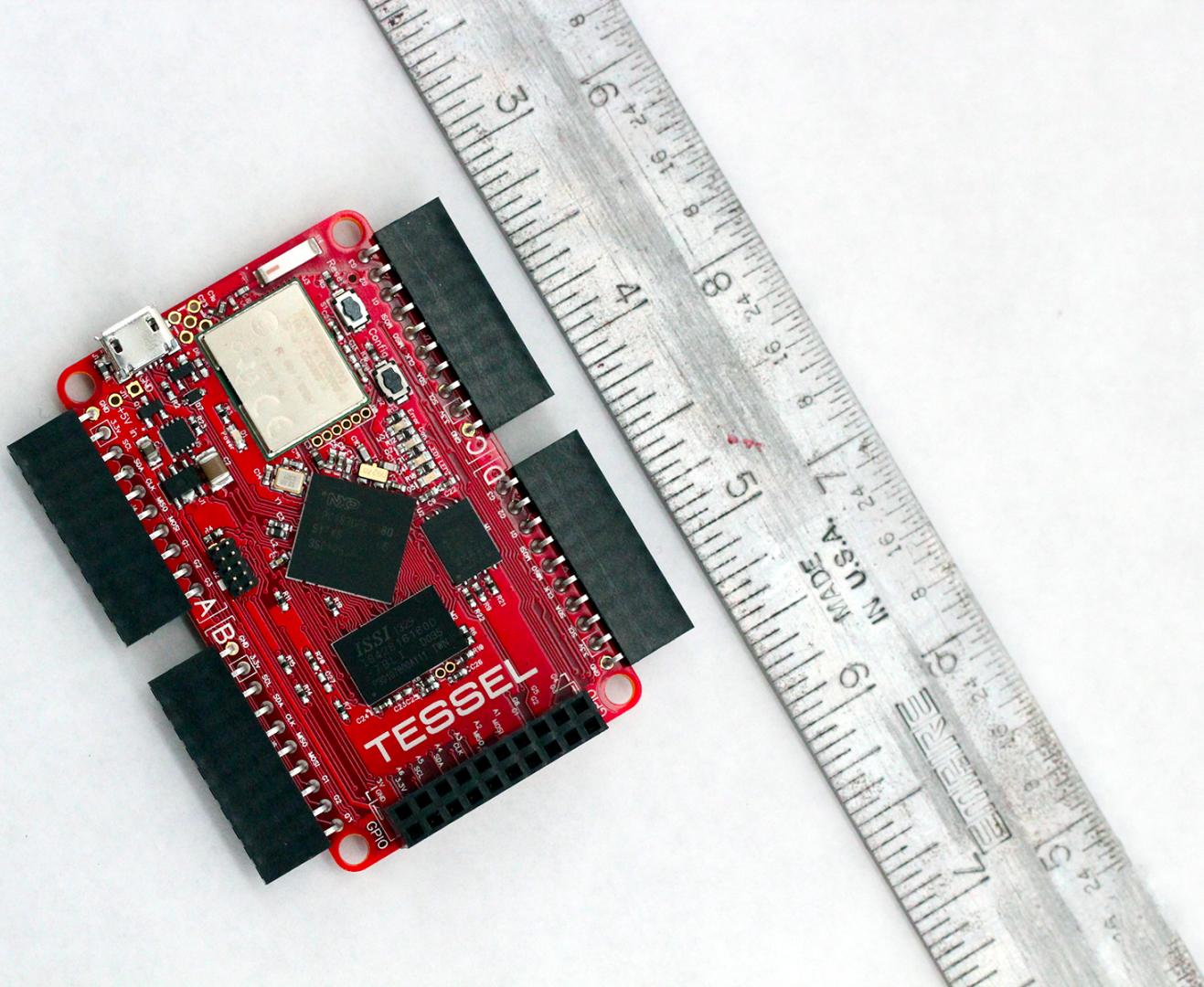


Tessel is a WiFi-enabled
microcontroller that runs
JavaScript.

