ABSTRACT

The SS1-V1 is an assault rifle model equipped with a magazine as one of its main components. The magazine plays a crucial role in storing and loading ammunition. However, magazines must be stored separately from the weapon as their integrated storage can threaten a country's security. Therefore, this research proposes a web-based system capable of identifying the presence of magazines in weapons in real-time. This system was built using the prototype method and is supported by various hardware components, including a load cell sensor, HX711 sensor module, Arduino UNO R3, and an Ethernet shield for network connectivity. In addition, API is used for data management, which is then stored in the database. This research indicates that the average response time for each rack within a cabinet is between 2.7s to 3.3s, while for racks serving as slaves, it ranges from 14.16s to 15.01s. Based on the weight-based weapon identification testing results, there is a weight difference of 0.1kg to 0.2kg. These results state that the web system successfully identified all tests according to the conditions of the weapons on the rack.

Keywords: HX711, load cell, prototype, SS1-V1, riffle magazine, web-based