

Self-Driving Car

Code

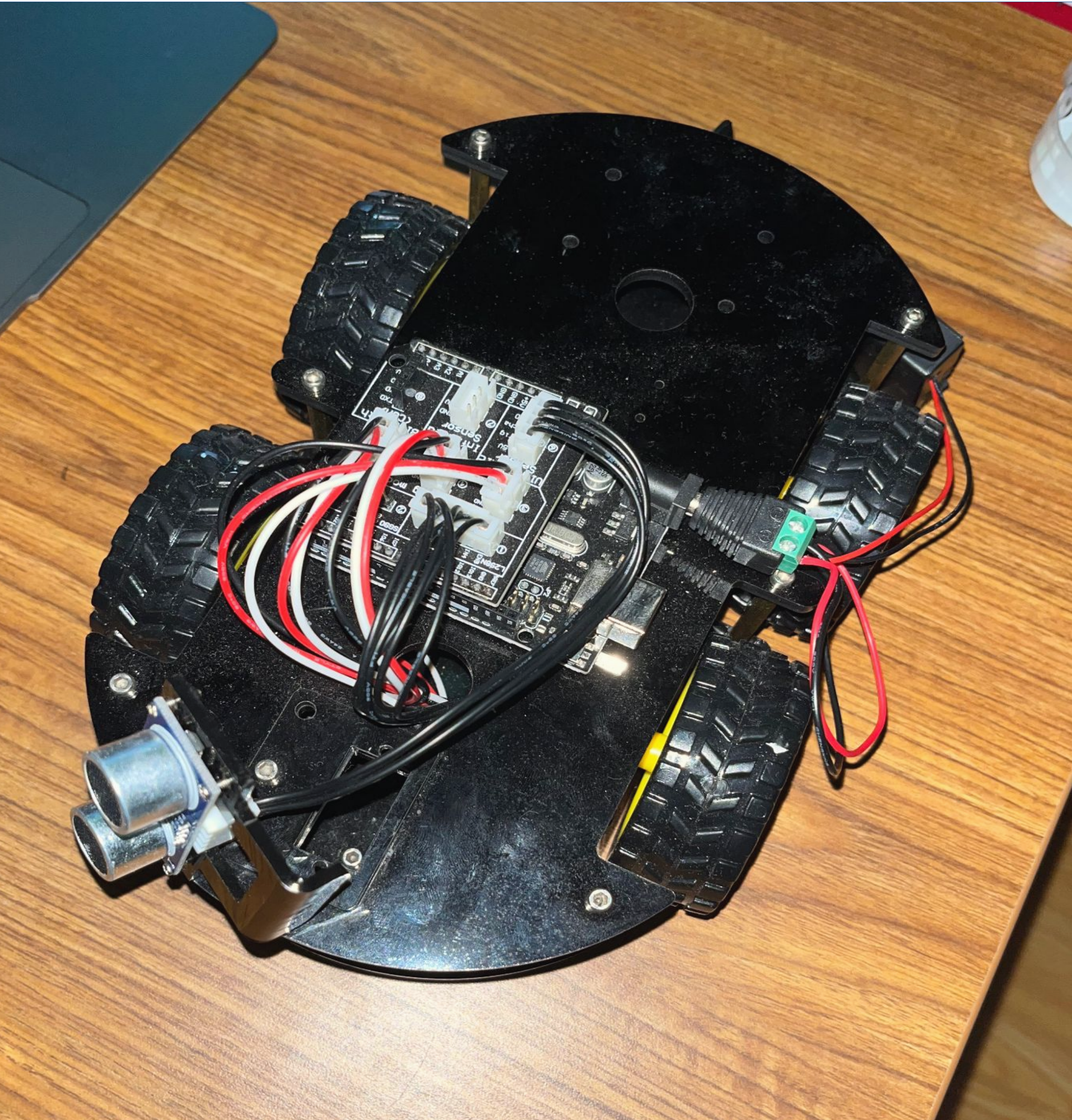
```
>> a = arduino('/dev/cu.usbmodem14201', 'Uno', 'Libraries', {'Ultrasonic', 'Servo'})
sensor1 = ultrasonic(a, 'D12', 'D13')
sensor2 = ultrasonic(a, 'D7', 'D8')
servo_motor1 = servo(a, 'D3')
servo_motor2 = servo(a, 'D5')

z = 1
y = 2

while y > z;
    d1 = readDistance(sensor1)*100;
    d2 = readDistance(sensor2)*100;
    while d1 > 8;
        d1 = readDistance(sensor1)*100;
        for s = 0:1/180:1
            writePosition(servo_motor1,s)
        end
    end
    while d1 < 8;
        writePosition(servo_motor1,0)
    end
    while d2 > 8;
        d2 = readDistance(sensor2)*100;
        for t = 1:180/1:0
            writePosition(servo_motor2,t)
        end
    end
    while d2 < 8;
        writePosition(servo_motor2,0)
    end
end
```

Abstract

My project idea for the academic festival is to create something analogous to a car. The main idea of the project was to create a car that would be able to avoid surrounding objects using sensors put on the front of the car but after discussing with my professor we decided that would be too challenging so I would come up with something similar to that.



Materials

For my project I originally decided I was going to use a pre-build car that is used in different engineering classes. Instead, I will use an ultrasonic sensor with four servo motors to create a car like structure. The four motors will act as wheels on a car, the ultrasonic sensor will be placed on the front of the car and will detect surrounding objects of the car.

Challenges

For my original idea I had to code the car pictures on the poster to the left, my professor and myself decided that this would be too challenging of a project and that I would struggle to get that done at all. Instead I had to make a simpler version of that. Some issues I initially faced were the sensors not reading the distance constantly, only reading it one time at the beginning and that reading would stay constant the entire time the code was running

Conclusion

Overall I enjoyed this project and learned how to use all the coding and work in a real life application. Although at times the coding and work got hard it taught me to persevere through problems and get to the end result.