



# iOS Development

iOS, Xcode, Cocoa Touch and iOS Devices

[ElectronicArmory.com](http://ElectronicArmory.com)

# Reading

[Get Started Developing iOS Apps](#)

[Swift iBook](#)

[Electronic Armory](#)

[Electronic Armory Facebook Page](#)

# References

[Apple Developer Portal](#)

[Swift API Design Guidelines](#)

# Free Tutorials

[Lynda.com](https://www.lynda.com)

Anyone with a Boise Public Library Card:

[Free Lynda.com account](#)

# Introduction to Cocoa Touch

Objective-C is a very thin superset of C

Anything you can do in C, you can do in Obj-C

Cocoa Touch is what adds all the collections, data types, and functionality, and views

# NS vs UI

NS stands for NextStep

UI is the class prefix for iOS specific classes

Apple is working on removing NS from its classes and constants in Swift 3

# Foundation vs UIKit

Foundation is all the

- core collections (NSArray, NSDictionary)
- data structures (NSString, NSURL, NSNumber)
- functionality (NSNotificationCenter, NSOperationQueue)

# Foundation vs UIKit

UIKit is all the iOS specific UI elements:

UIButton

UIView

UIColor

UILabel



# NS-classes Examples (Obj-C)

NSString

NSArray

NSDictionary

NSData

# NS-classes Examples (Swift 4)

~~NSString~~

~~NSArray~~

~~NSDictionary~~

~~NSData~~ (Changed in Swift 3)

# UI-classes Examples

UIImage and UIImageView

UIViewController and UIView

UITableView and UITableViewController

UIColor

# Mutability (Obj-C)

NSString -> NSMutableString

NSArray -> NSMutableArray

NSDictionary -> NSMutableDictionary

NSData -> NSMutableData

# Mutability (Swift 4)

Immutable: `let String`

Mutable: `var String`

Immutable: `let Array`

Mutable: `var Array`

Immutable: `let Dictionary`

Mutable: `var Dictionary`

Immutable: `let Data`

Mutable: `var Data`

# iOS Devices

iPad - iPad Mini, iPad, iPad with Retina, iPad Air 1&2, iPad Pro

iPhone - iPhone 3.5", iPhone 4" and  
iPhone 4" 64-bit, iPhone 4.7", iPhone 5.5"

<http://iosres.com>

<https://www.paintcodeapp.com/news/ultimate-guide-to-iphone-resolutions>

# Device Capabilities

GPS, Geofencing

Accelerometer

Maps

Microphone

Wi-Fi

Internet

Bluetooth (LE on iPhone 4S+)

Camera

# OS Versions and Differences

iPhone OS 1 - Based on OS X

iPhone OS 2 - App Store

iPhone OS 3 - Copy & Paste, MMS

iOS 4 - Multitasking, iPad

iOS 5 - Siri

iOS 6 - Apple Maps

iOS 7 - UI Enhancements

iOS 8 - Touch ID, PhotoKit, Camera API, HealthKit, HomeKit, ResearchKit, CloudKit, SpriteKit, SceneKit, Metal

iOS 9 - OS improvements, in-app multitasking, night shift, car play, quicktype

iOS 10 - Stickers, message bubbles, SiriKit, HomeKit, rich notifications



# OS Versions and Differences

iOS 11 - ARKit, Automatic Setup, Document Scanning In Notes, Files App For iPad, Indoor Maps / Lane Guidance, Inline Drawing And Instant Markup In Notes Using The Apple Pencil, iPad Multitasking, Live Photo Editing Options

# Swift

“Swift is a general-purpose programming language built using a modern approach to safety, performance, and software design patterns.”

[Not just for iOS, NodeJS-like webserver in Swift](#)

# **Git, Xcode and Playgrounds**

Demo