

Resolving conflicts between personal and normative goals in normative agent systems

ABSTRACT

In this paper, we present a framework for resolving conflicts between personal and normative goals in normative agent systems. The conflicts occur in the decision making process of time-constrained tasks of those goals. The agents observe the environment, generate the tasks based on their obligation to an authority, their desires, and intentions. They select and execute the tasks from a set of pre-compiled tasks based on their beliefs of the reward and penalty associated with the selected tasks. To resolve the conflicts within the constraint of the tasks' duration, we supplement the agents' normative capacity with two essential functions: Sacrifice and Diligence. The Sacrifice function enables an agent to reason and discard any tasks that have lower priorities to make way for accomplishment of the normative goal. The Diligence function enables an agent to increase its effort in accomplishing the normative goal in time-constrained situations. We simulate these situations and present the results.

Keyword: Component; Norms; Software agents; Intentional agent; Multi-agent systems