

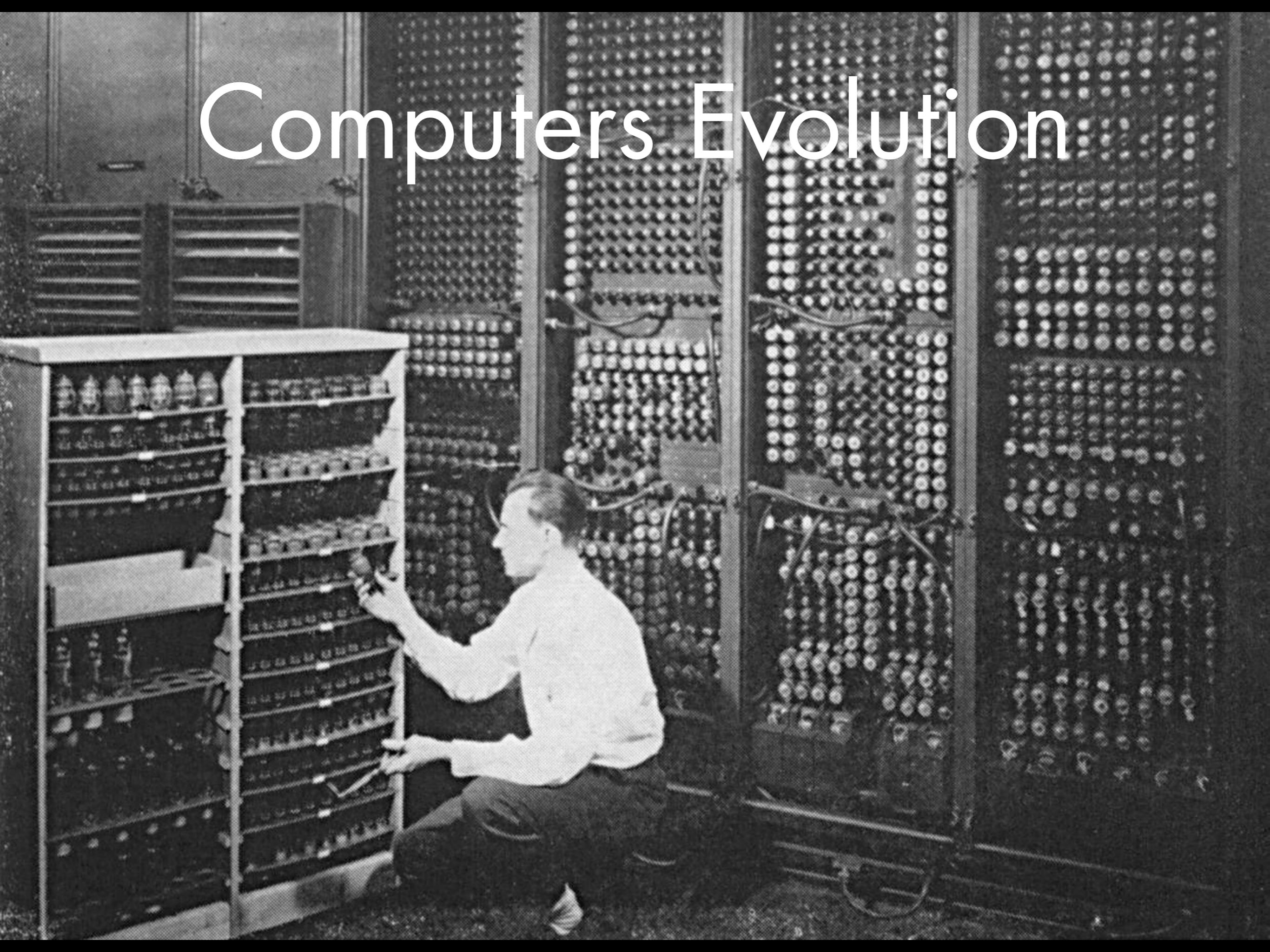
PERVASIVE COMPUTING WORKSHOP

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13 Nov 2015

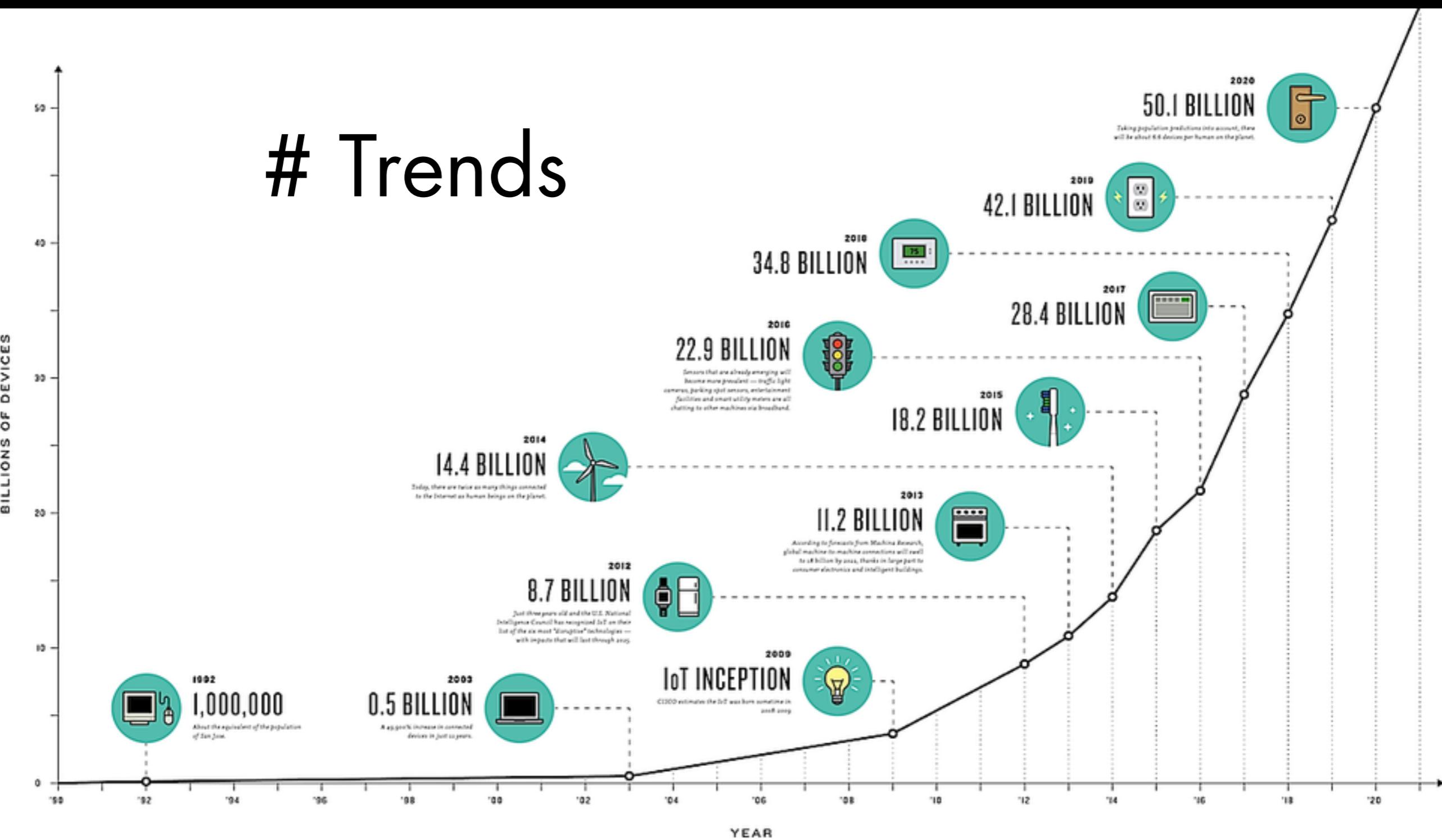
hfg_{OF_MAIN}

Introduction

Computers Evolution



Trends



Ubiquitous





Paradigm

“In theory, theory and practice are the same. In practice, they are not”

