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"Um Modelo Multiagente Descentralizado em Ambientes Fechados Baseado em Leis Locais"

Software agents have been requested more and more in function of a growing demand by systems that ôsolve the userÆs problemö with the minimum of interaction of the same. Even so, in na computational environment where several different agents share resources for they reach its goals , the occurrence of conflicts among them is inevitable. For so much, a treatment suitable in the sense of propiatiating the resolution of those conflicts is of highest importance so that the those agentsÆ objectives are reached. The problem focused by the present work is the dimension of the middle or computational ambient more suitable for the resolution of conflicts among multiple computacional agents.

Three focuses exist for the treatment of conflicts in the interactions among computational agents: to allow constant human interaction in the resolution of the conflicts; to use rules and comportamental structure concentrating the knowledge for the resolution of conflicts on the agents; to use the own computational environment as structure of resolution of conflicts according to the paradogm of social laws.

We chose the third boarding. We propose a model of aid to the resolution of conflicts in closed environments, with multiple agents, that is, environments where the laws or interaction rules, behavior and performance are very defined in the environment. The proposed model isbased on the application of Social Laws and it was inspired by the theory of Jean Jaques Rosseau Soacial Contract, being denominated Model Tri- Coord, that is, of Triple Coordination.

The model Tri- Coord intoduces three special agents: Executive Agent, Legislative agent and Judiciary Agent with competence to act in the environment whenever certain situation to force its performance. Actually, the agentsÆ behavior is implicit controlled by the environments. The agents learn correctly as interact and the independence between the ambient and the agents turns the much most flexible system.

The viability of the model is demonstrated by a prototype servant (S-Tri-Coord) for the design domain (in group) of plant of oil process and gas in platforms off-shore of petroleum.