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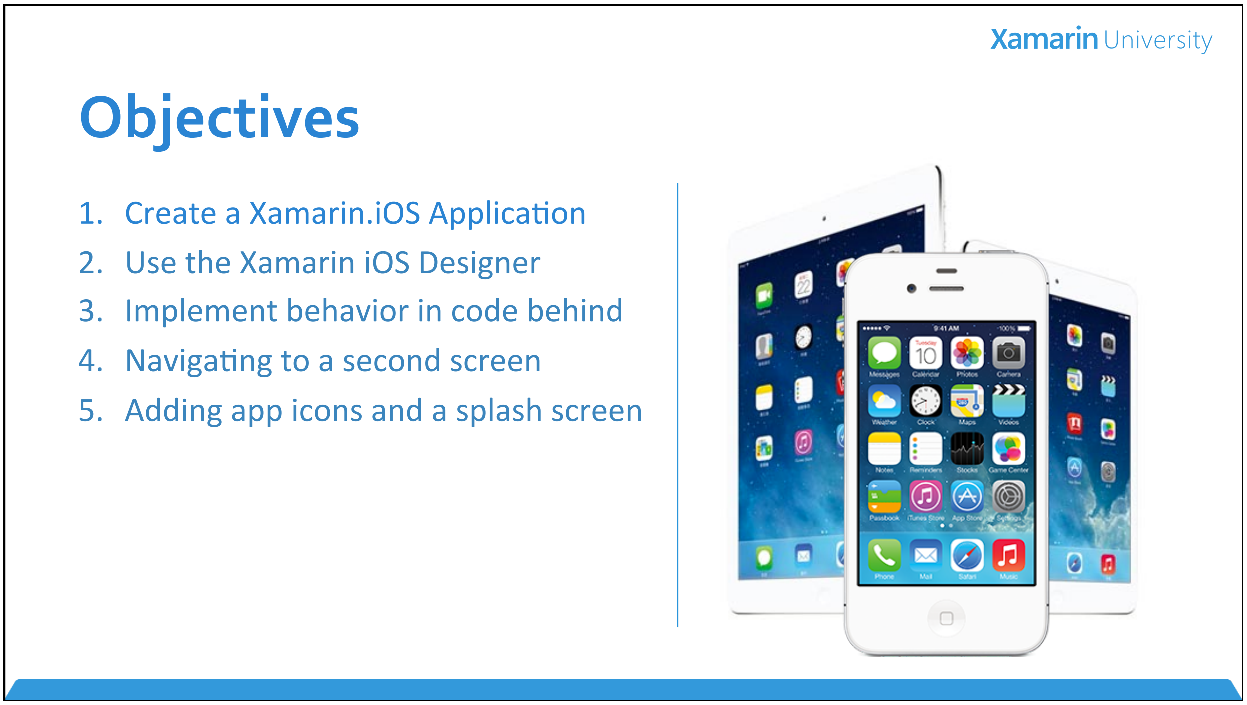
iOS 101 //

Intro to iOS with Xamarin Studio

- Lecture will begin shortly
- Download class materials from university.xamarin.com



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Objectives

1. Create a Xamarin.iOS Application
2. Use the Xamarin iOS Designer
3. Implement behavior in code behind
4. Navigating to a second screen
5. Adding app icons and a splash screen

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Objective 1

Create a Xamarin.iOS Application

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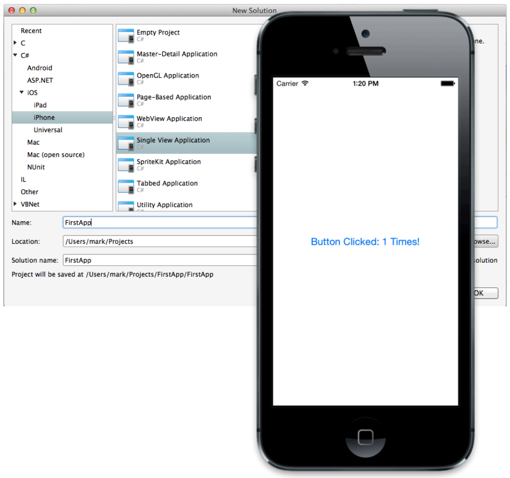
Learning Goals

- ❖ Understand Application Structure
- ❖ Model-View-Controller
- ❖ Introduce Xamarin Studio
- ❖ Using the Simulator



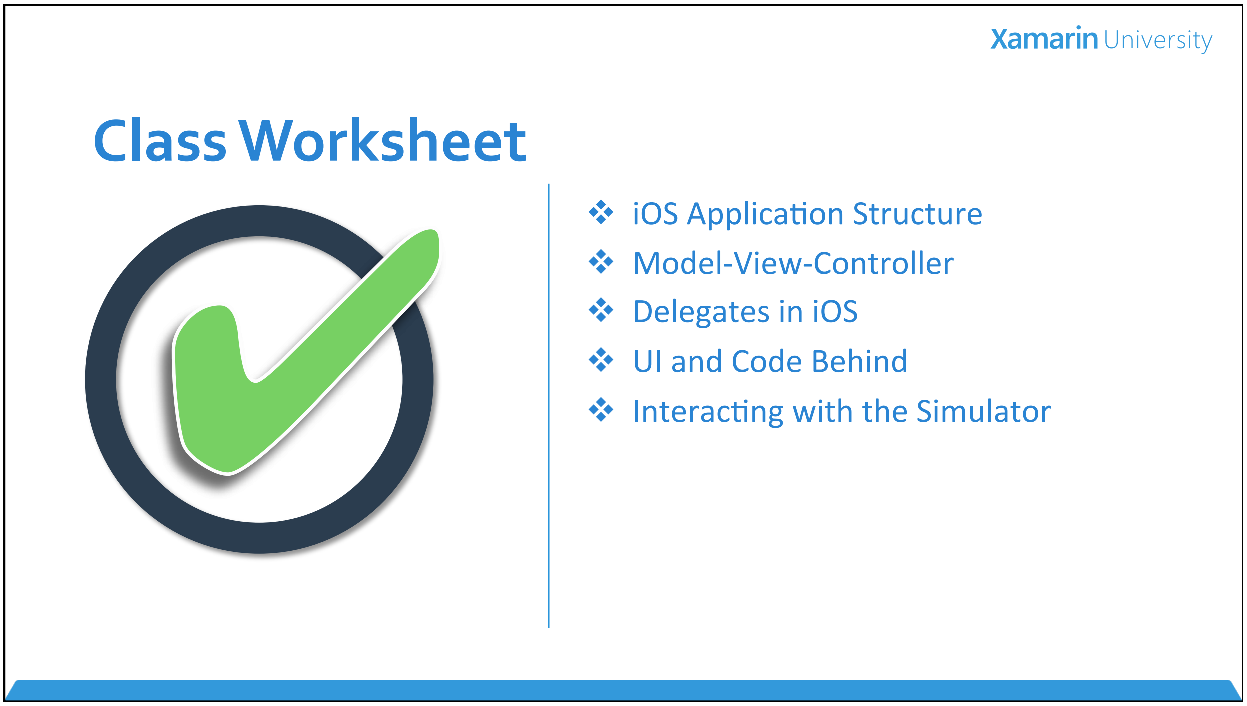
Name: FirstApp

Location: /Users/mark/Projects

Solution name: FirstApp

Project will be saved at /Users/mark/Projects/FirstApp/FirstApp

Button Clicked: 1 Times!



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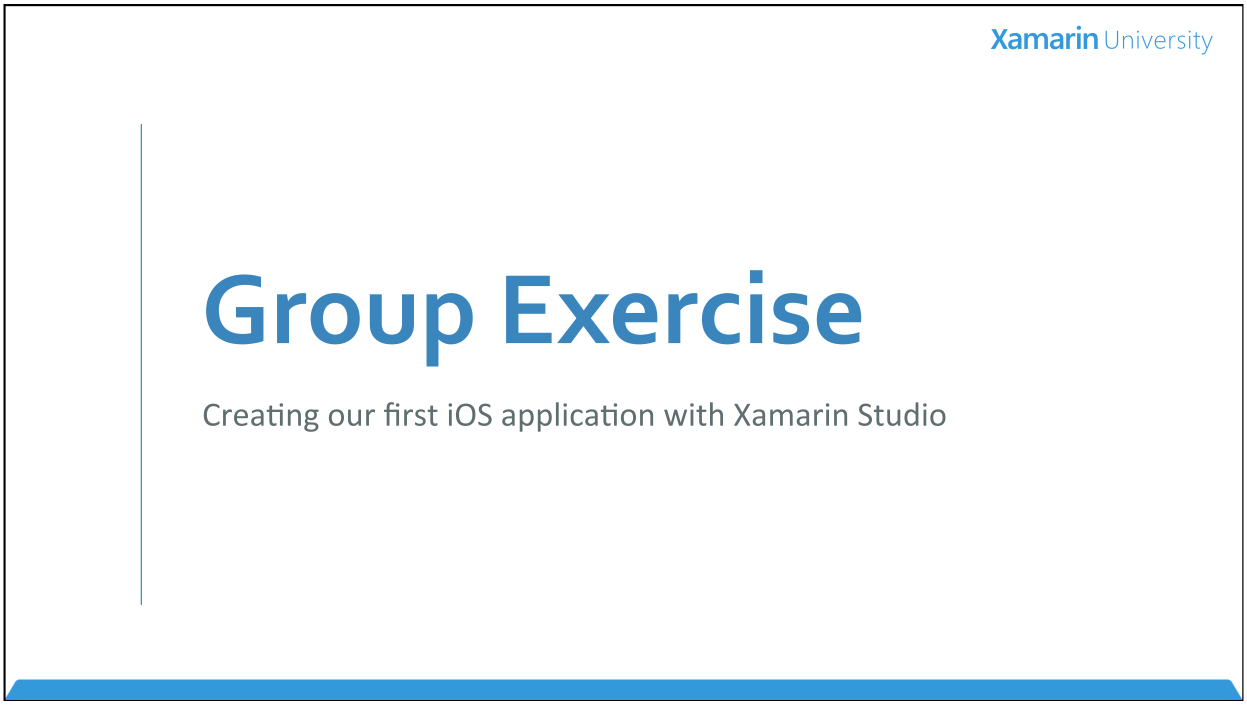
Class Worksheet

- iOS Application Structure
- Model-View-Controller
- Delegates in iOS
- UI and Code Behind
- Interacting with the Simulator



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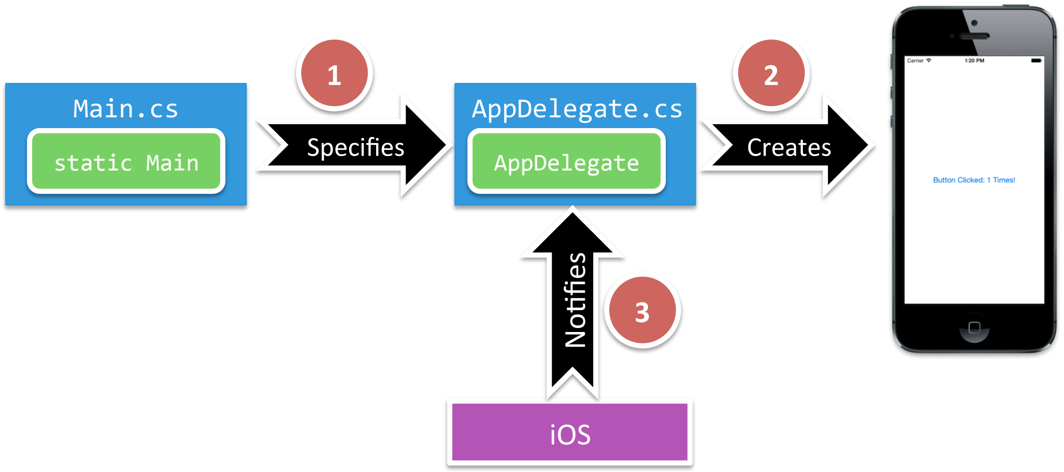
Group Exercise

