

PARK CLEANING AND SURVEILLANCE ROBOT

COMPONENTS

1. Raspberry Pi
2. PI cam or any webcam.
3. VNH5019 Motor Driver.
4. Arduino Pro mini
5. Esp8266(Nodemcu)
6. Any 6 axis arm.
7. 920kv brushless motor
8. ESC
9. 11.1v 5200mah LIPO battery
10. Squared Gear Motor(40kg torque, 100RPM) (OR) Johnson Moto(12kg torque, 200RPM)
11. PCA9685 PWM driver
12. Lipo connector
13. 7805 Voltage regulator

Upload the arm code in Arduino Pro mini and esp8266 code in your esp8266(Nodemcu)

- That's it you are done with 50% of the project
- You can contract a similar structure or any structure on your own

CONNECTIONS(Plug and Play).

Use the PCA9685 PWM driver to connect the servo motors in the arm and plug-in the control terminals of the driver from the pro-mini to the motor driver as mentioned in the code. Do the same for the motion control motors(Johnson Motors) using esp8266 and VNH5019 Motor driver. Use the 7805 to power-up the ESP8266, Arduino pro-mini, Raspberry pi and PCA9685 PWM driver. Power up the VNH motor driver with direct LIPO discharge. For the Vacuum part take a box and fix your brushless motor and connect it to the esc and then esc to Arduino Pro Mini and direct LIPO Discharge for the Supply.

<https://www.instructables.com/id/How-to-Make-Raspberry-Pi-Webcam-Server-and-Stream-/>

Follow this tutorial to setup the raspberry pi for streaming and we will embed the streaming option in our app itself.

After connecting the components please do check it twice

Connect the ESP8266 and the raspberry pi to a stable network. I would rather suggest to connect it to a laptop's hotspot because you can view the ip address there. And enter both the ip address in the app and connect the phone to the same network. While entering the ip address of the Raspberry pi add "/5000" to the end.

And then What?

YOU ARE GOOD TO GO!!!

