

## Table of Contents

---

Terms of Use.....	3
Disclaimer.....	3
Contact Us .....	3
Other Courses.....	3
3 <sup>rd</sup> Party Copyrights .....	3
Instructional Videos.....	4
Living on the Edge!.....	4
Table of Contents.....	5
Before You Begin.....	9
Minimum Hardware and Software Requirements.....	9
Conventions Used in This Text .....	10
What You Will Learn and Do In This Course .....	11
What You Need to Know Before Starting.....	11
Getting Help.....	11
Course Errata .....	12
Chapter One: Introduction to Android Devices .....	13
Lesson One: Android Operating System.....	13
Lesson Two: Overview of Devices .....	15
Lesson Three: The Android Development Environment .....	17
Lesson Four: What You Will Learn In This Course.....	20
Activity: Install Course Software, Android SDK, and ADT Plug-in.....	21
Chapter Two: Using Eclipse with Android Tools .....	25
Lesson One: Creating Android Programs in Eclipse .....	25
Lesson Two: Examining Android Project Files .....	30
Lesson Three: Using the Android Virtual Device.....	32

## **TeenCoder™: Android Programming**

Activity: Hello, Android!	37
Chapter Three: XML Resources	39
Lesson One: XML Overview	39
Lesson Two: XML Rules and Special Characters	43
Lesson Three: Android XML	48
Activity: Creating your own XML Document	52
Chapter Four: Android Activities	53
Lesson One: Activity Screens	53
Lesson Two: Creating Activities	57
Lesson Three: Switching Between Activities	68
Lesson Four: Handling Explicit Intents	74
Activity: Hello, Again!	79
Chapter Five: Screen Layouts and Views	81
Lesson One: Android Units of Measure	81
Lesson Two: The Graphical Layout Editor	83
Lesson Three: Exploring Common Layouts	87
Lesson Four: Views and TextViews	94
Activity: Simple Whack-A-Mole	98
Chapter Six: Android User Input Controls	99
Lesson One: Text Input and Option Controls	99
Lesson Two: List Controls	104
Lesson Three: Spinners and Seek Bars	108
Lesson Four: Handling Different Devices and Languages	112
Activity: Whack-A-Mole Options	116
Chapter Seven: Android File System	117
Lesson One: Storing Preferences on a Device	117
Activity #1: Whack-A-Mole Options as Preferences	121
Lesson Two: Using Internal File Storage	122

## Table of Contents

Activity #2: Whack-A-Mole High Scores.....	128
Lesson Three: Accessing the SD Card.....	129
Activity #3: Whack-A-Mole SD Scores.....	136
Chapter Eight: Debugging and DDMS .....	137
Lesson One: Debugging Android.....	137
Lesson Two: Dalvik Debug Monitoring Server (DDMS) .....	140
Lesson Three: Emulator Limitations .....	144
Activity: Note-able Bugs .....	145
Chapter Nine: Displaying Images.....	147
Lesson One: Adding Image Resources.....	147
Lesson Two: The ImageView Control.....	150
Lesson Three: Horizontally Scrolling Images.....	152
Lesson Four: Launcher Icons, Button Images, and Activity Backgrounds .....	157
Activity: Photo Album.....	160
Chapter Ten: Dialogs.....	161
Lesson One: Anonymous Inner Classes.....	161
Lesson Two: Alert Dialogs .....	165
Lesson Three: AlertDialog Lists .....	172
Lesson Four: Date and Time Dialogs .....	174
Activity: Reminder Alarm .....	179
Chapter Eleven: Menus and Notifications.....	181
Lesson One: Implicit Intents.....	181
Lesson Two: User Notifications .....	187
Activity #1: Reminder Alarm Notification .....	195
Lesson Three: The Action Bar.....	196
Activity #2: Reminder Alarm Menu.....	200
Lesson Four: Context Menus .....	201
Activity #3: Reminder Alarm Context Menu .....	204

## **TeenCoder™: Android Programming**

Chapter Twelve: Messaging and Networking.....	205
Lesson One: SMS Messages .....	205
Lesson Two: Sending SMS Messages from an Application.....	208
Lesson Three: Using HTTP Networking.....	218
Activity: Weather Application.....	226
Chapter Thirteen: Creating Home App Widgets .....	227
Lesson One: Creating App Widgets.....	227
Lesson Two: Interacting with App Widgets .....	233
Activity #1: Weather App Widget.....	241
Lesson Three: Widget Configuration Activity.....	242
Activity #2: Weather App Widget Configuration.....	248
Chapter Fourteen: Final Project .....	249
Lesson One: Introducing “Maelstrom” .....	249
Activity One: Building the Activity Starter .....	251
Activity Two: Starting the Game .....	251
Activity Three: Handling Player Clicks.....	252
Activity Four: Swapping Sea Creatures.....	252
Activity Five: Adding a Timer.....	253
Activity Six: The Action Bar.....	253
Activity Seven: Saving and Loading Preferences .....	254
What's Next? .....	255
Index.....	257