

Intro to iOS

Isaac Lim

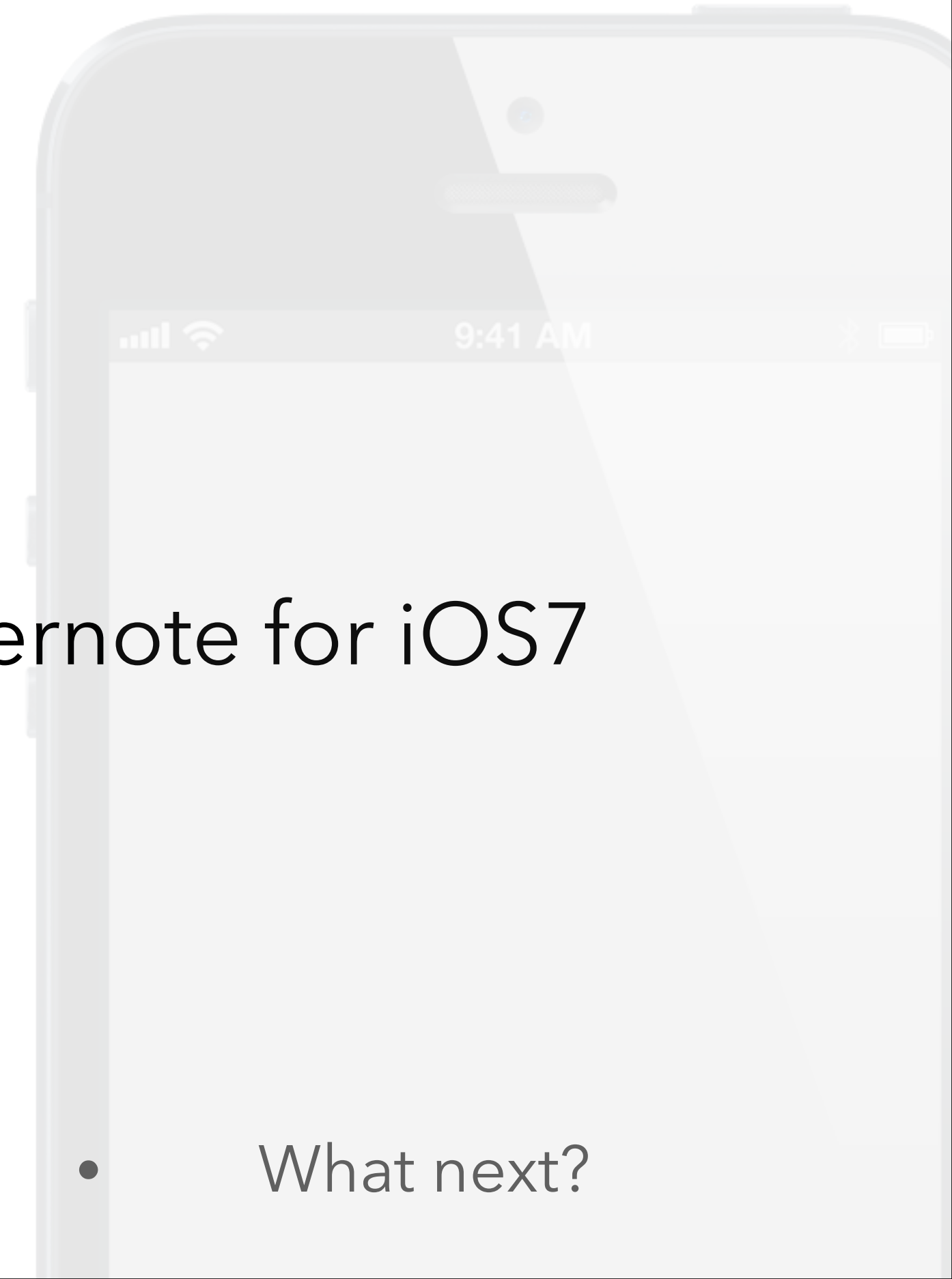
<http://isaacl.net>

CrashCourse Fall 2013

(please download the starter code at <http://tinyurl.com/iosccf13>)

