
IoT Chile
Meetup
Bienvenidos!

IoT Chile Meetup

Introducción a Prototipos y Arduino

Charla para entender el proceso de prototipos.

Agradecimientos a:

HUB providencia

Agradecimientos a:

Duoc UC®

Presentación del expositor

Wisely, una empresa de desarrollo de tecnología a medida, con foco en soluciones de Internet de las Cosas Industriales (IIoT).

Por mi parte, Ingeniero eléctrico de la USACH, especialista en TI y servicios Cloud. 5 años de experiencia en sistemas de telemetría y proyectos TI.

Matías Varas

CEO y co-fundador de Wisely

wisely

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wisely

Motivación de la charla

- Compartir **conocimiento** sobre esta tecnología a estudiantes, makers, **emprendedores** y trabajadores.
- Mejorar parrilla de charlas **IoT** actuales principalmente en contenido.
- Apoyar a innovadores a **investigar** y **desarrollar** tecnología en nuestro país.
- Fomentar implementación de **nuevas tecnologías** en nuestro país.

Agenda

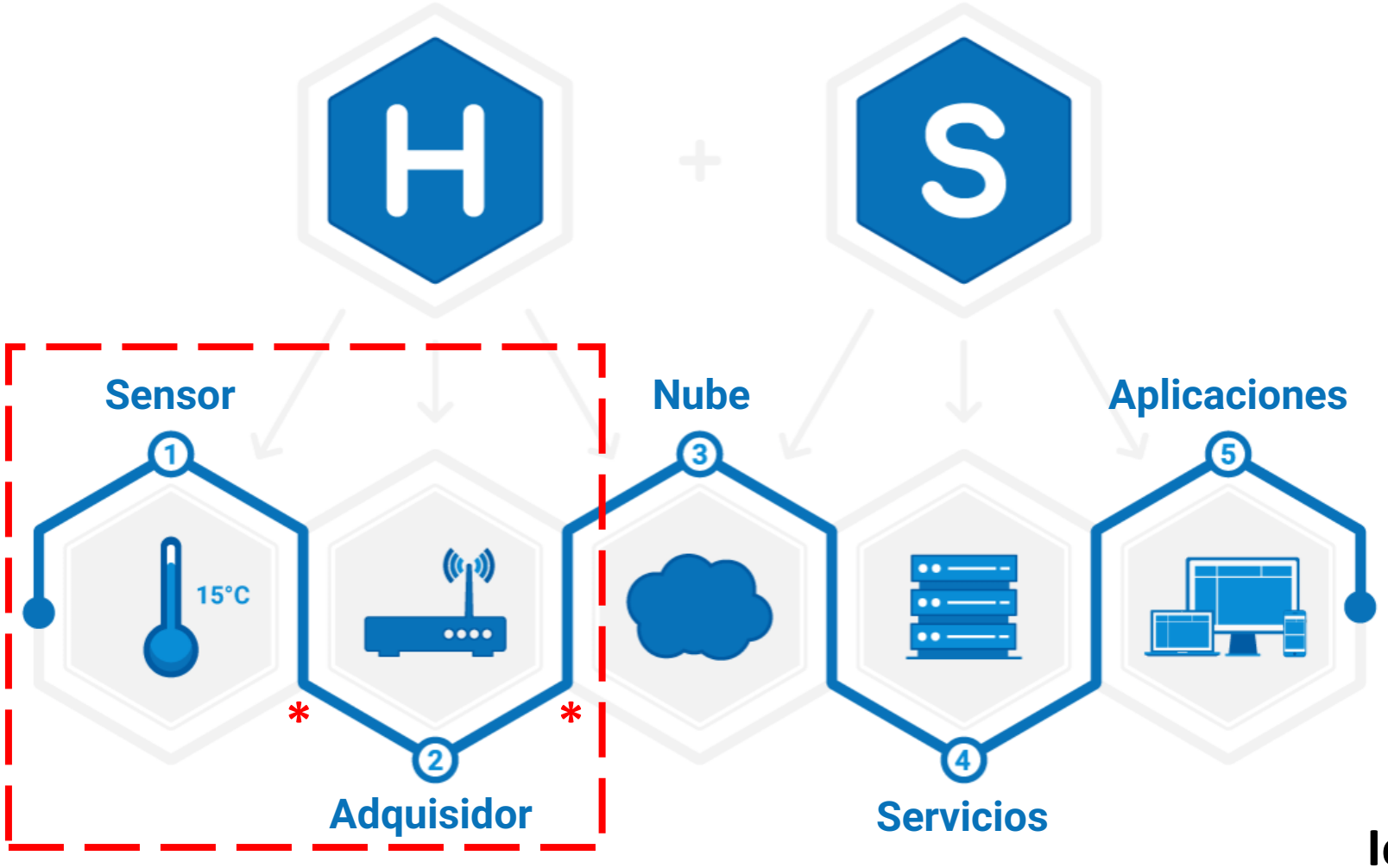
- Introducción a **Prototipos.**
  - Matías Varas – CEO en **Wisely**

- Introducción a **Arduino**.
  - Nicolas Mardones – Gerente en **Club Arduino Chile**

