



Bachelor-, Master- und Doktorandenseminar  
des Instituts für Informatik

## Design and Implementation of an Indoor Guidance System with Wireless Sensors

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Since GPS and assisted GPS do not work reliable, indoor navigation is challenging. GPS requires at least four satellites in plain sight for position-locking while assisted GPS uses three overlapping cellular networks. Both are rare in large buildings and thus an alternative method has to be found. Indoor navigation - finding the right office in a huge complex consisting of several buildings, each having multiple floors and corridors - is a challenge, especially when new to the place. The solution described in this thesis is interactive guidance by light: A destination is chosen and the path there illuminated by linked wireless nodes, using different colors for multiple users. Accordingly, searching for the right room in a building becomes an easy task, even if that building is a maze. A maze with a guiding light steering through, suddenly is not a maze anymore and any kind of building or complex can benefit from this solution.

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Besprechungsraum 106, IfI, Julius-Albert-Straße 4