Creating our first iOS application with Xamarin Studio

Application Structure - AppDelegate



Main.cs

static Main

1 Specifies

AppDelegate.cs

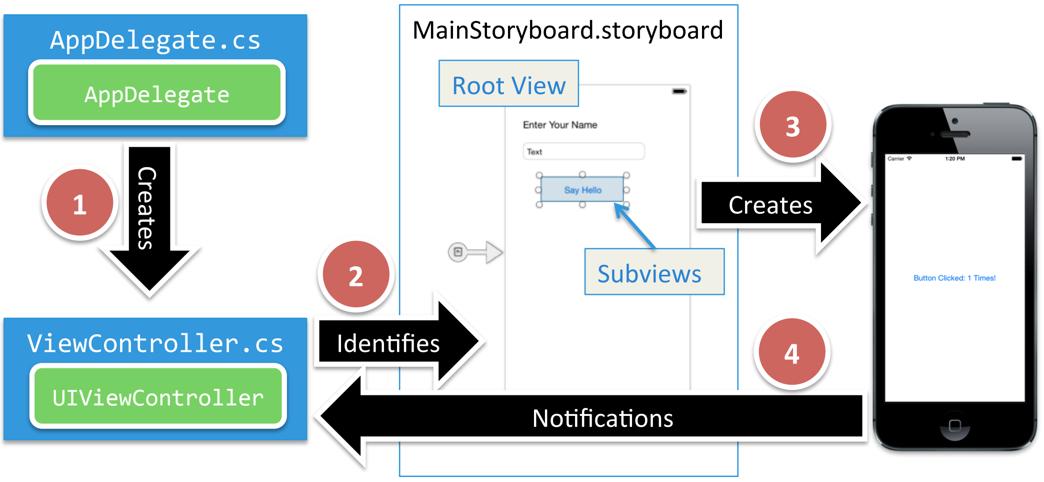
AppDelegate

2 Creates

3 Notifies

iOS

Application Structure - Views



AppDelegate.cs

AppDelegate

1 Creates

ViewController.cs

UIViewController

2 Identifies

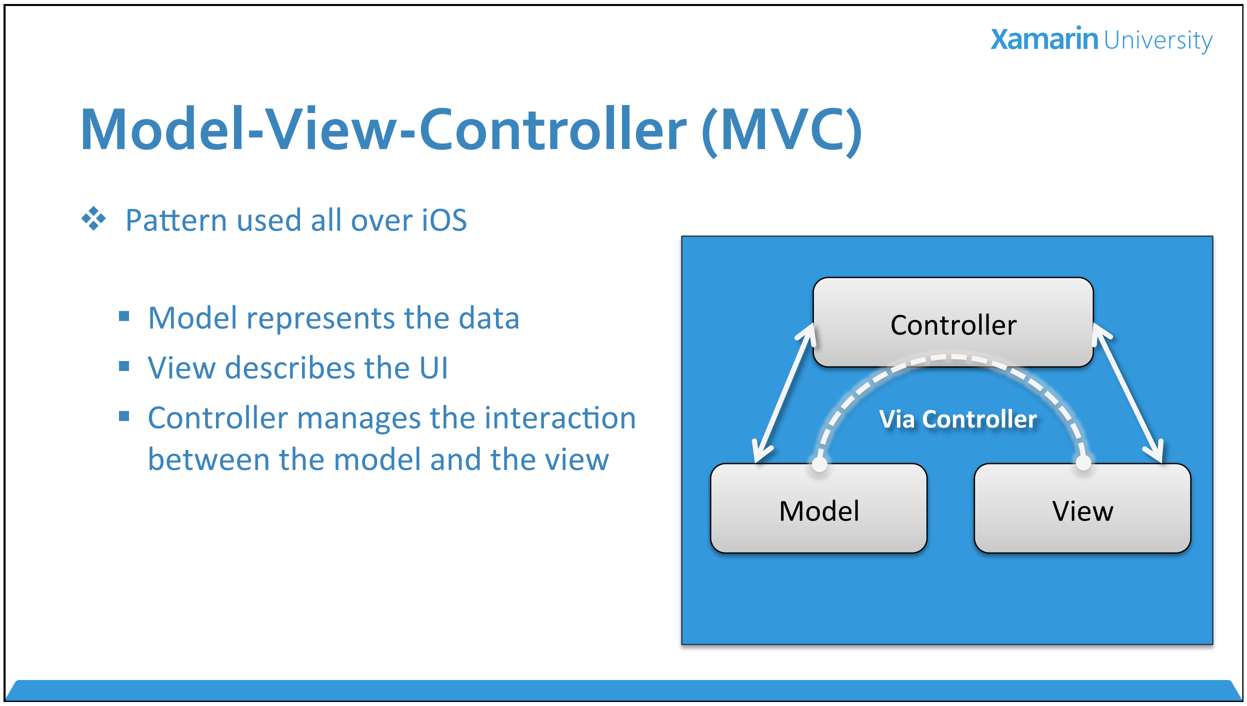
MainStoryboard.storyboard

Root View

Subviews

3 Creates

4 Notifications



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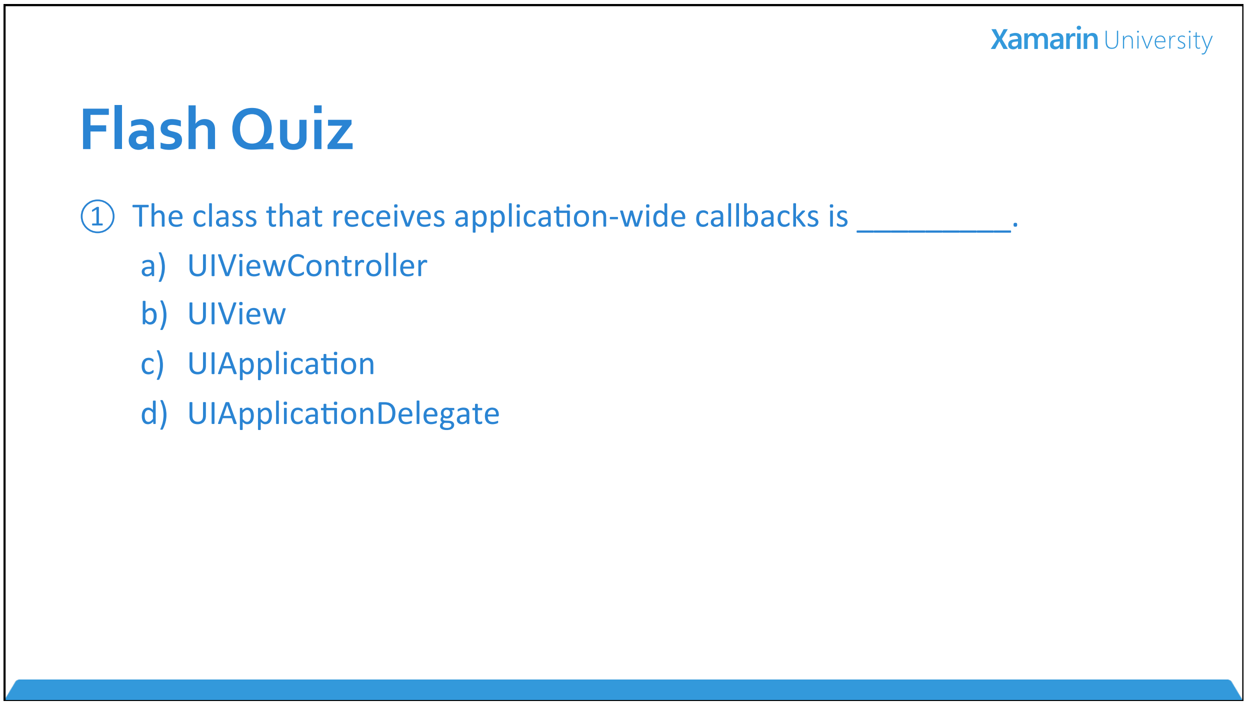
Model-View-Controller (MVC)

- Pattern used all over iOS
  - Model represents the data
  - View describes the UI
  - Controller manages the interaction between the model and the view



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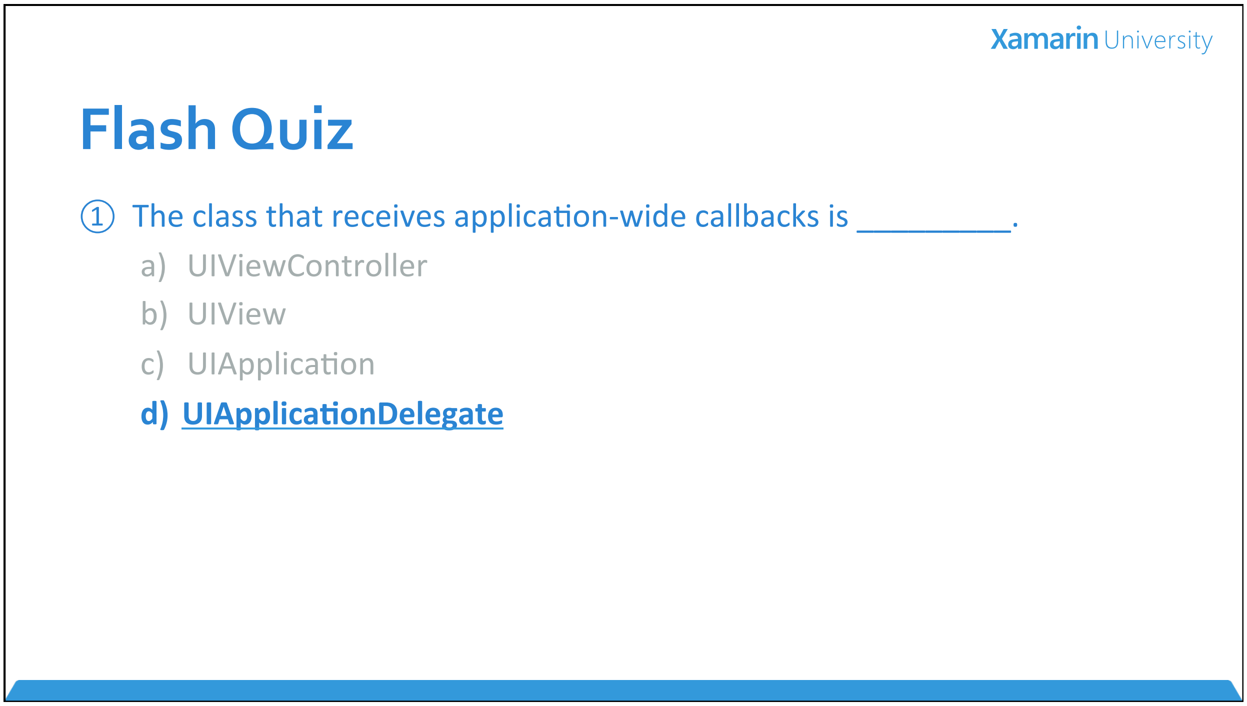
Flash Quiz

① The class that receives application-wide callbacks is _________.

a) UIViewController
b) UIView
c) UIApplication
d) UIApplicationDelegate



Flash Quiz

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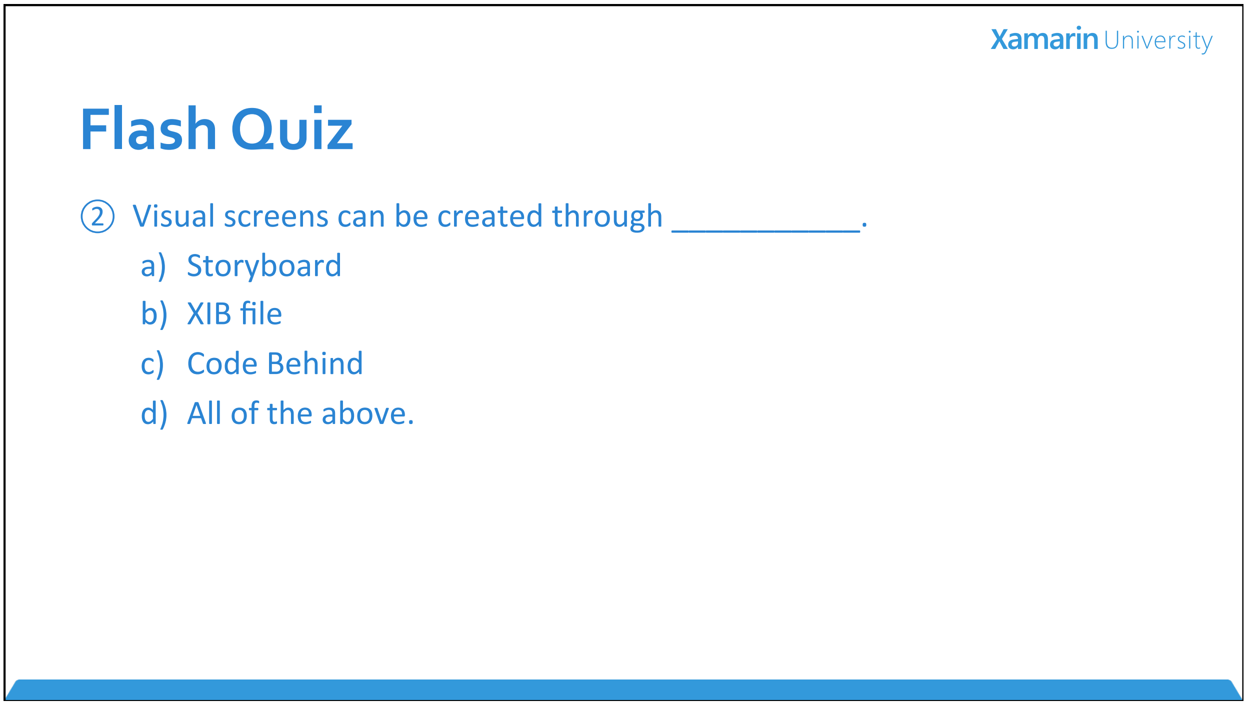
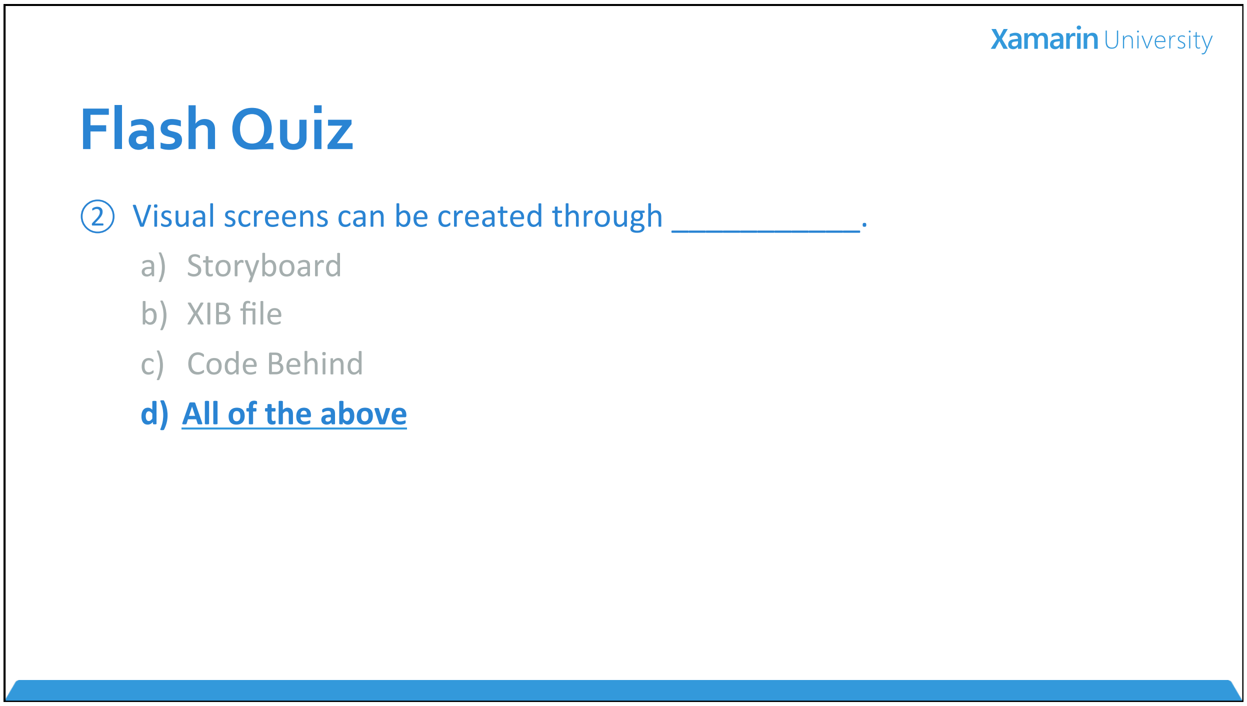


