

## Readme:

### Description:

My project consists of a digital voltage multimeter to measure the voltage in a power system that uses bacteria to produce energy.

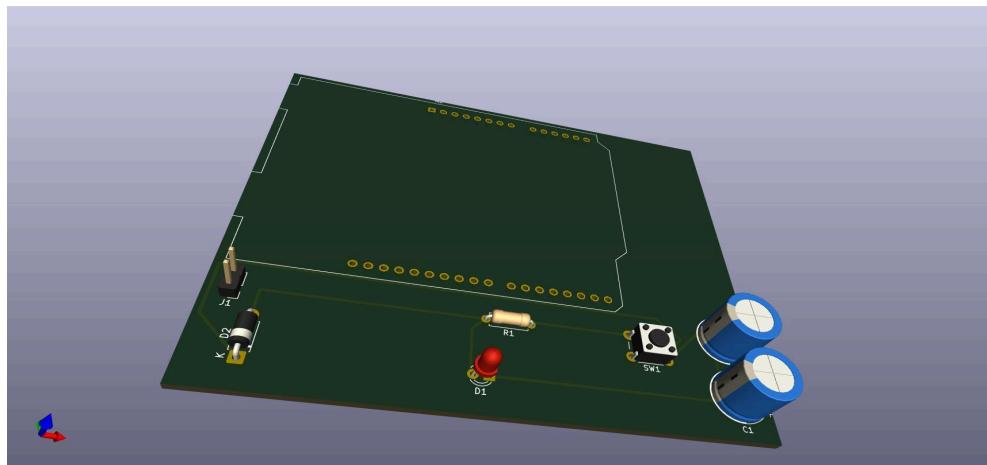
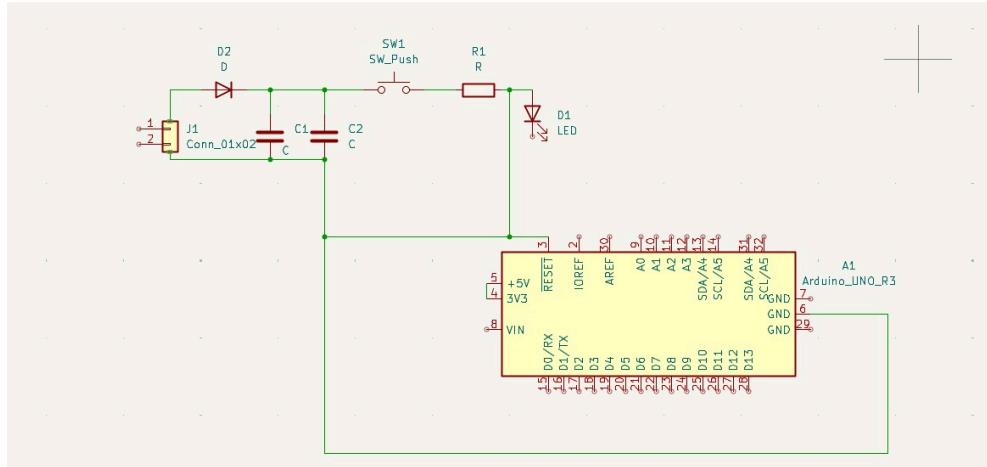
### Why I made this project:

I made this project because I have a system that produces energy using bacteria. In order to study it and better understand how it works I need an automatic measuring system with a digital voltage multimeter.

### How to use my project:

My project can be used by connecting an arduino to a computer and adding the code that I published in my GitHub(obviously you have to connect the anode and the cathode of the system to the PCB energy entry).

### Some images of my project:



This is the system to which the PCB should be connected (in my case) in order to measure the voltage in the system:



Components you need to build the PCB:

Soldering station	diode	Professional multimeter	
Soldering Tin	resistors	perforated blade	
Capacitors	arduino kit	gloves	
Leds	Blank copper board		

Links of all the products:

<https://www.steren.cr/estacion-profesional-para-soldar-con-lupa-y-lampara.html> (Soldering station)

<https://www.steren.cr/baquela-de-10-cm-x-15-cm.html>(Blank) (blank copper board)

<https://www.steren.cr/baquela-perforada-de-10-7-cm-x-14-cm.html> (perforated blade)

[https://www.steren.cr/condensador-electrolitico-radial-de-4700-uf-micro-faradios-a-63-volts.h](https://www.steren.cr/condensador-electrolitico-radial-de-4700-uf-micro-faradios-a-63-volts.html)

[tml](#) (capacitors)

<https://www.steren.cr/diodo-rectificador-de-proposito-general-3-amperes-1000-v.html> (diode)

<https://www.steren.cr/led-de-5-mm-color-rojo-claro.html> (leds)

<https://www.steren.cr/resistencia-de-carbon-de-1-2-watt-al-5-de-tolerancia-de-1-ohm.html>  
(resistors)

<https://www.steren.cr/multimetro-profesional-rms-con-detector-de-voltaje-sin-contacto-ncv.html> (multimeter)

<https://www.steren.cr/rollo-de-100-gramos-de-soldadura-con-aleacion-estano-plomo-60-40.html> (Soldering Tin)

<https://www.ellagar.com/ECOMMERCE/DetalleArticulo/7024668/quante-caucho-uso-quimicos-m-truper> (gloves)

<https://www.steren.cr/curso-inicio-en-la-programacion-con-biomakers.html> (arduino kit)