Legal Knowledge Based Systems

JURIX '97

JURIX: The Tenth Conference

The Foundation for Legal Knowledge Systems

Editors:
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R.V. De Mulder
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The Foundation for Legal Knowledge Systems (JURIX) is a forum for research in Law and Artificial Intelligence in The Netherlands. Since 1988, JURIX has organized annual conferences on current research in the field.

This volume contains the proceedings of the tenth international JURIX conference, held at The Vrije Universiteit Amsterdam on December 12, 1997. The themes addressed in this volume are: modelling the law and ontologies, argumentation frameworks, arguing with cases and the impact of success in computer chess on legal knowledge based systems.

JURIX '97

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Foreword

The tenth JURIX conference has again succeeded in being a platform for researchers from all over the world. The proceedings of the JURIX '97 conference represent some of the topics of interest at this moment: modelling the law and ontologies, argumentation frame works and arguing on the basis of cases. The papers do not solely contribute from a theoretical point of view, but also take into account the practical angle.

The contributions

The topic of modelling the law and ontologies is discussed from different angles. The paper of Bart Verheij and Jaap Hage presents an abstract model of the law that takes the view that the law is a dynamic system of states of affairs which are connected by means of rules and events. As such, this model can be considered to be a legal ontology and can be useful for legal knowledge representation. In his paper, Pepijn Visser discusses the ontology mismatches that occur because lawyers must use various information systems. It will become more and more important to integrate these systems. However, problems will arise from differences in domain ontologies in the participating systems. The paper presents a classification of ontology mismatches and discusses how hard they are to overcome. The paper of Anneke de Lange and Peter Schipper presents a knowledge based architecture framework for integrated services in an administrative law environment, the Service 2000-project. The framework has been developed from a combined knowledge management and AI and Law perspective. For handling ontology problems they developed the 'Knowledge broker' which uses strategic knowledge to make the different ontologies co-operate in an effective way.

The paper of Arno Lodder discusses one of the aspects in the discussion on argumentation frameworks that so far has not had much attention: the procedural side. Since procedural arguments play an important part in legal practice, Lodder argues that procedural models of legal reasoning should take procedural arguments into account. James Palmer addresses some problems with argumentation frameworks. While acknowledging the merits of argumentation frameworks, he argues that although they are well suited to modelling a piece of legal reasoning, after the conflicting arguments have been presented and assessed by a human reasoner, they are not well suited as the basis for AI applications which attempt to generate and assess such arguments.

The remaining topic of the conference deals with cases. The paper of John Yearwood examines techniques for improving retrieval effectiveness by using the structure present in the text cases. It has been shown that better results are achieved when a derived legal structure is used and even with a simple derivative process the results have greater depth. In the last paper in the JURIX '97 proceedings, Trevor Bench-Capon discusses the work done in two of the most successful programs for reasoning with cases in AI and Law: HYPO and CATO. He presents an algorithm for generating legal arguments and concludes by drawing attention to three areas of possible future investigation.

Debate on computer chess and legal knowledge systems.

The fact that in 1997, for the first time in history, a computer in a series of games defeated the reigning chess world champion gave rise to a debate on the future of legal informatics. During the conference, a panel discussion will take place between lawyers, computer scientists and chess players. In this book, the 'position papers' of two of the participants have been published in advance. Jaap van den Herik expresses his long held belief that as a computer can play chess the inescapable consequence is that a computer can make legal, and even judiciary, decisions. Abdul Paliwala points out that in order to atomise legal decision making, a choice has to be made as to which legal theories to adopt. Furthermore, he sketches a dangerous future in which the LAW will be adapted to facilitate the programming of automated decision systems.

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