

## A GIS BASED GRAPH ORIENTED ALGORITHMIC MODEL FOR POLY-OPTIMIZATION OF WASTE MANAGEMENT SYSTEM

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### Abstract

The article presents an integrated (inferential) system of computer assistance in waste management designed in component-based technology. The system allows for the implementation of individual elements (system components) with native and managed programming languages and performance technologies, ensuring easy integration of those components into one coherent, cooperating whole. One of the key issues involves the placement of the objects, events and conducted spatial (geographical) analyses in the system through the application of GIS technology (ability to use digital (vector or halftone-based) terrain maps), execution of spatial analyses, data visualization on maps, etc., using also commonly available spatial data available as part of the Infrastructure for Spatial Information (established under the Act on Infrastructure for Spatial Information).

**Keywords:** Graph oriented models; Waste management; poly-optimization; Model-oriented programming technology; High Performance Computing.