

Beginning iOS Development

MVC in iOS

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8/17/2011 1:00 PM



Beginning iOS Development, MVC in iOS

Agenda

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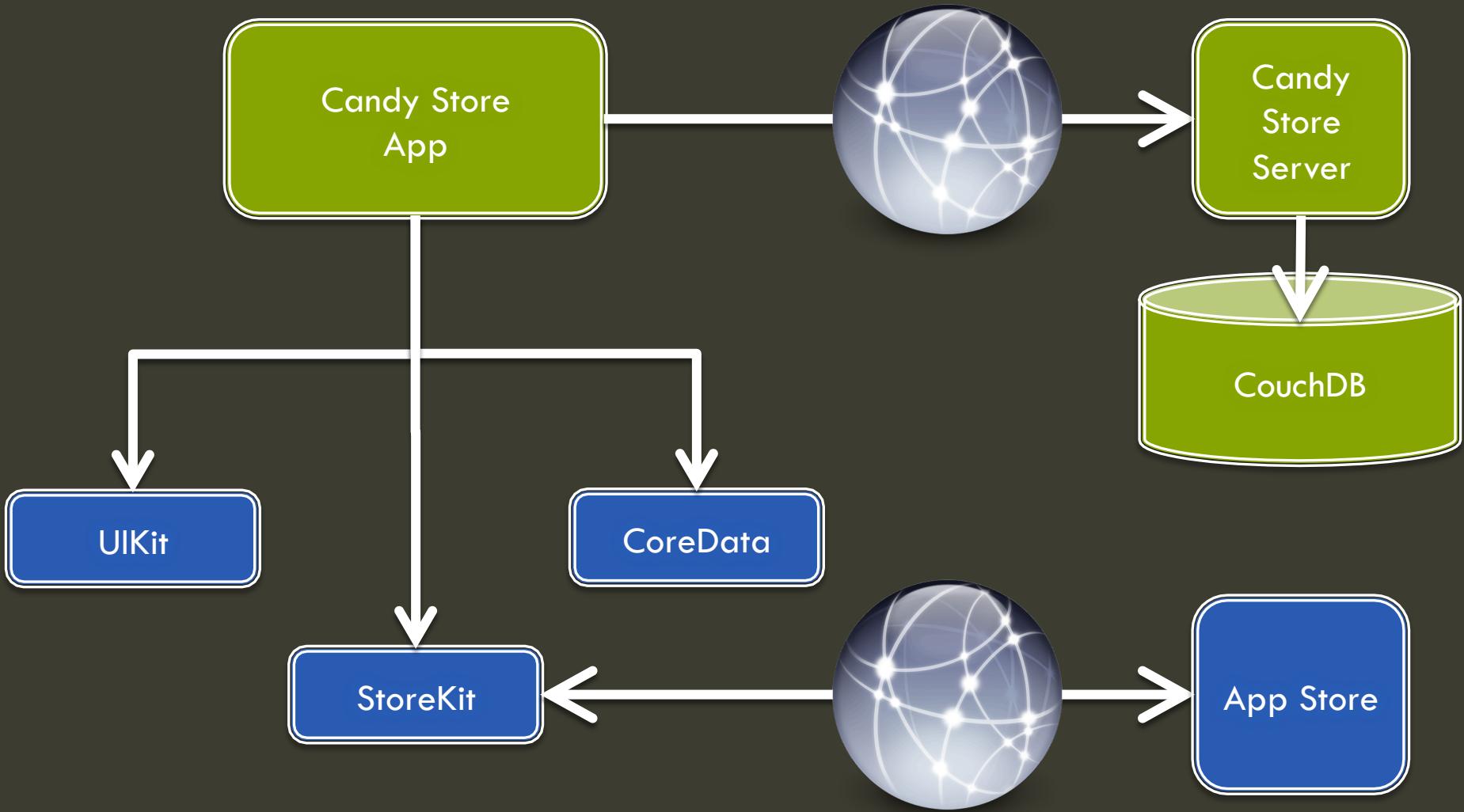
- Candy Store Overview
- Basic View Controller
- Modal View Controller
- Tab Bar View Controller
- Navigation Controller
- Table View Controller
 - Custom Cells
 - Row Animation
- What's new in iOS5
- Additional Resources

github: `danielnorton`
blog: `framewreck.net`
twitter: `@daniel_norton`



`github.com/danielnorton/CandyStore-app`
`github.com/danielnorton/candystore-server`