Flash Quiz

② Visual screens can be created through ____________.

a) Storyboard
b) XIB file
c) Code Behind
d) All of the above.



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Flash Quiz

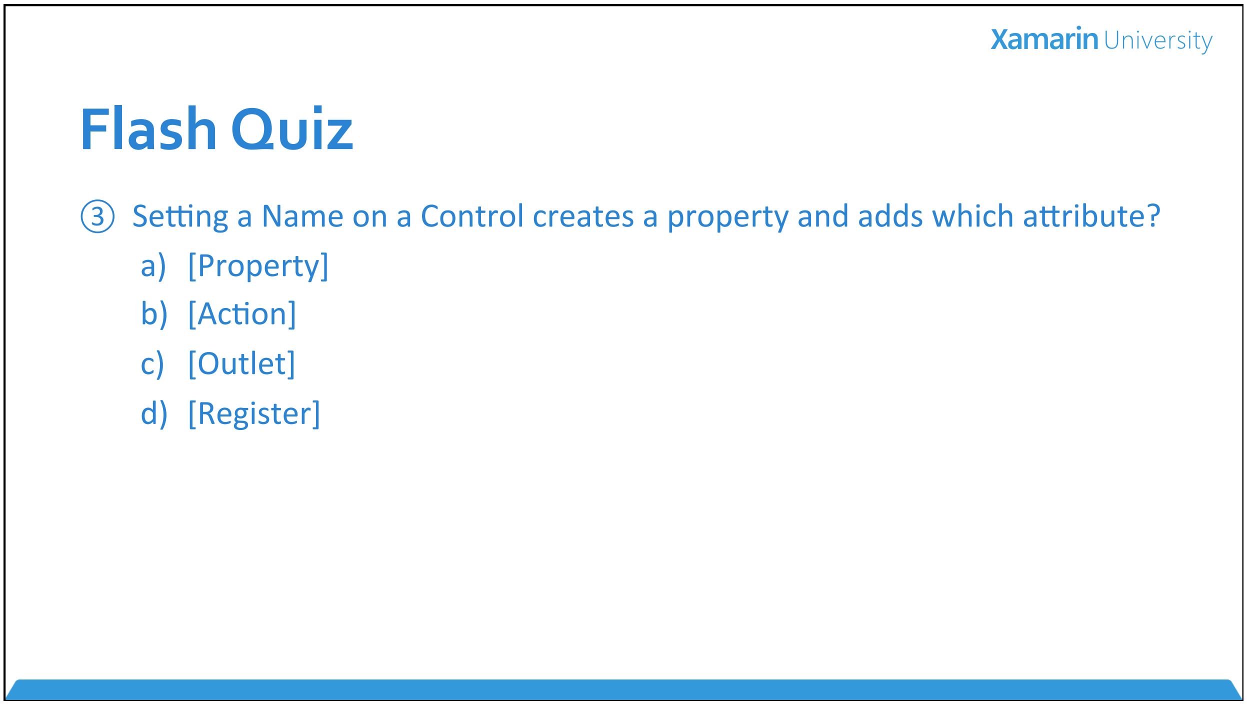
② Visual screens can be created through ____________.

a) Storyboard

b) XIB file

c) Code Behind

d) <u>All of the above</u>



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Flash Quiz

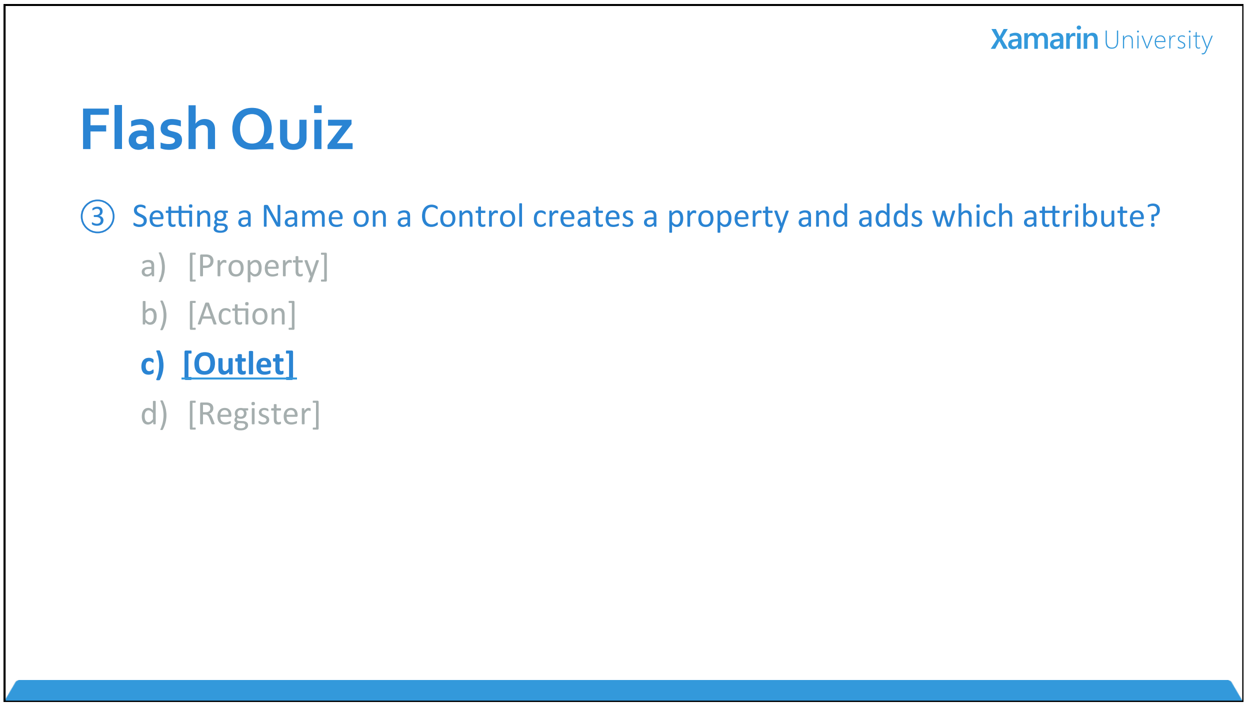
③ Setting a Name on a Control creates a property and adds which attribute?

a) [Property]

b) [Action]

c) [Outlet]

d) [Register]



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Flash Quiz

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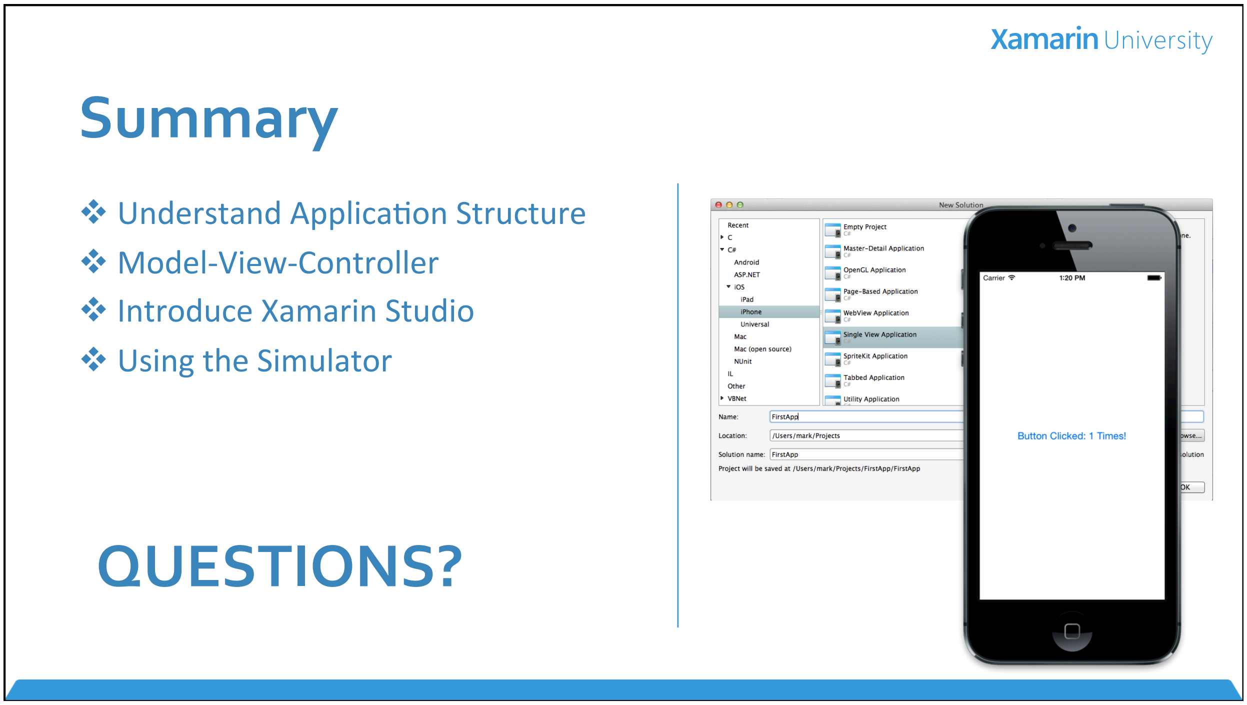

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Summary

- ❖ Understand Application Structure
- ❖ Model-View-Controller
- ❖ Introduce Xamarin Studio
- ❖ Using the Simulator

QUESTIONS?

Name: FirstApp

Location: /Users/mark/Projects

Solution name: FirstApp

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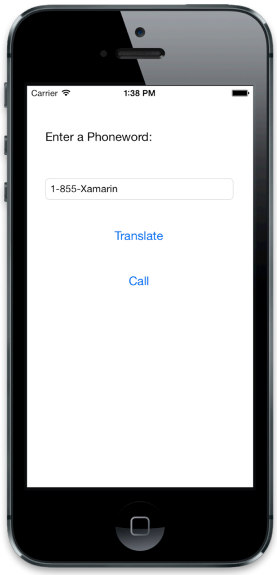
Button Clicked: 1 Times!

