

GEORGE MASON UNIVERSITY
Department of Computer Science
Volgenau School of Engineering

SWE 760 - Software Analysis and Design of Real-Time Systems

Fall 2016

Tuesday 4:30-7:10 PM

Location: IN 208

Term Papers

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Select one of the following for the term paper. You also have the option of proposing a topic for a term paper.

- Investigate SysML (System Modeling Language) for real-time systems development.
- Investigate MARTE (Modeling and Analysis of Real-Time and Embedded Systems) profile for real-time system development.
- Investigate real-time software product lines.
- Investigate real-time software design of cyber-physical systems.
- Investigate software design of real-time systems based on the Internet-of-Things
- Investigate framework and tool support for concurrent task structuring
- Investigate real-time scheduling algorithms including rate monotonic analysis, earliest deadline scheduling, energy-saving algorithms.
- Investigate and implement real-time scheduling algorithm.
- Investigate and implement tool support for real-time scheduling environment to allow running experiments
- Investigate smart sensors and actuators for real-time embedded systems.
- Investigate special purpose real-time applications, e.g., computer games, unmanned flying vehicles (drones or planes), mobile robots, unmanned submarines, automated traffic control, automated highways, smart homes, smart cities
- Investigate energy saving real-time systems.
- Investigate multi-core support for concurrent real-time systems.

HG
8/31/16