SwiftUI Essentials

Training Syllabus

Course Overview

If you want to learn how to write applications that use SwiftUI and run on the iPhone, iPad, and macOS, this 4-day course is just what you need. In just four days, we'll have you building your first Apple platform applications using SwiftUI.

Who Should Take This Course

- Existing developers who want to learn Apple platform development.
- Existing UIKit developers who want to learn SwiftUI.
- Students should already be familiar with basic programming concepts: variables, statements, functions, arrays, data structures and common programming problems.
- Students should be comfortable with the Swift programming language.

Prerequisites

- For iOS & Swift courses, students need a Mac running macOS Monterey 12.5 or later with Xcode 14 installed prior to starting class.

Syllabus

Day 1

- Learn how views are composed in SwiftUI
- Customize the appearance and behavior of views using modifiers
- Leverage previews to quickly iterate on and verify interface correctness
- Arrange views linearly using stacks
- Learn how SwiftUI sizes and positions views
- Manage view and application data flow using State and Binding

Day 2

- Create paginated interfaces using tab views
- Display collections of dynamic content
- Present modal interfaces
- Use forms to group controls used for data entry
- Create a scrolling interface of repeated content using lists
- Persist simple object graphs to the file system

Day 3

- Use navigation to create drill-down interfaces
- Adapt interfaces based on user preferences such as preferred text size and color scheme
- Create multiplatform applications that are customized for iOS, iPadOS, and macOS
- Use Swift Package Manager to bring external code into a project
- Interoperate between SwiftUI and UIKit code

Day 4

- Organize content into grids
- Interact with live APIs to fetch and display external information to the user
- Parse JSON data into Swift model objects
- Understand how property wrappers and view builders work

SwiftUI Basics

- Navigate Xcode, Apple's IDE for developing iOS applications
- Learn how views are composed in SwiftUI
- Modify the appearance and behavior of views using modifiers

Containers

- Arrange views linearly using stacks
- Create paginated interfaces using tab views
- Organize content into grids
- Use forms to group controls used for data entry
- Create a scrolling interface of repeated content using lists

Data Flow and Persistence

- Manage data source of truth using state and bindings
- Learn how the file system is organized
- Use archiving to persist simple object graphs to the file system
- Leverage the SwiftUI Environment to work with modal interfaces

Adaptivity

- Customize the appearance of multiplatform applications so they look great on iOS, iPadOS, and macOS
- Adapt interfaces based on user preferences such as preferred text size and color scheme
- Scale interfaces based on the available space

Modules

- Use Swift Package Manager to bring external code into a project
- Interoperate with UIKit views

Web Services

- Interact with live APIs to fetch and display external information to the user
- Parse JSON data into Swift model objects