Charla para entender el proceso de prototipos

Introducción a Prototipos

Arquitectura de Internet de las Cosas



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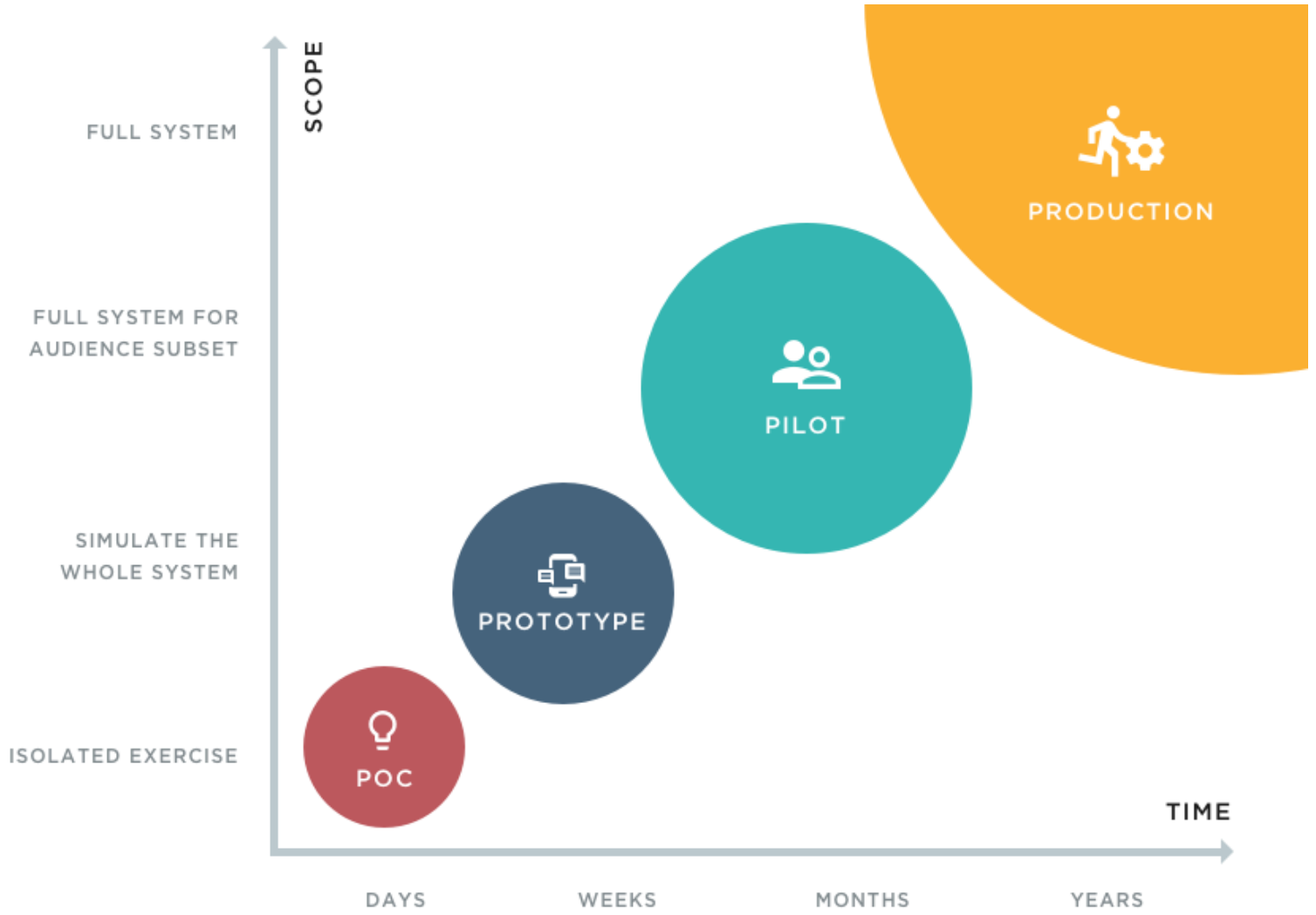
Arquitectura de Internet de las Cosas

	Hardware	Software
Lógico	Firmware	Aplicaciones
Físico	Sensores	Infraestructura

Introducción
a Prototipos

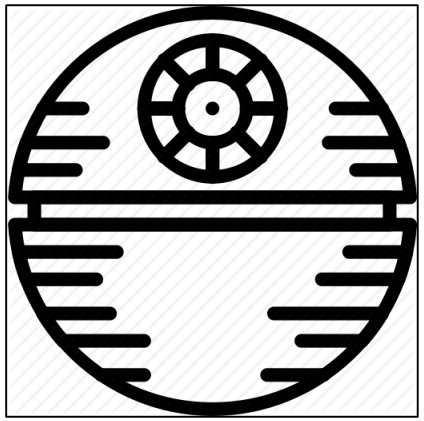
Definiciones

Las cuatro P

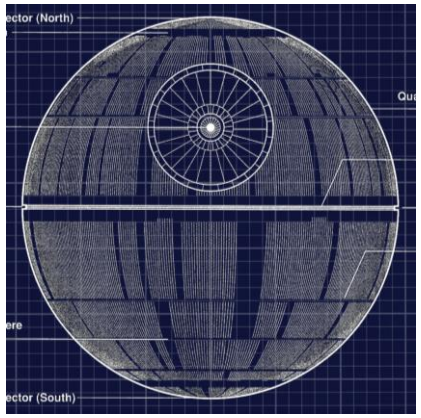


https://sonin.agency/the-4ps-innovation-model-poc-prototype-pilot-production/

Qué significa prototipo?



Ideación

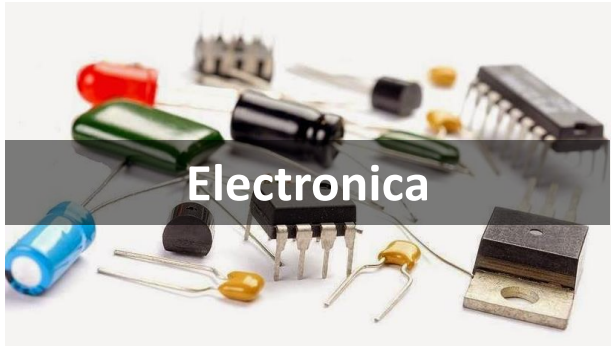


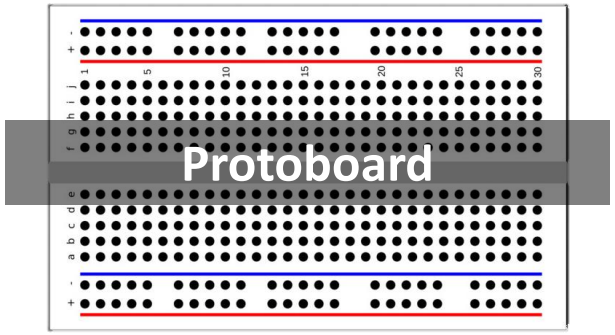
Diseño

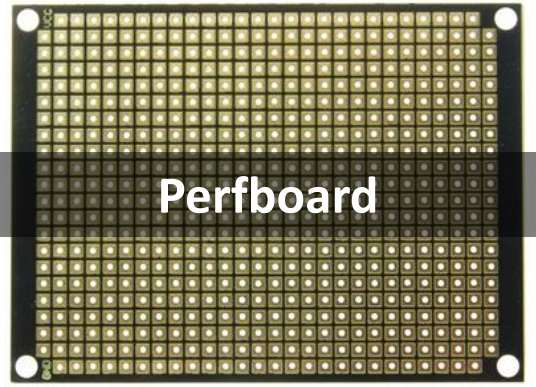
PoC

Prototipos

Qué se utiliza en prototipos?







