



Electronic Commerce Workshop

Project Proposal

Multilingual Upper-Level Electronic Commerce Ontology (MULECO)

By Martin Bryan

For comment

CEN/ISSS Electronic Commerce Workshop Project Proposal

1) Project Title

Multilingual Upper-Level Electronic Commerce Ontology

2) Proposers

This project has been proposed by The SGML Centre, with support expressed from the following members of the CEN/ISSS Electronic Commerce Workshop:

- Man-Sze Li (IC Focus)
- Andrzej Bialecki (WebGiro)
- Ambjörn Naeve (KTH/CID)
- Frédéric Camuzard (Motorola)
- Gerhard Friedrich (UKLA)
- Zhan Cui (BTextact)

3) Project objectives

To research the most efficient means of developing a multilingual upper-level ontology for describing and identifying the relationships between electronic commerce applications and the ontologies used to describe them. In particular to investigate how information related to business processes can be integrated with existing techniques for classifying businesses, their products and services.

There are many existing and proposed "electronic commerce ontologies". The vast majority have been defined monolingually, or in at most three or four languages, often from the same language group. The problem is that different trading partners tend to use different ontologies, and tend to prefer ontologies developed in their native language or in a "neutral" language, which is often English. It is, therefore, difficult to identify points of overlap between ontologies, and it is also difficult for people to find relevant terms in ontologies using their native language.

A mechanism is needed that will allow existing ontologies to identify their inter-relationships by identifying the relationships between themselves and a set of terms defined in a multilingual ontology that has been designed specifically to allow people to find terms using their native language. We realise that it is not possible, or desirable, to create and maintain a multilingual ontology that covers all terms used in all business applications in all European languages. What is needed is a way of classifying entries at the upper-most levels of existing ontologies in a form that takes account of the sort of terms used by people when they are trying to locate the term(s) they wish to use. To do this we need to extend existing classification schemes to take account of things like business processes, variant names within different user communities, exclusion properties (e.g. does not contain nuts), etc. Such extensions need to be based on a well-documented model that is based on properly researched linguistic characteristics.

A draft methodology is expected to be prepared by a team working on a related IST RTD project. CEN/ISSS Electronic Commerce Workshop members will be asked to review and comment on this methodology before it is used to build an upper-level ontology that is defined in a number of European languages. Once approved a CWA will be created to promote the use of the methodology.

Once the test upper-level ontology has been created using the tools being developed as part of the IST RTD project, user communities will be asked to review the ontology to identify how easy it is to relate existing ontologies to the upper-level ontology. To assist this process an API will be defined to allow users to interrogate the ontology. EC Workshop members will be asked to review and test this API, using open source software developed by members of the IST RTD project.

4) Detailed project contents, deliverables and timescales

The CEN/ISSS project group will start in February 2002, but the three-year IST RTD project is unlikely to be formally approved by the European Commission until April 2002, with its first deliverables due in October 2002 and the draft methodology available for review around February 2003. Review of this will take 2-3 months, at which point a CWA can be completed, for publication around September 2003.

The multilingual ontology will not be available for review until April 2004, at which point its evaluation can be undertaken by EC Workshop members, based on the use of open source tools provided by the project team to implement the API.

A separate mailing list will be set up by CEN/ISSS for discussions related to the drafts. These draft recommendations will be submitted to the CEN/ISSS Electronic Commerce Workshop for review at the earliest possible moment. Comments will be consolidated for feeding back to the IST RTD project team to comment on.

After changing the recommendations to reflect comments received from the Workshop, and any national bodies reviewing the work, the final text for publication as a CWA will be prepared and submitted to the CEN/ISSS Electronic Commerce Workshop for approval.

5) Resource requirements

The project will require the following resources:

- a) An electronic discussion group on the CEN/ISSS server, together with a secure area on the web site for the distribution of panel documents.
- b) An area on the CEN/ISSS web site for the publication of documents under review.

Project meetings will, wherever possible, be held in conjunction with the meetings of the Electronic Commerce Workshop to ensure the widest possible participation of members.

There should be minimal project management costs over and above any costs imposed by CEN for the management of the electronic discussion group and web site. The Project Chair will need to prepare for, attend and report on up to 9-10 meetings (27-30 man-days). There should be no need for a separate Technical Secretariat for the project.

Effort in developing the discussion documents and draft recommendations will be funded by the members of the IST RTD project. Expected levels of effort on documentation are:

- 1) Draft discussion document on methodology - 30 man days
- 2) Draft discussion document on the API for searching the ontology - 30 man days

The preparation of final CWAs may need input from CEN/ISSS staff. The effort required will depend on how closely the draft recommendations conform to CEN/ISSS requirements.

6) External liaisons

The group will maintain active liaison with those groups in W3C and ISO responsible for the definition of semantics for electronic commerce applications. It will monitor and comment on the work of the Core Components group of the ebXML initiative, which is concerned with the expression of EDI semantics within XML applications. In addition there will be a liaison to the Foundation for Intelligent Physical Agents (FIPA) who are in the process of developing standards for the use of ontologies by intelligent software agents.

7) Contact point

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