

iPhone for Software Developers: A Live Coding Session!

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Legal Info

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- Servin is a trademark of Servin Corporation.

About Servin Corporation

- Servin **On-Site** Training
 - “Get Your Development Team Up To Speed Fast!”
- Servin **Web-Based** Training
 - “Watch Code Written Before Your Eyes!”
- Servin **Books**
 - Books available on Amazon Kindle and Amazon Kindle Reader (iPhone, PC, Blackberry)
- Servin **Apps**
 - 25+ iPhone Apps in various categories

Servin On-Site Training

- “Get Your Development Team Up To Speed Fast!”
- **iPhone** Programming Courses
 - Intro and Advanced
- **Android** Programming Courses
 - Intro and Advanced
- **Linux** Programming Courses
 - Embedded Linux
 - Device Drivers
 - Services/Daemons

Servin Web-Based Training

- “Watch Code Written Before Your Eyes!”
 - Uses Cisco WebEx Player
 - Cisco WebEx Player supported on
 - Linux
 - Mac
 - Windows
- This demo/presentation is also available as Web-Based Training
 - <http://servin.com>

Servin Books

- Books available on [Amazon Kindle](#) and [Amazon Kindle Reader](#) (iPhone, PC, Blackberry)
 - iPhone [Objective-C 2.0](#) Programming Exercises
 - iPhone [Database](#) Programming Exercises: SQLite
 - iPhone [Camera](#) Programming Exercises
 - iPhone [External Accessory](#) Programming Exercises
 - iPhone Flashlight Programming Tutorial
 - iPhone 3 Programming Templates Explained
 - Red Hat Enterprise Linux 5 Admin Skills
 - SUSE Linux Enterprise Server 11 Admin Skills

Servin Apps

25+ iPhone Apps

- Technology Professionals
 - **Device Info Plus**
 - Device ID Info, Font Info, CPU Info, Network Info, and more!
 - **Accelerometer Fun**
 - Display, record, and export accelerometer info
 - **Process Log**
 - Display list of processes
- Health/Fitness
 - **Weight Log Simple** – keep log of your weight
 - **Sleep Log Simple** – keep log of your sleep
- Games and Entertainment
 - **Touch Fast** – how fast can you touch the screen?
 - **Simon Says Face Up** – can you do as simon says?

UCSD Extension Courses

- These courses are taught by Norman McEntire and fill up quickly so register early
 - iPhone Programming: Touch, Sound, and More!
 - Spring 2010 Session: April 7 – June 2
 - Wednesdays, 6PM - 9PM
 - Introduction to Objective-C
 - Spring 2010 Session: April 8 – June 3
 - Thursdays, 7pm – 9:50pm
 - iPhone Programming: Advanced
 - Summer 2010 Session: Watch Catalog for Dates/Times

Opening Remarks

- Welcome!
- Thank you!
- My Promise To You
 - Show you how to write an iPhone OS App
 - iPhone OS SDK 3.2 Beta 5
 - iPod Touch, iPhone, iPad
- My teaching style
 - Show a few slides
 - Do lots of live demos
 - Questions at anytime are great!

Acknowledgements

- Dr. John Bowles
 - Thank you for the invitation and the honor of being here today!
 - Thank you for great times at NCR Advanced Development Group!

Acknowledgements

- Deborah Wells
 - Thank you (along with Dr. Sudarshan) for the USC Engineering Alumni Meeting in San Diego!
 - Thank you for the great food and conversation (along with Dr. John Bowles) last night!
 - Loved the fried spinach!
 - Yes I finally got some sleep! :)

Acknowledgements

- Dr. Robert Pettus
 - Thank you for so great software courses!
 - Thank you for the opportunity to help design and implement a multiple microcomputer system!
 - Schematics, Chips, Wire-wrap, and Firmware!

Acknowledgements

- Dr. Michael Huhns
 - Thank you for so great digital hardware design courses!
 - From Digital Signal Processing Course
 - “Should we round up those young outlaw cowboys?”

Acknowledgements

- Dr. Larry Stephens
 - Thank you for the great computer systems engineering courses!
 - Your pleasant teaching style greatly influenced my teaching style!

Acknowledgements

- Professor Ronald Bonnell
 - Thank you for the great database courses!
 - Thank you for your excitement about new technology!

Acknowledgements

- Dr. Jim Davis
 - Thank you so many great times of being “in the band” and “being in engineering” and “talking technology”
 - Still on our todo list: Build a Multibillion Dollar Technology Company!