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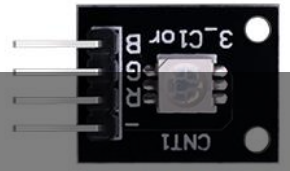
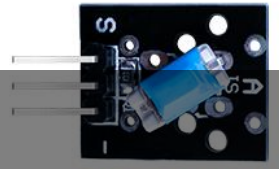
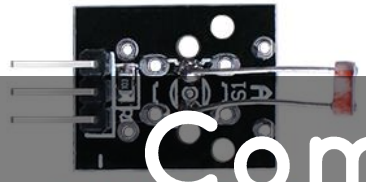
Introducción
a Prototipos
En detalle

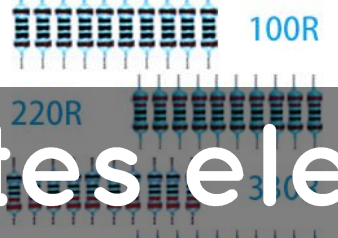
Componentes electrónicos

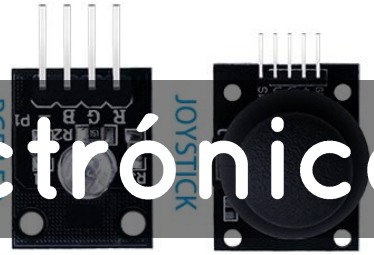

SMD RGB

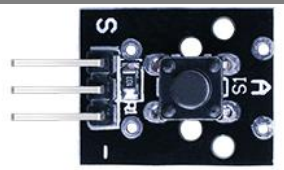

TILT-SWITCH


PHOTOR-ESISTOR

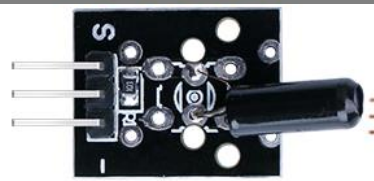
ULTRASONIC SENSOR



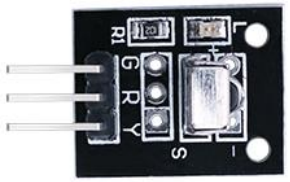


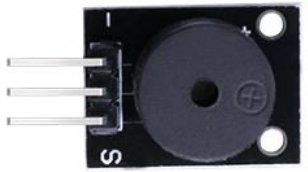

BUTTON

ACTIVE BUZZER


SHOCK

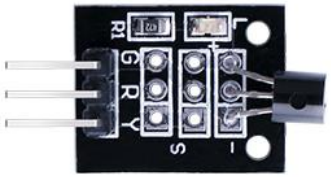

WATER LEVER SENSOR


