Integrating Taverna Player into Scratchpads

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Project websites: http://www.taverna.org.uk and http://scratchpads.eu
Source code: https://github.com/myGrid/taverna-player and https://git.scratchpads.eu/git/scratchpads-2.0.git
Licence: Taverna Player – BSD; Scratchpads – GPL2

Scratchpads, developed as part of the ViBRANT[1] project, are an online virtual research environment for biodiversity, allowing anyone to share their data and create their own research networks. Sites are hosted at the Natural History Museum London, and offered freely to any scientist.

Sites can focus on specific taxonomic groups, or the biodiversity of a biogeographic region, or indeed any aspect of natural history. Scratchpads are also suitable for societies or for managing and presenting projects. Key features of Scratchpads include: tools to manage biological classifications, bibliography management, media (images, video and audio), rich taxon pages (with structured descriptions, specimen records, and distribution data), and character matrices. Scratchpads support various ways of communicating with site members and visitors such as blogs, forums, newsletters and a commenting system. There are currently 568 Scratchpads with 6,759 active users.

Taverna Player, developed as part of the BioVeL project[2], enables the running of Taverna workflows within a Ruby-on-Rails application. Taverna Player has a REST API that allows inputs to the workflow to be specified, a run to be started and monitored, and the resultant outputs to be retrieved. Any interactions the workflow includes are presented to the user in a Web browser for them to complete. Taverna Player has been released in the RubyGems registry[3] and is used within the BioVeL Portal[4] to run a wide range of biodiversity workflows. However, Taverna Player is not limited to the biodiversity domain – it is generic and can be used to run any Taverna workflow and can be integrated into various online environments (e.g. IPython Notebook).

As part of collaboration between BioVeL and ViBRANT, we showcase the interoperability and flexibility of Taverna Player by integrating it with Scratchpads in two ways. Firstly, workflows can be embedded in a page in the same way as a video from YouTube would be embedded; the workflow itself is running on the BioVeL Portal but all data entry and user-interaction is done in the embedded widget within the Scratchpads site. Secondly, the Scratchpads can use the Taverna Player REST API directly; this allows workflows to be run with a higher degree of control and results to be ingested back into the Scratchpads for further analysis. In both cases, data can be automatically injected into the workflow run from the host Scratchpads site.

In this talk the Scratchpads system and Taverna Player are described and their integration will be demonstrated within a live Scratchpads site.

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[1] http://vbrant.eu
[2] http://www.biovel.eu
[3] https://rubygems.org/gems/taverna-player
[4] https://portal.biovel.eu