

# Books

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developing distributed applications'. While this may be true of commercially available software-engineering environments in general, specific examples do exist, such as the Apollo Domain system, which is commercially available and well respected. Also, there is plenty of relevant research work that could have been critically presented, for example, the Grapevine project at Xerox PARC.

The book consists of three parts: first, a general introduction to distributed computer systems by means of examples; second, hardware and software issues in distributed systems; and third, organization and economics. There is also a short

appendix on application development costs. Part two, the technical core of the book, places strong emphasis on distribution of data but lacks a comprehensive description of the issues in distributed operating systems support. Little is written about the remote procedure call (RPC) as a distributed system development tool (neither its origins, details of operation, semantics, nor distributed systems research based on RPC). The local area networks description is short and weak, which in view of their importance in this field is rather surprising: the exploitation of emergent network technology, and the constraints imposed by it, are not

explored in the detail that might have been expected.

The author does not suggest who might benefit from reading this book. In my view, it is not sufficiently comprehensive as a university or college introduction to distributed computer systems, nor as a technical introduction for professionals. The strength of the book lies more in its organizational and economics aspects, for which it could be recommended to managers in the IT user industry.

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## Comprehensive textbook on functional programming

*Functional programming*

A J Field and P G Harrison

Addison Wesley, Wokingham, UK  
(1988) 602 pp £18.95 hardback

Many books on functional programming have appeared recently, and many more are due to appear in the next few years. Field and Harrison have written a book on functional programming that is aimed at a fairly wide audience.

The book contains an introduction to functional programming using the language Hope (by Burstall, MacQueen, and Sanella, 1980). This minicourse in functional program-

ing is apparently meant to introduce readers at undergraduate level to the field and to convey the flavour of functional programming to the ignorant.

A much larger part of the book (about four-fifths) is aimed at a much smaller audience though. Most of the book deals with theory and implementation of functional programming languages. The main subject of the book is therefore not quite in accordance with the title. The book deals quite comprehensively with implementation techniques of functional languages and is therefore mainly aimed at people who want to

implement functional-language systems or students (graduate level) who are interested in this. The tutorial style makes the book suitable as a textbook, although I would rather use it for a course in compiler technology for functional languages than for a course in functional programming.

The authors can only be praised for managing to make a comprehensive textbook. Topics are dealt with in detail, and exercises are available in sufficient quantities.

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## Good introduction to LISP and its applications

*LISP: from foundations to applications*

G I Doukidis, V P Shah and M C Angelides

Chartwell-Bratt, Bromley, UK (1988)  
226 pp £6.95 softback

The intended readership of this book comprises undergraduates, engineers, and programmers who intend to

learn LISP and use it to develop simple artificial intelligence (AI) systems. It assumes no programming experience, although some, not necessarily in LISP, is considered to be an advantage. The authors claim that the book is appropriate as an introduction to LISP for advanced programmers but also as guide to a first programming course. The most advanced features

of LISP (scope and extent of variables, first-class objectives, macros, etc.), however, are not described in the book.

The book is divided into several distinct levels of program development in LISP. At the first level the authors introduce the LISP concepts. The second level covers the most important characteristics of LISP —