ABSTRACT

Linked Open Data (LOD) is extracted from a web document base into RDF in ontology-based semantic web as a data is structured and interlinked with other data. Each data published interlinked to facilitate integrating the data on web pages. For example dbpedia, providing RDF knowledge base extraction results from each article published by the site is the world's largest encyclopedia Wikipedia.

To obtain the information contained in the LOD as expected, needed a scheme that utilizes ontology that are embedded in the LOD in order to facilitate the search. At this research, Ontology Matching is a technique used to recommend the information contained in LOD to relevant with the desired information in accordance with the domains that have been defined.

Ontology Matching method used is Proof-based Ontology Matching (POM). POM utilize deductive structure of ancestor graph on each entity ontology to discover similarities with other entities. POM is implemented in Java Programming domain ontology and ontology of LOD in this case dbpedia with topics related to the domain, by using an Ontology Alignment as correspondences reference so that it can find connectedness between both ontology and get relevant content appropriate the given informations.

Systems that have been made were tested with two different Ontology Alignment with the amount of correspondences of couple entities, 7 and 26 correspondences. Results of testing with the amount of correspondences that is more, able to recommend relevant links from entities which have similarities with desired entities more than the amount of fewer correspondences.

Keywords: *Linked Open Data, DBpedia, Ontology Matching, Proof-based Ontology Matching, Ontology Alignment.*