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Smart Network For Border Surveillance System

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Abstract: To design a next generation intelligent ultra small dust like wireless sensor motes which has the ability to detect an enemy intrusion across borders and battlefields. The paper aims at designing a system for border surveillance using the concept of smart dust technology. Smartdusts are small dust like wireless sensor motes with multiple on-board sensors and microcontroller. In real time, thousands of such smart dust motes must be deployed in a large area. The motes can form a network among them and has wireless connection to outside world. Onboard hardware include a variety of sensors for vibration/seismic, magnetic, acoustic and thermal signature recognition, a microcontroller for processing these sensor values and a radio transceiver for communication over a wireless network. In this experimental project, we have designed one central monitoring mote and two smart dust motes using ARM controller, IEEE radio transceiver and sensors. The central monitoring mote also displays the tracking history of intrusion on enabling a switch.