Preface

This volume contains the Proceedings of the Eighteenth JURIX Conference on Legal Knowledge and Information Systems (JURIX 2005), which is held on December 8-10, 2005 at the Vrije Universiteit Brussel in Brussels, Belgium.

Thirteen full papers and seven extended abstracts are included in these Proceedings. Authors, invited speakers and workshop organizers come from Australia, Austria, Belgium, Canada, China, France, Germany, Italy, Portugal, Russia, Spain, Switzerland, United Kingdom, and the United States of America. It seems that the JURIX conference is becoming the leading European conference on legal informatics and artificial intelligence and law.

A number of papers discuss traditional topics of artificial intelligence and law and draft models of law and legal reasoning. The research of Katie Atkinson and Trevor Bench-Capon is a valuable attempt to integrate different existing models of legal reasoning. Guido Governatori, Monica Palmirani, Regis Riveret, Antonio Rotolo and Giovanni Sartor discuss a framework for defeasible reasoning. Alexander Boer, Tom van Engers and Radboud Winkels argue that legal norms are in many contexts best understood as expressions of a ceteris paribus preference, and that this viewpoint adequately accounts for normative conflict and contrary-to-duty norms. The paper of Christopher Giblin, Alice Y. Liu, Samuel Müller, Birgit Pfitzmann and Xin Zhou introduces a meta-model and method for modeling regulations and managing them in a systematic lifecycle in an enterprise. Jeroen Keppens and Burkhard Schafer discuss evidentiary reasoning and its formalization in a first-order assumption-based reasoning architecture. Moshe Looks, Ronald P. Loui and Barry Z. Cynamon present a mathematical modeling method of agents that pursue their interests and of a legislator who tries to influence the agents in ways that promote the legislator's goals.

Three papers are on the topic of legal knowledge acquisition using natural language processing. Pietro Mercatali et al. discuss the first steps that are needed for the automatic translation of textual representations of laws into formal models. The paper of Farida Aouladomar analyzes the form, presentation, meaning and modes of answering procedural questions ("how") in the context of online e-Government applications. Paolo Quaresma and Irene Pimenta Rodrigues discuss a question answering system for legal information retrieval.

A number of short papers describe very interesting work in progress and often focus on practical applications such as reducing the legal burden, planning a new bill, classification of legislative documents, and reasoning tools for e-Democracy.

A final section of the Proceedings is devoted to the use of ontologies in describing the law. The paper of Ronny van Laarschot et al. attempts to bridge the gap between a laymen's description and legal terminology. Peter Spyns and Gilis Hogben apply and validate an automatic evaluation procedure on ontology mining results from the EU privacy directive. Roberto García and Jaime Delgado present an ontological approach for the management of data dictionaries of intellectual property rights. Finally, Laurens Mommers and Wim Voermans explain how cross-lingual information retrieval is useful in the legal field.

Invited lectures were given by Luc Wintgens and Helmut Horacek.

This conference focuses on two major themes and their integration: Artificial Intelligence and E-Government. Currently, several artificial intelligence technologies are growing increasingly mature, including computational modeling of reasoning, natural language processing, information retrieval, information extraction, machine learning, electronic agents, and reasoning with uncertainty. Their integration in and adaptation to legal knowledge and information systems need to be studied. Parallel to this development, e-government applications are gradually gaining ground among local, national, European and international institutions. More than 25 years of research in the field of legal knowledge and information systems have resulted in many models for legal knowledge representation and reasoning. However, authors and reviewers rightly remarked that there are still some essential questions to be solved. First, there is a need for the integration and harmonization of the models. Secondly, there is the difficult problem of knowledge acquisition in a domain that is in constant evolution. if one wants to realize a fruitful marriage between artificial intelligence and e-government, the aid of technologies that automatically extract knowledge from natural language and from other forms of human communication and perception is needed.

The organizing committee of JURIX 2005 consists of Peter Spyns, Greet Janssens, Johan Verdoodt, Pieter De Leenheer and Yan Tang. This committee is very grateful to Koen Deschacht, Toon Lenaerts and Roxana Angheluta for their extra help. We especially thank the members of the program committee of this conference:

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Leuven, October 26, 2005

Marie-Francine Moens   Peter Spyns
Chair of the program committee   Chair of the organizing committee