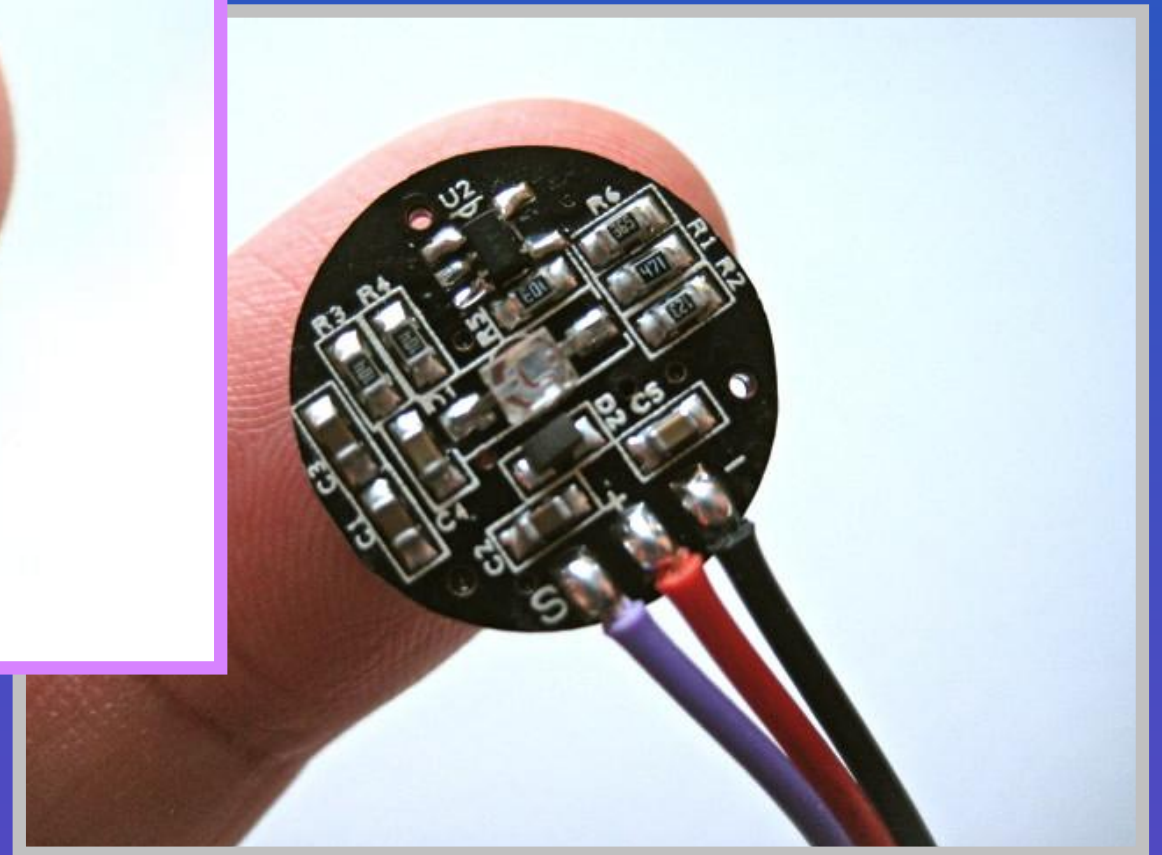