Acknowledgements

- AI Quick
 - Thank you for touring the USC Computer Lab, and offering me a job right at NCR Engineering Advanced Development right there on the spot!
 - It was at NCR Advanced Development that I first used Objective-C -- the language used by iPhone – and written by Brad Cox who grew up in SC!
 - Thank you for leading one of the best Computer Engineering and Manufacturing Organizations on planet earth!

Introducing iPhone OS 3.2 SDK (Software Developers Kit)

iPhone SDK 3.2 Beta 5

- Hardware Requirements
 - Mac (running Mac OS 10.6 Snow Leopard)
- Membership Requirements
 - To download SDK: <http://developer.apple.com>
 - Register as **Apple Developer**. Free registration.
 - To run on device and submit to store
 - Join iPhone Developer Program. Yearly fee.
- Software Requirements
 - iPhone SDK. Includes everything.

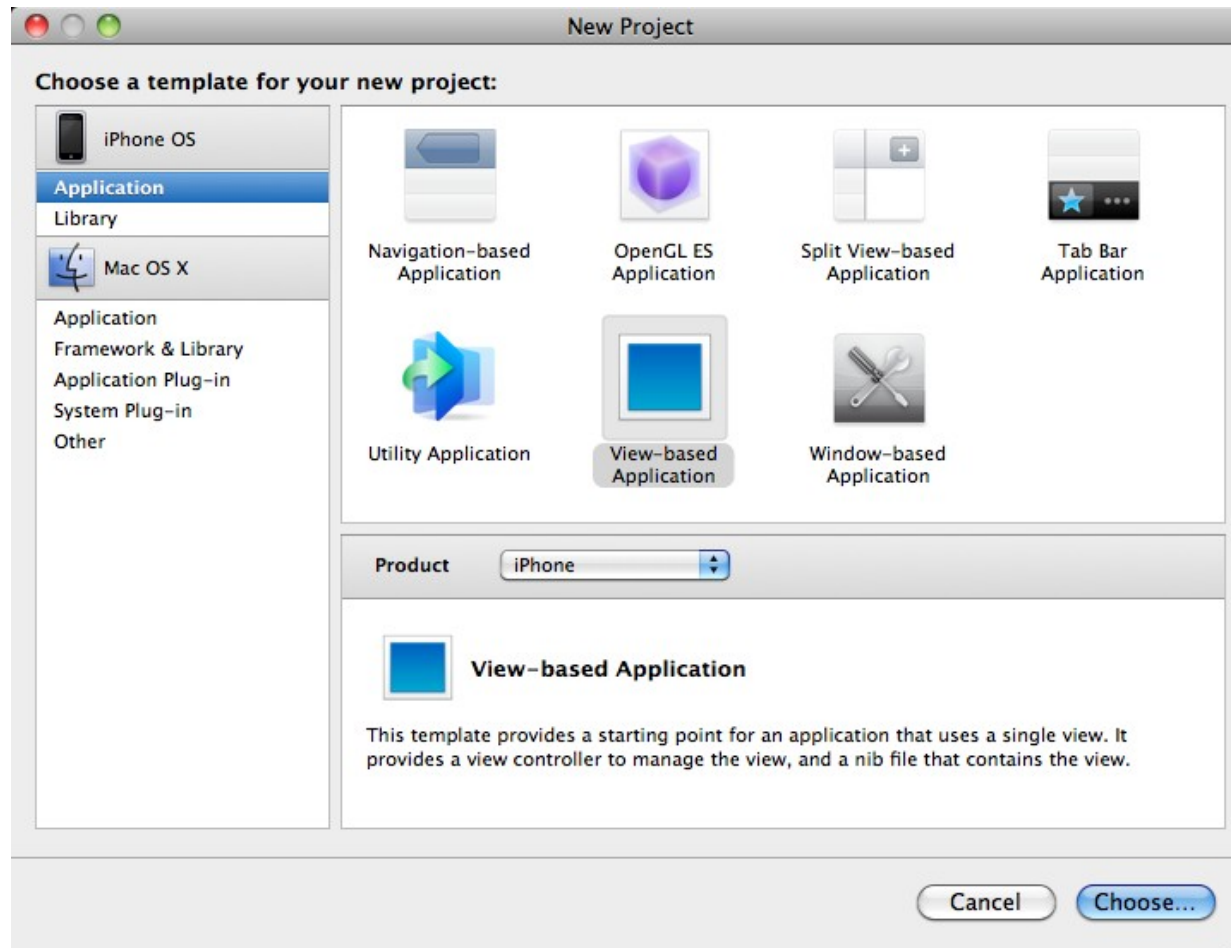
Time for the Demos!

