Abstract

The proliferation of geographical information services on the Web is creating unprecedented opportunities for the shared use of spatial data. As a result, the spatial data may be subjected to various security risks where, it may be displayed to or modified by illegitimate users. Therefore, there is an increasing need to control access to spatial data on the Web. Geographic information services almost deal with critical applications such as health applications in which many critical situations need to be handled by unusual decisions, so the controlled access to spatial data must be tolerant to handle any critical situations. In this paper, a contextual access control model is proposed. The goal is, providing a fine grained access control to spatial data on the Web and granting contextual permissions to authorized users to handle any critical situation that they may face. An architectural framework for enclosing the proposed model is developed. Finally, a case study is applied to prove the proposed model feasibility and effectiveness.

Index Terms

Computer Science  Information Sciences

Keywords

Geographic Information Systems  Spatial Data  Access Control  Authorization