- Albert Einstein -

Challenges

Anything
Any Device



Anytime
Any Context



Anyone
Anybody



Any Place
Anywhere



Any Service
Any Business



Any Path
Any Network



OBEY

PROPAGANDA-SERVICES

RETINAL DELIVERY



100% GUARANTEED



PRO P MFG.

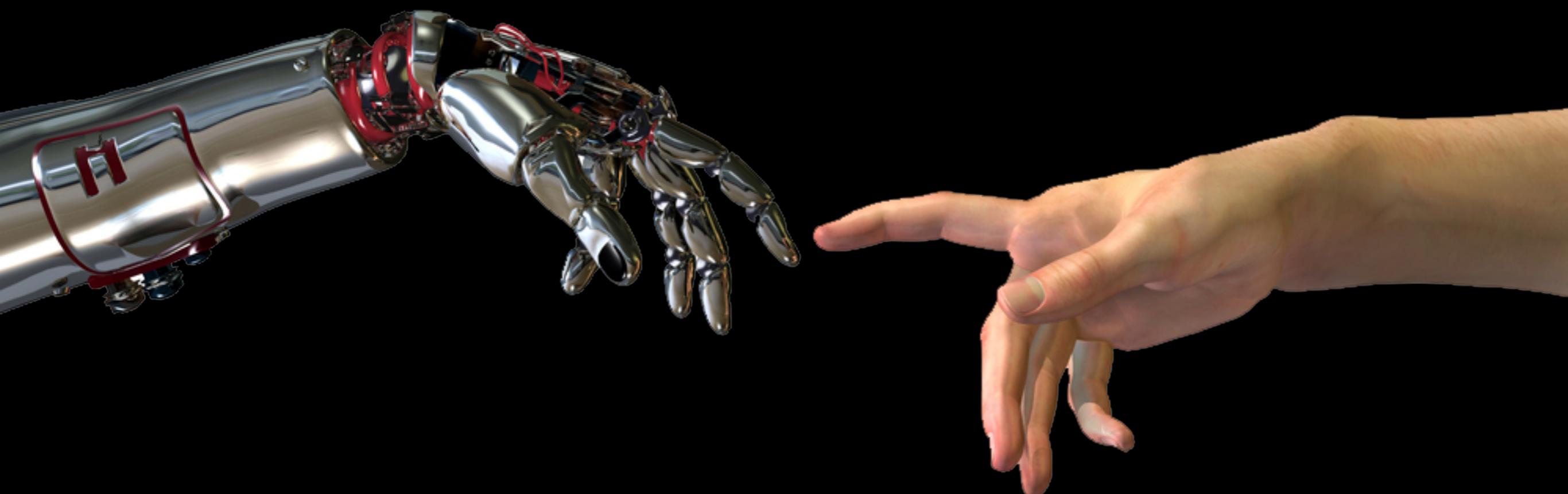
MANUFACTURING DISSENT

PERSUASION SINCE 89

Security

SEVEN FEET FOUR INCHES FIVE HUNDRED TWENTY POUNDS

Transdisciplinary Approach



Related Technologies



Internet of Things

Wearable Technology



Ambient Intelligence



