

A proposed framework for the development of an interactive natural language interface to ontologies

ABSTRACT

The information world is moving towards the integration of different databases (DBs), which contain a lot of structured information (ontologies): these are also known as knowledge repositories. In order to facilitate access to, and to permit the utilization of the massive information stored in these ontologies, a natural language interface (NLI) is used. A natural language interface (NLI) provides the platform for man and machine to interact. A user enters a query in his language and this is translated into a form understandable by the computer. The computer then processes the user's query and retrieves the exact information desired by the user. Some of the challenges being faced by natural language interfaces to DBs (NLIDBs) include lack of adequate guidance in query formulation, incorrect interpretation of user query, absence of query progress status notification and the need for standardization, among others. In this paper, we have done a systematic review of some of the NLIs in existence. Our investigations have shown clearly, that the effective retrieval of any piece of information depends on the correct mapping of queries made in natural language to machine understandable form. We therefore propose a framework for the development of a friendly NLI that will guide users in formulating their queries and correctly interpret user's intention, using query authoring services, and feedback and clarification dialogues.

Keyword: Natural language interface; Ontology; Knowledgebase; Database; Quran