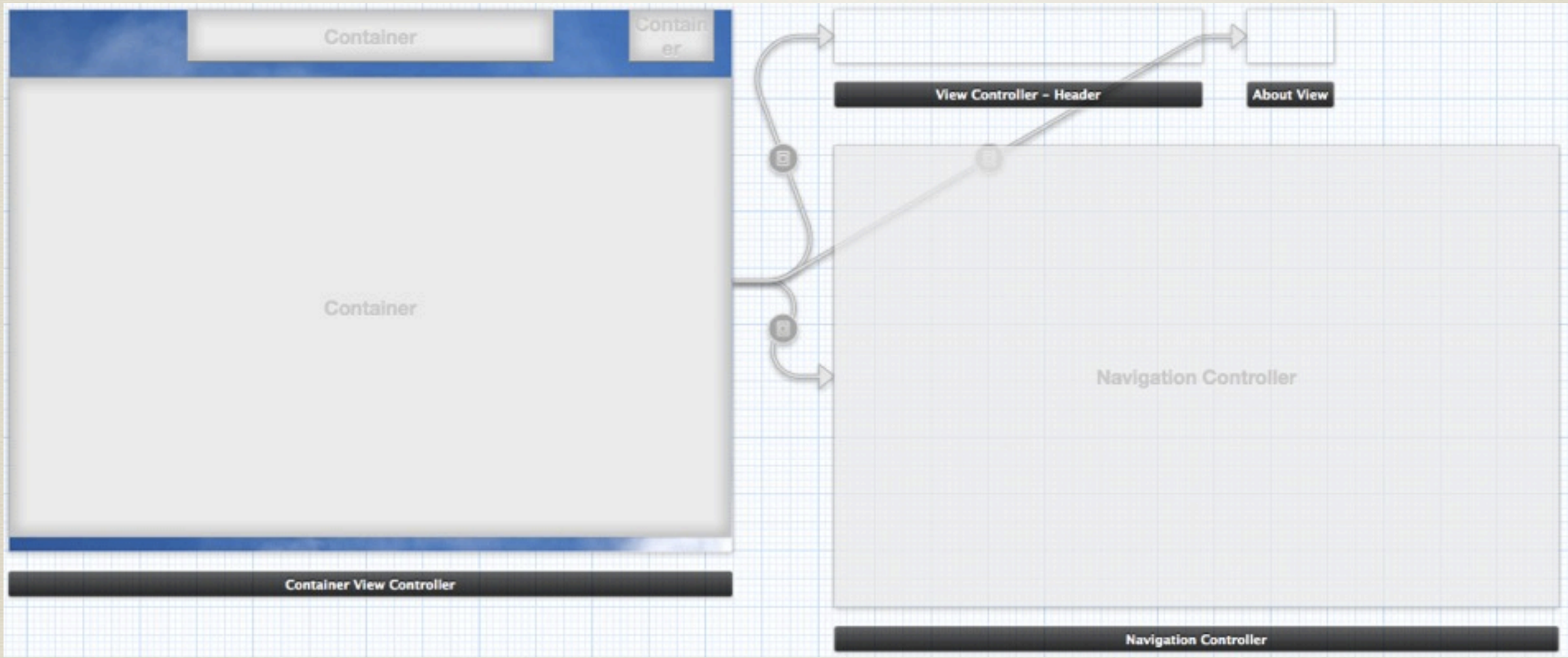
Toggling View Controllers



Containers for Layout



Containers for Layout



Container View Controller

```
@interface ContainerViewController : UIViewController
@property (nonatomic, copy) void (^viewDidAppearHandler)(BOOL animated);
@property (nonatomic, copy) void (^prepareForSegueHandler)(UIStoryboardSegue *segue, id sender);
@end
```

```
@implementation ContainerViewController

- (void)viewDidAppear:(BOOL)animated {
    [super viewDidAppear:animated];
    if (self.viewDidAppearHandler)
        self.viewDidAppearHandler(animated);
}

- (void)prepareForSegue:(UIStoryboardSegue *)segue sender:(id)sender {
    if (self.prepareForSegueHandler)
        self.prepareForSegueHandler(segue, sender);
}

@end
```

Container View Controller

```
- (void)prepareForSegue:(UIStoryboardSegue *)segue sender:(id)sender {
    id viewController = segue.destinationViewController;
    if ([viewController isKindOfClass:[ContainerViewController class]]) {
        ContainerViewController *containerViewController = viewController;
        containerViewController.prepareForSegueHandler = ^(UIStoryboardSegue *segue, id sender) {

            if ([viewController isKindOfClass:[HeaderViewController class]]) {
                HeaderViewController *headerViewController = viewController;
                headerViewController.managedObjectContext = self.managedObjectContext;

            } else if ([viewController isKindOfClass:[DashboardViewController class]]) {
                DashboardViewController *dashboardViewController = viewController;
                dashboardViewController.sport = self.sport;

            } else if ([viewController isKindOfClass:[AboutViewController class]]) {
                AboutViewController *aboutViewController = viewController;
                aboutViewController.account = self.account;
            }
        };
    }
}
```

Summary

Fix errors

Summary

Fix errors

Remove warnings

Summary

Fix errors

Remove warnings

Write as little code as possible

Daniel Tull

@danielctull

danieltull.co.uk