



IOS Development

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PICK A LANGUAGE

OBJECTIVE-C

- Interoperability with Swift
- Objective-C Basics

SWIFT (RECOMMENDED)

- History and Why Swift?
- Benefits over Objective-C
- Swift Basics



iOS Architecture

MEDIA

- Core Graphic
- Core Animation
- AV Foundation
- Core Image
- Core Audio
- Metal



CORE PROGRAMMING CONCEPTS

- ▶ OOP
- ▶ Functional programming
- ▶ Memory management
- ▶ View Controller lifecycle
- ▶ Error handling
- ▶ Concurrency (GCD, `async/await`)



VERSION CONTROL

- ▶ Git
- ▶ GitHub





App Components

Xcode

SETTING-UP

- ▶ Installing
- ▶ Preferences
- ▶ New Project

NAVIGATING

- ▶ Interface overview
- ▶ Toolbar
- ▶ Navigators
- ▶ Editors
- ▶ Project Files
- ▶ Groups





App Components

Xcode

DEBUGGER

- ▶ Breakpoints
- ▶ Debug Navigator
- ▶ Stepping

INTERFACE BUILDER

- ▶ Interface Builder
- ▶ IBOutlets
- ▶ IBAction
- ▶ Auto Layout





App Components

UIKit

UI KIT BASICS

- ▶ Components
- ▶ Views
- ▶ View Controllers
- ▶ View Controllers

BUILDING SIMPLE UIS

- ▶ Basic Interfaces
- ▶ Storyboard
- ▶ Xibs
- ▶ Navigation
- ▶ View Transitions





Interfaces & Navigation

UI DESIGN



HIG





INTERFACES & NAVIGATION

UIKIT

- Views and View Controllers
- Navigation Controllers and Segues
- Pushing Presenting
- Modals and Navigation





INTERFACES & NAVIGATION

SWIFTUI

- Navigation Stack
- Navigation View
- Navigation Link
- Presenting / Dismissing views





INTERFACES & NAVIGATION

CORE ANIMATION

- ▶ Basics / Creating Animations
- ▶ Lottie



Design Architecture

ARCHITECTURAL PATTERNS

- Model-View-Controller (MVC)
- Model-View-Presenter (MVP)
- Model-View-View Model (MVVM)
- The Composable Architecture (TCA)
- VIPER (View, Interactor, Presenter, Entity, Router)





Design Architecture

REACTIVE PROGRAMMING

► Combine

- Publishers / Subscribers
- Operators & Pipelines
- Operators and Pipelines
- Combine and MVVM

► RxSwift

- Observables and Observers
- Subjects
- operators
- Schedulers
- RxSwift with MVVM





Pattern and Techniques

DELEGATE PATTERN

- Implementing delegates





Pattern and Techniques

CALLBACKS

- ➤ Closures
- Understanding and using Closures
- Capturing Values & Memory Mgmt.
- Callback Hell



Async / Await

▶ Concurrency





Storage

DATA PERSISTENCE

- Core Data

- Understanding and using Closures
- Capturing Values & Memory Mgmt.
- Callback Hell





Storage

JSON / XML



Parsing





Storage

NETWORKING

- ➤ HTTP/HTTPs
- ➤ REST
- ➤ GraphQL
- ➤ URL Session
- ➤ Alamofire





Asynchronism

CONCURRENCY AND MULTITHREADING

- ▶ Operation Queues
- ▶ Grand Central Dispatch (GCD)





Asynchronism

DEPENDENCY MANAGERS

- ➔ Swift Package Manager
- ➔ CocoaPods
- ➔ Carthage





Asynchronism

FRAMEWORKS AND LIBRARIES

- ➤ XCFramework
- ➤ Static libraries
- ➤ Dynamic libraries





COMMON SERVICES

Frameworks

- ➤ ARKit
- ➤ HealthKit
- ➤ GameKit
- ➤ MapKit
- ➤ Core ML





LINTING

CODE QUALITY TOOLS

- ➔ Swift Format
 - ➔ Tailor
 - ➔ SwiftLint





DEBUGGING

CODE QUALITY TOOLS

- ➤ Xcode Debugger
- ➤ Profiling Instruments





TESTING

TEST PLAN & COVERAGE

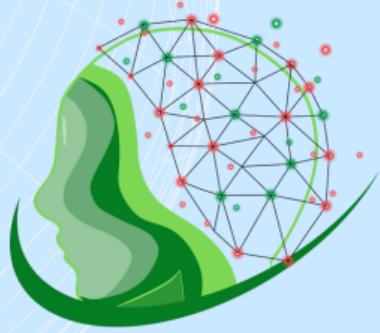
- ➤ XCUITest
- ➤ XCTest
- ➤ Unit and UI testing



APP DISTRIBUTION

- ▶ App Store distribution
- ▶ TestFlight
- ▶ App Store Optimization (ASO)





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