Dynamic Agent Communities Facilitating to Distant Learning in a Virtual University Information Space

Vadim Ermolayev

Abstract--Presented is the approach to the design of Virtual Information Space[1] for a virtual/real university based upon the paradigms of intellectual software agent, multi-agent system, dynamic task-oriented agent community. Virtual Information Space is proposed as the unifying concept for the design of the distributed intelligent distant learning facilities. The particularity of the framework presented is its capability to perform the tasks of information interchange without pre-defined task plans. Agents and Multi-Agent Systems inhabit Virtual Information Space, model real life actors -- faculty, technical and administrative staff as well as the users from the outside and assist in their tasks execution. The communities the agents dynamically join model the processes of university management and distant learning. Parametric feedbacks and agents' ability to evolve facilitate to the fine-tuning of management routines and to the improvement of teaching and learning.

PhD students' recruiting case study provides the illustration of the framework applicability to Virtual University and Distant Learning domains.

Index Terms--Virtual Information Space, Distant Learning, Intelligent Agents, Agent Communities, Evolution.

Dept. of Mathematical Modelling and IT, Zaporozhye State University,
66, Zhukovskogo st., 69063, Zaporozhye, Ukraine,
e-mail: eva@zsu.zaporizhzhe.ua