MAP ONTOLOGY − DIFFERENT APPROACH IN MAP ANALYSES

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Abstract:

This paper comes out from one of the author's diploma thesis, which explored possibilities of ontology application in cartographic production. Main interest was to find out, if the ontology could bring a new space for simpler (and matter-of-fact) decision making for final map feature content. Testing of this idea was made by visualization of relationships and dependency among particular entities using concept of map ontology. As Thomas R. Gruber refers, ontology is explicit specification of conceptualization, which in other words means that ontology is representing objects, concepts and other entities. And their existence in concerning space is expected as well as their relationships among each other are sustained. Two geodata sources were used for map ontology testing − Base Map of the Czech Republic 1:10 000 (hereafter as ZM 10) and view-tower dataset. First mentioned data-source was used for examination of ontology regular use and capabilities in cartographic map production. This data-source has benefit in the sense of outputs evaluation (a new ontology-based map was compared with the existing one from the data-source). In the second case, with watch-tower dataset, ontology served as "mental map" helping the author in the process of map creation to easily define complete set of entities occurring in the final map. This ontological "mental map" also set basic entity properties (or qualities) important for proper visualization via maps. Each of ontologies was made in ToscanaJ software, which is based on Formal Concept Analysis (hereafter as FCA). Among various data-sets FCA identifies conceptual structures graphically represented by conceptual grid and enables to reveal relationships inside data-sets. Original analyses made upon final ontologies prove that ontologies may significantly make cartographic map production easier. Especially in selection of entities, which are intended to display in a map considering a specific level of map generalization, and thus consequent correct legend composition.

Autor nedodal plný text příspěvku.

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