

# Client-side Processing of Geospatial Linked Data with Triple Pattern Fragments

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Over the last few years, Trinity College Dublin and Ordnance Survey Ireland have been collaborating to publish Irelands geospatial information as Linked Data on the web. However, how to efficiently consume such rich data is considered a big problem in the industry. The most recommended way to solve this problem is to take advantage of the Triple Pattern Fragment approach which simply retrieves the triples that match a given triple pattern and then it is up to the client to decide how to efficiently execute the rest of the query specified. In this dissertation, we extend the Triple Pattern Fragment client to support GeoSPARQL, which is an OGC standard for representation and querying geospatial linked data. We also evaluated our implementation using the Geographica benchmark to assess the overall performance of the implementation. Finally, we applied the insights gathered from this evaluation to make recommendations as to how to best formulate GeoSPARQL queries to achieve efficient execution of queries when using the Triple Pattern Fragment implementation.