Objective

We are on the brink of a new generation of World Wide Web, the SEMANTIC WEB. Unlike the existing Web, the Semantic Web will provide machine processable data content, enabling a wide range of intelligent services. The development of ONTOLOGIES will be central to this effort: by defining shared and common domain theories, ontologies help both people and machines to communicate more effectively. They will therefore have a crucial role in enabling content-based access, interoperability and communication across the Web, providing it with a qualitatively new level of service. The project aims to develop the INFRASTRUCTURE required for the large-scale deployment of ontologies as the foundation for the Semantic Web. This will involve not only the establishment of Web standard ontology languages, but also the parallel development of ontological engineering technology.

OBJECTIVES
The main objectives of the project are:
- the development of a family of ontology languages that extend existing Web standards while maintaining maximum backwards compatibility;
- the development of the comprehensive technical infrastructure and tool support that will be required for the development and deployment of ontologies;
- the development of a set of foundational ontologies covering a wide range of application domains, each
providing a carefully crafted taxonomic backbone with a sound high level structure that can be used as the basis for the development of more detailed domain ontologies;
- the development of a framework of techniques and methodologies that will provide an engineering approach to the building and use of ontologies, dealing in particular with integration, migration, reconciliation and sharing.

DESCRIPTION OF WORK
The project objectives will be realised in the following work packages:
1. Language Architecture: A layered architecture of ontology languages will be developed based on existing Web standards. Consortium members active in this area will maintain contacts with non-European initiatives and contribute to the W3C, with a view to agreeing new Web standards;
2. Tools and Services: A technical infrastructure will be developed, with a component-based, extensible plug-in architecture providing persistent storage, reasoning services, versioning and APIs for ontology engineering and applications. To this will be added a suite of client tools supporting tasks such as ontology design and maintenance, extraction from legacy resources and integration;
3. Foundational Ontologies: The toolkit will be supplemented with a set of foundational ontologies, covering a wide range of application domains that can be used as a basis both for constructing more detailed domain ontologies and for integrating existing ontologies;
4. Ontology Engineering: A framework of techniques and methodologies will be developed that provide an engineering approach to the building and use of ontologies, addressing such issues as modularisation, versioning, adaptation and reuse. Particular emphasis will be given to solving the problems associated with the integration, migration, reconciliation and sharing of ontologies;
5. Requirements Analysis and Assessment: Close links will be maintained with companies involved in the development of commercial Semantic Web applications, both in order to inform the design and development process and to assess results.

Programme(s)

FP5-IST - Programme for research, technological development and demonstration on a "User-friendly information society, 1998-2002"

Topic(s)

1.1.2.-6.1.1 - FET O: Open domain

Funding Scheme

CSC - Cost-sharing contracts

Coordinator
THE VICTORIA UNIVERSITY OF MANCHESTER
Address
Oxford Road
M13 9pl Manchester
United Kingdom

Participants (3)

CONSIGLIO NAZIONALE DELLE RICERCHE
Italy
Address
Piazzale Aldo Moro 7
00185 Roma

UNIVERSITAET KARLSRUHE (TH)
Germany
Address
Kaiserstrasse 12
76131 Karlsruhe

VERENIGING VOOR CHRISTELIJK WETENSCHAPPELIJK ONDERWIJS
Netherlands
Address
De Boelelaan 1105
1081 Hv Amsterdam

This project is featured in...
RESEARCH*EU MAGAZINE
Results Supplement No. 008
Issue 8, October 2008