10/28/20

Background and Objective:

The purpose for this design is to get motor spin to the wheels. This will involve getting used to the Raspbian OS, refreshing knowledge of breadboards/Raspberry Pi GPIO/etc., and a basic knowledge of some Python code found online.

Requirements:

Requirement	Description
Motor Spin	The 5V DC brushed motors should be able to spin.

Issues and Solutions While Testing:

1. No output voltage from Raspberry Pi—fixed by rewiring the system on the breadboard, was not an issue with the Pi. Confirmed by using an LED to see if there was flow.

2. No voltage from 3 x 1.5V AA batteries—fixed by using tape to make sure contacts between wires were touching. Confirmed by making a small circuit with an LED, which blew out the LED.

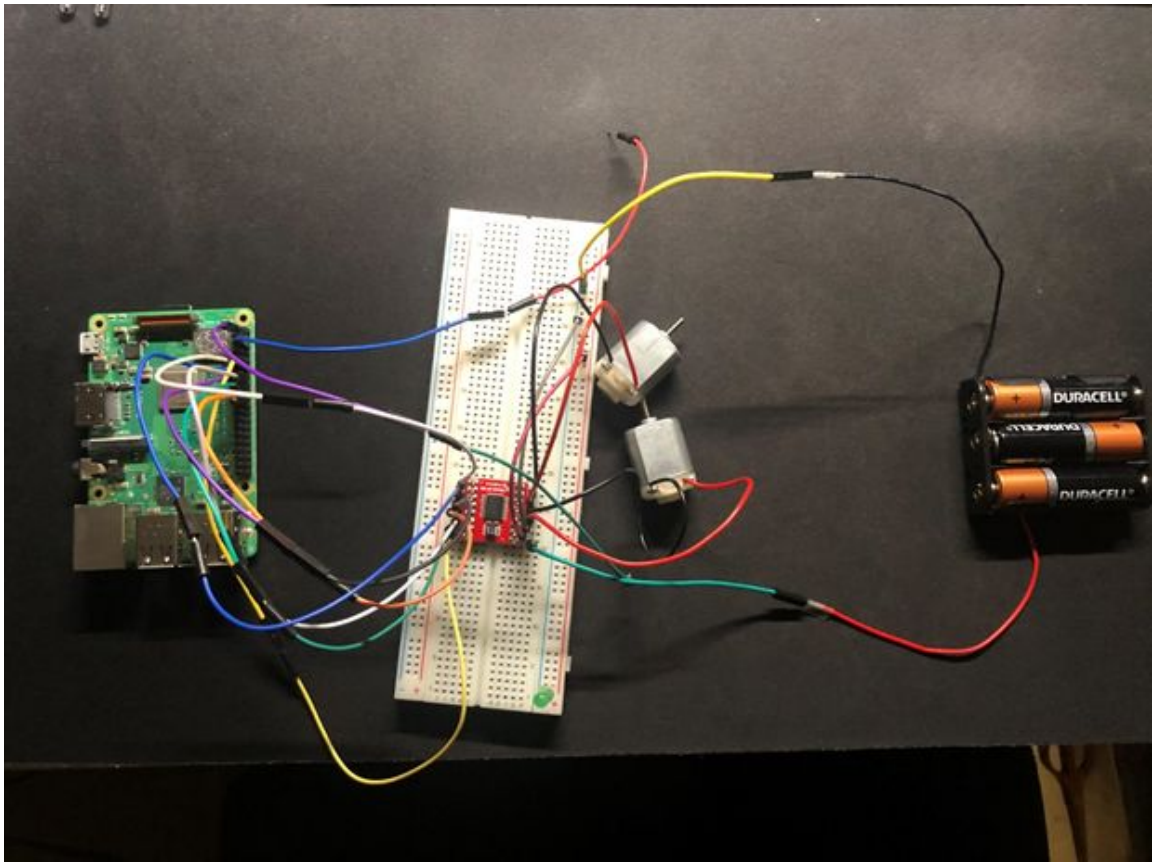
3. Python Code was returning many errors—after trying different IDEs from the package manager, fixed by simply reinstalling Raspbian OS.

4. Made male-female jumper wires by connecting male-male to female-female jumper wires, some connections were not connected properly.

5. Motors were not spinning—fixed by carefully rewiring the GPIO, and had made a mistake in connecting between breadboard and GPIO.

6. Only one motor was spinning: solution pending

System Picture: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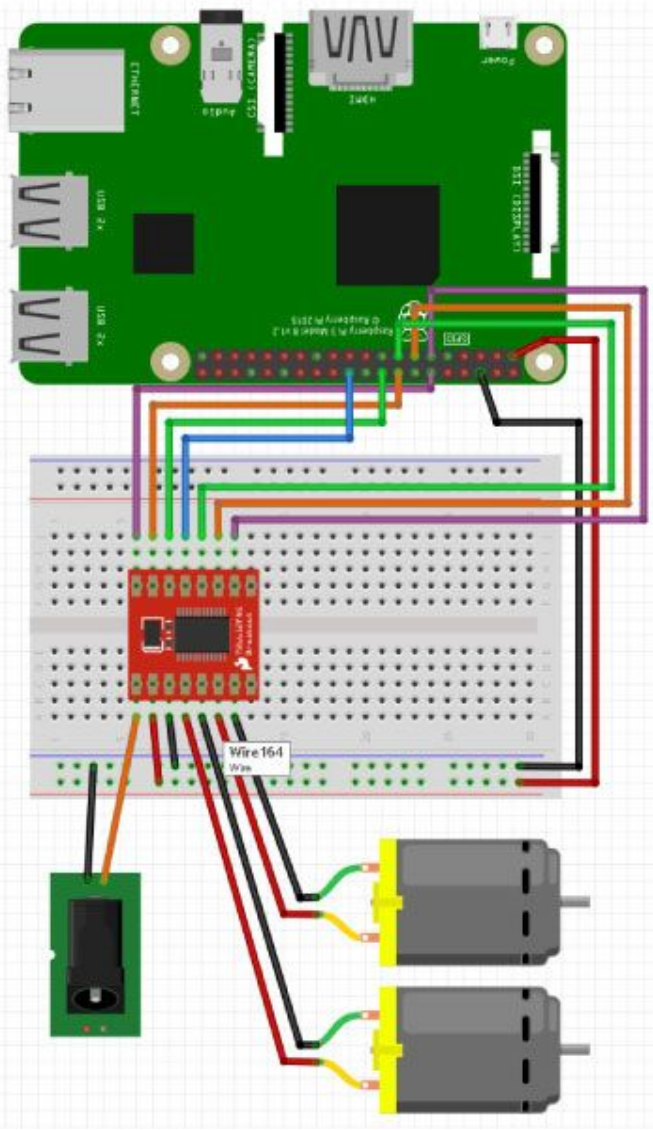

TB6612FNG	
VM	EXT Power (V)
GND	EXT Power (GND)
GND	Raspi (GND)
VCC	Raspi (3.3v)
A01	MotorA (+)
A02	MotorA (-)
B01	MotorB (+)
B02	MotorB (-)
PWMA	Raspi (Pin 12)
AI1	Raspi (Pin 16)
AI2	Raspi (Pin 18)
STBY	Raspi (Pin 22)
BI1	Raspi (Pin 15)
BI2	Raspi (Pin 13)
PWMB	Raspi (Pin 11)