

OpenWrt ed elettronica digitale

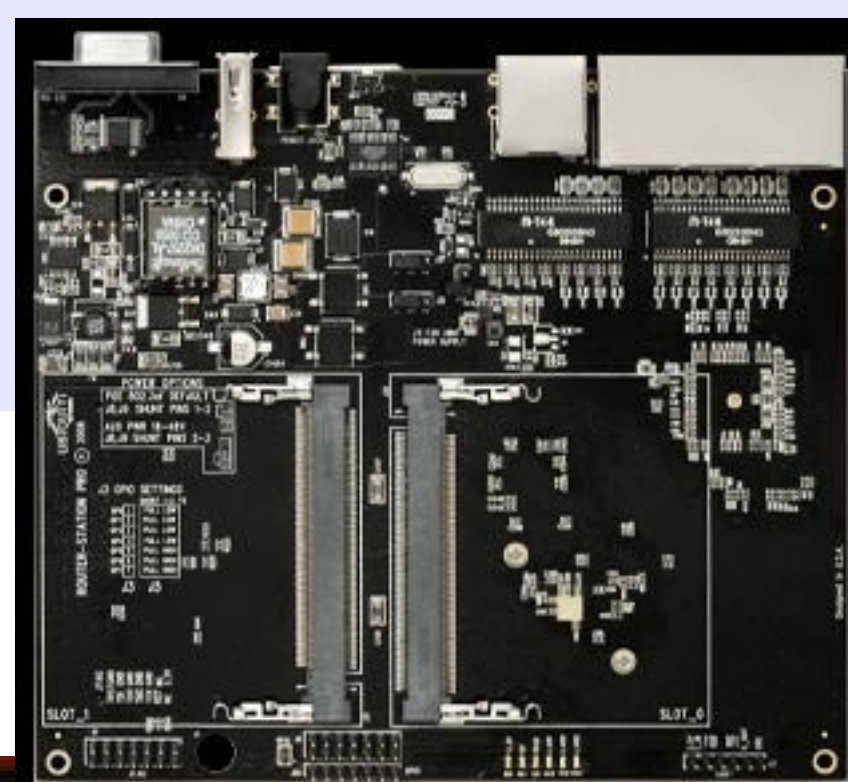
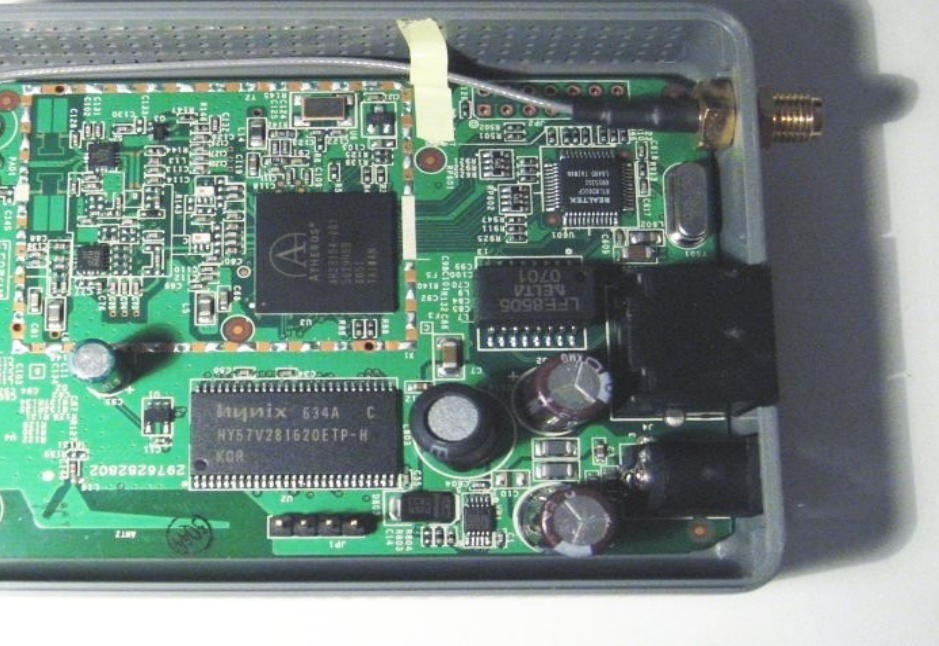
OpenWrt
Wireless Freedom



