

ABSTRACT

The density of vehicles in Indonesia and the increasing variety of vehicles will make it quite difficult for drivers, especially novice drivers to be able to maintain maximum distance due to the length of the car bumper of each vehicle which is quite varied. This research is expected to help drivers in the future to be able to maintain distance from the vehicle in front, and reduce the risk of accidents. Measurement is a form of activity to compare a measured quantity with a measuring instrument. Measurement is something important, everything that has a shape must have a size, be it length, height, weight, volume, or dimensions of an object. Various digital technology-based studies have been carried out so as to facilitate human work, one of which is distance measurement using ultrasonic sensors. In this study the author simulates using a simulated car connected to an ultrasonic sensor that is used to detect and calculate the distance to the object, then the distance results are processed by Arduino Uno.

After being processed by Arduino as the brain or microcontroller of this research, the output of what has been arranged or coded by Arduino is that if the ultrasonic sensor detects the presence of a static object within a distance of less than 100cm (1 meter). Then the LED will light up as a marker of where the object came from, whether it came from the left, right or rear sensor depending on the presence of the object. After the LED lights up the buzzer connected to the LED will also automatically turn on as a notification to the driver of the presence of objects in the blind spot. However, if the presence of the object is outside the limit that is considered a safe distance of 100 cm then the sensor will not read the object, and the LED and buzzer will not light up.

Key words : Arduino Uno, Ultrasonic Sensor, Buzzer, Safe Distance