# MICROPROCESSOR BASED SYSTEM DESIGN

# Temperature Controlled DC Fan Motor


## Project By:

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## INTRODUCTION:

A microcontroller application for a temperature-controlled DC Fan Motor using various resources. The fan motor is operated at different speed limits according to some threshold values of variable resistor. The variable resistor output is analog signal hence an ADC is to be interfaced with the microcontroller. Speed control is achieved using Pulse Width Modulation (PWM) technique.

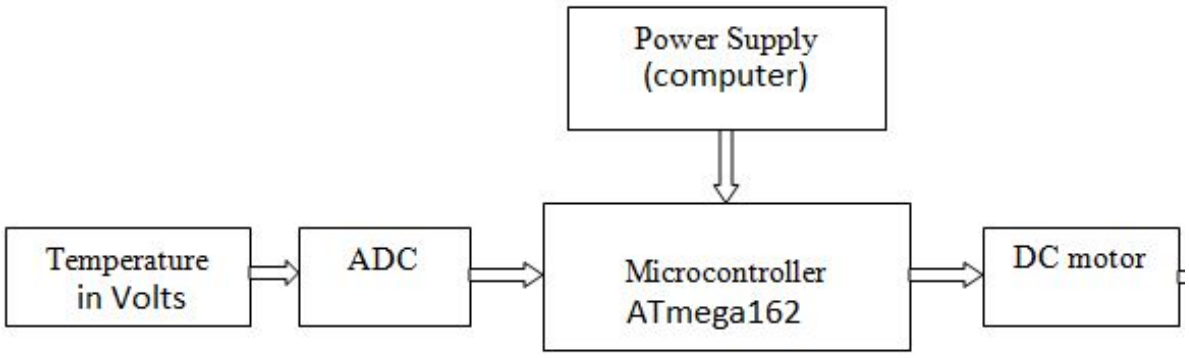
## COMPONENTS USED:

- AVR Atmega162
- Potentiometer (1K Ohm)
- DC Fan motor
- ADC 0808
- LED
- 3-WATT100R

### SOFTWARES USED:

1) Atmel Studio 7.0
2) Proteus 8.0 professional

# BLOCK DIAGRAM:




# WORKING:

**Voltage of 0-5V is given as input on (IN0) OF ADC, VCC and GND of ADC is given to +5V and 0V respectively, (PB1, PB2, PB3, PB4 and PB5) pins of ATMega 162 are connected to (clock, START, EOC, OE, ALE) respectively, ADC gives 8 bit digital output which is taken as input on ATMega162 on PORT C.**

**TCCR0 is configured to control the DC Motor and TCCR2 is configured to control ADC clock. DC Motor Output is on PB0/OC0.**

# PROTEUS SIMULATION SNAP: