The Open Terminology Services (OTS) Project

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Abstract

The Open Terminology Services (OTS) project provides a common, well-specified mechanism to access terminological content in a vendor and platform neutral fashion. The project includes a freely available API specification and an open source reference implementation. The API specification derives from the OMG Lexicon Query Services interface specification as a foundation and defines mechanisms for browsing, querying and import terminological content. The Java-based reference implementation uses the Lightweight Directory Access Protocol (LDAP) for a back end, and provides a mechanism to query and distribute heterogeneous terminological content using a common format. The project includes the CTS (Central Terminology Services)subset under HL7.

Background

The problem of accessing complex terminologies from applications in a sensible fashion has proven to be a non-trivial problem[1]. The attributes of what comprises an adequate set of terminology services has yet to be established[2-4], though an explicit goal of our present activities within HL7 is to achieve a common consensus specification. Historical efforts to create practical terminology services have included Apelon's MetaPhrase[5] and their current DTS (Distributed Terminology Services). The present work represents an effort to establish a common specification, and demonstrate a reference implementation.

Description

The goal of the Open Terminology Services (OTS) project is to specify and build a common specification and set of tools that enable medical software to access terminological resources in a uniform, well-understood fashion. The project includes:

- A reference model that defines the common components of a terminological resource
- A language and platform neutral API specification
- An open-source, Java based reference implementation of the OTS API

The API builds upon an earlier work published by the Object Management Group, the Lexicon Query Services[2], and has been enhanced to include linguistic components such as word-stemming, near-synonyms, spelling correction, phrase completion, etc. The open-source implementation is designed to allow a wide variety of terminological content to be published and distributed over the internet in an open, secure fashion. Terminological content may be accessed and transformed between LDAP, LDIF, XML and relational database formats. Content may be accessed directly over the net or downloaded for use on a site-by-site basis.

This project is a superset of our efforts within HL7 to establish a consensus specification for the subset of terminology services relevant to HL7 applications. The HL7 project for Common Terminology Services (CTS) has benefited greatly from critique and consensus from many collaborators, including Apelon. We envision a harmonious synergy between open-source reference implementations as demonstrated, and commercial, value-added products.

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