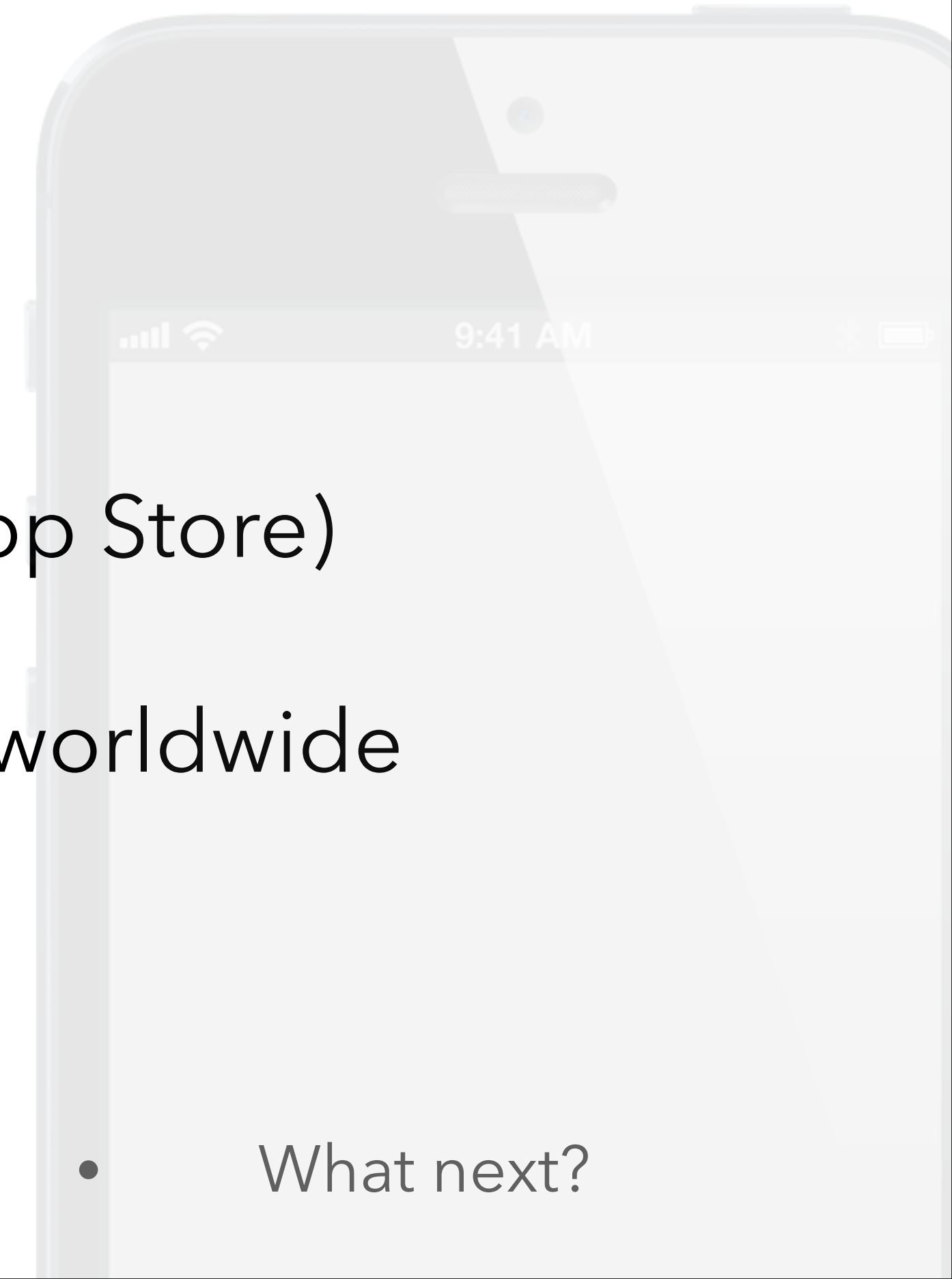
A little about me

- Senior CS Major / HCI Minor
- Developed for iOS for about 4 years
- 4 decent and 3 crappy apps on the App Store
- Interned at Evernote this summer on the iOS team: Evernote for iOS7
- Returning to Evernote full-time



