

Careem, Mifan & Damith Karunaratne  
University of Colombo, School of Computing

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## **Improving geospatial data discovery by enhancing public metadata catalog search services**

The increase in the number of readily accessible Geographical Information Systems (GIS) and web mapping Application Programming Interfaces (APIs), coupled with the increasing importance of spatial data in many domains has shifted the focus towards the searchability of the appropriate regional geospatial data. The growth in geospatial data has resulted in a large number of public geospatial data sources which have to be searched and filtered in order to obtain data that is relevant, accurate and up-to-date. In short, people from various backgrounds without technical knowledge in Geographical Information Systems (GIS) should be able to easily find, integrate and utilize spatial data as and when required.

Most public geospatial data is served via standard compliant Web Mapping Servers and Web Feature Servers available globally. However, it is quite complicated to search for and locate the relevant data if the exact data source name and other parameters are unknown. Catalog servers, which store metadata and search protocols, provide a standard way to handle this problem. However, due to a shortage of meaningful metadata stored on the web, functionality provided by the catalog servers are limited to ad-hoc geospatial data discovery.

This paper looks at the advantages of catalog servers for ad-hoc geospatial data discovery and the limitations when searching geospatial data, using Web Mapping Servers and Web Feature servers and search engines such as Google; and presents a case for the need for enhancing the existing capabilities of catalog servers. It then looks at a novel way of building metadata from existing Web Mapping Servers which could lead to a sufficient collection of metadata elements in catalog servers, thus leading the way to better and more efficient Geospatial Data Discovery. Finally, it looks at the ways 'laymen' users can use catalog clients to search for the required geospatial data easily.