IR RECEIVER


PASSIVE BUZZER

DS 3231 RTC MODULE


LCD 1602 MODULE


18B20 TEMP

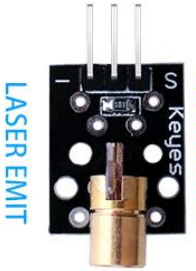

ROTARY ENCODER


RELAY


HC-SR501

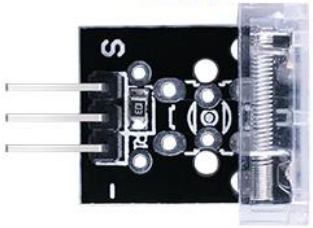

GY-521


POWER SUPPLY




TEMP AND HUMIDITY


PHOTO-INTERRUPTER


TAP MODULE

TRACKING

AVOIDANCE


MAGNETIC SPRING


DIGITAL TEMPERATURE


FLAME


LINEAR HALL


BIG SOUND


METAL TOUCH


SMALL SOUND

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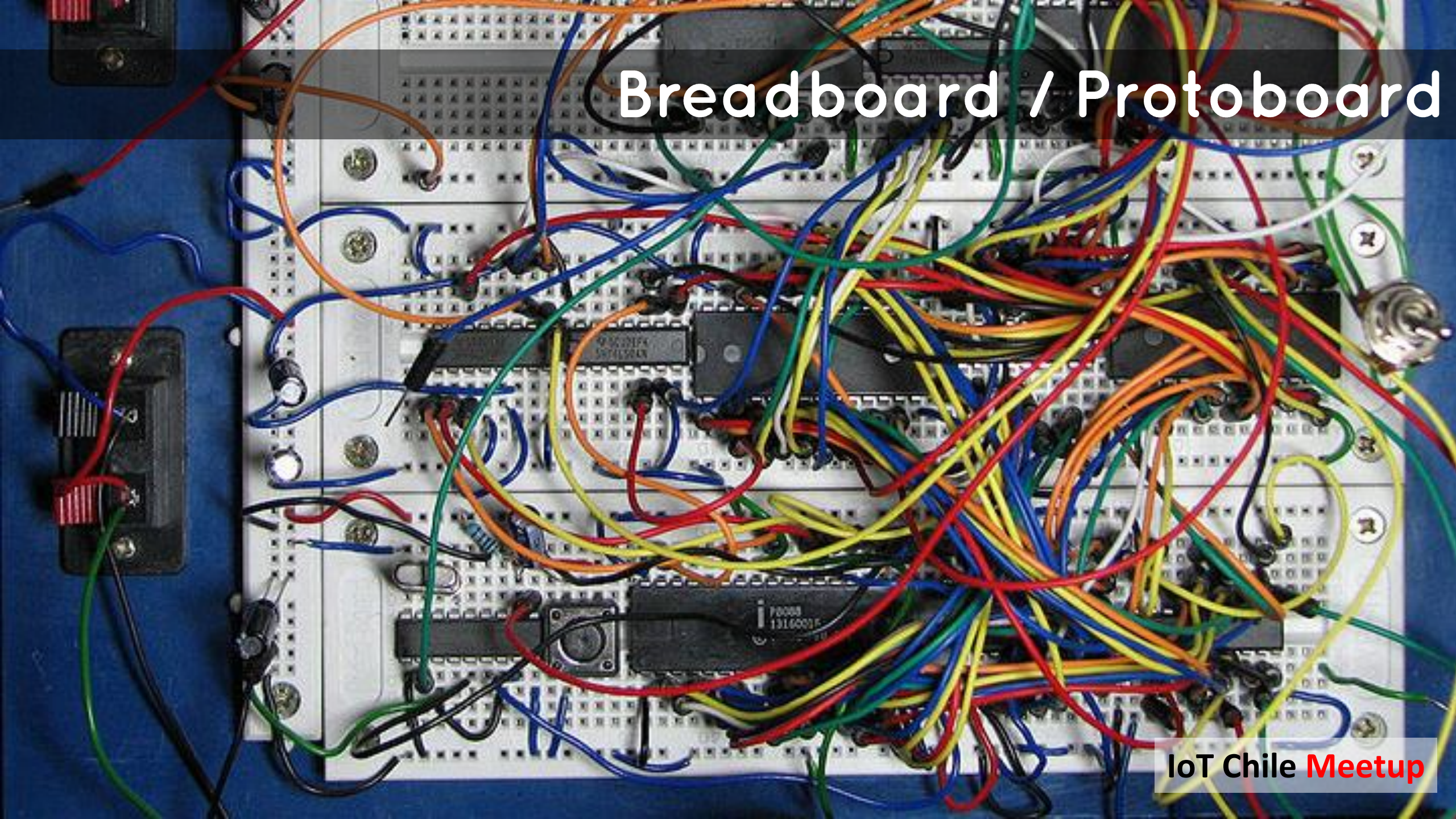
Breadboard / Protoboard



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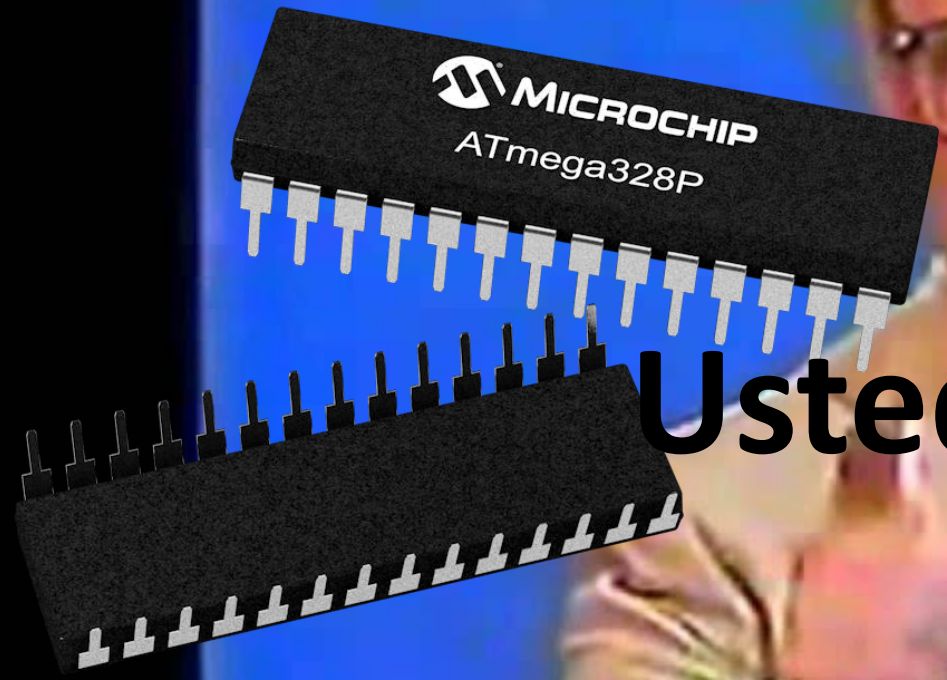
Microcontrolador



Usted no lo diga!

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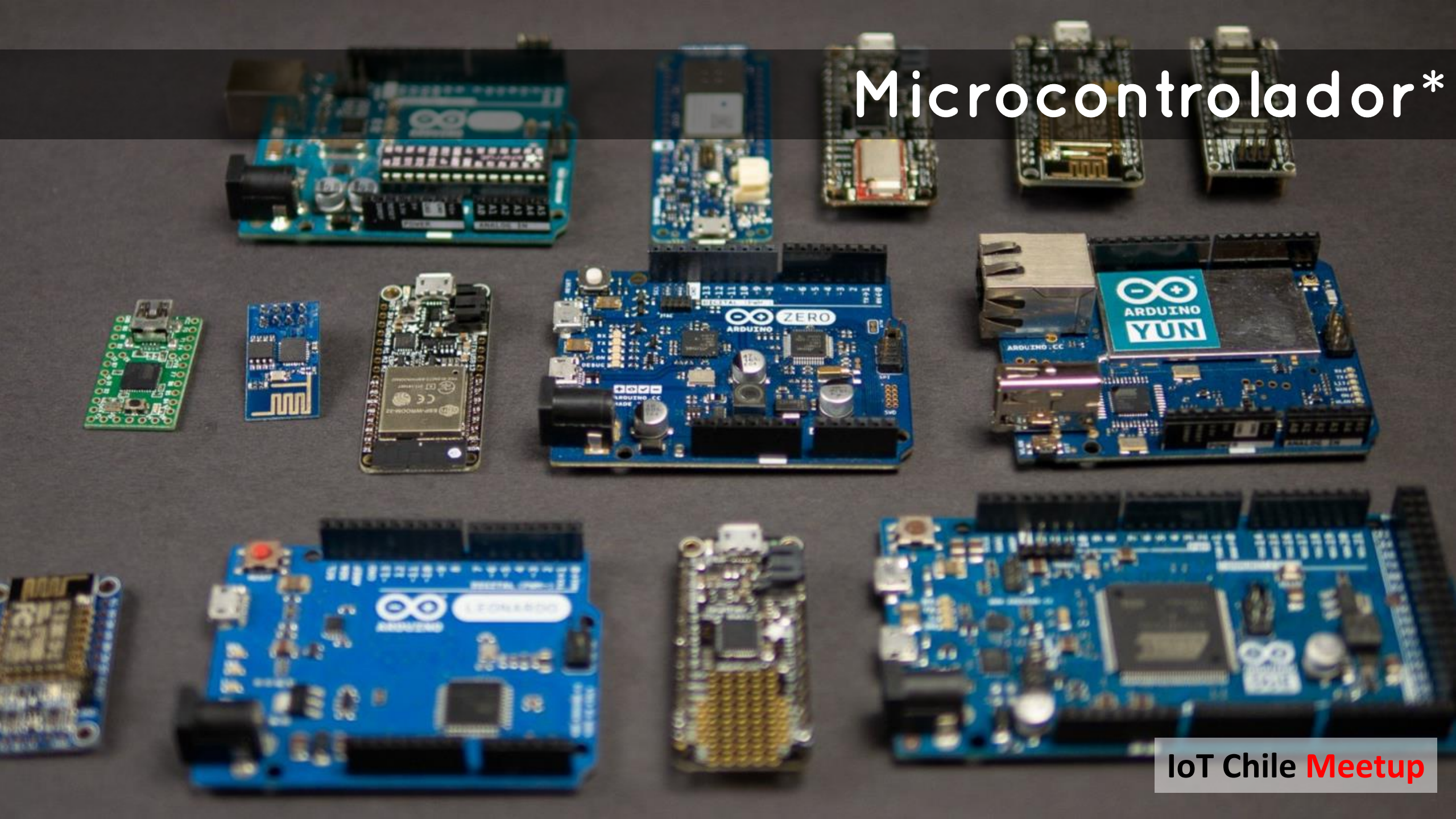
Microcontrolador*



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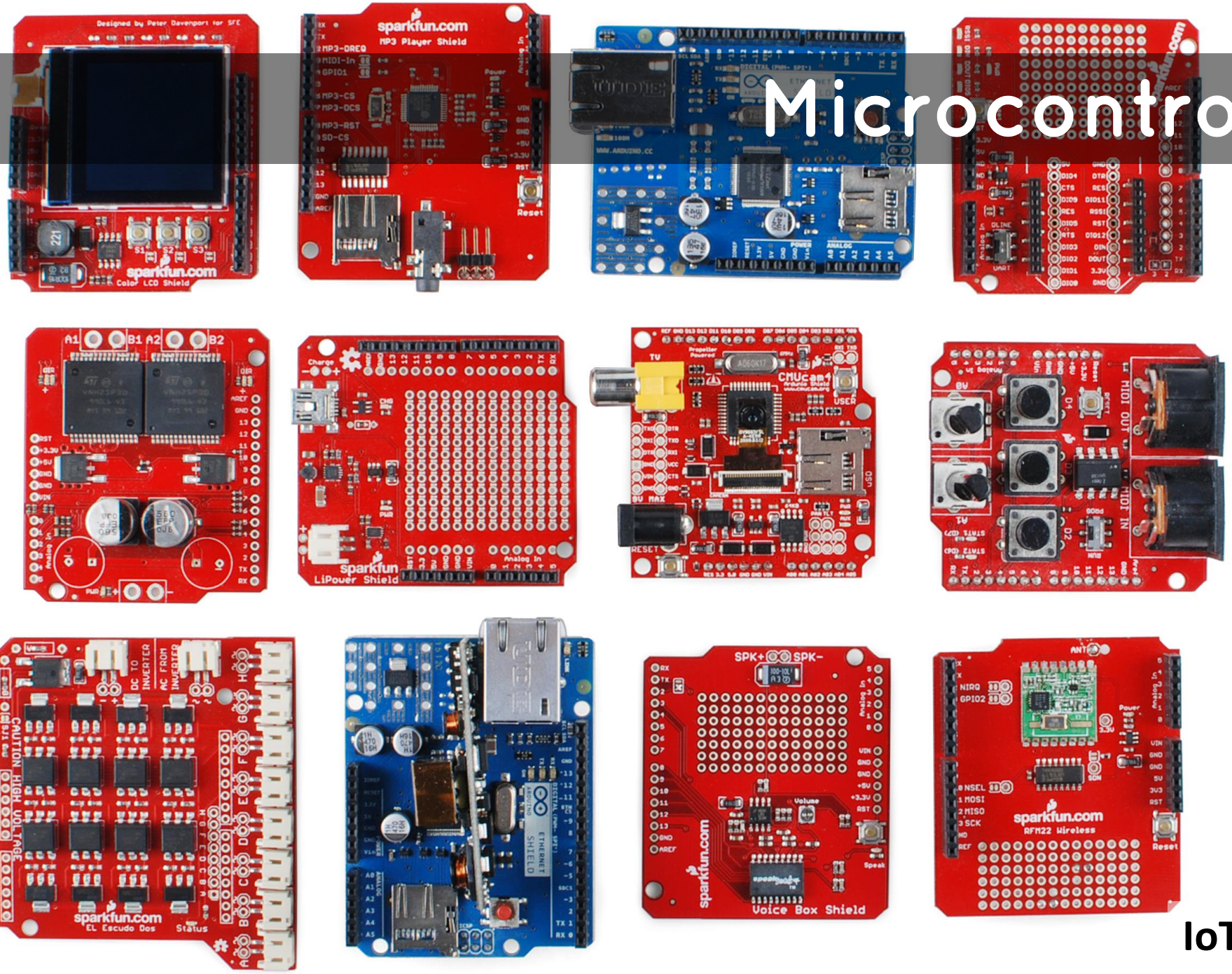
Microcontrolador**



