لا يمكنني قراءة النص العربي بشكل طبيعي. صورة النص غير واضحة بشكل كافٍ لقراءة النص بشكل طبيعي.
Ontology-Based Query in Heterogeneous Data Sources

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ABSTRACT

Information sharing, exchanging and retrieving from two or more components not only needs complete data accessibility, but it also requires that the remote system or user may process the accessed data. Problems that may occur from heterogeneity of the data are already well-known within the distributed data sources, and because of this rising problems of heterogeneity, a lot of recent work has been done towards solving this issue by concentrating on semantic integration. This research aims to develop a software system based on ontology to semantically integrate heterogeneous data sources such as XML and RDF to solve some conflicts that occur in these sources.

In our approach, I developed an agent framework based on ontology to retrieve data from distributed heterogeneous data sources. Using ontology to solve the semantic heterogeneity, hide the complexity of retrieving information of heterogeneous data sources from the user and make the computing environment more flexible. With this, user will be able to send a mobile agent with classical input query to a data source. Then the mobile agent will carry the needed module of the global ontology prepared by the user stationary agents and transport itself from the user site to a remote XML or RDF data source. At remote XML data source, stationary agents will transform the heterogeneous XML source into temporary local RDF ontology. The stationary agents in all sources perform a mapping between the local and global ontologies, convert the query to XML or RDF query, execute it and set the results in a suitable form. Finally, the mobile agent will return back with the results.

The main purpose of this research is to build a better Semantic understanding by find how to develop a real-world-like system using the open Web standards to retrieve information from ontological environment. This integration helps to extract data from heterogeneous data sources to match the user query. A partial implementation of this framework has been carried out using some modules and libraries of Java, Aglet, Jena and AltovaXML.