

Applied Standardization for implementing SVG WebGIS

Yan LI^{1,2}, Xuemin DONG¹

¹Computer School, South China Normal University, Guangzhou, China

²Spatial Information Research Center, South China Normal University, Guangzhou, China

yanli@scnu.edu.cn xuemindong@yahoo.com.cn

SVG has enjoyed recent popularity for use in developing a WEBGIS. It is a one of the new trends to develop a WebGIS by using XML-GML-SVG solution. Nevertheless, most of the studies and attempts were showed that the main functions implemented on the server side with GML processing and SVG was used only for visualizing the results of the processed GML. This solution is very easy to cause the congestion problem as every operation request from the client will be all sent to the server for executing and answering. Obviously, when quite a lot of concurrent user's requests occurred, the efficiency of the system must be slowed down sharply even made the congestion. In addition to the limitations of GML, some map operation such as map decoration, map annotation can not be implemented in this processing workflow as the GML does not specify the displaying graphics and decorating styles. Whereas, SVG is defined to a vector graphic standard via internet it can consummate the issue if its data structure is satisfy the characteristics of spatial information. After SVG is extended the representation to spatial information such as map position, map analysis and map decoration [Yan LI, Yang CAO and Haosheng HUANG etc., 2008] it is a good solution to develop a WebGIS. Still, when we develop an implementing WebGIS, another problem faced is how to deal with SVG documents from various transform tools which provide their own document structure.

Based on the problem met in developing procedure, this paper proposed a SVG standardized document as a framework to implement a WebGIS project on the client side. It creates a SVG standardized document according to the SVG-based spatial representation model first; and then it advances the storage strategies for SVG visualizing database and GML application schema and the database management system needed in order to improve the efficiency of the system. Finally, the workflow is showed by using the SVG standardized document in order to implement an applied WebGIS project. The experimental results shown, it is a feasible and easy to update different data sets of SVG WebGIS for the practical implementation with the SVG spatial standardized framework on the client side.

Keywords-SVG WebGIS; SVG Standardized document; spatial information, GML data module