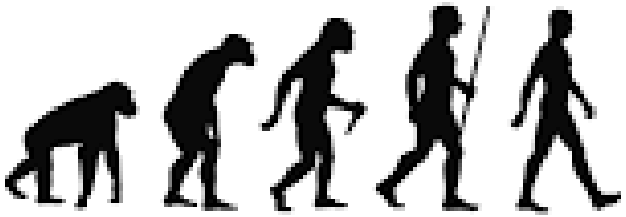
ĐẠI HỌC ĐÀ NẴNG
TRƯỜNG ĐẠI HỌC CÔNG NGHỆ THÔNG TIN VÀ TRUYỀN THÔNG VIỆT - HÀN
Vietnam - Korea University of Information and Communication Technology

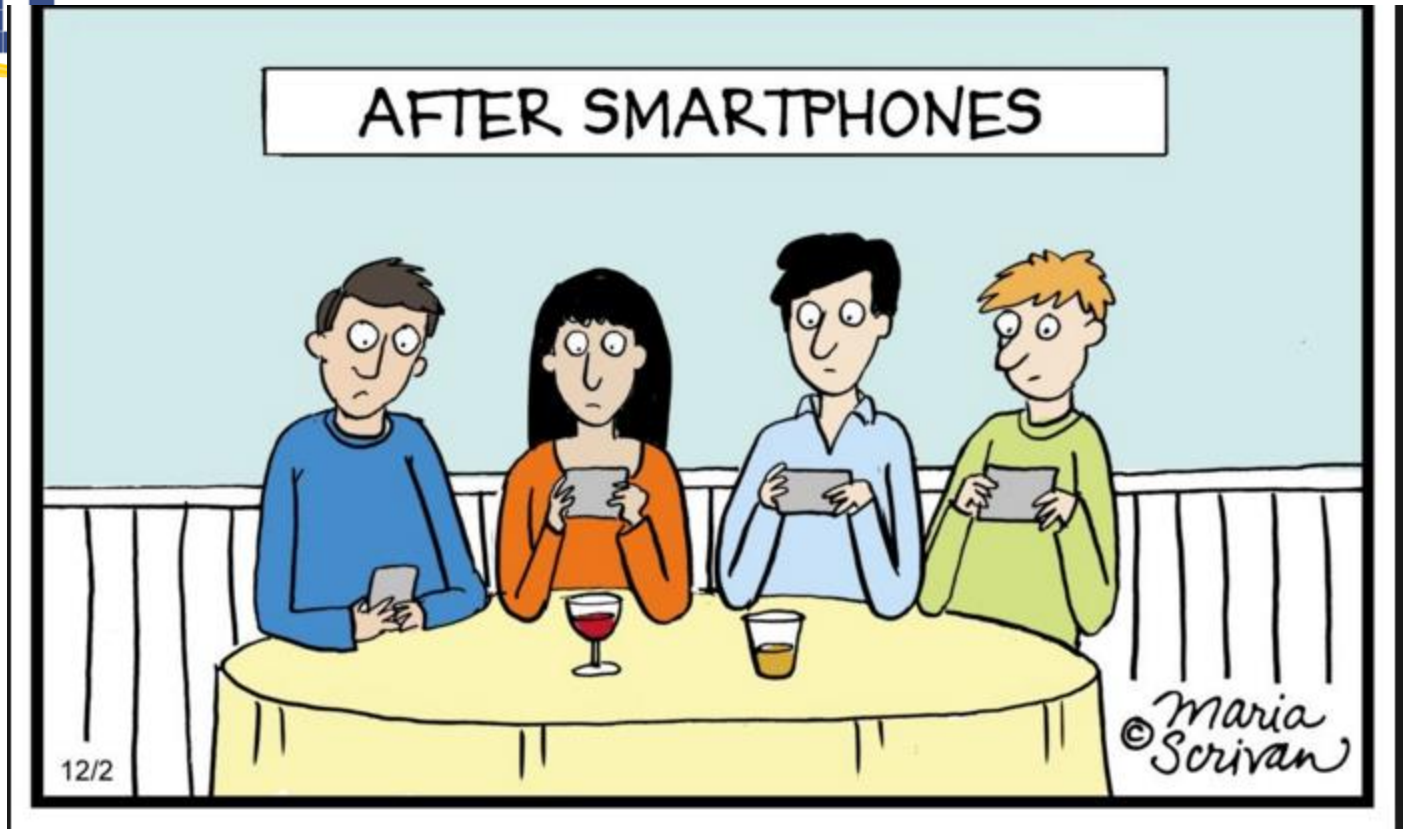
Chapter 1. Introduction to Mobile Application Development

