



2005 AAI Fall Symposium

Roles, an interdisciplinary perspective

November 3-6, 2005, Hyatt Crystal City in Arlington, Virginia

The notion of role is ubiquitous not only in many areas of artificial intelligence, but also in many other fields of computer science, like programming languages, software engineering, coordination, databases, multiagent systems, computational linguistics and conceptual modelling, and also in other scientific fields, like formal ontology, sociology, cognitive science, organizational science and linguistics.

In sociology, on the one hand roles are often described as expected behavior of entities or agents, on the other hand roles are seen also as presentations of selves. In organizational science roles encompass more formal aspects such as rights and duties. Three different viewpoints characterize research on roles:

- roles as named places in relationships (especially in linguistics, databases and conceptual modelling).
- roles as dynamic classification of entities (especially in programming languages and databases).
- roles as instances to be adjoined to the entities which play the role (especially in ontologies, multiagent systems and programming languages).

Undisputed distinguishing features of roles seem to be their dependence on some other entities and their dynamic character (Sowa 1984). These properties contrast roles with the notion of natural types. Natural type seems to be essential to an entity: if an entity changes its natural type, it loses its identity; in Guarino (1992)'s terms, roles lack the rigidity which natural types possess. Masolo *et al.* (2004) elaborate the relational nature of roles, highlighting their definitional dependence on other concepts.

Discussions on roles are important not only to have a better understanding of theories using this notion, but also from the applicative point of view. E.g., integration of ontologies, programming languages, software engineering, databases, and simulation can benefit from the introduction of a well founded notion of role.

However, as, e.g., Steinmann (2000) witnesses, there is no common agreement yet about the definition of role, the properties of roles, and the way they can be modelled in a uniform way in the different areas. One likely reason is that roles are discussed in very different contexts, so that interested researchers have little opportunity to meet with each other. Even if there are events where roles are discussed, they always appear as a sub-topic within the framework of more general issues (like the AOSE workshop about agent oriented software engineering, or the recent CoOrg05 workshop at Coordination05); hence, there are few venues for research integration.

With this Symposium we propose to gather researchers working across the boundaries of their scientific fields to explore new formal and computational techniques and research methodologies for integrating research results. For this reason the Symposium will provide time for discussion besides paper presentations.

Submissions

Researchers interested in making a presentation should submit a paper about theoretical or applicative issues (not to exceed 5,000 words). Other participants should submit either a position statement or a research abstract in order to be involved in the discussion. Submissions should be uploaded at <http://roles05.di.unito.it/> Questions should be sent to Guido Boella (guido [at] di.unito.it).

Papers will be published in the symposium proceedings and extended versions of the best papers of the Symposium will be selected for publication on some renowned journal. Participants from all parts of the AI community as well as from other fields are encouraged.

Instructions for authors can be found at website <http://aaai.org/Symposia/Fall/fall-symposia.html>

Deadlines

- May 3, 2005: Submission due to organizers
- May 24, 2005: Notifications of acceptance sent by organizers
- November 3-6, 2005: Symposium

Website

<http://normas.di.unito.it/zope/roles05>

Organizing Committee

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References

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J.F. Sowa. *Conceptual structures*. Addison Wesley, NY. 1984.

F. Steimann. On the representation of roles in object-oriented and conceptual modelling. *Data and Knowledge Engineering* (35), 2000.