Investigations into Cognitive Mapping and Wayfinding with Tactile Maps

When visually impaired people want to handle a representation of a geographic environment, one way is to use tactile maps. The questions arises how tactile maps could be produced automatically to be cognitively adequate for the human user. One problem is that tactile maps do not afford an immediate survey as they have to be explored serially on a touch-by-touch basis. Some guidance might help the map reader to stress the positions of certain map entities, e.g. landmarks. To signify positions of landmarks, different types of indicators were investigated experimentally regarding their effects on performance and map usage. Cognitive aspects were evaluated by assessing learning performance in different conditions. A selection of results will be presented and their relevance towards the establishment of initial design principles for computer generate tactile maps will be shown. Finally, the beneficiary effects of complementing tactile maps with verbal language will be discussed.

Presentation will be held as part of the Abteilungskolloquium

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