Millions of apps ….

How is humanity evolving?




BEFORE SMARTPHONES
HOW OLD IS BARBRA STREISAND?
I THINK SHE'S 71
REALLY? WOW!
WHO'S BARBRA STREISAND?
mariascrivan.com gocomics.com/half-full


AFTER SMARTPHONES
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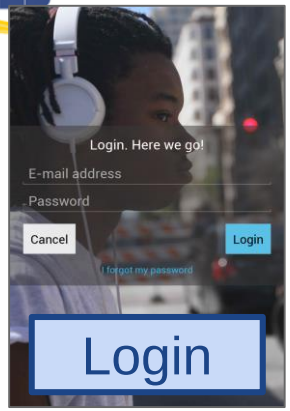
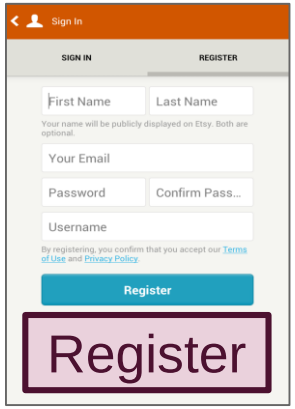
Common app views

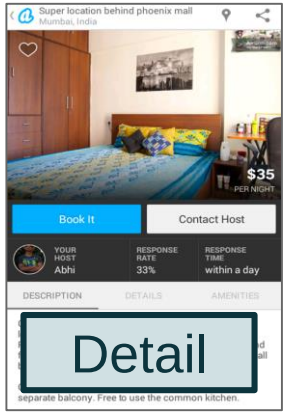


Login



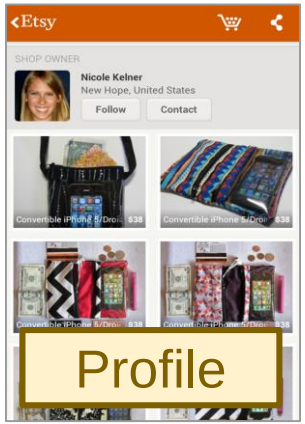
Register

Stream

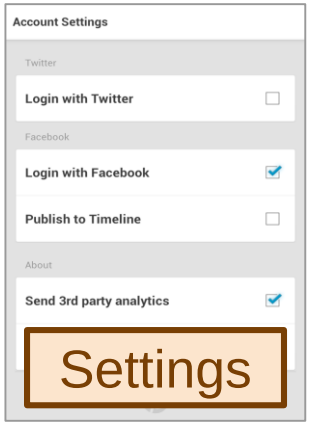


Detail

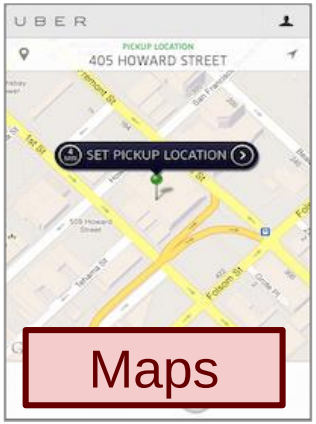
Creation



Profile

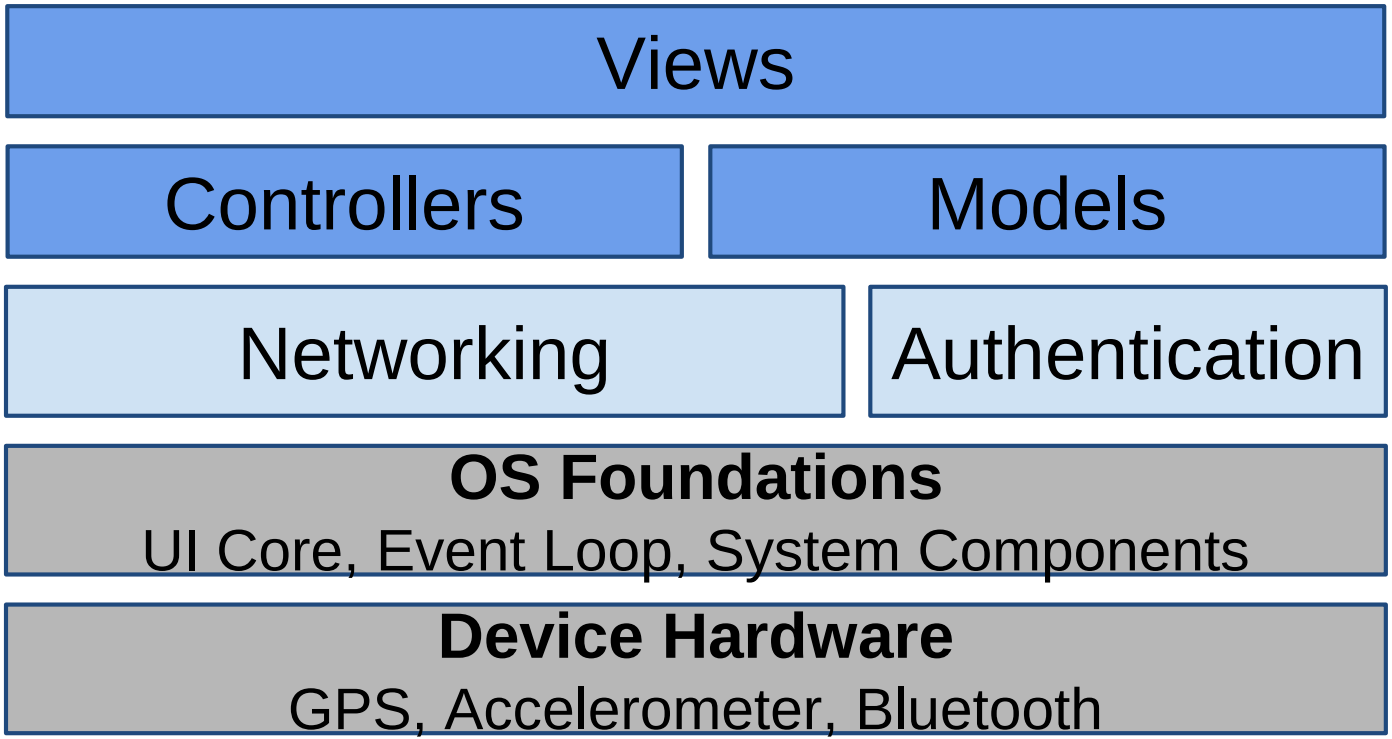


Settings



Maps

Mobile app architecture



Major Mobile Operating Systems

Android:
- ✓ World's most widely used Mobile OS
- ✓ Based on Linux kernel
- ✓ Developed by Android Inc; bought by Google in 2005
- ✓ Open source (released under Apache license)
- ✓ Language: Java, Kotlin

iOS:
- ✓ Apple Inc's mobile version of the OSX operating system
- ✓ Originally released in 2007 for use on the iPhone, now expanded to include an array of mobile devices
- ✓ Licensed for Apple products only
- ✓ Language: Swift

Blackberry OS:
- ✓ Original version developed by Blackberry Ltd for its Blackberry devices
- ✓ Current version (>=10) based on QNX mobile OS, acquired by Blackberry Inc in 2010
- ✓ Language: many options (including an Android runtime layer!)