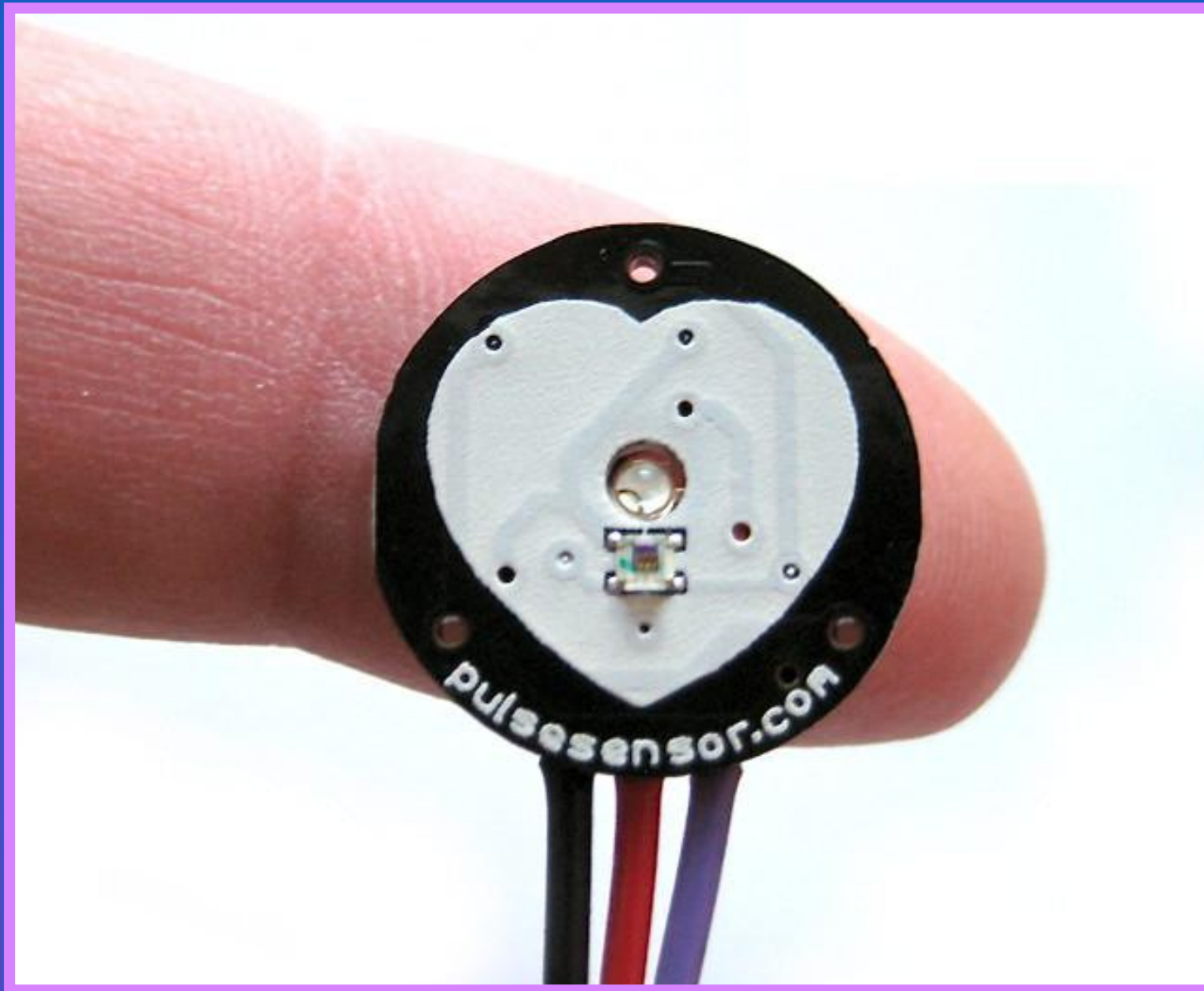