The Demo App



Candy Store Architecture

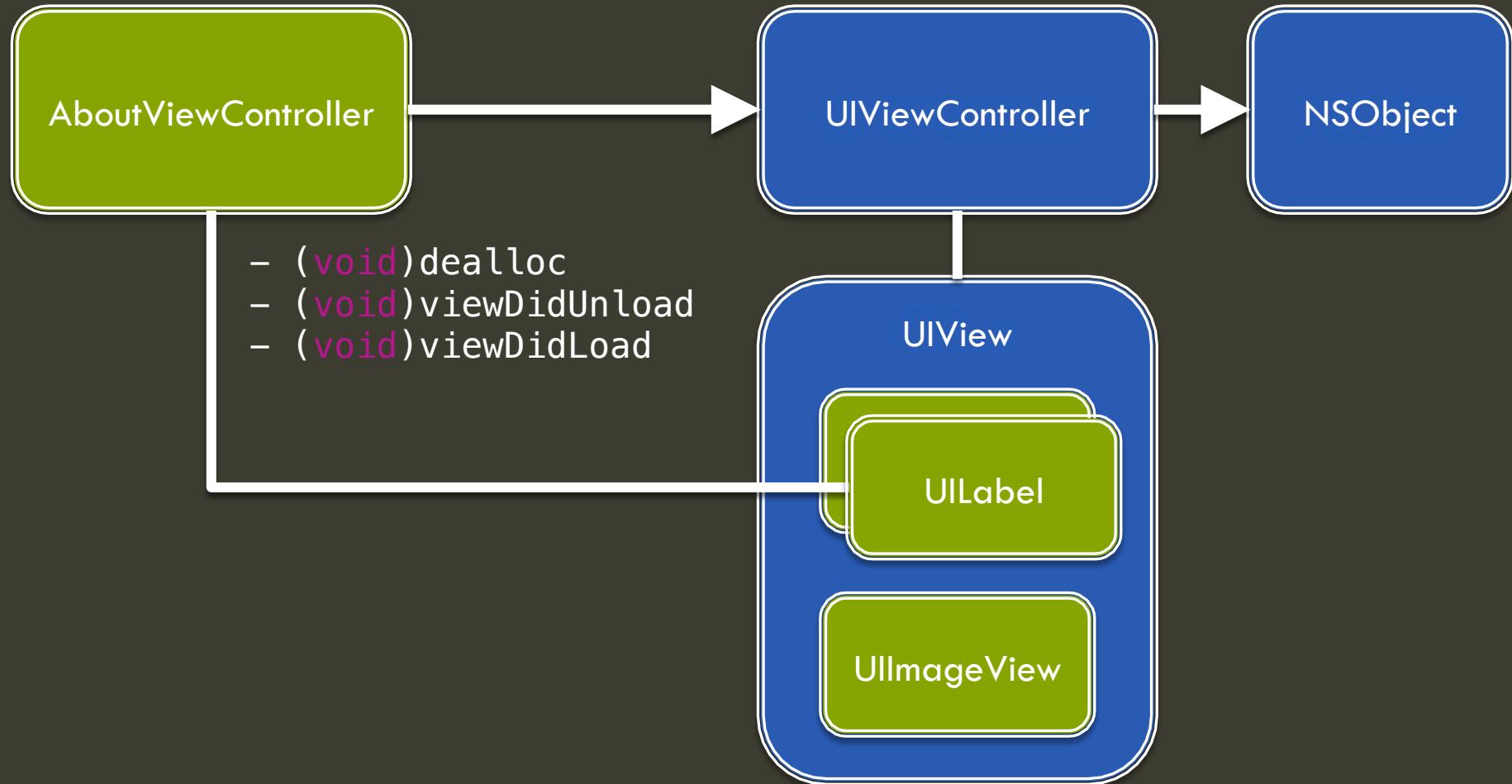
A few caveats ...

