ANDROID APPLICATION DEVELOPMENT & PROGRAMMING

Course number : 129

Overview

Expand your mobile app reach through this Android development and programming training course. Android's open source platform offers compatibility with a wide range of devices, which provide global access to the mobile market. Revolutionize your organization by delivering robust business applications for Android phones and tablets and integrate them with enterprise systems.

What you'll learn

- Deliver robust mobile business applications and integrate them with enterprise systems
- Create intuitive, reliable software using activities, services, and intents
- Design UIs that work seamlessly with a range of phones and tablets
- Integrate applications with enterprise web and location-based services

Who should attend

Pre-requis

- Java experience at the level of:
  - [Course 103](), Java Programming Introduction

RECOMMENDED EXPERIENCE:

- One year of practical, hands-on experience with Java is recommended
- Extensive experience with C# is acceptable in the absence of Java

SOFTWARE:

- This course runs on Windows systems using the Android Emulator
- The course exercises run under Android 6.0 (MarshMallow), but the majority of the material in the course is appropriate to building applications on earlier Android versions, including 2.3.x (Gingerbread)
- The course features coverage of how to create applications which exploit the latest operating system features while still working on an older release

Outline

Introducing the Android Platform

- Establishing the development environment
- Analyzing components of the architecture

Building mobile applications

Leveraging Application Fundamentals

- Creating activities to process user input
- Implementing views to build the User Interface (UI)
- Packaging applications for deployment
- Developing unit tests

Supporting asynchronous behavior

- Performing background tasks with services
- Communicating with intents

Creating User Interfaces

Selecting visual components

- Building the layout
- Connecting a view to an activity
- Positioning form elements

Working with resource declarations

- Declaring component definitions and layouts
- Handling multiple screen resolutions
- Localizing applications

Processing User Input

Communicating with the user

- Creating and displaying Toast
- Generating status bar notifications

- Logging key application events

Interacting with the UI

- Responding to user input events
- Launching activities with intents
- Writing Java event handlers
- Generating context and option menus

Managing the activity life cycle

- Integrating with the Android system
- Persisting data in response to notifications

Persisting Application Data

Selecting storage options

- Contrasting internal and external storage locations
- Saving application configuration with SharedPreferences

Manipulating the SQLite database

- Executing queries to locate information
- Specifying column selections with projections

Consuming and creating content providers

- Accessing shared data resources
- Addressing content providers with URIs

Maintaining System Responsiveness

Avoiding Application Not Responding (ANR) errors

- Unloading the UI thread
- Designing for asynchronous execution

Building background services

- Launching IntentServices
- Declaring services in the manifest

Exchanging Data over the Internet

Interacting with server-side applications

- Synchronizing Android devices with servers
- Communicating via HTTP clients

Developing clients for web services

- Connecting to RESTful services
- Creating and parsing JSON

Enhancing the User Experience

Incorporating the Action Bar

- Manipulating objects with drag and drop
- Supporting orientation and multiple screen resolutions with resources
- Combining fragments into a multi-pane UI

Leveraging geolocation and mapping capabilities

- Plotting positions on Google Maps
- Establishing location through GPS, Cell-ID and WiFi

Schedule

 Location Dates Status

Tuition

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