

# Beginning iOS Development

## MVC in iOS

Daniel Norton

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Beginning iOS Development, MVC in iOS

CHATTANOOGA - AUG 17 - 19, 2011

# Agenda

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- Candy Store Overview
- Basic View Controller
- Modal View Controller
- Tab Bar View Controller
- Navigation Controller
- Table View Controller
  - Custom Cells
  - Row Animation
- What's new in iOS5
- Additional Resources

**github: danielnorton**  
**blog: framewreck.net**  
**twitter: @daniel\_norton**

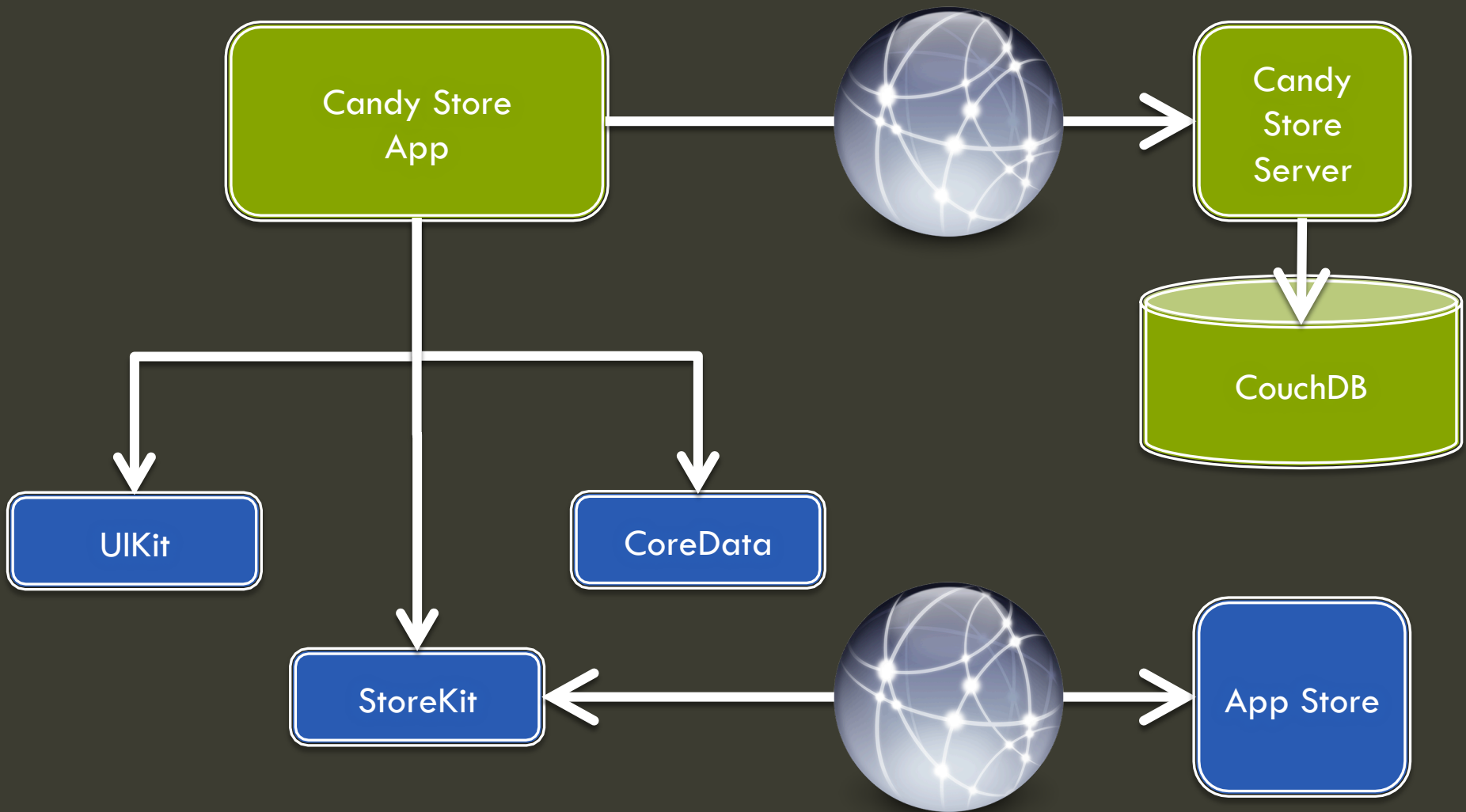


Candy Store

**[github.com/danielnorton/CandyStore-app](https://github.com/danielnorton/CandyStore-app)**

**[github.com/danielnorton/candystore-server](https://github.com/danielnorton/candystore-server)**

The Demo App



