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Professional C++, Fourth Edition

Published by
John Wiley & Sons, Inc.
10475 Crosspoint Boulevard
Indianapolis, IN 46256
www.wiley.com

Published simultaneously in Canada

ISBN: 978-1-119-42130-6
ISBN: 978-1-119-42126-9 (ebk)
ISBN: 978-1-119-42122-1 (ebk)

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1

Library of Congress Control Number: 2017963243

Dedicated to my parents and my brother, who are always there for me. Their support and patience helped me in finishing this book.

ABOUT THE AUTHOR

MARC GREGOIRE is a software architect from Belgium. He graduated from the University of Leuven, Belgium, with a degree in "Burgerlijk ingenieur in de computer wetenschappen" (equivalent to master of science in engineering: computer science). The year after, he received an advanced master's degree in artificial intelligence, cum laude, at the same university. After his studies, Marc started working for a software consultancy company called Ordina Belgium. As a consultant, he worked for Siemens and Nokia Siemens Networks on critical 2G and 3G software running on Solaris for telecom operators. This required working with international teams stretching from South America and the United States to Europe, the Middle East, Africa, and Asia. Now, Marc is a software architect at Nikon Metrology (`www.nikonmetrology.com`), a division of Nikon and a leading provider of precision optical instruments and metrology solutions for 3D geometric inspection.

His main expertise is in C/C++, and specifically Microsoft VC++ and the MFC framework. He has experience in developing C++ programs running 24/7 on Windows and Linux platforms: for example, KNX/EIB home automation software. In addition to C/C++, Marc also likes C# and uses PHP for creating web pages.

Since April 2007, he has received the annual Microsoft MVP (Most Valuable Professional) award for his Visual C++ expertise.

Marc is the founder of the Belgian C++ Users Group (`www.becpp.org`), co-author of *C++ Standard Library Quick Reference* (Apress), technical editor for numerous books for several publishers, and a member on the CodeGuru forum (as Marc G). He maintains a blog at `www.nuonsoft.com/blog/`, and is passionate about traveling and gastronomic restaurants.

ABOUT THE TECHNICAL EDITOR

PETER VAN WEERT is a Belgian software engineer, whose main interests and expertise are in C++, programming languages, algorithms, and data structures.

He received his master of science in computer science from the University of Leuven, Belgium, summa cum laude, with congratulations of the Board of Examiners. In 2010, the same university awarded him a PhD for his research on the efficient compilation of rule-based programming languages (mainly Java). During his doctoral studies, he was a teaching assistant for courses on object-oriented analysis and design, Java programming, and declarative programming languages.

After his studies, Peter worked for Nikon Metrology on large-scale, industrial-application software in the area of 3D laser scanning and point cloud inspection. In 2017, he joined the software R&D unit of Nobel Biocare, which specializes in digital dentistry software. Throughout his professional career, Peter has mastered C++ software development, as well as the management, refactoring, and debugging of very large code bases. He also gained further proficiency in all aspects of the software development process, including the analysis of functional and technical requirements, and Agile- and Scrum-based project and team management.

Peter is a regular speaker at, and board member of, the Belgian C++ Users Group. He also co-authored two books: *C++ Standard Library Quick Reference* and *Beginning C++ (5th edition)*, both published by Apress.

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ACKNOWLEDGMENTS

I THANK THE JOHN WILEY & SONS AND WROX Press editorial and production teams for their support. Especially, thank you to Jim Minatel, executive editor at Wiley, for giving me a chance to write this new edition, Adaobi Obi Tulton, project editor, for managing this project, and Marylouise Wiack, copy editor, for improving readability and consistency and making sure the text is grammatically correct.

A very special thank you to my technical editor, Peter Van Weert, for his outstanding technical review. His many constructive comments and ideas have certainly made this book better.

Of course, the support and patience of my parents and my brother were very important in finishing this book. I would also like to express my sincere gratitude toward my employer, Nikon Metrology, for supporting me during this project.

Finally, I thank you, the reader, for trying this approach to professional C++ software development.

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