Preface

The challenges that have confronted the developers of intelligent systems for the past three decades are compounded as the AI community now attempts to build systems that can be distributed on the Internet in nearly endless ways. There is a strong symbiotic relationship between Intelligent Systems and the Semantic Web.

This symposium brings together researchers and application developers from the area of semantic web (SW) and knowledge engineering (KE). Its goal is to promote the exchange of knowledge and ideas, and to highlight possible future developments and challenges. The intention is to promote multidisciplinary research that will eventually be beneficial for both the SW and KE fields. The KE community brings three decades of extensive knowledge acquisition and intelligent systems development to the table; the SW community has much to learn from this. At that same time, the SW community has articulated a very bold research agenda and is beginning to develop some eye-catching applications as well as some important new technologies. Clearly, the SW community can offer techniques and ideas that are of considerable benefit to the KE community.

The following topics are covered by the symposium:

- Collaborative ontology development
- Searching for relevant ontological materials
- Creating knowledge base systems from components
- Architectures of SWKE systems
- Choosing the appropriate representational formalism for your application
- Wikis and the semantic web

One of the major insights of the knowledge engineering community is that knowledge based systems can be produced from components — namely from knowledge bases / instantiated ontologies on the one hand together with inference engines / problem solvers. These components are likely to be held at a variety of different sites on the web, so there are significant challenges associated with developing search techniques to find these components. Once found, these components will often need to be refined to suit the current requirements, and it is likely that mappings will need to be made between the variables of the problems solver(s) and those of the knowledge bases. Once created, a further challenge is to produce web services from these systems, thus making them available to the whole web community.

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