## Candy Store Architecture

# A few caveats ...

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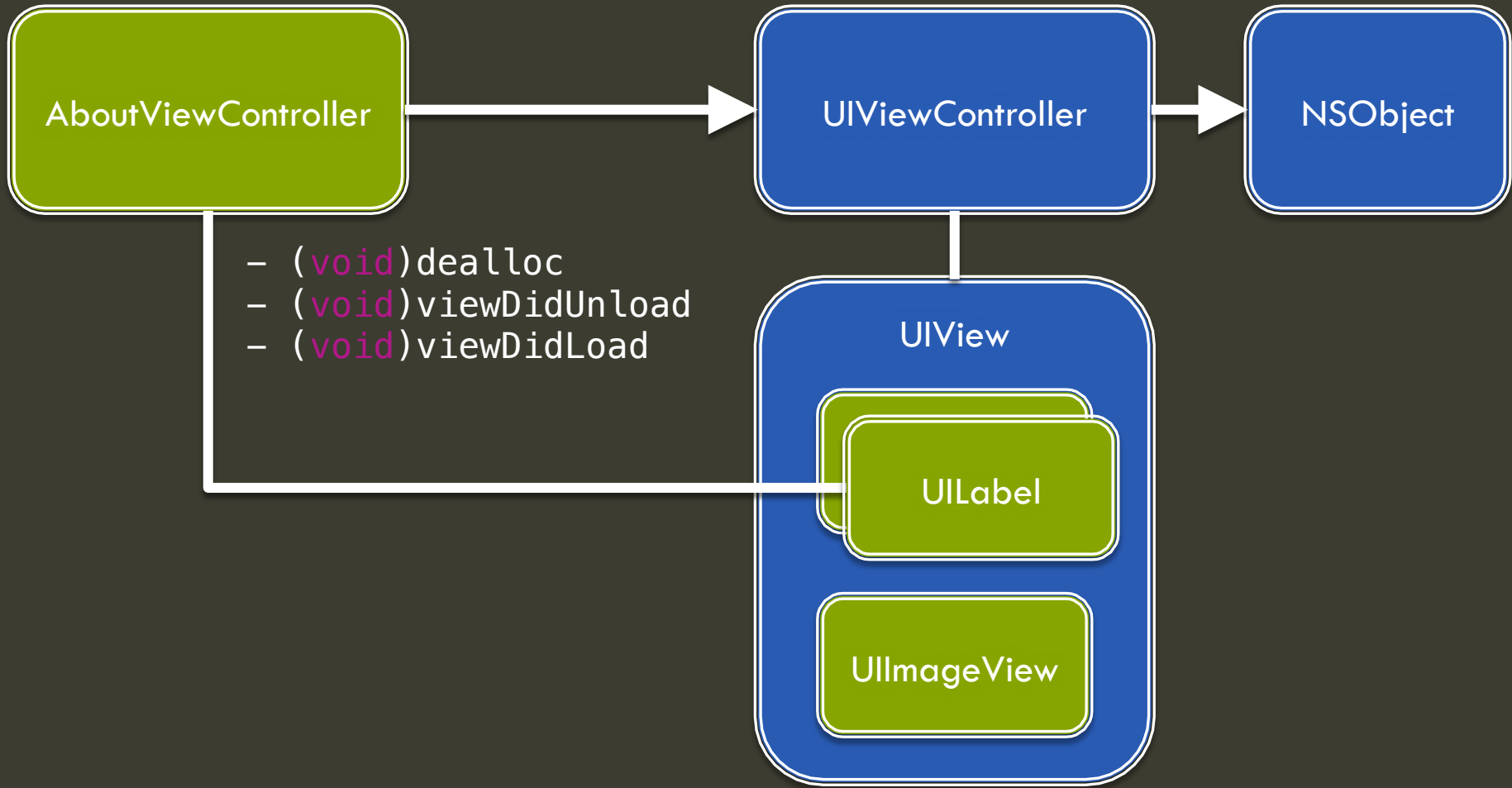
**STOREKIT**



**Y U NO WORK IN SIMULATOR?**



# Basic View Controller



About View Controller decomposed



CandyStoreAppDelegate.h



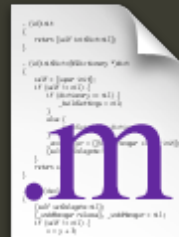
CandyStoreAppDelegate.m



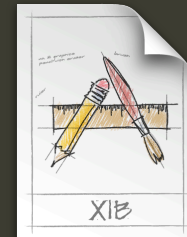
MainWindow.xib



AboutViewController.h



AboutViewController.m



AboutViewController.xib

Where does this happen in code?



# Code

## Basic View Controller

- ❑ Change view properties at run-time
- ❑ Set up view properties in Interface Builder
- ❑ Wire up a view controller to the app in Interface Builder