Demo 1

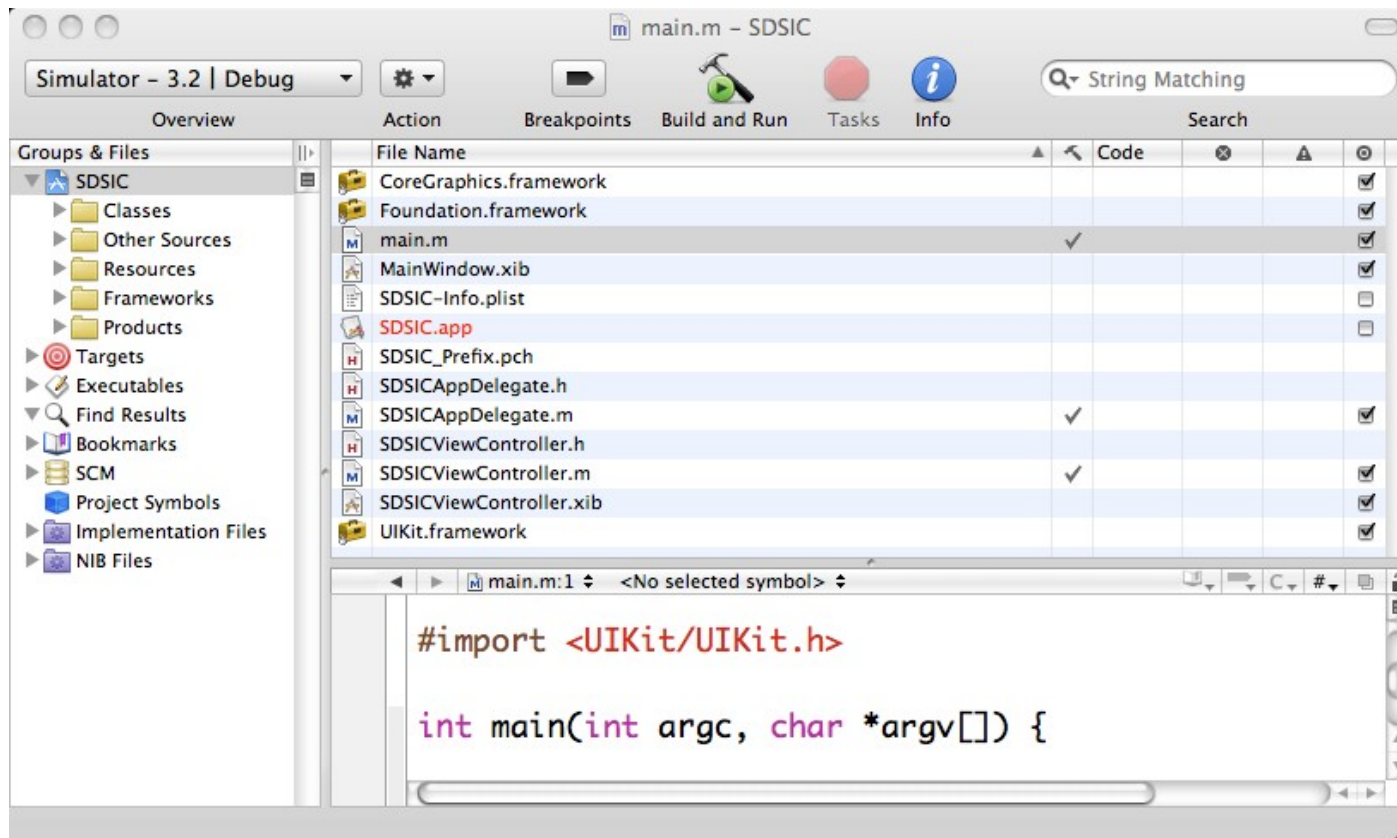
Building the Default App

Demo 1: iPhone SDK