# HEART BITS

Hackers & Designers 2019

# PULSE SENSOR

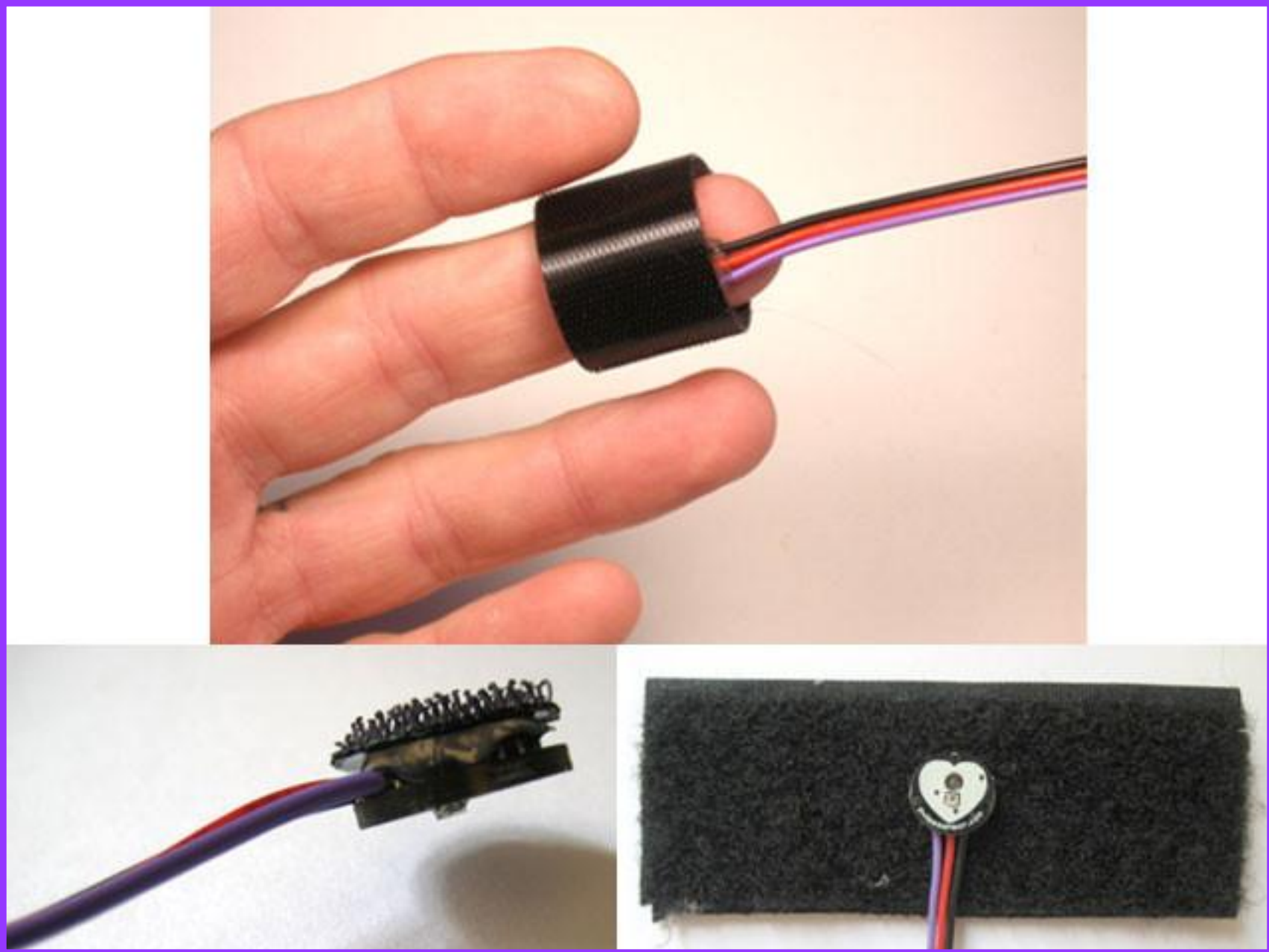


# PULSE SENSOR

OPEN SOURCE HARDWARE

JOEL MURPHY AND YURY GITMAN

LED AND AMBIENT LIGHT SENSOR





# THINGS TO CONTROL

## SOUND PARAMETERS:

PITCH  
VOLUME  
FILTER FREQUENCY  
LFO RATE

