THE GIS-MODULE ARCHITECTURE: VECTOR FORMAT CONSTRUCTION

B. Lyubinsky, I. Penyak
Lviv Polytechnic National University, S. Bandery Str., 12, Lviv, 79013, UKRAINE

A modern geographic information system has a possibility to reflect the relevant cartographic information with a further analysis. The specialized greenhouse gas inventory system predicts the development of the displaying, analysing and saving modules along with the similar ones for the construction of appropriate digital maps. The general approach to the preparation for such a construction in terms of computer science lies in the respective digital vector cartographic data transformation. For the maps digitizing purposes the specialized software usage is needed. It's required for the raster maps digitizing into the vector ones as well as for the received cartographic data classification. On the other hand, for the initialization of the Spatial GHG inventory the respective digital maps as well as various statistical information with numerous parameters become an input data. It should be noted that appropriate economic activity statistic info can be retrieved free from the centralized statistical offices whereas digital maps service for the analyzed area is paid for. That's why creation of algorithms along with the respective design of the modules for the vector format maps constructing are an urgent tasks. Thereby the main aim is the design with further development of an entire architecture for the vector format maps construction module needs. We should consider that it can be achieved only with the respective physical maps analysis with subsequent attribute information binding. The output maps are commonly used for the analysis and spatial GHG Inventory at the regional level as well as for the visualization of the obtained results. In this paper the basic requirements for the vector format maps constructing module is formulated. The appropriate algorithm of digitized raster maps into the vector ones is described. The flexible architecture of the converting module along with the ability to assign attribute information is designed. An algorithm for the graphics map primitives scaling and positioning is built as well as the features of functioning of such a module in terms of specialized software are caused.

Keywords – software, geoinformation technology, vector format, architecture, inventory, spatial analysis.