**AN INDOOR POSITIONING METHOD USING RSSI MEASUREMENTS CONSIDERING AP CONFIGURATION AND PENETRATED CHANNEL MODEL FOR MULTI-LAYERED IN-BUILDING ENVIRONMENTS**

Abstract

The demand for LBS(Location Based Service) is increasing in development of communication and mobile technology. Location determination technologies for especially indoor environments are getting a lot of attention. Many indoor positioning methods just use RSSI(Received Signal Strength Indicator) measurements that generate same floor APs. But RSSI measurements can be detected from different floor. Then we can obtain available different floor APs using penetrated channel model. So we are able to choose better AP configuration than using only same floor APs. In this paper, to improve the indoor positioning accuracy, we propose indoor positioning method that included different floor APs which are distinguished by penetrated channel model.