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Basic View Controller



About View Controller decomposed



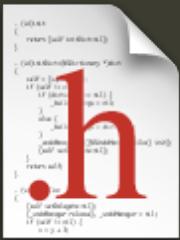
CandyStoreAppDelegate.h



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

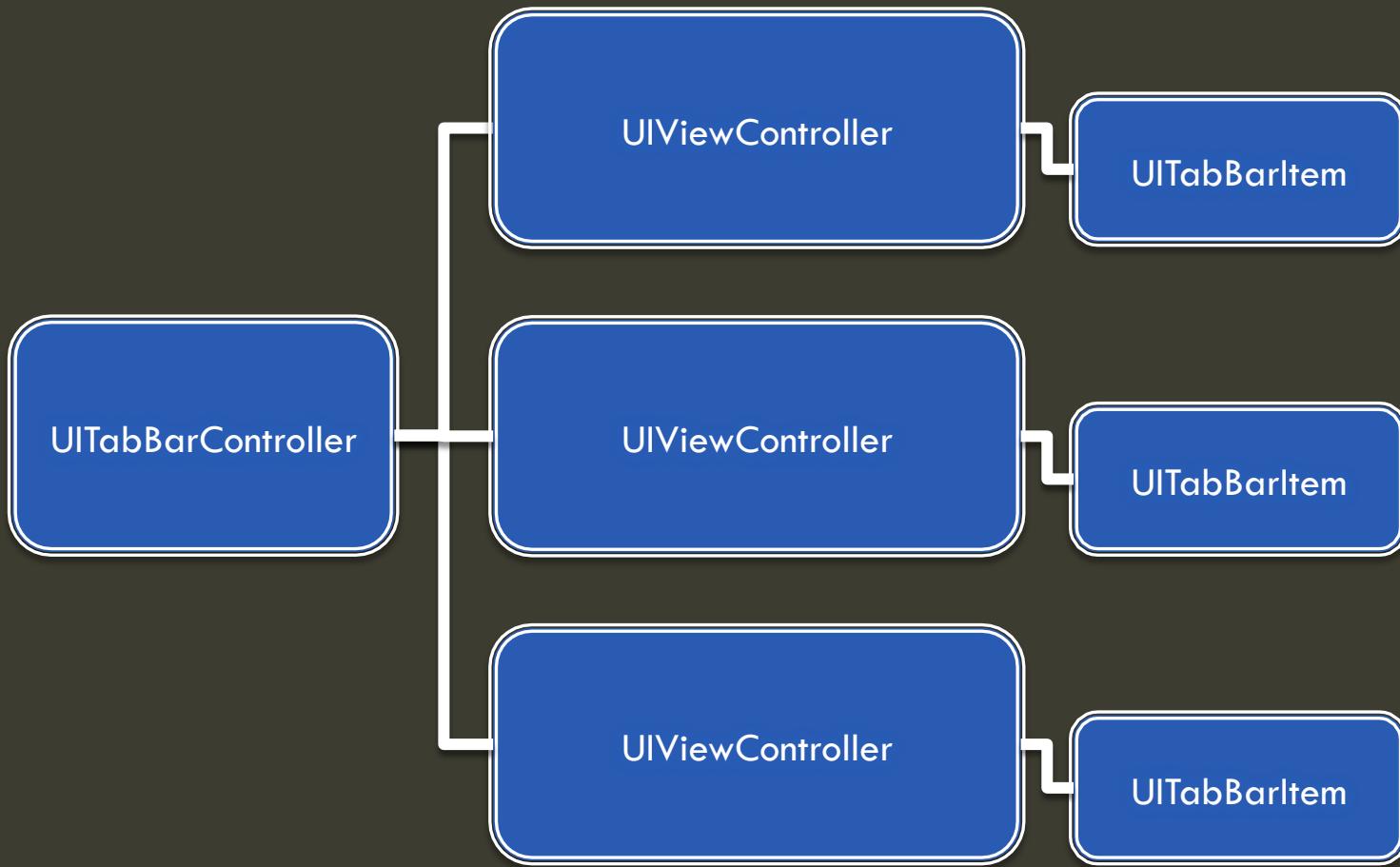
Code

Modal View Controller

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

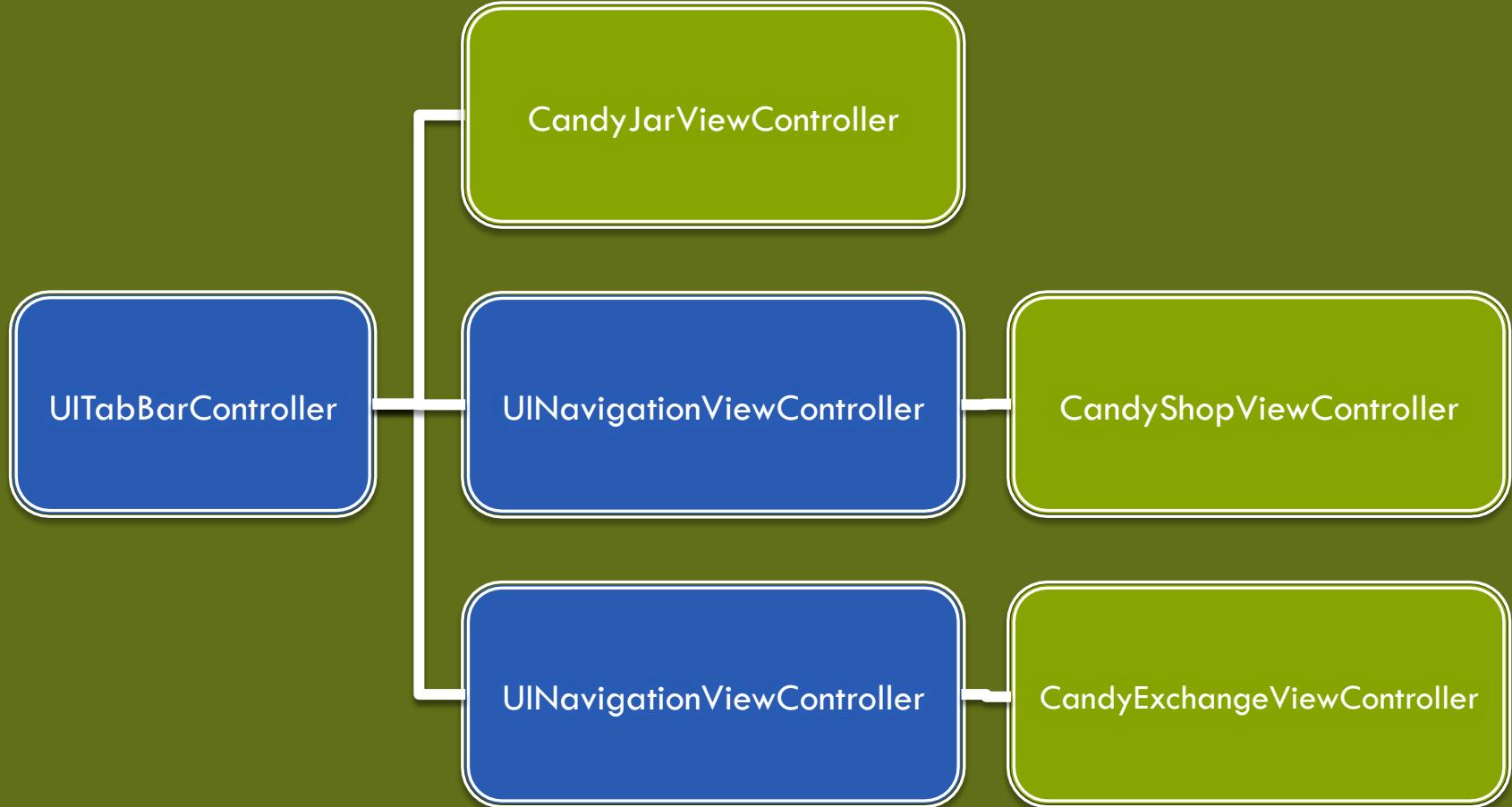


Tab Bar Controller and Navigation View Controller



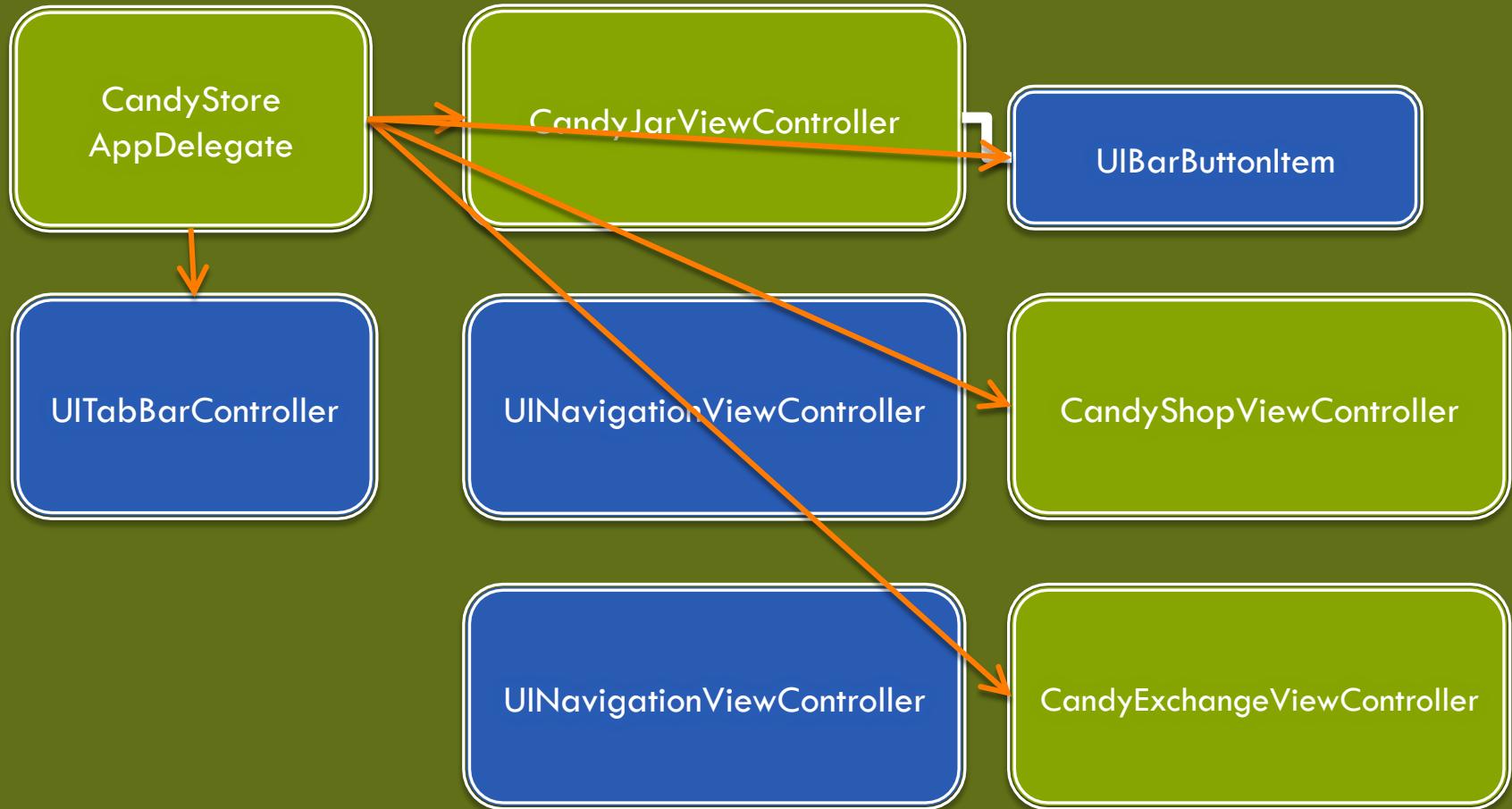
