

ABSTRACT

The United States is one of the countries that legalizes firearms and allows their free circulation within society. As a result, the rate of gun violence, including mass shootings, has increased every year, resulting in many casualties. The limited ammunition tracking system in the United States also makes it difficult to effectively trace the misuse of firearms. While the problem is not as severe in Indonesia, efforts to control the circulation of firearms and ammunition are still present. Therefore, appropriate technological solutions are needed to prevent the potential misuse of ammunition and firearms in Indonesia.

To prevent Indonesia from facing a similar problem, this study proposes the development of a bullet counting system based on the Internet of Things (IoT). This system is designed to monitor the number of bullets fired in real-time and transmit the data to a web-based platform. The device uses an accelerometer sensor to detect bullet usage, supported by a navigation sensor to track the location of the shooting. With this technological integration, the monitoring of fired, sold, and unused ammunition becomes more stringent and efficient, helping to prevent the misuse of firearms by irresponsible parties.

Test results show that this system can detect toy gunfire. The ammo counter can count all the toy bullets fired. Because the device is equipped with navigation sensors, the website also records the location and time of the shooting. After the ammo counter has proven to detect toy gunfire, the development of the ammo counter can continue to detect real bullet gunfire.

Keyword: Ammo Counter, Acceleration, Shot Detection, Internet of Things(IoT), Firearms,