Abstract

Nowadays with the dispersion of wireless networks, smartphones and diverse related services, different localization techniques have been developed. Global Positioning System (GPS) has a high rate of accuracy for outdoor localization but the signal is not available inside of buildings. Also other existing methods for indoor localization have low accuracy. In addition, they use fixed infrastructure support. In this paper, we present a novel system for indoor localization. The solution proposed in this paper makes use of commonly available Wi-Fi networks and runs on ordinary tablets, smartphones without any additional hardware installation. It comprises two steps i) Steps Calibration. ii) Navigation stage. The calibration step creates a "Wi-Fi fingerprints" for each room of floor. It minimizes the calibration time via waypoints. The navigation stage matches the displays the path for user for source to destination and also enables the low consumption of smartphone battery for localization.

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**Index Terms**

Computer Science
Wireless

**Keywords**

Wireless Indoor Localization  Fingerprinting  Rssi  Smartphones.