

Negotiation can be conceived as the exchange of messages among self-interested agents in order to settle on an agreement over a given issue. They decide which messages to send according to their preferences and their evolving beliefs. Agents able to handle this dynamics of messages and beliefs can be represented by means of an extension to DeLP, which we call Decision-theoretic Defeasible Logic Programming (DDeLP), that allows the inclusion of preferences among pieces of information. The ensuing ordering allows to modify the notion of warrant in order to answer queries by means of a modified dialectical tree. This framework can be shown to be sound and complete, as well as easily implementable. Further work involves generalizing these ideas to include orderings of the pieces of information, based on any kind of rationales. This approach to argumentation has the advantage of providing a useful platform for the representation of beliefs and the generation of messages. The interactive nature of negotiations requires an updating mechanism to be applied over the knowledge bases of the agents. The features of this mechanism are described by a *protocol* for a negotiation.

Preferential Defeasibility: Utility in Defeasible Logic Programming. F. A. Tohmé, G. R. Simari, 10th International Workshop on Non-Monotonic Reasoning, June 6-8, 2004, Canada. pp. 394-399.

Negotiation among DDeLP Agents. F. A. Tohmé, G. R. Simari, Iyhad Rahwan et al. (Eds.): ArgMAS 2004, Lecture Notes in Artificial Intelligence (LNAI) 3366, pp. 225-235, 2005.