Applications and solutions for interoperable 3D geo-visualization

Abstract:
3D visualizations of spatial objects are employed in an increasing number of applications from the areas of (urban) planning, city marketing, tourism, and facility management. Further application fields could be entered, if distributed spatial objects could be integrated on the fly into one 3D scene. We argue, that this integration can only be successful (and in some cases only be possible) if it does not mean to copy and concentrate all data into one monolithic system. In this article we sketch promising new applications and examine their technical requirements. We discuss how these issues can be addressed by the use of interoperable geo web services, following the standards proposed by the OpenGIS Consortium, the ISO, and the initiative Geodata Infrastructure North Rhine-Westphalia (GDI NRW) in Germany. To overcome current limitations we introduce a new web service for the 3D visualization of spatial data. The presented application scenarios are a result of the feasibility study “Virtual Regions in the Rhine-Ruhr area 2006” which has been carried out on behalf of the state government of North Rhine-Westphalia in Germany.

Stichworte: