

Abstract

Title: A non-problematic approach to cartography within the constructs of a Geographic Information System.

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Traditionally, cartography has been used to communicate complex information in a simplified, easy-to-read form. With the implementation of computer technologies, a major dichotomy has developed between those people interested in automated cartography and those people interested in using geographic data in an information system context. This separation is exemplified in the orientation of Geographic Information Systems as opposed to that of CAD mapping and drafting systems. Typically, Geographic Information Systems performs information management tasks with limited graphic capabilities. The CAD mapping and drafting systems produce detailed and accurate graphics while being difficult to optimize for information content.

The proponents of Geographic Information Systems often proport that graphics are not of major importance and the CAD proponents claim that a simple retrieval system with detailed drafting and mapping capabilities is a more meaningful approach. GeoBased System's experience has been that these two forms of communications, ie. graphic and tabular, are in fact both supportable in an automated environment.

By implementing a sophisticated but simple parallel data structure design, in combination with a distributed processing environment, one can have high quality cartography within the boundaries of a Geographic Information System.

This paper presents the STRINGS data structure and the distributed processing environment developed by GeoBased Systems, Inc. The examples used in this paper represent systems and projects where the cartographic rendition of maps has been accomplished within a context of a Geographic Decision Support System.