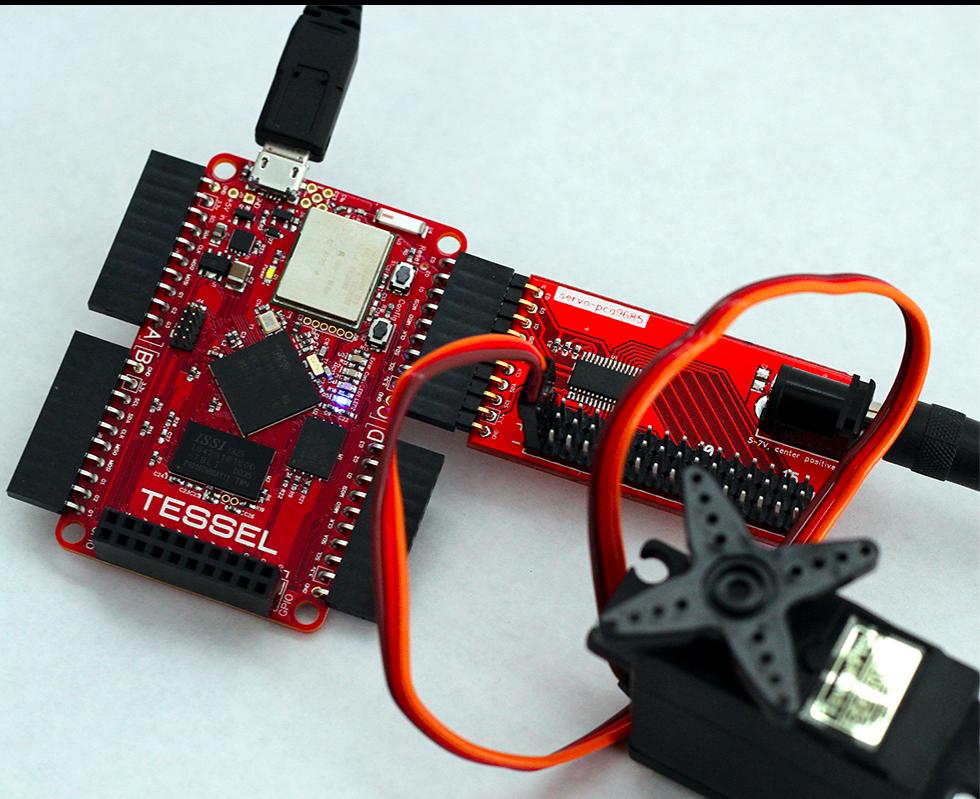
Tim Ryan, Co-Founder / Software Developer

Technical Machine



```
var tessel = require('tessel');
var servos = require('servo-pca9685')
  .connect(tessel.port('A'));

var degrees = 0;
setInterval(function () {
  servos.moveServo(1, degrees);
  degrees = degrees == 0 ? 180 : 0;
}, 500);
```



What will software development
look like in 5 years?

What will **software** development
look like in 5 years?

What will **hardware** development
look like in 5 years?

The internet is really big*
and will get a lot bigger**

* 8.1 billion devices

** est. 40 billion devices by 2020





“The Internet”

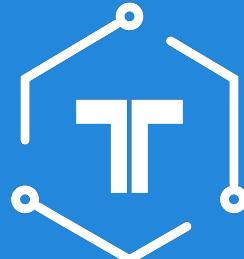




*The Internet
of Things*

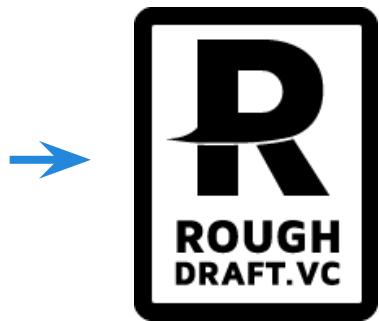


How did we build ?