Examples

Products



SMART THERMOSTATS

nest™



ACTIVITY TRACKERS

NIKE



SMART LIGHTS

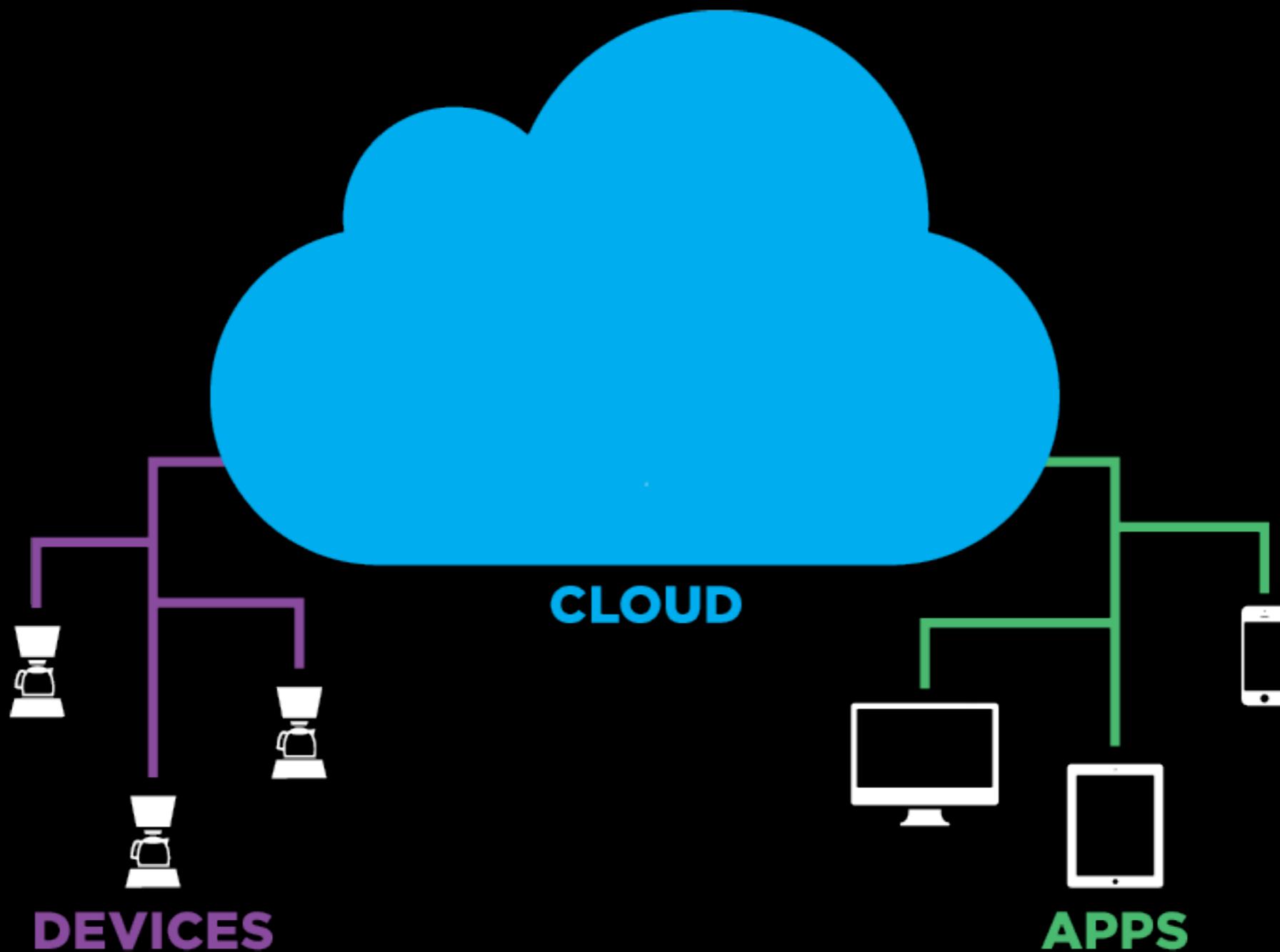
PHILIPS



CONNECTED SCALE

Withings

How does it work?



The Cloud



Applications



FASHION
LIFESTYLE

TRANSPORT
MOBILITY/TRAFFIC

RETAIL
INVENTORY

near-world contexts for your apps
Developer Preview Kit
10 Bluetooth Low Energy Beacons
This is a beta product, non-FCC/IC approved. Coverage is not guaranteed. This service is a beta product and may not be ready for general use.



