Advance Program

Wednesday

8.15 – 8.30: Opening of conference

8.30 – 10.10: Software I

Session chair: Seongsoo Hong

Design Rationale of a Processor Architecture for Predictable Real-Time Execution of Java Programs
Martin Schoeberl

Synthesis of Legacy Real-Time Ada Software to FPGA
N.C. Audsley and I.J. Bate

An AOP-based Programming Environment with Code Fragment Numbering Supporting Multi-Type Artifacts and Multiple Programming Languages
Jiyong Park and Seongsoo Hong

Predicting Real-Time Properties of Component-Based Applications
Egor Bondarev, Peter de With, and Michel Chaudron

10.40 – 12.20: Scheduling I

Session chair: Zoubir Mammeri

Utility Accrual Scheduling under Arbitrary Time/Utility Functions and Multi-unit Resource Constraints
Haisang Wu, Binoy Ravindran, E. Douglas Jensen, and Umut Balli

An Optimal Balanced-Reward Scheduling Algorithm for Periodic Real-Time Tasks
Po-Yuan Chen, Tai-Yi Huang, and Ting-Shuo Chou

Scheduling Open Dynamic Systems: The Clearing Fund Algorithm
Rodrigo Santos, Giuseppe Lipari, and Jorge Santos

Adaptive QoS Optimizations with applications to Radar Tracking
Sourav Ghosh, Jeffery Hansen, Ragunathan (Raj) Rajkumar, and John Lehoczky

14.00 – 15.40: Real-Time Databases I

Session chair: Bruno Sadeg

ORDER: A Dynamic Replication Algorithm for Periodic Transactions in DRTDBS
Yuan Wei, Andrew Aslinger, Sang H. Son, and John A. Stankovic

Broadcasting Real-Time Data with Maintaining Consistency in Mobile Environments
HyeSook Yoon and Young-Kuk Kim[1]

Scheduling Real-Time Transactions for Sensor Networks Applications
Pedro Fernandes, R. Neto, Maria L. B. Perkusich, and Angelo Perkusich

Implementing Storage Manager in Main Memory DBMS ALTIBASE
Kwang-Chul Jung, Kyu-Woong Lee, and Hae-Young Bae

16.10 – 17.50: Scheduling II

Session chair: Karl-Erik Årzen

Tighter Response-Times for Tasks with Offsets
Jukka Mäki-Turja and Mikael Nolin

The Utilization Bound of non-preemptive Multiprocessor Scheduling is Asymptotically 50%
Björn Andersson

Schedulable Utilization Bounds for EPDF Fair Multiprocessor Scheduling
UmaMaheswari C. Devi and James H. Anderson

Online Scheduling for Imprecise Computations with Deferred Optional Tasks
Wan-Che Lu, Jia-Ming Chen, Wei-Kuan Shih, and Ming-Chung Tang

19.00 Program Committee meeting

Thursday

8.30 – 10.10: Software II

Session chair: Joseph Ng

Experiences with Building Middleware Infrastructures for Home Computing on Commodity Software
Tatsuo Nakajima and Daiki Ueno

A Dynamic Programming Approach to Task Partitioning upon Memory-Constrained Multiprocessors
Sanjoy Baruah and Nathan Fisher

Simple Wait-Free Snapshots for Real-Time Systems with Sporadic Tasks
Håkan Sundell and Philippas Tsigas

A Configurable Synchronization Protocol for Real-Time Self-Suspending Processes
Ya-Shu Chen, Li-Pin Chang, and Tei-Wei Kuo

10.40 – 12.20: Scheduling III

Session chair: Tai-Yi Huang

Real-Time Scheduling on a Java Processor
Martin Schoeberl

The Jitter Margin and Its Application in the Design of Real-Time Control Systems
Anton Cervin, Bo Lincoln, Johan Eker, Karl-Erik Årzén, and Giorgio Buttazzo

Schedulability and Fairness for Computation Tasks in Surveillance Radar Systems
Chi-Sheng Shih, Phanindra Ganti, and Lui Sha

Reward-Based Voltage Scheduling for Hard Real-Time Systems with Energy Constraints
Han-Saem Yun and Jihong Kim

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14.00 – 15.40: Energy Minimization

Session chair: Tatsuo Nakajima

Optimal Frequency Selection in Circuit Designs for energy minimization
Bruno Gaujal and Eric Thierry

A Design Approach for Real-Time Embedded Systems with Energy and Code Size Constraints
Insik Shin, Insup Lee, and Sang Lyul Min

Analysis of Cache Locking Effect on Energy Saving in a Real-Time Kernel
Wonseok Lee, Kyungtae Kang and Heonshik Shin

Integrating Preemption Threshold Scheduling and Dynamic Voltage Scaling for Energy Efficient Real-Time Systems
Ravindra Jejurikar and Rajesh Gupta

16.10 – 17.20: Panel session on "High-level Programming for Real-time Embedded Systems: Pros and Cons"

Session chair: Moon Hae Kim

17.40 - : Conference dinner

Conference dinner is held at Elfsborg's fortress. We gather at the conference venue for transportation (bus + boat) to the fortress.

Friday

8.30 – 10.10: Networking

Session chair: Mikael Nolin

A Hierarchical Routing Protocol for Networks of Heterogeneous Sensors
Shih Ming Tseng and Raju Pandey

Efficient Support for High Traffic-Volumes of Short-Message Real-Time Communication Using an Active Ethernet Switch
Xing Fan and Magnus Jonsson

Real-time Admission Control and Revenue Optimization for Cellular DS-CDMA Networks
Kuo-Chung Chu and Frank Yeong-Sung Lin

End-to-end Window-Constrained Scheduling for Real-Time Communication
Yuting Zhang and Richard West

10.40 – 12.20: Networking / OS and Middleware

Session chair: Jing Chen

On-Demand Broadcast Algorithm on improving Response Time for Real-Time Information Dispatch System
Joseph Kee-Yin Ng and Jianliang Xu

Timing Analysis of an Inter-Cell Mobility Procedure in Wired/Wireless PROFIBUS Networks
Luís Ferreira and Eduardo Tovar

Adding Event-driven Synchronization to RTLinux-GPL An Experience Porting a CORBA ORB
Josep V. Sala, Joan Vila, Sergio Pérez, and Jose A. Alegre

Experimental Dependability Evaluation of the Artk68-FT Real-time Kernel
Joakim Aidemark, Peter Folkesson and Johan Karlsson

14.00 – 15.40: Real-Time Databases II

Session chair: Young-Kuk Kim

Relaxing the Real-Time Constraints in Distributed Real-Time DataBase Management Systems
J. Haubert, B. Sadeg, and L. Amanton

Distributed Optimistic Concurrency Control for Real-Time Database Systems
Jan Lindström

Salvaging Resources by Discarding Irreconcilable Conflicting Transactions in Real-Time Database Systems
Victor C. S. Lee, Joseph Kee-Yin Ng, and Ka Man Ho

A Modified Least Slack Scheduling Policy for DRTDB
Han Kai and Wang JingChun

16.10 – 17.25: Design

Session chair: Chi-Sheng Chi

An Example of Synchronous Design of Embedded Real-Time Systems based on IMA
Abdoulaye Gamatié, Thierry Gautier and Paul Le Guernic

Forward and Time-Jumping Symbolic Model Checking for Real Time Systems
Logothetis George

Real-time Property Preservation in Concurrent Real-time Systems
Jinfeng Huang, Jeroen Voeten and Marc Geilen

17.25 – 17.30: Closing remarks

Advance Program

Organization

Program Chairs:
Jörgen Hansson, Sweden
Moon Hae Kim, Korea

General Chair:
Jing Chen, Taiwan

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Jane Liu, USA Senug-Kyu Park, Korea
Heonshik Shin, Korea
Kang Shin, USA
Kenji Toda, Japan
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Riccardo Bettati, USA
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Sanjoy Baruah, USA

Seongsoo Hong, Korea
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Victor Lee, Hong Kong
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