Xamarin.Android Level 1 Introduction

Xamarin Official Curriculum

Xamarin Inc.

Overview

Android was announced in 2007 as an operating system for touchscreen mobile devices. It is based on the Linux operating system and is developed by Google under the open source Apache License. As of 2012, Android is the largest mobile platform in the work with a very rich and diverse ecosystem. There are over 1100 different devices that run Android, and multiple markets and venues to distribute Android applications. As an example, consider the following:

- Google - Google Play is a large, publically accessible market supporting the prolific Android powered smart phones and tablets that are now available.
- Amazon - Amazon now has an ecosphere centered around it's own app store and the Amazon Fire, which is an Amazon-branded Android device.
- Barnes & Noble - Barnes & Noble offers the Nook HD with it's own app store.
- U.S. Dept. of Defense - The U.S. military is embracing Android with their own secured version while the U.S. Army maintains it's own market place for Android applications.

This Android Module, Level 1 introduces and explains the core application concepts needed to develop Android applications using Xamarin.Android. It contains step by step walkthroughs for creating applications that illustrate the concepts, and then comprehension is tested with quizzes at the end of each section. Android Level 1 is intended to be a stand-alone module that provides the basics necessary for building Android applications, however, the knowledge presented in both Level 1, and Level 2 is necessary in order to pass the *Xamarin Certified Android Developer Certification* test, as well as prepare them for the more general *Xamarin Certified Mobile Developer Certification*.

The following topics will be covered in this module:

- Hello, World – This chapter introduces the default Xamarin.Android application template and walks through creating the ubiquitous "Hello, World" application for Android.
- Building Multiscreen Apps – This chapter builds on the Hello, World application and walkthrough and illustrates how to create an application with multiple screens. Along the way, it introduces two core building blocks of Android applications; Activities and Intents.
- Activity Lifecycle – This chapter discusses the various stages and states that an Android user interface goes through during its lifetime, and how to code applications so that they're reliable and well behaved.
- Introduction to Resources – This introduces basic use of resources such as images and layouts in your application. It also provides a basic introduction in how to support multiple screen sizes and densities as well as provide localization.

- ➔ Creating User Interfaces with Layouts – Several of the most common UI widgets/controls are introduced in this chapter.
- ➔ ListViews and Adapters – *ListViews* are an important UI component that provide a simple way to provide scrolling lists of customizable rows. An *Adapter* is a object that acts as a bridge between a ListView and it's underlying data source. This chapter introduces both of these concepts and walks through using them in applications.
- ➔ Tabbed User Interfaces – This chapter discusses the various ways of creating tabbed user interfaces using components such the *TabActivity*.

After finishing Module 1, you will understand the fundamentals of an Android application and will possess the skills necessary to begin building apps on your own. These skills will be improved and expanded in Android Module 2. Once Module 2 is completed, you will not only have a solid grasp on the advanced concepts and will possess the skills necessary to tackle nearly app, but you'll also be prepared for the Xamarin Certified Android Developer certification test.