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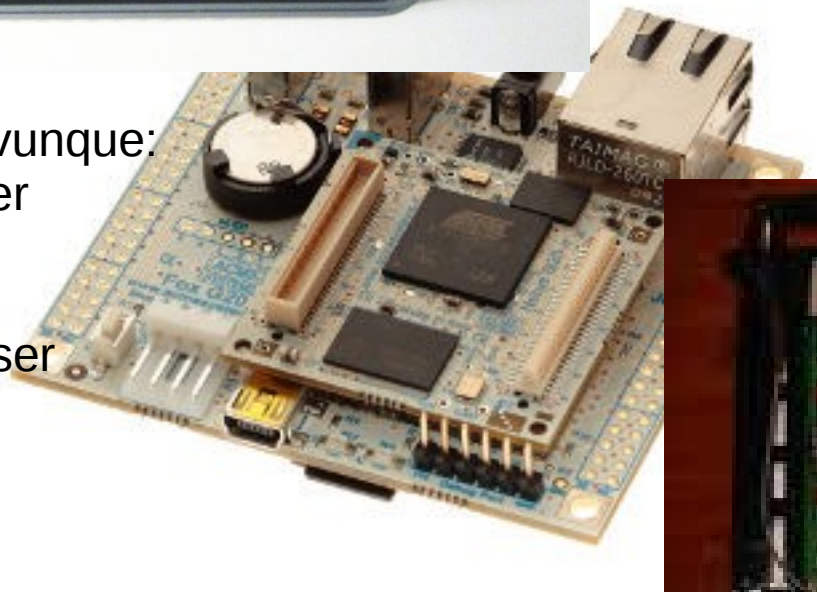


Autore: Claudio Mignanti c.mignanti@gmail.com



Linux un po ovunque:

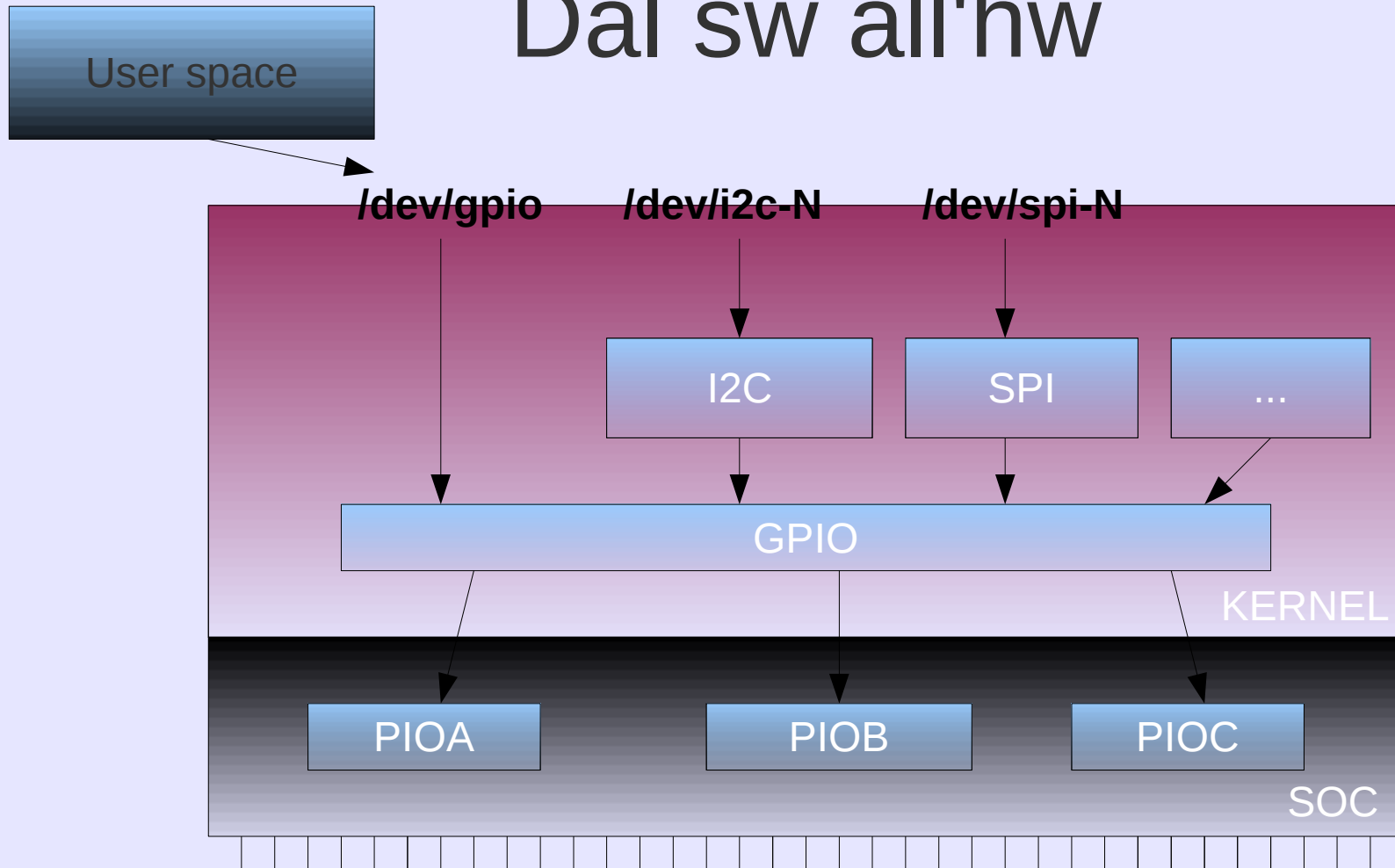
- modem/router
- NAS
- televisioni
- stampanti laser
- ascensori
- LHC

