

The challenges of creating a negotiation support system for bilateral multi-issue bargaining

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Negotiation is a complex emotional decision-making process aiming to reach an agreement to exchange goods or services. Although a daily activity, few people are effective negotiators. Existing support systems make a significant improvement if the negotiation space is well-understood, because computers can better cope with the computational complexity. However, the negotiation space can only be properly developed if the human parties jointly explore their interests. The inherent semantic problem and the emotional issues involved make that negotiation cannot be handled by artificial intelligence alone, and a human-machine collaborative system is required. This presentation presents research goals, ideas, challenges and an approach towards creating the next generation of negotiation support systems.

Catholijn Jonker (1967) is full professor of Man-Machine Interaction at the Faculty of Electrical Engineering, Mathematics and Computer Science of the Delft University of Technology. She studied computer science, and did her PhD studies at Utrecht University. After a post-doc position in Bern, Switzerland, she became assistant (later associate) professor at the Department of Artificial Intelligence of the Vrije Universiteit Amsterdam. From september 2004 until september 2006 she was a full professor of Artificial Intelligence / Cognitive Science at the Nijmegen Institute of Cognition and Information of the Radboud University Nijmegen. She chaired De Jonge Akademie (Young Academy) of the KNAW (The Royal Netherlands Society of Arts and Sciences) in 2005 and 2006, and she was a member of the same organisation from 2005 to 2010.

Her recent publications address cognitive processes and concepts such as trust, negotiation, and the dynamics of individual agents and organisations. In Delft she works with an interdisciplinary team to engineer human experience through multi-modal interaction between natural and artificial actors in a social dynamic context. End 2007 her NWO-STW VICI project “Pocket Negotiator” has been awarded. In this project she develops intelligent decision support systems for negotiation.