Basic Tab Bar Controller

MainWindow.xib

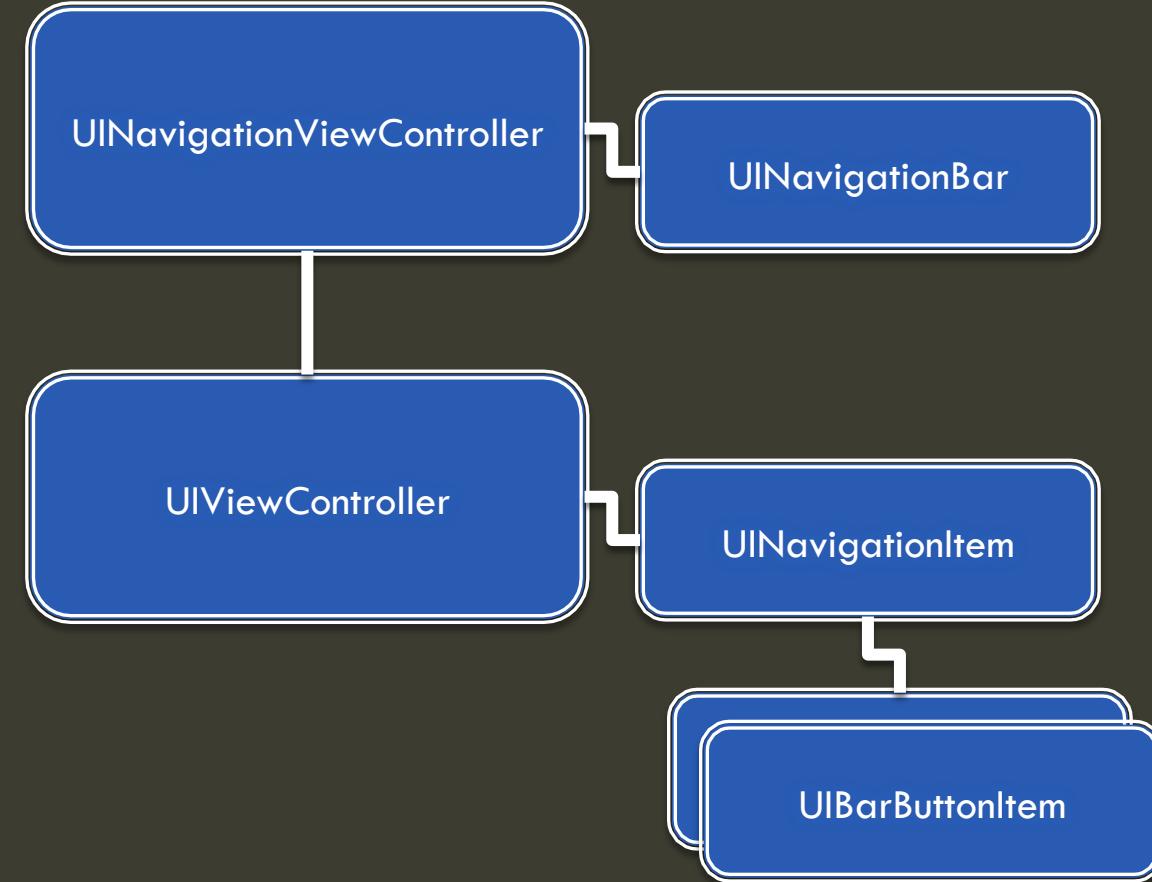


Candy Shop Tab Bar Controller

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;
```

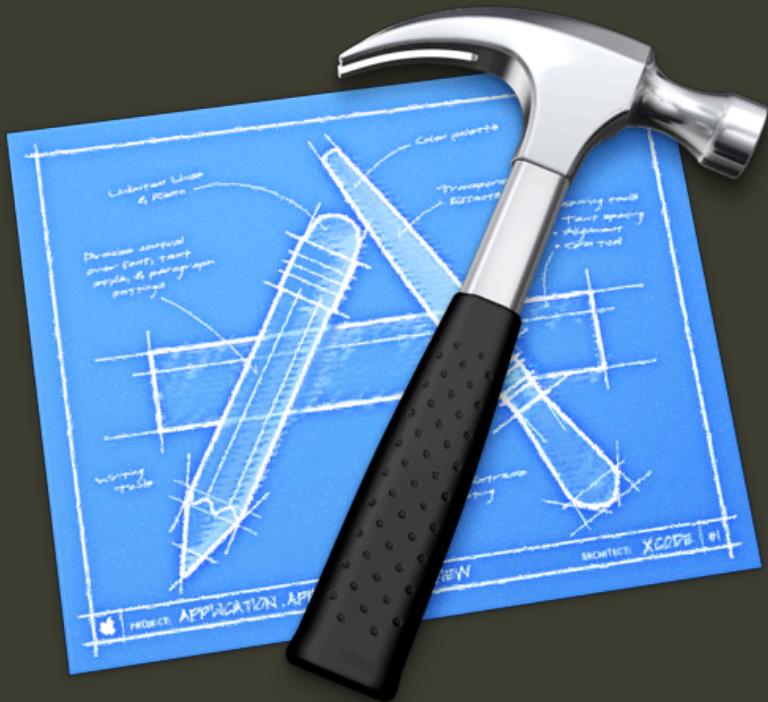
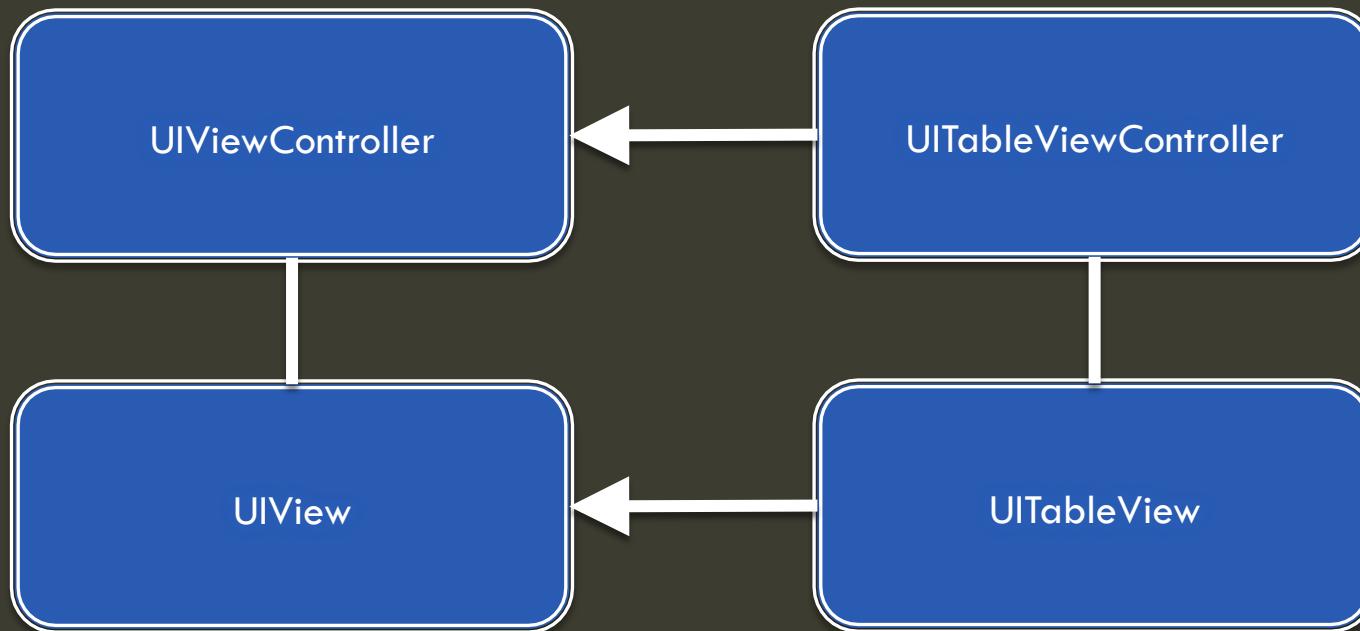