Objective 2

Use the Xamarin iOS Designer

Learning Goals

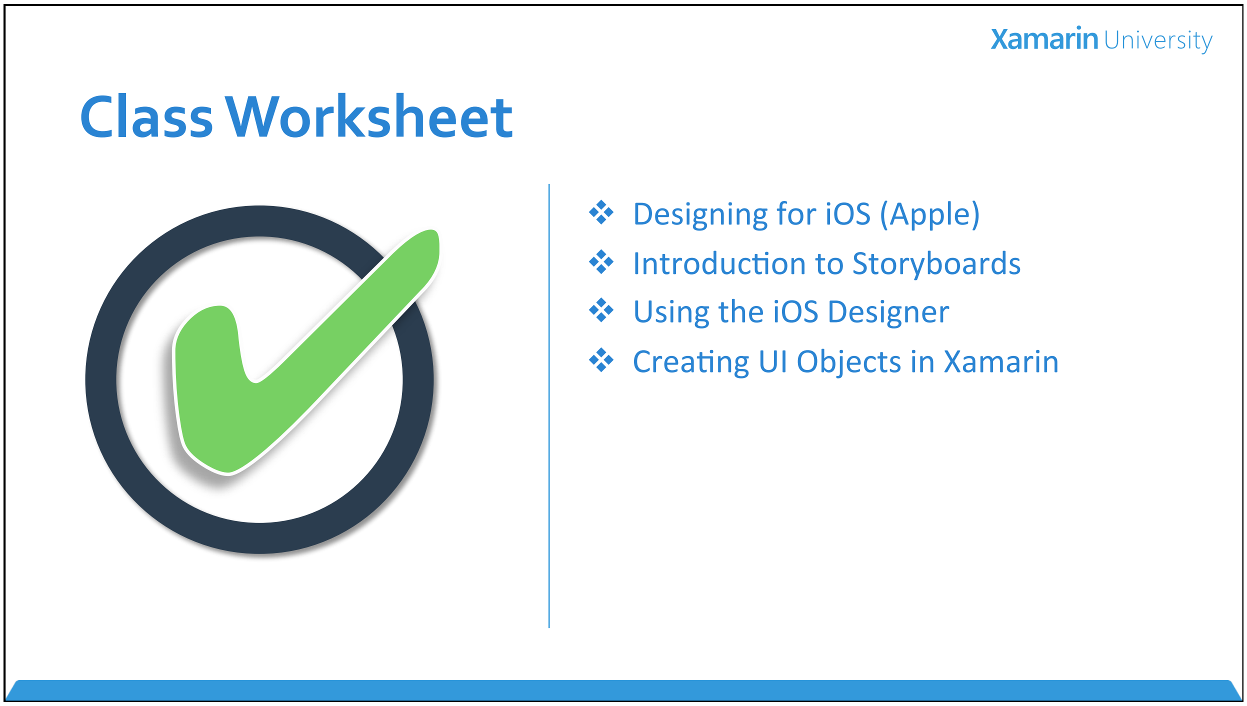
- Using the Xamarin.iOS Designer
- Adding UI to a Storyboard
- Naming UI elements



Carrier 1:38 PM

Enter a Phoneword:

1-855-Xamarin



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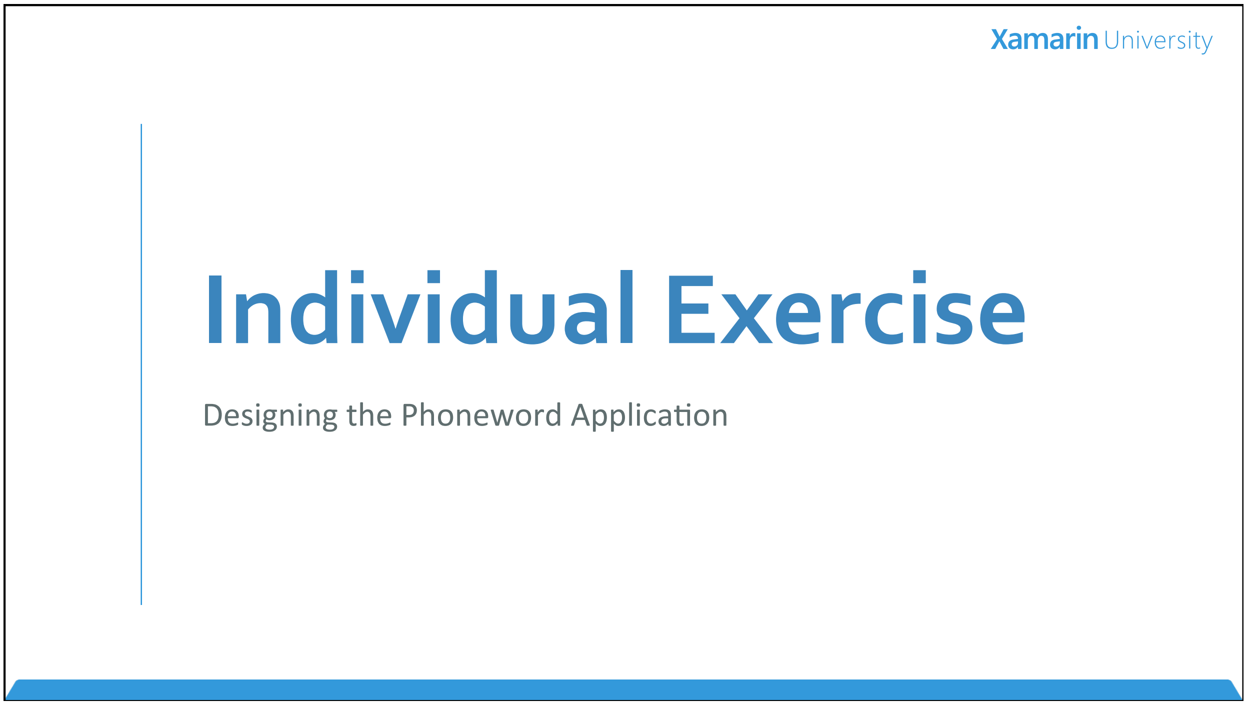
Class Worksheet

- Designing for iOS (Apple)
- Introduction to Storyboards
- Using the iOS Designer
- Creating UI Objects in Xamarin



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Individual Exercise

Designing the Phoneword Application

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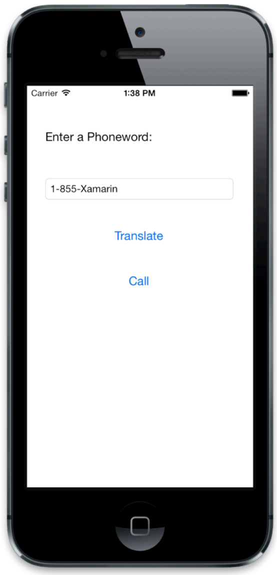
Summary

- Using the Xamarin.iOS Designer
- Adding UI to a Storyboard
- Naming UI elements

QUESTIONS?



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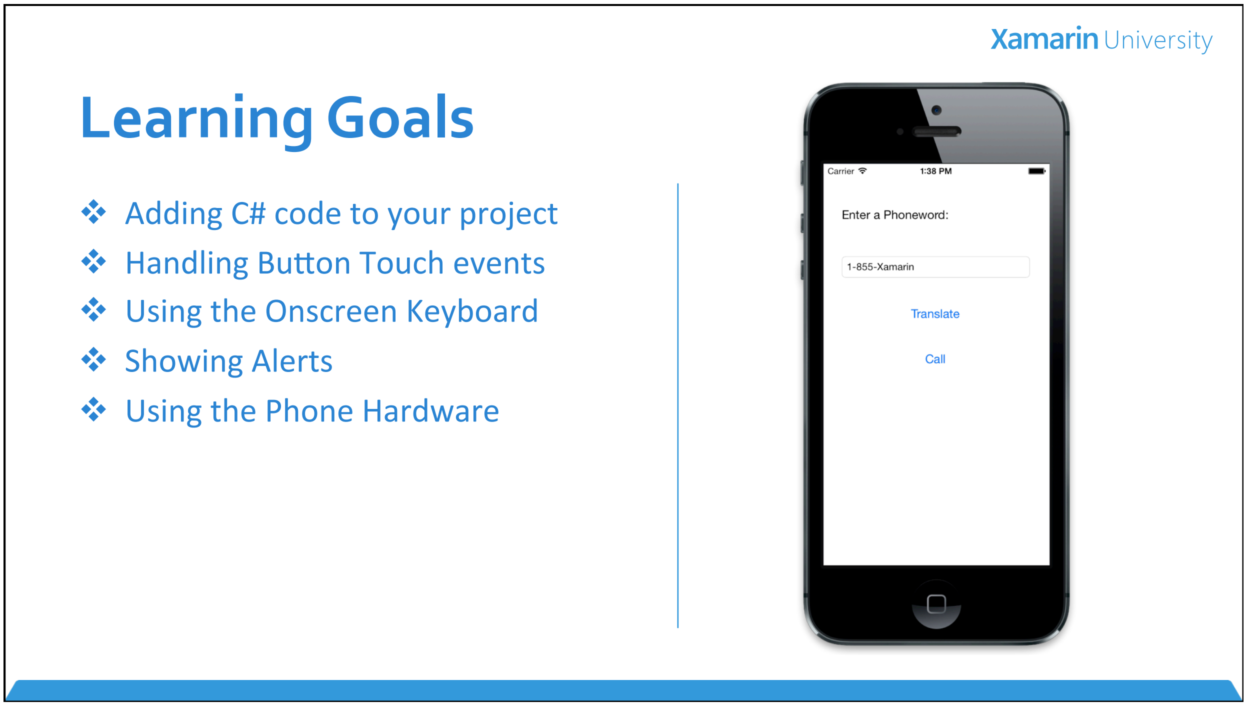
Objective 3

Implement behavior in code behind



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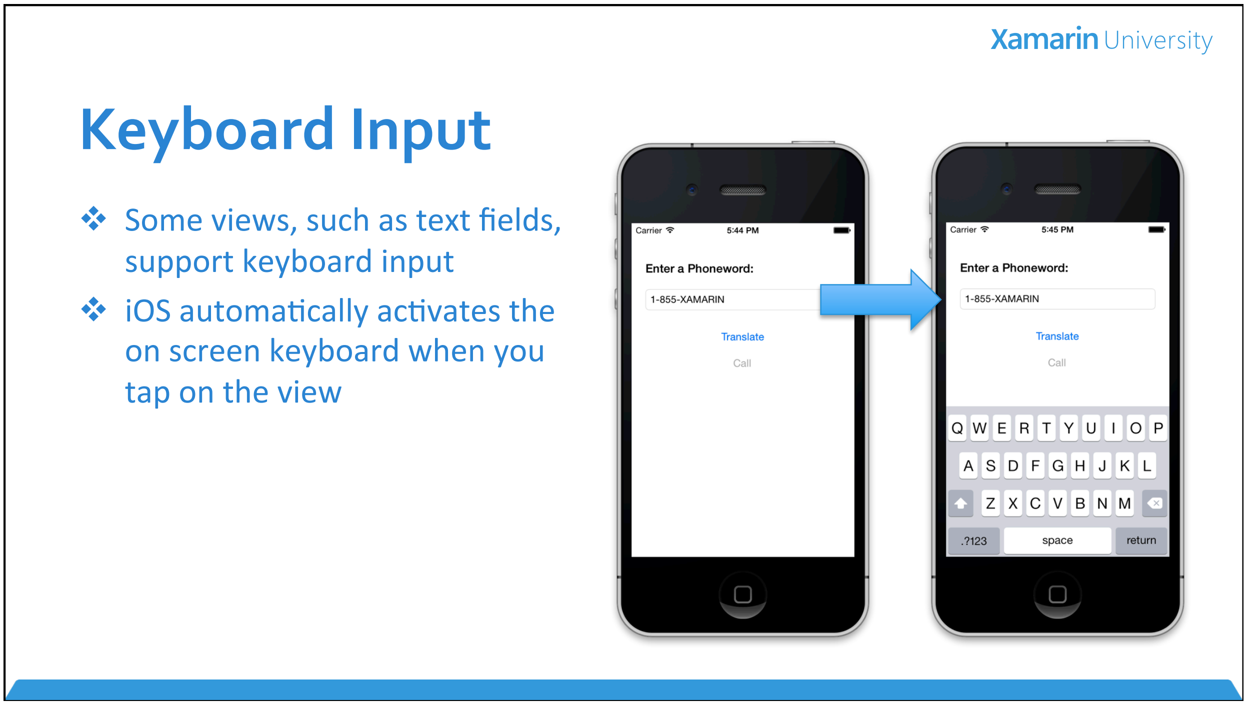
Learning Goals

- Adding C# code to your project
- Handling Button Touch events
- Using the Onscreen Keyboard
- Showing Alerts
- Using the Phone Hardware



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Keyboard Input

- Some views, such as text fields, support keyboard input
- iOS automatically activates the on screen keyboard when you tap on the view

Keyboard Dismissal

- Views do not automatically dismiss the keyboard – must *resign first responder* status to hide the keyboard, this is often done when the **Return** key is pressed

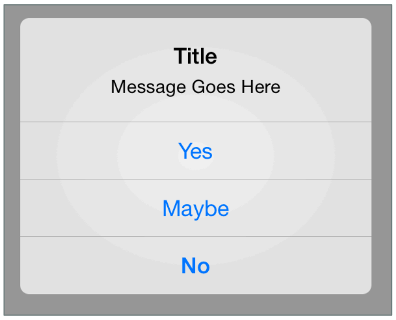
```
NameTextField.ShouldReturn += delegate {
   NameTextField.ResignFirstResponder();
   return true;
};
```

