INTERNATIONAL HEALTH TERMINOLOGY STANDARDS DEVELOPMENT ORGANISATION

Ontology based alignment of Quality Assurance assertions in International & National Editions – Gap Analysis & Harmonisation

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Audience

Members involved in SNOMED CT releases at National Release Centres, developers consuming SNOMED CT releases from different release centres and anyone with an interest in Quality Assurance (QA) of SNOMED CT content.

Objectives

- Understand similarities and differences between QA processes used by IHTSDO and member countries like US, UK, Sweden, Australia and Canada.
- Characterize assertions in meaningful and useful ways to support comparability, alignment, and assessment of coverage.
- Identify assertions for use in new member countries and extract reusable assertions from existing corpus of QA assertions.

Abstract

Every release of SNOMED CT published by IHTSDO is quality tested for conformance to various editorial principles and for adherence to published Release Format 2 specifications. These assertions ensure that SNOMED CT release content is as error-free as possible when downstream users consume it. Member countries like US, UK, Sweden and Australia also perform similar quality assurance on the content of their national editions before release. There is growing recognition with the community of the subtle but significant differences between the QA tests done by IHTSDO and members leading to differences in the structure of release content and how this affects implementers. There is also value in creating a common pool of reusable assertions that can be used shared between various members, to ensure consistency between releases, while recognising differences between national editions due to divergent requirements. We present how an ontology-based approach was used to characterise and harmomise the 850+ QA assertions gathered from various member countries. We discuss how we used an OWL ontology to:

- Characterise the various QA rules based on attributes like component-type, release-type, etc.
- Identify similar or equivalent assertions used by various members, even when they were phrased differently.
- Identify overlaps between the sets of QA assertions used by members and also gaps in coverage, which were missed due to different interpretations of IHTSDO published documentation.
- Categorise the 850+ QA assertions dynamically into useful categories for review and consolidation using the Description Logic classifier.
- Identify subtle errors and differences in QA rules that hastened the process of harmonisation.
- Identify a corpus of core QA assertions that could be used by any member country.

We believe that the classifier based, dynamic identification of the core set of QA assertions to be used by members will reduce the maintenance burden of the QA assertion corpus, when newer assertions continue to be added or existing ones are updated.

References

Member Forum QA subgroup site - https://csfe.aceworkspace.net/sf/projects/mf_subgroup_on_consistency_in_me