



Call for submissions to workshop on

MENTAL CONCEPTIONS OF EMERGENT SPACES IN ARCHITECTURAL DESIGN

to be held at DCC04, 18 July 2004, at MIT, Cambridge, MA

Workshop aim: Decision making in architectural design includes design processes that employ external representations in a range of different spatial formats. As a matter of principle, all of these representations are not veridical with respect to the building as a whole but they show subsets of all features. In this respect, we can expect the mental representations of spaces that get constructed during architectural design to also be *aspectual*. But what about other characteristics?

A good deal is known about human mental conceptions of *large-scale* (geographic) spaces; there exist models that detail their properties and structure relating to developmental issues, to learning, or to a variety of spatial reasoning tasks. The increase of our knowledge is reflected in the use and disuse of metaphors such as cognitive maps, cognitive atlases, or cognitive collages. For most parts however, the spaces that play a role in architecture are smaller than those of large-scale. Which findings can we then adopt from mental conceptions of large-scale spaces? In which respect does the scale matter here? And can 'mental blueprints' and 'mental patchworks' be adequate descriptions?

The purpose of this workshop is to discuss and clarify what is known about mental conceptions of spaces in architectural design.

In architectural design theory, the knowledge of when to use representations of which nature is widely seen as a characteristic of good practice and of expertise. What about the mental conceptions involved? Do they show a gradual progression in terms of precision, specificity, and consistency similar to what can be found externally? How do different kinds of mental conceptions relate to different stages in the decision making? How do these differ between novices and experts, and how do the experts exploit the differences? To better address the process-driven, gradually evolving nature of architectural design, this workshop is meant to specifically address mental conceptions of *emergent* spaces in architecture.

Important Dates

Friday, 14 May 2004	Submissions due
Monday, 31 May 2004	Notification of acceptance
Monday, 14 June 2004	Revised submissions due
Sunday, 18 July 2004, 14:00 - 17:30	Workshop

Workshop Co-Chairs

- Christian Freksa, University of Bremen
- Georg Vrachliotis, ETH Zurich
- Sven Bertel, University of Bremen

Program Committee

- Gabriela Goldschmidt, Technion, Haifa
- Barbara Tversky, Stanford University,
- John Gero, University of Sydney

Some issues and statements for workshop contributions:

Here follows a short collection of statements and questions on "mental conceptions of emergent spaces in architectural design". They are meant to help authors to compile their position papers in that they give some basic ideas that seem suitable for inspiring active discussion. However, contributions are not necessarily restricted to the items listed.

- For most parts, the spaces that play a role in architecture are smaller than those of large-scale. Which findings can we adopt from mental conceptions of large-scale spaces? Where do we encounter significant functional differences, or differences in representation?
- Which role do spatial and visual formats play in mental conceptions of space in architectural design? What is the role of mental images in the design process?
- Do mental conceptions of space that develop over the course of an architectural design process show a gradual progression in terms of precision, specificity, and consistency (e.g. one that is similar to what can be found in external representations)? How do different kinds of mental conceptions relate to different stages in the decision making?
- How do mental conceptions of space in architectural design differ between novices and experts, and how do the experts exploit the differences?
- In which ways do mental spatial representations in architectural design reflect situations in which design tasks are over- or under-constrained?
- Certain design decisions depend strongly on other decisions. How are such interdependencies between design parameters reflected in the mental conceptions?
- How do limited resources in mental processing (e.g. attentional resources) influence the construction of mental spatial conceptions in architectural design?
- What role do external representations, such as sketches, diagrams, maps, or plans, have on the construction and format of mental conceptions of space in architectural design?
- How can phenomena exhibited by mental spatial conceptions in architectural design be best captured by computational modeling?

Workshop format:

The workshop will take place on the afternoon of Sunday, 18 July 2004, before the beginning of the DCC conference. Its program features a brief introductory talk that addresses the issues and statements distributed beforehand, talks by participants, extensive discussions, and a panel discussion with committee members. Depending on the contributions and the participants' interest, a subsequent workshop publication is an option.

Submission information:

- (1) A collection of some statements and questions that can be addressed in the workshop is attached below. Participants who would like to make a contribution are asked to submit a one page position paper in reaction to these issues. A short CV and / or statement of interest should be included. Submissions should be made no later than by 14 May 2004 and be sent by email to the workshop chairs (dcc-ces@informatik.uni-bremen.de). Please submit your workshop position paper formatted according to the DCC04 paper guidelines.
- (2) The workshop's committee will select a number of submissions as contributions to the workshop. Authors will be notified of the decision by 31 May 2004. The selected position papers will be distributed among the group of authors, together with a list of specific aspects that should be addressed in the talks at the workshop.

Anyone who is further interested in attending the workshop will be welcome to do so (space permitting).

As the topic of the workshop spans multiple disciplines, we seek participation from individuals with one or multiple background(s) in architecture, design research, computer science, or in the cognitive sciences.

Registration information:

The registration fee for the DCC04 workshops is US\$50 per workshop for full conference registrants (i.e., those who pay the full conference registration fee) or US\$100 per workshop for those who wish to participate in the workshops only. For registration, please visit the DCC web site.