

Ontology integration for applied bioscience

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Abstract

Ontology development in the subject domain of applied bioscience, such as biomedicine or food science, blend combinations of concepts of various core sciences, which are only valid for particular contexts within the chosen domain or sections thereof, which may imply reuse and integration of segments of various existing ontologies. This is illustrated with an example from the perspective of bottom-up ontology development for bacteriocin-related knowledge. It is important first to determine what kind of integration is required for which type of goal, therefore a literature research was carried out resulting in a construction of a preliminary categorization of types of ontology integration together with a list of factors and properties that contribute to distinguishing the multiple methods of 'integration'.

Some challenges are highlighted such as the potential for development of an ontology library that might facilitate reuse/integration, how to address context-dependent data where the same basic concepts reappear but with other constraints and options for modularization to abstract away details that may not be relevant in the particular situation to be ontologised.

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