ABSTRACT

The efficient and flexible characters of microcontroller make this tool chosen by many people to realize the application. Cheap price, the sort and the almost complete feature, allow the application designer to be free in choosing suitable microcontroller that will be used. In this research, will be explained detail for microcontroller of AVR RISC 8 bits family, AT Tiny, to realize the automatic temperature monitoring and fan controller on PC.

Microcontroller AVR ATTiny is used as a controller of all systems. AT Tiny monitors the temperature by taking the temperature sample every current time period using a sensor. The temperature that is measured will be displayed to an interface, LCD, to inform the user. And then AT Tiny will compare between sampling result temperature and reference temperature which has been decided accordance to normal temperature standard on PC. The result of comparison will be used as a measuring rod to decide the value of fan rotation velocity for setting.

The velocity of rotation in fan motor equal to the power sent. On microcontroller AVR AT Tiny, power sending to the fan can be set by using Pulse Width Modulation (PWM) channel. By this channel, setting the fan rotation velocity is done by using PWM period as a variable, which the value can be changed with internal timer/counter of ATTiny. So that, the power which is sent to fan, can be set accordance to the necessity without have to touch main power.