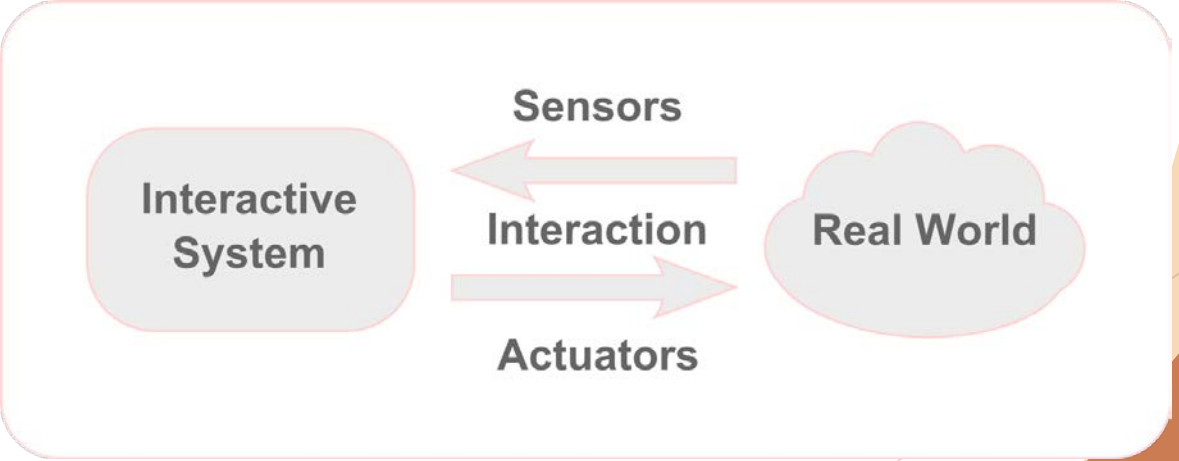
Physical Computing

Physical Computing

means building interactive physical systems by the use of software and hardware that can sense and respond to the analog world.



Physical Computing Examples

- Assistive tech
- Drones
- 3d printers
- Museums
- Fun

https://www.youtube.com/watch?v=H7HTQai7Wwg

https://youtu.be/ApAzIJ3jQtw

https://youtu.be/huxarKnxWU4

https://youtu.be/AL-L_8PDrEs

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http://www.watercanary.com/

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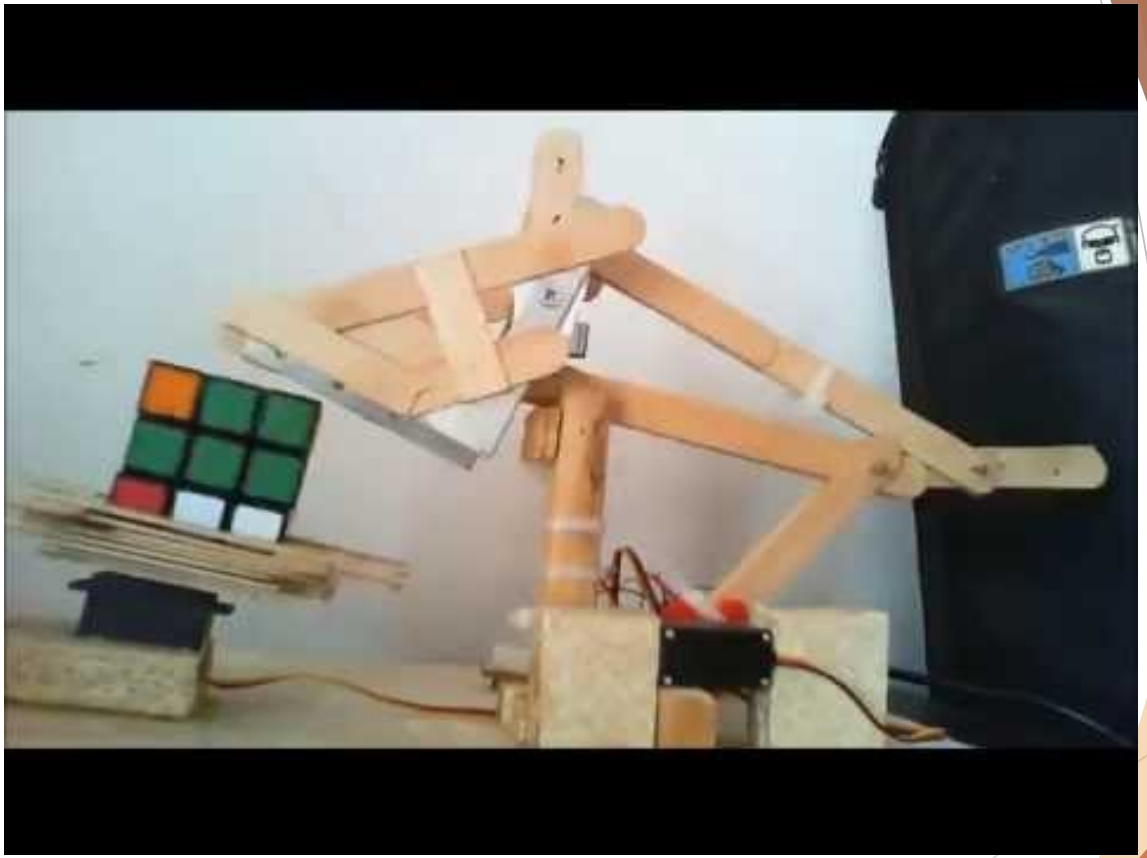

