Towards geo-search and visualization of Austrian Open Data

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INTRODUCTION

Data portals mainly publish semi-structured, tabular formats which lack semantic descriptions of geo-entities and therefore, do not allow any exploration and automated visualization of these datasets.

We present a framework to add geo-semantic labels, based on a constructed geo-entity knowledge graph, and a user interface to query and automatically visualize the resources from the Austrian data portals.

GEO-SEMANTIC LABELLING & VISUALIZATION

1. Crawl CSVs and metadata from the Austrian data portals
2. Label datasets using our constructed base knowledge graph of geo-entities
3. Store and index datasets in a search engine
4. Automatically generate (geo-) visualizations

Fig. 1: Extraction and disambiguation of geo-information based on the hierarchical base knowledge graph

Fig. 2: Automatically generated visualizations for the federal states of Austria

FUTURE WORK

• Use user ratings to adapt & select visualizations
• Scale system to datasets/portals worldwide
• Make base knowledge graph and annotated CSVs via GeoSPARQL endpoint available

GEO-ENTITY KNOWLEDGE GRAPH

We construct a KG by integrating GeoNames, OSM, NUTS and national postal codes.

Find more information here: http://data.wu.ac.at/odgraphsearch/

REFERENCES
