



Usability Engineering to strengthen educational materials on SNOMED CT

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Audience

Education and Implementation & Innovation communities within the Implementation Showcase audience.

Objectives

To describe the role of usability engineering within educational materials development and case examples authoring.

Abstract

Development of educational materials on SNOMED CT can be a challenge. First, because it is needed to describe the characteristic features of the terminology in ways that are understandable to users, while requiring us to bring representative examples and best practices in use cases that can be quite complex or too abstract.

While the basis of most educational materials is the SNOMED CT User Guide, we believe that educational documents should be strengthened by providing elements enabled to enhance teaching capacity. This can be achieved by complementing the content of textbook or training materials with interactive, navigation oriented example materials to be browsed on the Web.

Probably, the fact that there is a difficult challenge is our best opportunity to introduce technical innovations in teaching and training. These developments should be designed to strengthen the impact of the training materials in the early stages of learning, while trainees acquire responsibility for SNOMED CT derivatives processing, while future technology implementers learn the basics, and while future clinical implementers get faced to the fundamental features of a complex terminology.

Good examples of the possibilities of this approach are the data capture systems for clinical applications. By introducing implementation examples of well-selected capture controls, it is possible to present viable and experimental, or tested and effective, alternatives to present content of SNOMED CT to end users, serving to the needs of usability from the very beginning of the learning process. This may contribute to provide a satisfying user experience. Using this approach and measuring the response on-line, we can get valuable information about the user experience of the professionals who are new to the knowledge of terminology and experimentally verify what types of interface controls are the most effective for interaction between users and content used in each example. At the same time, it can increase knowledge acquisition performance by giving users a more active role.

Furthermore, it is possible to model many other features within a generic user interface to SNOMED CT contents to make learning more effective. For example, we may visualize content mapping between terminologies and classifications; describe the differences between concepts/descriptions/relationships in a practical and language-oriented manner; describe the role of free text and structured/unstructured mixed capture controls and forms; propose new types of form controls to facilitate accessible use, not dependent on personal skills; explore methods to identify end-user extensions and subset-maintenance needs; give examples of entries processing based on available ontologies, and describe methods for knowledge-based processing of user input or recorded information for secondary uses of clinical information.

This presentation will describe innovations in capture form controls (double-decker textboxes, dynamic taxonomies, predictive thesaurus-based searches) aimed at facilitating the development of high-quality examples for textbooks on SNOMED CT; these controls may be applied to deployment of SNOMED CT enabled applications whose authors are trying to optimize usability.

References

1. SNOMED CT User Guide. January 2013 International Release (GB English)
http://ihtsdo.org/fileadmin/user_upload/doc/download/doc_UserGuide_Current-en-GB_INT_20130131.pdf