



C o m m u n i t y E x p e r i e n c e D i s t i l l e d

Building Multicopter Video Drones

Build and fly multicopter drones to gather breathtaking video footage

Ty Audronis

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BIRMINGHAM - MUMBAI

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First published: August 2014

Production reference: 1190814

Published by Packt Publishing Ltd.
Livery Place
35 Livery Street
Birmingham B3 2PB, UK.

ISBN 978-1-78217-543-8

www.packtpub.com

Cover image by Aashish Variava (aashishvariava@hotmail.com)

Credits

Author

Ty Audronis

Project Coordinator

Kranti Berde

Reviewers

Taylor Coulthard

Lenz Grimmer

Dale Musser, PhD

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About the Author

Ty Audronis has over a decade of experience in radio-controlled videography and cinematography and over two decades as a professional in the entertainment industry. He has shot footage for Investigation Discovery, Travel Channel, and countless other productions. He also runs his own production company, Audronis Media. Ty has also written many magazine articles on multicopter and drone videography and has acted as a consultant on many productions. He has also taught at several film schools and University classes on production and post-production processes (as well as the Internet technology). His education is in Computer Animation and Special Effects, and he has also written the book, *Lightning Fast Animation with Element 3D*, Packt Publishing. He is also an expert on visual technology and workflows. For more information on Ty, please feel free to visit <http://www.audronis.com>.

About the Reviewers

Taylor Coulthard is an avid multicopter enthusiast, who has successfully incorporated quadrocopters into several high-level University courses. These project-based courses have a focus on the automation of the copter for personal use and performing repetitive tasks.

Taylor is very interested in the tech industry and has worked at Recon Instruments, developing wearable technology for alpine sports and triathletes. He has experience working with app development, software, and hardware.

Taylor plans to graduate in 2016 and will pursue a career in automated mechanical systems.

I'd like to thank my colleague, Jarrod, for supporting my passion for quadrocopters while others doubted it.

Lenz Grimmer lives in Hamburg, Germany. He has a degree in Computer Science and has been enjoying tinkering with electronic circuits since his early teens. He currently works as a product manager for TeamDrive Systems, a company that builds a file sync and share solution with built-in end-to-end encryption. Previously, he has worked at Oracle, Sun Microsystems, MySQL AB, and SUSE Linux.

In early 2010, he first learned about DIY quadcopters from a conference abstract for the FrOSCon 2010 conference in Germany, and was immediately hooked. A combination of hacking the hardware and the software together with building and flying an UAV was exactly the kind of hobby he was looking for.

After reading countless web pages and forum threads, he realized that there is a steep learning curve involved in getting started with this hobby, especially for beginners who aren't familiar with the countless acronyms involved. Lenz decided to share what he had learned so far and submitted a talk about *Building Quadrocopters* to the invitation-only SAPO Codebits 2010 conference in Lisbon, Portugal. His talk and related video (<http://videos.sapo.pt/HZSI9FU13D3bfqmVcsv>) turned out to be very popular; the slide deck on SlideShare (<http://www.slideshare.net/LenzGr/how-to-build-your-own-quadcopter>) has received more than 40k views by now.

In the meanwhile, Lenz has built several multicopters of various sizes and shapes, most of them powered by the open source MultiWii controller firmware. Recently, he also started looking into controlling model planes and flying wings with on-board flight controllers.

You can find him on many forums dedicated to these topics as LenzGr, even though he usually just lurks and learns from the experiences of others.

Dale Musser, PhD, is an associate teaching professor of Computer Science and the Director of the Information Technology degree program at the University of Missouri. He has previously worked in the education, entertainment, and game software development industries. His PhD is in Instructional Design and Technology from the Ohio State University. His research and development work includes unmanned aerial systems, mobile application development, web technologies, and programming languages.

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