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Anti-Terrorist Surveillance and Combat Robot

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Abstract: *This research presents the development of an innovative Anti-Terrorist Surveillance and Combat Robot designed to enhance border security and reduce the risk to human soldiers. The system leverages advanced technologies, including ultrasonic sensors for obstacle detection, metal detectors for bomb identification, GPS for precise location tracking, and a laser-based weapon system for threat neutralization. The robot is controlled via a Bluetooth module, allowing operators to remotely monitor and engage threats in real-time. By integrating these components with the PIC18F4520 microcontroller, the project offers a cost-effective, automated solution for continuous border surveillance and rapid response to intrusions. Extended operating capabilities in remote locations are ensured by the system's modular architecture and utilization of renewable energy sources, such solar panels. Future work will focus on incorporating artificial intelligence for autonomous decision-making, enhancing sensor capabilities, and exploring more efficient power solutions to further improve the system's effectiveness and versatility.*

Keywords: Anti-Terrorist Surveillance, Combat Robot, Border Security, Laser-Based Weapon System, Autonomous Threat Detection

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