Showing Alerts

- Can display a modal alert message with `UIAlertView`

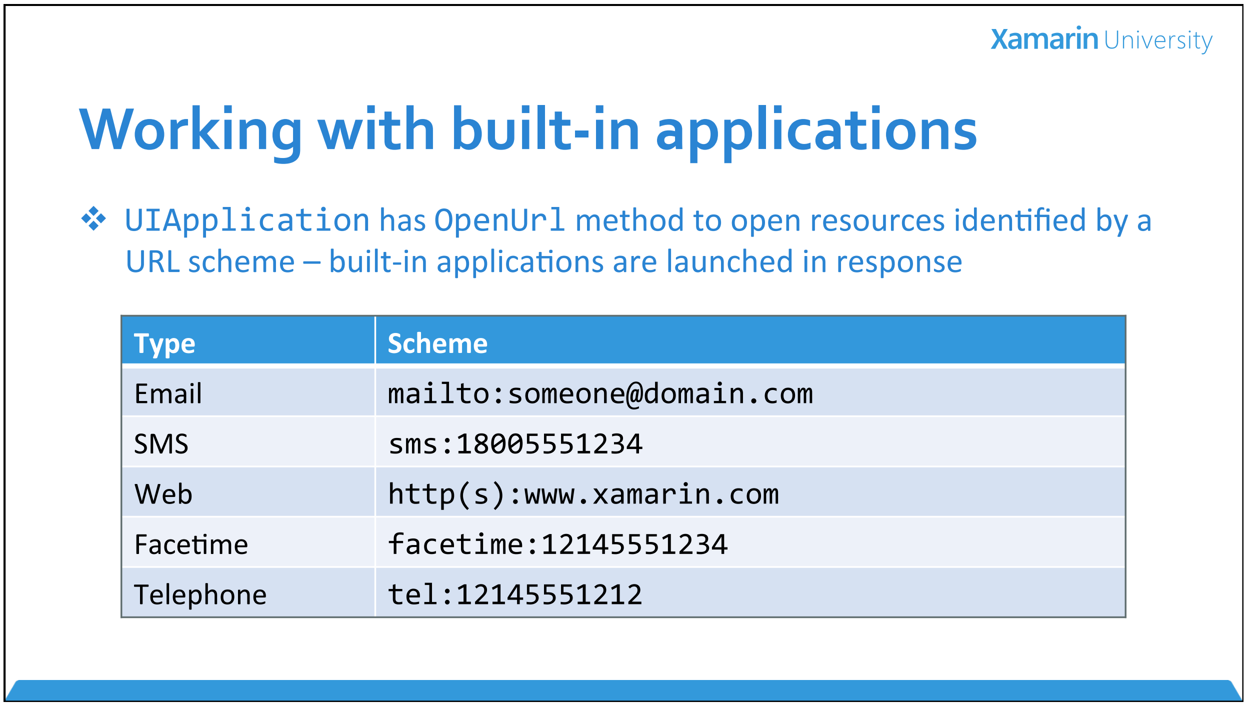
```
var msgPrompt = new UIAlertView("Title",
    "Message Goes Here",
    null, "No", "Yes", "Maybe");

msgPrompt.Dismissed += (sender, e) =>  {
   switch (e.ButtonIndex) {
      ...
   }
};
msgPrompt.Show();
```



Title

Message Goes Here



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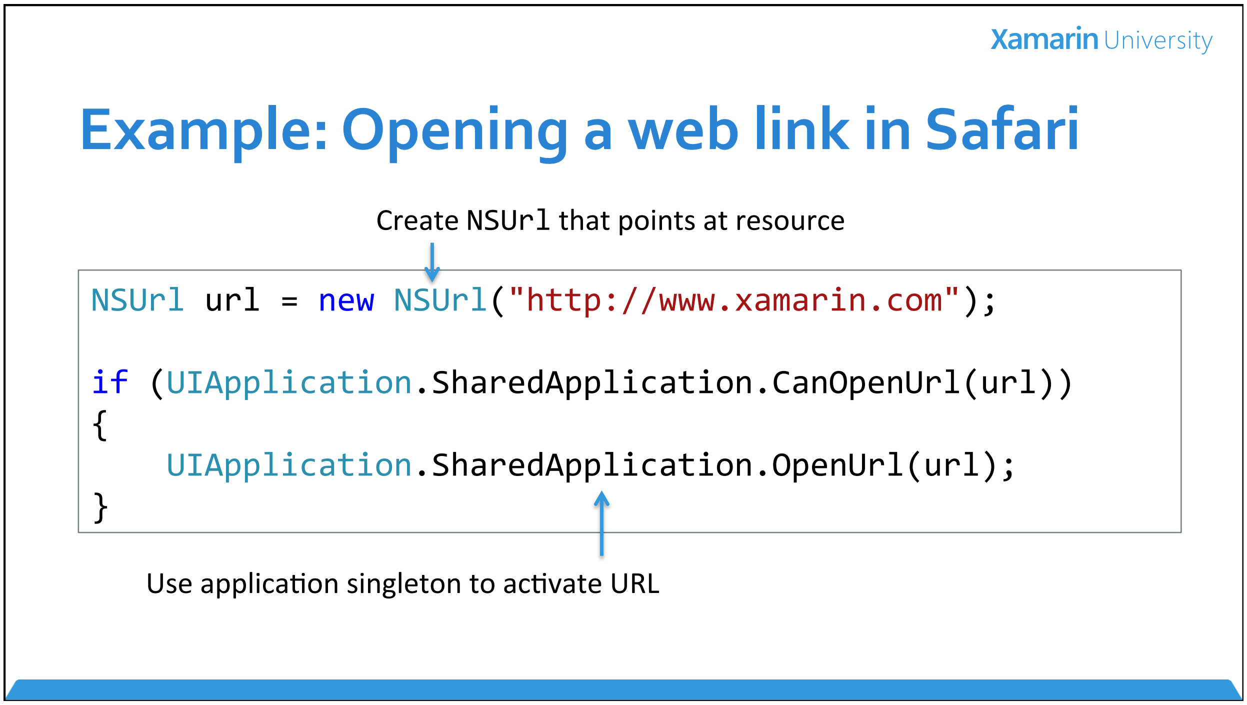
Working with built-in applications

- UIApplication has OpenUrl method to open resources identified by a URL scheme – built-in applications are launched in response

Type	Scheme
Email	mailto:someone@domain.com
SMS	sms:18005551234
Web	http(s):www.xamarin.com
Facetime	facetime:12145551234
Telephone	tel:12145551212



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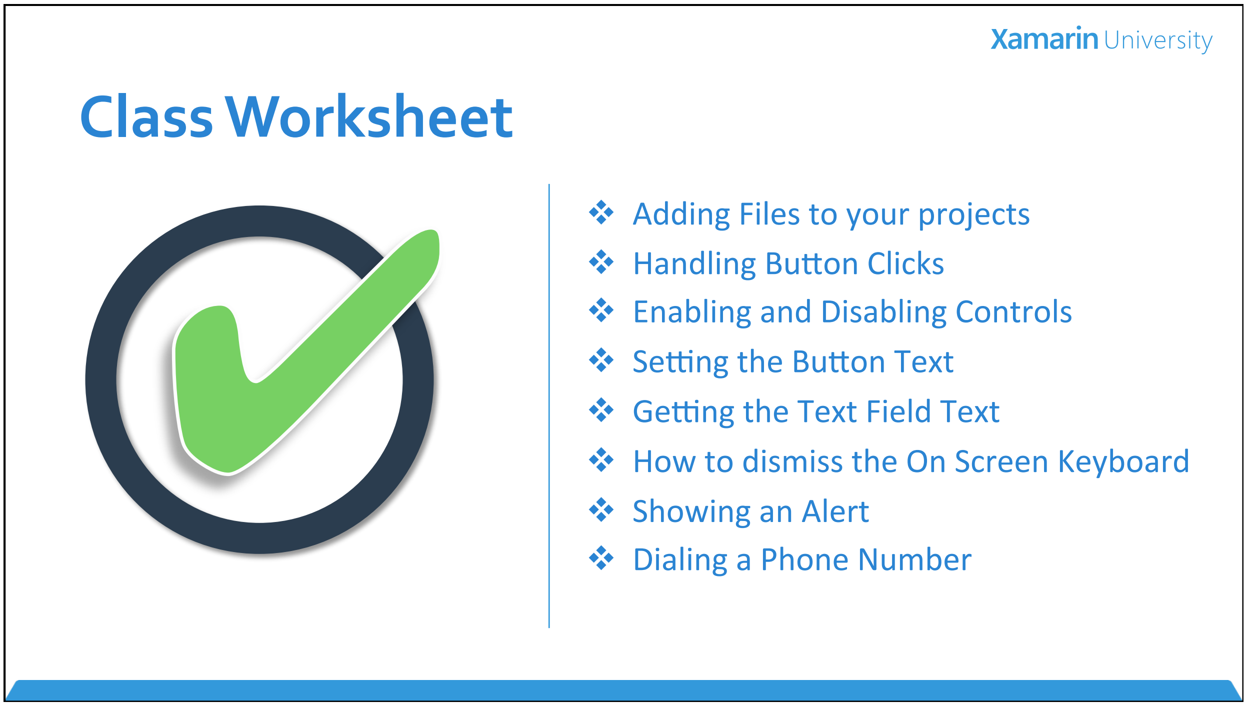
Example: Opening a web link in Safari

Create NSUrl that points at resource

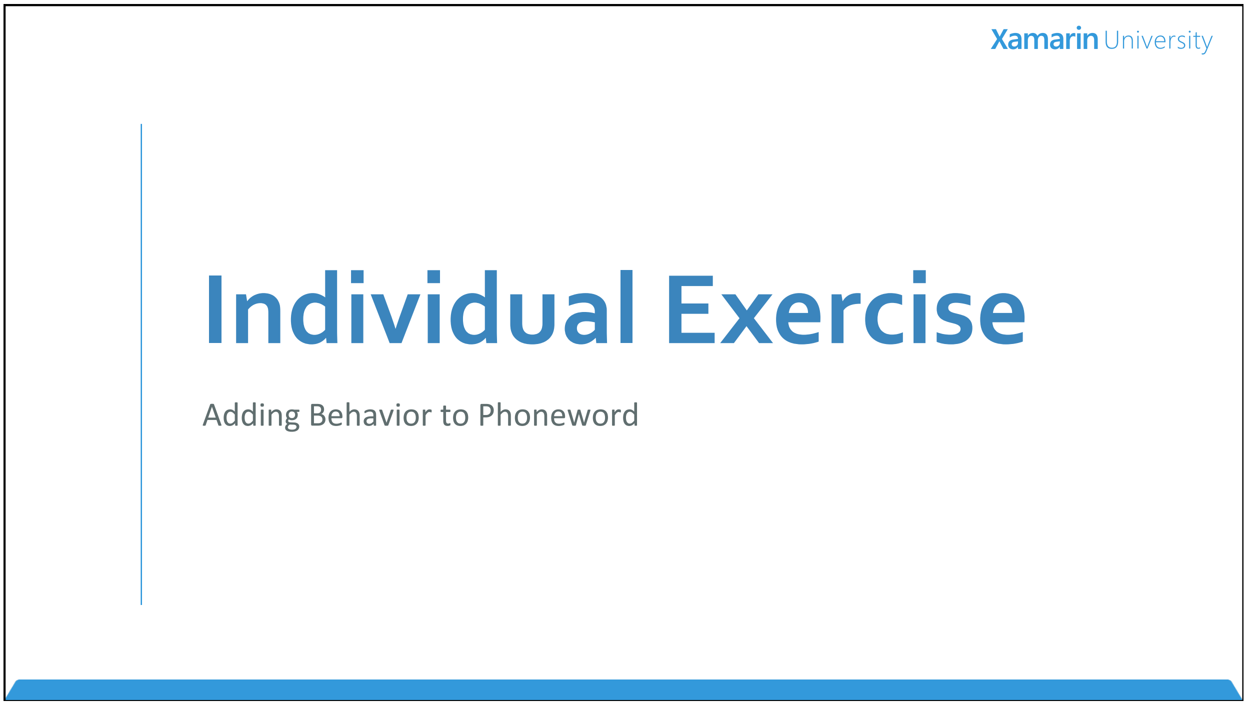
```
NSUrl url = new NSUrl("http://www.xamarin.com");

if (UIApplication.SharedApplication.CanOpenUrl(url))
{
    UIApplication.SharedApplication.OpenUrl(url);
}
```

Use application singleton to activate URL



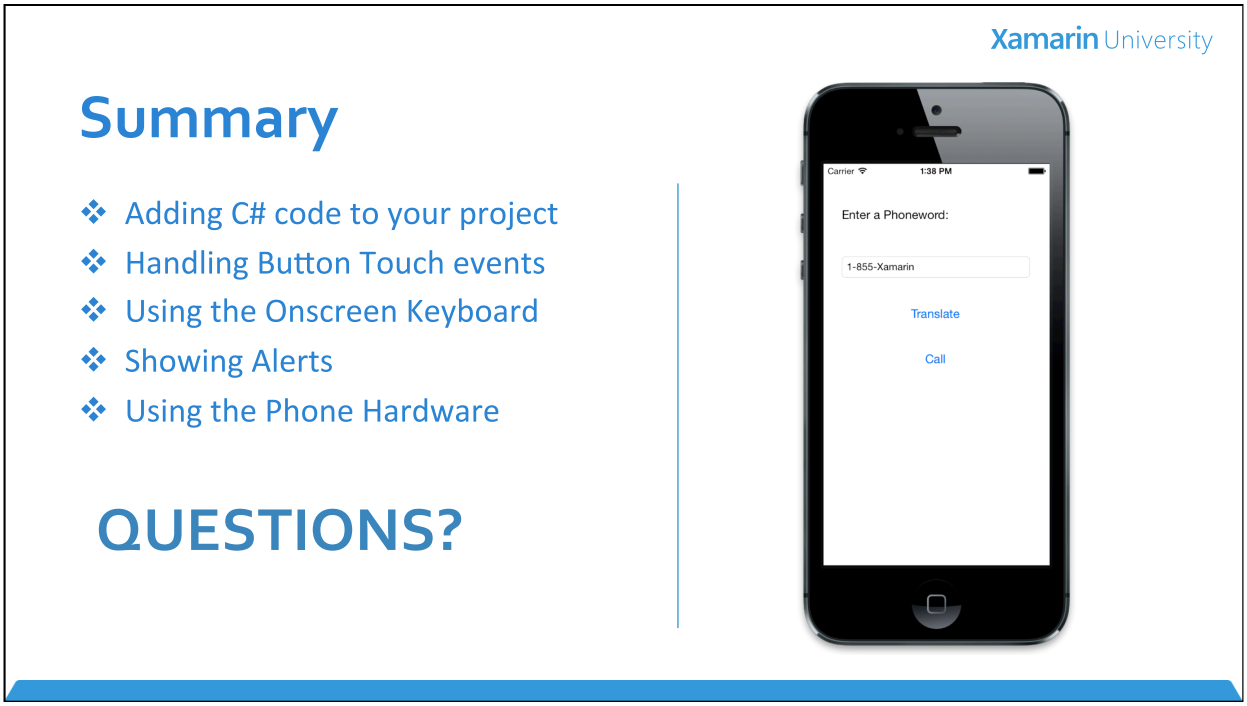
Class Worksheet

- Adding Files to your projects
- Handling Button Clicks
- Enabling and Disabling Controls
- Setting the Button Text
- Getting the Text Field Text
- How to dismiss the On Screen Keyboard
- Showing an Alert
- Dialing a Phone Number



