

## ABSTRACT

*Along with the rapid technological developments certainly leave everyone more ways Using manually and tends to want to do something with an easy and practical. From this common problem, the authors observe and perform research that can overcome these problems. Microcontroller use to control the fan in the room would be one of the practical application of the principles and flexible working. Data received by the infrared sensor of the detection results and the amount of data LM35 temperature sensor to check your room temperature is then forwarded to microcontroller. Microcontroller used Arduino Uno R3 is a type that controls the input from the sensor and the output of the system. In the C programming language using AT Command and generally easy to use and can be executed quickly. Conditions observed that when the infrared sensor to detect the amount of people coming into the room increases the temperature of the room will be hot, and detected by a temperature sensor, use a series of transistors and relays are used as a switch to control the AC voltage that can turn on and turn off the fan wind automatically. The way the device works is the condition of temperature > 30°C then it will turn on one fan, and when the temperature is > 35°C 2 fan will turn on so that the temperature stabilizes and the room will be used comfortably. This tool is equipped with serial communication and wavcom modem to transmit information to the operator that contains how many people of the room, how many temperature of the room, and the fan turns on via SMS. With these tools designed so people no longer need to manually control and can determine the condition of the room every time the SMS report.*

*Key Words :Infrared sensor, temperature sensor, fan, microcontroller, arduino, SMS report..*