

RSSI-based Bluetooth Indoor Localization

Yixin Wang, Qiang Ye, Jie Cheng, Lei Wang, Jashwanth Kalyan Polavarapu

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1 The main idea

The Global Positioning System (GPS) has been widely used to determine location for a variety of different applications. However, it does not work well in indoor environments because it requires a line of sight to the satellites and thus stops working when the line of sight is not available. Indoor localization has become an important research topic, attracting a lot of attention in the networking research community. Object localization is another important application. An object can be precisely localized using the localization capability. As a result, personal belongings can be safely safeguarded. If they become disoriented, their whereabouts can be easily determined.

2 The methodology

In this paper, they present two novel BLE-based localization schemes: Low-precision Indoor Localization (LIL) and High-precision Indoor Localization (HIL). LIL and HIL use the collected RSSI measurements to generate a small region where the object is guaranteed to be found. In many applications, a precise region that covers the ground truth location is more important than a rough estimate of the true position. HIL results in smaller localization regions than LIL. HIL, on the other hand, necessitates an additional data-training phase.

3 The results

LIL and HIL, two novel Bluetooth-based indoor localization methods, are presented in this paper. Both use RSSI measurements to generate a small area where the Bluetooth-enabled device is guaranteed to be found. Because of the additional data training phase, our experimental results show that HIL is more accurate than LIL in most scenarios.

4 Recommendation

If we take training data that is feasible we can get better scheme with High-precision Indoor Localization (HIL) is a more appropriate scheme than Low-precision Indoor Localization (LIL).