Call for Papers

Presenting Spatial Information: Granularity, Relevance, and Integration

Special Issue of the Journal of Spatial Information Science (www.josis.org)
Guest Editors: Thora Tenbrink and Stephan Winter

Aims and Scope

In recent years, the availability of automatically generated spatial information of various kinds has developed dramatically. Nowadays, virtually any kind of information is obtainable via the web. Route descriptions of diverse kinds can be obtained from many different sources and across different modalities. Views of maps and geographic information can be accessed in various ways, and local spatial or spatial-related information is provided for diverse interests and in a multitude of ways.

Although this is already a fantastic situation in terms of information availability and accessibility, web users may not always be comfortable with the ways in which the information is presented. Recent research has shown that automatically generated information exhibits fundamentally different features from information provided naturally by humans when asked about spatial information, for example, in route directions.[1] Lively discussions at the recent workshop on this topic at COSIT 2009 highlighted a range of issues needing to be addressed in order to render spatial information services much more supportive and cognitively suitable.

This special issue will collect contributions dealing with the variability of spatial information when presented to, or produced by, wayfinders across a range of situations. Due to the inherent limitations of maps, language, or any other modality, the spatial knowledge that can be conveyed is necessarily restricted to an incomplete subset of the spatial features and relations present in the real world. Accordingly, spatial information is presented on various levels of granularity depending on the assumed information needs by the recipients, ranging from coarse high-level information concerning geographic areas to detailed low-level information concerning spatial actions in small-scale space. Not all of this information is relevant for all purposes, and so decisions concerning granularity are directly intertwined with issues of relevance across interaction scenarios. Web-based services typically present information on one level of granularity at a time, providing access to other granularities or other types of information via various hyperlinks. In contrast, humans manage to present information in an integrated and coherent way, switching flexibly and smoothly between levels of granularity according to the expected relevance for the information seeker. Such processes are substantially supported by dialogic interaction.

For the special issue, we solicit contributions addressing the integrated and flexible presentation of spatial information both by systems and by humans, asking for instance:

- How can diverse kinds of spatial information be integrated more flexibly and smoothly in automatic presentation?
- What kinds of features do human spatial descriptions of various kinds exhibit with respect to granularity, relevance, and integration?

[1] Tenbrink, Thora and Stephan Winter. 2009. Variable Granularity in Route Directions. *Spatial Cognition and Computation 9*, 64 – 93.

- What kinds of spatial information can be (automatically) derived from linguistic and other modes of representation?
- How can issues of relevance be operationalized? Can findings on relevance in linguistics – in particular concerning spatial information – be transferred meaningfully to computational issues?
- How do spatial interaction scenarios (of any kind – between humans or in human-system interaction) differ with respect to requirements of granularity and integration?
- Can multi-granular cartographic or sketch representations capture relevance and integration?
- How can a multi-granular presentation be specified and generated on the fly? Do adaptive functions do this service, how do they work for different user groups, roles, tasks or capabilities?
- How can automatic dialogue systems be designed in order to support the selection of relevant information on flexible levels of granularity?
- Empirical findings concerning human (spatial) information processing with respect to granularity and integration.
- Empirical findings concerning variability across wayfinding and spatial acquisition scenarios, highlighting cognitive processes with respect to relevance.
- Empirical findings concerning human spatial dialogue, related to the topic of the Special Issue.

Journal of Spatial Information Science

The Journal of Spatial Information Science (JOSIS) is a new international, interdisciplinary, open-access journal dedicated to publishing high-quality, original research articles in spatial information science. The journal aims to publish research spanning the theoretical foundations of spatial and geographical information science, through computation with geospatial information, to technologies for geographical information use.

JOSIS is published online and all articles are free to access for any person. Authors retain their full copyright. Submissions to JOSIS are single-blind peer reviewed by three anonymous reviewers. For more information on the journal see http://www.josis.org.

Contributions

See http://www.josis.org/index.php/josis/about/submissions for submission details and author instructions. This page also provides templates for LaTeX and Microsoft Word. Like any JOSIS submission, submitted papers for this special issue will be hosted on the discussion forum while under review. This makes it especially important they are formatted as per JOSIS requirements, using the JOSIS templates for the first submission already.

Authors of papers presented at the COSIT workshop are reminded that their papers given at the workshop need to be significantly revised and extended.

Important Dates

December 31, 2009	Full paper submission
March 31, 2010	Notifications
May 31, 2010	Revised papers due
June/July 2010	Online publication

Guest Editors

Thora Tenbrink (primary contact), SFB/TR 8 Spatial Cognition, U Bremen, Germany
email: tenbrink@uni-bremen.de
url: http://www.informatik.uni-bremen.de/~tenbrink/

Stephan Winter, Department of Geomatics, U Melbourne, Australia
email: winter@unimelb.edu.au
url: http://www.geom.unimelb.edu.au/winter

Review Committee

Lawrence Cavedon, Australia
Kenny Coventry, UK
Michel Denis, France
Sara Fabrikant, Switzerland
Andrew Frank, Austria
Georg Gartner, Austria
Stephen Hirtle, USA
Christoph Hölscher, Germany
Alexander Klippel, USA
Alfons Maes, The Netherlands
Dan Montello, USA
Martin Raubal, USA
Kai-Florian Richter, Germany
Inessa Seifert, Germany
Monika Sester, Germany
Sabine Timpf, Germany
Martin Tomko, Switzerland
Robert Weibel, Switzerland

The committee will be further supported by members of the Editorial Board of JOSIS.