

Schematic maps for indoor environments: case study regarding subjective preferences

Luciene Stamato Delazari
Geodetic Science Program
Federal University of Paraná
Curitiba, Brazil
luciene@ufpr.br; luciene.delazari@nottingham.ac.uk

Suchith Anand, Jeremy Morley
Nottingham Geospatial Institute
University of Nottingham,
Nottingham, UK
{suchith.anand, jeremy.morley}@nottingham.ac.uk

This research deals with two different types of map: schematic and indoor maps. Schematic maps (SM) are mainly used for transport networks, and there has been significant research on methods for obtaining a schematic representation from a topological structure. Research on indoor maps is more recent, and has focused on positioning techniques rather than the representation of such spaces. Indoor environments have some characteristics that make them different from outdoors environments: orientation and navigation are different and landmarks can change frequently. Considering the lack of methodologies in indoor mapping research and the possibilities for SM use in supporting way-finding tasks, we proposed an indoor SM, and in order to verify user preferences regarding indoor maps, we developed a survey using a floor plan and a designed indoor map. The survey was conducted using a website, in two languages (Portuguese and English) (http://www.cartografia.ufpr.br/indoor_test/survey_indoor.php). After the user chooses the language, he/she is randomly assigned to one type of map (floor plan or SM) and he/she has to answer two questions using this map. Next, the second type of map is presented (either the floor plan or the SM, depending on the first one) and the user has to answer another two questions. In the second part of the survey, the user has to answer questions about his/her map-type preference. The results showed that 52% of Portuguese users preferred the SM, and 67% of English users preferred the floor plan. Both groups found the SM map easy to understand and pointed out its simplicity as the main positive point for using this type of map. A continuation of this research will evaluate the use of SMs and floor plans in a real way-finding situation, and investigate what types of features are considered as landmarks in an indoor environment.

Keywords—Schematic Maps; Indoor Maps; Indoor Navigation.