

International Workshop on the Implementation of Functional Languages, IFL'98, held in London, UK, in September 1998. The 15 revised full papers presented were carefully selected during two rounds of reviewing. The volume covers a wide range of topics including parallel process organization, parallel profiling, compilation and semantics of parallel systems, programming methodology, interrupt handling, strictness analysis, concurrency and message passing, and inter-language working.

Practical Performance Modeling: Application of the MOSEL Language introduces the new and powerful performance and reliability modeling language MOSEL (MOdeling, Specification and Evaluation Language), developed at the University of Erlangen, Germany. MOSEL facilitates the performance and reliability modeling of a computer, communication, manufacturing or workflow management system in a very intuitive and simple way. The core of MOSEL consists of constructs to specify the possible states and state transitions of the system under consideration. This specification is very compact and easy to understand. With additional constructs, the interesting performance or reliability measures and graphical representations can be specified. With some experience, it is possible to write down the MOSEL description of a system immediately only by knowing the behavior of the system under study. There are no restrictions, unlike models using, for example, queueing networks, Petri nets or fault trees. MOSEL fulfills all the requirements for a universal modeling language. It is high level, system-oriented, and usable. It is open and can be integrated with many tools. By providing compilers, which translate descriptions specified in MOSEL into the tool-specific languages, all previously implemented tools with their different methods and algorithms (including simulation) can be

used. Practical Performance Modeling: Application of the MOSEL Language provides an easy to understand but nevertheless complete introduction to system modeling using MOSEL and illustrates how easily MOSEL can be used for modeling real-life examples from the fields of computer, communication, and manufacturing systems. Practical Performance Modeling: Application of the MOSEL Language will be of interest to professionals and students in the fields of performance and reliability modeling in computer science, communication, and manufacturing. It is also well suited as a textbook for university courses covering performance and reliability modeling with practical applications.

Practical Python 3 for experienced developers: use the right idioms, techniques, and features to write great code * *Written from a completely 'Python 3' point of view: teaches best practices for making the most of today's newest version of Python. *Designed to help developers get productive fast... then learn how to write any program, use any library, create any library module. *Includes expert guidance on migrating Python 2 code to Python 3. Around the world, programmers appreciate Python for its simplicity, power, expressiveness, and the sheer pleasure of writing Python code. Python 3.1 is the newest and best version of the language yet: more convenient, more consistent, and easier to use. Mark Summerfield demonstrates how to write code that takes full advantage of the latest Python 3 features and idioms.

Programming in Python 3, 2/e, brings together all the knowledge needed to write programs, use any library, and even create new library modules. The book teaches every aspect of the Python 3 language. It covers all the built-in functionality, as well as key components of Python's standard library. Structured so readers can write Python programs from chapter 1, each subsequent chapter provides further depth and broader coverage. Two new chapters

have been added to this edition increasing the coverage to include parsing, debugging, testing, and profiling. Readers will master Python procedural and object-oriented techniques; creation of custom modules and packages; writing and reading files; multithreading; networking; database programming; GUIs; regular expressions; application debugging, testing, and profiling; and more. Detailed appendices include coverage of migrating applications from Python 2 to Python 3, plus a complete language reference. All sample code has been tested with the final version of Python 3 on Windows, Linux, and Mac OS X.

Winner of the 2014 Jolt Award for "Best Book" "Whether you are an experienced programmer or are starting your career, Python in Practice is full of valuable advice and example to help you improve your craft by thinking about problems from different perspectives, introducing tools, and detailing techniques to create more effective solutions." —Doug Hellmann, Senior Developer, DreamHost If you're an experienced Python programmer, Python in Practice will help you improve the quality, reliability, speed, maintainability, and usability of all your Python programs. Mark Summerfield focuses on four key themes: design patterns for coding elegance, faster processing through concurrency and compiled Python (Cython), high-level networking, and graphics. He identifies well-proven design patterns that are useful in Python, illuminates them with expert-quality code, and explains why some object-oriented design patterns are irrelevant to Python. He also explodes several counterproductive myths about Python programming—showing, for example, how Python can take full advantage of multicore hardware. All examples, including three complete case studies, have been tested with Python 3.3 (and, where possible, Python 3.2 and 3.1) and crafted to maintain compatibility with future Python 3.x versions. All code has been tested on Linux, and most code has also been tested

on OS X and Windows. All code may be downloaded at www.qtrac.eu/pipbook.html. Coverage includes Leveraging Python's most effective creational, structural, and behavioral design patterns Supporting concurrency with Python's multiprocessing, threading, and concurrent.futures modules Avoiding concurrency problems using thread-safe queues and futures rather than fragile locks Simplifying networking with high-level modules, including xmlrpc and RPyC Accelerating Python code with Cython, C-based Python modules, profiling, and other techniques Creating modern-looking GUI applications with Tkinter Leveraging today's powerful graphics hardware via the OpenGL API using pyglet and PyOpenGL

