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A Hybrid Positioning and Tracking System for 4G Networks Adopting Multi-Carrier Signal Design with MIMO System

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Abstract: The research paper proposed is to design and develop an accurate positioning system by utilizing appropriate sensors in the smart phone so as to provide the required services to the end user on time. The requirements for different application environments are accuracy/precision, coverage, availability, and minimal costs for local installations. To overcome this shortcoming, a good portion of research approaches is required to handle these challenges. It is aimed to design a Self-organized architecture through simulation as it is desirable to operate with systems consisting of thousands of devices. The location-based services architecture must support self-organization of the heterogeneous network in supporting multi carrier design with MIMO systems such as locations should be determined with minimal user inputs, multiple location information sources should be fused to increase accuracy, seamless switching between indoor and outdoor operation, and cooperation between neighboring users to determine position for increased accuracy. In this research decided to integrate the positioning technologies into a new design with multiple carrier signals for Multi Input Multi Output systems adopting quality of service parameters required by constructing an overlay network.