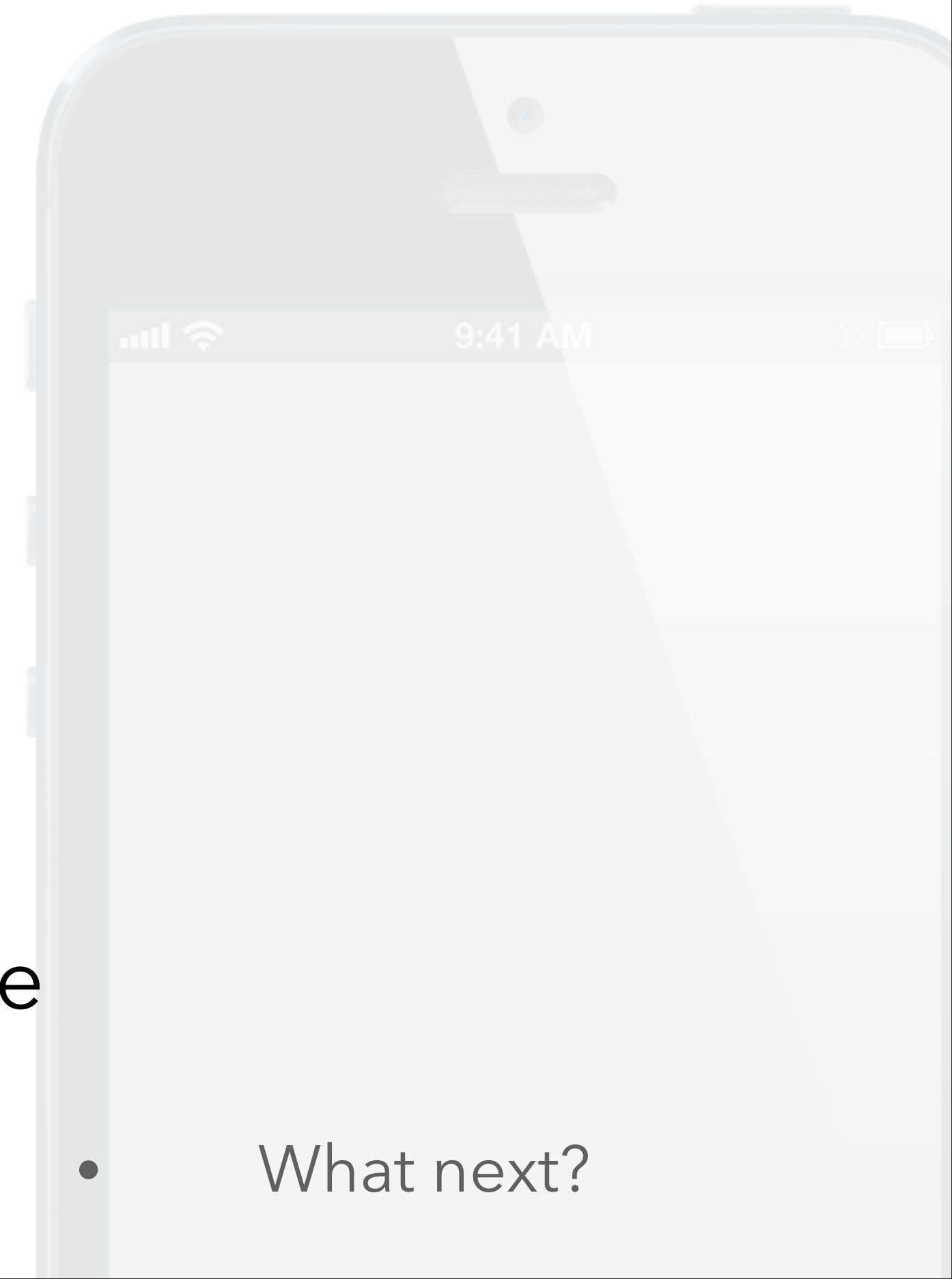
Who this CrashCourse is for

- Prior C / C++ / Java knowledge
- Know some Object-Oriented Programming concepts
- Have a Mac with Xcode installed (free from the Mac App Store)
- Want to write innovative apps for **600 million** devices worldwide



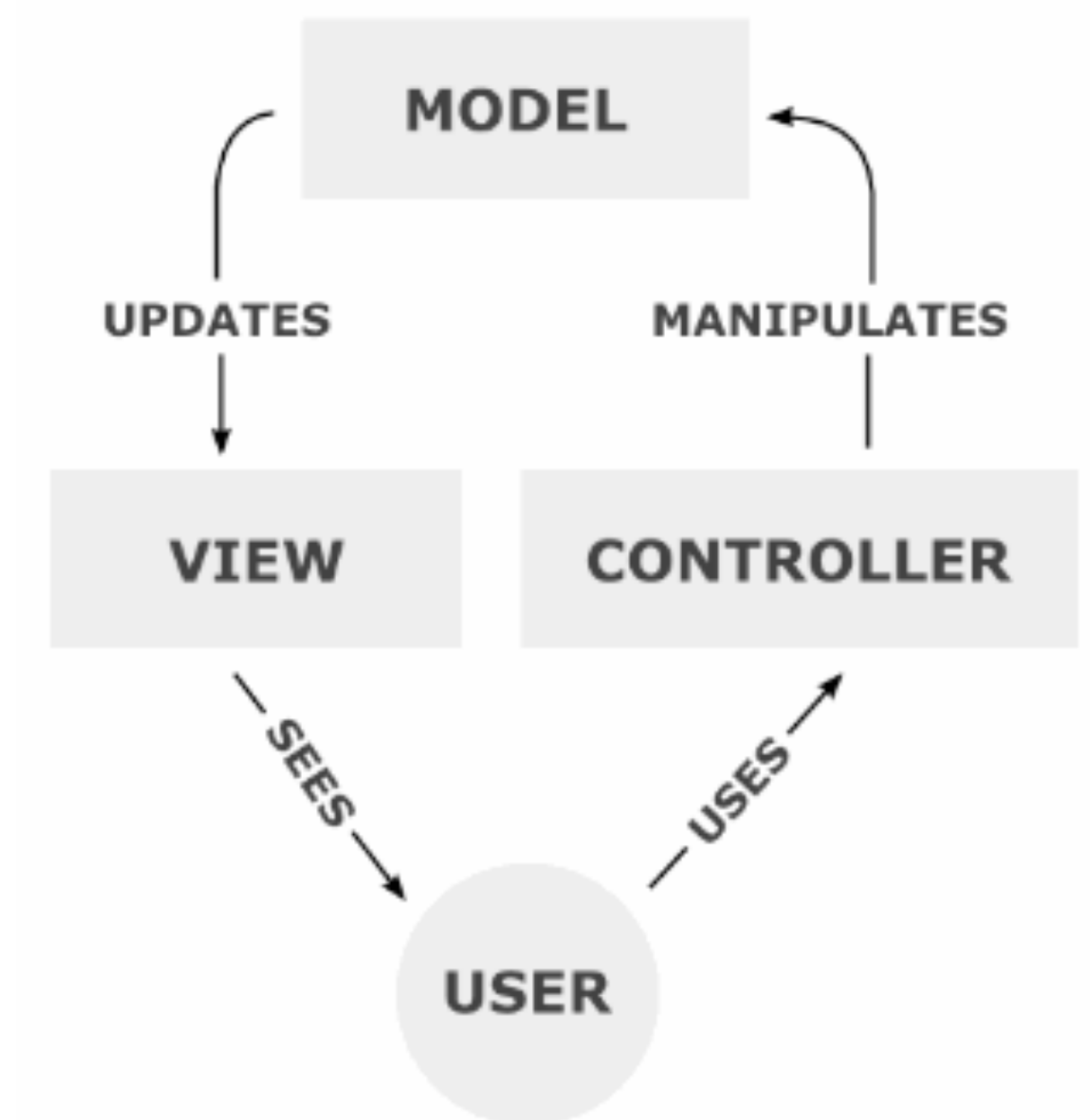
iOS App Development

- **Objective-C** (derived from C and SmallTalk)
- Object-oriented
- **iOS SDK** (currently v7.0)
- **Xcode** IDE (currently v5.0)
- **Free** to test on the iOS Simulator (included in Xcode)
- **\$99/year** to test on device and submit to the App Store



