Extracted from:

Hello, Android

Introducing Google's Mobile Development Platform, 3rd Edition

This PDF file contains pages extracted from *Hello*, *Android*, published by the Pragmatic Bookshelf. For more information or to purchase a paperback or PDF copy, please visit http://www.pragprog.com.

Note: This extract contains some colored text (particularly in code listing). This is available only in online versions of the books. The printed versions are black and white. Pagination might vary between the online and printer versions; the content is otherwise identical.

Copyright © 2010 The Pragmatic Programmers, LLC.

All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form, or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior consent of the publisher.

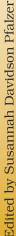
tringle kite

Hello, Android

Introducing Google's Mobile Development Platform

Third Edition

Ed Burnette







Many of the designations used by manufacturers and sellers to distinguish their products are claimed as trademarks. Where those designations appear in this book, and The Pragmatic Programmers, LLC was aware of a trademark claim, the designations have been printed in initial capital letters or in all capitals. The Pragmatic Starter Kit, The Pragmatic Programmer, Pragmatic Programming, Pragmatic Bookshelf, PragProg and the linking g device are trademarks of The Pragmatic Programmers, LLC.

Every precaution was taken in the preparation of this book. However, the publisher assumes no responsibility for errors or omissions, or for damages that may result from the use of information (including program listings) contained herein.

Our Pragmatic courses, workshops, and other products can help you and your team create better software and have more fun. For more information, as well as the latest Pragmatic titles, please visit us at http://pragprog.com.

Portions of the book's cover are reproduced from work created and shared by Google and used according to terms described in the Creative Commons 2.5 Attribution License. See http://code.google.com/policies.html#restrictions for details.

Gesture icons in Chapter 11 courtesy of GestureWorks (www.gestureworks.com).

The team that produced this book includes:

Susannah Davidson Pfalzer (editor) Seth Maislin (indexer) Kim Wimpsett (copyeditor) David Kelly (typesetter) Janet Furlow (producer) Juliet Benda (rights) Ellie Callahan (support)

Copyright © 2010 Pragmatic Programmers, LLC. All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form, or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior consent of the publisher.

Printed in the United States of America. ISBN-13: 978-1-934356-56-2 Printed on acid-free paper. Book version: P8.0—January 2012

Contents

	Ackr	nowledgments	. ?									
	Prefa	ace	. ?									
		Part I — Introducing Android										
1.	Quick Start											
	1.1	Installing the Tools	?									
	1.2	Creating Your First Program	?									
	1.3	Running on the Emulator	?									
	1.4	Running on a Real Phone										
	1.5	Fast-Forward >>	?									
2.	Key Concepts											
	2.1	The Big Picture	?									
	2.2	It's Alive!	?									
	2.3	Building Blocks	?									
	2.4	Using Resources	?									
	2.5	Safe and Secure	?									
	2.6	Fast-Forward >>	?									
		Part II — Android Basics										
3.	Designing the User Interface											
	3.1	Introducing the Sudoku Example	?									
	3.2	Designing by Declaration	?									
	3.3	Creating the Opening Screen	?									
	3.4	Using Alternate Resources	?									
	3.5	Implementing an About Box	?									
	3.6	Applying a Theme	?									
	3.7	3.7 Adding a Menu										

	3.8	Adding Settings	?										
	3.9	Starting a New Game	?										
	3.10	Debugging											
	3.11	Exiting the Game	?										
	3.12	Fast-Forward >>	?										
4.	Explo	oring 2D Graphics	?										
	4.1	Learning the Basics	?										
	4.2	Adding Graphics to Sudoku	?										
	4.3	Handling Input	?										
	4.4	The Rest of the Story	?										
	4.5	Making More Improvements	?										
	4.6	Fast-Forward >>	?										
5.	Multimedia												
	5.1	Playing Audio	?										
	5.2	Playing Video	?										
	5.3	Adding Sounds to Sudoku	?										
	5.4	Fast-Forward >>	?										
6.	Stori	ng Local Data	?										
	6.1	Adding Options to Sudoku	?										
	6.2	Continuing an Old Game	?										
	6.3	Remembering the Current Position	?										
	6.4	Accessing the Internal File System	?										
	6.5	Accessing SD Cards	?										
	6.6	Fast-Forward >>	?										
		B											
		Part III — Beyond the Basics											
7.		Connected World	?										
	7.1	Browsing by Intent	?										
	7.2	Web with a View	?										
	7.3	From JavaScript to Java and Back	?										
	7.4	Using Web Services	?										
	7.5	Fast-Forward >>	?										
8.		ting and Sensing	?										
	8.1	Location, Location	?										
	8.2	Set Sensors to Maximum	?										

