

Localization Mobile Beacon Using RSSI

Authors : Sallama Resen, Celal Öztürk

Abstract : Distance estimation between two nodes has wide scope of surveillance and tracking applications. This paper suggests a Bluetooth Low Energy (BLE) technology as a media for transceiver and receiver signal in small indoor areas. As an example, BLE communication technologies used in child safety domains. Local network is designed to detect child position in indoor school area consisting Mobile Beacons (MB), Access Points (AP) and Smart Phones (SP) where MBs stuck in children's shoes as wearable sensors. This paper presents a technique that can detect mobile beacons' position and help finding children's location within dynamic environment. By means of bluetooth beacons that are attached to child's shoes, the distance between the MB and teachers SP is estimated with an accuracy of less than one meter. From the simulation results, it is shown that high accuracy of position coordinates are achieved for multi-mobile beacons in different environments.

Keywords : bluetooth low energy, child safety, mobile beacons, received signal strength

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