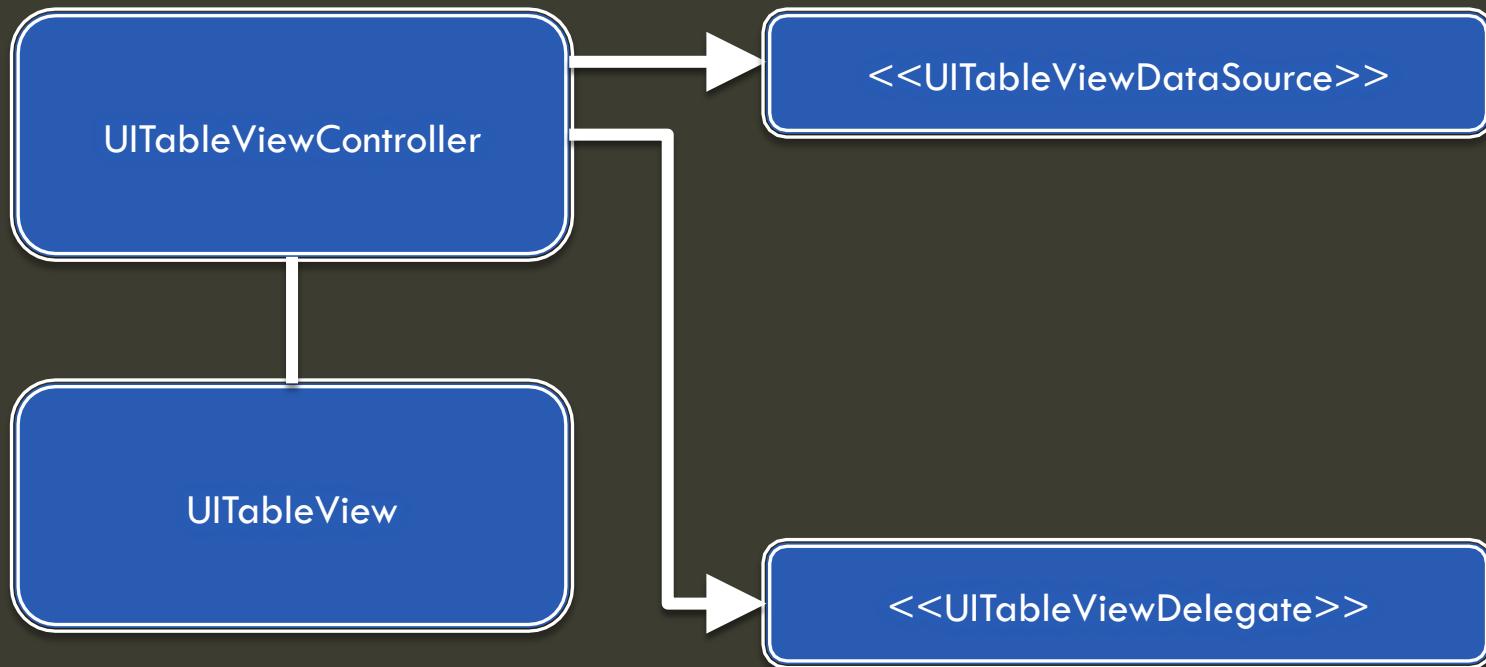
Table View Controllers



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

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

Basic Table View Controller



Basic Table View Controller

