

## USING AND EXCHANGING SPATIAL DATA THROUGH GIS WEB SERVICES

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### ABSTRACT

This paper shall explain the use and exchange of spatial data via the GIS web services, implemented in the GIS project of the City of Skopje – Phase 2.

In the high-speed development of the information era, the key to whether the government or some other organization can react promptly and adequately to an economic development, any kind of natural disaster, an pollution issue with the environment and etc, is the rapid acquiring of necessary information, especially the acquirement of spatial information. A modern and efficient solution to this problem is the use of a Web Service, based on an object/component model. The Web Service can be published, located and called dynamically through the Web. As soon as one Web Service is being configured, other application program, including other Web Service can discover and call this Web Service.

During 2008 (Phase 1) the City of Skopje has started to implement and develop the Geographic Information System (GIS) as a GIS enterprise within all the sectors of the city administration.

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The first phase of the Implementation of GIS has been accomplished with the use of internet/intranet technology through a client/server infrastructure that provides for a fast and simple approach to spatial data via GIS applications and internet browsers, to a large number of users.

In the second phase of the GIS project, the following has been implemented in the City of Skopje:

- Increasing the transparency of the operations of the city administration in view of the citizens and business community through the creating of an Internet GIS Portal of the City of Skopje
- Exchange of spatial information and collaboration with public enterprises established by the municipalities of the City of Skopje, institutions at state level and private companies. Special attention has been paid to spatial data sharing and interoperability during the implementation of this project.

The GIS Portal of the City of Skopje is designed as a GIS WEB application that will stand as the starting web page for an overview of all current and future spatial data of the City of Skopje. In this stage of the development, there are three envisaged applications called: GIS for the Citizens, Access to GUP and Civic Initiative.

Internet GIS applications - GIS for the Citizens: Citizens of the City of Skopje will have an insight into the spatial data available at the central city geodatabase, which could be permanently expanded with new contents in the form of thematic layers.

Internet GIS application - Access to GUP: Access to GUP is a WEB application that will enable citizens to have an insight into current GUP of the City of Skopje. The application should enable the citizens to have an insight in these plans.

Applicative solution - Civic Initiative: It enables a two-way communication between citizens and city administration, where the citizens can ask questions, make suggestions or ask for an opinion from the competent authorities in the City of Skopje. Within the frames of the campaign to increase the transparency of administrative work, online applications will be introduced for asking questions and giving suggestions by the citizens. The program will allow communication between the citizens and the city administration, a place where citizens will have the opportunity to ask questions, seek opinions from the competent authorities in the City of Skopje, or give suggestions on specific issues. Answers to questions and opinions will be publicly addressed if those issues are of public interest or through email if it is a matter of private nature.

**Key words:** SDI, GIS portal, GIS Web services, GUP.