An automatic domain independent schema matching in integrating schemas of heterogeneous relational databases

ABSTRACT

Schema matching is one of the key challenges in the process of integrating heterogeneous databases which identifies the correspondences among different elements of databases' schemas. There are several semi-automatic schema matching algorithms, however these algorithms do not exploit most of the available information related to schemas during the process of schema matching which affects on the accuracy of schema matching result. In this paper, we proposed a domain independent schema matching approach which utilized both the structural and semantic information during the process of schema matching and offered database integration without user intervention. In order to ensure the correctness of our proposed approach, we provide a proof on the validation of our proposed approach in terms of maintaining the properties of the initial input schemas as well as the characteristics of the relational model. In comparison with previous approaches, our proposed approach produced better global schemas during integration process.

Keyword: Biomedical database; Database integration; Heterogeneous; Relational data model; Schema matching