



Metadata Editor: a web graphical tool for the DCAT-AP extensions RDF metadata generation

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The DCAT Application profile for data portals in Europe (DCAT-AP) is a specification based on W3C Data Catalog Vocabulary (DCAT) for describing metadata of public sector datasets in Europe. The specification allows to re-use terms from one or more vocabulary standards, adding more specificity by identifying mandatory, recommended and optional elements to be used for a particular application.

In the framework of the European Plate Observing System (EPOS) – the ESFRI Landmark Research Infrastructure for solid-Earth sciences – we designed and developed an Application Profile that extends the DCAT. EPOS-DCAT Application Profile has been conceived to represent Core Concepts - such as Organization, Person, Facility, Equipment, Webservice, Publication and Software - from several scientific communities participating in EPOS. These communities were driven in the process of generating (meta)data describing their datasets and services.

Different, general-purpose tools and software exist to enable data scientist to define linked data models and validate them in several serializations (e.g. RDF, JSON, etc.), but no official tools have been released by W3C specifically for creating DCAT Application Profile metadata description in a graphical way.

In this context, a graphical web application was developed, based on PHP and accessible at <http://epos.cineca.it/apache/metadataeditor/public/index.php>. It allows users to generate EPOS-DCAT-AP RDF descriptions. We strongly emphasized on the support of a graphical representation of the EPOS Core Concepts to achieve a better user experience. Each entity can be defined by compiling an HTML form in which all the composing terms are user-friendly presented. Then, by means of a JavaScript open source library, a graph is populated with a node for each concept and one or more edges linking them each other. Each node is provided with a contextual menu that provides generic features (edit, delete) as well as specific ones (e.g. add a contact point, define a distribution for a dataset, etc.). Once the user has done with his graph and processes it, specific mapping functions translate the data into the concepts defined by the EPOS-DCAT-AP metadata model, providing the RDF ready to be ingested into the EPOS catalog.

1 <https://www.w3.org/TR/vocab-dcat/>

2 <http://www.epos-ip.org>

3 <https://protege.stanford.edu/products.php>, <http://enterprisearchitects.com/>, <https://github.com/RJMillerLab/ibench>

4 <http://js.cytoscape.org/>