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A Crowdsourced Old Map Service for Geocoding, Publishing, and Using Historical Places in Linked Data Applications

Historical documents and content include references to historical places that provide an essential context for the data. However, historical places cannot necessarily be found on modern maps and gazetteers, but only on old maps from a matching time period. To facilitate geographic information retrieval, data analysis, and visualization of historical data, geocoding of old placenames on old maps is needed. This paper presents a solution to this with a prototype implementation supporting crowdsourcing place name geocoding as Linked Data. A public service (<http://hipla.fi>) integrated with Map Warper (<https://github.com/timwaters/mapwarper>) was established, and two series of old Finnish maps (Senate Maps and old Karelian maps) were rectified against modern maps. The old maps can be viewed semi-transparently on top of Google Maps, and an interactive tool was created for adding places on the maps. New place instances can be compared with existing ones in the underlying Linked Data repository (ontology) to foster reuse and in order to prevent creation of multiple instances of the same place. metadata about the maps is stored in a Linked Data repository in similar way to places, which facilitates using maps in applications via a SPARQL endpoint. As an application use case, a map service covering the historical Karelian region of Finland and its use in the WarSampo semantic portal (<http://sotasampo.fi/en>) is discussed.

Keywords: crowdsourcing, maps, geocoding, ontologies, semantic web