Model-View-Controller (MVC)

- Underlying design pattern of iOS development
- Model: Encapsulates **data** (time/title of an Event)
- View: Presents information to the user on the **screen** (a single row showing details of an Event)
- Controller: **Ties** the model to the view (a table that manages all rows)



Super-simplistic overview of UIKit

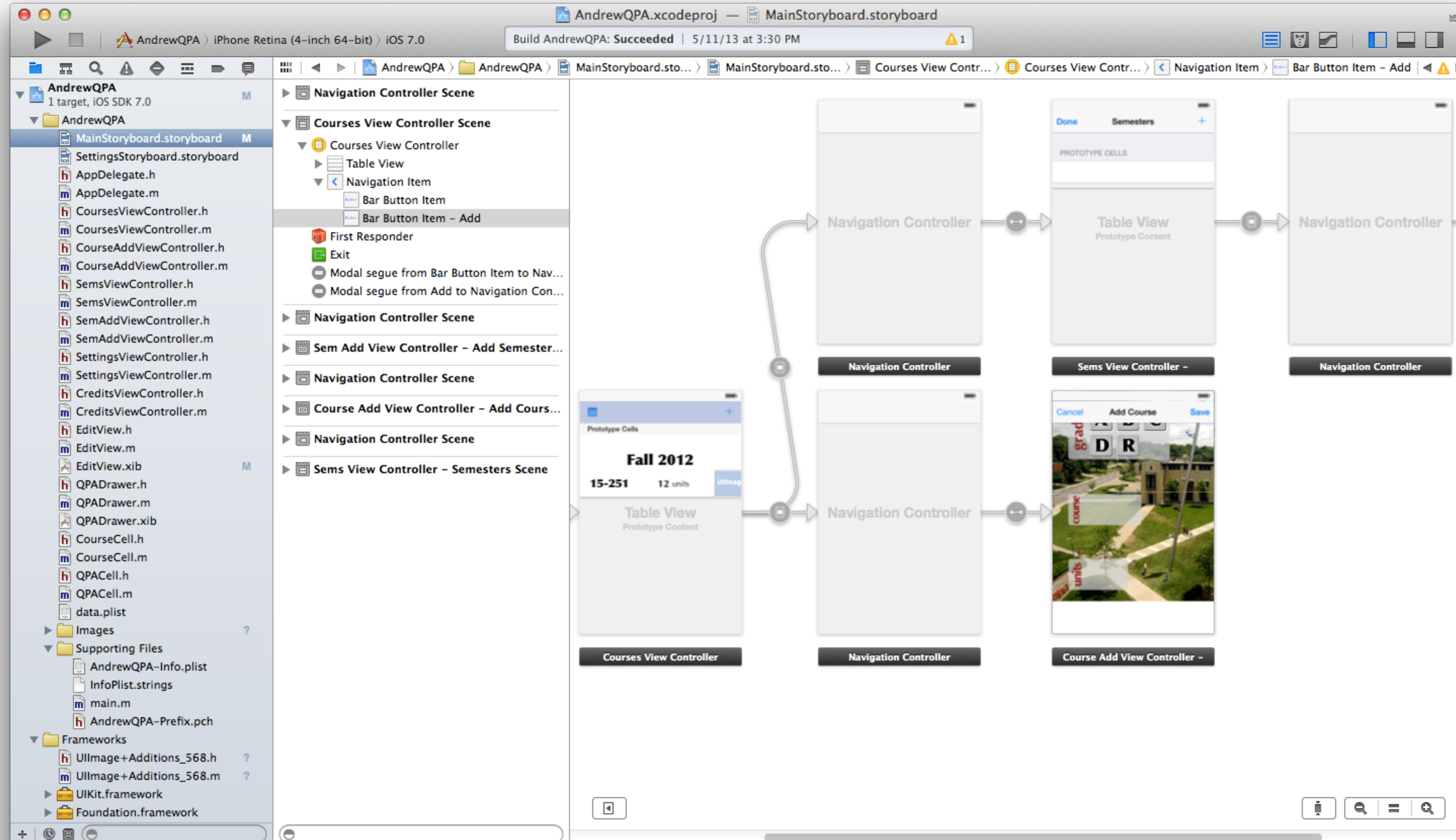
- **UIApplication** / UIResponder / AppDelegate
- **NSObject**
- **UIViewController** > UITableViewController
- **UIView** > UIAlertView / UITextView / UIScrollView
- **UIControl** > UIButton / UISlider

