

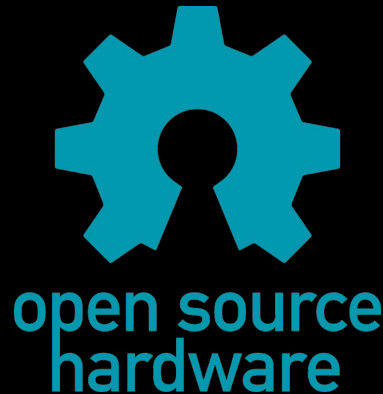
Survey of Open Source Hardware 2016

John 'Warthog9' Hawley - Intel OTC
john.hawley@intel.com
@warty9

Quick definition

“Open source hardware is hardware whose design is made publicly available so that anyone can study, modify, distribute, make, and sell the design or hardware based on that design.”

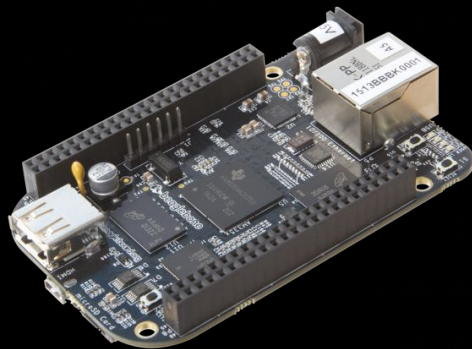
- OSHWA 1.0



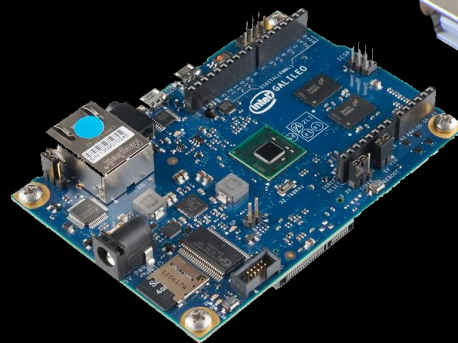
So what IS open hardware?



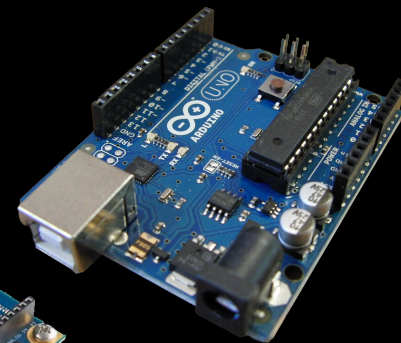
MinnowBoard Turbot



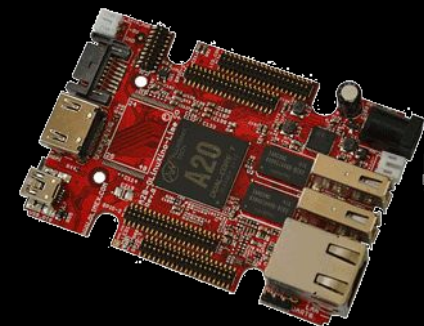
BeagleBoard



Intel Galileo



Arduino



Olimex

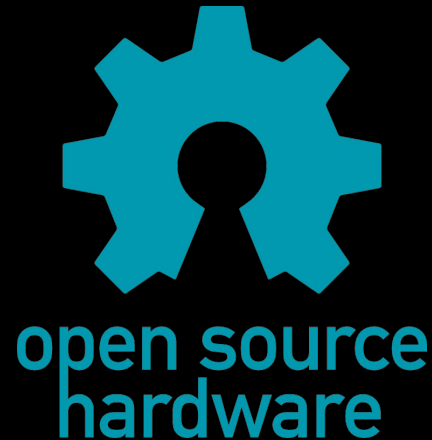


Littlebits



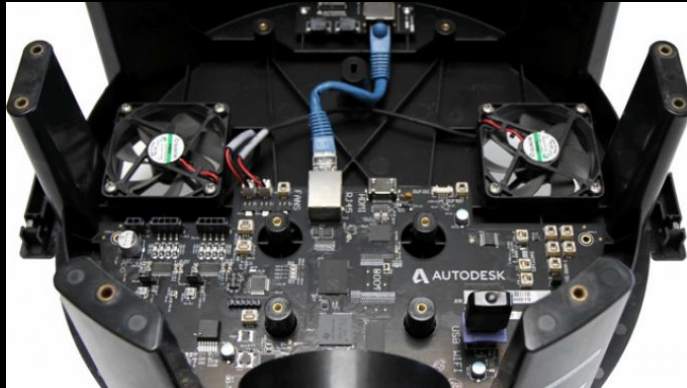
Big things that have come out

- OSHWA developing a certification program
 - This will be a self certification process
 - Is **NOT** replacing the Open Source Hardware mark folks have been using
 - Logo will be distinct



