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| Title | Performance Analysis of Location Tracking System for Multiple Levels |
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| Abstract |  |
| Location tracking in an indoor environment which is possible with various techniques based on mechanical, acoustical, ultrasonic, optical, infrared, inertial or radio signal measurements. Global Positioning System (GPS) is one of famous tracking system as a feasible and effective outdoor tracking system. Nowadays, location tracking information and visualization of 3D graphics either in outdoor or indoor environment had been presented as one of research issues. Traditional tracking system with 2D-image standard presents only few and dull information to users. In addition 2D localization only supports one level platform (i.e. horizontally). Thus, the 3D location tracking system had been developed to globally support the multilevel network. In this paper we developed a real-time indoor tracking system with 3D locations which are able to provide more useful location tracking information to user using radio signals. This system had been developed for multiple levels building. For this project we use the existing Wireless Local Area Network (WLANs) attach devices called the access point (AP) to the edge of the wired network. Nodes communicate with the AP using a wireless network adapter similar in function to a traditional Ethernet adapter. The signal from the nodes or the APs that using WLAN can be read or calculated using Received Signal Strength Indication (RSSI) method due to its low-cost solutions. Besides that, the system runs in the IPv6 network to provide more reliable system. The localization algorithm use is triangulation which is suitable for indoor environment. In this paper we will present the result of the 3D location tracking for one level as well as two level building. The results are comparing in terms of experimental and calculated. |