## GRAPHIC PARAMETERS:

COLOR  
SIZE  
ANIMATION SPEED  
NUMBER OF PARTICLES

# PROTOCOLS & SOFTWARE

## **LIBRARIES**

★ SERIAL

★ MIDI

★ OSC

★ CV

## **SOFTWARE**

★ PROCESSING

★ P5JS

★ SONIC PI

★ ABLETON LIVE



# CONTROLLING YOUR PULSE

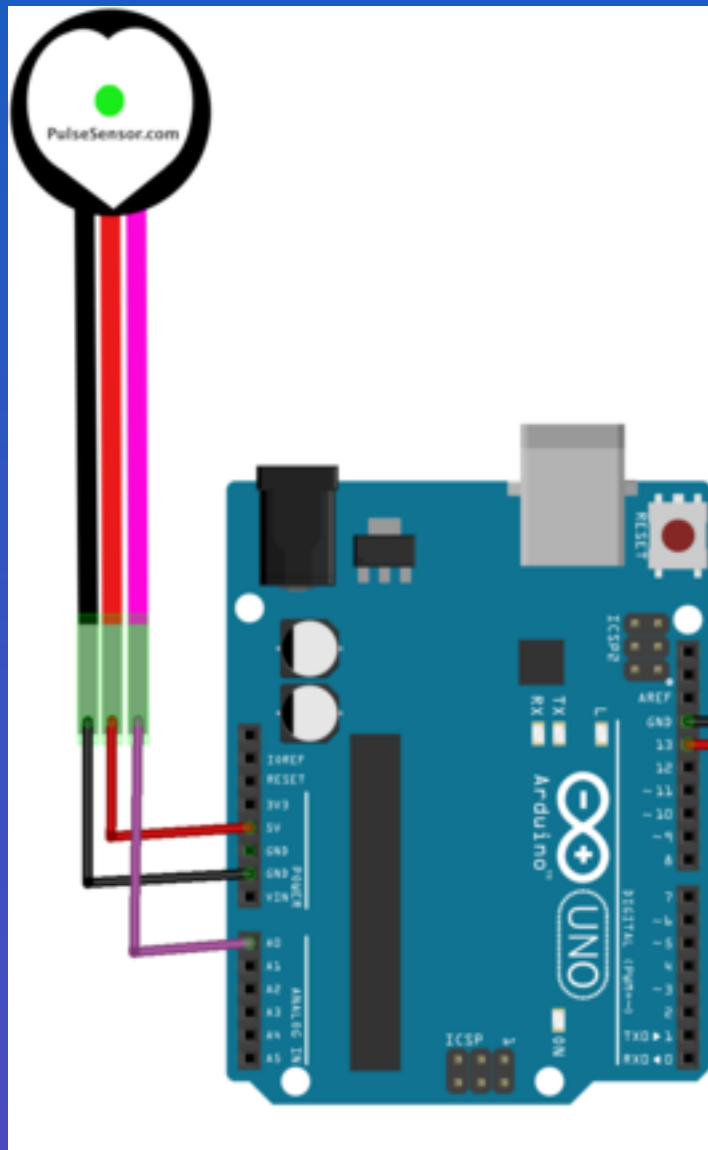
?

