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Assignment - ~~0~~ 06

myCOMPANION 43304

* Problem Statement → Develop an android based fan regulator using open source hardware platform and an actuator [a servo motor].

* Theory →

A. Servo Motor :

① Using a servo motor is common in robotics for precise control.
② It is a rotary actuator or a linear actuator that follows for precise control of angular or linear position, velocity and accl^n.

B. Material Required → :

① Arduino UNO
② Servo Motor
③ Bread board
④ Connecting Wires

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

C. Pin Connections :

Pin on HC-05/ HC-06	Pin Name on MCU	Pin Number in PIC
Vcc	Vdd	31
Vcc	Gnd	32
Tx	RC6 / Tx / CK	25
Rx	RC7 / Rx / DT	26
State	NC	NC
En	NC	NC

D. Advantages of Servo Motor :

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

5. Disadvantages of Servo Motor :

① Requires tuning to stabilize the feedback loop.

② Peak torque is limited To 1% duty cycle.

F. Applications :

In industries, in radio controlled ~~xxx~~ airplanes, in robots, in the aerospace industries.

* Conclusion → Thus in this way, we've learnt about servo motor and developed an android for regulation.