

Abstract: Indoor Positioning with Ubiquitous Sensors

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Abstract

Many research results of WLAN (Wireless Local Area Network) based indoor positioning have been published. Among them, the trilateration method is one of the basics. It converts RSSI values into the distances and determines the location of the mobile object with the locations of the APs (access point) and the distances. However, RSSI fluctuates so much that the trilateration is not accurate enough. Therefore, we have decided to perform USN (ubiquitous sensor network) based indoor positioning. This paper discusses how to deploy the USN based indoor positioning system and how Kalman filter and Extended Kalman filter can be used to improve the accuracy of it.

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