

CALL FOR PAPERS

AI EDAM Special Issue, May 2011, Vol. 25, No. 2 CONFIGURATION

Guest Editors: Alexander Felfernig, Markus Stumptner, & Juha Tiihonen

Configuration can be defined as the composition of a complex product from instances of a set of component types, taking into account restrictions on the compatibility of those component types.

From the viewpoint of product configuration, different artificial intelligence (AI) approaches are well established as central technologies in industrial configuration systems. However, the wide use of configuration technologies and the increasing size and complexity of configuration problems in industry makes the field more challenging than ever. Nowadays, the mass customization paradigm is extended from traditional physical products to the fields of software and service configuration. Traditional configuration systems have evolved into interactive Web-based applications that need to support highly sophisticated preference handling and explanation techniques.

In addition to the configuration of physical products, real-world applications of configuration technologies are also encountered in domains such as computational biology, service composition, design, image analysis, model-driven software engineering, and software product lines. The ever increasing range of real-world applications triggers the demand to extend existing configurator functionalities. A wide range of AI techniques provide major contributions in this context: constraint satisfaction, description logics, logic programming, case-based reasoning, learning, knowledge acquisition, intelligent testing, and different specialized problem solving methods.

As a successful AI application area, configuration has attracted lasting industrial interest and renewed research, as demonstrated by recent workshops on configuration at IJCAI 2009, ECAI 2008, AAI 2007, ECAI 2006, IJCAI 2005, ECAI 2004, IJCAI 2003, ECAI 2002, IJCAI 2001, ECAI 2000, AAI 1999, and the AAI 1996 Fall Symposium.

The goal of this Special Issue on configuration is to demonstrate novel and innovative configuration research as well as new industrial applications of configuration technologies. We encourage submissions describing novel results involving AI in configuration-related areas, which may include, but are not limited to, the following:

- theoretical issues justified by practical concerns;
- methods for computing configurations and supporting configuration tasks;
- methods for effective configuration knowledge base development, testing, and debugging;
- configuration and product and service design, product and service life cycle management, and production management;
- thorough case studies highlighting new practical problems, needs, and experiences; and
- practical and new applications based on a well-defined theory or model.

Articles that survey different approaches and thoroughly analyze their differences and commonalities are also welcome.

Papers will be anonymously reviewed by at least two reviewers. Quality papers not selected for this Special Issue may be considered for standard publication in *AI EDAM*.

Information about the format and style required for *AI EDAM* papers can be found at www.cs.wpi.edu/~aiedam/Instructions/. However, note that all submissions for Special Issues go to the Guest Editors, **not** to the Editor in Chief.

Important Dates

Submission deadline for full papers:	20 March 2010
Notification and reviews to authors:	15 June 2010
Revised version submission deadline:	20 August 2010
Final notification:	20 September 2010
Final version submission deadline:	20 October 2010

Guest Editors

Please direct all inquiries and submissions to the Guest Editors.

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