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

[1] G.C. Buttazzo, "Hard real-time computing systems, predictable scheduling – algorithms and applications", Kluwer Academic Publishers, 1997, ISBN 0-7923-9994-3 (1st edition).

[2] G.C. Buttazzo, "Hard real-time computing systems, predictable scheduling – algorithms and applications", Springer, 2004, ISBN 0-387-23137-4 (2nd edition).