Windows Phone:
- ✓ Developed by Microsoft
- ✓ Succeeded Windows Mobile in 2010
- ✓ Language: C/C++

Why Android?

This course will explore the development of software for mobile operating systems using the **Android** platform.

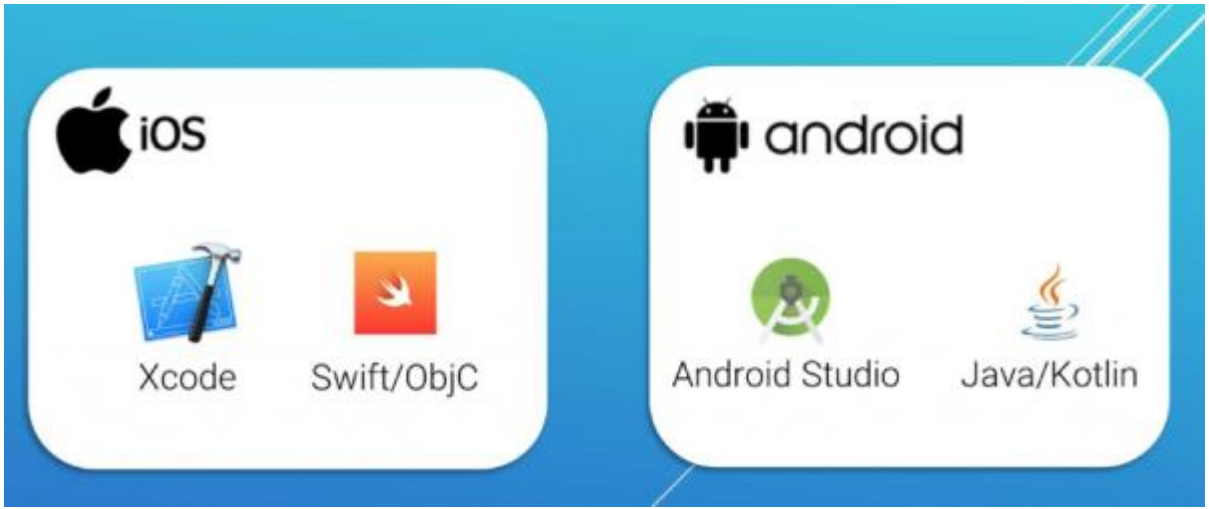
- Most popular Mobile OS in the world today
- Open source code based on the Linux kernel
- Develop on any major OS
- Several IDE options:
  - Android Studio
  - SDK Plugins for open-source Eclipse IDE
  - note: iOS requires the use of the XCode IDE running in OSX
- No special hardware requirements
- Android emulator (AVD) available for testing
- No need to sign up for an account to test on actual hardware

Why Kotlin?

- Recommended language for Android development since May 2019
- Modern statically typed language
- Less "boiler-plate" code needed, easy to read
- Builds on your current knowledge base of object-oriented programming in Java

Native apps

Native applications are smartphone apps specifically designed for a particular operating system—iOS or Android. This is what comes to mind most when we think of mobile apps. They are downloaded from the App Store or Google Play and installed on a device



Web-Based Apps

Web-based applications are websites optimized for mobile browsers. They are solely developed to be accessed via a web browser. They can run in multiple browsers, such as Chrome or Safari, and are written in JavaScript and HTML5.

Hybrid Apps

Hybrid applications combine features of both native and web apps. They can be accessed via a web browser and downloaded from app stores. They are written in HTML5 and JavaScript, like web apps. For the most part, they are web pages wrapped in a mobile app using WebView. However, they also have access to the built-in capabilities of a device. They are built using cross-platform frameworks like React, Ionic, Sencha and Xamarin.