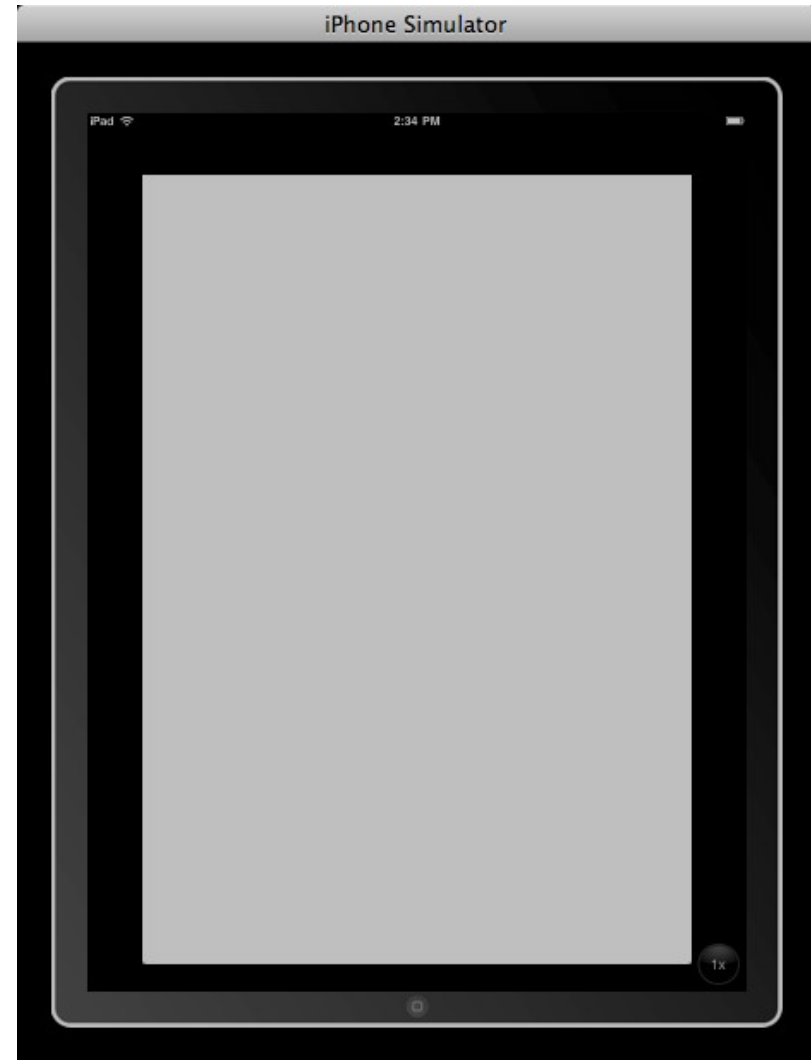
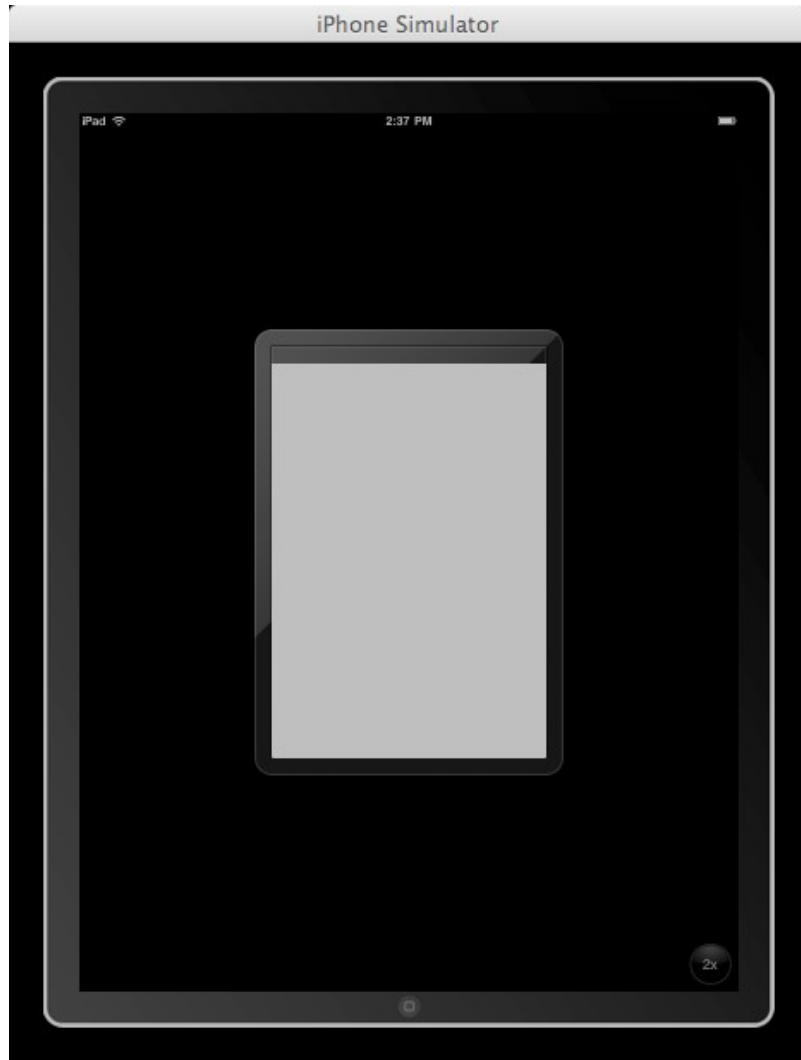
Xcode: File > New Project