??

???

????

# CONNECTING THE SENSOR



5V to +  
GND to -  
A0 to S

SOFTWARE:

[github.com/kabrio/Heart-Bits](https://github.com/kabrio/Heart-Bits)



# RESOURCES

[github.com/kabrio/Heart-Bits](https://github.com/kabrio/Heart-Bits)

[github.com/avalliere/heartbeatProto](https://github.com/avalliere/heartbeatProto)

[pulsesensor.com](https://pulsesensor.com)

[Open Source Files & Tech Specs](#)

ARDUINO

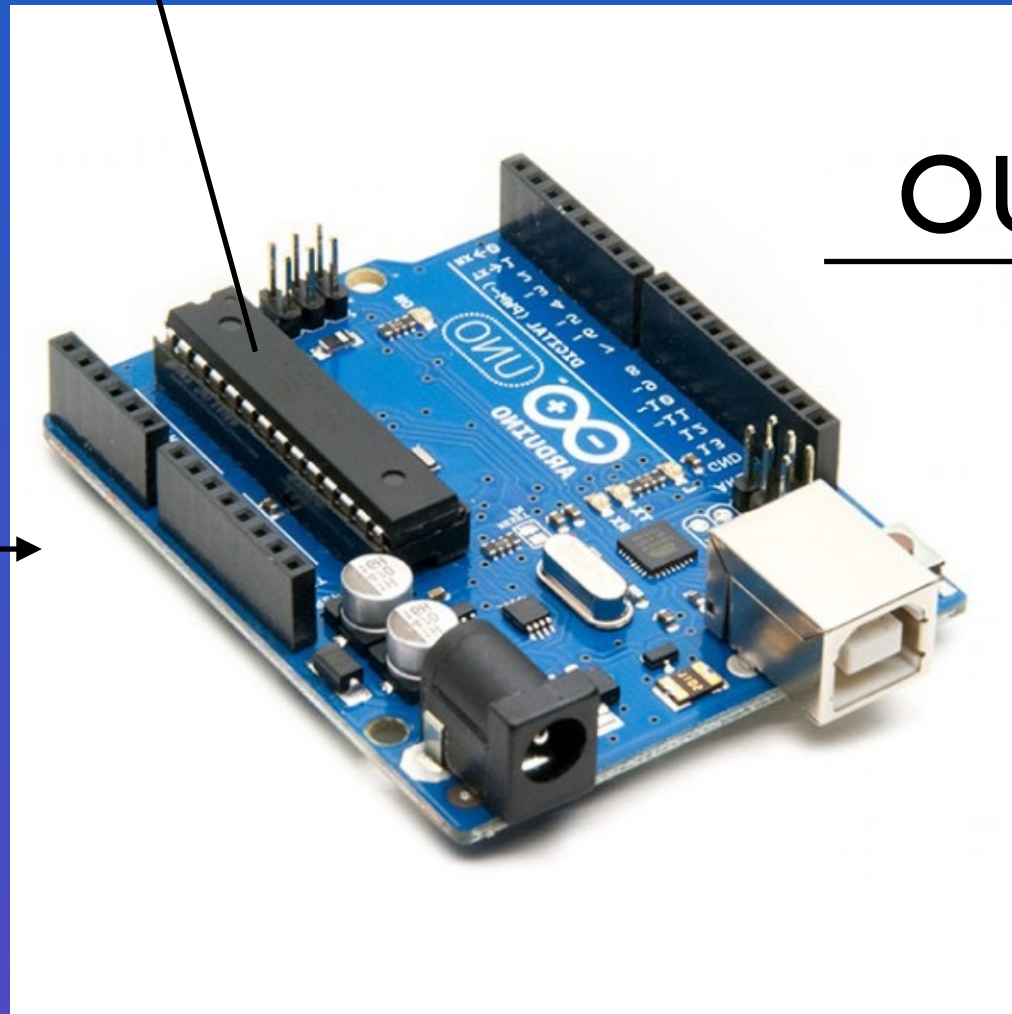


# ARDUINO BOARD

Microcontroller

Switches  
Buttons  
Dials  
Sensors  
Data  
etc...

