Paper Submission

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Special Issue: Mixed-Criticality RT Scheduling

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Special issue on Mixed-Criticality Real-time Scheduling

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Scope

There is an increasing trend in safety-critical systems towards implementations that support multiple functionalities, often of different degrees of importance (or criticalities), upon a shared platform. Such mixed-criticality implementations are essential to make more efficient use of platform resources; however, care must be taken in such implementations to prevent failures of non-critical components from affecting the behavior of critical components. Ensuring both correctness and resource-efficiency in such mixed-criticality systems requires the development of fundamentally new perspectives on the modeling of these systems, and of different approaches to resource allocation and scheduling; we solicit papers describing current research on such novel perspectives and approaches.

Topics of interest include (but are not limited to)

- **New models** for representing mixed-criticality systems
  - different aspects of a workload may be viewed differently at different criticality levels --examples include worst-case execution time estimates of pieces of code, and frequencies of external events to which a real-time system must react

- **Run-time algorithms and environments** for the correct and resource-efficient implementation of systems so modeled
  - upon different platform types: single-core, multicore, and distributed
  - upon special-purpose hardware specifically designed to provide support to mixed-criticality workloads

- **Novel techniques** for the analysis of such systems

Important Dates:
Submission deadline: August 15th, 2014