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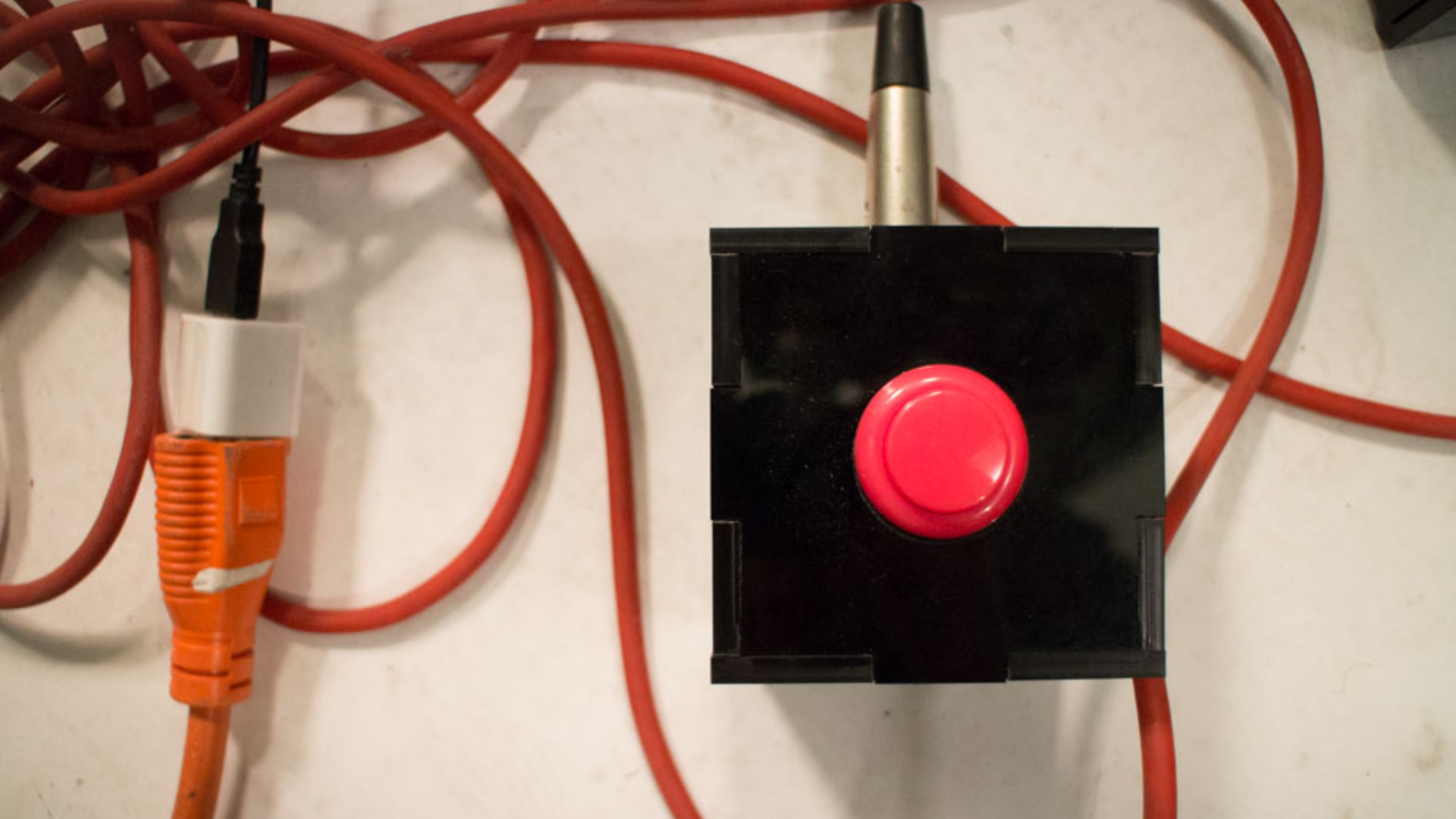
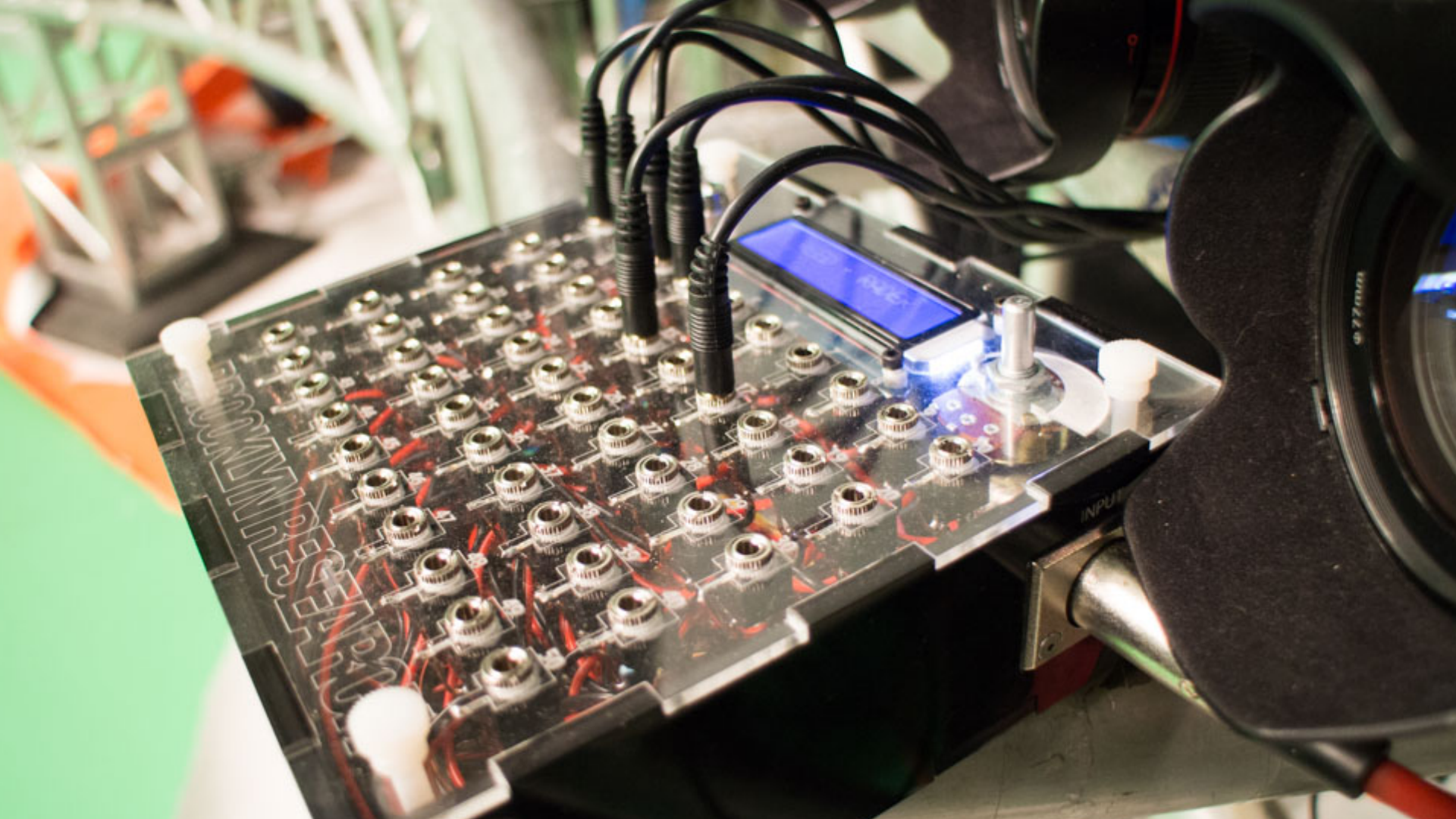
