Reading guide Real Time Architectures 2004 – 2005

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Abstract
This note is a preliminary version of a reading guide to both the first and second edition of the book of Buttazzo [1][2], identifying those parts that are to be studied for the examination. Note that in addition to a book of Buttazzo, both the slides and the articles of the “Expected reading” on the web have to be studied as well!

Introduction
Roughly speaking, chapters 1 till 5, and 7 of either of the books have to be studied. In the next section, the chapters will be discussed in more detail.

Warning: Because the status of this note is still preliminary, the contents of this document (and therefore the material to be studied) may change!

Discussion by Chapter

Chapter 1
To be studied entirely.

Chapter 2
To be studied entirely.

Chapter 3 Aperiodic Task Scheduling
You should know that EDF is optimal for both independent tasks as well as tasks with precedence constraints for preemptive tasks with asynchronous activation. This implies that you have to read the following sections:

• 3.1 Introduction;
• 3.3 Horn’s Algorithm (EDF)
• 3.5.2 EDF with precedence constraints

Chapter 4 Periodic Task Scheduling
To be studied, except for sections:

• [1]: 4.2.2, 4.2.3;
• [2]: 4.2, 4.3.2, 4.3.3, 4.3.4, and 4.7.

Those having [1] rather than [2] should also carefully study the slides for the processor demand approach!

Chapter 5 Fixed-Priority Servers
To be studied, except for sections:

• [1] & [2]: 5.3.1, 5.3.2, 5.4.1, 5.4.2, 5.5, 5.7.
Chapter 7 Resource access protocols
To be studied, except for section 7.5.

References