# Modal View Controller

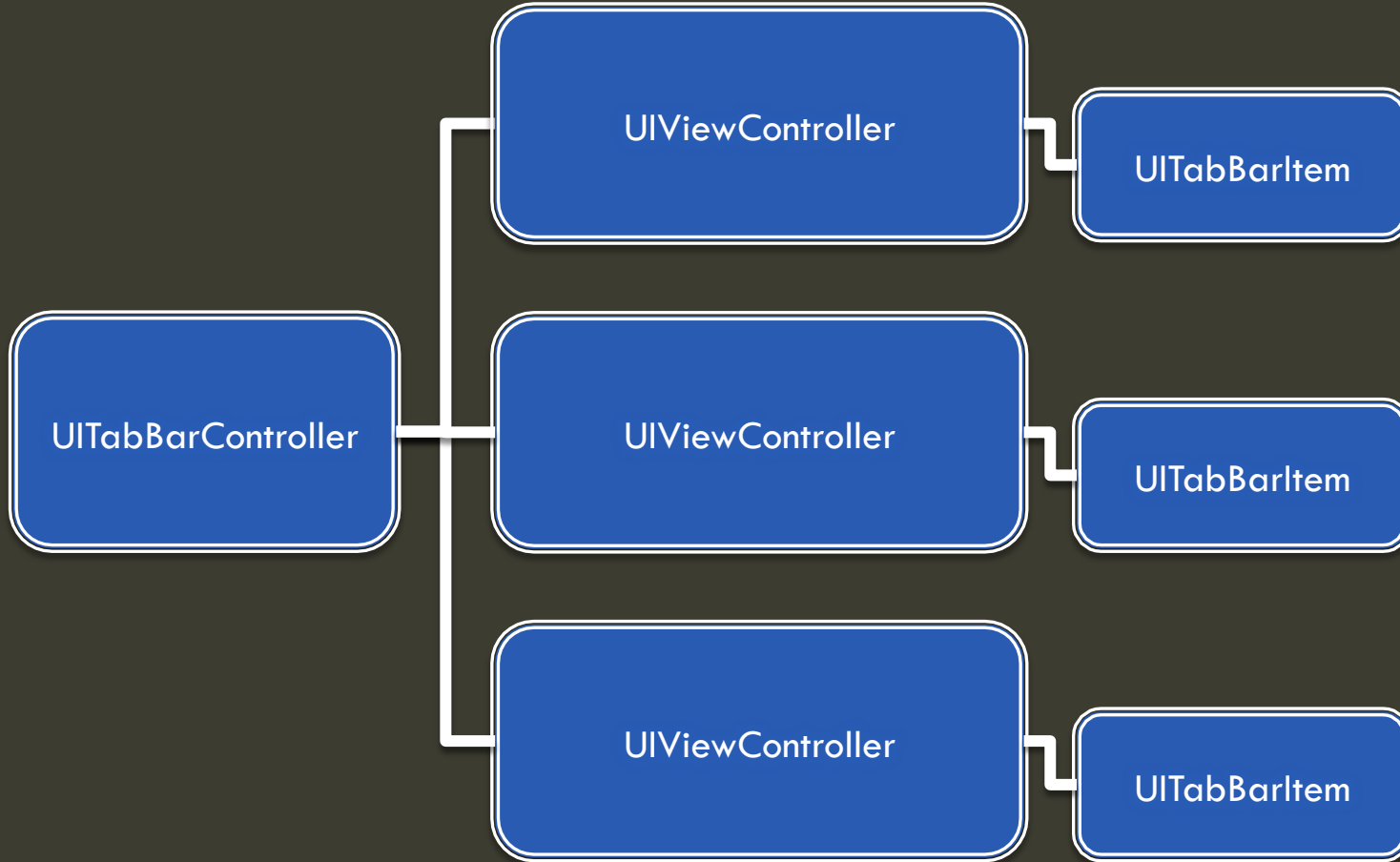
# Code

## Modal View Controller

- ❑ Create a view controller from within another view controller
- ❑ Respond to an IBAction
- ❑ Present a view controller modally

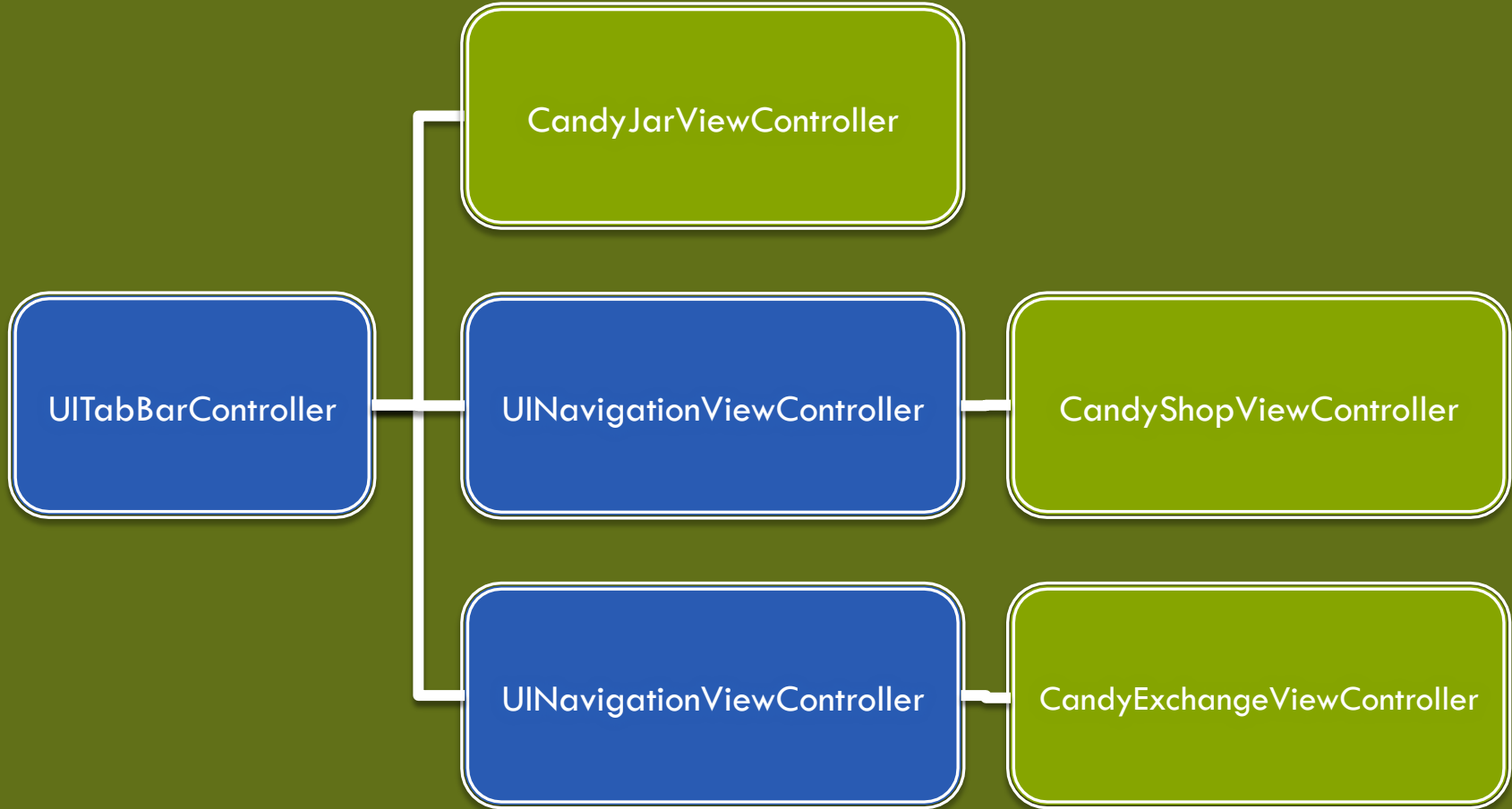


# Tab Bar Controller and Navigation View Controller



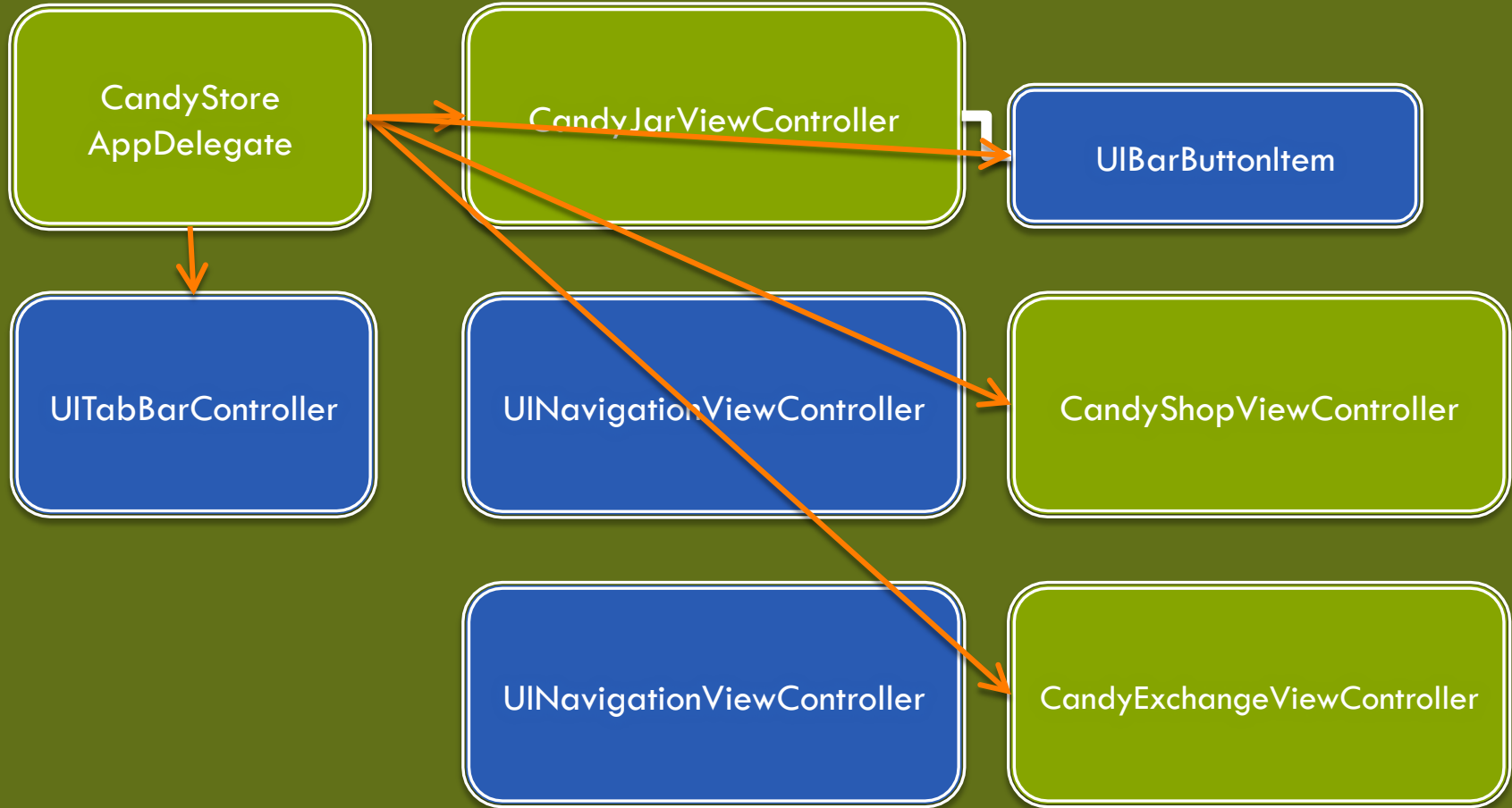
Basic Tab Bar Controller

# MainWindow.xib

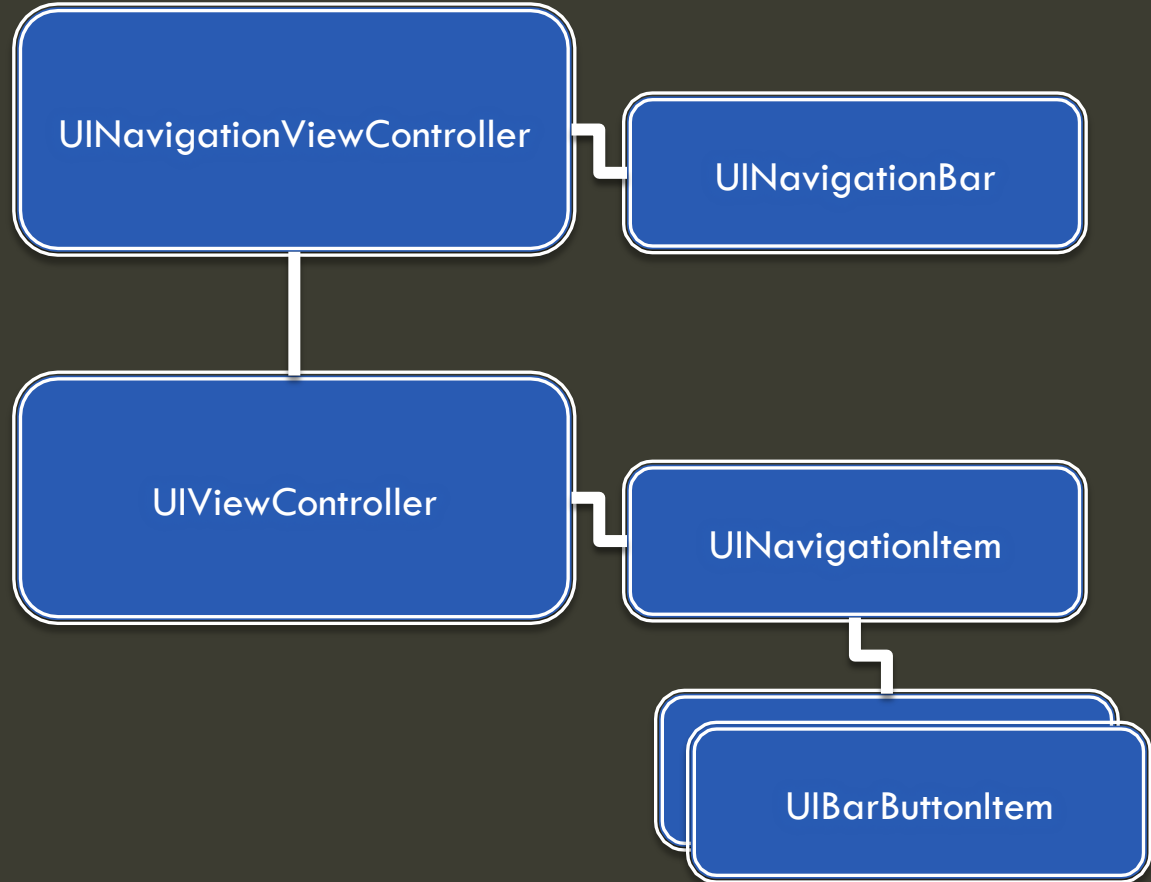


Candy Shop Tab Bar Controller

# MainWindow.xib



Candy Shop Tab Bar Controller



## Basic Navigation View Controller



# Code

## Tab Bar Controller and Navigation View Controller

- ❑ Wire-up a tab bar controller and a navigation controller in Interface Builder
- ❑ Investigate IBOutlets
- ❑ Update a tab bar item in code
