



[Volume XL-4/W4](#)

Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XL-4/W4, 19-25, 2013
www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-4-W4/19/2013/
doi: 10.5194/isprsarchives-XL-4-W4-19-2013
© Author(s) 2013. This work is distributed
under the Creative Commons Attribution 3.0 License.

Generating Navigation Models from Existing Building Data

L. Liu and S. Zlatanova

GIS Technology, OTB-Research for the Built Environment, Faculty of Architecture and the built Environment, delft University of Technology, Jaffalaan 9, 2628BX, Delft, the Netherlands

Keywords: Indoor Navigation, Navigation Model Generation, Building Data, Indoor Modelling

Abstract. Research on indoor navigation models mainly focuses on geometric and logical models .The models are enriched with specific semantic information which supports localisation, navigation and guidance. Geometric models provide information about the structural (physical) distribution of spaces in a building, while logical models indicate relationships (connectivity and adjacency) between the spaces. In many cases geometric models contain virtual subdivisions to identify smaller spaces which are of interest for navigation (e.g. reception area) or make use of different semantics. The geometric models are used as basis to automatically derive logical models. However, there is seldom reported research on how to automatically realize such geometric models from existing building data (as floor plans) or indoor standards (*CityGML LOD4* or *IFC*).

In this paper, we present our experiments on automatic creation of logical models from floor plans and *CityGML LOD4*. For the creation we adopt the *Indoor Spatial Navigation Model (INSM)* which is specifically designed to support indoor navigation. The semantic concepts in *INSM* differ from daily used notations of indoor spaces such as *rooms* and *corridors* but they facilitate automatic creation of logical models.

[Conference Paper](#) (PDF, 796 KB)

Citation: Liu, L. and Zlatanova, S.: Generating Navigation Models from Existing Building Data, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XL-4/W4, 19-25, doi: 10.5194/isprsarchives-XL-4-W4-19-2013, 2013.

[Bibtex](#) [EndNote](#) [Reference Manager](#) [XML](#)

