Robots are an indispensable part of modern production facilities. In the future, robots will also become more common in daily life. Currently, however, there is a lack of standardization w.r.t. hardware/software platforms for robots, leading to a vast landscape of isolated, incompatible, task-specific and, thus, non reusable solutions. Consequently, there is a need for new engineering methodologies for the design, implementation and execution of software for robotic platforms.

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Model-Driven Robot Software Engineering (MORSE) is a promising research field combining Software Engineering and Robotics. Its objectives are to introduce model-driven development methodologies for the development of robot software. At the same time, formal methods should be transferred to robotics because "robot apps" must be certified and verified. MORSE attempts to fill this gap.

Robotic Platforms: MDA, Models, Processes and Tools
- Hardware/Software Abstractions | Architectures | Metamodels
- Code- and Application-Reuse | Managed Redundancy | Deployment
- Variability in Robotic Systems | Self-Adaptive Systems | Evolution
- Programming Languages | Paradigms | Models | DSLs

Models for and Modelling in Robotics
- Sensors and Actuators | Sensor Integration
- Computer Vision and Image Processing | Recognition and Tracking
- Knowledge Representation and Reasoning | Context Models
- Ontologies and Conceptual Modeling
- Localization, Mapping and Navigation
- Autonomous Robots | Robot Learning and Artificial Intelligence

Robot Ecosystems and Total Cost of Ownership
- Product-Line Development
- End-User Customization | Multi-Tenancy

Model-Driven Quality Assurance of Robotic Systems
- Verification | Validation | Testing | Simulation | Debugging | Profiling
- Handling Emergent Behavior and Uncertainty | Software Qualities

Multi-Robot Systems
- Cooperative Perception | Planning | Task Allocation | Coordination
- Robot Swarms | Multi-Agent Robotic Systems

MORSE16 is co-located with the RoboCup 2016, www.robocup2016.org

RoboCup Date
1st – 4th July 2016

Location
Messe Leipzig
Leipzig, Germany

Abstract Submission
April 4th, 2016

Submission Deadline
April 11th, 2016

Notification
May 2nd, 2016

Camera Ready
June 15th, 2016

Workshop
July 1st, 2016

Submitted papers must conform to the ACM SIG Proceedings Style.

For more information please visit
http://st.inf.tu-dresden.de/MORSE16