

ABSTRACT

Nowadays, air pollution in the environment is increasing. Geographical influence can lead to increase air pollution, such as environmental pollution caused by smoke from forest fires, exhaust gases originating from transportation and air pollution in homes for cooking, smoke cigarettes, global climate change for examples changes in air temperature, humidity, and rainfall are a threat. Except to the gases mentioned above, do not miss is the dust that can also cause environmental pollution. The content of harmful gases and dust are invisible, making it difficult for ordinary people to anticipate the disorder. In fact, many of them consider if the inhaled air is clean and healthy.

In this final project, has created a device that can provide information of the air condition in environment every time. Device based on microcontroller Arduino Uno compiled by sensor MQ-7 for detecting carbon monoxide and sensor GP2Y1010AU0F for detecting dust will read the content of carbon monoxide and dust then the value of both sensor will be processed using Mamdani Fuzzy Logic which will determine the air condition.

Device testing implementation in two different places. The first test was conducted in a clean environment, do the data retrieval earned 30 times with the average of the carbon monoxide detected was 102,65 ppm and dust detected value stable at 100 ppm with all the conditions are safe according with fuzzy rule that already made. The second test conducted in a dirty environment, with the average of carbon monoxide is 236.85 ppm and dust is also stable at 100 ppm with all the conditions also wary. By looking at the result test it can be concluded that air pollution detection device's has 100% accuracy.

Keywords : Air Pollution, MQ-7's Sensor, GP2Y1010AU0F's Sensor, Arduino Uno, Mamdani Fuzzy Logic