Many computer applications require microprocessors to reliably interconnect and communicate with other peripherals in order to perform their intended functions. Interface design, which includes the development of the methods and processes by which two or more components communicate, is a crucial step in the deployment of microprocessors in an embedded computing environment. ARM-based microprocessors are a leading technology in this field, offering a wide range of performance for different applications.

This book provides a comprehensive treatment of interface design from basic logical and theoretical principles to practical implementation on an ARM-based microprocessor, addressing both hardware and software considerations. The microprocessor's high level of complexity is carefully analysed in the text to provide clear guidance for the reader in the design of new applications, resulting in an invaluable reference resource for graduates and engineers involved in the design of electronic products and systems.

**Key Features:**

- Brings together aspects of digital hardware, interface design and software integration in a single text to make clear the link between low and high level languages for interface control

- Categorises interface techniques into easily distinguished chapters, progressively involving greater complexity, enabling the reader to quickly find relevant material for a particular application
• Provides many practical C-coded examples showing both the preparation and use of complex programmable subsystems implemented in a typical commercial product

• Presents in each chapter an introduction to the essential theoretical aspects and the development of simple interface designs using basic logical building blocks

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**ABOUT THE AUTHOR**

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Jonathan Dell is currently a lecturer in the Department of Electronics at the University of York where for the past 25 years, he has regularly taught courses and laboratory classes using material covered in this book. His areas of expertise include: Computer Aided Design, Microprocessor Design, Signal Processing, Digital Electronics, Microprocessor Systems, Instrumentation Systems, TV & Video Engineering. He has previously co-authored the book *Essence C For Electronic Engineers* (Prentice Hall; 1998).

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