

Real-time Systems Laboratory (RTSLAB)

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RTSLAB presentation
2001

11 pages
September 27, 2001

People

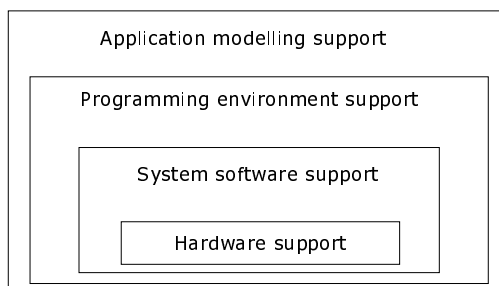
- 3.2 faculty members
- 6 PhD students and one joining in 2001
- 2-3 new positions for 2002



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Layers of design




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Areas of expertise

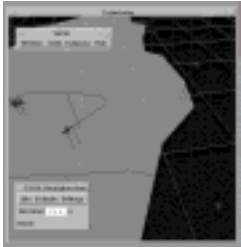
- How to build systems with predictable behaviour in hazardous situations?
 - Systems engineering tool support
 - Formal verification
 - Analysis of effects of faults



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Areas of expertise

- How to use agent technologies for simulating systems?
 - Pilot training
 - Robocup
 - Disasters





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Areas of expertise

- Techniques for real-time systems development
 - Scheduling and overload management
 - Programming environments, synchronous languages
 - Hybrid (discrete-continuous) systems



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New research directions

- Fault-tolerance in distributed systems
 - EU project in cooperation with Ericsson Radio Systems


Replication mechanisms built into middleware


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New research directions

- Survivability in large complex critical infrastructures
 - EU project in cooperation with European Energy Supply networks and Swiss telecom


Cooperating agents for adaptation/reconfiguration


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New research directions

- Embedded Databases
 - Component-based design
 - Specialised databases for Engine Control in Saab Automobiles


Specialised transaction mechanisms


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New research directions

- Support for QoS above network layer
 - Cooperation with UNCC

Combination of FT and resource management




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New research directions

- Safety analysis of hardware errors and failures
 - Project in the new national aerospace program

Formal verification of FPGAs



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