

Review Article

Towards geospatial interoperability based on geo-service and geo-ontology

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Abstract: The complex and proprietary nature of geospatial data makes them almost non-sharable among large user community. GIS interoperability is necessary for realizing a successful spatial data infrastructure. With the advancements of web service technology, GIS interoperability has made a paradigm shift – from monolithic GIS providers to distributed geospatial services. The applicability of web service standards in geospatial domain has been studied in this paper. The application of ontology in various information systems and its applicability in geospatial domain has brought a new direction in interoperability, namely, semantic geospatial interoperability. The context-based matching of geospatial services requires the concepts of the domain to be structured properly and ontology is an ideal tool for that. In this paper several issues relating GIS interoperability has been identified and service based geospatial integration with the help of ontology-based knowledge of the domain has been proposed.

Keywords: GIS interoperability, Syntactic heterogeneity, Semantic heterogeneity, Geospatial services, Ontology