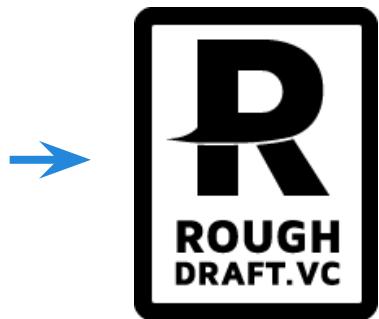




Olin College
of Engineering



S U M M E R
@
HIGHLAND

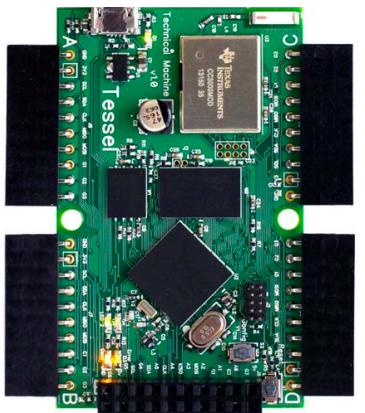
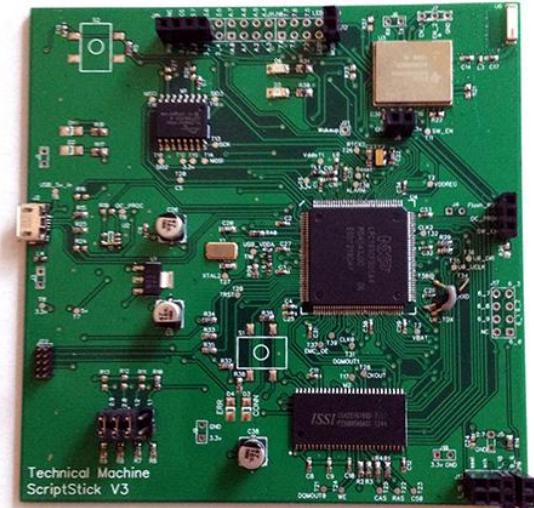
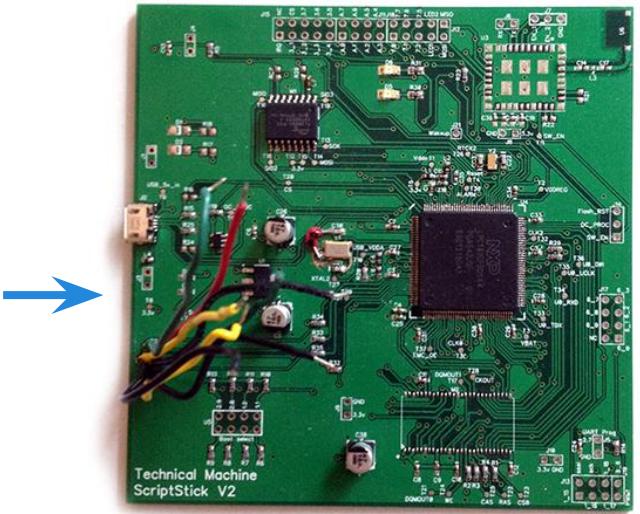
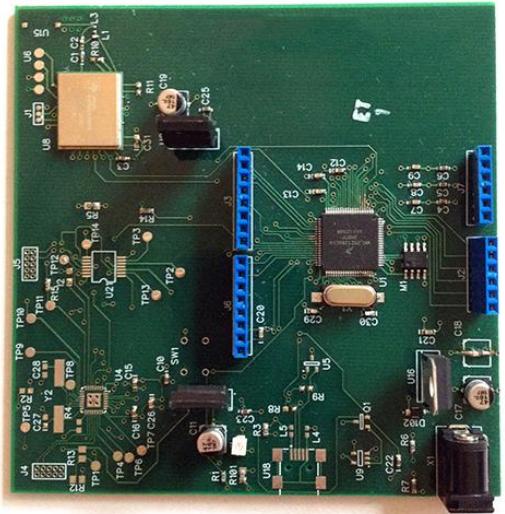


S U M M E R
@
HIGHLAND



\$4K

\$18K





Are you a maker with a great idea?

