

Introduction to Programming for Android

JJD 302

Introduction

The main focus of this Android Programming course is to teach students how to develop the GUI for an Android based application. This Android Programming course is ideal for Java developers to get a quick entry into the Android platform.

Objectives

- The architecture of Android OS.
- Using the Eclipse based development environment.
- GUI development.
- Supporting multiple languages.

Audience profile

Developers and architects who will be developing applications for Android devices.

Prerequisites

Basic knowledge of Java. Familiarity with Eclipse is a plus but not necessary.

Faculty

Our team of highly qualified instructors combine training activities with the development of their profession as experts in the field of IT. Professionals certified by the major manufacturers capable of transferring an enjoyable and easy to understand technical concepts more abstract.

Documentation



Every student receive a copy of netmind's documentation.

Course Outline

CHAPTER 1. INTRODUCTION TO ANDROID

- What is Android?
- A Short History
- Advantages of Android
- Disadvantages of Android
- Q3 2011 Global Sales Figures
- 2011 US Only Market Share
- Android Carriers
- References
- Summary

CHAPTER 2. THE ARCHITECTURE OF ANDROID

- Key Components Stack
- The Kernel
- Libraries
- The Dalvik JVM
- Application Framework
- Applications
- Summary

CHAPTER 3. THE DEVELOPMENT ENVIRONMENT

- What Do We Need?
- Setting Up the SDK
- Install Eclipse Plugin
- Create a Virtual Device
- Creating a Project
- Running Your Application
- Android Hardware Buttons
- Run Configuration
- Debugging an Application
- Using Third Party JAR
- Creating Reusable Library
- Dalvik Debug Monitor Server (DDMS)
- DDMS Tools in Eclipse
- The Console Views
-

- Developing for Multiple Android Versions
- Summary

CHAPTER 4. APPLICATION FUNDAMENTALS

- Recapping The Basics
- Packaging an Application
- Application Reusability Architecture
- The Manifest File
- Activity
- Creating an Activity Class
- Activity Lifecycle
- Launching an Activity
- Pausing and Stopping an Activity
- Destroying an Activity
- Saving State
- Creating Views
- Registering an Activity
- The Default Activity
- Process Lifecycle
- The Application Class
- The Application Context
- Summary

CHAPTER 5. BASIC GUI PROGRAMMING

- The Fundamentals
- View Hierarchy
- Creating Views Programmatically
- Creating View in XML Layout
- More on XML Layout
- Common Programming Tasks with Views
- TextView and EditText
- Button
- CheckBox
- RadioButton and RadioGroup
- ToggleButton
- ImageView
- RatingBar
- Summary

CHAPTER 6. LAYOUT MANAGEMENT

- Background
- LinearLayout
- LinearLayout Orientation
- match_parent (fill_parent) Example
- Layout Gravity
- Weight
- TableLayout
- Managing the Width
- RelativeLayout
- RelativeLayout Example
- ScrollView
- HorizontalScrollView
- Summary

CHAPTER 7. RESOURCE MANAGEMENT AND LOCALIZATION

- Introduction
- Main Types of Resources
- Defining Value Resources
- Defining String Arrays
- Creating Image Resource
- Alternate Resource Folders
- Alternate Folder Name Rules
- How Android Finds Resources
- Dealing with Screen Orientation
- Orientation Change and Activity Lifecycle
- Developing for Tablets
- Basics of Localization
- Testing for Localization
- Loading Localized String from Code
- Summary

CHAPTER 8. INTENTS AND INTENT FILTERS

- What is an Intent?
- The android.content.Intent Class
- Explicitly Specifying Component's Class
- Example: An Activity Launching Another Activity
- Implicit Target Component Specification
- Intent Filters
- Data Type Filter
- Action Name
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- Category Name
- Hint Matching Logic
- Example Hint Matching – 1
- Example Hint Matching – 2
- Default Component of an Application
- Starting an Activity
- Getting Output from Activity
- Example of Launcher: ActivityA
- Example of Launched: ActivityB
- Pending Intent
- Summary

CHAPTER 9. APPLICATION MENU

- Introduction
- Defining Menu Items
- Menu XML File
- Option Menu
- Populating Menu Items from Resource
- Manipulating Menu Items
- Handling Menu Item Click Event
- Context Menu
- Showing a Context Menu
- Handling Context Menu Item Click
- Summary

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