

# Spatial Perception and Behaviour

## MoMe - A context-sensitive mobile application to assess urban qualities Darmstadt



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### Project team

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MoMe is a context-sensitive mobile application developed as a research tool to assess spatial perception and behaviour in urban environments. The aim of these studies is to evaluate the feasibility of a prototype that helps users to record quantitative and qualitative data. Thanks to the interactive nature of mobile applications, MoMe is able to guide and engage users in a specific manner with the built environment.

The mobile application was first implemented in three open spaces in Darmstadt: Luisenplatz, Marktplatz and Herrngarten (see fig.1). The spaces were selected because of their importance to the everyday urban life and contrasting spatial characteristics: the first two are

main public squares in the city, and are central transportation hubs – transitional spaces – as well; the third is an enclosed park in the city centre. Participants were asked to search for stressful and relaxing areas within the open spaces, take photographs of distinctively stressful or relaxing elements or setups, and rate the space according to eight core aspects of environmental and behavioural experience. The Android application guided participants through selected open spaces, while recording data about navigation (GPS tracks and waypoints with time-stamp), and perception (photos and ratings). The photos delivered by the participants help understand which elements of a setting are perceived as stressful or relaxing, and proved to be helpful in identifying new features. The ratings help understand how environmental characteristics are related to stressful or relaxing settings.

The recorded data, e.g. tracing real-time navigation and the chosen stressful or relaxing areas within the open spaces, among others, was

visualized in QGIS. The researchers outlined a set of “portraits” with statements about spatial perception for each area within the open spaces.

Future research aims to make a contribution by suggesting and evaluating a novel method of data recording, which includes context-sensitive mobile applications. It endorses ways to link qualitative data to objective spatial analysis and its visualization, which can be made available to urban planners, citizens and stakeholders and encourage a discussion about the potentials of the data for planning, administration and urban everyday life.

### Publications

Halblaub Miranda, M., Hardy, S., Knöll, M. (2015) »MoMe: a context-sensitive mobile application to research spatial perception and behaviour«, in: Human mobility, cognition and GISc. Conference proceedings, University of Copenhagen, pp. 29-30.

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Map of Luisenplatz, Darmstadt showing the location and orientation of snapshots taken by users. Red indicates stressful, green indicates relaxing.