When you think about how far and fast computer science has progressed in recent years, it's not hard to conclude that a seven-year old handbook may fall a little short of the kind of reference today's computer scientists, software engineers, and IT professionals need. With a broadened scope, more emphasis on applied computing, and more than 70 chap

This book constitutes the proceedings of the First International Conference on Principles and Practice of Constraint Programming, CP '95, held in Cassis near Marseille, France in September 1995. The 33 refereed full papers included were selected out of 108 submissions and constitute the main part of the book; in addition there is a 60-page documentation of the four invited papers and a section presenting industrial reports. Thus besides having a very strong research component, the volume will be attractive for practitioners. The papers are organized in sections on efficient constraint handling, constraint logic programming, concurrent constraint programming, computational logic, applications, and operations research.

Large-scale open distributed systems provide an infrastructure for assembling global applications on the basis of software and hardware components originating from multiple

sources. Open systems rely on publicly available standards to permit heterogeneous components to interact. The Internet is the archetype of a large-scale open distributed system; standards such as HTTP, HTML, and XML, together with the widespread adoption of the Java language, are the cornerstones of many distributed systems. This book surveys security in large-scale open distributed systems by presenting several classic papers and a variety of carefully reviewed contributions giving the results of new research and development. Part I provides background requirements and deals with fundamental issues in trust, programming, and mobile computations in large-scale open distributed systems. Part II contains descriptions of general concepts, and Part III presents papers detailing implementations of security concepts.

Covers basic and advanced applications of Perl/Tk, discussing topics including basic Perl/Tk widgets and geometry managers, how to use callbacks and bindings effectively, working with images, and developing a Tk widget in C.

This book has two objectives--to provide a comprehensive reference on using XML with Python; and to illustrate the practical applications of these technologies in an enterprise environment with examples.

Programming Languages: Principles and Paradigms by Allen Tucker and Robert Noonan is an exciting first edition for the programming languages course. The text covers all of the major design topics and language paradigms in a coherent and modern fashion. Programming Languages: Principles and Paradigms gives a complete, hands-on treatment of principles that uses formal grammar, type system and denotational semantics along with presenting and contrasting the major programming paradigms. The book integrates its coverage of formal

semantics into its coverage of major language design topics and programming paradigms with integrated coverage of formal semantics. This integration is, in part, accomplished through the use of a small imperative language, which the authors call "Jay." Additionally, this book focuses on one language per paradigm (except for functional programming, where both Scheme and Haskell are used). This allows for a deeper understanding of the language paradigm, rather than a survey of all the languages that are part of it. This book also discusses two modern programming paradigms, event-driven programming and concurrent programming. Compiling the most influential papers from the IEICE Transactions in Communications, High-Performance Backbone Network Technology examines critical breakthroughs in the design and provision of effective public service networks in areas including traffic control, telephone service, real-time video transfer, voice and image transmission for a content delivery network (CDN), and Internet access. The contributors explore system structures, experimental prototypes, and field trials that herald the development of new IP networks that offer quality-of-service (QoS), as well as enhanced security, reliability, and function. Offers many hints and guidelines for future research in IP and photonic backbone network technologies

Declarative languages build on sound theoretical bases to provide attractive frameworks for application development. These languages have been successfully applied to a wide variety of real-world situations including database management, active networks, software engineering, and decision-support systems. New developments in theory and implementation expose fresh opportunities. At the same time, the application of declarative languages to novel problems raises numerous interesting research issues. These well-known questions include scalability, language extensions for application deployment, and programming environments. Thus,

applications drive the progress in the theory and implementation of declarative systems, and in turn benefit from this progress. The International Symposium on Practical Applications of Declarative Languages (PADL) provides a forum for researchers, practitioners, and implementors of declarative languages to exchange ideas on current and novel applications and on the requirements for effective use of declarative systems. The fourth PADL symposium was held in Portland, Oregon, on January 19 and 20, 2002.

For more than 40 years, Computerworld has been the leading source of technology news and information for IT influencers worldwide. Computerworld's award-winning Web site (Computerworld.com), twice-monthly publication, focused conference series and custom research form the hub of the world's largest global IT media network.

For more than 20 years, Network World has been the premier provider of information, intelligence and insight for network and IT executives responsible for the digital nervous systems of large organizations. Readers are responsible for designing, implementing and managing the voice, data and video systems their companies use to support everything from business critical applications to employee collaboration and electronic commerce.

Over 100 great recipes to effectively learn Tcl/Tk 8.5.

