HL7 Template Model and EN/ISO 13606 Archetype Object Model – a comparison

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Abstract. HL7 Templates and EN/ISO 13606 Archetypes are essential components for a semantically interoperable exchange of electronic health record (EHR) data. In this article the underlying models from which Templates and Archetypes are instantiated, namely the HL7 Template Model and the EN/ISO 13606 Archetype Object Model will be compared to identify discrepancies and analogies.

Keywords. HL7 Template, EN/ISO 13606 Archetype, electronic health record

In the near future CDA documents and EHR extracts will be exchanged between health care service providers in Europe which will inevitably cause the assignment of Templates as well as Archetypes. In the following the Template Model (TM) and the Archetype Object Model (AOM) will be compared to identify a possible compatibility.

Structural constraints are similarly expressed in the TM and AOM via a tree of alternating constraints on classes and relations of a reference model (RM) or RM-derived model. AOM and TM differ in the fact that the former provides an inheritance mechanism for Archetypes, which the latter does not include. The AOM further includes a more elaborate concept to define the semantics of RM instances. By means of the ontology package, the semantics of each RM instance can be specified by a set of multilingual labels and a set of codes from different coding schemes. The TM does not offer a comparable construct, instead the semantics of RM instances have to be defined via RM class attributes (e.g. by constraining the attribute code to a particular coded value). The AOM allows nesting of Archetypes via so-called slots, where include- and exclude-conditions control which external Archetypes may be plugged in. The TM also supports the inclusion of external components by a suitably setting of attribute sourceModel in class ClassArtefact, but enforces an explicit naming of the component.

The preliminary results of our comparison indicate an actual incompatibility of Templates and Archetypes.

References


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