- ❑ See pushing view controllers on the navigation stack

# A few extra thoughts on Navigation View Controllers

```
[self.navigationController popViewControllerAnimated:YES];
```

```
[self.navigationController popToRootViewControllerAnimated:YES];
```

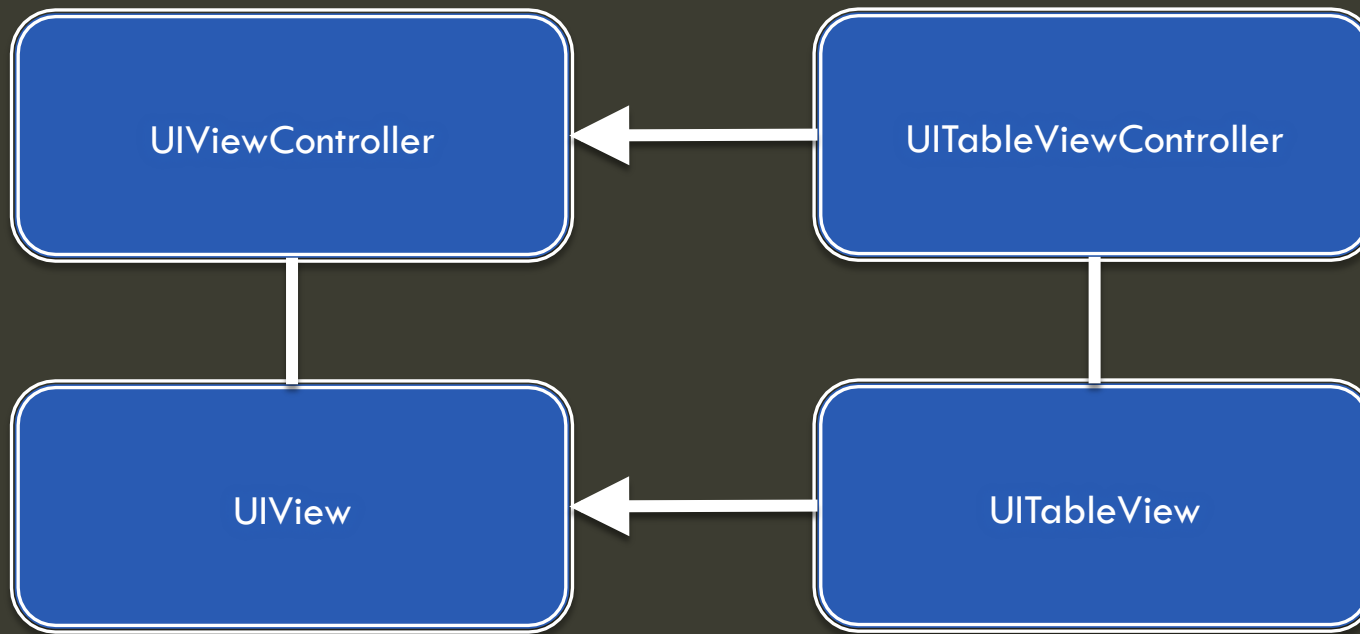
# A few extra thoughts on Tab Bar Controllers

```
[myJarTabBarItem setBadgeValue:@"5"];
```

```
– (BOOL)tabBarController:(UITabBarController *)aTabBarController  
shouldSelectViewController:(UIViewController *)viewController;
```