LOGISTICS
REAL TIME



MANUFACTURING
M2M



CITIES
INDUSTRY



HEALTH
BODY



ENVIRONMENT
PREVENTION



BUILDING
INFRASTRUCTURE




AGRICULTURE
CONTROL



SECURITY
DETECTION

"Technology should create calm"

Mark Weiser, father of pervasive computing

Questions?

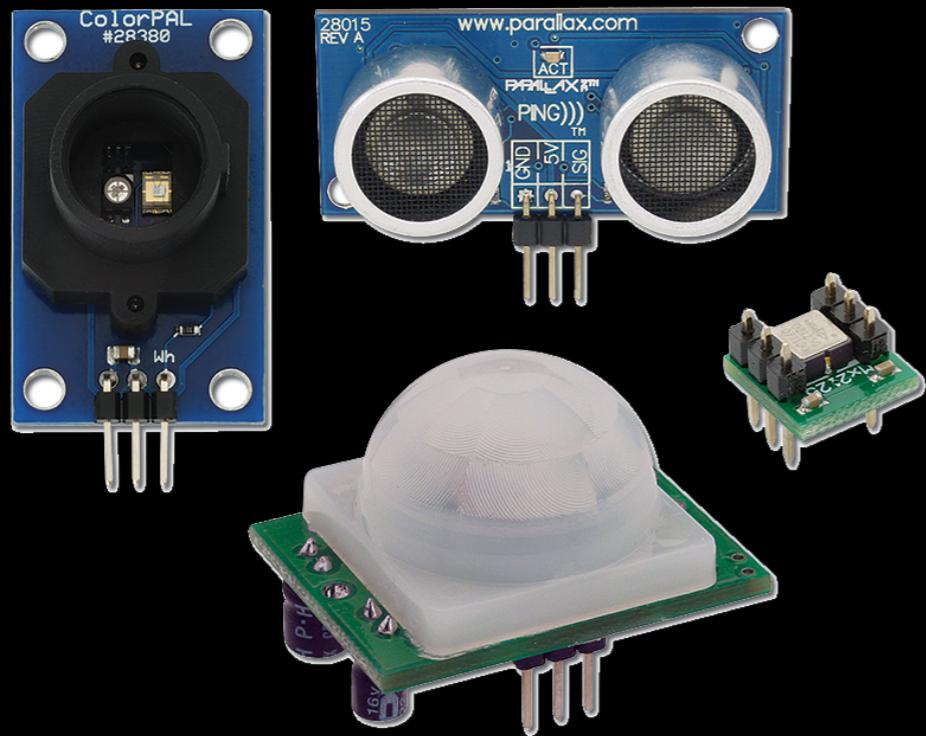
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Prototyping

