Microcomputer Architectures

Edited by Jean-Daniel Nicoud, Jan Wilmink and Rodnay Zaks
1978 xiv + 280 pages
Price: US $39.25/Dfl. 90.00

The proceedings of the EUROMICRO 77 Conference cover the broad field of microcomputer architectures, including microprocessors, microprogramming, multiprocessor systems and software support. Applications range from computers embedded in consumer devices, to sophisticated fault-tolerant systems.

These proceedings consist of both theoretical contributions and application papers, and with each group of two or three papers, the introduction given by the Session Chairman is included.

As the successor of the proceedings volume of the Second EURO-MICRO Symposium, held in Venice in October 1976, this book illustrates subsequent trends, now more particularly towards microprocessor architectures. The more extensive use of one-chip microprocessors, both as input-output controllers, and as part of a processing unit including many processors, is clearly demonstrated.

Microprocessing and Microprogramming

Edited by J. Wilmink, M. G. Sami and R. Zaks
1978 xx + 336 pages
Price: US $32.75/Dfl. 75.00
ISBN 0-7204-0437-1

Amidst the wealth of papers included, the recent dramatic advent of LSI and MSI techniques is particularly well reflected in the papers on special custom-tailored hardware and software, which shows that the hardware-software balance is exploited deeper than ever before. In many papers the synchronization of multi-processor systems is a main topic. Software support for microprocessor systems, the application of microprocessors in the fields of data transmission and signal processing and the increasing importance of microprogramming, due to the present availability of user microprogrammable computer systems and bit slice processors, are only a selection of the subjects treated. This report, the substantially enlarged version of the Proceedings of the 2nd Symposium on Microprogramming and Microprogramming organized by EUROMICRO in Venice, October 1976, is required reading for anybody involved in any way in the fields of microprogramming and microprogramming.

Fundamentals of Structured Hardware Design

A Design Language Approach at Register Transfer Level

By Reiner W. Hartenstein
1977 xvi + 324 pages
Price: US $36.95/Dfl. 85.00
ISBN 0-444-85007-4

This book introduces an easily readable register transfer level hardware design language, and explains its applications in the description of digital computer structures, subsystems, and integrated circuit components. In parallel, it also introduces a block diagram language which is directly mapped into the symbolic version of the language. The second part of the book, after discussing elementary usage of the language, develops advanced methods of writing structured representations of complex data paths, and wiring patterns. It also examines modular design and the description of complex structures at different levels of abstraction. Finally, the book describes a very concise and highly user-oriented behavioral specification of digital integrated circuits and of LSI circuits.

Minicomputer Software

Edited by J. R. BELL and C. G. BELL
1976 xiv + 334 pages
Price: US $32.50/Dfl. 75.00
ISBN 0-7204-0437-1

Eight papers, by leading experts, provide a wealth of information on the design and application of minicomputer software while in-depth panel discussions offer a stimulating interchange of viewpoints and insights by teachers, users and software designers. Each section of the book is self-contained so the reader may concentrate on those parts of direct interest and value to himself.

"All in all, 'Minicomputer Software' will repay study. While many of the papers are specialised they are nevertheless interesting and the obiter dicta which pop up unheralded in the various discussions often provide interesting sidelights to the main theme. This is partly a book for general reading and partly a book to place on the shelves for reference at the appropriate time."

Small Systems Software

Microarchitecture of Computer Systems

Edited by R. Hartenstein and R. Zaks
1975 x + 294 pages 20 tables 219 illus. over 300 lit. refs.
Price: US $26.00/Dfl. 60.00
ISBN 0-7204-2842-4

This volume contains the papers presented at the First EUROMICRO Symposium. Particular emphasis was placed on the need to bridge the communication gap between the hardware and software engineering sectors, and between other specialized disciplines such as operating systems theory, computer organization, logic design, and design and application of LSI microprocessors. A number of papers also report on recent developments in the organization of micro-programmable hardware.

"...certainly this set of papers is worth reading by people who are interested in microprocessors and microprogramming as a part of computer science in its truest sense or who are interested in machines based on LSI technology."

The Computer Bulletin