

Think Spatial

The UCSB brown-bag forum on spatial thinking

Presents

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How to Strengthen Technological Support for Wayfinding and Spatial Communication with Context-Dependent Landmarks and Geo-Pictures

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12:00 p.m.

3512 Phelps Hall



ABSTRACT:

Wayfinding is the core intellectual component of everyday human navigation, which we often find challenging and in which we often make mistakes largely due to inaccurate spatial communication—particularly in unfamiliar environments. Wayfinding typically depends heavily on landmarks, that is, prominent features of the physical environment utilized as points of reference in geospatial thinking. In real use, utilized landmark sets can vary importantly between conditions and the individuals navigating, thus making interpersonal exchange about navigation arduous and even misleading. Still, such exchange plays a central role for the success of collaborative wayfinding efforts in everyday situations, such as a spontaneous gathering in a city, or even in life-saving group tasks, such as search for a missing person.

In this ThinkSpatial talk, I will present a short general history of spatial cognition research with regards to wayfinding, as well as present results from our empirical in situ landmark studies in nature that show the dependence of utilized landmark sets on summer/winter, and day/night conditions. I will discuss the acquisition of landmark, route, and configuration types of spatial knowledge from geospatial pictures that commonly serve as our initial exposures and wayfinding aids in unfamiliar environments. I will conclude with my suggestions for future work to enhance personal navigation technology with context-dependent landmark-based wayfinding guidance in collaborative settings, and my project at the spatial@ucsb.

Bio:

Pyry Kettunen is visiting the Center for Spatial Studies as a Fulbright Junior Scholar Feb–Jul 2018 for a research project on collaborative geospatial thinking. He is a Senior Research Scientist in the Department of Geoinformatics and Cartography at the Finnish Geospatial Research Institute (FGI) that is part of the National Land Survey of Finland (NLS-FI). He received his M.Sc. (Tech.) in Geoinformatics from Helsinki University of Technology in 2008 and D.Sc. (Tech.) in Geoinformatics from Aalto University School of Engineering in 2014. His studies included an exchange year at the EPFL,

Lausanne, Switzerland, and four months as a visiting grant researcher at the LMC lab of the Université Paris Descartes. Kettunen's research has concentrated on human spatial cognition of landmarks and wayfinding as well as on development and usability of varied kinds of cartographic applications. His current research interests include interpersonal spatial cognition, cartographic animation, and web maps. His personal interests are in endurance sports in nature, choir or group singing when possible, and arts in general.

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