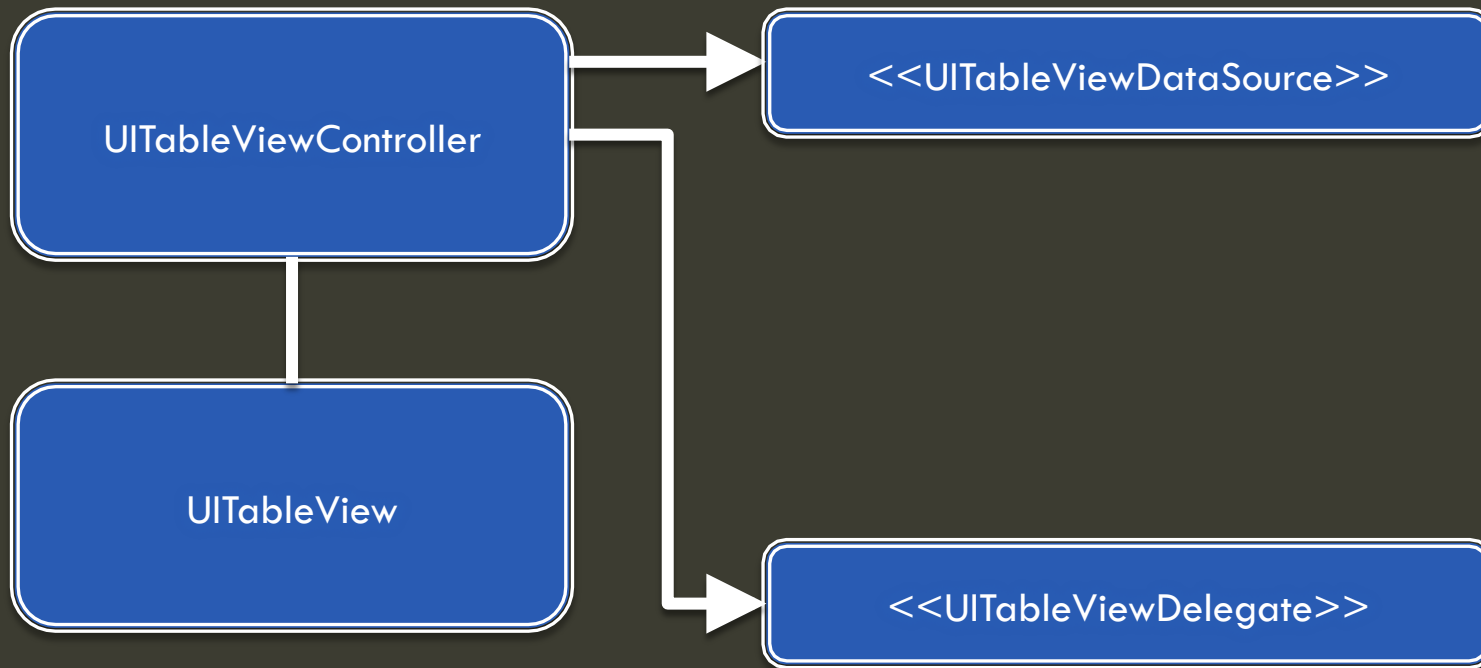


# Table View Controllers



```
UIView *theView = self.view;
```

```
UITableView *theView = self.tableView;  
UITableView *sameView = (UITableView *)self.view;
```



## <<UITableViewDataSource>>

- (NSInteger)numberOfSectionsInTableView:(UITableView \*)tableView;
- (NSInteger)tableView:(UITableView \*)tableView numberOfRowsInSection:(NSInteger)section;
- (UITableViewCell \*)tableView:(UITableView \*)tableView  
cellForRowAtIndexPath:(NSIndexPath \*)indexPath;
- (NSString \*)tableView:(UITableView \*)tableView titleForHeaderInSection:(NSInteger)section;

## <<UITableViewDelegate>>

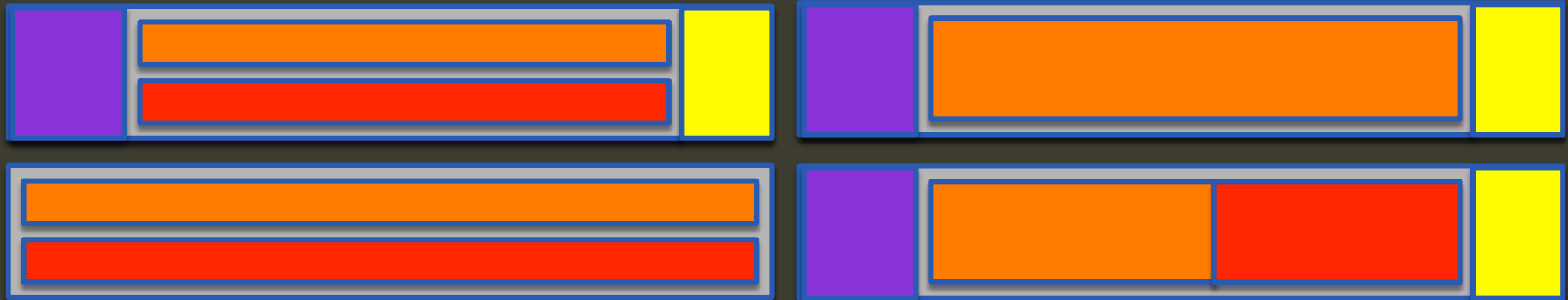
- (CGFloat)tableView:(UITableView \*)tableView heightForRowAtIndexPath:(NSIndexPath \*)indexPath;
- (void)tableView:(UITableView \*)tableView willDisplayCell:(UITableViewCell \*)cell  
forRowAtIndexPath:(NSIndexPath \*)indexPath;
- (void)tableView:(UITableView \*)tableView didSelectRowAtIndexPath:(NSIndexPath \*)indexPath;

