

# The Boost C Libraries

Learning Boost C++ Libraries The Boost C++ Libraries Beyond the C++ Standard Library Handbook of Open Source Tools Professional C++ Boost.Asio C++ Network Programming Introduction to the Boost C++ Libraries Data Clustering in C++ Robotic Sailing 2017 C++ C++ how to Program Financial Instrument Pricing Using C++ Boost C++ Application Development Cookbook Generative Programming and Component Engineering C/C++ Users Journal MSDN Magazine C++11 for Programmers Algorithms and Software Tools for Mapping Arbitrarily Connected Tasks Onto an Asynchronous Array of Simple Processors The masterpiece library. The penny poets, ed. by W.T. Stead Dr. Dobb's Journal Arindam Mukherjee Boris Schäling Bjorn Karlsson Sandeep Koranne Christophe Pichaud Wisnu Anggoro Robert Demming Guojun Gan Kjell Ivar Øvergård Paul J. Deitel Paul J. Deitel Daniel J. Duffy Antony Polukhin Paul Deitel Eric Wesley Work Masterpiece library

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filled with dozens of working code examples that illustrate the use of over 40 popular boost libraries this book takes you on a tour of boost helping you to independently build the libraries from source and use them in your own code the first half of the

book focuses on basic programming interfaces including generic containers and algorithms strings resource management exception safety and a miscellany of programming utilities that make everyday programming chores easy following a short interlude that introduces template metaprogramming and functional programming the later chapters are devoted to systems programming interfaces focusing on directory handling i o concurrency and network programming

the second edition of the boost c libraries introduces 72 boost libraries that provide a wide range of useful capabilities they help you manage memory and process strings more easily they provide containers and other data structures that go well beyond what the standard library offers they make it easy to build platform independent network applications simply put these 72 libraries greatly expand your c toolbox the second edition contains more than 430 examples all examples are as short as possible but they are complete so you can compile and run them as is they show you what the boost libraries offer and give you a head start on using the libraries in your own applications the goal of this book is to increase your efficiency as a c developer and to simplify software development with c the boost libraries introduced in this book will help you write less code with fewer bugs and finish projects faster you code will be more concise and self explanatory and more easily adapted when requirements change the second edition is based on the boost libraries 1 55 0 and 1 56 0 with the latter version having been released in august 2014 the examples are based on c 11 and have been tested with visual studio 2013 gcc 4 8 and clang 3 3 on various platforms for boost libraries which were incorporated into the c 11 standard library differences between boost and the standard library are highlighted the boost libraries are one of the most important and influential open source c libraries their source code is available under a permissive free software license several boost libraries have been incorporated into the c 11 standard library the boost libraries are developed and supported by the boost community a worldwide developer community with a strong interest in pushing c boundaries further

introducing the boost libraries the next breakthrough in c programming boost takes you far beyond the c standard library making c programming more elegant robust and productive now for the first time a leading boost expert systematically introduces the broad set of boost libraries and teaches best practices for their use writing for intermediate to advanced c developers bj rn karlsson briefly outlines all 58 boost libraries and then presents comprehensive coverage of 12 libraries you re likely to find

especially useful karlsson s topics range from smart pointers and conversions to containers and data structures explaining exactly how using each library can improve your code he offers detailed coverage of higher order function objects that enable you to write code that is more concise expressive and readable he even takes you behind the scenes with boost revealing tools and techniques for creating your own generic libraries coverage includes smart pointers that provide automatic lifetime management of objects and simplify resource sharing consistent best practice solutions for performing type conversions and lexical conversions utility classes that make programming simpler and clearer flexible container libraries that solve common problems not covered by the c standard library powerful support for regular expressions with boost regex function objects defined at the call site with boost bind and boost lambda more flexible callbacks with boost function managed signals and slots a k a the observer pattern with boost signals the boost libraries are proving so useful that many of them are planned for inclusion in the next version of the c standard library get your head start now with beyond the c standard library

handbook of open source tools introduces a comprehensive collection of advanced open source tools useful in developing software applications the book contains information on more than 200 open source tools which include software construction utilities for compilers virtual machines database graphics high performance computing opengl geometry algebra graph theory guis and more special highlights for software construction utilities and application libraries are included each tool is covered in the context of a real like application development setting this unique handbook presents a comprehensive discussion of advanced tools a valuable asset used by most application developers and programmers includes a special focus on mathematical open source software not available in most open source software books and introduces several tools eg acl2 clips cuda and coin which are not known outside of select groups but are very powerful handbook of open source tools is designed for application developers and programmers working with open source tools advanced level students concentrating on engineering mathematics and computer science will find this reference a valuable asset as well

this book contains all the necessary knowledge to learn think and become a professional c developer for building real world and critical software it requires some basic knowledge that could be acquired at the university engineering schools or just by reading the right books for the right decision c gave you the ability to create design think and implement such amazing big big stuff

