

Abstract

Indonesia is a country that has a fairly high level of motorcycle consumption. Therefore, it is not surprising that there are so many motorbikes on the road. However, this was not accompanied by flat road conditions. Therefore, to maintain driving safety and comfort, drivers are advised to check tire air pressure before traveling. But now the way to check the condition of motorcycle tire air pressure is just by pressing the tire. Based on the facts above, in this final project a Wireless Monitoring system will be built that can determine the condition of motorcycle tire air pressure. This system works in real-time and uses two input variables, namely air pressure and temperature. Therefore, this system uses two sensors, namely the MPX5700AP sensor and the LM35 sensor. For every 1 Degree Celsius drop, the tire pressure drops by approximately 0.19 psi. In addition, the Fuzzy Logic method is applied in classifying data according to its class. There are four membership functions for tire air pressure, namely "very low", "low", "normal" and "high". As for temperature, there are four membership functions, namely "very cold", "cold", "normal" and "hot". The output of the system will be the condition of the tires which have four membership functions, namely "very low wind", "low wind", "normal", and "loud" and will be notified in the form of a voice notification through the speaker on the rider's helmet. In addition, in this final project, the results of the analysis of the performance testing of the fuzzy logic method on a tool with an accuracy rate of about 86.6% are obtained.

Keywords: *Wireless Monitoring system, air pressure, temperature, MPX5700AP sensor, LM35, Fuzzy Logic*