

Academy for iOS App Development

Introduction



The Evolution of Mobile Computing

- Mainframes
- Minicomputers - fridge-size
- PCs - desktop and deskside
- Laptops and tablets
- Phones and PDAs
- Apple Watch and other wearable computers
- Virtual and augmented reality
- Coming up: devices embedded in our bodies

The Internet of Things

1999:

- Referred to “tagging things”
- Idea was to equip everything with machine-readable information

Now:

- Term applies to more than just stored information
- Really means devices connected to the Internet with varying amounts of computation abilities
 - Smaller
 - More powerful
 - Less expensive
 - More connected
- Amazon Echo

IP addresses

An **IP address** is a number assigned to each device on the Internet.

- "Old-style IP addresses" (IPv4) look like "128.101.68.110"
- $2^{32} = 4,294,967,296$ combinations (in practice, much fewer, because some are reserved)

According to Statista, a global research company, there are over 33.3 billion devices on the Internet, and it is projected there will be over 50 billion by 2029.

IPv6: new standard as of 2017

- Look like "2001:0db8:0000:0000:0000:ff00:0042:8329"
- $2^{128} = 340,282,366,920,938,463,463,374,607,431,768,211,456$ combinations (enough to assign an IP address to each atom on the surface of the earth)

What you will need to participate in this Academy:

- Ready access to a Mac computer
- Experience with an object-oriented programming language, such as C++, Java, or Python
- Xcode (Apple's free IDE): hopefully, you already have it installed on your Mac
- An ability to teach yourself: initiative, diligence, and patience!

What you will not need:

- An iPhone or iPad
- An Apple Developer's license

What we will cover in this academy:

- Xcode
- Swift
- User Interface Essentials
- Some iOS frameworks (audio, graphics, etc.)

What we will not cover:

- How to use a Mac
- Programming concepts (basic, object-oriented)
- Objective-C
- Android
- *Everything* you can do in iOS
- How to publish your app on the App Store

Swift

- Swift is a (relatively) new programming language created by Apple for developing OS X and iOS applications.
- The intent was to take the best of C and Objective-C, and not worry about C compatibility.
- Swift is considered easier to learn than C++.
- Swift "feels like Python": it contains several features that make programming more productive
- Swift is definitely the future of iOS programming, but Objective-C is here to stay
- Knowing both would give you an edge for employment opportunities after graduation