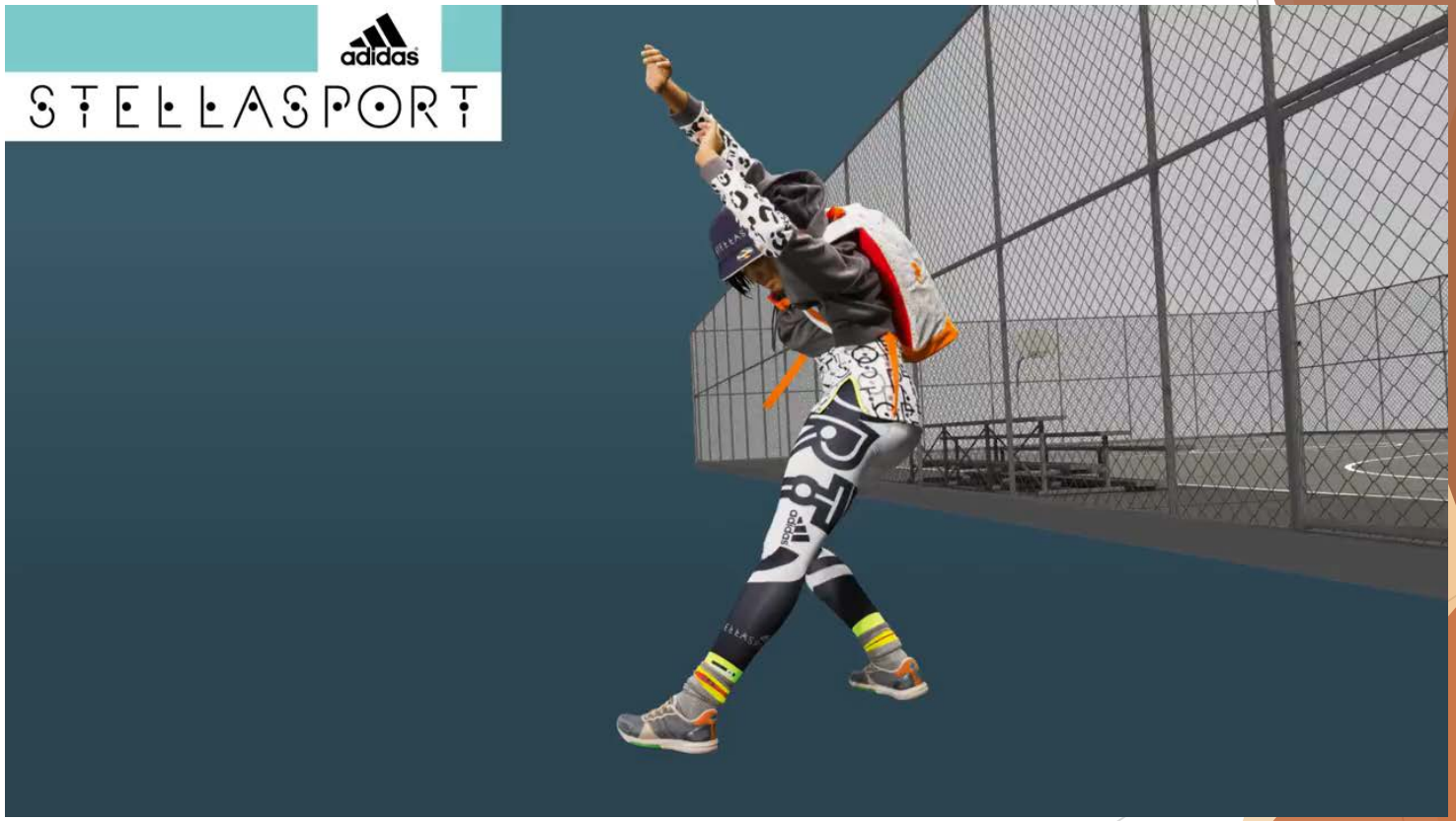
BLUEPRINT