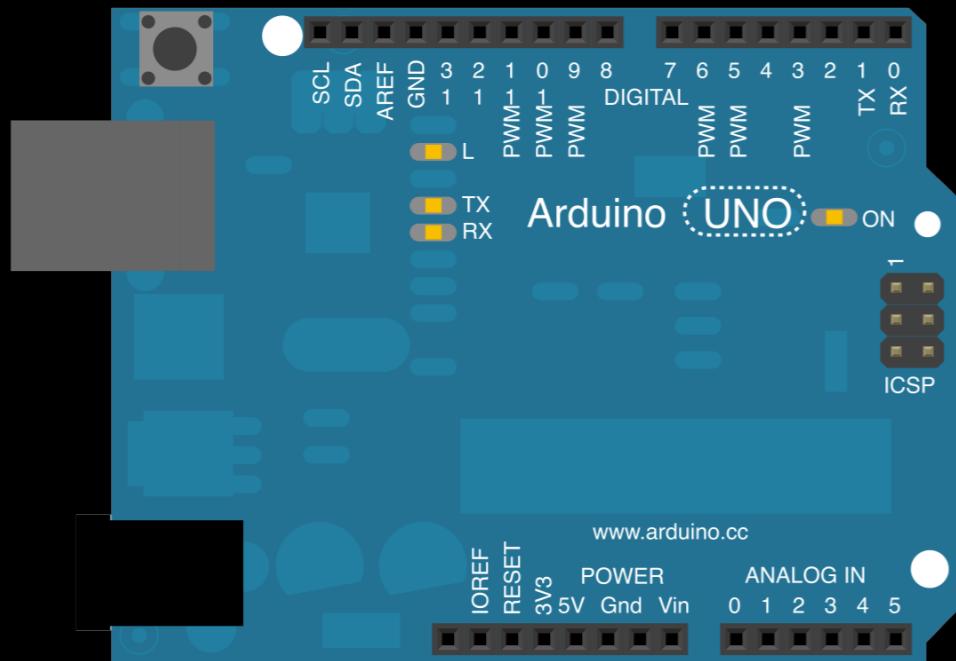
Sensors



Temperature sensor
Infrared sensor
Microphone
Humidity sensor
Touch sensor
Heartbeat sensor
Tilt switch
Vibration switch
Photo resistor
Hunt sensor
Hit sensor

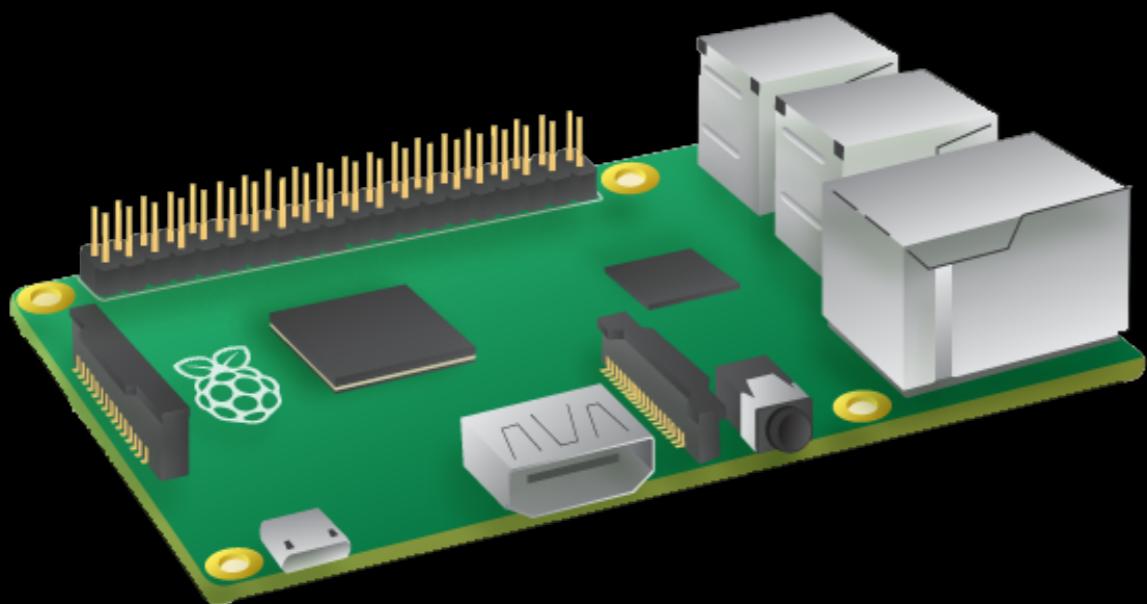
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Microcontrollers



