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 Gartner, the number of devices on the IoT will reach over 46 billion in 2021, triple of what it was in 2016.

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 <u>definitely</u> the future of iOS programming, but Objective-C is here to stay

- Knowing both would give you an edge for employment opportunities after graduation