WEEK-5
MOBILE DEVELOPMENT ESSENTIAL
(Android and iPhone platforms)

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Outline

1. Reflection on OS choice
2. Development Requirements & Programming Languages
3. Tutorial Resources
4. Development options (models)

Reflection on Operating System Choice

A **mobile operating system** is an operating system for mobile phones, tablets, smartwatches, 2-in-1 PCs, smart speakers, or other mobile devices. While computers such as typical laptops are 'mobile', the operating systems used on them are generally not considered mobile ones, as they were originally designed for desktop computers that historically did not have or need specific *mobile* features. This distinction is becoming blurred in some newer operating systems that are hybrids made for both uses.

1. Android Mobile operating system

Android is a mobile operating system based on a modified version of the Linux kernel and other open source software, designed primarily for touchscreen mobile devices such as smartphones and tablets.

Unlike Apple's iOS, Android is open source, meaning developers can modify and customize the OS for each phone. The name "Android" comes from the term android, which is robot designed to look and act like a human.

2. iPhone Operating System

The abbreviation IOS (typed iOS) means "Internet Operating System" or "iPhone Operating System." It is the operating system used on Apple products, such as the iPhone, iPad, and iPod touch.

Application Development Overview

- Mobile applications, or apps, are developed specifically for the mobile platform that they will be running on.

They are typically either:

  - iOS or Android, as they have the largest user base.

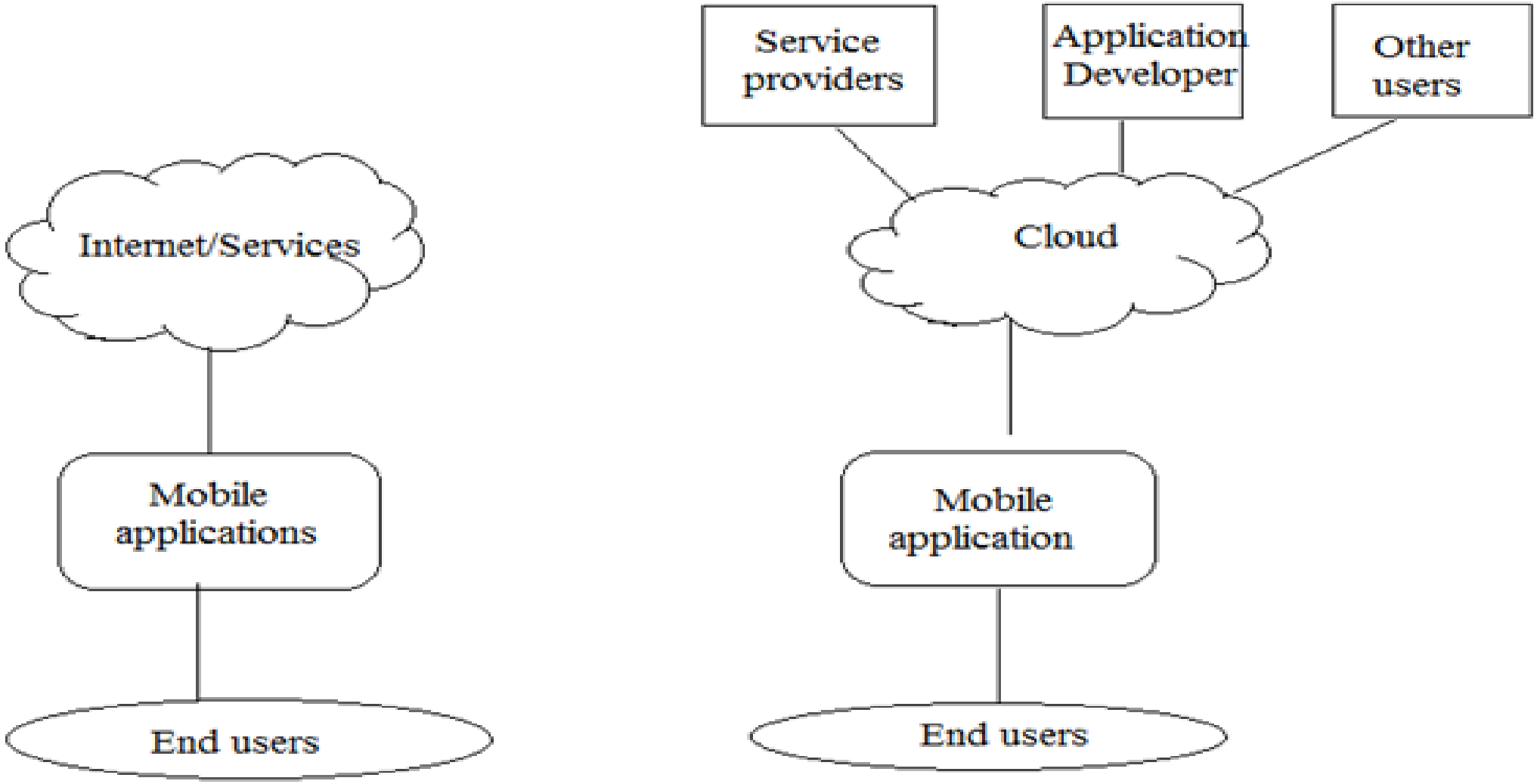
- Both platforms offer similar development tools and require the same technical effort to design.

- Choosing to build on iOS vs. Android is generally based on preference and what language is most comfortable to the developer.

Developing with iOS vs. Android

	iOS Apple	Android
Devices	iPhone, iPad, Apple Watch, Apple TV	Samsung, HTC, LG, & Moto phones, Android Wear Watch, Samsung Tablets, Smart TVs
Programming Language	Swift or Objective-C	Java or C++
Development Tools	Cocoa Touch	Android Software Development Kit
Integrated Development Environment (IDE)	Xcode	Android Studio, Android SDK

Two Major Development Options



(a) Old model

(b) New model

Side by side comparison of each of the platforms biggest benefits

iOS	Android
Higher app revenue	Higher ad revenue
Fewer lines of code	Fewer requirements for development
Dedicated user base	Biggest market share

Resources

- There are many great resources to help you get started.
  - For iOS: Apple Developer - free online resource provided by Apple, which contains starter guides, tutorials, videos, and documentation.
  - For Android: Android Developer - a series of free articles that walks you through how to make your first app, starting with the basics.

Learning Application Development

- Once you have identified which platform you wish to master, dive deep into learning with
  - Apple Mobile Application Development Certificate or
  - Android Mobile Development offered by Continuing Professional Education at NJIT.

Mobile Development Languages

- **For Android Native Applications**
  - Java
  - Kotlin
- **For IOS Native Applications**
  - Objective C
  - Swift
- **For Hybrid or Cross-Platform Applications**
  - React Native
  - Appcelerator
  - Cordova/PhoneGap
  - Flutter & Dart (By Google)

NB: Read more on this from https://buildfire.com/programming-languages-for-mobile-app-development/

THANK YOU