

SFB/TR 8 Spatial Cognition / IQN Video Conference

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TOWARDS AN AXIOMATIC THEORY OF GEOINFORMATICS

Researchers that work with the computer representation of geographical spaces have long debated about the right label to use for the discipline. The terms used by researchers in this area include Geographical Information Science, Geomatics, Geocomputation, Geoinformation Science and Spatial Computing. This talk will argue that the term Geoinformatics is the most appropriate one, since it describes an interdisciplinary field having at its core the science of information. However, to firmly establish itself as a scientific field, Geoinformatics needs a theoretical core that would be a common and shared basis for researchers, students and practitioners. Since GI systems development predates Geoinformatics research, current technologies embody many ad hoc solutions that reduce the potential for shared knowledge and hamper progress. We will argue that one of the components of the scientific core of Geoinformatics is a sound axiomatic theory that describes unambiguously the concepts used to represent the geographical world in computers. This theory should also provide the basis for implementations in different settings, thus allowing the same concept to be used consistently by different systems. In this talk, we will present some contributions for the proposed axiomatic theory of geoinformatics, but discussing an algebra for spatiotemporal data that represents objects, fields, trajectories, time series and events.

- Freitag, 04. Juli 2014
informelle Kaffeerunde: 15:15
Vortragsbeginn: 15:30

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