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STANDARDS DEVELOPMENT ORGANISATION

Incorporation of SNOMED CT Classification into Web-based SNOMED CT Modelling Tools Using the Snorocket Reasoner

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Audience

Individuals modelling extension content for SNOMED CT.

Objectives

To demonstrate the incorporation of the Snorocket reasoner into web based SNOMED CT modelling tools to help identify and prevent errors in modelling and correctly classify extension concepts.

Abstract

Snorocket is a Java implementation of the CEL polynomial classification algorithm described by Baader et. al.(1) Snorocket is used in the IHTSDO workbench and as a reasoner in *Protégé.* It was developed as part of the Australian CSIRO's Health Informatics and Clinical Terminologies research program(2). Snorocket as originally implemented processed SNOMED CT stored in text files. This novel approach will show the modifications needed to incorporate Snorocket into classification of veterinary extension content developed using a web based modelling tool with SNOMED CT stored in a relational database. Additionally, techniques and modifications that enable review and revision of the extension content will be presented. Several issues discovered during this project include: (1) a need to examine several scenarios for classification of SNOMED CT after Snorocket classification, (2) a need to present the results of classification for comparison before and after Snorocket processing, (3) an ability to select concepts for incorporation into the extension content or for remodelling and, (4) an ability to remodel and reclassify concepts identified for remodelling.

Approximately 30,000 extension concepts and relationships in the veterinary extension content were evaluated using the Snorocket reasoner. It was also found that incremental classification was feasible when modelling concepts and relationships using the state file created from the database storage of the veterinary extension of SNOMED CT.

An explanation of source code modification, an overall review of the results, and specific examples of modifications in modelling will demonstrate the results of this project.

References

1. Franz Baader , Sebastian Brandt , Carsten Lutz, Pushing the EL envelope, Proceedings of the 19th international joint conference on Artificial intelligence, p.364-369, July 30-August 05, 2005, Edinburgh, Scotland

2. Lawley, Michael. "Snorocket."— *CSIRO ICT Centre*. N.p., 14 July 2011. Web. 03 May 2013. <http://research.ict.csiro.au/software/snorocket>.