SYLLABUS

THE COMPLETE IOS APP DEVELOPMENT BOOTCAMP

APP BREWERY

www.appbrewery.co

IOS/XCODE INTERFACE BUILDER

- How to set up a new Xcode project.
- How to use the Interface Builder to design and create the appearance of your app.
- How to find your way around Xcode.
- How to change the attributes of various UI elements.
- How to add custom image assets to Xcode projects.
- How to create app icons and size them for all resolutions.
- How to run apps on the iOS Simulator as well as sideload to a physical device.

INTRODUCTION TO IOS DEVELOPMENT

Learn to clone projects from GitHub.
Link design with code via IBActions and IBOutlets.
Learn to detect user interaction through UIButtons.
Understand and use Swift variables, constants and collection types.
Learn about printing and commenting in Swift.
Learn about randomisation in swift and range operators.
Learn to use Image Literals in code.
Learn to use Swift Playgrounds.
Understand the data type system and the primitive data types such as Strings, Ints and Doubles.

IOS AUTO LAYOUT AND SETTING CONSTRAINTS

- How to add constraints and understand how auto layout works.
- How to Pin and Align UI elements.
- How to create containers to configure advanced layouts.
- How to debug auto layout errors.
- Understand the pre-requisites to automatic layout.
- How to use stack views to easily layout your UI.

READING AND USING APPLE DOCUMENTATION

- Figure out how to play sound using AVFoundation and AVAudioPlayer through understanding Apple documentation.
- How to use Swift functions and understand input parameters and return types.
- Error handling using try and catch.
- Code refactoring.
- Basic debugging for code errors.

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CONTROL FLOW AND OPTIONALS

- Understand the need and use cases of Swift Optionals.
- How to use IF-ELSE and Switch statements to control the flow of code execution.
- Learn about Swift Dictionaries.
- Learn to use the UIProgressView to create an animated progress bar.
- Figure out how to use the Timer object in Swift using documentation.

IOS DESIGN PATTERNS AND THE MODEL-VIEW-CONTROLLER (MVC)

- What is a design pattern and how is it used in programming.
- How to use the Model-View-Controller or MVC pattern for app development.
- Learn about 2D arrays.
- Learn about Swift Structures and creating custom types.
- Learn about struct initialisation.
- Learn about properties and methods and the difference between functions and methods.
- Learn about immutability and the mutating keyword.

MULTI-SCREEN APPLICATIONS

- Learn about Swift classes.
- Learn about Object-Oriented Programming and inheritance.
- Learn the difference between Structures and Classes and when to use each.
- Learn to use the UISlider.
- Creating a custom UIViewController class.
- Creating UI completely programmatically without Interface Builder.
- How to build a multi-screen app using segues.
- Advanced methods of handling Swift Optionals, including Optional Binding, Optional Chaining and the Nil Coalescing Operator.
- Learn about Color Literals.

NETWORKING, APIS AND JSON PARSING

- How to use public APIs to get live data from the internet.
- Learn about Networking and use the native URLSession object to make HTTP requests to a server.
- Learn about the Decodable Protocol and how to parse JSON formatted data using the native JSONDecoder.

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- Learn to create Dark Mode differentiated assets and use vector assets.
- Learn to use the UITextField to get keyboard inputs.
- Learn about Swift Protocols
- Learn about the Delegation design pattern using Protocols.
- Learn about Swift Extensions.
- Learn to to use Swift computed properties.
- Understand the completion handler and the Swift Closure.
- Learn about Core Location to tap into the device GPS data.

SWIFTUI, COMBINE & CATALYST

- Understand what is SwiftUI and how it's different from UIKit.
- Learn to write declarative SwiftUI code to create user interfaces programmatically.
- Learn to build user interfaces using SwiftUI Text, Button, Image, HStack, VStack, ZStack, List, Color and NavigationView components.
- Learn to use the Preview pane and live Preview.
- Use the Object Library to turn UI elements into code.
- Understand and use SwiftUI modifiers to chain modification methods to SwiftUI components.
- Understand the SwiftUI Closure syntax to add custom functionality to SwiftUI components.
- See the difference between Imperative and Declarative code.
- Manage state using the @State property modifier.
- Learn about the @Published property modifier from the Combine framework that allows for more complex state management.
- Manage complex app state using the ObservableObject protocol.
- Learn to incorporate UIKit components in a SwiftUI app using the UIViewRepresentable protocol.
- See your iOS apps turn into a Mac app by leveraging project Catalyst.

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