Demo 1: iPhone SDK Xcode IDE



Demo 1: iPhone SDK iPhone Simulator – iPad Mode



Demo 1: iPhone SDK

iPhone Simulator – iPhone Mode



User Interface Observations

1. Status bar at top

2. Single Home Button at bottom

Demo 2

Application Startup and Logging

Demo 2: iPhone SDK

Logging: NSLog() - C Function

```
// USCAppDelegate.m
```

```
...code not shown...
```

```
- (BOOL)application:(UIApplication *)application  
    didFinishLaunchingWithOptions:(NSDictionary *)launchOptions {
```

```
    // Log a startup message  
    NSLog(@"Application Startup!");  
    NSLog(@"application: %@", [application description]);  
    NSLog(@"launchOptions: %@", [launchOptions description]);
```

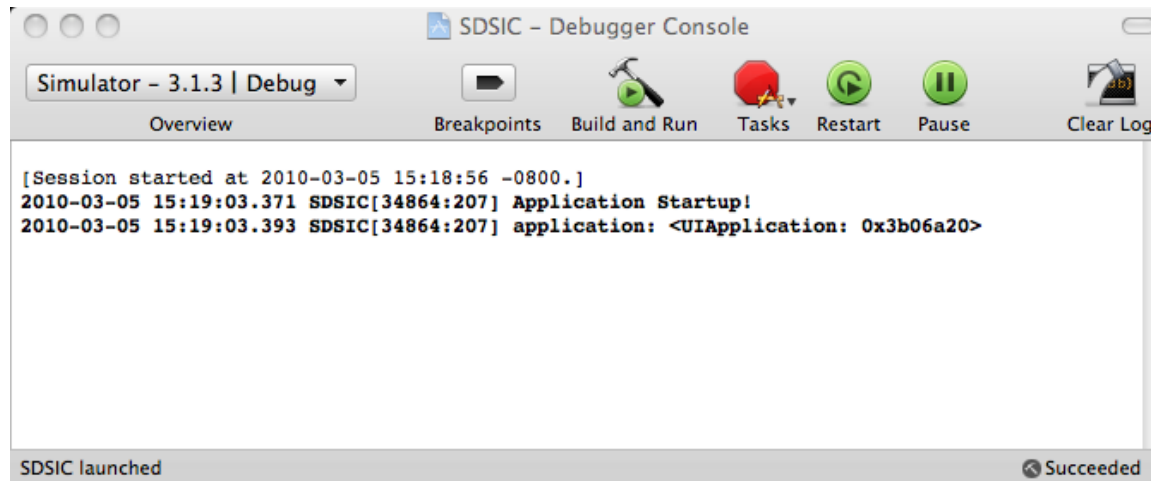
```
    [window addSubview:viewController.view];  
    [window makeKeyAndVisible];
```

```
    return YES;
```

```
}
```