Individual Exercise

Adding Behavior to Phoneword



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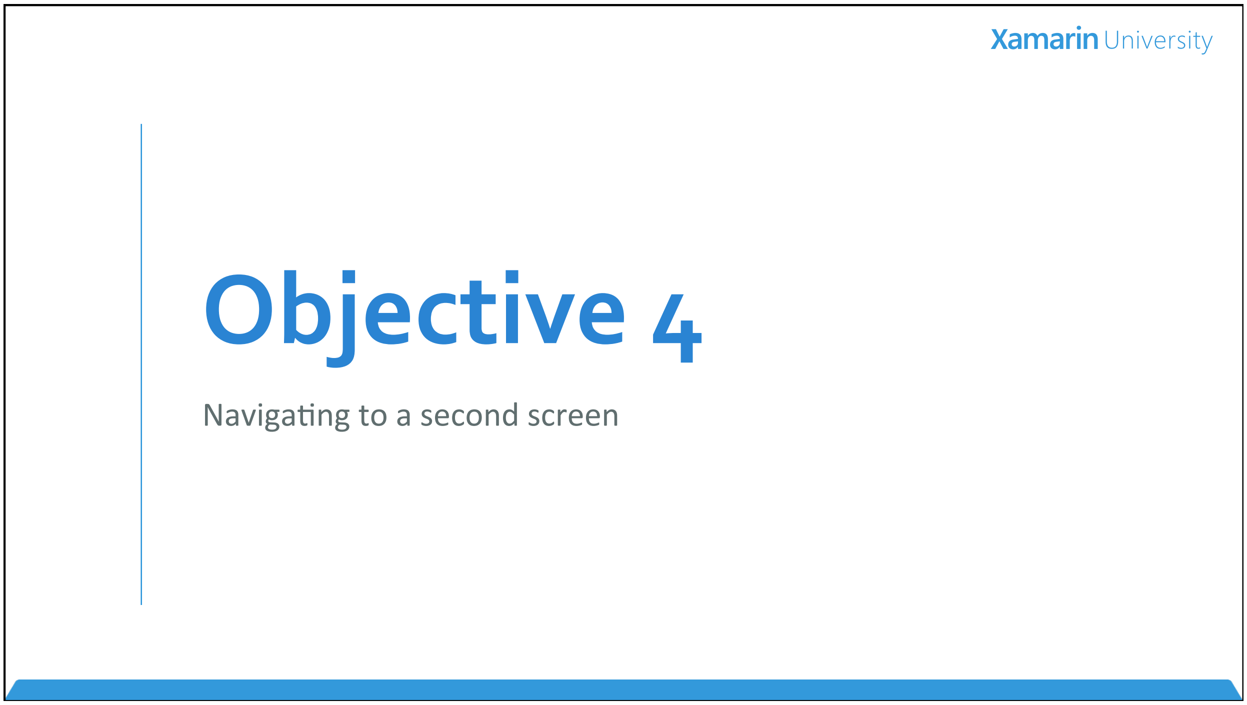
Summary

- Adding C# code to your project
- Handling Button Touch events
- Using the Onscreen Keyboard
- Showing Alerts
- Using the Phone Hardware

QUESTIONS?



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Objective 4

Navigating to a second screen

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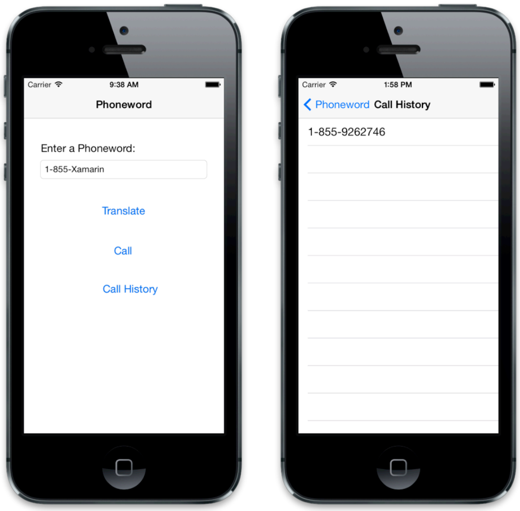
Learning Goals

- ❖ UINavigatonController
- ❖ Storyboards and Segues
- ❖ UITableViewController



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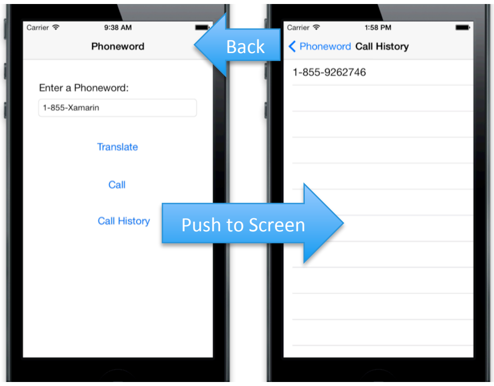
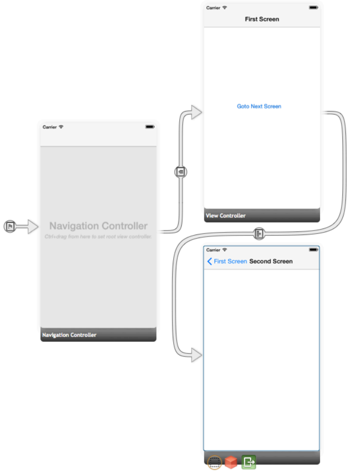
Basic Navigation

- ❖ `UINavigationController` manages stack-based navigation
- ❖ Adds Navigation Bar to app and provides Title and Back button
- ❖ Can be designed with Storyboards



Storyboard Segues

- Storyboard designer supports navigation declaratively
- Transitions between screens are called segues ("segways")
- Ctrl+Drag to create relationships



Demonstration

Using UINavigationController with the Storyboard Designer

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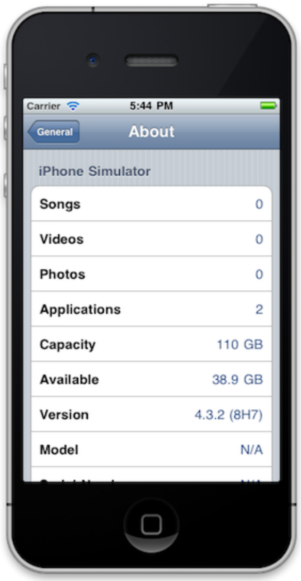
Table Views

- UITableViewController creates a scrollable list of items
- Special View Controller which creates a TableView as the View
- Data is provided through a data source class


Carrier 5:44 PM

General About

iPhone Simulator

Songs	0
Videos	0
Photos	0
Applications	2
Capacity	110 GB
Available	38.9 GB
Version	4.3.2 (8H7)
Model	N/A

Table Views are used all over iOS to present rows of information

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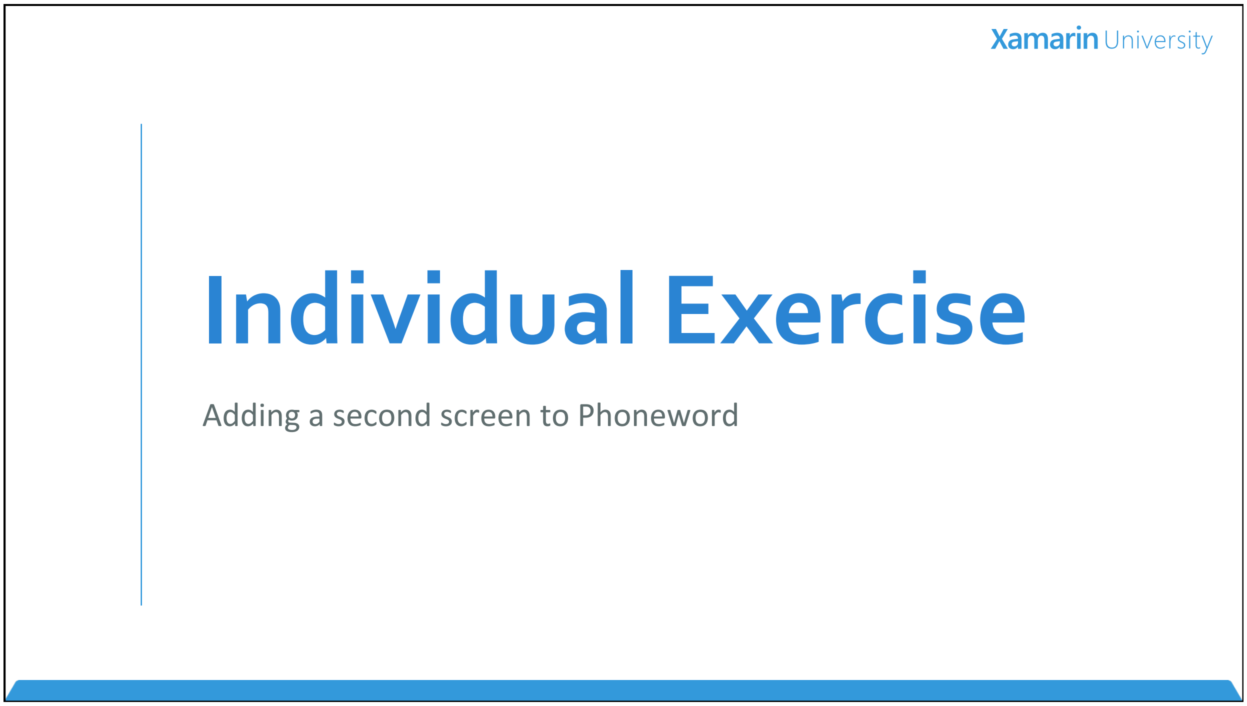
Class Worksheet

- Multi-screen applications
- Using Navigation Controllers and Segues in Xamarin Studio
- UITableView



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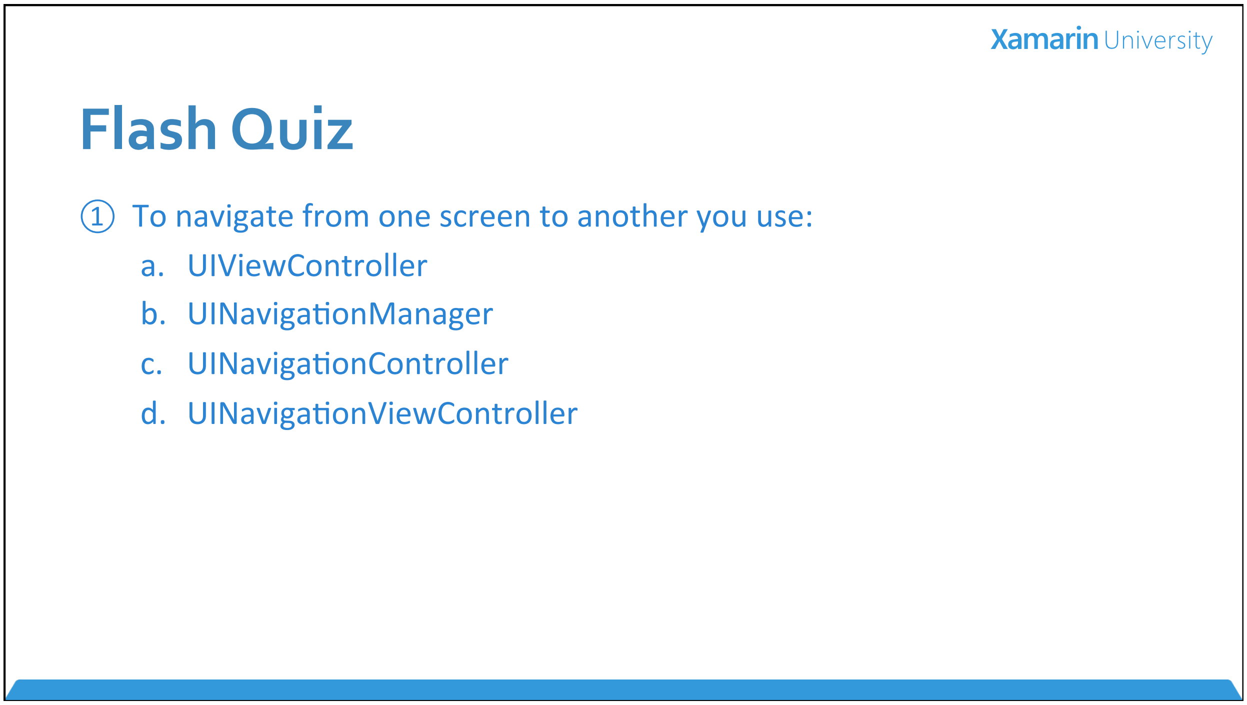
Individual Exercise

