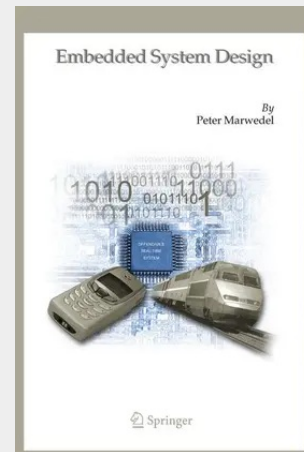


Embedded System Design

Until the late eighties, information processing was associated with large mainframe computers and huge tape drives. During the nineties, this trend shifted towards information processing with personal computers, or PCs. The trend towards miniaturization continues. In the future, most of the information processing systems will be quite small and embedded into larger products such as transportation and fabrication equipment. Hence, these kinds of systems are called embedded systems. It is expected that the total market volume of embedded systems will be significantly larger than that of traditional information processing systems such as PCs and mainframes. Embedded systems share a number of common characteristics. For example, they must be dependable, efficient, meet real-time constraints and require customized user interfaces (instead of generic keyboard and mouse interfaces). Therefore, it makes sense to consider common principles of embedded system design. Embedded System Design starts with an introduction into the area and a survey of specification languages for embedded systems. A brief overview is provided of hardware devices used for embedded systems and also presents the essentials of software design for embedded systems. Real-time operating systems and real-time scheduling are covered briefly. Techniques for implementing embedded systems are also discussed, using hardware/software codesign. It closes with a survey on validation techniques. Embedded System Design can be used as a text book for courses on embedded systems and as a source which provides pointers to relevant material in the area for PhD students and teachers. The book assumes a basic knowledge of information processing hardware and software.

Embedded systems can be defined as information processing systems embedded into enclosing products such as cars, telecommunication or fabrication equipment. Such systems come with a large number of common characteristics, including real-time constraints, and dependability as well as efficiency requirements. Following the success of information technology (IT) for office and workflow applications, embedded systems are considered to be the most important application area of IT during the coming years. This importance of embedded systems is so far not well reflected in many of the current curricula. Embedded System Design is intended as an aid for changing this situation. It provides the material for a first course on embedded systems, but can also be used by PhD students and professors. A key goal of this book is to provide an overview of embedded system design and to relate the most important topics in embedded system design to each other. It should help to motivate students as well as professors to put more emphasis on education in embedded systems. In order to facilitate teaching from this book, slides, exercises and other related material can be downloaded via the author's web page.



144,40 €

144,40 € (zzgl. MwSt.)

Nicht mehr lieferbar

Artikelnummer: 9780387292373

Medium: Buch

ISBN: 978-0-387-29237-3

Verlag: Springer

Erscheinungstermin: 15.11.2005

Sprache(n): Englisch

Auflage: 1. Auflage 2005

Produktform: Kartoniert

Gewicht: 404 g

Seiten: 241

Format (B x H): 160 x 240 mm