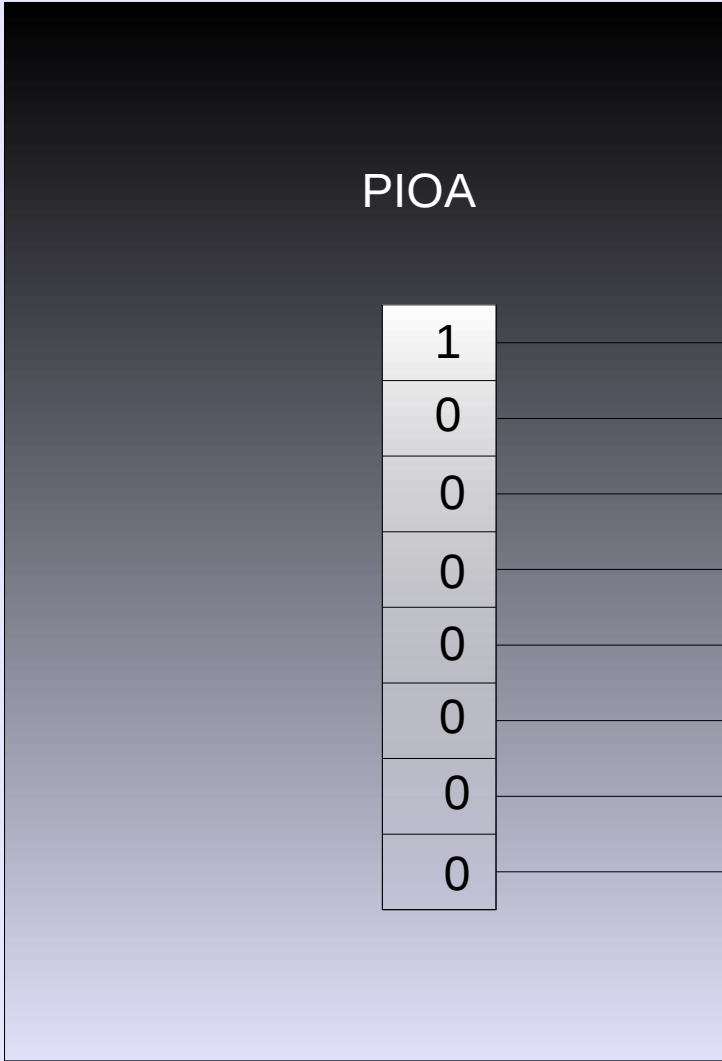


<http://wiki.ninux.org/Hackalicegate>

Si mimetizzano intorno a noi...

