An Application of Geographic Mapping

NIFTY ASSIGNMENT

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The application of computing technology to manage geographic information and display the resulting maps is essential in enhancing geographic knowledge. The purpose of this project is to learn the technique of geographic mapping through the example of mapping residential properties in Shelby County, Tennessee. The final county map displays the location and real estate value of a set of residential properties. The learning objectives of the project include (1) collecting residential property data and digital county shape maps from publicly available databases, (2) merging residential property data with county shape maps through the geographic mapping process supported by the ArcGIS 10 software program, and (3) summarizing the resultant maps in a format ready for inclusion in PowerPoint presentations. This assignment synthesizes skills students have learned in word processing, database management, and PowerPoint presentations. The entire exercise has been assigned as a capstone project for freshmen taking the course Intro to Micro Computers.

The project is a practical example of collecting data to answer simple real estate questions: where are a set of real estate properties located, and what are their values? In addressing these questions, students are required to collect property data from the Shelby County Assessor database (http://www.assessor.shelby.tn.us/content.aspx) and shape maps from the ESRI census database (http://www.esri.com/data/download/census2000_tigerline/index.html/). The geographic mapping process introduces students to an example in database management, as each map layer is supported by a spatial data set with the key for managing the spatial data being the geographic location in terms of longitude and latitude. Students who completed the assignment were impressed by the usefulness of software applications for answering daily practical questions. Furthermore, the mapping process reinforces students' knowledge in geography, which has been listed as one of core subjects in a liberal arts education.

The process of preparing a map is an exercise in learning how to design a map to display useful information for answering intended questions. The preparation of the map layout requires word processing skills to present the output in a clean and informative format with appropriate titles, legends, scales, and north arrow. The resulting map shows the locations and values of residential properties as measured by the appraisal value per square foot.

Geographic knowledge is crucial for many activities, from business decisions to research studies in social and medical sciences. The detailed steps delineated in the tutorial help students gain hands-on experience with compiling geographic information and graphing the results in the ArcGIS 10 environment. The experience gained from this project provides a foundation for students to perform advanced geographic analyses in various fields of study.

Supporting files: http://www.ccsc-ms.org/nifty/12/**chu**/