

Constructing open GIS component system by refactoring GRASS

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Abstract

GRASS is an outstanding open source GIS. But it is not yet open GIS with open architecture. To increase its reuseability and to be adopted more widely in today's GIS related applications which will be more and more based on off the shelf components, GRASS should be reengineered into component system providing general geoinformitic services. In this paper, we describe a framework to build GIS component system from GRASS. Our framework of reengineering GRASS into component system is as follows: 1)select an open GIS architecture from previous work and custom it according to GRASS; 2)identify GIS components which can be build from GRASS; 3) generalize the components by variation analysis;4) implement the component system by refactoring GRASS; 5)test our components.

We also present our prototype component system :vector management and display components.

Our case study is a navigation system build on our vector component system.