Conference Abstract

Developing a Module for Generating Formalized Semantic Morphological Descriptions for Morph·D·Base

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Abstract

We demonstrate the early prototype of a new module for Morph·D·Base that allows the generation of highly formalized semantic morphological descriptions (http://escience.biowikifarm.net/wiki/EScience-Compliant_Standards_for_Morphology). The resulting morphological descriptions follow the individuals-based *Instance Anatomy* data scheme (as opposed to the class-based *Semantic Phenotypes* data scheme). The module allows the description of a specimen's anatomy by generating a granular representation of the parts of the specimen to be described, using ontology-terms from known ontologies. This results in a hierarchy of parts and subparts (partonomy), which serves as organizational backbone of the entire description, with each part representing a section of the description to which you can navigate using the partonomy. The module allows the description of each part from the partonomy using (1) a set of formalized input forms, which also allow the specification of metadata for each input field, (2) a text-widget for providing conventional free-text descriptions, which can be semantically enriched through annotating them with ontology-terms of (user-)selected ontologies, and (3) an image-widget for linking images, which allows semantically enriching each image by specifying regions of interest and annotating them with ontology-terms of (user-)selected ontologies. This new module is

based on SOCCOMAS, an application for semantic ontology-controlled Web-Content-Management-Systems that we are currently developing (http://escience.biowikifarm.net/wiki/SOCCOMAS:_an_application_for_semantic_ontology-controlled_Web-Content-Management-Systems).

Keywords

ontology, Morph·D·Base, morphology, formalized semantic morphological description, partonomy, metadata, free-text descriptions, semantic annotation, ontology-terms, ontology-controlled application, content management system, triple store, knowledge base, linked open data

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