Adding a second screen to Phoneword



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Flash Quiz

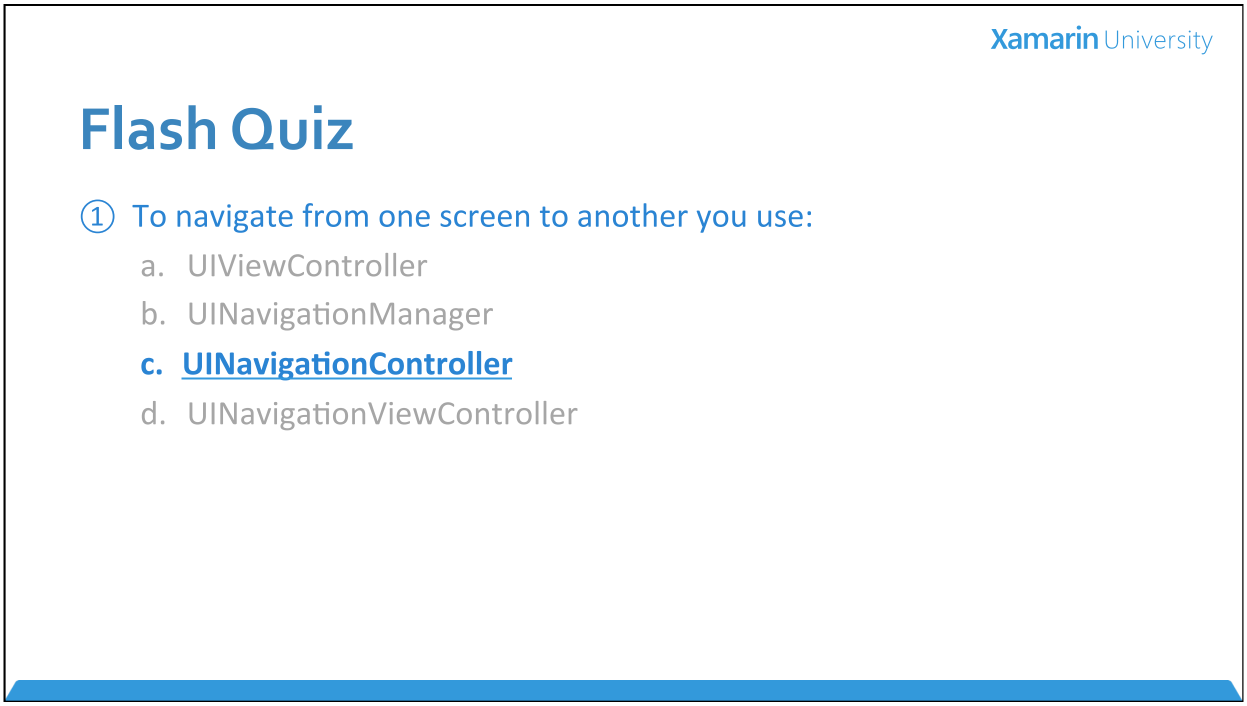
① To navigate from one screen to another you use:

a. UIViewController

b. UINavigationManager

c. UINavigationController

d. UINavigationViewController



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Flash Quiz

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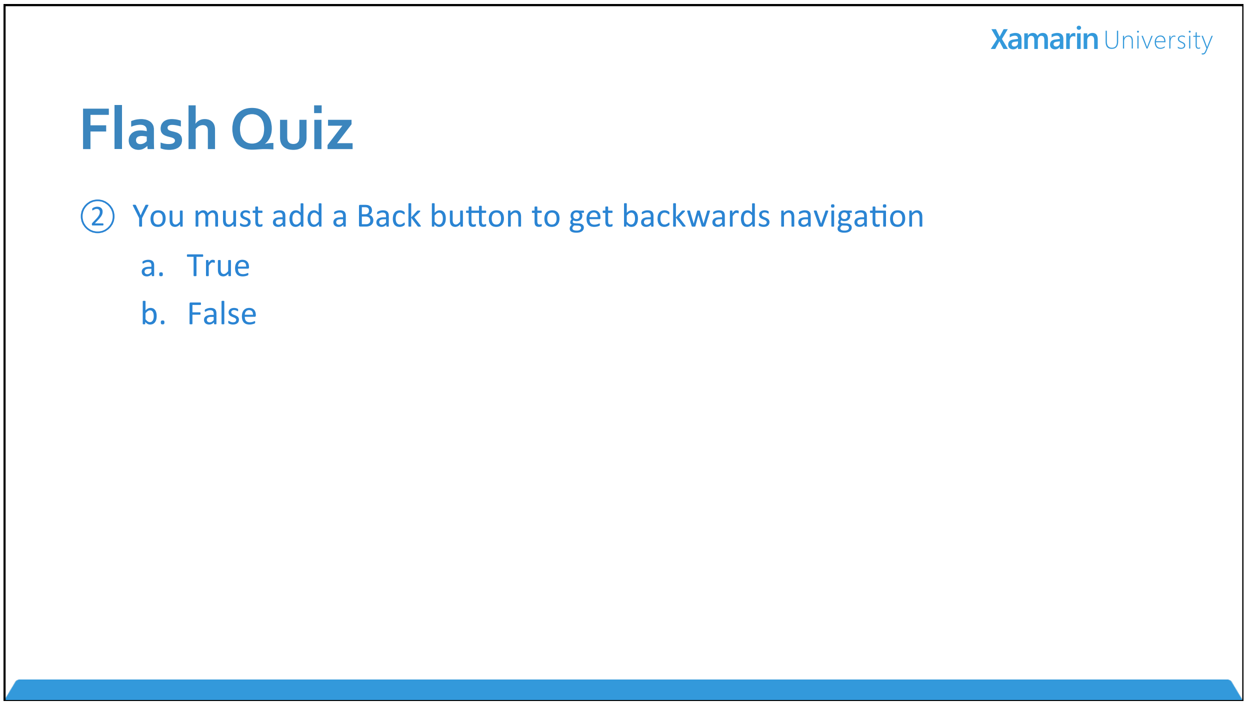

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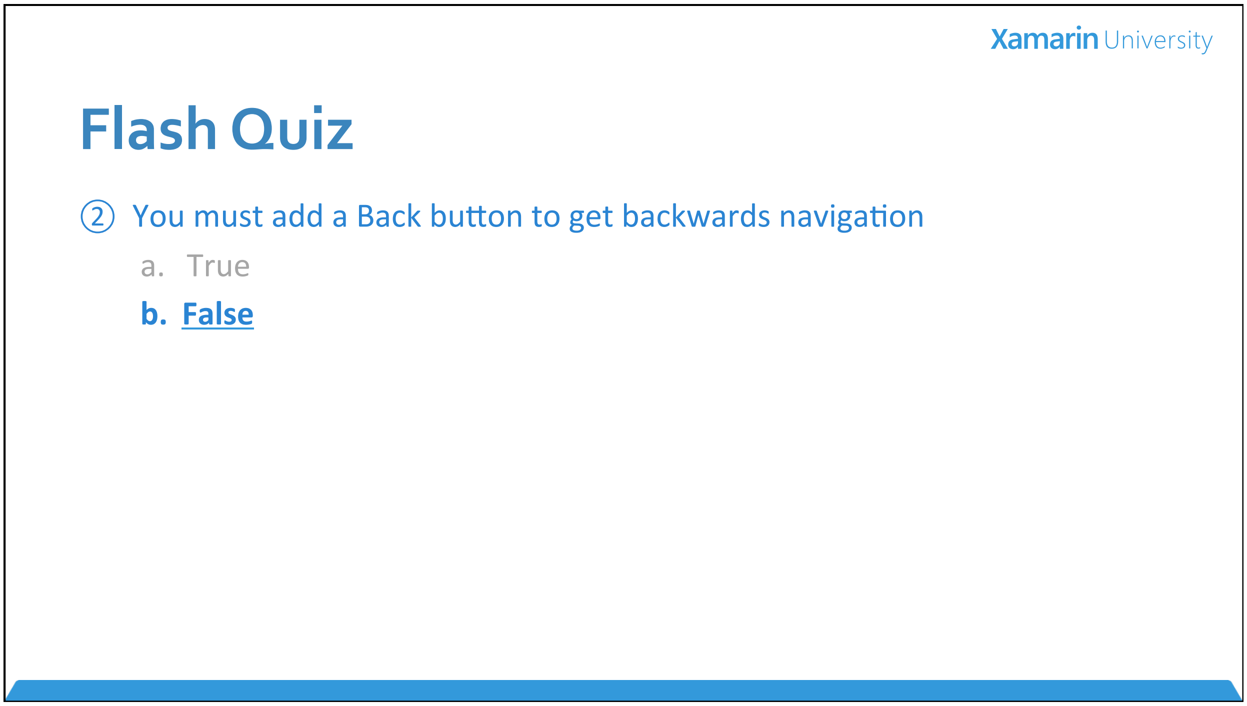
Flash Quiz

② You must add a Back button to get backwards navigation

a. True

b. False

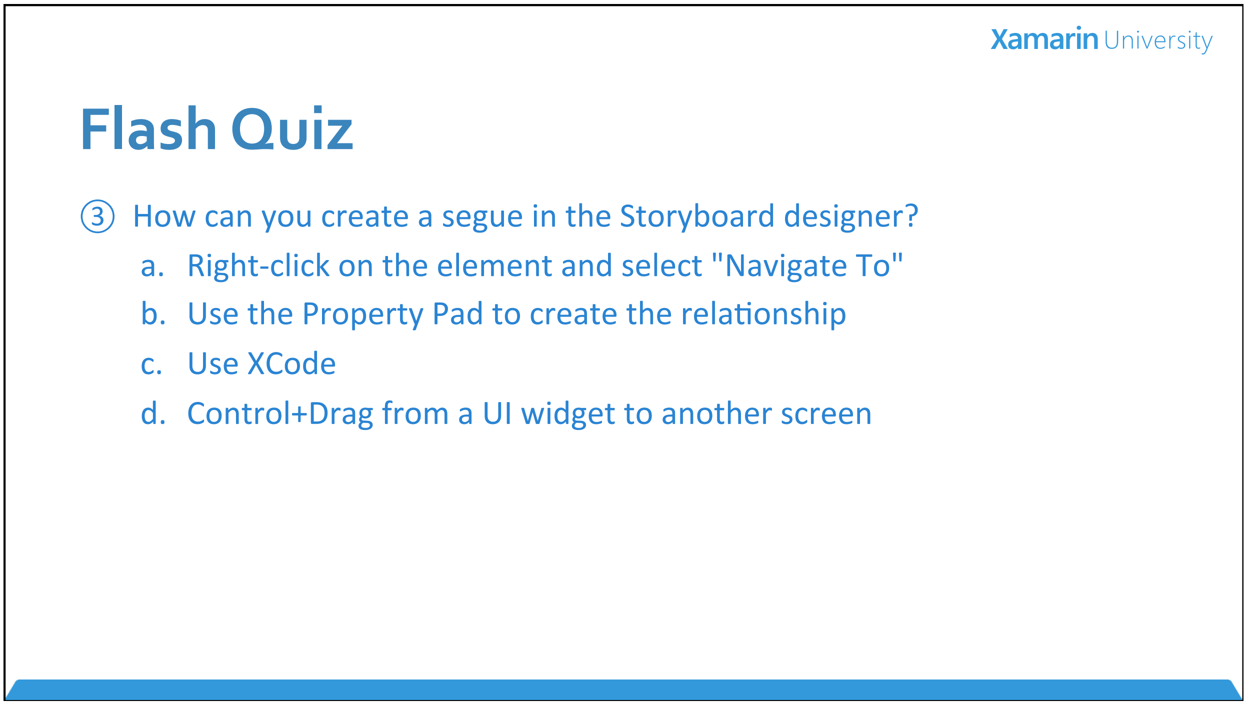


Flash Quiz

② You must add a Back button to get backwards navigation

a. True

b. <u>False</u>



Flash Quiz

③ How can you create a segue in the Storyboard designer?

a. Right-click on the element and select "Navigate To"

b. Use the Property Pad to create the relationship

c. Use XCode

d. Control+Drag from a UI widget to another screen

Flash Quiz

③ How can you create a segue in the Storyboard designer?

a. Right-click on the element and select "Navigate To"

