

Beginning Android Web Apps Development

Develop for Android using HTML5, CSS3,
and JavaScript



Jon Westfall
Rocco Augusto
Grant Allen

Apress®

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Dedicated to my wife, Karey, and to my parents, Alan & Dianne

—Jon Westfall

I dedicate this book to my daughter Rose... and Perry White, who is too good of a reporter to not know Clark Kent is Superman. You Perry are a true gem.

—Rocco Augusto

Contents at a Glance

Contents	v
About the Authors	ix
About the Technical Reviewer	x
Acknowledgments	xi
Introduction	xii
■ Chapter 1: Harnessing the Power of the Mobile Web	1
■ Chapter 2: Twitter Applications: Who's That Tweet?	21
■ Chapter 3: Twitter Applications: I Love Ham	39
■ Chapter 4: Basic Planning and Structuring of Your Application	49
■ Chapter 5: Handling Multiple Screen Resolutions with CSS 3	65
■ Chapter 6: Handling Different Browser Platforms	85
■ Chapter 7: Building an Impressive User Experience with jQuery Mobile	99
■ Chapter 8: Building Visually Rich Internet Applications	121
■ Chapter 9: HTML5 Location-Based Applications	145
■ Chapter 10: Using Cloud Services: A Transport Application	167
■ Chapter 11: Pushing the Limits with Audio and Video	187
■ Chapter 12: Supercharging the User Experience with AJAX	211
■ Chapter 13: Packaging Your Applications	233
Index	261

Contents

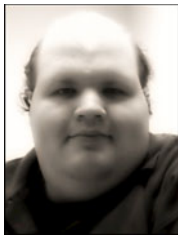
Contents at a Glance	iv
About the Authors	ix
About the Technical Reviewer	x
Acknowledgments	xi
Introduction	xii
Chapter 1: Harnessing the Power of the Mobile Web	1
Basics of Web Design	1
Getting Started: HyperText Markup Language (HTML).....	1
Getting Stylish: Cascading Style Sheets (CSS).....	3
Getting Interactive: JavaScript.....	6
Getting Informative: Extensible Markup Language (XML)	8
JSON: Human-Readable Data Interchange	10
The Mobile Web, Yesterday and Today	11
Knowing the Speeds (Or “What is 3G anyway?”)	11
Languages and Protocols, Yesterday and Today	12
Concepts We Like—And What’s Ahead!	15
Concept 1: Think Like A User	16
Concept 2: Don’t Annoy the User	16
Concept 3: Test-Retest Reliability.....	17
Concept 4: Keep it Simple Stupid!	17
Coming Up	19
Chapter 2: Twitter Applications: Who's That Tweet?	21
JSONP	22
Setting Up Your Development Environment.....	22
Your First Mobile Web Application	26
Summary	38
Chapter 3: Twitter Applications: I Love Ham	39
The HTML.....	39
The CSS	41
The JavaScript	43
Summary	48

Chapter 4: Basic Planning and Structuring of Your Application	49
Know Thy Audience	49
Giving People What They Want	50
Who Is My User?	51
Having a Plan	53
All Mobile Is Not the Same.....	54
Structuring Your Application.....	57
User Movement: Navigation or Storyboard	59
Structuring Your Development.....	60
Code Structure	60
Folder Structure	62
Summary	63
Chapter 5: Handling Multiple Screen Resolutions with CSS 3.....	65
A History of Tired Eyes and Resolution Evolution	65
The Daily Droid.....	69
The Daily Droid's Base HTML Code.....	72
The Daily Droid's Semi-magical CSS Code	74
Media Queries.....	79
Summary	83
Chapter 6: Handling Different Browser Platforms.....	85
META Tags and the Viewport.....	85
A Little META History	86
The Viewport Element.....	86
The User Agent	89
The Nexus One User Agent	89
PHP User Agent Detection.....	91
JavaScript User Agent Detection	92
Introducing the JavaScript Agent Detection Code	92
.htaccess User Agent Detection.....	97
Summary	98
Chapter 7: Building an Impressive User Experience with jQuery Mobile	99
The Basics	99
Adding Multiple Pages	102
So – About Those Transitions	109
Let's Have a Dialog	111
Rolling Your Own Theme with ThemeRoller.....	113
Rolling it All Together: Simple Calc.....	118
Summary	120
Chapter 8: Building Visually Rich Internet Applications.....	121
Finding and Using Icons and Stock Photography.....	121
Iconfinder	121
Find Icons	123
Using an Icon	123
deviantART.....	124
iStockphoto	125
Guidance on Using Photos in Web Apps	126

