

ICRA2009 Workshop on
Software Development and Integration in Robotics
(SDIR2009)

May 12, 2009. Kobe, Japan

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Announcements

- IEEE RAS Technical Committee on Software Engineering for Robotics and Automation
<http://robotics.unibg.it/tcsoft/>
- IEEE Robotics and Automation Magazine – *Special Issue on Software Engineering for Robotics* – March 2009
- JOSER : Journal of Software Engineering for Robotics
<http://www.joser.org>, ISSN 2035-3928
June 1^o, 2009 : submission deadline for the inaugural issue

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Journal of Software Engineering for Robotics

The Journal of Software Engineering for Robotics is an open-access, peer-reviewed electronic journal that aims to promote the synergy between Software Engineering and Robotics. It invites both empirical research papers that evaluate the effectiveness of existing Software Engineering approaches and methods in the development of robotic software systems, as well as theoretical contributions that present new Robotics-specific Software Engineering results.

Inaugural Issue
You are cordially invited to submit your manuscript for the inaugural issue as soon as possible but no later than June 1, 2009. To submit a paper, visit the [For Authors](#) section.

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SDIR IV

- There is a significant portion of robot functionality that is common to a large number of robotic. Unfortunately, most functionality implementations are tied to specific robot hardware, processing platforms, and communication environments and are often not reusable.
- The SDIR workshop series reflects an increased awareness within the Robotics community for the importance of identifying and developing software principles that support the development of new robotic systems as composition of reusable components in order to reduce development time and cost.
- This new edition of the SDIR workshop will focus on software engineering principles that specifically promote robotic software and system flexibility.

Flexibility is the ease with which a system or component can be modified for use in applications or environments other than those for which it was specifically designed. The term environment refers to the complete range of elements in a robot installation that interact with the software system and components, i.e. the computer and network platform, the operating system, the software libraries, the sensing and actuating devices.

- The workshop is intended to create a forum where researchers, practitioners, and professionals discuss on principles and practice in the use of advanced software development techniques for building flexible robotic systems.

Overall Schedule SDIR IV

09:00 – 09:15	Welcome and Opening Remarks
09:15 – 10:30	Paper Presentations I [3 papers, 20+5 min each]
10:30 – 10:45	Coffee Break
10:45 – 12:50	Paper Presentations II [5 papers, 20+5 min each]

12:50 – 14:15	Lunch
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14:15 – 15:15	Tutorial / White paper [2 contributions]
15:15 – 15:30	Coffee Break
15:30 – 17:00	Open Discussion

Program

09:00 – 09:15	Welcome and Opening Remarks
09:15 – 10:30	Paper Presentations I (20+5 min each)
09:15 – 09:40	Elements of a Development Ecosystem for Modular Robot Applications <i>Mirko Bordignon, David J. Christensen, Kasper Stoy and Ulrik P. Schultz</i> Modular Robotics Lab, Maersk Mc-Kinney Moller Institute, Faculty of Engineering, University of Southern Denmark
09:40 – 10:05	Flexible Control System Architecture for RTAI-Linux <i>Philip Roan, H. Hawkeye King and Blake Hannaford</i> BioRobotics Laboratory Department of Electrical Engineering, University of Washington, Seattle, USA
10:05 – 10:30	In <i>situ</i> visualisation, debugging and capturing intentions in robotic software engineering <i>Bruce A MacDonald, Tanveer Abbas, Ian Yen-Hung Chen, Luke Gumbley, Alex Kozlov</i> Department of Electrical and Computer Engineering, University of Auckland, New Zealand
10:30 – 10:45	Coffee Break

10:45 – 12:50	Paper Presentations II (20+5 min each)
10:45 – 11:10	<p>The Control Basis API - A Layered Software Architecture for Autonomous Robot Learning</p> <p><i>Stephen Hart, Shiraj Sen, Sichao Ou, Rod Grupen</i></p> <p>Laboratory for Perceptual Robotics, University of Massachusetts Amherst, U.S.A.</p>
11:10 – 11:35	<p>S/W Framework in OPRoS Robot Platform</p> <p><i>Sang Chul Ahn, Ju Young Park, Yong-Moo Kwon, Heedong Ko, and Hyoung-Gon Kim</i></p> <p>Imaging Media Research Center, Korea Institute of Science and Technology, Seoul, Korea</p>
11:35 – 12:00	<p>HRS-OpenBrain: A JAUS Compliant Robot Programming Framework</p> <p><i>Anuj Kapuria, Gaurav Taank, Sahil Malhotra, Shashank Bhatia, and Chandan Datta</i></p> <p>Hitech RRobotic Systemz Ltd, Gurgaon, India</p>
12:00 – 12:25	<p>A Software Platform for Control, Communication, and Contents Composition for Thin-Client Robots</p> <p><i>Kyoung Jin Kim (Robomation, Co., Ltd, Seoul, Korea), Il Hong Suh (Hanyang University, Seoul, Korea), and Kwang-Hyun Park (Kwangwoon University, Seoul, Korea)</i></p>
12:25 – 12:50	<p>Facilitating Re-Use by Design: A Filtering, Transformation, and Selection Architecture for Robotic Software Systems</p> <p><i>Ingo Lütkebohle, Jan Schaefer and Sebastian Wrede</i></p> <p>Bielefeld University, Germany</p>
12:50 – 14:15	Lunch

14:15 – 15:15	Tutorial / White Paper (20+5 min each)
14:25 – 14:50	Software Flexibility in Robotics: the BRICS approach <i>Davide Brugali</i> Università degli Studi di Bergamo, Italy
14:50 – 15:10	Demo-Video of the SmartSoft MDSD Toolchain using the SmartMARS profile <i>Andreas Steck, Dennis Stampfer, Christian Schlegel</i> University of Applied Sciences Ulm
15:10 – 15:15	Announcement IROS Workshop
15:15 – 15:30	Coffee Break
15:30 – 16:00	The Use of Reuse of Hardware and Software components in robot development <i>Erwin Prassler[*], Herman Bruyninckx⁺, Klas Nilsson[#], Azamat Shakhimardanov[*]</i> [*] University of Applied Sciences Bonn-Rhein-Sieg, Germany ⁺ Katholieke University Leuven, Belgium [#] Lund University, Sweden
16:00 – 17:30	Open Discussion