

Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming

By Christopher Kormanyos

Download now

Read Online

Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos

With this book, Christopher Kormanyos delivers a highly practical guide to programming real-time embedded microcontroller systems in C++. It is divided into three parts plus several appendices. Part I provides a foundation for real-time C++ by covering language technologies, including object-oriented methods, template programming and optimization. Next, part II presents detailed descriptions of a variety of C++ components that are widely used in microcontroller programming. It details some of C++'s most powerful language elements, such as class types, templates and the STL, to develop components for microcontroller register access, low-level drivers, custom memory management, embedded containers, multitasking, etc. Finally, part III describes mathematical methods and generic utilities that can be employed to solve recurring problems in real-time C++. The appendices include a brief C++ language tutorial, information on the real-time C++ development environment and instructions for building GNU GCC cross-compilers and a microcontroller circuit.

For this second edition, the most recent specification of C++14 in ISO/IEC 14882:2014 is used throughout the text. Several sections on new C++14 functionality have been added, and various others reworked to reflect changes in the standard. Also two new sample projects are introduced, and various user suggestions have been incorporated. To facilitate portability, no libraries other than those specified in the language standard itself are used. Efficiency is always in focus and numerous examples are backed up with real-time performance measurements and size analyses that quantify the true costs of the code down to the very last byte and microsecond.

The target audience of this book mainly consists of students and professionals interested in real-time C++. Readers should be familiar with C or another programming language and will benefit most if they have had some previous experience with microcontroller electronics and the performance and size issues prevalent in embedded systems programming.

Download Real-Time C++: Efficient Object-Oriented and Templ ...pdf

Read Online Real-Time C++: Efficient Object-Oriented and Tem ...pdf

Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming

By Christopher Kormanyos

Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos

With this book, Christopher Kormanyos delivers a highly practical guide to programming real-time embedded microcontroller systems in C++. It is divided into three parts plus several appendices. Part I provides a foundation for real-time C++ by covering language technologies, including object-oriented methods, template programming and optimization. Next, part II presents detailed descriptions of a variety of C++ components that are widely used in microcontroller programming. It details some of C++'s most powerful language elements, such as class types, templates and the STL, to develop components for microcontroller register access, low-level drivers, custom memory management, embedded containers, multitasking, etc. Finally, part III describes mathematical methods and generic utilities that can be employed to solve recurring problems in real-time C++. The appendices include a brief C++ language tutorial, information on the real-time C++ development environment and instructions for building GNU GCC cross-compilers and a microcontroller circuit.

For this second edition, the most recent specification of C++14 in ISO/IEC 14882:2014 is used throughout the text. Several sections on new C++14 functionality have been added, and various others reworked to reflect changes in the standard. Also two new sample projects are introduced, and various user suggestions have been incorporated. To facilitate portability, no libraries other than those specified in the language standard itself are used. Efficiency is always in focus and numerous examples are backed up with real-time performance measurements and size analyses that quantify the true costs of the code down to the very last byte and microsecond.

The target audience of this book mainly consists of students and professionals interested in real-time C++. Readers should be familiar with C or another programming language and will benefit most if they have had some previous experience with microcontroller electronics and the performance and size issues prevalent in embedded systems programming.

Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos Bibliography

- Sales Rank: #789372 in Books
- Published on: 2015-11-24
- Original language: English
- Number of items: 1
- Dimensions: 9.21" h x .94" w x 6.14" l, 1.64 pounds
- Binding: Hardcover
- 378 pages

Download Real-Time C++: Efficient Object-Oriented and Templ ...pdf

Read Online Real-Time C++: Efficient Object-Oriented and Tem ...pdf

Download and Read Free Online Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos

Editorial Review

Review

From the reviews:

“In this book, Kormanyos, a microcontroller programmer with significant industrial experience, delivers a practical real-time embedded system programming guide in C++. The book teaches by example, providing plenty of motivation. … The author focuses on creating efficient code, both time- and space-wise, with technique exposure specific to embedded systems. Overall, this book is a good practical guide, beneficial to both students and professionals interested in real-time C++ programming. Summing Up: Recommended. Upper-division undergraduates and above.” (D. Papamichail, Choice, Vol. 51 (3), November, 2013)

Programmers seeking information about real-time performance or advanced knowledge of the C++ language will delight in this book. The reader is led along the arduous road of templates, generic metaprogramming, and object-oriented techniques using a diverse collection of code examples. The ultimate goal of implementing real-time embedded microcontroller systems using C++ is brilliantly achieved, opening the door for extension to real-time applications.” (Andre Maximo, ACM Computing Reviews, October, 2013)

