

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 arrange UI elements on screen by their setting their coordinates.
- How to size UI elements by changing their dimensions.

INTRODUCTION TO IOS DEVELOPMENT

- Understand and use constants and variables.
- Understand and use Swift arrays.
- Learn about randomisation.
- Understand basic gesture controls and motion detection.

INTRODUCTION TO SWIFT PROGRAMMING

- How to use Swift Playgrounds and become familiar with Swift syntax.
- Understand the data type system and how to use Strings, Integers, and Doubles.
- Understand how to declare constants and variables using let or var.
- How to use Swift functions and understand their input parameters and return types.
- How to use IF-ELSE statements to control the flow of execution.
- Swift loops.

READING AND USING APPLE DOCUMENTATION

- Finding out how to play sound using AVFoundation and AVAudioPlayer.
- The ViewController lifecycle.
- How to use tags in Interface Builder.
- Error handling using try and catch.
- Code refactoring.
- Basic debugging for array index out of range errors.

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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 Object Oriented Programming.
- How to store data locally.
- How to incorporate third party libraries and how to display Heads Up Displays (HUDs).
- How to refactor code and stay organised.
- Learn about class initialisation.
- How to programmatically change UI elements such as Labels and Views.
- Start thinking about data encapsulation and how to keep your data safe from corruption.

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.
- Understanding what Xcode needs in order to correctly layout a design.
- How to use stack views to easily layout your UI.

INTERMEDIATE SWIFT PROGRAMMING

- Understand Classes and Objects.
- Learn about Properties.
- How to create and use Enumerations (Enums).
- Learn the difference between Functions and Methods.
- Learn about Inheritance and the override keyword.
- Learn about Initialization, including Designated and Convenience Initializers.
- Understand Optional Types, Forced Unwrapping, Optional Binding and Optional Chaining.

NETWORKING, APIS AND THIRD PARTY LIBRARY DEPENDENCY MANAGERS

- How to use CocoaPods to manage and use open source code libraries.
- How to use the Command Line on Mac with Terminal.
- Learn about Networking calls.

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- Use public web-based APIs to fetch data.
- How to parse data organised in JSON format.
- Learn about Core Location and utilising the iPhone's inbuilt GPS.
- Learn about navigation between View Controllers using Segues.
- Introduction to Delegates and Protocols.
- How to pass data between View Controllers.
- Learn and use Swift Switch statements.

THE COMMAND LINE AND TERMINAL

- How to use basic bash commands in the Unix Terminal.
- How to manipulate files and folders without needing a graphical user interface.
- How to download and install to your computer using command line.

CLOUD BASED BACKEND (FIREBASE), USER AUTHENTICATION AND TABLEVIEWS

- How to integrate third party libraries in your app.
- How to store data in the cloud using Firebase.
- How to query the Firebase database.
- How to use Firebase for user authentication.
- How to work with a UITableView.
- How to use custom cells in a Table View.
- How to embed View Controllers in a Navigation Controller and understanding the navigation stack.
- How to create Segues for navigation.
- How to make custom .xib files to modify native design components.
- Using Grand Central Dispatch to queue asynchronous tasks.

GIT GITHUB AND VERSION CONTROL

- Using git for version control and collaboration
- Git forking, branching and cloning
- Using GitHub as a remote repository
- Checkout and rolling back changes with git
- Using git and GitHub with Xcode

PERSISTENT STORAGE SOLUTIONS

- How to use UserDefaults and plists
- How to use the Codable Protocol to save to file
- How to use Core Data for relational data management
- How to use Realm as a modern database solution

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IN-APP PURCHASES AND APPLE STOREKIT API

- How to integrate the Apple StoreKit API into your app
- How to charge once only and subscription payments for apps
- How to test using Sandbox accounts

MACHINE LEARNING ON IOS, COREML AND CREATEML

- Introduction to machine learning
- CoreML - Using pre-trained machine learning models for image recognition
- Using IBM Watson Bluemix and Carthage for intelligent iOS apps
- Advanced CoreML - Converting a model from Caffe to MLModel
- CreateML - Creating your own image recognition model
- Advanced CreateML - Create a Twitter sentiment analysis machine learning model using natural language processing (NLP) tools from CreateML.

AUGMENTED REALITY ON IOS AND ARKIT

- Introduction to augmented reality, ARKit and SceneKit
- Creating 3D objects and text in AR
- Animations in AR
- Plane detection
- Measuring real world distances in AR
- Image recognition and tracking in AR
- Rendering 3D models on tracked images
- Playing videos in real world tracked images

PUBLISHING TO THE APP STORE

- Familiarising with App Store Connect
- How to write the app listing
- Apple TestFlight
- Submitting your app for review

MOBILE APP DESIGN

- Colour Theory
- Typography
- Mobile User Interface (UI) design fundamentals
- Mobile User Experience (UX) design fundamentals
- iOS vs. Android design differences
- How to use Sketch, Marvel to design your app mockup
- Design resources

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MOBILE APP MARKETING

- Idea validation and MVP
- App monetisation models
- Optimising the app store listing
- Growth hacking techniques for app downloads
- How to get press coverage for your app
- How to get your app featured on the app store
- App Store Optimisation (ASO) how to rank on the app store search engine
- How to use paid advertising to get more customers
- Improving your app store ratings and reviews
- App analytics
- Black hat vs. white hat techniques for app marketing
- How to build a app showcase website



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