

ABSTRACT

Airsoft is a sport that mimics a military simulation where the players participate in mock combat with military-style weapon replicas, gears, and tactics. In Indonesia, this sport is growing in popularity very quickly. The rule of the sport is simple, whoever got hit is out of the match. Since the ammunition is unpainted, it's hard to tell who's got hit and it relies on player's honesty or supervision of the referee. Having a referee sometime can be ineffective because referee may block the target, accidentally got hit, or getting run over by an unsuspecting running player. To enforce the fairness of the sport especially on competitive scene, a vest that has sensors inside the front side of the vest may be able to solve this problem. The device is using Raspberry Pi to process the python program, Piezoelectric to detect impact, and RFID for referee or medic to reset the device. The device has 88% accuracy when detecting hits. When the device got hit, it will light a LED that indicates the player has been hit and then send data to referee via MQTT protocol to monitor the remaining players. Then, the device can be reset by the referee or medic. After the device is reset, the player may join the match again.

Keyword: Raspberry Pi, Piezoelectric, RFID, Python, MQTT