

## D2.2 – Scratchpad Registry

### Description of work

This document represents the work carried out in meeting this deliverable. The work was carried out by the NHM<sup>1</sup>. This deliverable will enable us to keep track of all the Scratchpads, including those not hosted by ViBRANT partners. We have also been able to deliver a Scratchpads statistics website, which keeps track of the constantly changing meta-data about each Scratchpad.

### Use of the GBIF Registry

After in depth discussion with GBIF<sup>2</sup>, it was decided that, rather than developing our own registry and set of APIs around it, we would make use of the GBIF Registry (herein referred to simply as the registry). The registry is used to keep track of the services and datasets that GBIF periodically harvest to produce its index. It is well documented, open and well supported, with standard libraries already available in Java should other projects decide to use it.

### Development of PHP Library

A basic PHP library has been developed for accessing the data held in the registry, and also for updating the data. The PHP library has been developed alongside of Drupal, and therefore does not require any Drupal functionality, and could easily be added to any other PHP based application if desired.

Four modules have been developed on top of the registry PHP code:

1. The `gbif_registry` module is a basic module that allows Drupal to interface with the registry PHP library. It also provides a basic web interface for browsing the data held in the registry, caching particularly slow/intensive queries.
2. The `scratchpads_gbif_registry_client` module simply registers each individual Scratchpad with the registry. The Scratchpad is registered as a “Technical Installation” associated with a “Scratchpads” organisation. The module also registers “Endpoints” and “Datasets” associated directly with each Scratchpad. At the very least, each Scratchpad will provide one “Endpoint” - a basic service that provides meta-data about the Scratchpad and its usage.
3. The `scratchpads_meta-data_service`, provides a simple JSON<sup>3</sup> endpoint, providing meta-data about a single Scratchpad. The meta-data provided includes the number of users, quantity of data stored on it, and other meta-data elements. The JSON endpoint is registered with the registry, allowing it to be easily discovered by GBIF, or other interested parties.
4. The `scratchpads_registry_stats` module has been created to take advantage of the registry, and the meta-data endpoints registered with it. This module periodically asks the registry for a list of Scratchpads, and crawls each of the meta-data endpoints. This module then keeps a record of the data returned from each endpoint, allowing us to keep a track of the number of users, and entities on each Scratchpad, all Scratchpads, or a specific subset.

### Statistics Website

The `scratchpads_registry_stats` module mentioned above is currently being used on the Scratchpads' statistics website<sup>4</sup>. We hope that this website will become an invaluable resource for the ViBRANT project, and also for people interested in our work. It will allow us to quickly and easily state how

1 Natural History Museum, London - <http://www.nhm.ac.uk/>

2 Global Biodiversity Information Facility – <http://www.gbif.org/>

3 Javascript Object Notation - <http://en.wikipedia.org/wiki/JSON>

4 <http://stats.scratchpads.eu/>

much the Scratchpads are used, and also how much they have grown over a set period. This is essential when justifying their use/development in research projects.

## Further work

The registry is currently under active development<sup>5</sup>, which made the process of developing against it a little harder than expected. We hope that, once the registry is feature complete, that we can extend the functionality of the GBIF Registry PHP library, and also the Drupal modules that rely on it.

We will extend the meta-data provided by the `scratchpads_meta-data_service`. This will allow us to provide an answer to almost any question asked about the Scratchpads.

The Scratchpads' Statistics site also requires some pretty themeing and better representation of the statistics, including the use of pie and bar charts.

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5 <http://dev.gbif.org/wiki/display/POR/Webservice+API>