

ABSTRACT

The server room is very important to asset for companies or institutions that apply information technology as a support in their daily activities and used to store computer servers and network devices. Problems that exist in the company, namely the lack of the system to the monitor temperature and humidity, so that if the temperature and humidity in the server room is outside specifications will cause warning decreased performance and even cause damage. Damage to device will impair and slow down the performance of the company.

The system designed in this thesis is monitoring system temperature and humidity of the room, so the server can minimize a decrease in performance and damage to the device. Systems Wireless Sensor Network (WSN) used in this system with the topology point to point and use the sensor as a counter DHT-11 temperature and humidity, then Zigbee as trasnceiver between the sensor node and coordinator node. Arduino Uno microcontroller, putty program to running the result of experiment and 16x2 LCD is used for data viewer in the coordinator node.

The output of this system is a device that can monitor temperature and humidity of the server room. The results of the study by comparing the sensor and DHT-11 digital thermometer and hygrometer has a difference (error rate) 1.85 °C temperature and humidity 2%. And the results of research by comparing the sensor DHT-11 and analog thermometer and hygrometer has a difference (error rate) 2.83°C temperature and humidity 7.25%. Keywords: zigbee, microcontroller arduino uno, DHT-11, the server space, LCD 16 x 2, putty.