Swift for iOS Developers

THE SWIFT LANGUAGE

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What is Swift?

- A new programming language created by Apple
- Announced at WWDC June 2014
- Was in development for 4 years before announcement
- Currently on version 2.0 – Xcode 7.x is needed

Swift – the Details

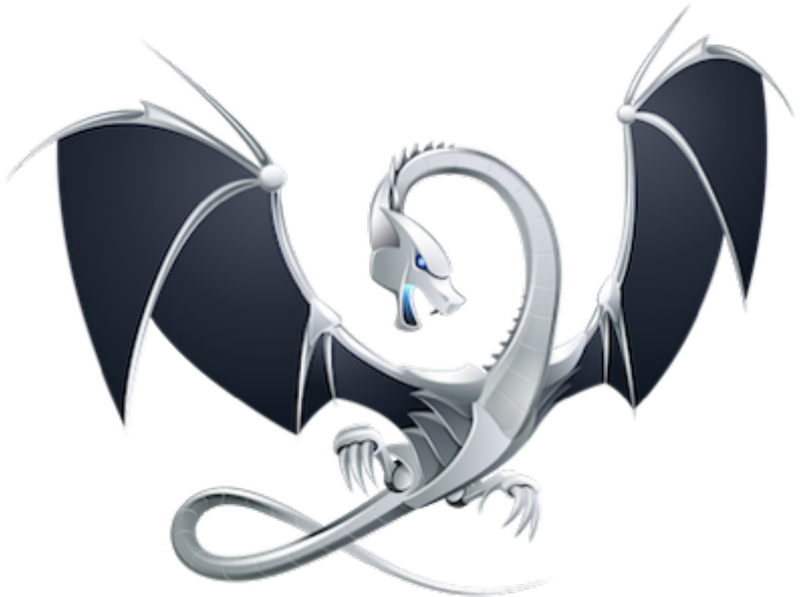
- A multi-paradigm programming language
- Compiles to native code appropriate for targeted CPU (e.g. arm64, i386)
- Integrates with existing Cocoa and Cocoa Touch libraries

Why Not Just Improve Objective-C?

- Objective-C is 30+ years old
- Hard for Apple to continue to improve it incrementally when it has its roots deep in C
- At any point, an Objective-C code file can contain legal C code
- Hard to make language and compiler improvements because of C and the attachment to the GCC

Enter LLVM

- LLVM – open source compiler technology sponsored by Apple
- New modularized compiler chain
- Designed to integrate into modern IDEs and debuggers



Swift Goals

- A language with modern language syntax and features
- Type safety
- Speed – compiler optimizations not possible with ObjC because of its compatibility with C
- Strong compatibility with existing frameworks and Objective-C code

How to Use Swift?

- xcrun swift – to run the Swift REPL command line
- Playgrounds – new Xcode “project” that enables you to experiment with Swift in a more visually interactive format
- Traditional Xcode projects can now pick Swift as a language

Swift and Objective-C inter-op is first class, but Swift has many features that Objective-C doesn’t.

Internal Code – Outside Code

Swift has many incompatible Objective-C Features

But much of your code doesn't need to interact with Objective-C, and is "internal" to your project

Code that works with Frameworks and existing Objective-C code is limited

This code is more on the "outside" edges of your project

Basic Project Approaches

Swift from the ground up

You can use all of Swift's features

Adding Swift to an existing project

Swift features inside of Swift code, some features not useful when bridging with Objective-C

Significant Swift Features

var and let

optionals

functions

tuples

collections/
generics

enumeration

Summary

Swift is the new language from Apple

Get on board sooner rather than later

Keep a different mindset for pure Swift versus Swift Objective-C interop