READING LIST FOR
COINS 591B
REAL-TIME COMPUTING
J. Stankovic

1 Introductory Articles

1. Misconceptions About Real-Time Computing, J. Stankovic, *IEEE Computer*, Vol. 21, No. 10, October 1988.

2. What is Predictability for Real-Time Systems?, J. Stankovic and K. Ramamritham, *Real-Time Systems*, Vol. 2, December 1990.

2 Real-Time Requirements and Design

1. STATEMATE: A Working Environment for the Development of Complex Reactive Systems, D. Harel, et. al., *IEEE Trans on Software Engineering*, Vol. 16, No. 4, April 1990.

3 Real-Time Programming Languages

1. Real-Time Concurrent C: A Language for Programming Dynamic Real-Time Systems, N. Gehani and K. Ramamritham, *Real-Time Systems*, Vol. 3, No. 4, December 1991.

2. Object-Oriented Real-Time Language Design: Constructs for Timing Constraints, Y. Ishikawa, H. Tokuda, and C.W. Mercer, *Proc. OOPSLA/ECOOP 90*, October 1990.

4 Scheduling

1. Implications of Classical Scheduling Results for Real-Time Systems, J. Stankovic, et. al., to appear *IEEE Computer*.

2. Priority Inheritance Protocols: An Approach to Real-Time Syncronization, L. Sha, R. Rajkumar, and J. Lehoczky, *IEEE Transactions on Computers*, Vol. 39, No. 9, September 1990.

3. Real-Time Scheduling Theory and ADA, L. Sha and J. Goodenough, *IEEE Computer*, Vol. 23, No. 4, April 1990.

4. Synchronization in Multiple Processor Systems, R. Rajkumar, Chapter 3, PhD thesis, CMU, 1989.

5. Efficient Scheduling Algorithms for Real-Time Multiprocessor Systems, K. Ramamritham, J. Stankovic, and P. Shiah, *IEEE Transactions on Parallel and Distributed Systems*, Vol. 1, No. 2, April 1990.

6. Resource Allocation in Real-Time Systems, J. Stankovic, *Real-Time Systems*, Vol. 5, No.2-3, May 1993.

7. Distributed Scheduling of Tasks with Deadlines and Resource Requirements, K. Ramamritham, J. Stankovic, and W. Zhao, *IEEE Transactions on Computers*, Vol. 38, No. 8, August 1989.

5 Operating System Kernels and Architectures

1. UNIX for Real-Time Control: Problems and Solutions, L. Salkind, NYU, Tech Report, September 1988.

2. Real-Time Mach, Towards a Predictable Real-Time System, H. Tokuda, T. Nakajima, and P. Rao, USENIX MACH Workshop, 1990.

3. The Spring Kernel: A New Paradigm for Hard Real-Time Operating Systems, J. Stankovic and K. Ramamritham, *IEEE Software*, Vol. 8, No. 3, May 1991.

4. Logical Address Spaces for Real-Time Tasks, D. Niehaus, J. Stankovic, and K. Ramamritham, internal notes.

5. Real-Time Kernel Interfaces, J. Stankovic, *Real-Time Systems*, Vol. 5, No. 1, pp. 5-8, March 1993.

6. SpringNet: A Scalable Architecture for High Performance, Predictable, and Distributed Real-Time Computing, UMASS TR, 91-74, Oct. 1991.

6 Communication

1. A Local Area Network Architecture for Communication in Distributed Real-Time Systems, K. Arvind, K. Ramamritham, and J. Stankovic, *Real-Time Systems*, Vol. 3, No. 2, May 1991.

2. Real-Time Issues in Distributed Multimedia Systems, B. Furht, *Proc. Second Workshop on Parallel and Distributed Real-Time Systems*, April 1994.

7 System Integration - Examples of Complete Systems

1. The Spring System Description language, D. Niehaus, J. Stankovic, and K. Ramamritham, UMASS CS TR 93-01, January 1991.

2. MARS – Distributed Fault-Tolerant Real-Time Systems: The MARS Approach, H. Kopetz, et. al., *IEEE Micro*, Vol. 9, No. 1, 1989.

8 Other Papers: not to be covered, but some of their concepts are presented

- Software Architectures for Hard Real-Time Applications: Cyclic Executives vs. Fixed Priority Executives, D. Locke, *Real-Time Systems*, Vol. 4, pp. 37-53, 1992.

- Cy-Clone: An Approach to the Engineering of Resource Adequate Cyclic Real-Time Systems, H. Lawson, *Real-Time Systems*, Vol. 4, pp. 55-83, 1992.

- Aperiodic Task Scheduling for Hard Real-Time Systems, B. Sprunt, L. Sha, and J. Lehoczky, *Real-Time Systems*, Vol. 1, pp. 27-60, 1989.