ABSTRACT

Zebra cross is a means of crossing the road for pedestrians. With the crossing zebra, motorists can pay more attention to traffic, and prioritize the safety of pedestrians who will cross. The main factor of these accidents usually starts from the pedestrians themselves, such as crossing the road without paying attention to the traffic entrance. According to data from the World Health Organization (WHO), 22% of accident victims are pedestrians. That figure is equivalent to 747 pedestrians killed per day.

With an based detector Internet Of Things- equipped with Infrared Proximity Sensor and ESP32-Cam. The use of intelligent sensors to detect object distances and capture images of objects is expected to be a reference for detecting violations at zebra crossings. The crossing violation will be detected directly by the Infrared Proximity Sensor automatically when a violation occurs, then the buzzer will sound an alarm and the water spray pump will spray water as a warning to obey traffic. The screenshot will then appear on the website.

The results of the QoS test performance of the tool can be concluded that the tool is able to reach the network as far as 12 meters. The parameters used are delay and throughput. The best average value for delay is 107.10 ms at a distance of 1 meter, while the average delay value is obtained at a distance of 12 meters with a value of 277.40 ms, the total average delay data is 248.31 ms. The value is throughput best at a distance of 1 meter with an average value of 275.23 bps, while the lowest average value is at a distance of 11 meters, which is 54.79 bps. The overall total of the average throughput is 110.30 bps.

Keywords : Zebra cross, Violation detection, IOT, Infrared Proximity Sensor, ESP32-Cam, Buzzer, Water spray, Quality of Service.