Thematic Mapping Expert System

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Abstract

In this paper, The automatic precedure of thematic mapping is discussed, which is cut into four phases: data capture and management,selection of the content in thematic map,design of symbol and general structure, forming symbol and output of graph. The designed models are grouped into two classes : mathematic models and data management, representation of knowledge and different inference mechanisms of knowledge.

This system is a knowlege based system for producing thematic maps. It uses a frame based approach to store structured knowledge about thematic mapping. This system allows data capture ,data analysis, data classification, selection of content in maps ,symbols design , color assignment, map lettering and legend design.

This system mainly is used for statistical maps. The most appropriate solution in thematic mapping is selected based upon several factors, including map use requirement, numerical analysis and conventional associations. Once the map type and optional solution have been determined the actual symbols will be assigned. To assist with this the knowledge base includes some conventions. This system uses backward chaining and forward chaining. A hypothesis for map type is set up and the inference engine attempts to estab--lish evidence for this being correct. This system can select a set of colours for either a choropleth type of representation or for categorically defined areas. It also includes mechanisms to explain how an answer was derived and why a question is being asked, although these answers are programmed into the system rather than being derived automatically.

User can use this system to compile many kinds of thematic maps. But the knowledge about maps which is not statistical map is not in current KDB. Then user must select symbol, color,content and so on, with help of his knowledge which he learned from books or teachers, if he produces such thematic maps.