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adopting new technologies this book will teach you c network programming using synchronous and asynchronous operations in boost asio with minimum code along with the fundamentals of boost server client applications debugging and more you will begin by preparing and setting up the required tools to simplify your network programming in c with boost asio then you will learn about the basic concepts in networking such as ip addressing tcp ip protocols and lan with its topologies this will be followed by an overview of the boost libraries and their usage next you will get to know more about boost asio and its concepts related to network programming we will then go on to create a client server application helping you to understand the networking concepts moving on you will discover how to use all the functions inside the boost asio c libraries lastly you will understand how to debug the code if there are errors found and will run the code successfully style and approach an example oriented book to show you the basics of networking and help you create a network application simply using boost asio with more examples for you to get up and running with boost asio quickly

c is one of the most important and influential programming languages for application development it supports the modular object oriented and generic programming models and its flexibility has been one of the main reasons why it has been so successful with the emergence of the boost libraries boost org we see that c is brought to a new level namely a set of reusable and modular template libraries that c developers can use in their applications this book is dedicated to a number of boost libraries for higher order functions data types and data structures libraries for text and string processing multi threading random number generation and more we also discuss how boost and design patterns are used to promote the flexibility of code each library is described in a step by step manner numerous examples are given to show the functionality of each library the full source code is freely available to purchasers of the book coverage includes understanding and using 30 major boost libraries learn about higher order functions data structures memory management multi threading and more using boost in new and existing applications integrating boost and the gang of four design patterns ready to run projects for visual studio appendices and exercises

data clustering is a highly interdisciplinary field the goal of which is to divide a set of objects into homogeneous groups such that objects in the same group are similar and objects in different groups are quite distinct thousands of theoretical papers and a

number of books on data clustering have been published over the past 50 years however few books exist to teach people how to implement data clustering algorithms this book was written for anyone who wants to implement or improve their data clustering algorithms using object oriented design and programming techniques data clustering in c exploits the commonalities of all data clustering algorithms to create a flexible set of reusable classes that simplifies the implementation of any data clustering algorithm readers can follow the development of the base data clustering classes and several popular data clustering algorithms additional topics such as data pre processing data visualization cluster visualization and cluster interpretation are briefly covered this book is divided into three parts data clustering and c preliminaries a review of basic concepts of data clustering the unified modeling language object oriented programming in c and design patterns a c data clustering framework the development of data clustering base classes data clustering algorithms the implementation of several popular data clustering algorithms a key to learning a clustering algorithm is to implement and experiment the clustering algorithm complete listings of classes examples unit test cases and gnu configuration files are included in the appendices of this book as well as in the downloadable resources the only requirements to compile the code are a modern c compiler and the boost c libraries

robotic sailing 2017 this book contains the peer reviewed papers presented at the 10th international robotic sailing conference which was organized in conjunction with the 10th world robotic sailing championship held in horten norway the 4th 9th of september 2017 the seven papers cover topics of interest for autonomous robotic sailing which represents some of the most challenging research and development areas the book is divided into two parts the first part contains papers which focus on the design of sails and software for the assessment and predication of sailboat performance as well as software platforms and middleware for sailboat competition and research the second part includes algorithms and strategies for navigation and collision avoidance on local mid and long range the differences in approach in the included papers show that robotic sailing is still an emerging cross disciplinary science the multitude of suggestions to the specific problems of prediction and simulation of sailboats as well as the challenges of route planning anti grounding and collision avoidance are good indicators of science in its infancy hence we may expect the future to hold great advances for robotic sailing

key benefit this comprehensive best seller is aimed at readers with little or no programming experience it teaches by presenting

the concepts in the context of full working programs and takes an early objects approach the authors emphasize achieving program clarity through structured and object oriented programming software reuse and component oriented software construction key topics introduction to computers the internet and world wide introduction to c programming introduction to classes and objects control statements part 1 control statements part 2 functions and an introduction to recursion arrays and vectors pointers and pointer based strings classes a deeper look part 1 classes a deeper look part 2 object oriented programming inheritance object oriented programming polymorphism optional atm case study part 1 object oriented design with the uml optional atm case study part 2 implementing an object oriented design exception handling templates operator overloading string and array objects string processing with class string stream input output file and string stream processing searching and sorting data structures standard template library stl bits characters c strings and structs game programming with ogre boost libraries technical report 1 and c 0x other topics operator precedence and associativity chart ascii character set fundamental types number systems c legacy code topics preprocessor uml 2 additional diagram types using the visual studioreg 2008 debugger using the gnutrade c debugger market a useful reference for programmers

introduces the fundamentals of object oriented programming and generic programming in c topics include classes objects and encapsulation inheritance and polymorphism and object oriented design with the uml

an integrated guide to c and computational finance this complete guide to c and computational finance is a follow up and major extension to daniel j duffy s 2004 edition of financial instrument pricing using c both c and computational finance have evolved and changed dramatically in the last ten years and this book documents these improvements duffy focuses on these developments and the advantages for the quant developer by delving into a detailed account of the new c 11 standard and its applicability to computational finance using de facto standard libraries such as boost and eigen to improve developer productivity developing multiparadigm software using the object oriented generic and functional programming styles designing flexible numerical algorithms modern numerical methods and multiparadigm design patterns providing a detailed explanation of the finite difference methods through six chapters including new developments such as ade method of lines mol and uncertain volatility models developing applications from financial model to algorithmic design and code through a coherent approach

generating interoperability with excel add ins c and c cli using random number generation in c 11 and monte carlo simulation duffy adopted a spiral model approach while writing each chapter of financial instrument pricing using c 2e analyse a little design a little and code a little each cycle ends with a working prototype in c and shows how a given algorithm or numerical method works additionally each chapter contains non trivial exercises and projects that discuss improvements and extensions to the material this book is for designers and application developers in computational finance and assumes the reader has some fundamental experience of c and derivatives pricing how to receive the source code once you have purchased a copy of the book please send an email to the author dduffy@datasim.nl requesting your personal and non transferable copy of the source code proof of purchase is needed the subject of the mail should be c book source code request you will receive a reply with a zip file attachment

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