Demo 2: iPhone SDK

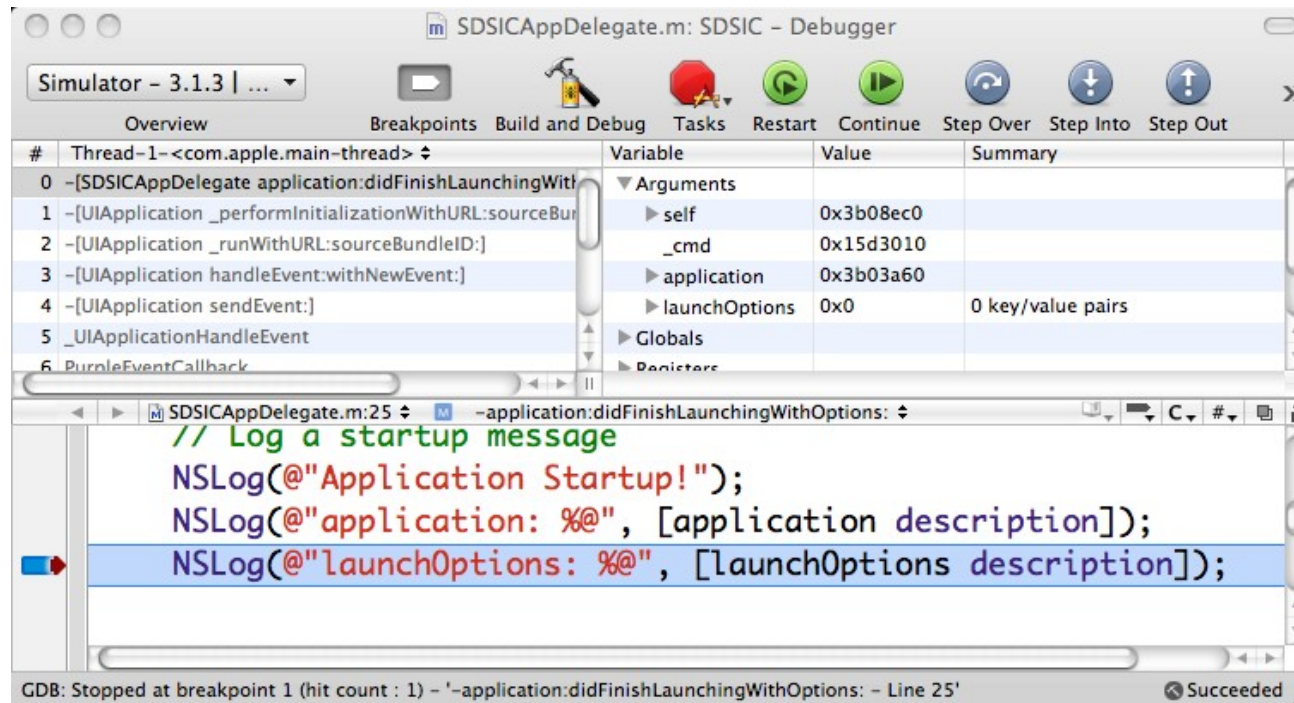
Xcode: Run > Console



Demo 3

Debugging

Demo 3: iPhone SDK Xcode: Debugger



Demo 4

Create UITextView at Runtime

Demo 4: iPhone SDK UITextView at Runtime

- (BOOL)application:(UIApplication *)application
didFinishLaunchingWithOptions:(NSDictionary *)launchOptions {

...code not shown...

```
CGRect frame = viewController.view.bounds;  
UITextView *myTextView =  
    [[UITextView alloc] initWithFrame:frame];  
myTextView.text = @"USC Demo\n"  
    @"This is a test\nBe at your best";  
myTextView.editable = NO;  
[viewController.view addSubview:myTextView];
```

```
[window addSubview:viewController.view];  
[window makeKeyAndVisible];
```

```
return YES;
```

```
}
```

