

## An Integrated Deployment Planning Tool for Indoor Building Sensor Networks

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Wireless sensor networks have become an increasingly feasible approach for building automation applications. However, radio propagation suffers from large-scale path loss, shadowing, multipath fading and other radio interference problems in building environments. Therefore, deployment of sensor nodes in a dynamic in-building environment is a complex operation that requires expert knowledge and experience. In this paper, we present a deployment planning tool that can provide a set of useful tools for deploying a wireless sensor network in a building environment. The proposed deployment planning tool provides design tools that can assist users in developing a network infrastructure to support reliable communication. To evaluate the effectiveness of this tool, we designed a sensor network using this tool and deployed a wireless sensor network in our testbed. The experimental results showed that the network performance achieved a high level of reliability.

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