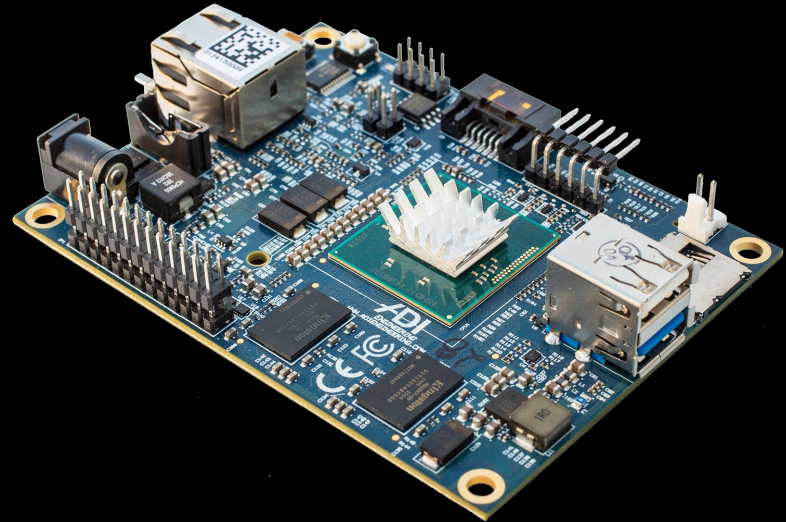
Big things that have come out

- Autodesk released the Ember 3D printer
 - Based on BeagleBone Black, but with a custom layout



Big things that have come out

- MinnowBoard Turbot announced, and in market
 - New Manufacturer
 - Hardware fixes
 - Upgraded SoC



Big things that have come out

- BeagleBone Green
 - Seeed Studio
 - Specifically targeted at Groove usage
 - Based on BeagleBone Black



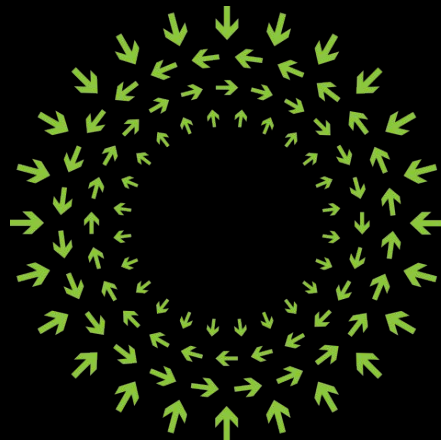
Big things that have come out

- C.H.I.P. kickstarter
 - \$9 computer
 - Raised over \$2M
 - Shipping boards



Big things that have come out

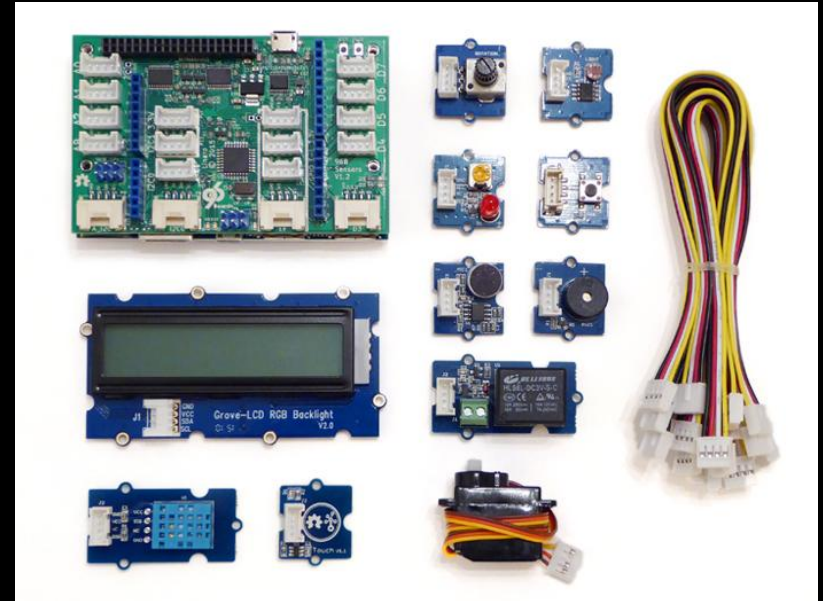
- Google joins Open Compute
 - Just announced



OPEN
Compute Project

Smaller things that have come out

- 96 Board's Grove Kit
 - Modules + Sensors
 - board open hardware
 - Great way to
 - Prototype sensors on 96 Boards



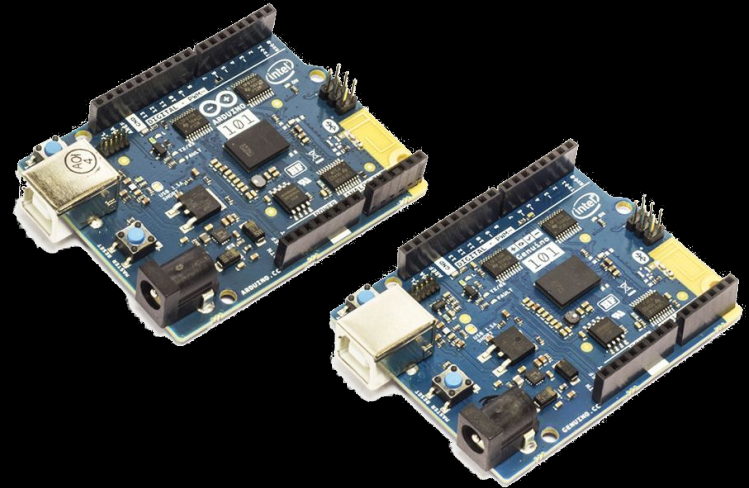
Smaller things that have come out

- ESP8266 goes mainstream
 - SparkFun launches their ESP8266 Thing
 - Arduino IDE support
 - WIFI onboard
 - Targeted at Edge Sensors



Smaller things that have come out

- Arduino 101 / Genuino 101
 - Intel Curie
 - Bluetooth onboard
 - Familiar form factor



So where's this all going

What does this mean?

- Open Source Hardware adoption and creation is accelerating
- Low Speed designs are easier, and cheaper,
- this is where it will grow from
- Higher speed designs will continue, but at a slower pace

Q & A