**Wheelchair Project:**

**MOTOR DRIVER SHIELD LINKS:**

I have shortlisted 3 Motor driver shield links compatible with Arduino and Nucleo. Hopefully it should work with ST IoT Discovery Kit as well. Please let me know which motor driver looks good.

1. Amazon: <https://www.amazon.com/HiLetgo-Driver-Shield-Compatible-Duemilanove/dp/B01DG61YRM/ref=asc_df_B01DG61YRM/?tag=hyprod-20&linkCode=df0&hvadid=309774137275&hvpos=1o1&hvnetw=g&hvrand=15954511968133687502&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9060440&hvtargid=pla-608802963075&psc=1>

The motor library for the 1st product is here: <https://learn.adafruit.com/adafruit-motor-shield/library-install>. **But this will work ONLY for ARDUINO**

1. STM Motor driver X-NUCLEO-IHM12A1 for Nucleo <https://www.digikey.com/products/en?keywords=497-16875-ND>
2. Cytron 10A DC Motor Driver Arduino Shield

<https://www.robotshop.com/en/cytron-10a-dc-motor-driver-arduino-shield.html?gclid=CjwKCAjwqfDlBRBDEiwAigXUaMhwHDisWcOL61axJ1cmy-LOEkG1XswlArwxqJL8LWCSaNOMO8J9MRoCjB8QAvD_BwE>

Instead of libraries, we are thinking of modifying the existing sample code given by ST for the wheelchair to move rectangular right and rectangular left and circular right and circular left.

**Proposed design and wiring for wheelchair control circuit**

Rechargeable Battery (2-10V)

STM Discovery board + Motor driver shield

**BLACK BOX**

Joystick Controller

GND

PWM O/P

PCB/ General purpose Board

(Connectors and Resistors)

I/P Voltage

GND

**Progress:**

1. We have successfully implemented additional feature of wheelchair turning 90 degrees left and 90 degrees right
2. We have also implemented the circular left and circular right motion for the wheelchair. Following table illustrates new controls

|  |  |
| --- | --- |
| Buttons | Controls |
| R | Rotate 90 deg right |
| F | Rotate 90 deg left |
| C | Circular right |
| V | Circular left |

1. Next milestone we are working is to automate the wheelchair by hardcoding the path in the STM Discovery Board sample code and testing it **without terminal commands**

**WIFI IN SJGATEWAY BOARD:**

I have co-ordinated with Dhananjai and tested the wifi module by manually connecting a single strand wire with the boot pin of SJ Gateway port controller. But manual wiring is not providing any results since the IC pins are very close enough to connect. So next step will be testing the COM port with Bluephile board (Dhananjai is ordering) whether it will be able to make a COM port by next week.