GI-Workshop on Organic Computing
September 24, 2004 in Ulm, Germany
in connection with
"34. Jahrestagung der Gesellschaft für Informatik INFORMATIK 2004"
http://www.informatik2004.de/

Call for Papers

The integration, deployment and management of complex computing systems begins to overwhelm the capabilities of software developers and system administrators. The only viable long-term solution is to create computer systems that manage themselves, perhaps utilizing mechanisms taken from biological systems, in accordance with high-level guidance from humans. Organic Computing investigates the design and implementation of self-organizing systems that are self-configuring, self-optimizing, self-healing, self-protecting, self-describing, context aware, and anticipatory. Thus organic computing includes the autonomic computing targets of the IBM initiative. Organic computing emphasizes on biological and organic-inspired systems and on the aspects of self-organization and emergence. Meeting the grand challenge of Organic Computing requires scientific and technological advances in a wide variety of fields.

The GI-Workshop on Organic Computing assembles researchers from university and industry in diverse fields who are addressing important aspects of self-organization in computing systems. We hope to establish a unified community that can work together to realize the ultimate vision of large-scale organic computing systems. Papers are solicited on a broad array of topics of relevance to organic computing; particularly those that bear on connections and relationships among different areas of research. Topics of interest include, but are not limited to:

- **Base technologies** for self-organizing components including statistical, machine learning, and optimization techniques, planning, knowledge representation, reasoning, fault diagnosis, policies, sensing, and monitoring.

- **General architectures** for individual components or for organic computing systems as a whole, based on biological, economic, social, or other analogies.

- **Organic Computing systems or prototype systems** that exhibit self-organization, self-configuration, self-optimization, self-healing, self-protection, self-description, context-awareness and anticipation.

- **Toolkits and specification languages for Organic Computing** to support development of Organic Computing systems or applications.

- **Technologies that support inter-element interactions**, such as service-level agreements, federation, negotiation protocols and algorithms, and conversation support.

- **System-level technologies** or services that entail interactions among two or more components of self-organizing systems.

- **Human interaction with Organic Computing systems** including interfaces for monitoring and controlling behaviour, and techniques for defining, distributing, and understanding policies.

- **Fundamental research of self-organizing systems**: understanding, controlling, or exploiting emergent behaviour, theoretical investigations of coupled feedback loops, robustness, and other related topics.

Important Dates

April 30, 2004   Submission deadline due
May 28, 2004   Notification of acceptance/rejection
June 30, 2004   Camera-ready paper due

Publication and Submission

The workshop proceedings will be published in the 'GI Lecture Notes in Informatics (LNI)'. Papers should not exceed 5 pages in LNI style (see: http://www.gi-ev.de). We accept only electronic submissions in postscript or pdf format. The email for the submission is organicworkshop@informatik.uni-augsburg.de.

Organization Committee

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