TRACKING MOBILE USER FINGERPRINTS FOR LOCATION MONITORING THROUGH PERVASIVE COMPUTING

A. Saravana deepa **P.Nirmala**
saradeepa2011@gmail.com **nirmala7211@gmail.com**
Department of Computer Science and engineering
Sree Muthukumaran Institute of Technology, Chennai, Tamilnadu.

ABSTRACT

Although active research has recently been conducted on received signal strength fingerprint-based indoor localization, most of the current systems hardly overcome the costly and time-consuming offline training phase. In this paper, we propose an autonomous and collaborative Received Signal Strength fingerprint collection and localization system. Mobile users track their position with inertial sensors and measure Received Signal Strength from the surrounding access points. In this scenario, anonymous mobile users automatically collect data in daily life without purposefully surveying an entire building. The server progressively builds up a precise radio map as more users interact with their fingerprint data. The time drift error of inertial sensors is also compromised at run-time with the fingerprint-based localization, which runs with the collective fingerprints being currently built by the server. The proposed system has been implemented on a recent Android Smartphone with GPS(Global Positioning System). The experiment results show that reasonable location accuracy is obtained with automatic fingerprinting in indoor environments.

Keywords: RSS fingerprinting, Android Smartphone, GPS, Inertial sensor.