“This is a gentle introduction to using C++11 in real-time projects. (...) It shows that C++11 is a reasonable choice for embedded work. Overall, a good tutorial for C++ developers who want to get their feet wet in embedded programming.” (Andrew Binstock, Dr. Dobb’s, May, 2013)

From the Back Cover

With this book, Christopher Kormanyos delivers a highly practical guide to programming real-time embedded microcontroller systems in C++. It is divided into three parts plus several appendices. Part I provides a foundation for real-time C++ by covering language technologies, including object-oriented methods, template programming and optimization. Next, part II presents detailed descriptions of a variety of C++ components that are widely used in microcontroller programming. It details some of C++’s most powerful language elements, such as class types, templates and the STL, to develop components for microcontroller register access, low-level drivers, custom memory management, embedded containers, multitasking, etc. Finally, part III describes mathematical methods and generic utilities that can be employed to solve recurring problems in real-time C++. The appendices include a brief C++ language tutorial, information on the real-time C++ development environment and instructions for building GNU GCC cross-compilers and a microcontroller circuit.

For this second edition, the most recent specification of C++14 in ISO/IEC 14882:2014 is used throughout the text. Several sections on new C++14 functionality have been added, and various others reworked to reflect changes in the standard. Also two new sample projects are introduced, and various user suggestions have been incorporated. To facilitate portability, no libraries other than those specified in the language standard itself are used. Efficiency is always in focus and numerous examples are backed up with real-time performance measurements and size analyses that quantify the true costs of the code down to the very last byte and microsecond.

The target audience of this book mainly consists of students and professionals interested in real-time C++. Readers should be familiar with C or another programming language and will benefit most if they have had some previous experience with microcontroller electronics and the performance and size issues prevalent in embedded systems programming.

About the Author
Christopher Kormanyos is a senior system architect at a major automotive supplier with 25 years of experience in software development, microcontroller system design and application deployment. Chris is well-connected in the microcontroller industry and has strong professional ties to both tier-one silicon suppliers as well as compiler and tool vendors. He received a PhD in experimental particle physics from the University of Colorado in 1994 and also holds several patents for automotive electronic technologies.

Users Review

From reader reviews:

Johnnie Santiago:

Why don't make it to become your habit? Right now, try to ready your time to do the important action, like looking for your favorite guide and reading a reserve. Beside you can solve your trouble; you can add your knowledge by the book entitled Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming. Try to make the book Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming as your buddy. It means that it can to be your friend when you experience alone and beside that of course make you smarter than in the past. Yeah, it is very fortuned in your case. The book makes you far more confidence because you can know every little thing by the book. So , we need to make new experience and also knowledge with this book.

Ronald Smith:

Do you really one of the book lovers? If yes, do you ever feeling doubt when you are in the book store? Aim to pick one book that you never know the inside because don't determine book by its include may doesn't work is difficult job because you are afraid that the inside maybe not as fantastic as in the outside seem likes. Maybe you answer might be Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming why because the wonderful cover that make you consider with regards to the content will not disappoint a person. The inside or content is fantastic as the outside or perhaps cover. Your reading 6th sense will directly assist you to pick up this book.

Edward Bastian:

This Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming is brand new way for you who has fascination to look for some information as it relief your hunger details. Getting deeper you on it getting knowledge more you know or else you who still having tiny amount of digest in reading this Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming can be the light food to suit your needs because the information inside that book is easy to get simply by anyone. These books develop itself in the form that is reachable by anyone, yes I mean in the e-book form. People who think that in book form make them feel tired even dizzy this publication is the answer. So there is no in

reading a e-book especially this one. You can find what you are looking for. It should be here for an individual. So , don't miss the idea! Just read this e-book kind for your better life and also knowledge.

David Auman:

In this era which is the greater individual or who has ability in doing something more are more important than other. Do you want to become certainly one of it? It is just simple method to have that. What you need to do is just spending your time very little but quite enough to have a look at some books. One of the books in the top list in your reading list is usually Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming. This book that is certainly qualified as The Hungry Slopes can get you closer in becoming precious person. By looking upwards and review this publication you can get many advantages.

Download and Read Online Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos #C5NWBYAS768

Read Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos for online ebook

Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos books to read online.

Online Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos ebook PDF download

Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos Doc

Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos Mobipocket

Real-Time C++: Efficient Object-Oriented and Template Microcontroller Programming By Christopher Kormanyos EPub