Real-time systems
“Lecture outline”

Mathieu Delalandre
Lecture outline (1)

- **Topics**
  
  A. Real-time systems: concepts
  B. Real-time systems: use-case with RTEMS

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- **Parts A:** Lectures and practical works downloadable from
  [http://mathieu.delalandre.free.fr/teachings/realtime.html](http://mathieu.delalandre.free.fr/teachings/realtime.html)

- **Calendar**

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Lecture outline (2)

- Lecture goals: to introduce (detail) concepts, techniques and algorithms for real-time operating systems.
Lecture outline (3)

Bibliography (SCD)
4. F. Cottet and al. Scheduling in real time systems.  

Bibliography (CSDL)  
http://portail.scd.univ-tours.fr/ type ieee  
http://www.computer.org/portal/web/csd1

Magazines  
http://www.computer.org/portal/web/csd1
1. IT Professional
2. IEEE Micro
3. IEEE Design & Test of Computers
4. IEEE Computer
Lecture outline (4)

Proceedings [http://www.computer.org/portal/web/search/proceedings](http://www.computer.org/portal/web/search/proceedings)
1. RTSS Real-Time Systems Symposium
2. RTCSA International Conference on Embedded and Real-Time Computing Systems and Applications
3. ECRTS Euromicro Conference on Real-Time Systems
4. ICPADS International Conference on Parallel and Distributed Systems
5. SRDS International Symposium on Reliable Distributed Systems

Transactions [http://www.computer.org/portal/web/csdl](http://www.computer.org/portal/web/csdl)
1. IEEE Transactions on Parallel & Distributed Systems
2. IEEE Transactions on Computers
3. IEEE Transactions on Mobile Computing
Part A. Real-time systems: concepts “M. Delalandre”

1. Introduction to real-time systems
2. Real-time operating systems without resource sharing
   2.1. Operating Systems Foundations
   2.2. Real-time scheduling of independent tasks
   2.3. Tasks with precedence relationships
3. Real-time operating systems with resource sharing
   3.1. Foundations in synchronization and resource management
   3.2. Resource management in real-time systems
4. Software environment and case studies

Part B. Real-time systems: use-case with RTEMS “F. Ardalan”