

Abstract: A Simple Indoor Positioning Scheme with Acceleration and Geomagnetic Sensors

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Abstract

Recently, the importance of Location Based Service (LBS) has been addressed in many literatures and various positioning schemes for outdoors as well as indoors have been introduced. Although some schemes provided accurate positioning performance, there were practical issues because of complexity of implementation. In this paper, we propose a simple indoor positioning scheme that effectively locates pedestrians in indoor with an acceleration sensor and a geomagnetic sensor. In the proposed scheme, the traveled distance of a user is estimated with the data measured by the acceleration sensor, while the direction of the step is estimated by applying the trigonometric function to the data measured by the geomagnetic sensor. The performance of the proposed scheme has been evaluated in indoor of general building at university.

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