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## Guest Editorial: The Agent Reputation and Trust (ART) testbed

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Computational trust and reputation models have been recognized as one of the main topics in the area of autonomous agents and multiagent systems. Whenever you have a complex society you need control mechanisms to ensure that the behaviour of the individuals follows certain conventions. In open virtual societies and similar to what happens in real human societies, on top of low level security measures (network security layer) and the control exerted by virtual institutions (institutional layer), there is still a need for an extra layer based on the individuals. In this layer, that can be called “social control layer”, is where we find the computational trust and reputation models.

Given the relevance acquired by these kind of models, the last few years a lot of proposals have arisen. Although this explosion of models is positive, also creates an important problem. It is difficult for the candidate users of this models to identify which are the better options. This is due to the fact that each model is tested under different conditions that make the comparison among them very difficult or sometimes impossible.

In this context is where in 2004 appears the ART testbed initiative. The Agent Reputation and Trust (ART) Testbed initiative was launched with the goal of establishing a testbed for agent

reputation- and trust-related technologies. By means of annual competitions, different models belonging to different research groups are confronted under the same conditions in a common scenario in order to establish a comparison among them. Till now there have been performed 2 international competitions (hosted by the AAMAS international conference in Hakodate -2006- and Honolulu -2007-) as well as 2 local competitions in Spain (hosted by the Spanish Agentcities network the years 2006 and 2007).

The papers presented here are a selection of the papers presented in the Workshop on Competitive agents in “Agent Reputation and Trust Testbed” performed during the “XII Conferencia de la Asociación Española para la Inteligencia Artificial” (CAEPIA-07). During that workshop, participants in the Spanish competition (some of them also participants of the international competition) presented different strategies and analysis of their models. We have selected three papers that are representative of the work the research groups that participate in the ART testbed competition are performing. The selection is complemented by an article authored by some of the ART organizers where some problems of the current testbed are analysed and where some changes are proposed for future competitions.