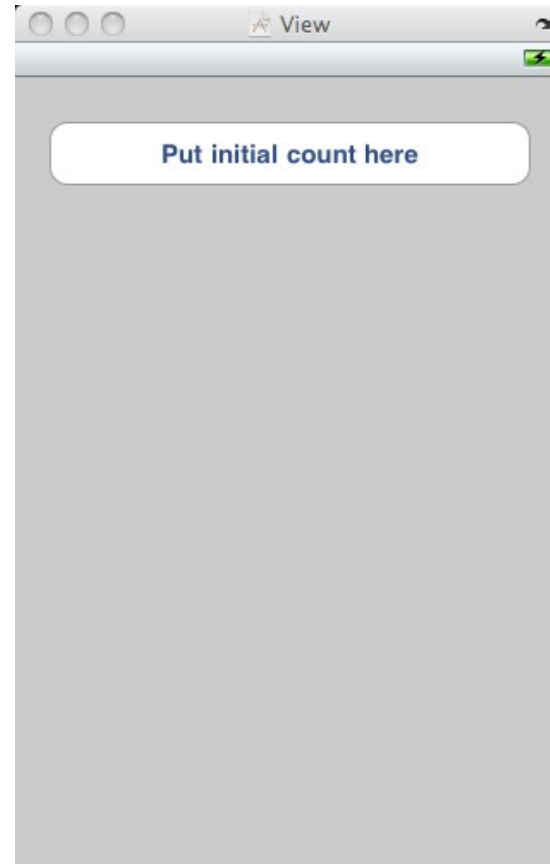
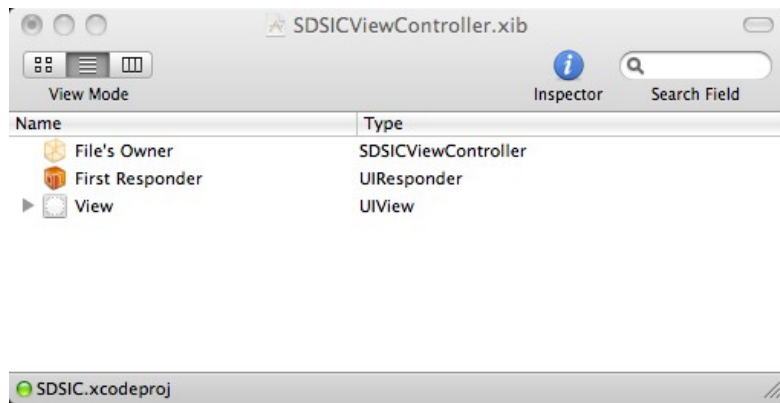
Demo 4: iPhone SDK UITextView at Runtime



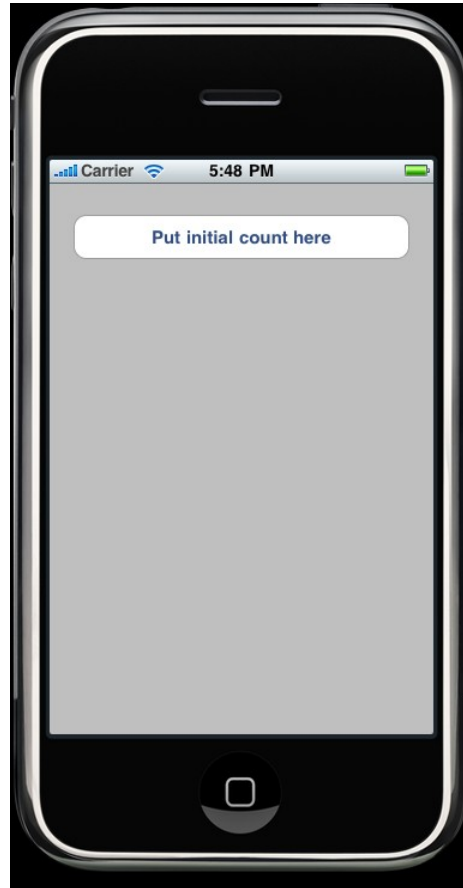
Demo 5

Create UIButton using Interface Builder

Demo 5: iPhone SDK Interface Builder and UIButton



Demo 5: iPhone SDK Running the App



Demo 6

Change Value of UIButton At Runtime

Demo 6: iPhone SDK IBOutlet - USCViewController.h

```
// USCViewController.h  
  
#import <UIKit/UIKit.h>  
  
@interface USCViewController : UIViewController {  
  
    IBOutlet UIButton *myButton;  
  
}
```

Demo 6: iPhone SDK USCViewController.m

```
// USCViewController.m
```

```
#import "SDSICViewController.h"
```

```
@implementation USCViewController
```

```
- (void)viewDidLoad {  
    [super viewDidLoad];
```

```
[myButton setTitle:@"0" forState:UIControlStateNormal];
```

```
}
```

```
@end
```

Demo 6: iPhone SDK Interface Builder - Control-Click-Drag



To connect the IBOutlet:
Control-Click-Drag
FROM File's Owner
TO the UIButton.

