

ABSTRACT

Indonesia is a tropical country which has a climate that is quite hot throughout the year, of course the impact of this climate is the increasing use of air conditioners as an unavoidable need for each individual. Continuous use and lack of maintenance on the equipment can cause damage to the equipment which can occur at any time, therefore it is necessary to carry out regular maintenance to continue to be able to keep the system working optimally.

The final project research will be carried out with the aim of preventing damage or downtime to the machine as well as identifying and analyzing usage to be able to predict Air Conditioners using Linear Regression. The tool designed in this research uses a DHT11, 12C LCD, Pressure Sensor module which is then connected to an Arduino UNO and NodeMCU ESP8266 which communicates serially.

In this research, testing the DHT11 Sensor with a Digital Thermometer had an error value of 6,09% and humidity of 4,2% on the first DHT sensor, while on the second DHT sensor an error value of 7,6% and humidity was 1,96%. The measurement results on the pressure sensor with the Magnifold Gauge have a measurement error value of 0,6%. Prediction Model find the coleration between temperature and humidty produce high value within R^2 0,9136. The test results can be used as a reference for examiners to get more accurate values.

Keyword: *Air Conditioner, Maintenance, Linear Regression*