



## CONTROLLER

There are lots of ways we can control the bot remotely. We can use the evdev library to capture the key presses from any input device like a bluetooth keyboard, mouse or joystick. To list all the devices connected to our Pi we can use the following code:

```
from evdev import InputDevice, ecodes, list_devices, categorize

for x in list_devices(): # List all devices attached to Pi
    print(InputDevice(x)) # Print out info about it
```

```
Python 3.4.2 (default, Oct 19 2014, 13:31:11)
[GCC 4.9.1] on linux
Type "copyright", "credits" or "license()" for more information.
>>> ===== RESTART =====
>>>
device /dev/input/event5, name "Raspberry Pi Sense HAT Joystick", phys "rpi-sense-joy/input0"
device /dev/input/event4, name "CHESSEN PS2 to USB Converter", phys "usb-3f980000.usb-1.4.2/input1"
device /dev/input/event3, name "CHESSEN PS2 to USB Converter", phys "usb-3f980000.usb-1.4.2/input0"
device /dev/input/event2, name "Logitech USB-PS/2 Optical Mouse", phys "usb-3f980000.usb-1.4.1/input0"
device /dev/input/event1, name " Mini Keyboard", phys "usb-3f980000.usb-1.2/input1"
device /dev/input/event0, name " Mini Keyboard", phys "usb-3f980000.usb-1.2/input0"
```

Now we can choose the device we want to use and set it as the controller in our code. Then we can capture the events that correspond to different key presses.

```
from evdev import InputDevice, ecodes, list_devices, categorize

for x in list_devices(): # List all devices attached to Pi
    dev = InputDevice(x)
    if dev.name == " Mini Keyboard" and dev.phys[-6:] == "input0":
        print("found") # If this is the device we're looking for...
        controller = dev # set it to be our controller

for event in controller.read_loop(): # look at every event from that device
    if event.type == ecodes.EV_KEY: # if it is a key-press
        print(categorize(event)) # print what it is
```

Your keyboard will have a different name!

```
Found
event at 1458497365.068059, code 04, type 04, val 458778
event at 1458497365.068059, code 17, type 01, val 01
event at 1458497365.068059, code 00, type 00, val 00
event at 1458497365.284051, code 04, type 04, val 458778
event at 1458497365.284051, code 17, type 01, val 00
event at 1458497365.284051, code 00, type 00, val 00
```

All these events are caused by pressing the 'w' key.

w

Once you've decided what keys will control the bot's movements, use this code to work out which events you need.