Rabboni Python SDK

Prerequisite

Linux

(建議: Ubuntu 20.04LTS)

- 安裝 libhidapi-hidraw0 (USB 模式)

```
$ sudo apt install libhidapi-hidraw0
```

- 寫入 udev rules

  > 先將 rabboni-python-sdk-1.0.0 複製到 /usr/lib/python3/dist-packages

```
$ cd rabboni-python-sdk-1.0.0
$ sh generate-udev-rules.sh
```

- 安裝 python3 及相關

```
$ sudo apt install python3 python3-pip python3-tk
```

Windows

- 複製 hidapi.dll 到開發專案

```
> copy rabboni-python-sdk-1.0.0\hidapi.dll .
```

Installation

```
$ cd rabboni-python-sdk-1.0.0
$ sudo python3 setup.py install
```

Usage

與 Rabboni 建立連線/斷開連線

- 用 USB 連接

```
rab = Rabboni(mode='USB')
rab.connect()
```

- 用 BLE 連接

```
rab = Rabboni(mode='BLE')
rab.scan()
rab.connect(mac_address='E5:9F:B8:36:17:9A')
```

- 斷開連接

```
rab.disconnect()
```

讀取/修改設定值

```
rab.set_sensor_config(16, 2000, 40, 2500)
rab.read_sensor_config()
```

讀取 Rabboni 狀態數值

```
rab.start_fetching_status()
rab.polling_status()
```

重製紀錄數值

```
rab.reset_count()
```

匯出 CSV

```
rab.export_csv()
```

匯出折線圖

```
rab.export_plot()
```

Example

- USB 模式

```
import traceback as tb

from rabboni import Rabboni
```

```
rab = Rabboni()
rab.connect()

rab.set_sensor_config(8, 500, 20, 100)



def usb_custom_callback(status):
    """
    參數 status 為一個 dictionary
    eg.
    Acc: (X,Y,Z), Gyr: (X,Y,Z), Count: (CurrentCount, StoredCount)
    {'Acc': (0.614013671875, -0.583984375, 0.58349609375), 'Gyr': (-92.43774
    """
    print(status)


try:
    rab.start_fetching_status(custom_callback=usb_custom_callback)
    rab.polling_status()
except AssertionError:  # 結束程式
    print('Bye~!!')
except Exception:
    tb.print_exc()
finally:
    rab.export_csv()
    rab.export_plot()
    rab.disconnect()
```

```
$ sudo python3 usb_rabboni.py
```

- BLE 模式

```
import traceback as tb

from rabboni import Rabboni

rab = Rabboni(mode='BLE')
rab.scan()
rab.connect(mac_address='E5:9F:B8:36:17:9A')

rab.read_sensor_config()
rab.set_sensor_config(4, 500, 20, 100)
rab.read_sensor_config()


def ble_custom_callback(status):
    print(status)


try:
    rab.start_fetching_status(ble_custom_callback)
    rab.polling_status()
except AssertionError:  # 結束程式
```

```
    print('Bye~!!')
except Exception:
    tb.print_exc()
finally:
    rab.export_csv()
    rab.export_plot()
    rab.disconnect()
```

```
$ sudo python3 ble_rabboni.py
```

- BLE 連線步驟

    1. 按下 Rabboni 右鍵，進入 BLE 連線模式(閃綠燈)
    2. 執行 python 程式 (python ble_example.py)
    3. 成功連線訊息

```
Scan BLE devices:
Name :   MAC : 6C:EE:DB:1B:72:22
Name :   MAC : 3B:01:58:CD:DC:02
Name : RABBONI  MAC : E5:9F:B8:36:17:9A
Name :   MAC : 6F:C5:0A:44:24:38
============================
2020-05-21 11:20:54,498 - E:\Code\dev-projects\NCTUTWTLab\rabboni-python-sdk
```