VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belgaum-590 018

A Project Work on

"Multiple tracking and localization using WSN and SMS gateway"

A Dissertation work submitted in partial fulfillment of the requirement
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In

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ABSTRACT

This project focuses on applying the wireless ad-hoc network and sensor technology to keep the track of medical machines embedded with RFID tags inside a hospital. The project aimed at building a working prototype to demonstrate how these technologies can be combined to facilitate the tracking of the medical machines, with the real-time data being captured through numerous low-cost and customizable sensors installed in different corners of a hospital building. Besides, as the machines are embedded with the RFID tags hospital staff can monitor the location of any machine placed anywhere in the hospital building. This helps the medical supervisor to keep the track of all the machines at any time he wants. Through any Wi-Fi-enabled consumer electronic devices such as a smart-phone or pocket PC, a manager/supervisor can easily access such real-time analysis about any particular machine anywhere, inside or outside of the building, through the nearest WLAN access points provided. A wireless sensor implemented with realistic networks configurations will be presented. This research has produced results delineating the performance and limitations as well as the future development.

For the experiment, we have tested the performance of the sensor module and the ZigBee components. The stability and the transmission range are tested using thea project prototype. During the experiment, the whole system is setup and data is collected and stored in the database of the terminal with the monitoring system. The data is mostly consistent over a long period and the rate of the process and the machine monitoring is accurate.