An EPrints Google Maps Plugin to Create and Plot Location Metadata

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Introduction

The London School of Hygiene & Tropical Medicine is a world-leading centre for research in public and global health, which works closely with partners around the world to address critical health challenges.

LSHTM obtained Wellcome Trust funding in 2012 for a three year project to enhance its data infrastructure, a component of which was the setup of an institutional research data repository.

LSHTM Data Compass (http://datacompass.lshtm.ac.uk/) is built upon an instance of EPrints[1], developed by the University of Southampton, which has been tailored to address the data sharing needs of health researchers at LSHTM.

To enable data users to easily locate datasets associated with geographic regions in which they are working, we have developed a Google Maps plugin[2] for use in selecting & browsing data collections. This integrates with the Recollect plugin[3] published by the UK Data Service.

Google Maps Plug-in

- The plugin is written using a combination of Perl CGI and Javascript.
- Data entry on the deposit form interface is supported by the Google Maps drawing manager library. A browsing map was added to the plugin that plots markers representing the centre of the location bounding box.
- The current Recollect location metadata field structure was preserved. No changes to the core EPrints data model were required.
- The plug-in initially allowed depositors to specify one location only, however, we are currently updating it to support multiple locations in response to researcher-demand.

Specifying a location at deposit

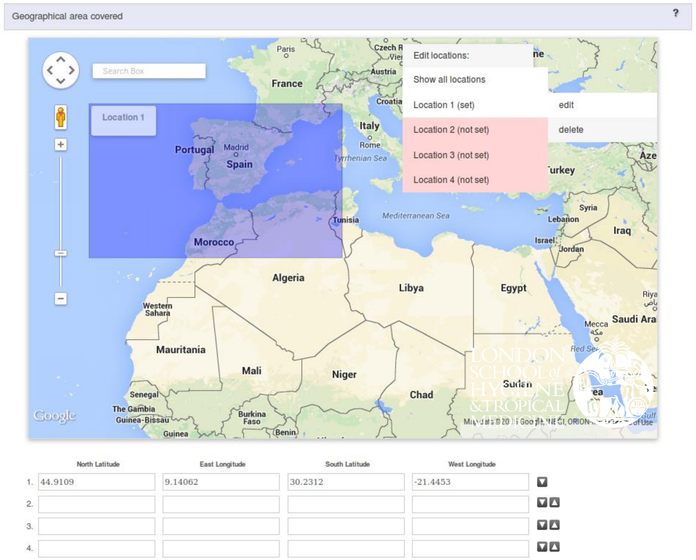

Fig. 1 Deposit form map interface.

- Depositors are presented with a Google Maps interface as part of the workflow for creating a Data Collection record (fig. 1).
- The Google Maps drawing manager library is used to enable the creation of rectangular overlays on a browsing map. Co-ordinates for the North East & South West longitude/latitude locations of the rectangle are used to populate the Recollect ‘bounding_box’ fields.
- Form input elements are preserved so that location co-ordinates can be entered manually if required, however no event listeners are attached. Manually entered location data is saved via the EPrints deposit form.
- A JavaScript menu is used to select each location and supports ‘draw’, ‘edit’, and ‘delete’ functions. Current location overlays are added to the map via location metadata previously saved for the record.

Browsing data by location

- Data users can view Data Collection records associated with locations through a map browser (fig. 2).
- The map browser is displayed using Perl CGI, which also exports the relevant metadata (JSON).
- Each pin marker is plotted and associated with a Google Maps InfoWindow which contains a short citation and hyperlink to the EPrint record.
- The number of markers shown on the map is defined via the local configuration (ordered by the most recent).
- Future versions will be updated to support selection of the metadata fields for the citation via the local configuration

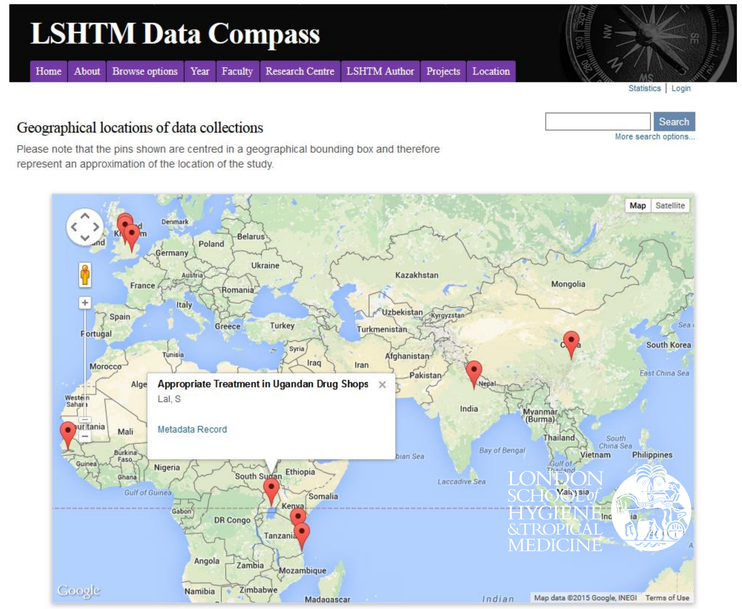

Fig. 2 The data collection browser map showing a short citation**.**

References

1. EPrints, University of Southampton. http://www.eprints.org/uk/
2. Google Maps API v3. https://developers.google.com/maps/
3. Recollect plugin for EPrints, UK Data Service. http://www.data-archive.ac.uk/find/store