High-Confidence Embedded Systems  
2003 Workshop  
www.cs.cmu.edu/~weigand/aro/index.html

Workshop Program  
Discussion Topics  
Wireless Connection
Verification Tools for Embedded Systems

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Three Main Thrusts of Our Project

Verifying system integrity
- Synchronization constraints
- Resource constraints
- Real-time constraints

Modeling the environment
- Hybrid dynamics
- Stochastic models

Usability
- Extracting models
- Explaining tool feedback
Cross-Cutting Themes

Exploit **model checking** techniques and tools.
Focus on the **task level**.
Incorporate **continuous domains** in our models.
Research Updates

Generation and Applications of Scenario Graphs
  – Oleg Sheyner (Jeannette Wing)

Verification of Real-Time Operating Systems (MicroC/OS)
  – Ed Clarke

Model Checking Publish Subscribe Systems
  – David Garlan

Modeling and Verifying Exception Handling
  – Reid Simmons
Posters (Krogh)

The Verification Toolbox (VTB)
  – Ansgar Fehnker

VTB Model Relations Manager
  – Rajesh Kumar

Systematic Simulation for Embedded Control System Design
  – James Kapinski

Model Reduction for Verification of Hybrid Systems
  – Zhi Han