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c. Use XCode

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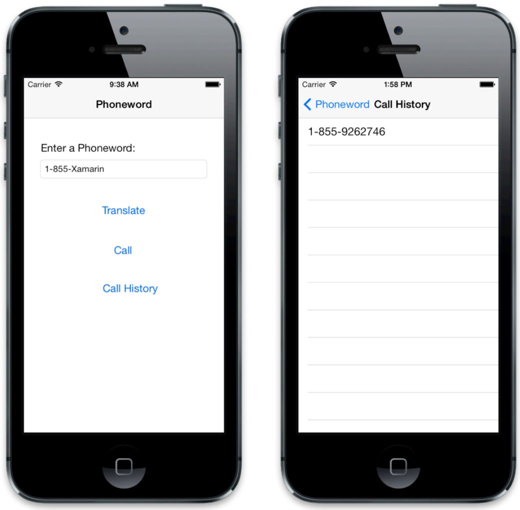
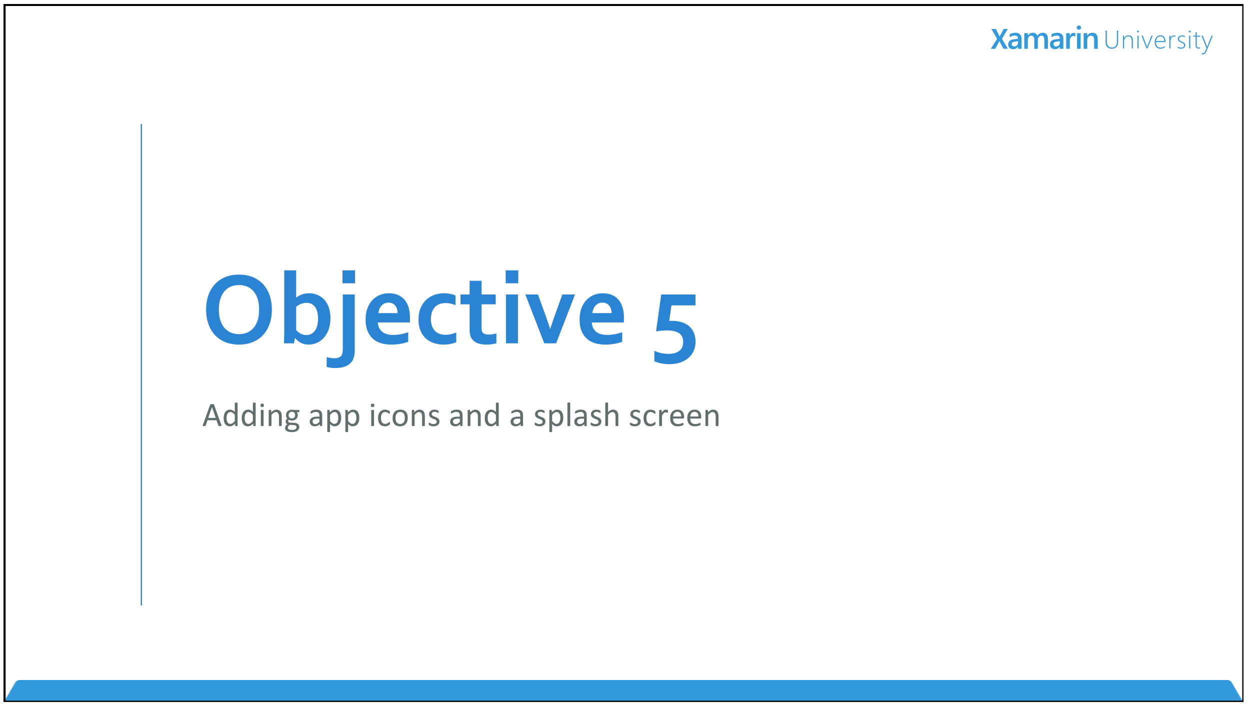
Summary

- UINavigatonController
- Storyboards and Segues
- UITableViewController

QUESTIONS?





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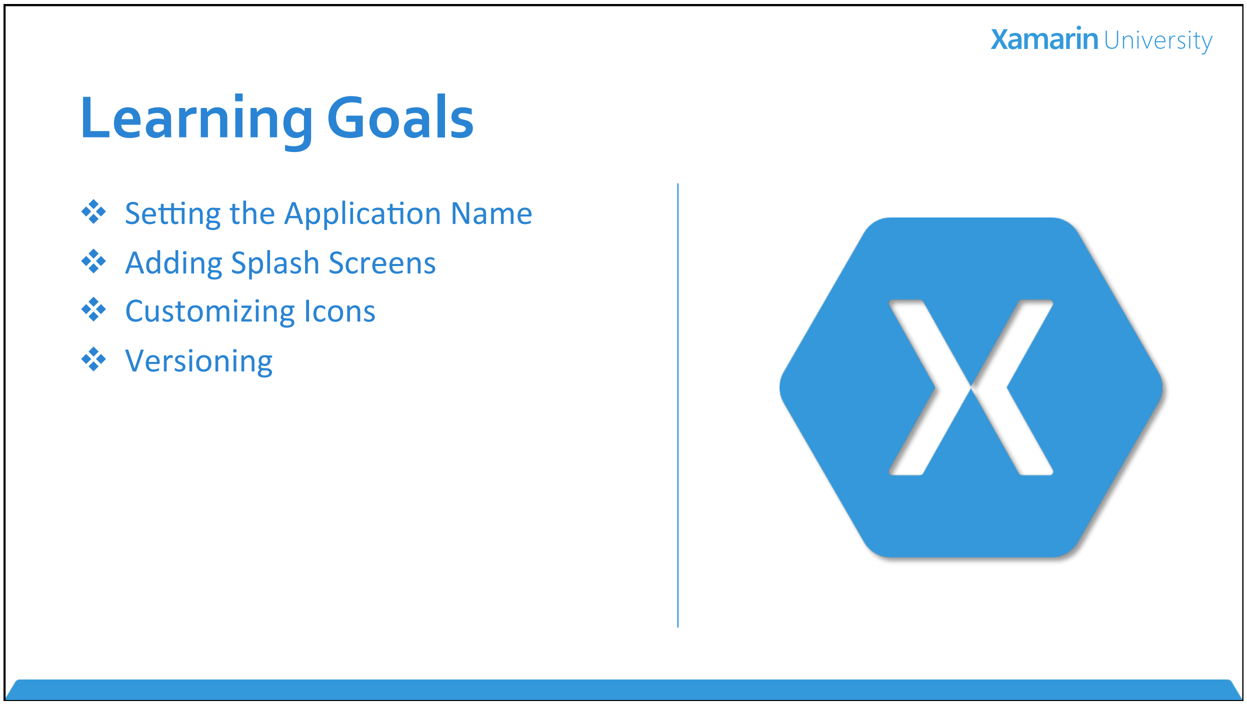
Objective 5

Adding app icons and a splash screen



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Learning Goals

- ❖ Setting the Application Name
- ❖ Adding Splash Screens
- ❖ Customizing Icons
- ❖ Versioning

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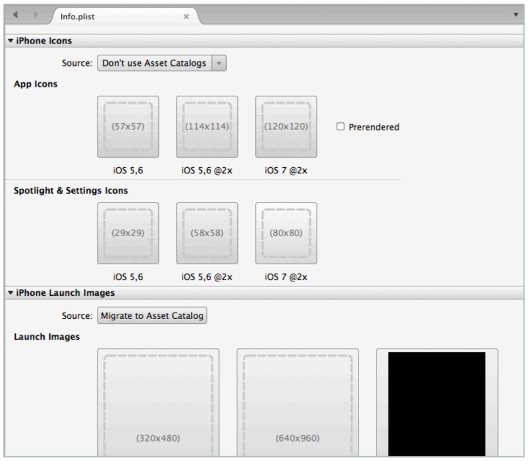
Setting App Details

- Info.plist contains application metadata such as
  - App Name
  - Version
  - Splash Screen
  - Icons



Source: Don't use Asset Catalogs

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Class Worksheet

- Information Property Lists
- info.plist Key Reference
- Icons and Image Sizes
- Supporting Retina Displays
- Bundle Identifiers

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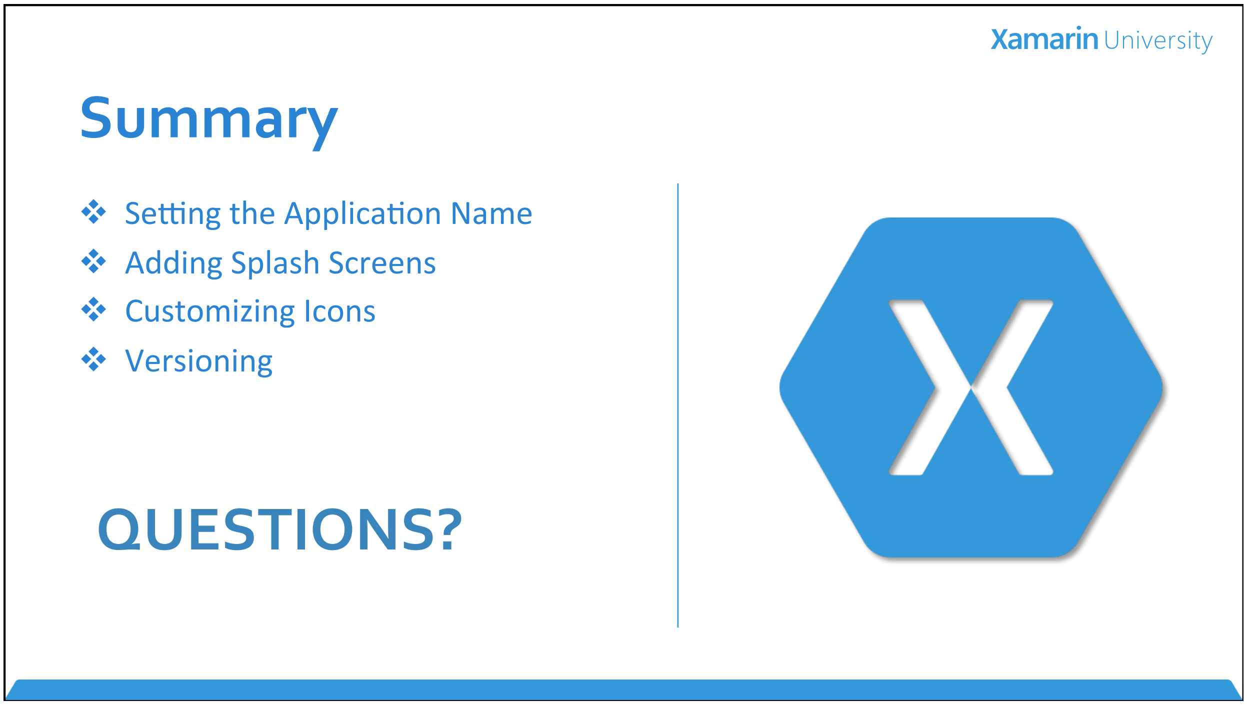
Group Exercise

Adding Final Touches



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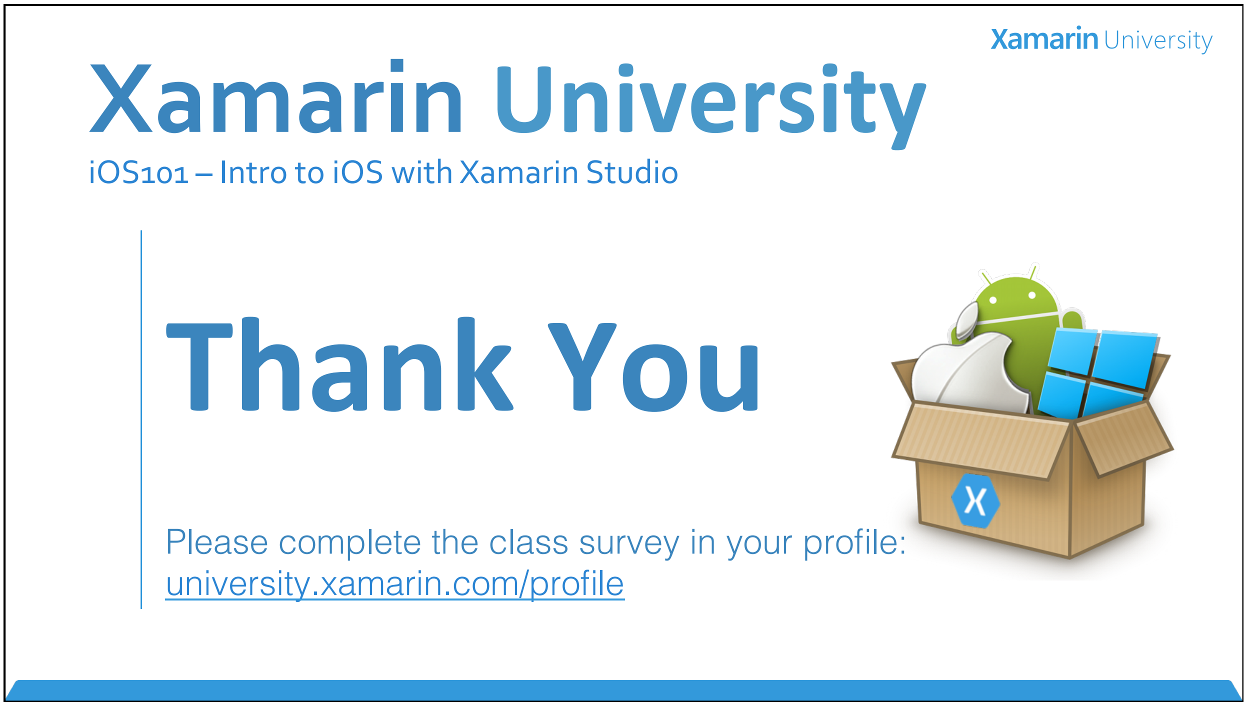
Summary

- ❖ Setting the Application Name
- ❖ Adding Splash Screens
- ❖ Customizing Icons
- ❖ Versioning

QUESTIONS?



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iOS101 – Intro to iOS with Xamarin Studio

Thank You

Please complete the class survey in your profile:
university.xamarin.com/profile