Abstract

National highway road security is challenging with increase of terrorist attacks across the world. The shipment of payload materials and illegal weapons in containers and even transport cars is a significant component to deliberate in modern days. This paper focused on three stage toll gate security system to automate the security level at targeted toll gates on road highways. X-ray scanning mechanism is proposed at stage 1 to scan the hidden objects. Back scattered X-ray method is applied to improve the scan process. Capacitive stretch sensor technology is proposed to weigh the moving vehicle. The capacitive sensitivity is increased with three electrode layers. Radio frequency technology is proposed for toll management system. Global System for mobile communication is implanted for communicate with toll amount information, Overload state of the vehicle, weapons and explosive information to the pre defined destination locations. The proposed methodology is reliable to safeguard the human life and to alert the security agencies from the terrorist movements in road highways.
Three stage Toll Gate Alarming Mechanism on Road Highways

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