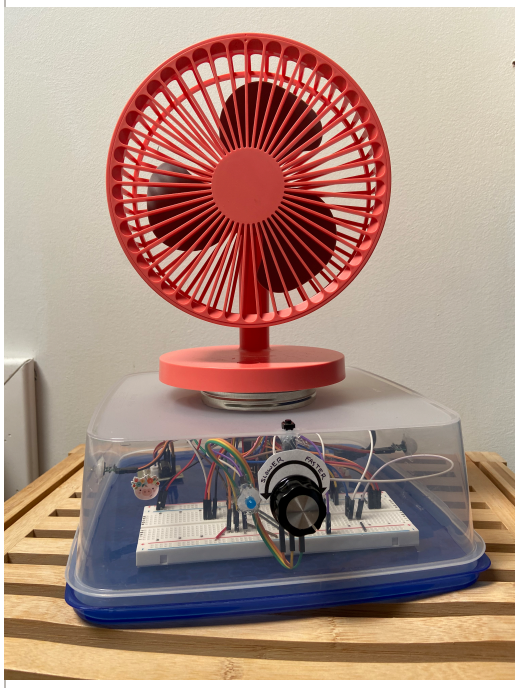
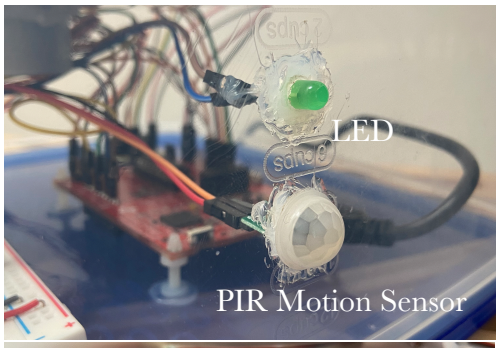
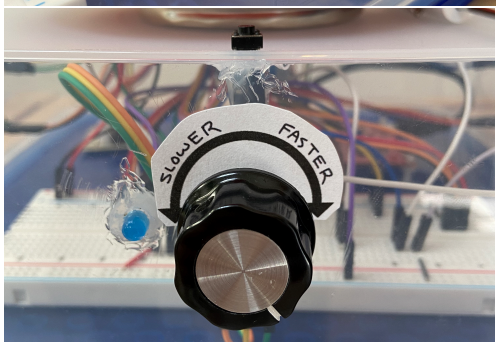
Motion Tracking Fan

A Microprocessor Project



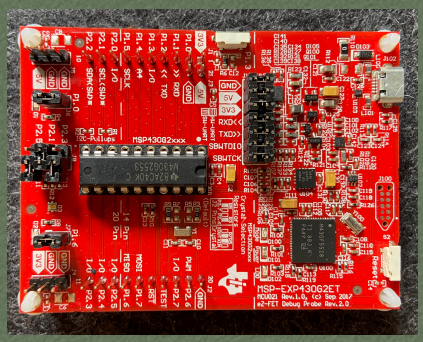
Fans are useful devices for cooling down on a hot summers day, however they are only useful as long as they point towards you. This project is designed to fix this issue! By implementing motion sensors and a small motor, we are able to track the movement of a person and always point the fan in their direction! This handout will cover the basics of this project, and hopefully inspire you to design your own someday.





Components List:

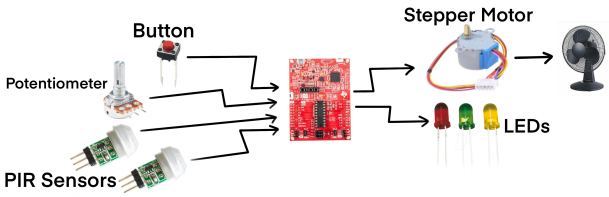
- 1 MSP430G2553
- 2 PIR Motion Sensors
- 1 5V Stepper Motor
- 1 ULN2003 Motor Control
- 3 LEDs
- 1 Breadboard
- 1 Potentiometer
- 1 Button
- 1 Fan



MSP430G2553

The **MSP430G2553 Microcontroller** is at the heart of this project. As a microcontroller it is capable of running programs and interfacing with peripherals such as sensors and motors.

In this project the MSP430 Microcontroller is used to interface with multiple input and output devices. In this case the inputs are given by the 2 PIR motion sensors, the button, and the potentiometer. Outputs are seen in the movement of the stepper motor, and the lighting of the LEDs.



By writing a program for the MSP430 seen on the left, we are able to point the fan in either of the two blue regions seen in the diagram to the right, depending on where the user is situated. This seemingly complex process is made simple through communication between the components connected to the MSP430.