Trends and Challenges in Embedded Systems Research

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FIT-IT
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Trend = Funding + Policy
Trend = Forum + Interest
Conferences: CASES, CODES+ISSS, EMSOFT, GPCE, FORMATS
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• Workshops (pending): ESTIMedia, WASP, WESS, WESE
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Trend = Challenge + Potential
Quad-Rotor Helicopter
Flight Control
Oops
Applications & Platforms
Engineering Process

Models

Programs

Platforms

Implementation

Validation
Trends & Challenges

- Models
- Programs
- Platforms
Trends & Challenges

Models

Programs

Platforms

Component-Based Design
Trends & Challenges

- Models
- Programs
- Platforms

Component-Based Design
High-Level Real-Time Programming
Trends & Challenges

Models

Programs

Platforms

Component-Based Design

High-Level Real-Time Programming

Multicore & FPGAs
Trends & Challenges

Models

Programs

Platforms

Component-Based Design

High-Level Real-Time Programming

Multicore & FPGAs

Temporal & Spatial Scheduling
Trends & Challenges

Models

Temporal & Spatial Program Analysis

Temporal & Spatial Scheduling

Programs

Component-Based Design

High-Level Real-Time Programming

Platforms

Multicore & FPGAs
Trends & Challenges

Model

- Analysis of Nonfunctional Properties
- Temporal & Spatial Program Analysis
- Temporal & Spatial Scheduling

Programs

- Component-Based Design
- High-Level Real-Time Programming
- Multicore & FPGAs

Platforms
Risk & Reputation
Risk & Reputation

US & EU
Trend = Challenge + Potential
Thank you