9. Putting SQ 9.1 Intro 9.2 SQL 9.3 Hello 9.4 Data 9.5 Usin 9.6 Imple 9.7 Fast 10. 3D Graphic 10.1 Under 10.2 Intro 10.3 Build 10.4 Reno 10.5 Build	oducing SQLite 101 o, Database a Binding g a ContentProvider ementing a ContentProvider -Forward >> cs in OpenGL erstanding 3D Graphics oducing OpenGL ding an OpenGL Program	? ? ? ? ? ? ? ? ? ?
9.1 Intro 9.2 SQL 9.3 Hello 9.4 Data 9.5 Usin 9.6 Imple 9.7 Fast 10. 3D Graphic 10.1 Unde 10.2 Intro 10.3 Build 10.4 Rend 10.5 Build 10.6 Light	oducing SQLite 101 o, Database a Binding g a ContentProvider ementing a ContentProvider -Forward >> cs in OpenGL erstanding 3D Graphics oducing OpenGL ding an OpenGL Program	? ? ? ? ? ?
9.2 SQL 9.3 Hello 9.4 Data 9.5 Usin 9.6 Imple 9.7 Fast 10. 3D Graphic 10.1 Unde 10.2 Intro 10.3 Build 10.4 Rend 10.5 Build 10.6 Light	101 b. Database a Binding g a ContentProvider ementing a ContentProvider -Forward >> cs in OpenGL erstanding 3D Graphics oducing OpenGL ding an OpenGL Program	? ? ? ? ?
9.3 Hello 9.4 Data 9.5 Usin 9.6 Impl 9.7 Fast 10. 3D Graphic 10.1 Unde 10.2 Intro 10.3 Build 10.4 Rend 10.5 Build 10.6 Light	o, Database a Binding g a ContentProvider ementing a ContentProvider -Forward >> cs in OpenGL erstanding 3D Graphics oducing OpenGL ding an OpenGL Program	? ? ? ? ?
9.4 Data 9.5 Usin 9.6 Imple 9.7 Fast 10. 3D Graphic 10.1 Unde 10.2 Intro 10.3 Build 10.4 Rend 10.5 Build 10.6 Light	Binding g a ContentProvider ementing a ContentProvider -Forward >> cs in OpenGL	? ? ? ?
9.5 Usin 9.6 Imple 9.7 Fast 10. 3D Graphic 10.1 Unde 10.2 Intro 10.3 Build 10.4 Rend 10.5 Build 10.6 Light	g a ContentProvider ementing a ContentProvider -Forward >> cs in OpenGL	? ? ? ?
9.6 Imple 9.7 Fast: 10. 3D Graphic 10.1 Unde 10.2 Intro 10.3 Build 10.4 Rend 10.5 Build 10.6 Light	ementing a ContentProvider -Forward >> cs in OpenGL	? ? ?
9.7 Fast- 10. 3D Graphic 10.1 Unde 10.2 Intro 10.3 Build 10.4 Rend 10.5 Build 10.6 Light	cs in OpenGL	? ? ?
10. 3D Graphic 10.1 Unde 10.2 Intro 10.3 Build 10.4 Rend 10.5 Build 10.6 Light	cs in OpenGL	?
10.1 Unde 10.2 Intro 10.3 Build 10.4 Rend 10.5 Build 10.6 Light	erstanding 3D Graphics oducing OpenGL ding an OpenGL Program	?
10.2 Intro 10.3 Build 10.4 Rend 10.5 Build 10.6 Light	oducing OpenGL ding an OpenGL Program	
10.3 Build 10.4 Rend 10.5 Build 10.6 Light	ding an OpenGL Program	?
10.4 Reno 10.5 Build 10.6 Light		-
10.5 Build 10.6 Light		?
10.6 Light	dering the Scene	?
	ding a Model	?
10.7 Actio	ts, Camera,	?
	*****	?
********	ying Texture	?
10.9 Peek	aboo	?
10.10 Meas	suring Smoothness	?
10.11 Fast-	-Forward >>	?
	Part IV — The Next Generation	
11. Multi-Touc	••••	?
	oducing Multi-Touch	?
***********	ding the Touch Example	?
***************************************	erstanding Touch Events	?
***************************************	ng Up for Image Transformation	?
***************************************	ementing the Drag Gesture	?
	ementing the Pinch Zoom Gesture	?
11.7 Fast-	-Forward >>	?
	Place Like Home	?
12.1 Hello	o, Widget	?
***************************************	***************************************	
12.3 Fast-	Wallpaper	?

13.	Write	Once, T	est	Eve	rywl	iere	•									?
	13.1	Gentlen	nen,	Sta	rt Y	our	Εmι	ılato	rs							9
	13.2	Building	g for	Μu	ıltip	le Ve	ersio	ns								?
	13.3	Evolving	g wit	h A	ndr	oid A	APIs									?
	13.4	Bug on Parade All Screens Great and Small														?
	13.5															?
	13.6	.6 Installing on the SD Card														?
	13.7	Fast-Fo	rwai	r d >	>		••••									?
14.	Publishing to the Android Market												?			
	14.1	Prepariı	ng													?
	14.2	Signing														?
	14.3	Publish	ing													7
	14.4	Updatin	ıg													6
	14.5	Closing	Tho	ugh	ıts											1
				F	Part	V —	- Ap	pen	dixe	es						
A1.	Java v	vs. the A	ndr	oid I	Lan	guag	ge ar	ıd A	PIs							7
	A1.1	Langua	ge S	ubs	et											6
	A1.2	Standar	rd Li	bra	ry S	ubse	et									6
	A1.3	Third-P	arty	Lib	rarie	es	•••									,
A2.	Biblio	ography	•				•			•						7
	Index	· .														7