```
<<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>>
```

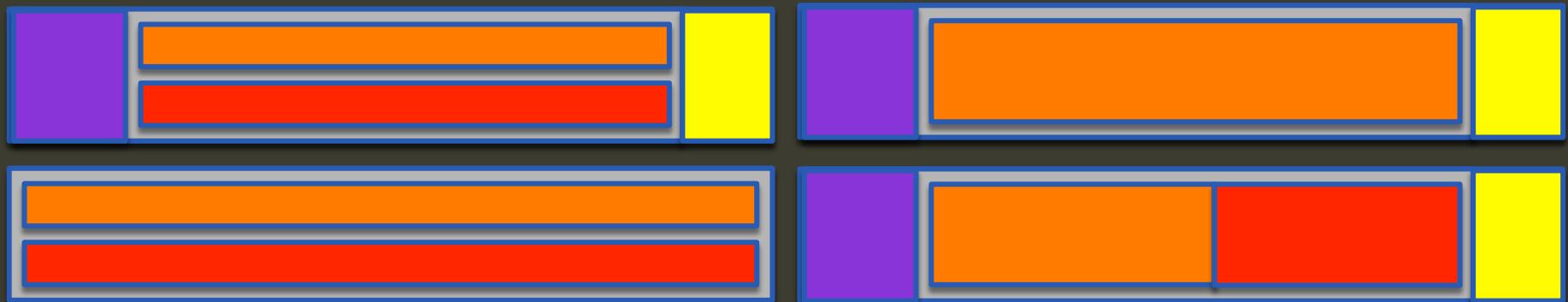
- (CGFloat)tableView:(UITableView *)tableView heightForRowAtIndexPath:(NSIndexPath *)indexPath;
- (void)tableView:(UITableView *)tableView willDisplayCell:(UITableViewCell *)cell forRowAtIndexPath:(NSIndexPath *)indexPath;
- (void)tableView:(UITableView *)tableView didSelectRowAtIndexPath:(NSIndexPath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

NSIndexPath

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

UITableViewCell

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



Basic Table View Cell

UITableViewCell

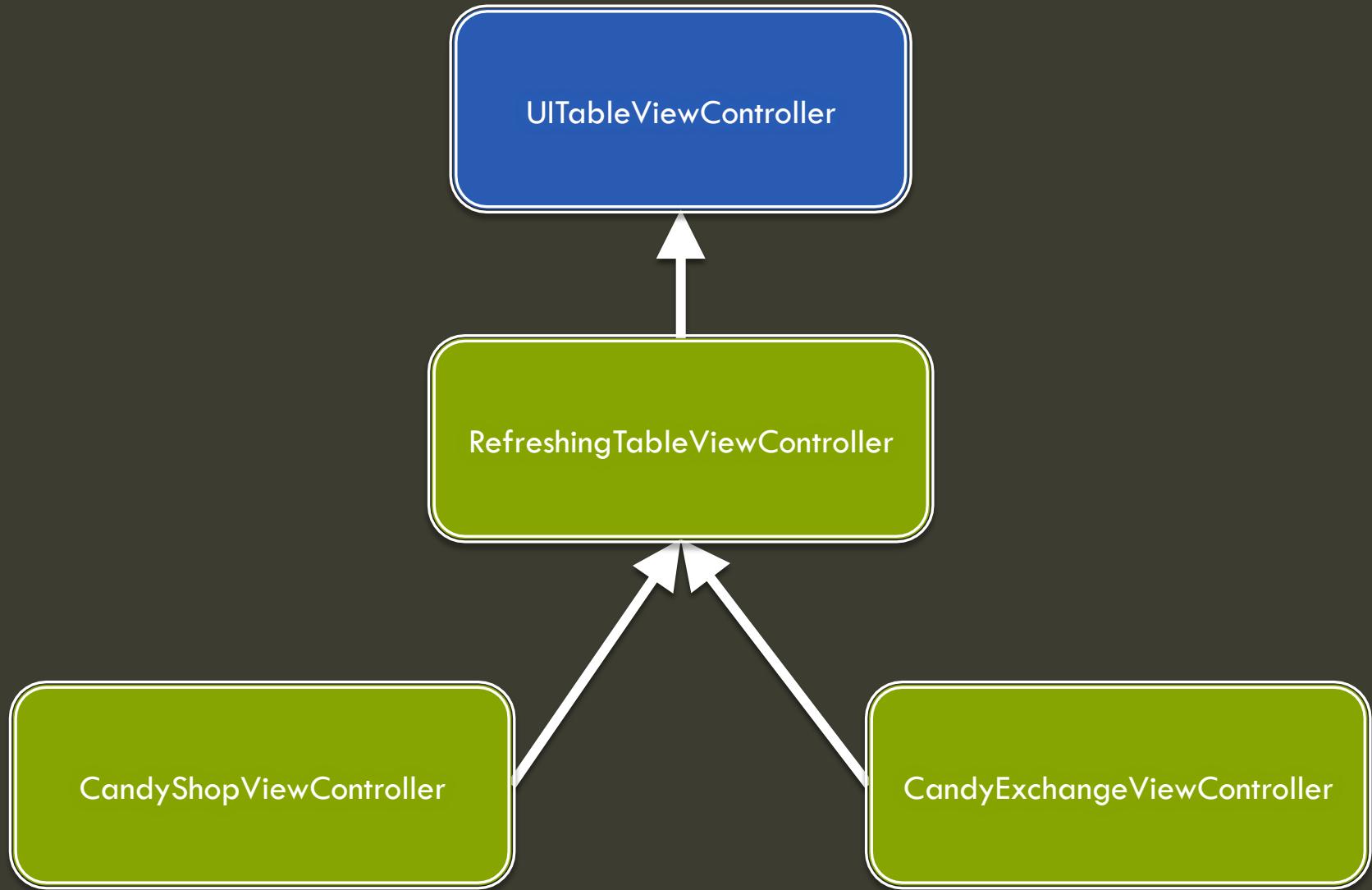


ExchangeListItemCell

