

SFB/TR 8 Spatial Cognition / IQN Video Conference

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Digital spatial planning boards: digital media on which humans design spatial plans

The concept of spatial decision support has been around for decades in urban and regional planning and other related fields. It generally refers to computerized assistance in analyzing spatially-referenced decision problems and synthesizing their solutions. Though often not well defined, these problems are intended to improve (or resolve issues deteriorating) a city/region's form, functionality, and/or sustainability that depend at least partially on its location in and relation to its spatial context; and solutions to them can take a variety of forms such as "decisions," "treatments," "recommendations," "suggestions," "propositions," plans," "designs," and "decisions."

Researchers have been seeking a synergetic integration of the efficiency and consistency of computers and the imagination and flexibility of humans. The linking of a GIS and a decision model (e.g. optimization model) has been a popular approach to this end, as its typical mechanism is: 1) humans specify constraints or criteria and adjust their parameters, 2) according to them, computers generate alternatives, and 3) humans evaluate them, and select one or return to Step 1 (or an earlier step). While this approach is relatively easy to implement, it has several issues to be addressed. One particularly problematic in my view is that human intervention is severely limited when it comes to the design (not evaluation or selection) of actual plans, since a fixed model(s) is used as a black box to automate this process although its parameters may be tuned by humans.

Assuming that computers, in particular GIS and related technologies, continue to be a planner's valuable tool, I call for an interdisciplinary research effort to explore methods and tools for accommodating the use of human capacities (e.g. knowledge, wisdom, intuition, flexibility, creativity, etc.) *in a digital medium* for the design of alternative spatial plans—which possibly mimics a drawing board. This is the topic of the talk.

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