Machine generated contents note: Chapter 1: Tcl/Tk Features Chapter 2: The Mechanics of Using the Tcl and Tk Interpreters Chapter 3: Introduction to the Tcl Language Chapter 4: File System, Disk I/O and Sockets Chapter 5: Using Strings and Lists Chapter 6: Basic list, array and dict Chapter 7: Advanced List, array and dict Chapter 8: Procedure Techniques Chapter 9: Namespaces Chapter 10:

Basic TclOO Chapter 11: Advanced TclOO Chapter 12: Packages and modules
Chapter 13: Introduction to Tk Graphics Chapter 14: Overview of the canvas
Widget Chapter 15: The text widget and htмлlib Chapter 16: Themed Widgets
Chapter 17: Tk Megawidgets Chapter 18: Writing a Tcl Extension Chapter 19:
Extensions and Packages Chapter 20: Programming Tools Chapter 21:
Debugging and Optimization techniques Chapter 22: Tips and Techniques .

An encyclopedic handbook on audio programming for students and professionals, with many cross-platform open source examples and a DVD covering advanced topics. This comprehensive handbook of mathematical and programming techniques for audio signal processing will be an essential reference for all computer musicians, computer scientists, engineers, and anyone interested in audio. Designed to be used by readers with varying levels of programming expertise, it not only provides the foundations for music and audio development but also tackles issues that sometimes remain mysterious even to experienced software designers. Exercises and copious examples (all cross-platform and based on free or open source software) make the book ideal for classroom use. Fifteen chapters and eight appendixes cover such topics as programming basics for C and C++ (with music-oriented examples), audio programming basics and more advanced topics, spectral audio programming;

programming Csound opcodes, and algorithmic synthesis and music programming. Appendixes cover topics in compiling, audio and MIDI, computing, and math. An accompanying DVD provides an additional 40 chapters, covering musical and audio programs with micro-controllers, alternate MIDI controllers, video controllers, developing Apple Audio Unit plug-ins from Csound opcodes, and audio programming for the iPhone. The sections and chapters of the book are arranged progressively and topics can be followed from chapter to chapter and from section to section. At the same time, each section can stand alone as a self-contained unit. Readers will find *The Audio Programming Book* a trustworthy companion on their journey through making music and programming audio on modern computers.

Here is all the practical, hands-on information you need to build, manage and maintain a heterogeneous computing environment with hardware, software, and network equipment from a number of different vendors. Packed with real-world case studies and proven techniques for integrating disparate platforms, operating systems and servers, *Multi-Operating*

From its earliest days, the Fortran programming language has been designed with computing efficiency in mind. The latest standard, Fortran 2008, incorporates a host of modern features, including object-orientation, array

operations, user-defined types, and provisions for parallel computing. This tutorial guide shows Fortran programmers how to apply these features in twenty-first-century style: modular, concise, object-oriented, and resource-efficient, using multiple processors. It offers practical real-world examples of interfacing to C, memory management, graphics and GUIs, and parallel computing using MPI, OpenMP, and coarrays. The author also analyzes several numerical algorithms and their implementations and illustrates the use of several open source libraries. Full source code for the examples is available on the book's website.

InfoWorld is targeted to Senior IT professionals. Content is segmented into Channels and Topic Centers. InfoWorld also celebrates people, companies, and projects.

Teaching the science and the technology of programming as a unified discipline that shows the deep relationships between programming paradigms. This innovative text presents computer programming as a unified discipline in a way that is both practical and scientifically sound. The book focuses on techniques of lasting value and explains them precisely in terms of a simple abstract machine. The book presents all major programming paradigms in a uniform framework that shows their deep relationships and how and where to use them together. After an introduction to programming concepts, the book presents both well-known and

lesser-known computation models ("programming paradigms"). Each model has its own set of techniques and each is included on the basis of its usefulness in practice. The general models include declarative programming, declarative concurrency, message-passing concurrency, explicit state, object-oriented programming, shared-state concurrency, and relational programming. Specialized models include graphical user interface programming, distributed programming, and constraint programming. Each model is based on its kernel language—a simple core language that consists of a small number of programmer-significant elements. The kernel languages are introduced progressively, adding concepts one by one, thus showing the deep relationships between different models. The kernel languages are defined precisely in terms of a simple abstract machine. Because a wide variety of languages and programming paradigms can be modeled by a small set of closely related kernel languages, this approach allows programmer and student to grasp the underlying unity of programming. The book has many program fragments and exercises, all of which can be run on the Mozart Programming System, an Open Source software package that features an interactive incremental development environment. This volume is the Proceedings of the First International Conference on Advanced Multimedia Content Processing (AMCP '98). With the remarkable