```
@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

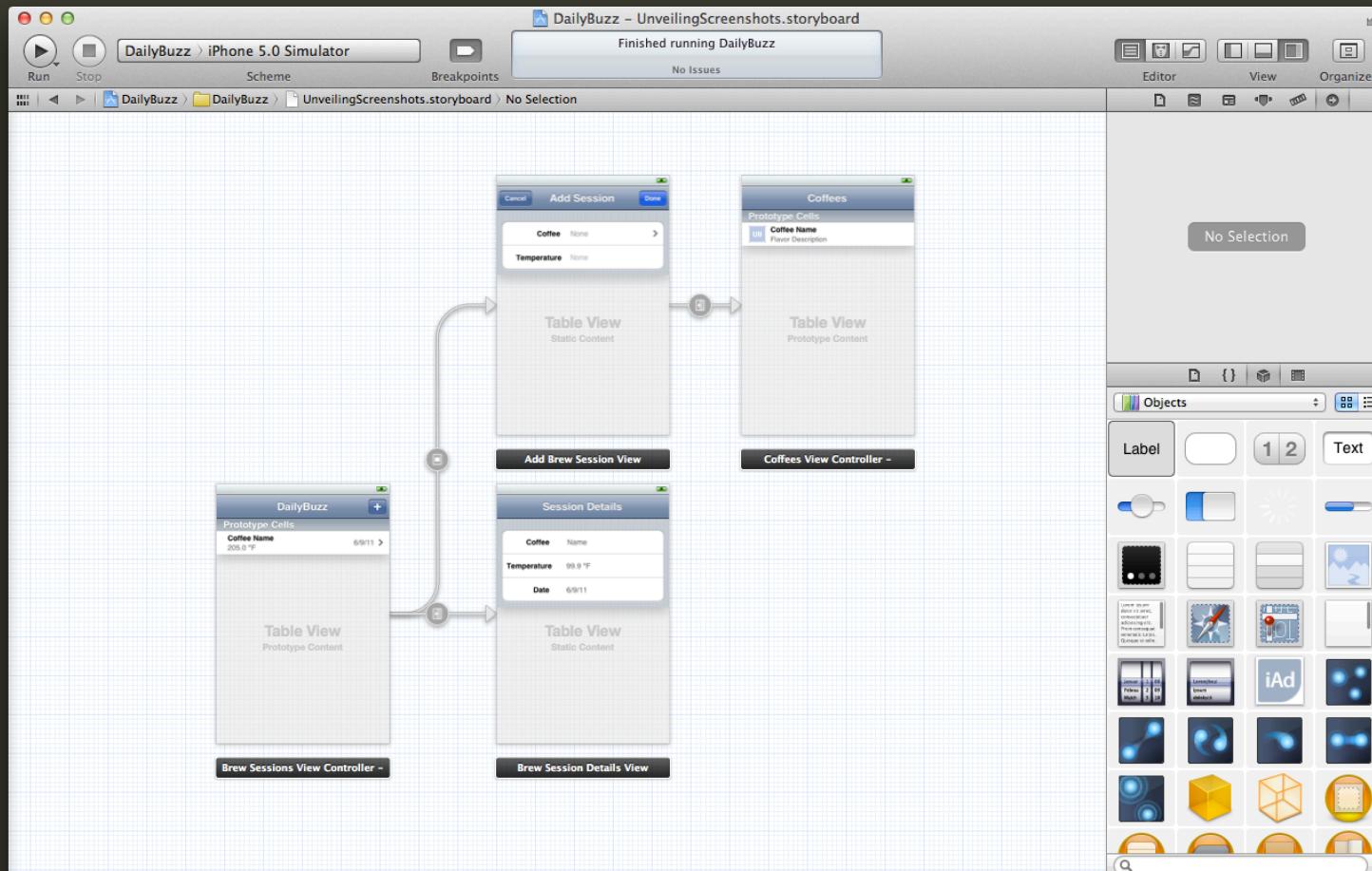
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How are the topics we discussed today impacted by new features and technologies in iOS5?

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

iOS 5 Storyboarding

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Beginning iOS Development, MVC in iOS

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!