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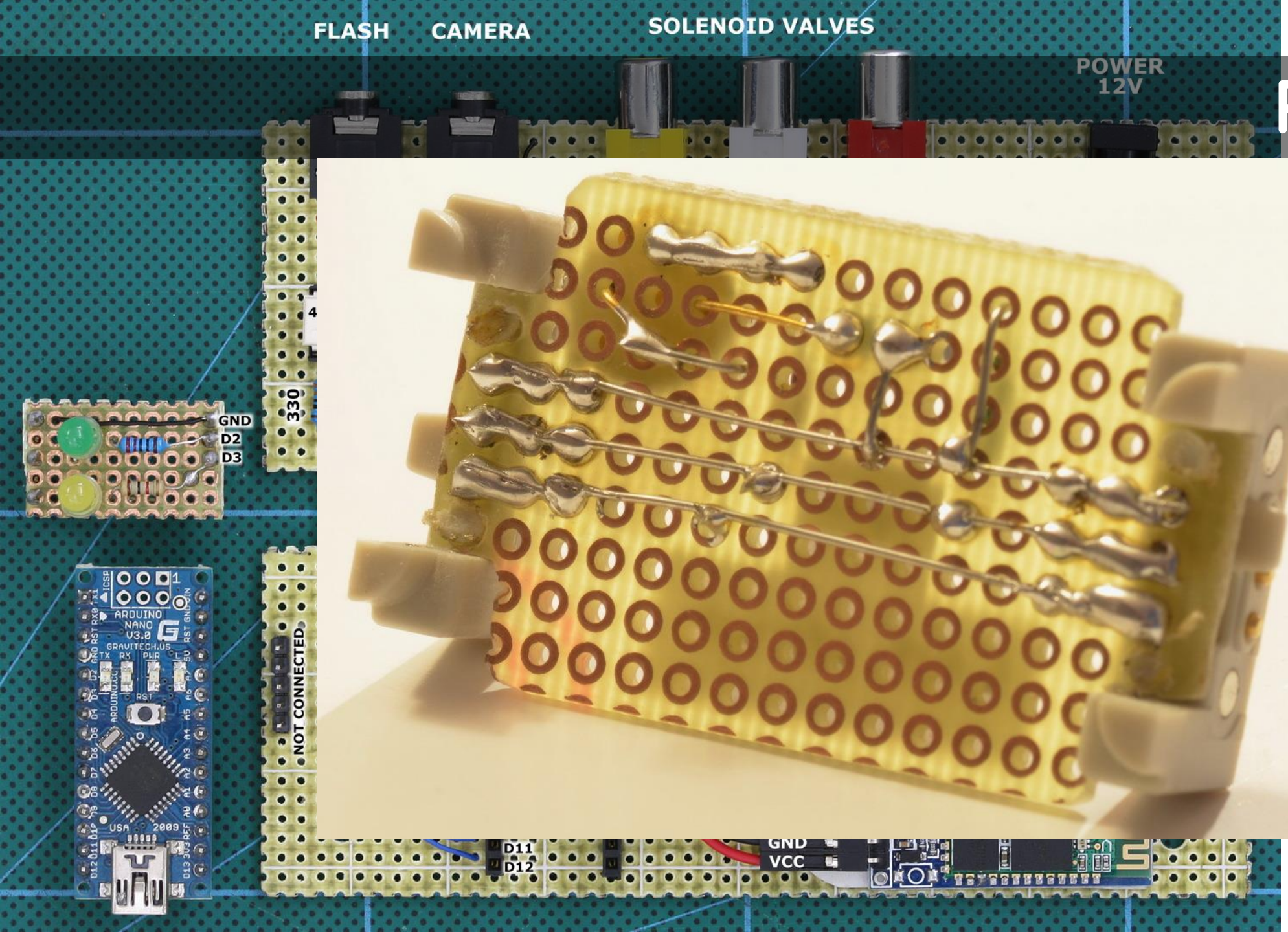
Perfboard



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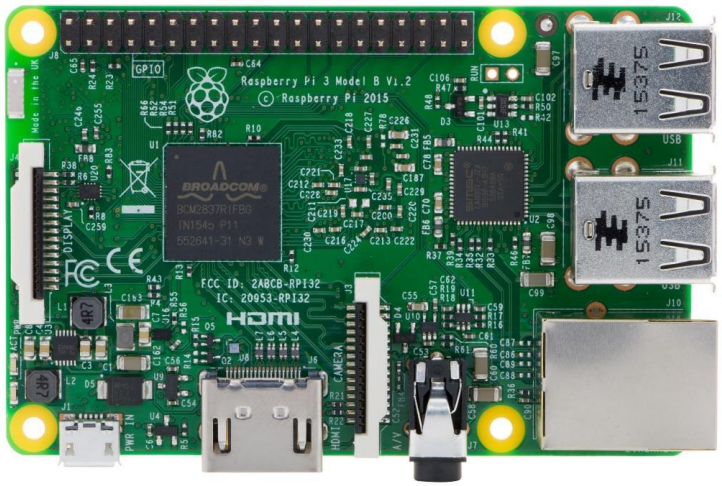
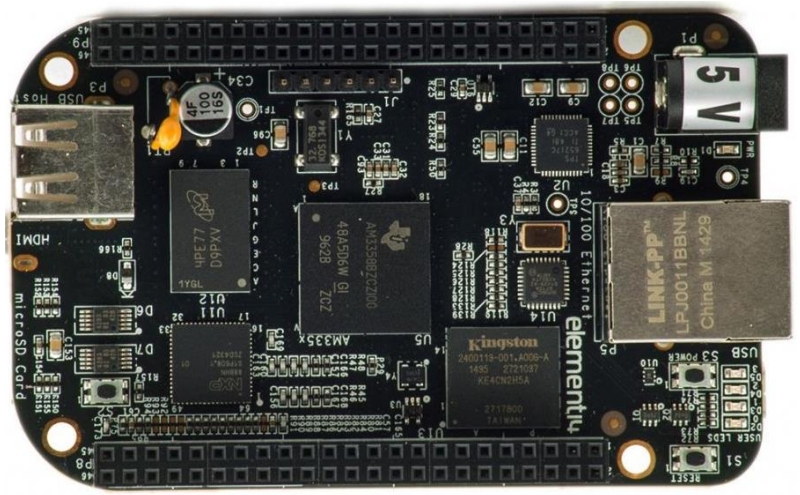
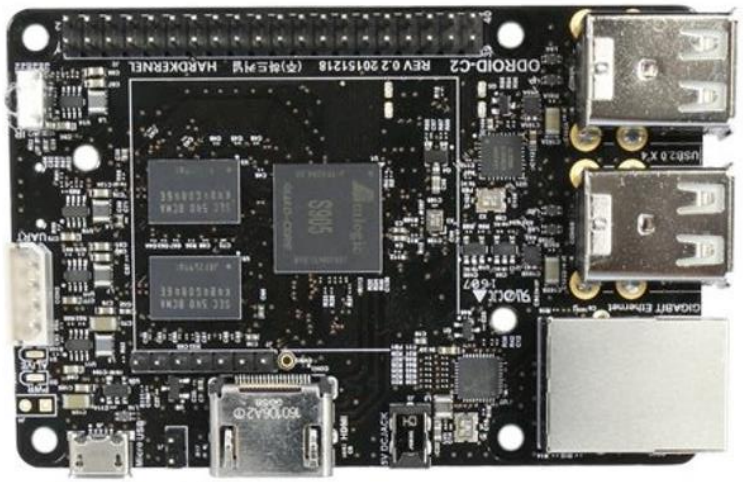
Single Board Computer