Adidas Stellasport

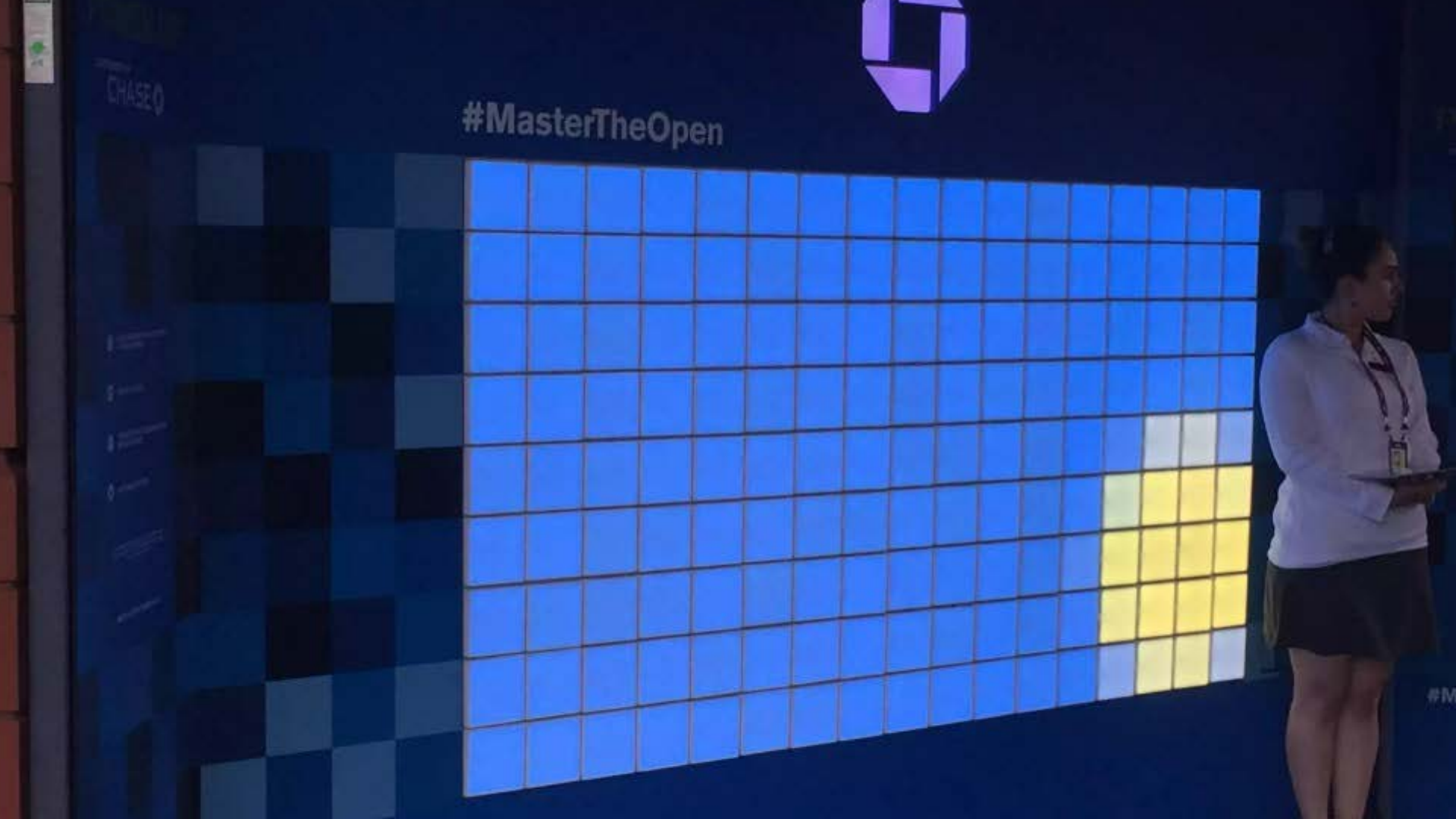




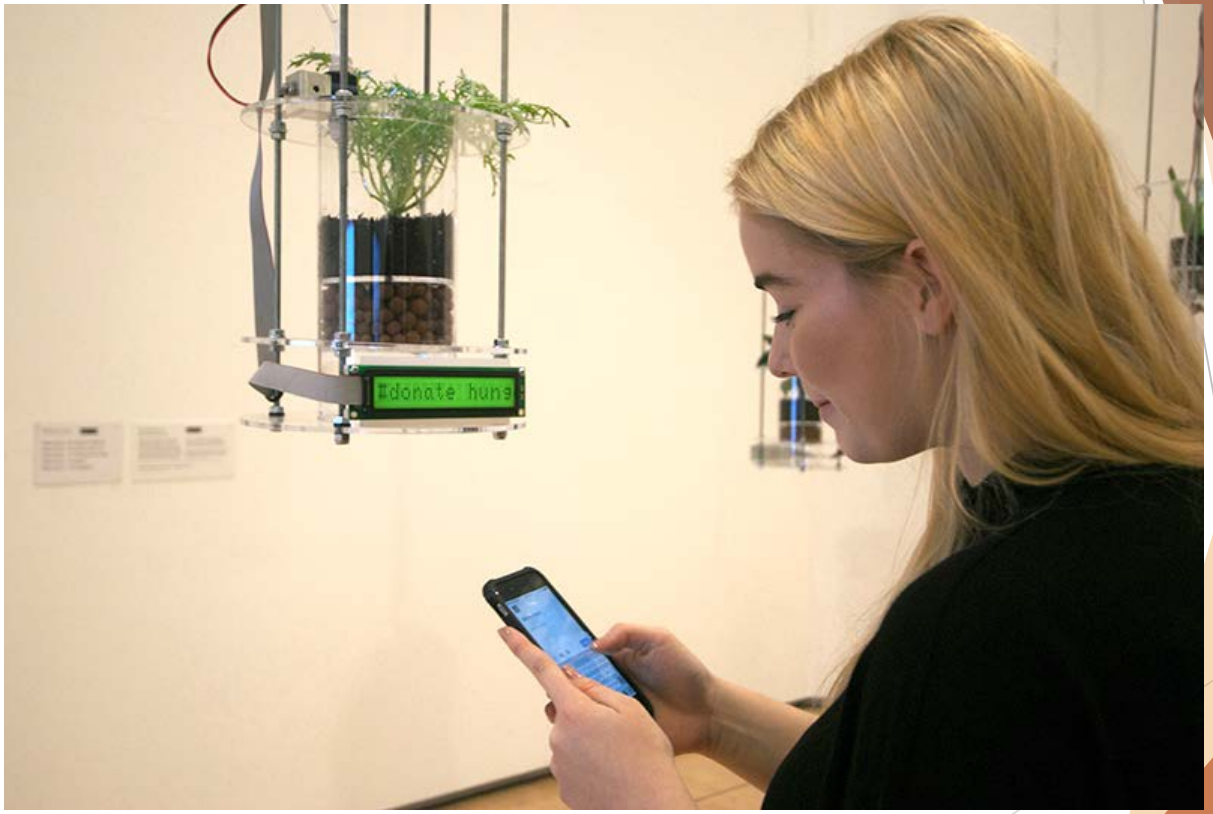
adidas
STELLASPORT


adidas
STELLASPORT

Chase Us open
Led locker wall


#MasterTheOpen

Garden Of Virtual Kinship


donate hung

I donate because
. I'm luckier th
ckier than most.

iLuv
iLuv

What is a Micro Controller

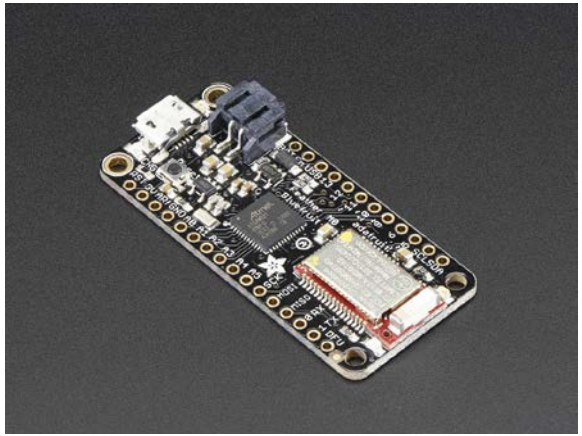
- Small computer on a single integrated circuit containing a processor core, memory, and programmable input/output peripherals.