Dal sw all'hw





PIOA

- 1
- 0
- 0
- 0
- 0
- 0
- 0
- 0

PA0

+5V

0V

PA7



GPIO

L'anello di congiunzione

```
echo 82 > /sys/class/gpio/export
```

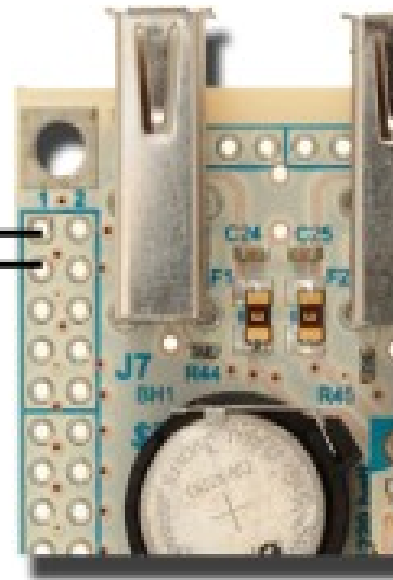
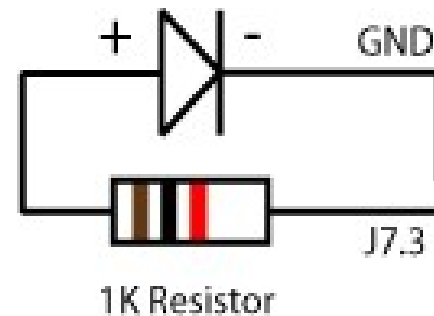
```
echo out > /sys/class/gpio/gpio82/direction
```

```
echo 1 > /sys/class/gpio/gpio82/value
```

```
echo 0 > /sys/class/gpio/gpio82/value
```



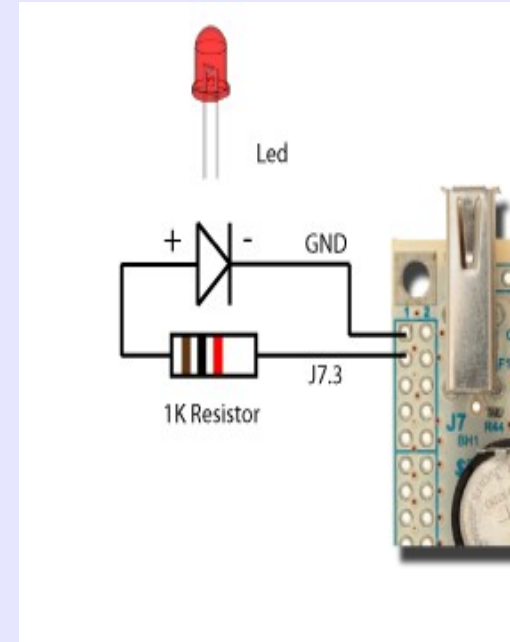
Led



GPIO usando il C

```
#include <stdio.h>
#include <gpio_dev.h>

int main (void) {
    fd = open ("/dev/gpio");
    ioctl (fd, GPIO_REQUEST, 82);
    ioctl (fd, GPIO_DIR_OUT);
    ioctl (fd, GPIO_SET, 1);
    sleep(1);
    ioctl (fd, GPIO_SET, 0);
}
```

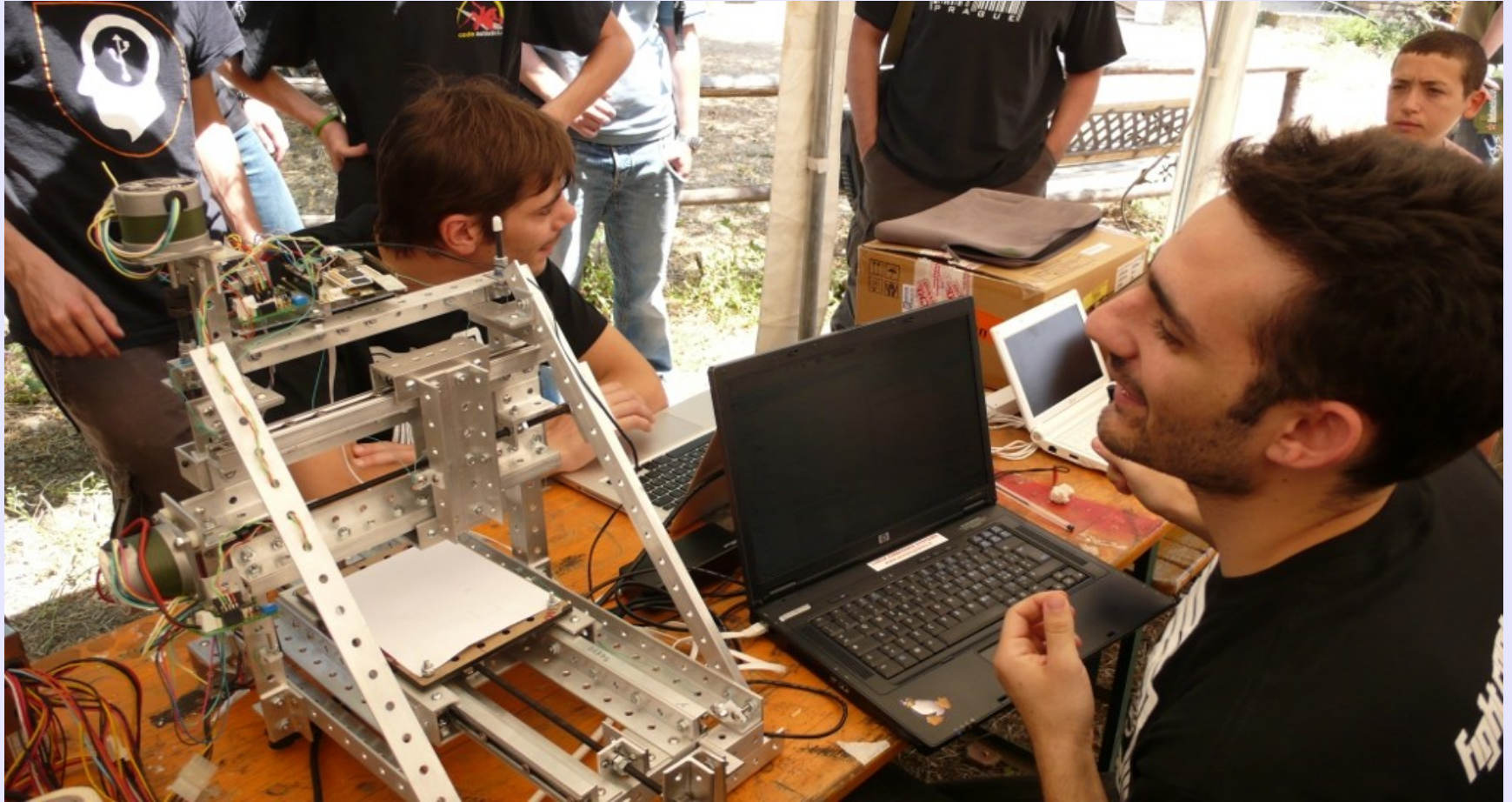


Solo led?

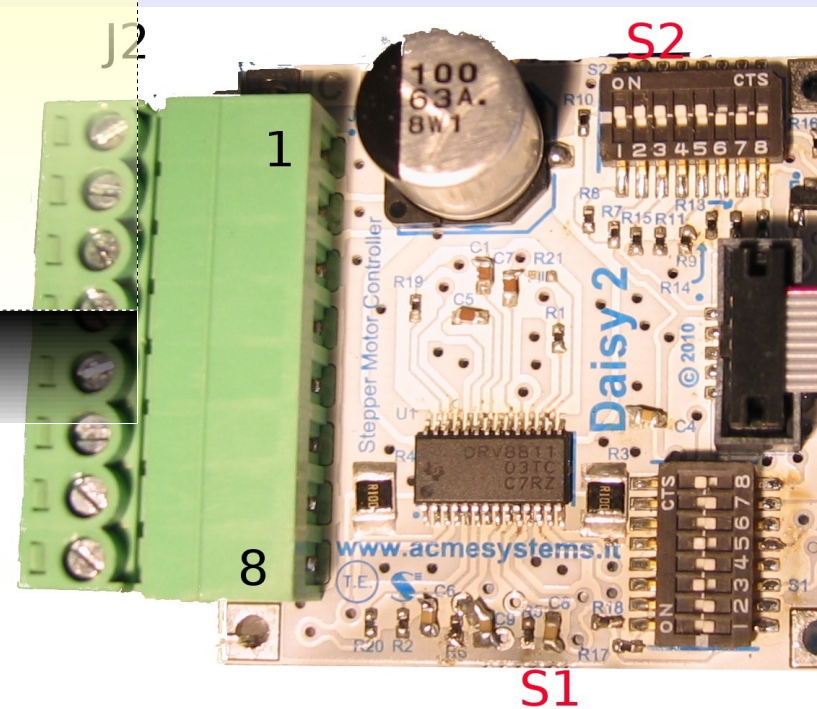
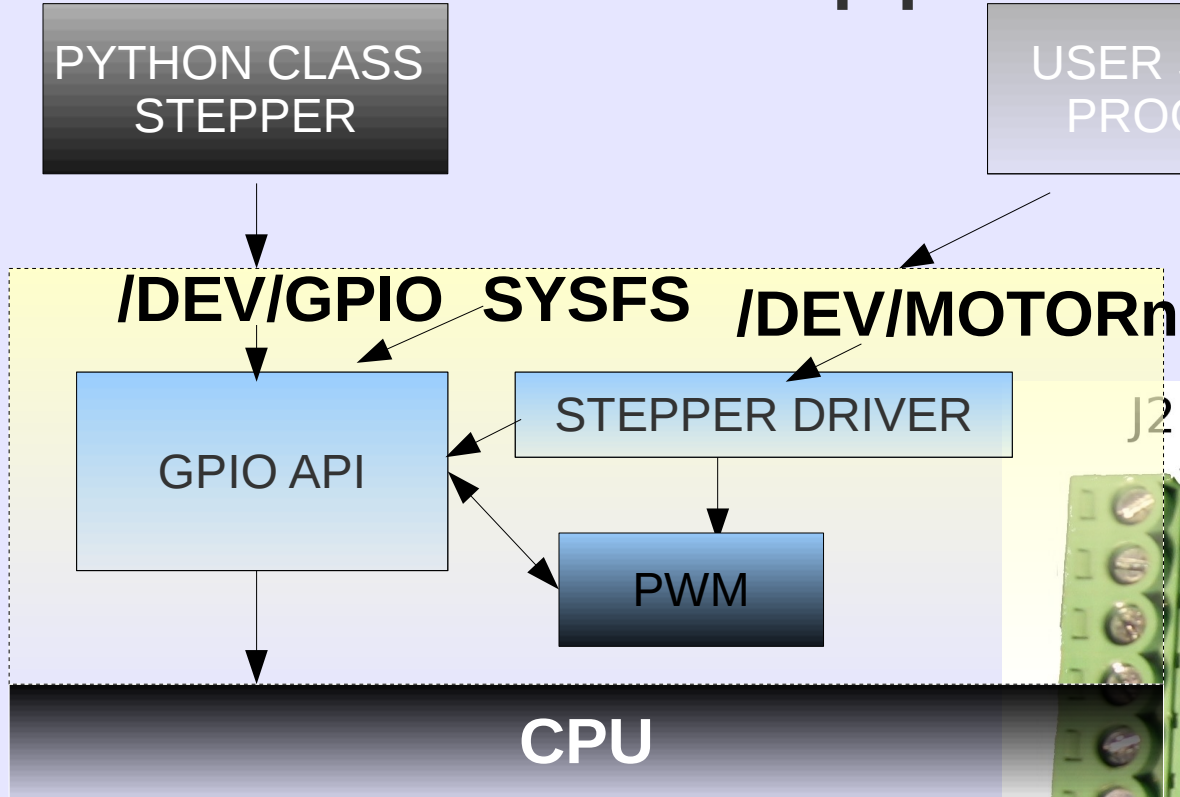
- Optoisolatori
- Relè
- Motori
- Sensori di vario tipo
- composizioni varie



... CNC



GPIO e stepper motor



class stepper:

```
    """ This class allow you to drive a stepper motor using gpio pins.\n    The stepper class use the follow paramethers for costructor:\n    (enable, direction, step, [limit], [low_pwr])\n    """
```

...

```
def step (self, number=1, delay=0, recover_step=300):  
    self.enable()  
    time.sleep(0.001)  
    for i in range(0, number):  
        #check if at limit  
        if (self.have_limit and self.limit_pin.get() == 0):  
            self.recover_end(recover_step)  
            self.disable()  
            return number - i + recover_step #missing steps  
        self.step_pin.set(0)  
        self.step_pin.set(1)  
        time.sleep(0.001)  
    self.disable()  
    return 0
```



Appuntamento fisso...



... alla **Domenica nerd** (17.30 alle 23.00).

Associazione Fusolab

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EOF

?

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