## NSIndexPath

```
@property(n nonatomic, readonly) NSUInteger section;  
@property(n nonatomic, readonly) NSUInteger row;
```

## UITableViewCell

```
@property(n nonatomic, readonly, retain) UIImageView *imageView;  
@property(n nonatomic, readonly, retain) UILabel *textLabel;  
@property(n nonatomic, readonly, retain) UILabel *detailTextLabel;  
@property(n nonatomic, readonly, retain) UIView *contentView;  
@property(n nonatomic) UITableViewCellAccessoryType accessoryType;  
@property(n nonatomic, retain) UIView *accessoryView;
```



Basic Table View Cell

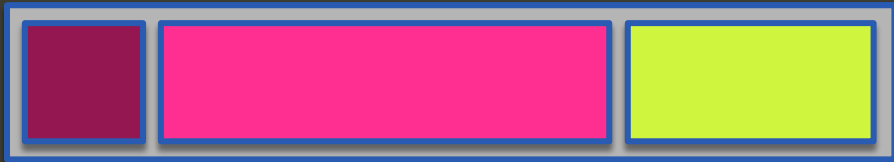


UITableViewCell

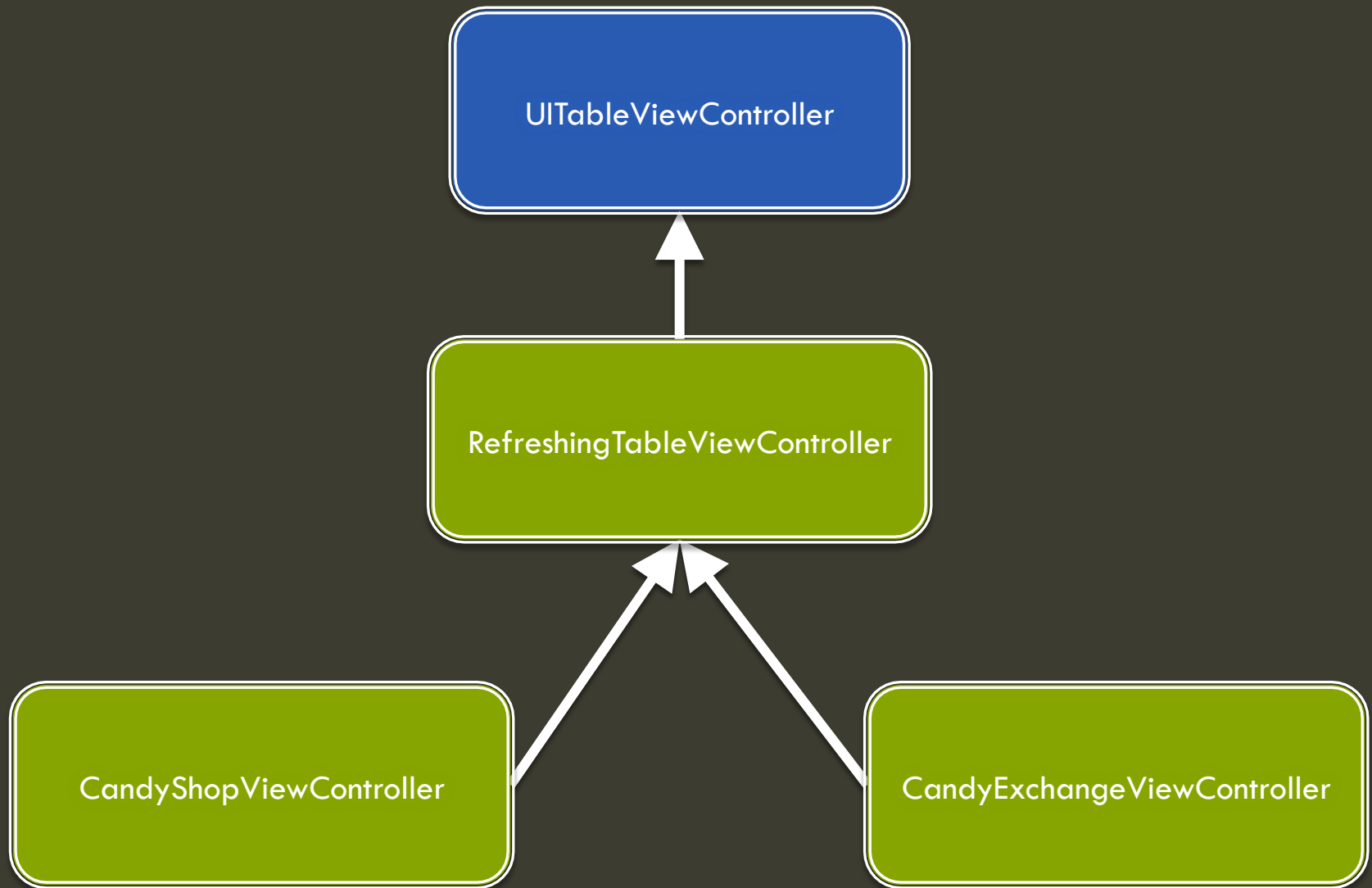


ExchangeListItemCell

```
@property (nonatomic, retain) IBOutlet UILabel *titleLabel;  
@property (nonatomic, retain) IBOutlet UILabel *quantityLabel;  
@property (nonatomic, retain) IBOutlet UIImageView *iconView;
```