Web Fonts	127
Google Web Fonts	128
Font Issues to Consider	129
CSS Frameworks	130
1140px Grid.....	131
Less Framework 4	132
320 and Up.....	133
Comparing Frameworks: About Jon!!	135
Adobe Fireworks.....	141
Summary	144
Chapter 9: HTML5 Location-Based Applications	145
The Mechanics of Geolocation	145
Understanding Device Capabilities	145
Understanding HTML5 Capabilities	147
Detecting Browser Geolocation Support.....	147
Exploring Our Sample Application	150
Building Our Basic Geolocation Application.....	151
Dealing with the Four Corners of Android's Geolocation World.....	155
Expanding Your Horizons with Maps	160
Adding a Map to Our Application	160
Gaming Your Location.....	164
Gaming Your Location—for Fun!	165
Summary	166
Chapter 10: Using Cloud Services: A Transport Application.....	167
Introducing the "Move Me" Example Application	169
Examining the Code	169
Dealing with Global State.....	173
Customizing Location Markers	173
Preparing Our Map.....	174
Performing Local Transport Searches	176
Running Our Code.....	177
Improving the "Move Me" Example Application	179
Dealing with Other Transport Possibilities.....	180
Limitations to our Approach.....	181
Introducing Transit Data Resources.....	181
Making Use of Transport Schedules and Timetables.....	181
Exploring GTFS Examples	184
Summary	185
Chapter 11: Pushing the Limits with Audio and Video	187
Audio for Mobile Web Apps.....	187
Utilizing the HTML5 audio Tag	188
Integrating Audio into Who's That Tweet?	189
Working with Audio Codecs	190
Using the Audacity Audio Editor.....	192
Audio Data API	196
Adding Video to Mobile Applications.....	197
Using the HTML5 video Tag	197

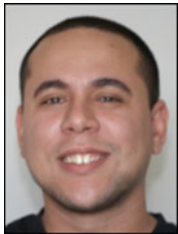
Codecs	199
Using Handbrake to Transcode Videos	200
Exploring on Your Own: Music Service APIs	202
“Scrobbling” Tracks to Last.fm	203
Tapping into the Power of Amazon’s Product Advertising API.....	207
Summary	209
Chapter 12: Supercharging the User Experience with AJAX	211
What Is AJAX?.....	211
Asynchronous?	211
So What About the JavaScript and XML?.....	215
AJAX—of—the—Day	216
My News!	220
First: Create a Pipe	221
Second: Get the Output and Display It!	224
Username Availability	226
AJAX Considerations.....	229
POST vs. GET.....	230
Setting Asynchronous to False?	230
Summary	231
Chapter 13: Packaging Your Applications	233
Compressing Your Application	233
What Is Compression?	234
Compression Tools and Utilities.....	236
Finding a Hosting Solution	241
Evaluating Hosting Providers	241
1and1	245
File Transfer Protocol.....	246
Deploying an Application Using Secure FTP	248
Versioning Your Software	252
Going Native.....	254
PhoneGap.....	255
Titanium Mobile	258
Closing Time	259
Index	261

About the Authors



Jon Westfall is a researcher and technologist working in New York City at Columbia Business School. His current appointment is as the Associate Director for Research and Technology at the Center for Decision Sciences, a center within Columbia Business School at Columbia University in New York City. Additionally, he holds an appointment as a Lecturer in the Columbia University Psychology department, periodically teaching a course in Judgment and Decision Making. In addition to his research, he also has career ties in information technology, where he has worked as a consultant since 1997, founding his own firm, Bug Jr. Systems. As a consultant, he has developed custom software solutions (including native Windows 32 applications,

Windows .NET applications, Windows Phone 7 and Android mobile applications, as well as ASP, ASP.NET, and PHP web applications). He has also served as a senior network and systems architect and administrator (on both Windows and Unix networks, and hybrids) and has also been recognized as a Microsoft Most Valuable Professional (MVP) 2008 – 2012. In his spare time, he enjoys writing both technical books as well as fiction. His novel, *Mandate*, as well as other writings are available via his website at <http://jonwestfall.com>. He can be contacted through his website, and followed on Twitter (@jonwestfall).