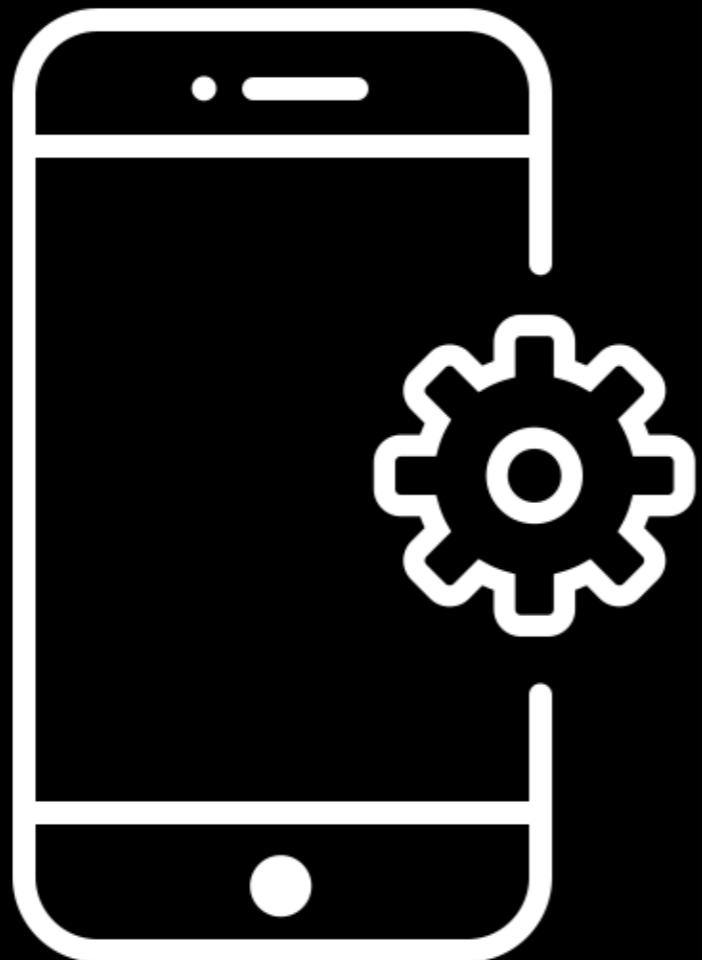
- Arduino
 - Uno, Pro, Mega, Leonardo, nano
- Teensy
- Little Bits
- MSP430 LaunchPad
- ...

Mini Computers



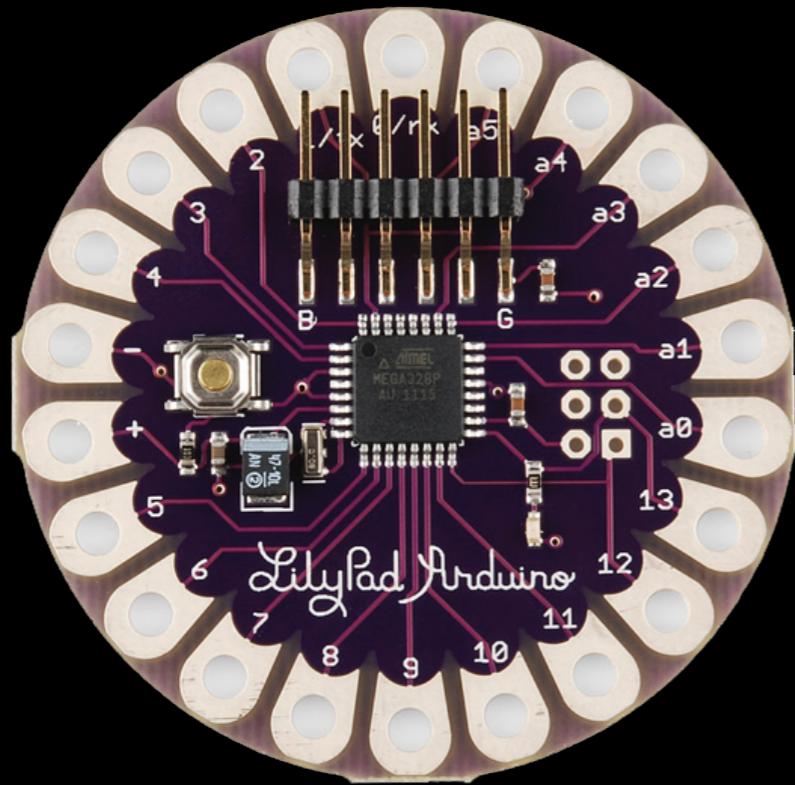
- Raspberry Pi
- Odroid
- BeagleBone
- pcDuino
- Intel Edison
- Acadia
- ...