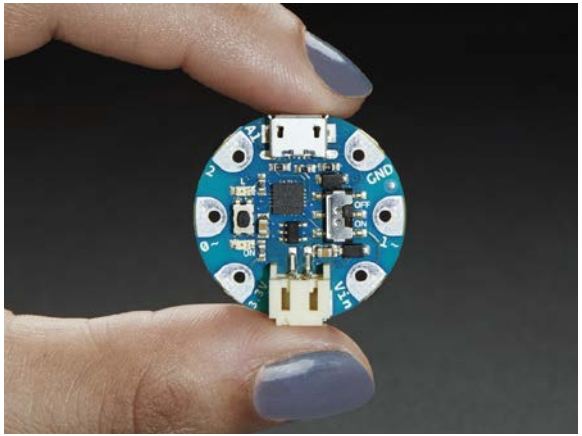
- Microcontrollers are used in automatically controlled products and devices, such as automobile engine control systems, implantable medical devices, remote controls, office machines, appliances, power tools, toys and other embedded systems.

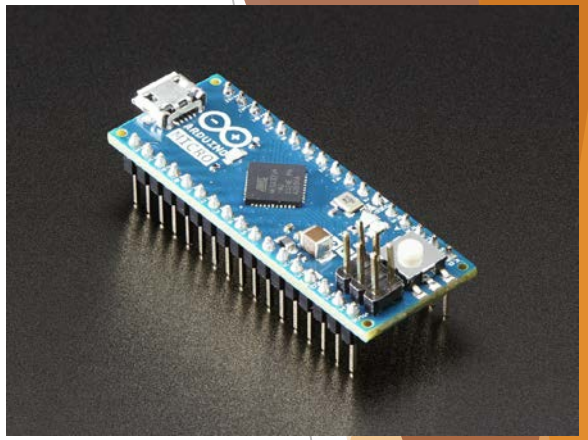
Types of Micro Controller

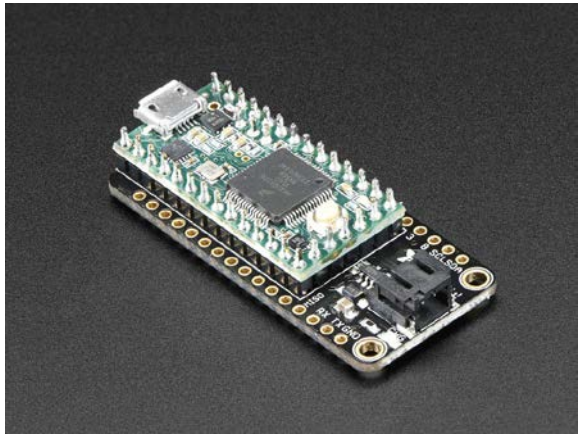
- Atmel
- Pic
- Propeller Parallax
- ARM

