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*need to be
engineered in a*

rigorous,

professional and

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purpose of Volume

2 is to introduce

key practical issues

met in the analysis,

design and

development of

real-time software.

Opening this are

two chapters

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concerned with a
core aspect of

modern software

development:

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groundwork

chapter, explains

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diagrams and the

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software

development

process. Chapter 2

extends this Edition

material showing

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*related topics,
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development, code

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needs of

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systems, and how

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these

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knowledge, skills

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needed to develop

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professional and organised way. The objective of volume 1 is to give a good grounding in the basics of the subject. It begins by describing what real-time systems are, their structures and applications, and the impact of these on software design

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in general.

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*extraction, analysis
and specification,
including the topics
of rapid and
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*Rounding off
volume 1 is a
chapter that
introduces the
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software and
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including*

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*modularization,
structured*

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programming and

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software design

methods The

material, which

forms the

foundations for

later work, is

essential reading

for those new to

real-time software.

Note for lecturers

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who adopt this book as a required course textbook. Supporting material is available, covering both exercises (Word) and course slides (PowerPoint). This is provided free of charge. For further information contact me at jcooling1942@gmail.com

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m. The author: Jim Cooling has had many years experience in the area of real-time embedded systems, including electronic, software and system design, project management, consultancy, education and course

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development. He has published extensively on the subject, his books covering many aspects of embedded-systems work such as real-time interfacing, programming, software design and software engineering.

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NuSMV model checking tool, as well as a chapter treating real-time software design with UML. The final portion of the book explores practical issues of software reliability, aging, rejuvenation, security, safety, and power management. In

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computing. This updated edition adds three new chapters focused on key technology advancements in embedded systems and with wider coverage of real-time architectures. The overall focus remains the RTOS (Real-Time Operating System),

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education in the underlying principles of software-based real-time systems. The material covers the key 'nuts and bolts' of RTOS structures and usage (as you would expect, of course). In many cases it shows

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how these are handled by practical real-time operating systems. After studying this even the absolute beginner will see that it isn't particularly difficult to implement RTOS-based designs

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The author: Jim Cooling has had many years experience in the area of real-time embedded systems, including electronic, software and system design, project management, consultancy, education and course development. He

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has published
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Associates (which
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together a

challenging problem

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and a - lution

domain (model-

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It is also at the

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engineering, as

software in this

problem domain is

an essential tool for

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implementation and

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development in

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forces this notion by

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not only as the tool of abstraction, but also as the tool for verification, implementation, testing, and maintenance. The application of such model-based engineering techniques to embedded real-time systems appears to be a good candidate

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and principles of
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systems, showing
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