

## **ABSTRACT**

The using of electronic devices rapidly, cause increasing energy needs which is can lead to energy crisis. One of example is fan using. The habitual of fan using is the fan always on although there is no people in the room. Lack of attention to these things lead to electrical waste.

This final project have designed a device that is able to controlling the fan's velocity based on amount of people and the temperature in the room. In device design, the passive infrared sensor (PIR) used to detect the people, the SHT 10 temperature sensor used to measure the room temperature and the fuzzy logic method used to control the fan's velocity.

Based on design and results of testing, the device has been able to control the fan's velocity with accuracy rate 99.98 % based on amount of people and the room temperature.

Keywords: fan, fuzzy logic, passive infrared (PIR) sensor, temperature sensor