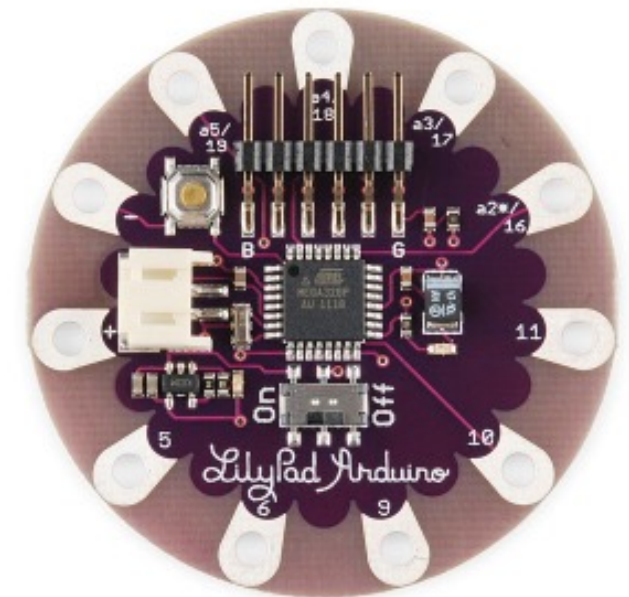
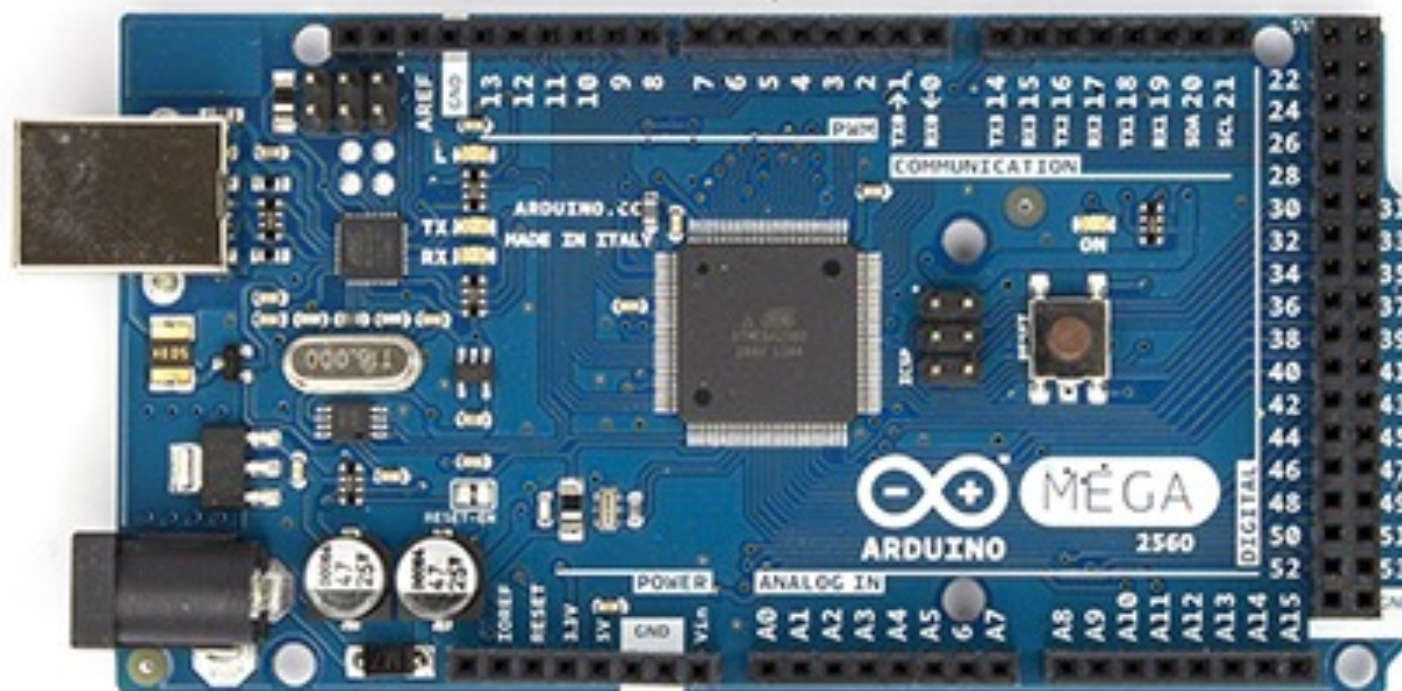
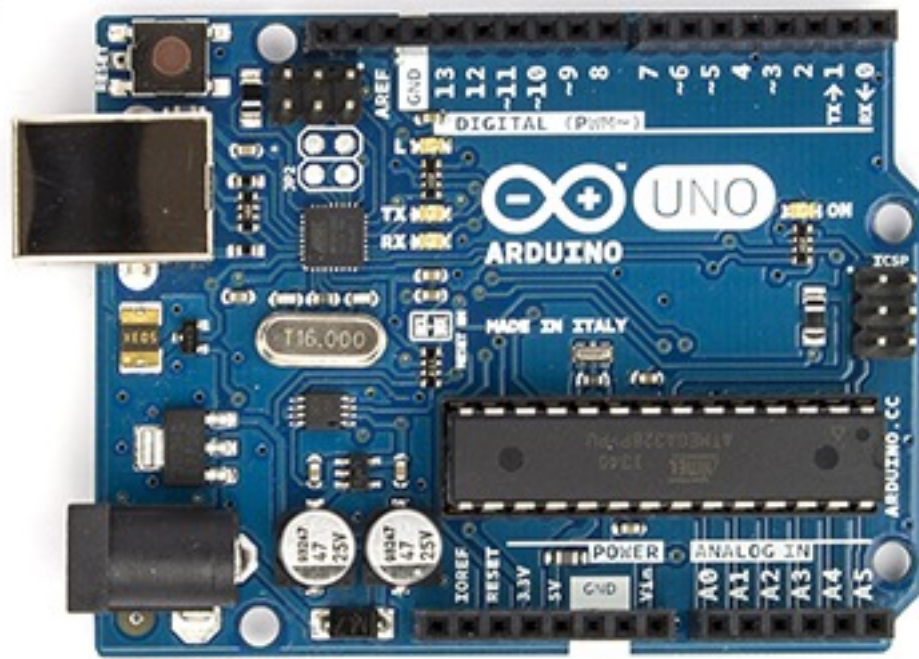
IN



