

Title :- Develop an android based fan regulator.

Problem Statement:-

Develop an android based fan regulator using open source hardware platform like NodeMCU & actuator [a servo motor].

Theory:-

→ Servo Motor

- Using a servo motor is common in robotics for precise control.
- It is a rotary actuator or linear actuator that follows for precise control of angular or linear position, velocity & acceleration.

→ Material Required

- 1] Arduino UNO
- 2] Servo Motor
- 3] Bread Board.
- 4] Connecting wires

→ Module works on 5V supply & the signal pins operate on 3.3V, hence a 3.3V regulator is present in the module itself.

Pin connection

[43212]

Sr.no.	Pin on HC-05/ HC-05	Pin name on MCU	Pin number In PIC.
1	VCC	Vdd	31 st pin
2	VCE	Gnd	32 nd pin
3	Tx	RC6/Tx/Ck	25 th pin
4	Rx	RCT/Rx/DT	26 th pin
5	State	NC	NC
6	En (Enable)	NC	NC

Advantages of Servo Motor

- 1] If heavy load places on the motor, the driver will increase the current to the motor coil as it attempts to rotate the motor, there is no out of step condition.
- 2] High speed operation is possible.

Disadvantages of Servo Motor

- 1] It requires tuning to stabilize the feedback loop.
- 2] Peak torque is limited to a 1% of duty cycle.

Applications:

- 1] In industries, in radio controlled airplane in robots, in aerospace industry.

Conclusion:-

In this way, I have developed an android based fan regulator.