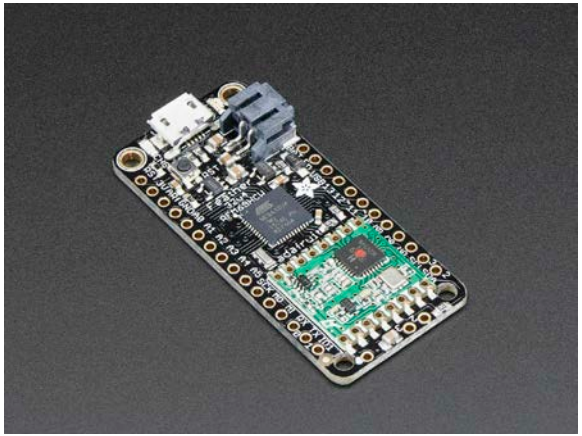
Hardware

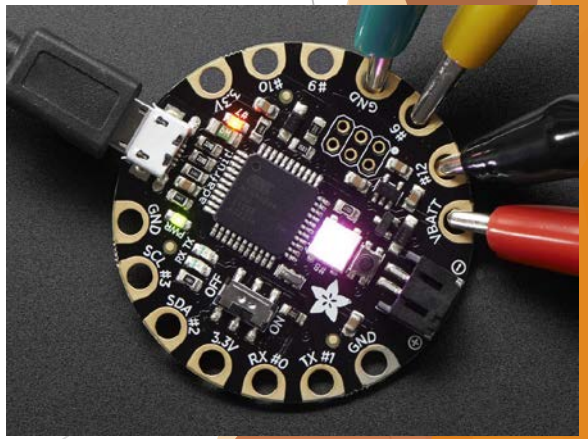



GND

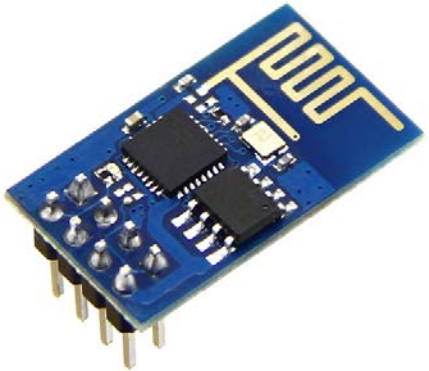




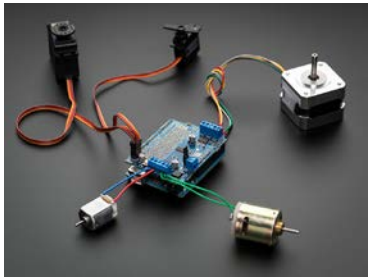


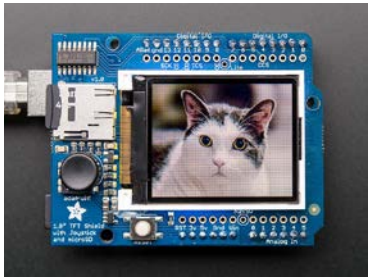

GND
#9
#10
#6
#12
VBATT
GND
SCL #3
SDA #2
3.3V
RX #0
TX #1
GND
OFF
ON

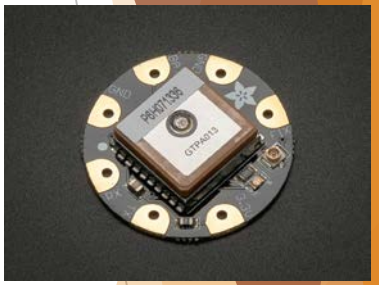
ARDUINO
YUN

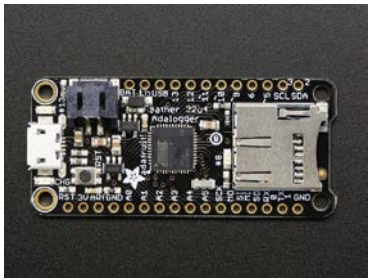


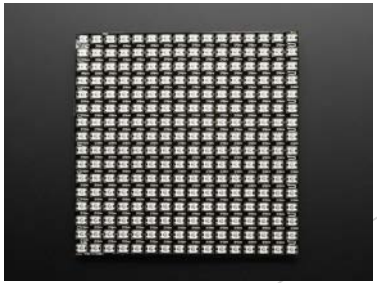
Don’t reinvent the wheel, but you might have to.





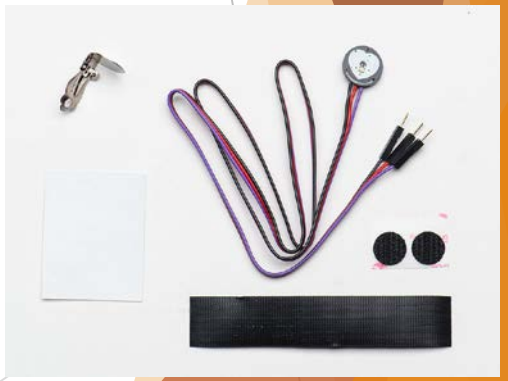






- LP-503562
1200mAh 3.7V
+ 13.7.15

CONDUCTIVE PEN
MICRO TIP



Microcontroller vs System on Chip (SOC)

- Microcontroller
  - No Operating System
  - Have minimal memory
  - Low software complexity
  - Typical Input/Ouput
    - Switches, relays, solenoids, LED's, LCD's, RF devices, Atmospheric Sensors
  - Very Cheap

- System on Chip
  - Integrates all components typically found on a computer
  - One chip
  - Run full operating systems
  - Contain external interfaces
    - USB, Ethernet, I2C, SPI
  - Analog and Digital Interfaces
    - Built in microcontroller
  - More cost effective

Open Source - Software

Open source software is software that can be freely used, changed, and shared (in modified or unmodified form) by anyone. Open source software is made by many people, and distributed under licenses that comply with the Open Source Definition.

Open Source - Hardware

The CERN–OHL is to hardware what the General Public Licence (GPL) is to software. It defines the conditions under which a licensee will be able to use or modify the licensed material. The concept of ‘open-source hardware’ or ‘open hardware’ is not yet as well known or widespread as the free software or open-source software concept. However, it shares the same principles: anyone should be able to see the source (the design documentation in case of hardware), study it, modify it and share it.