OUT

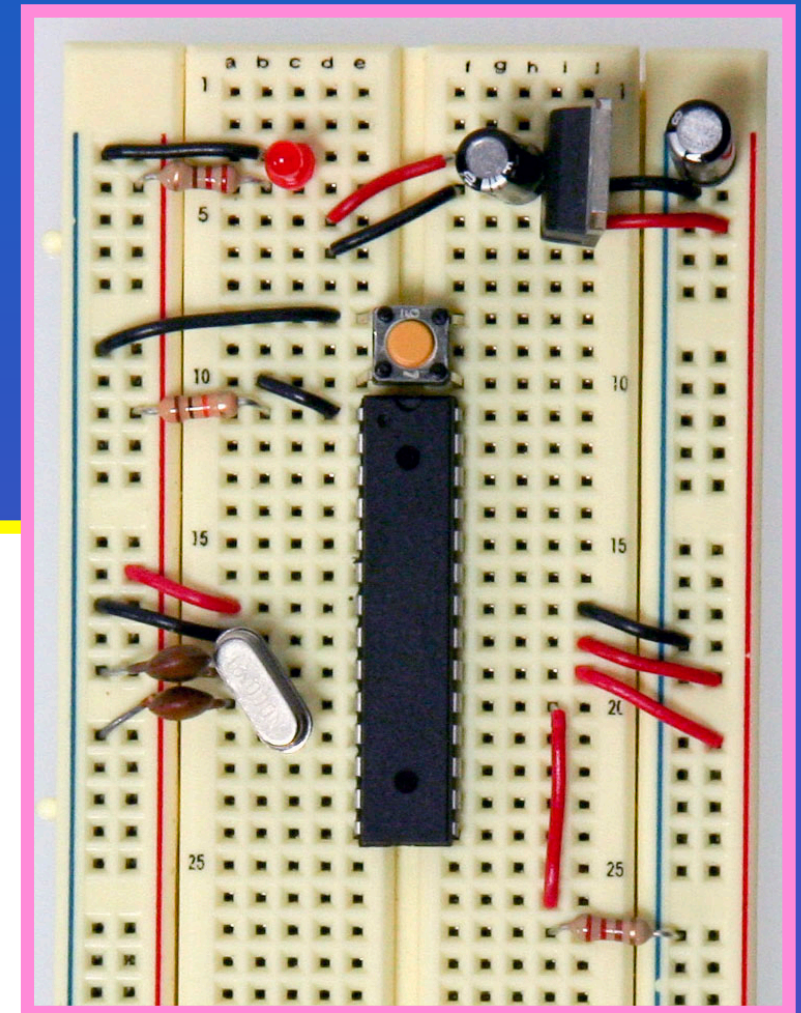
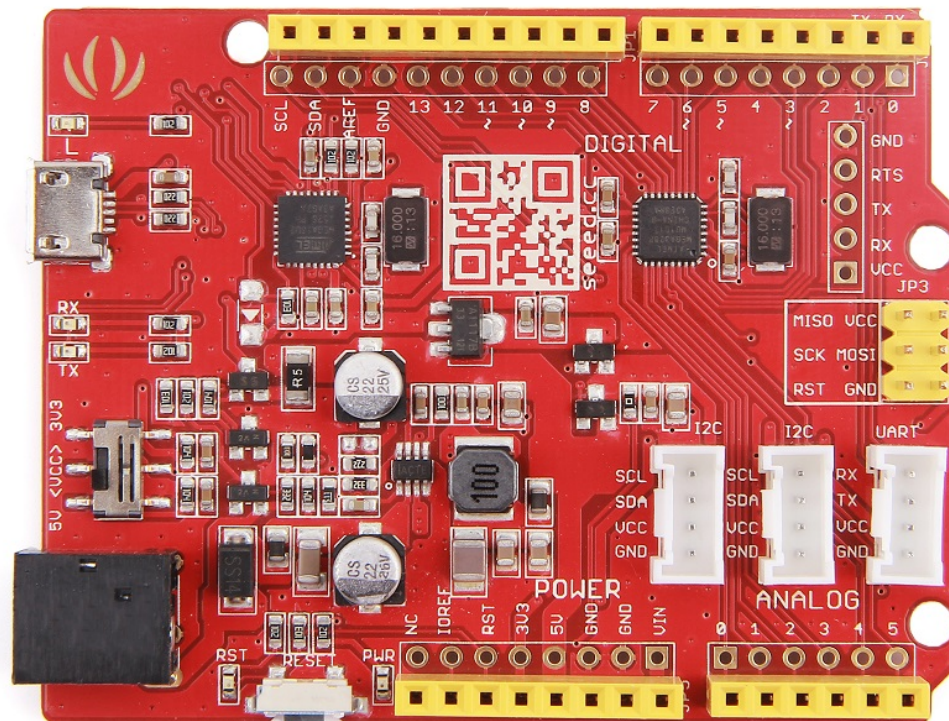
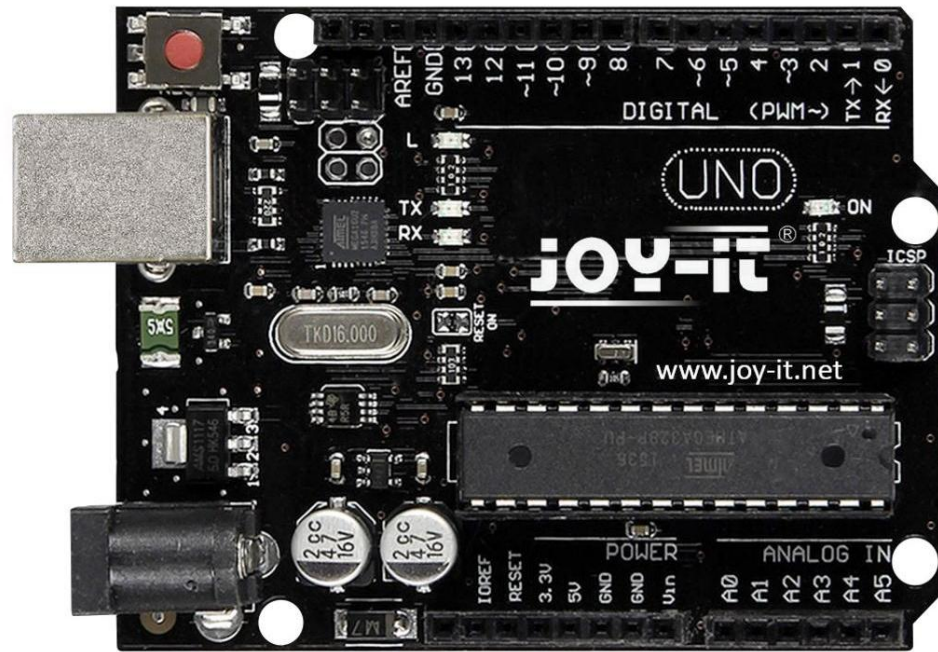
LEDs  
Displays  
Motors  
Data  
etc...

