

ABSTRACT

Vehicle now has become a major requirement for people who live in the city. This makes the demand for vehicles increases, and also make the resulting volume of vehicles on the road is increasing. Directly proportional to the increase in volume, human error on the road are also increasing. One of human error is a collision when trying to change lanes because they do not get to see another vehicle through the rear view mirror, or while looking at the rear view mirror that makes the driver does not focused on the road. Another cause is due when the driver forgot to turn off the turn signal, thus making the other riders confusion. To minimize this, we need a system that can monitor the speed, rpm, and the turn signal with a view still on the road.

The design of head-up display on the motorcycle, was designed by integrating the microcontroller Arduino Uno and a motorcycle. Arduino uno that has installed software made specifically has function for brain of system that manage the sensor's work, and process inputs into outputs. Input received from sensor that has installed to get the data that used for calculate the RPM and speed, sensor in turn signal, and from ultrasonic sensor. The result of processing data will be represented by LED.

Based on the results of testing that has been done, arduino uno able to process all the inputs, and provide output corresponding to the input received. The system has an accuracy rate of reading speed's input by 70.33% compared with speedometer and 80,18% compared with GPS.

Key Word : microcontroller, arduino uno, head up display.