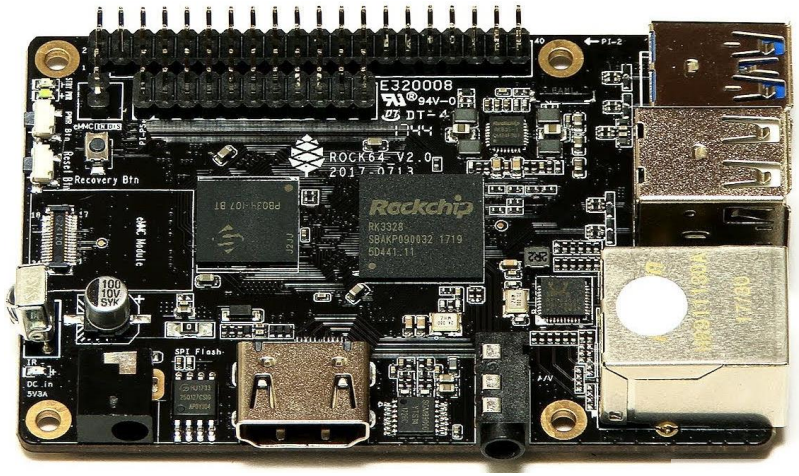
Raspberry Pi



Beagle Bone



Odroid



Rock64

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Integrated Development Environment

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Integrated Development Environment*

```
2.776494] EXT4-fs (mmcblk0p2): re[illegible] be disabled during recovery
2.949169] usb 1-1: New USB device found, idVendor=0424, idProduct=9514
2.960770] usb 1-1: New USB device strings: Mfr=0, Product=0, SerialNumber=0
2.973646] hub 1-1:1.0: USB hub found
2.982299] hub 1-1:1.0: 5 ports detected
3.055177] EXT4-fs (mmcblk0p2): recovery complete
3.074180] EXT4-fs (mmcblk0p2): mounted filesystem with ordered data mode. Opts: (null)
3.087006] VFS: Mounted root (ext4 filesystem) readonly on device 179:2.
3.100893] devtmpfs: mounted
3.109299] Freeing unused kernel memory: 396K (80767000 - 807ca000)
3.278973] usb 1-1.1: new high-speed USB device number 3 using dwc_otg
3.389221] usb 1-1.1: New USB device found, idVendor=0424, idProduct=ec00
3.401065] usb 1-1.1: New USB device strings: Mfr=0, Product=0, SerialNumber=0
3.416362] smsc95xx v1.0.4
3.482684] smsc95xx 1-1.1:1.0 eth0: register 'smsc95xx' at usb-bcm2708_usb-1.1, smsc95xx USB 2.0 Ethernet, b8:27:eb:f8:52:12
3.578984] usb 1-1.2: new high-speed USB device number 4 using dwc_otg
3.690803] usb 1-1.2: New USB device found, idVendor=0bda, idProduct=8176
3.702869] usb 1-1.2: New USB device strings: Mfr=1, Product=2, SerialNumber=3
3.715314] usb 1-1.2: Product: 802.11n WLAN Adapter
3.725365] usb 1-1.2: Manufacturer: Realtek
3.734680] usb 1-1.2: SerialNumber: 00e04c000001
3.805211] random: init urandom read with 75 bits of entropy available
3.839032] usb 1-1.3: new full-speed USB device number 5 using dwc_otg
3.953803] usb 1-1.3: New USB device found, idVendor=046d, idProduct=c531
3.965921] usb 1-1.3: New USB device strings: Mfr=1, Product=2, SerialNumber=0
3.978375] usb 1-1.3: Product: USB Receiver
3.987726] usb 1-1.3: Manufacturer: Logitech
4.005230] input: Logitech USB Receiver as /devices/platform/bcm2708_usb/usb1/1-1/1-1.3/1-1.3:1.0/0003:046D:C531.0001/input/input0
4.022909] hid-generic 0003:046D:C531.0001: input,hidraw0: USB HID v1.11 Mouse [Logitech USB Receiver] on usb-bcm2708_usb-1.3/input0
4.052080] input: Logitech USB Receiver as /devices/platform/bcm2708_usb/usb1/1-1/1-1.3/1-1.3:1.1/0003:046D:C531.0002/input/input1
4.070159] hid-generic 0003:046D:C531.0002: input,hiddev0,hidraw1: USB HID v1.11 Keyboard [Logitech USB Receiver] on usb-bcm2708_usb-1.3/input1
4.329078] usb 1-1.5: new low-speed USB device number 6 using dwc_otg
4.449634] usb 1-1.5: New USB device found, idVendor=04f3, idProduct=0801
4.462745] usb 1-1.5: New USB device strings: Mfr=0, Product=0, SerialNumber=0
4.486325] input: HID 04f3:0801 as /devices/platform/bcm2708_usb/usb1/1-1/1-1.5/1-1.5:1.0/0003:04F3:0801.0003/input/input2
4.504088] hid-generic 0003:04F3:0801.0003: input,hidraw2: USB HID v1.10 Keyboard [HID 04f3:0801] on usb-bcm2708_usb-1.5/input0
4.551221] input: HID 04f3:0801 as /devices/platform/bcm2708_usb/usb1/1-1/1-1.5/1-1.5:1.1/0003:04F3:0801.0004/input/input3
4.569910] hid-generic 0003:04F3:0801.0004: input,hidraw3: USB HID v1.10 Mouse [HID 04f3:0801] on usb-bcm2708_usb-1.5/input1
4.647022] udevd[112]: starting version 175
5.134357] random: nonblocking pool is initialized
5.825058] usbcore: registered new interface driver
```