We help Makers bring tomorrow's products to life with deep manufacturing experience, industry connections, and a crowdfunding site just for hardware.

[Get Started](#)

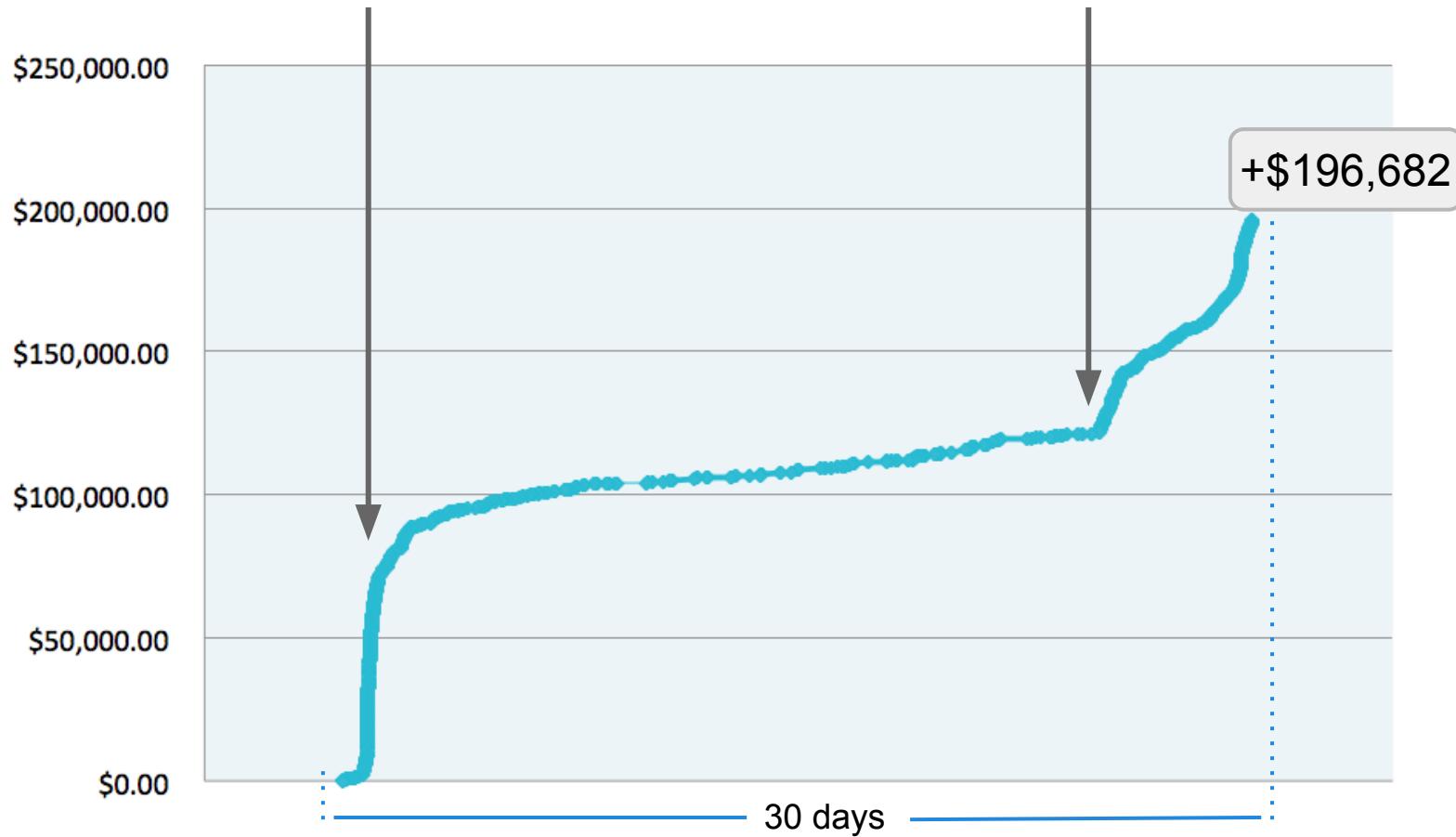
[Learn More](#)