Demo 6: iPhone SDK Running



Demo 7

Handle UIButton Events

Demo 7: iPhone SDK IBOutlet - USCViewController.h

```
// USCViewController.h
```

```
#import <UIKit/UIKit.h>
```

```
@interface USCViewController : UIViewController {
```

```
    IBOutlet UIButton *myButton;
```

```
    int counter;
```

```
}
```

```
-(IBAction) doButton;
```

```
@end
```

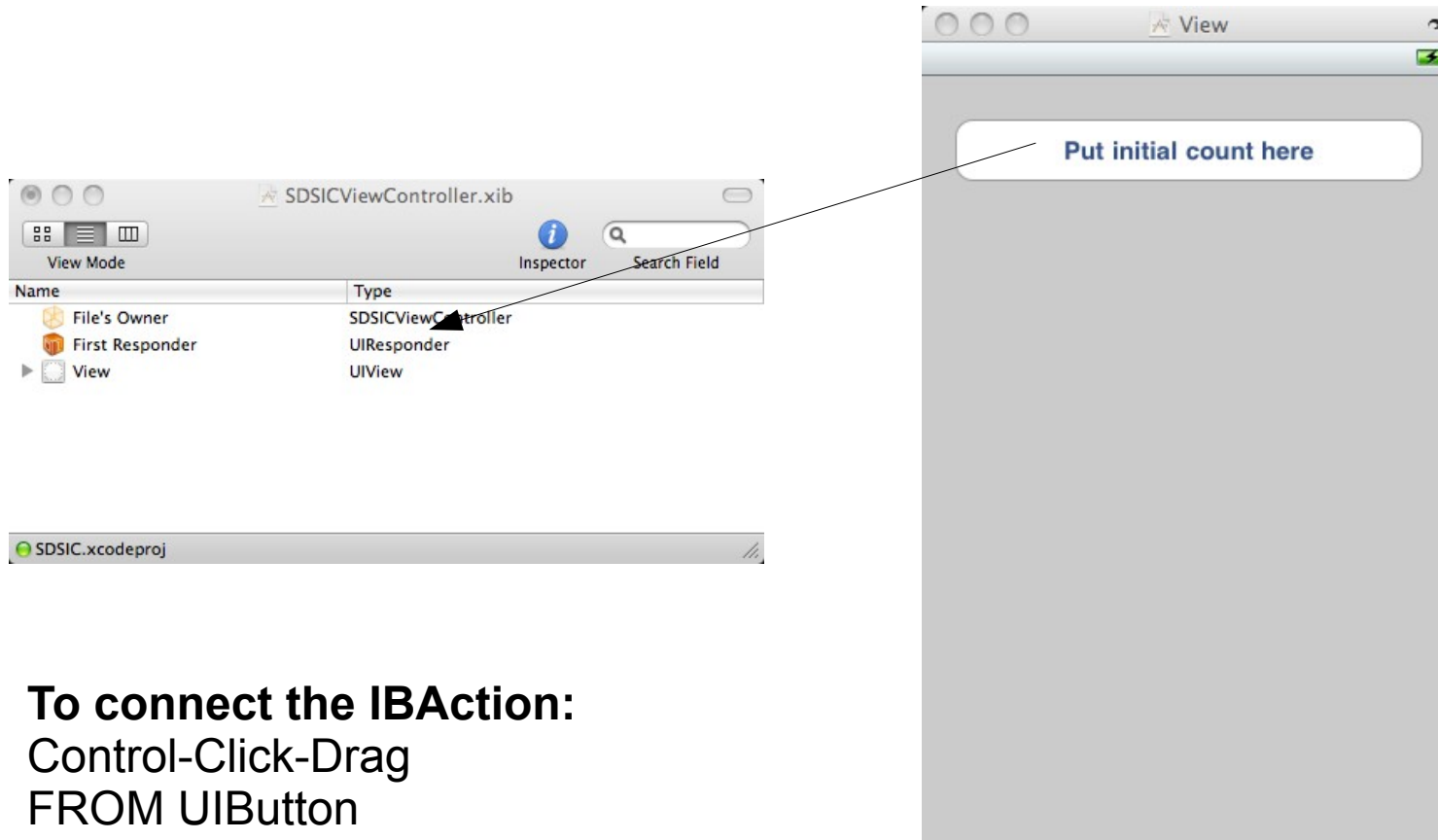
Demo 7: iPhone SDK USCViewController.m

```
// USCViewController.m
```

...code not shown...

```
-(IBAction) doButton {  
    counter++;  
    NSString *s = [NSString stringWithFormat:@"%d", counter];  
    [myButton setTitle:s forState:UIControlStateNormal];  
}
```

Demo 7: iPhone SDK Interface Builder - Control-Click-Drag



To connect the IBAction:
Control-Click-Drag
FROM UIButton
TO File's Owner.

Demo 7: iPhone SDK Running



We Are Done!

Thank You!

Questions/Answers