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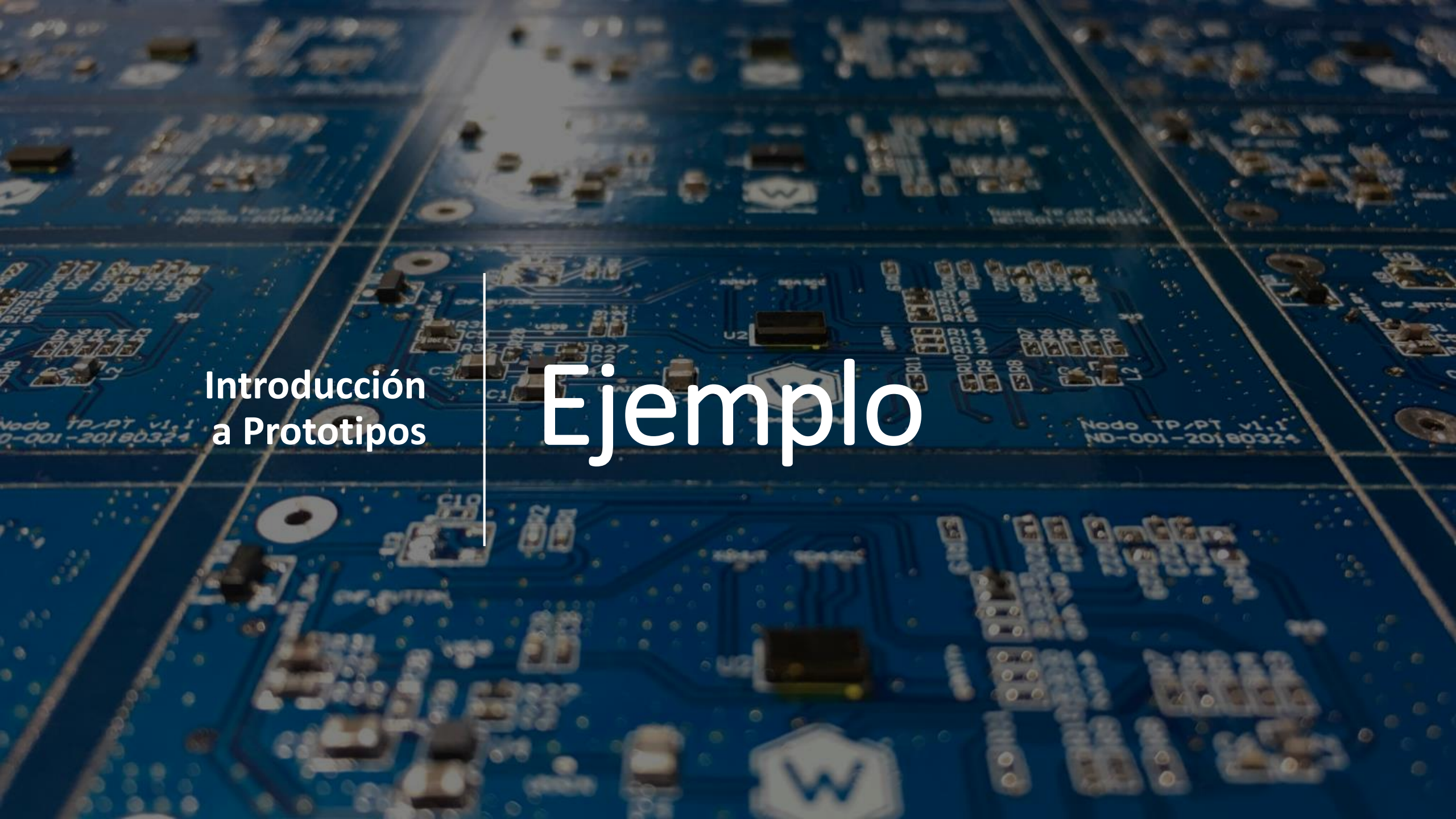

Introducción
a Prototipos

Ejemplo

Internet de los gatos

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Internet de los gatos

Sensor

Posición

Movimiento

Ritmo cardiaco

Adquisidor

Interiores

3G

Exteriores

Nube

Plataforma

Servicios

Almacenamiento

Análisis

Aplicación

Web

App

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Introducción
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Inspiración

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WolkWriter

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IoT GitHub Frame

sqra

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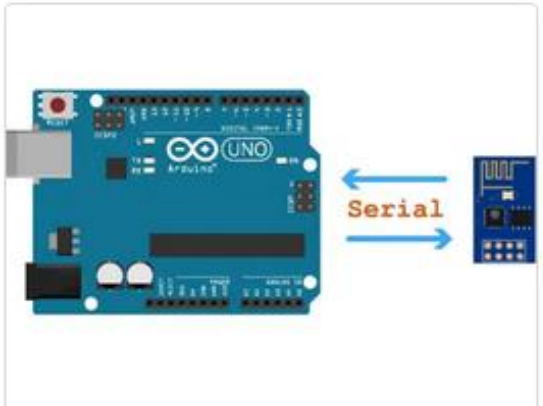


Arduino-ESP WIFI Integration

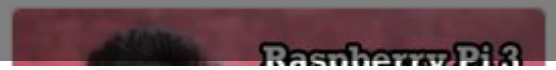
Turai Botond

45 6,169

Instant Control of Appliances with XinaBox and Blynk

Rachel Vorster and KalbeAbbas

3 131

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