ABSTRACT

Internet of Things (IoT) is a concept for creating a smart and interconnected world where everyday objects can be equipped with intelligence and automation, making them more efficient, responsive and able to improve human life. One of them is for use in controlling to turn on and turn off various electronic devices, which are generally still controlled manually using a switch or remote button. So it is very necessary to have an automatic control system technology and monitoring system, this is needed to facilitate human activities in order to save power, time and energy.

The prototype tool for managing the use of fan in this room is a sophisticated device designed to control fan automatically, which is designed with a camera on the microcontroller, a temperature sensor, and there is a system that is run to detect the number of people in the room, and a monitoring system that is useful for information. data obtained by the user. This technology will be used in rooms where there are large crowds of people.

The results of the implementation and analysis of this designed device can carry out automatic control and detection accurately so that the system is run according to the concept that has been designed. In the results of the training dataset that was carried out, the detection accuracy was 88%. As well as from the results of this automatic control, the power generated by using a device that has been designed is more efficient than not using a device.

Keywords: *IoT, Fan*, *Image Processing*, *monitoring.*