

Task Composition for a Semantic Web Browser

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Sealife is a semantic web browser for the life sciences [1]. It will allow a user to browse the semantic web collecting terms of interest, which are marked up by ontologies and stored in a shopping cart. Making use of context and semantic descriptions, the browser then offers various courses of action to the biologist, e.g. looking up published references for a particular gene.

The Task Composition Module (TCM) carries out service discovery and service execution using myGrid technology [2]. Using the previously stored ontological concepts, the TCM determines which workflows (or services) the user can run. It presents these options to the user and then executes their chosen goal(s).

The method by which we turn ontological terms into possible goals is a specialisation of plan recognition, which we term reverse planning. This involves travelling up a Hierarchical Task Network domain model. HTN planning and the associated domain model will be used in the traditional manner to create the workflow(s) given the chosen goal.

The output of workflows is to be evaluated using argumentation, i.e. creating arguments for and against the output given by a workflow. The goal here is to allow users to make an informed decision as to whether or not the resource is providing them with correct information.

Current prototyping results are used to demonstrate this work in the context of the Edinburgh Mouse Atlas [3].

[1] M. Schroeder, A. Burger, P. Kostkova, R. Stevens, B. Habermann, and R. Dieng-Kuntz. Sealife: A Semantic Grid Browser for the Life Sciences Applied to the Study of Infectious Diseases. In *Proceedings of HealthGrid*, Valencia, Spain, 2006. IOS Press

[2] <http://www.mygrid.org.uk>

[3] <http://genex.hgu.mrc.ac.uk>

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