advances made in computer and communication hardware/software system technologies, we can now easily obtain large volumes of multimedia data through advanced computer networks and store and handle them in our own personal hardware. Sophisticated and integrated multimedia content processing technologies, which are essential to building a highly advanced information based society, are attracting ever increasing attention in various service areas, including broadcasting, publishing, medical treatment, entertainment, and communications. The prime concerns of these technologies are how to acquire multimedia content data from the real world, how to automatically organize and store these obtained data in databases for sharing and reuse, and how to generate and create new, attractive multimedia content using the stored data. This conference brings together researchers and practitioners from academia, industry, and public agencies to present and discuss recent advances in the acquisition, management, retrieval, creation, and utilization of large amounts of multimedia content. Artistic and innovative applications through the active use of multimedia content are also subjects of interest. The conference aims at covering the following particular areas: (1) Dynamic multimedia data modeling and intelligent structuring of content based on active, bottom up, and self organized strategies. (2) Access architecture, querying facilities, and distribution

mechanisms for multimedia content.

Welcome to OOIS'01 and Calgary! This is the 7th International Conference on Object-Oriented Information Systems (OOIS) that focus on Object-Oriented and Web-Based Frameworks for Information Systems. In the last few years we've seen significant new development in this field, from one-off design technologies to reusable frameworks, and from web applications to bioinformatic systems. We perceive that information processing is one of the most important activities of human beings. Object-orientation and frameworks have been the main-stream technologies for design and implementation of large-scale and complex information systems. Recent research advances and industrial innovations in information systems modeling and Internet applications have explored the new trends in shifting information system vendors from component and system developers to services providers. Users of information systems are increasingly demanding higher performance, mobility, and personalization in order to realize the dream to access and obtain necessary information anywhere and anytime. The new development requires the investigation of new architectures, frameworks, processes, and inter-connectivity of information systems at society, organization, team, and personal levels. The OOIS'01 Proceedings has put together a program of 53 papers from leading researchers and practitioners in the field of object technology and information systems.

Masterminds of Programming features exclusive interviews with the creators of several

historic and highly influential programming languages. In this unique collection, you'll learn about the processes that led to specific design decisions, including the goals they had in mind, the trade-offs they had to make, and how their experiences have left an impact on programming today. Masterminds of Programming includes individual interviews with: Adin D. Falkoff: APL Thomas E. Kurtz: BASIC Charles H. Moore: FORTH Robin Milner: ML Donald D. Chamberlin: SQL Alfred Aho, Peter Weinberger, and Brian Kernighan: AWK Charles Geschke and John Warnock: PostScript Bjarne Stroustrup: C++ Bertrand Meyer: Eiffel Brad Cox and Tom Love: Objective-C Larry Wall: Perl Simon Peyton Jones, Paul Hudak, Philip Wadler, and John Hughes: Haskell Guido van Rossum: Python Luiz Henrique de Figueiredo and Roberto Ierusalimsky: Lua James Gosling: Java Grady Booch, Ivar Jacobson, and James Rumbaugh: UML Anders Hejlsberg: Delphi inventor and lead developer of C# If you're interested in the people whose vision and hard work helped shape the computer industry, you'll find Masterminds of Programming fascinating.

Computing Handbook, Third Edition: Computer Science and Software Engineering mirrors the modern taxonomy of computer science and software engineering as described by the Association for Computing Machinery (ACM) and the IEEE Computer Society (IEEE-CS). Written by established leading experts and influential young researchers, the first volume of this popular handbook examines the elements involved in designing and implementing software, new areas in which computers are being used,

and ways to solve computing problems. The book also explores our current understanding of software engineering and its effect on the practice of software development and the education of software professionals. Like the second volume, this first volume describes what occurs in research laboratories, educational institutions, and public and private organizations to advance the effective development and use of computers and computing in today's world. Research-level survey articles provide deep insights into the computing discipline, enabling readers to understand the principles and practices that drive computing education, research, and development in the twenty-first century.

The area of computer graphics is characterized by rapid evolution. New techniques in hardware and software developments, e. g. , new rendering methods, have led to new applications and broader acceptance of graphics in fields such as scientific visualization, multi-media applications, computer aided design, and virtual reality systems. The evolving functionality and the growing complexity of graphics algorithms and systems make it more difficult for the application programmer to take full advantage of these systems. Conventional programming methods are no longer suited to manage the increasing complexity, so new programming paradigms and system architectures are required. One important step in this direction is the introduction and use of object-oriented methods. Intuition tells us that visible graphical entities are objects, and experience has indeed shown that object-oriented software techniques are

quite useful for graphics. The expressiveness of object-oriented languages compared to pure procedural languages gives the graphics application programmer much better support when transforming his mental intentions into computer code. Moreover, object-oriented software development is a well founded technology, allowing software to be built from reusable and extensible components. This book contains selected, reviewed and thoroughly revised versions of papers submitted to and presented at the Fourth Eurographics Workshops on Object-Oriented Graphics, held on May 9-11, 1994 in Sintra, Portugal.

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