

# Pro Android Media

Developing Graphics, Music, Video,  
and Rich Media Apps for Smartphones  
and Tablets



**Shawn Van Every**

Apress®

## **Pro Android Media: Developing Graphics, Music, Video, and Rich Media Apps for Smartphones and Tablets**

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# About the Author



**Shawn Van Every** runs a mobile and streaming media consultancy to help companies better utilize emerging technologies related to audio and video with a focus on mobile and streaming applications. His clients have ranged from 19 Entertainment, MoMA, and Disney to Morgan Stanley, Lehman Brothers, and NYU Medical School, along with countless start-ups and other small clients.

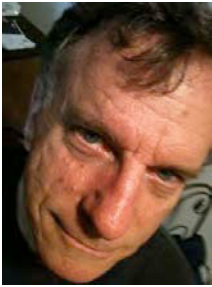
Additionally, Shawn is an Adjunct Assistant Professor of Communication in NYU's Interactive Telecommunications Program. His teaching is varied and includes courses on participatory and social media, programming, mobile technologies, and interactive telephony. In 2008 he was honored with the David Payne Carter award for excellence in teaching.

He has demonstrated, exhibited, and presented work at many conferences and technology demonstrations, including O'Reilly's Emerging Telephony, O'Reilly's Emerging Technology, ACM Multimedia, Vloggercon, and Strong Angel II. He was a co-organizer of the Open Media Developers Summit, Beyond Broadcast (2006), and iPhoneDevCamp NYC.

Shawn holds a Master's degree in Interactive Telecommunications from NYU and a Bachelor's degree in Media Study from SUNY at Buffalo.



# About the Technical Reviewers



**Steve Bull** has been coding and manipulating mobile devices since his days at Paul Allen's Interval Research in Palo Alto. As a mixed-media technology artist and entrepreneur, for the last nine years Bull has created location-specific narratives and games that explore the social, technological and creative possibilities of cell phones. He can be reached at [www.stevebull.org](http://www.stevebull.org).

**Wallace Jackson** is a seasoned multimedia producer and i3D programmer for Acrobat3D PDF, Android mobile apps, iTV Design, JavaFX, and JavaTV. He has been designing rich media since the Atari ST1040 and AMIGA 3000 and has been writing for leading multimedia publications on new media content development since the advent of *Multimedia Producer* magazine nearly two decades ago. He can be reached at [www.wallacejackson.com](http://www.wallacejackson.com).

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# Preface

Among all the things that mobile phones are and have become, one definite trend is the increase in the media production and consumption capabilities they offer. This trend began with the advent of the camera phone in the late 1990s, and over the last few years has dramatically taken off with the surging popularity of smart phones. In terms of media capabilities, today's mobile handsets are simultaneously cameras, photo albums, camcorders, movie players, music players, dictation machines, and potentially much more.

In particular, Android has rich capabilities available within the SDK that this book seeks to illuminate with discussion and examples so that you can get a jump-start on developing the next generation media applications. It walks you through examples that not only show how to display and play media but also allow you to take advantage of the camera, microphone, and video capture capabilities. It is organized more or less into four sections: The first four chapters deal with imaging; the second four handle audio; and the final four are about video and harnessing web services for finding and sharing media.

The examples presented within get a bit more challenging as the book progresses, as the amount of work that needs to be done to develop applications that harness the capabilities increases. Regardless, with some familiarity with Android application development you, the reader should be able to jump to any section and utilize the discussion and example code to create an application that utilizes the capabilities presented.

The examples are generally in the form of a full class that extends an Activity targeted to run with the SDK version 4 (Android 1.6) or later. The examples also include the contents of an XML layout file and in many cases the contents of the `AndroidManifest.xml` file. It is assumed that you will be using Eclipse (Galileo or later) with the ADT plugin (0.9.9 or later) and using the Android SDK (r7 or later). Since much of the book is geared toward audio and video, I advise that you run the examples on a handset (running Android 1.6 or later) rather than on the emulator, because in many cases the examples do not function on the emulator.

I am excited to see what the future of media applications on mobile devices is. It is my hope that through this book I can help you to create and define that future. I look forward to seeing your Android media applications in action.

With all that out of the way, let's get started!