

A Secure System for Handling Information from Heterogeneous Sources

Authors : Shoohira Aftab, Hammad Afzal

Abstract : Information integration is a well known procedure to provide consolidated view on sets of heterogeneous information sources. It not only provides better statistical analysis of information but also facilitates users to query without any knowledge on the underlying heterogeneous information sources. The problem of providing a consolidated view of information can be handled using Semantic data (information stored in such a way that is understandable by machines and integrate-able without manual human intervention). However, integrating information using semantic web technology without any access management enforced, will result in increase of privacy and confidentiality concerns. In this research we have designed and developed a framework that would allow information from heterogeneous formats to be consolidated, thus resolving the issue of interoperability. We have also devised an access control system for defining explicit privacy constraints. We designed and applied our framework on both semantic and non-semantic data from heterogeneous resources. Our approach is validated using scenario based testing.

Keywords : information integration, semantic data, interoperability, security, access control system

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