# ARDUINO BOARDS

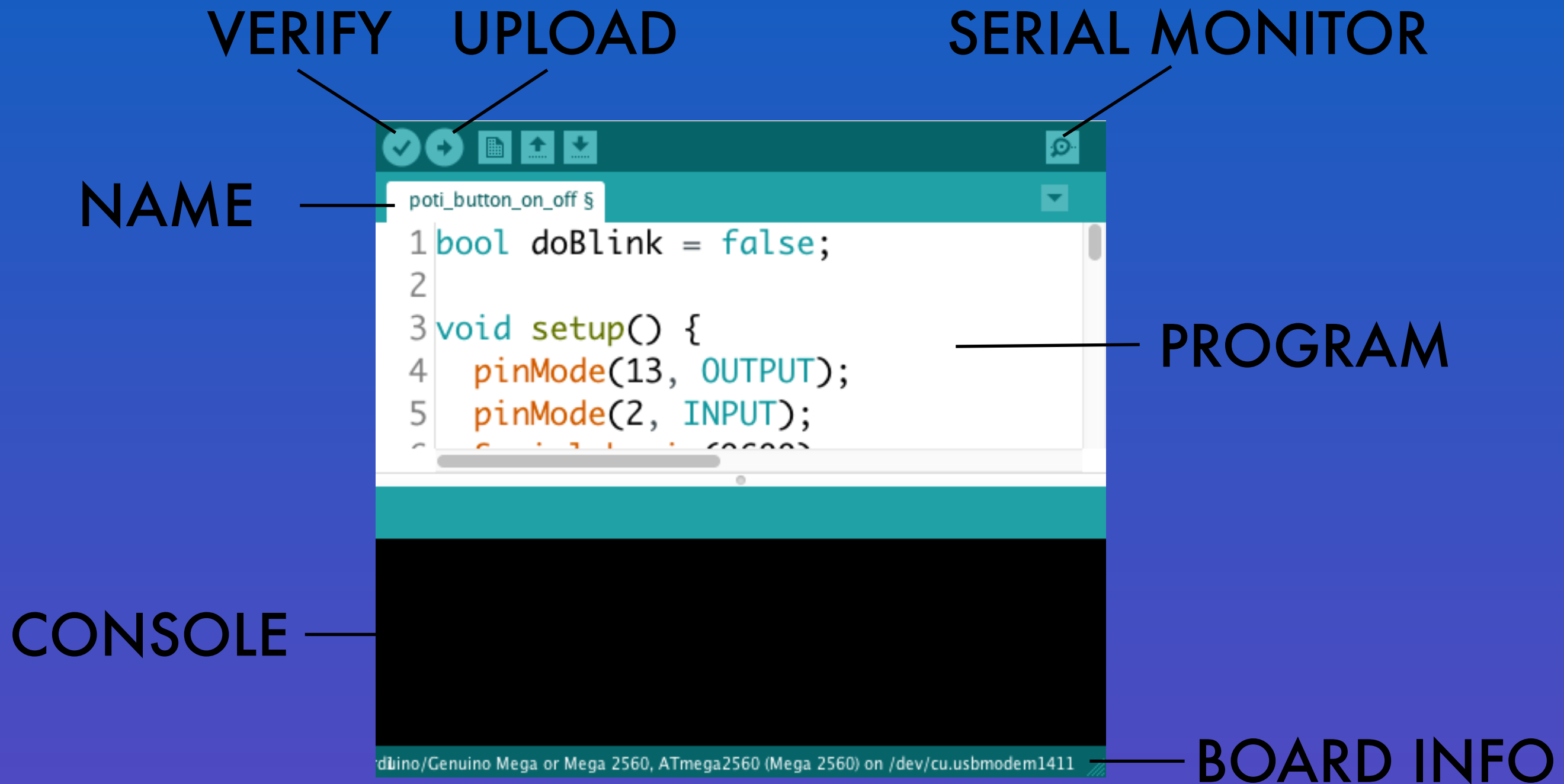




# ARDUINO BOARDS



# ARDUINO IDE





# ARDUINO LINKS

## ARDUINO COMMANDS

[www.arduino.cc/reference/en/](http://www.arduino.cc/reference/en/)

## ARDUINO PROJECTS

[create.arduino.cc/projecthub](http://create.arduino.cc/projecthub)

## ARDUINO TUTORIALS

[www.arduino.cc/en/Tutorial](http://www.arduino.cc/en/Tutorial)