三维地图式可视化大数据

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摘　要： 数据可视化技术利用计算机图形图像学以及数据挖掘技术，以交互方式将数据中的隐藏信息展示给用户，为用户决策提供参考信息。近年来，随着 PC 计算能力与互联网技术的快速发展，传统的数据可视化技术已无法满足人们日益增长的信息处理需求。目前，数据可视化在可视化过程中存在显示结果精确度低、表达方式单一、不能突出数字信息内含的规律性等问题。本文针对上述问题提出了基于三维地图的可视化大数据解决方案。该方案通过制作专题地图可视化数据，对数据的规律性进行研究，从而方便用户理解数据的深层次信息，发现隐藏的特征、模式、趋势等信息。

关键字： 可视化；统计数据；三维地图

Investigating the Three-dimensional Map-based visualization of Mass data

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Abstract： Currently, data visualization technology and its applications always suffer from the issues, such as low-accurate visualization, limited representation solutions and blurred inherent information. In order to overcome the shortages caused by these issues, this paper claims a research program to investigate web-access information via visualizing its inherent huge data in the manner of three-dimensional maps. This research program utilizes Maple-based data processing design, and consequently founds dedicated thematic maps to illustrate the processed results based on ArcGIS geographic information system. Via accomplishing visual comments on the resulting maps, this research brings in six visualization methods to carry out analyses and visual expression operations. Based on these achievements, this research successfully proposes a novel solution that will find out the inherent information within web-access data. Besides, this paper finishes several experiments to prove that the mentioned research program will advance the precision insides data visualization applications and the variety of representation work.

Key words： Visualization；ArcGIS；Big Data；Three-dimensional Map