General Workflow

- Create **models** (NSObjects)
- Create **screens** (UITableViewController)
- Create **UI elements** on screens (UIViews)
- Create **interactions** (UITableViewController $\leq \geq$ NSObjects $\leq \geq$ UIViews)

Xcode Storyboards

- **Drag-and-drop** UI creation
- Really **easy** to use
- Good for beginners, but *lots of limitations*
- Lots of '**magic**' happens: less control over the code



10 minutes on Objective-C

- Objective-C is ~~different / weird~~ / beautiful
- This is ***not*** doing it any justice
- Functions are **methods**
- **Send messages** to objects
- Very **verbose**

10 minutes on Objective-C

```

- (NSArray *)extractPlayersNotInAGroup
{
    NSMutableArray *temp = [NSMutableArray array];

    for (int i = 0; i < self.players.count; i++) {
        ROPlayer *player = [self.players objectAtIndex:i];
        if (![self isPlayerInAGroup:player]) {
            [temp addObject:player];
        }
    }

    return temp;
}

- (ROPlayer *)getLowestWeightPlayerForGroup:(ROGroup *)group
{
    NSArray *lonelyPlayers = [self extractPlayersNotInAGroup];
    NSInteger lowestWeight = MAXFI

```


10 minutes on Objective-C

```

- (id)initWithTitle:(NSString *)title
    themeColor:(UIColor *)themeColor
    target:(id)target
    action:(SEL)action
{
    CGSize maxSize = CGSizeMake(MAXFLOAT, 30);
    CGFloat width = [title sizeWithFont:[UIFont systemFontOfSize:14]
                           constrainedToSize:maxSize
                           lineBreakMode:NSLineBreakByCharWrapping].width;

    UIButton *btn = [UIButton buttonWithType:UIButtonTypeCustom];

    + (ILBarButtonItem *)barItemWithTitle:(NSString *)title
        themeColor:(UIColor *)themeColor
        target:(id)target
        action:(SEL)action
    {
        return [[ILBarButtonItem alloc] initWithTitle:title
                                                    themeColor:themeColor
                                                    target:target
                                                    action:action];
    }
}

```

10 minutes on Objective-C

```
UIAlertView *alert = [[UIAlertView alloc] initWithTitle:@"Hello!"
                                                    message:@"You sure?"
                                                    delegate:self
                                                    cancelButtonTitle:@"Close"
                                                    otherButtonTitles:nil];

[alert show];
```

