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# Design and Implementation of Attribute Database Management System in A GIS System: GeoStar

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Ming Xie\*, Guoqing Zhou\*, Deren Li and Jianjia Gong<sup>§</sup>

\*Department of Engineering Technology, Old Dominion University  
Norfolk, VA 23529, USA

<sup>§</sup>The Center for GIS, Wuhan Technical University of Surveying and Mapping,  
Wuaha, 430070, P. R. China.

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## Abstract

This paper presents the design and implementation of an attribute database management system (ADMS) in a Geographic Information System (GIS) system called GeoStar, which has been developed by the center for GIS at Wuhan Technical University of Surveying and Mapping (WTUSM) in China.

The ADMS was designed into 7 functional modules: file management, feature type setup, database operation, table output, statistic analysis, database conversion and help after surveying hundreds of thousands of the various GIS user's requirements and analyzing advantages and disadvantages of many commercial GIS softwares. For data share, data conversion and data communication with other databases, we used Open-Database-Connectivity (ODBC) technology to realize it. Additionally, feature identifier (ID) is designed for connectivity between graphic data and attribute data. Finally we programmed 7 functional modules of ADMS by Visual Basic. This subsystem, associated with GeoStar, has been applied in many industrial managements for decision-making, such as, Management System of East Lake Trip Area, Wuhan City, China. The result demonstrated that developed ADMS could meet the user's demands.

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