

Auto Triggerring Weapon System for Border Security using Internet of Things

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Abstract: Border surveillance is the utmost essential responsibility in the realm of national defense and security. It is imperative to maintain constant vigilance over a nation's borders to uphold tranquility and ensure the safety of its populace. Safeguarding border areas rigorously from such activities is particularly critical in the present climate, where terrorist infiltrations and illicit movements of both animate and inanimate entities have become commonplace due to technological advancements. Offering uninterrupted surveillance is the minimum action required to prevent such incidents in border regions. At present, the manual monitoring of borders is carried out by the border security forces responsible for this task. Due to the vast distances between the borders and the harsh terrain and climate, it requires a lot of people and resources. Designing it is therefore analytically critical to create an automatic weapon system that could also complete even without monitoring task requirement for human involvement. Implementing this system eliminates the need to continuously deploy personnel in hazardous situations. Moreover, the system should possess the ability to make appropriate decisions and take necessary actions while also notifying human controllers when suspicious activities are detected. Central control rooms can be located away from the border region. Once an alert is sent, humans must determine the subsequent course of action. When implemented effectively, this approach helps conserve resources and reduces risks to human life. Full automation of border monitoring is not currently viable due to safety concerns, but such technologies can certainly assist and work in conjunction with armed forces to protect a nation's borders.

Keywords: Boundary surveillance cameras, unauthorized detection, wireless communication, Microcontroller, ultrasonic sensor

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