10 minutes on Objective-C

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

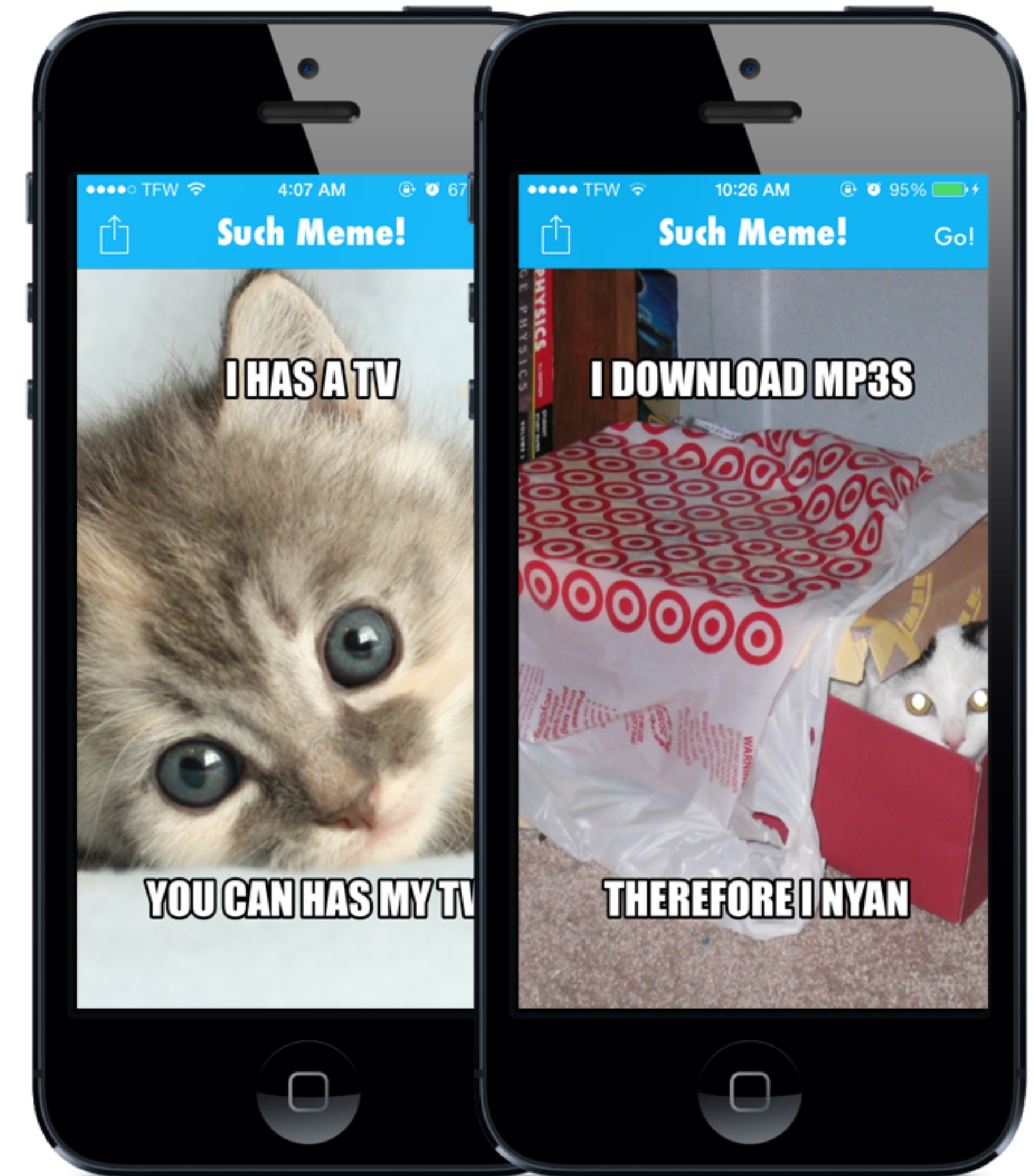
    self.navigationItem.title = @"HisWords";

    self.navigationItem.leftBarButtonItem =
        [[UIBarButtonItem alloc] initWithTitle:@"Settings"
                                             style:UIBarButtonItemStylePlain
                                             target:self
                                             action:@selector(showSettings:)];
}
```


Demo: SuchMeme! App

(starter code: <http://tinyurl.com/iosccf13>)

(code snippets: <http://tinyurl.com/iosccf13doc>)



What next?

- iOS Developer Library (<http://developer.apple.com/library/ios/navigation/>)
- WWDC Videos (<https://developer.apple.com/videos/>)
- Ray Wenderlich's Advanced Tutorials (<http://www.raywenderlich.com>)
- Contact me (idl@andrew.cmu.edu)





Thank you!

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