Abstract

This paper develops a trustable software agent framework to simulate the possible situations of trust between agents and propose novel solutions that could be provided by software agent technology. The technology is applied to the security and trust process to overcome the serious issues that could be faced by using software agent technology. This study demonstrates the use of autonomous software agents to secure the Examination Paper Preparation and Moderation Process (EPMP) domain and apply security and trust mechanisms on the agents that access and perform various domain tasks. Three levels of trust are designed, which correspond to the EPMP domain’s groups of people who are the Examination Committee, Moderator, and Lecturer. Each level has its own trust requirements that should be fulfilled by the agent in order to access the level, otherwise the agent is blocked and access to the level is
denied. This work implements the proposed framework for the domain and observes the results of the security and trust mechanisms. It then compares the performance before and after the implementation to see the effectiveness of the framework.

References

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Index Terms

Computer Science

Security
Keywords

Intelligent Software Agents  Multi-agent Systems  Trust  Trustable Agents

Trustable Framework.