Smartphone



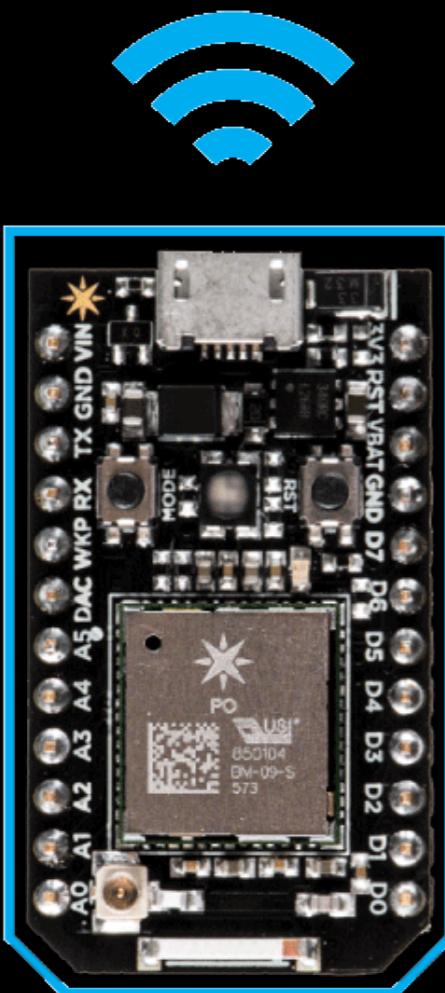
- Motion Sensors
- Environmental Sensors
- Position sensors
- Camera
- Microphone
- Touchscreen
- WiFi
- Bluetooth
- ...

Wearables



- Arduino Lilypad
- Arduino Gemma
- Teensy
- Metawear

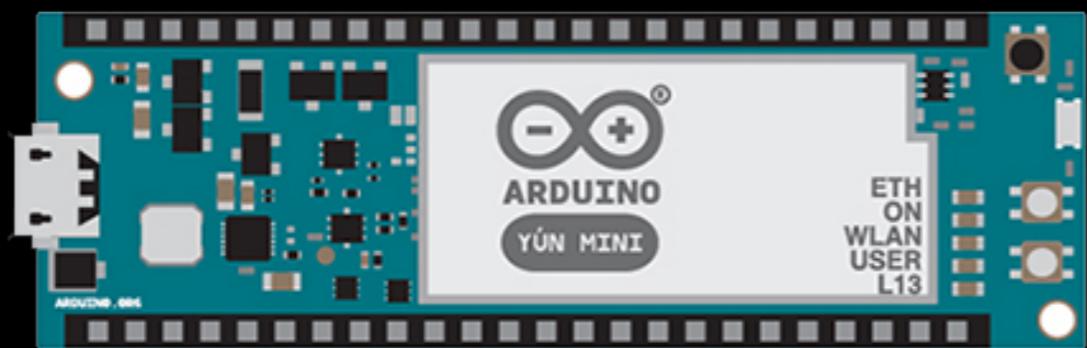
Internet of Things



- Particle
- lotivity
- Arduino Yún
- PanStamp
- ...

Workshop

Arduino Yún Mini



- Arduino with WiFi built in
- Linux with Python preinstalled
- <https://www.arduino.cc/en/Main/ArduinoBoardYun>
- Download Software: <https://www.arduino.cc/en/Main/Software>

Blynk



- iOS and Android apps to control Arduino.
- <http://www.blynk.cc/>
- Getting Started: <http://www.blynk.cc/getting-started/>