Rocco Augusto is a Web Developer based out of the City of Roses – Portland, Oregon. Rocco first started dabbling in the art of Web Design and Development in middle school when the code bug bit him and refused to let go. When not tinkering away at some new markup or design idea you can usually find Rocco enjoying some time with his beautiful wife, daughters, and their unruly puppies.



Grant Allen has worked in the IT field for over 20 years, as a CTO, enterprise architect, and database administrator. Grant's roles have covered private enterprise, academia, and the government sector around the world, specialising in global-scale systems design, development, and performance. He is a frequent speaker at industry and academic conferences, on topics ranging from data mining to compliance, and technologies such as databases (DB2, Oracle, SQL Server, MySQL), content management, collaboration, disruptive innovation, and mobile ecosystems like Android. His first Android application was a task list to remind him to finish all his other unfinished

Android projects. Grant works for Google, and in his spare time is completing a Ph.D on building innovative high-technology environments. Grant is the author of *Beginning DB2*, and lead author of *Beginning Android 4*, *Oracle SQL Recipes*, and *The Definitive Guide to SQLite*.

About the Technical Reviewer



Steven Hughes has been a Microsoft Windows Phone MVP for the past decade for his passion and dedication in the mobile community. Steven became involved with handheld computers since the early '90s including the beta testing and the prototype design of several hardware and software designs. His passion and knowledge of mobile technology and the mobile industry has advised and consulted many on its use and has earned the nickname 'fyiguy' as result. Steven loves to share information and help people; you may see his contributions and articles on several websites, publications, podcasts, and other productions pertaining to mobile technology. Steven is also the Chief News and Review Editor for BostonPocketPC.com and has written several detailed reviews and articles on various facets of mobile technology as well. Steven is a Moderator in the Microsoft Answers forums and also co-manages the New England Windows Phone User Group. Steven is employed as a Biomedical Engineer for the VA New England Healthcare System. When he has some free time he generally spends it with his family or outdoors playing soccer, hitting the slopes, strumming his guitar, catching a movie in his self-constructed custom home theater, or riding the trails on his mountain bike.

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—Jon Westfall

Introduction

Both of the first author's (Jon's) parents were artists. They each could draw fantastical pictures that resembled real life, and were shocked to see that their son could barely muster up a stick figure. If you've always felt that your inner artist was best expressed through what you could build with the help of a computer and the Internet, then this book can guide your virtual paintbrush. The finished product? A mobile web application for Android devices, which can in turn inspire creativity and productivity in millions of prospective users. It is our hope that this book will give you all that you need to get up and running and creating your masterpieces in no time.

Who This Book Is For

This book is written at a beginner's level. For the most part, we assume nothing as we write about everything from what HTML is to how to apply CSS to querying databases and displaying content using JavaScript. For some, this may mean that they would like to skim certain introductory materials (and assuredly miss many bad jokes). However, even advanced users will likely gain something from the tricks we unroll our sleeves to reveal.

How This Book Is Structured

We've split the content in this book into several chapters, with three "unofficial" parts.

In **the first part**, we introduce you (Chapter 1) to the basic languages of the web: HTML, CSS, JavaScript, and more. We then jump into two applications (Chapters 2–3) quickly to get your feet wet, and then back out to discuss planning concerns you might need to address when designing your own apps (Chapters 4–6)

In **the second part**, we start to jazz things up a bit. We go into building impressive user interfaces (Chapter 7) and working with visual content (Chapter 8). We then show you two more applications (Chapters 9–10) that speak to the unique nature of mobile applications: Using location information to guide your apps (and users), as well as tapping into the cloud for information and data.

Finally, **in the last part**, we talk about the next level of interactivity to add to your applications. We touch on adding audio and video (Chapter 11), doing things behind the user's back to provide impressive functionality (Chapter 12) and wrapping it all up and uploading to the web or building a full app for your formerly browser-bound creation (Chapter 13).

While we've grouped chapters into a logical order, after Chapter 1 you should feel free to explore the rest of the content. While many topics build upon one another, reading what interests you first may help you get a good grasp of what concepts from earlier chapters you'll definitely want to check out. At the same time, there are nuggets of information in each chapter that will stand upon their own, especially discussions on design, psychology, and user experience! We hope you enjoy the journey!

Downloading the code

The code for the examples shown in this book is available on GitHub at <https://github.com/jonwestfall/Beginning-Android-Web-Apps-Development>.

Contacting the Author

We're always happy to hear from our readers, and if you have questions, comments, or thoughts about the book (or life in general), you can contact any of us through our personal websites or social media.

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