Custom Table View Cell



Candy Store Table View Controllers

# Code

## Table View Controllers

- ❑ Table view data source and delegate implementation
- ❑ Basic cell creation
- ❑ Custom cell creation

```
[tableView beginUpdates];  
[tableView insertSections:top withRowAnimation:UITableViewRowAnimationFade];  
[tableView insertRowsAtIndexPaths:refreshRows withRowAnimation:UITableViewRowAnimationFade];  
[tableView deleteRowsAtIndexPaths:indexPaths withRowAnimation:UITableViewRowAnimationFade];  
[tableView deleteSections:removeSections withRowAnimation:UITableViewRowAnimationFade];  
[tableView reloadSections:top withRowAnimation:UITableViewRowAnimationNone];  
[tableView endUpdates];
```

Before and after must jive with:

- (NSInteger)numberOfSectionsInTableView:(UITableView \*)tableView;
- (NSInteger)tableView:(UITableView \*)tableView numberOfRowsInSection:(NSInteger)section;

# Row Animations

# Code

## Row Animations

- ❑ Remove sections and rows
- ❑ Add sections and rows

# A few extra thoughts on Table View Controllers

- ❑ The view controller does not have to inherit from UITableViewController. All it has to do is implement UITableViewDelegate and UITableViewDataSource
- ❑ Performance is a key consideration

# What's New in iOS5

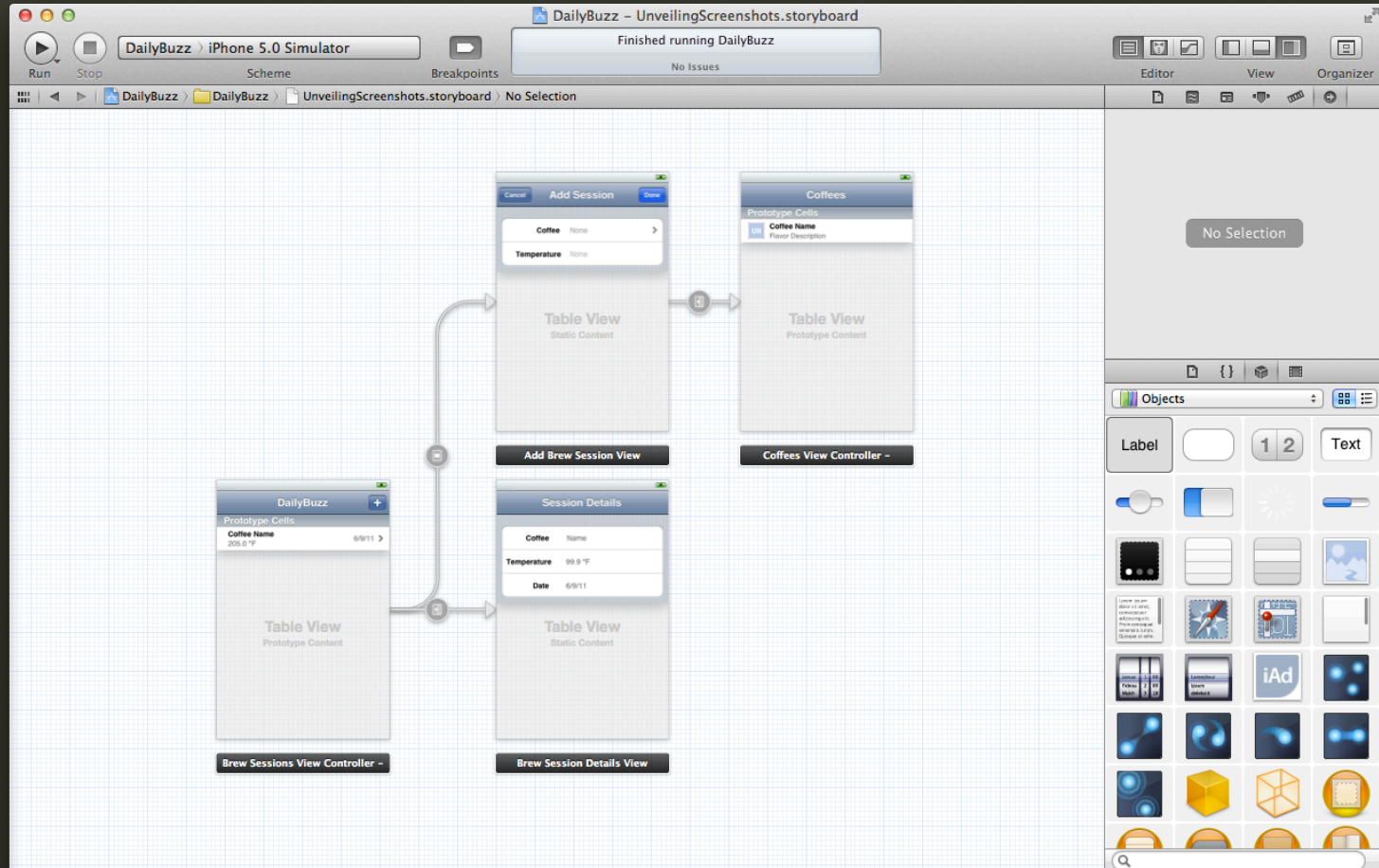
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How are the topics we discussed today impacted by new features and technologies in iOS5?

- ❑ Storyboards
- ❑ Automatic Reference Counting
- ❑ Static Content UITableViewController nibs
- ❑ iCloud?

# iOS 5 Storyboarding

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# Additional Resources

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- iOS Developer Library
  - iOS Development Guide
  - iOS Application Programming Guide
  - iOS Human Interface Guidelines
  - View Controller Programming Guide for iOS
  - Table View Programming Guide for iOS
  - Coding Guidelines for Cocoa
  - What's New in iOS

# Additional Resources

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- WWDC 2011 Videos
  - What's New in Cocoa Touch
  - Introducing Interface Builder Storyboarding
  - Using Interface Builder in Xcode 4

# Review

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**Thanks, guys! Enjoy the rest of devLink 2011!**