Day 1 Launch

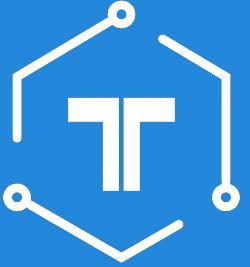
Email blast to 13K followers

Presentation #1 on HN

“End of Web Dev as We Know It”





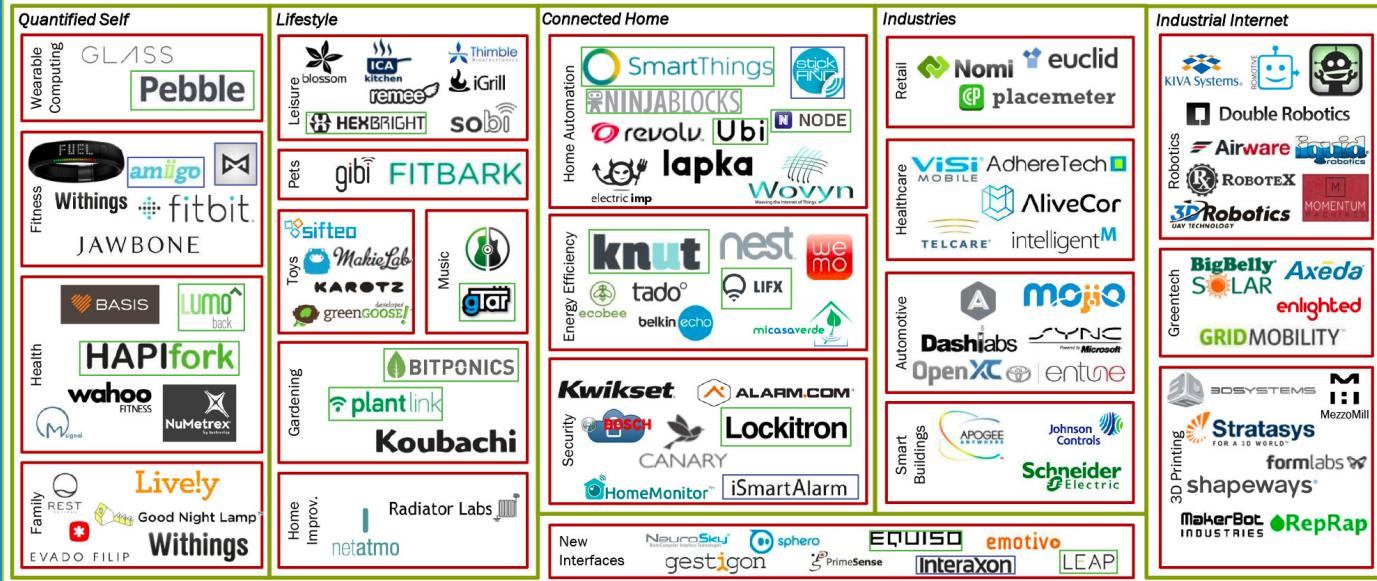
Where does  fit in?

INTERNET OF THINGS LANDSCAPE

Platforms & Enablement (Horizontals)



Applications (Verticals)



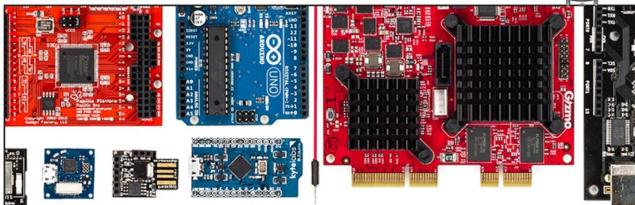
Building Blocks



Make:

COMPLETE PLANS >

Nuclear Fusor: Build Your Own "Star in a Jar"



BOARD GAMES

PICK AND PLAY
A FIELD GUIDE TO MICROCONTROLLERS

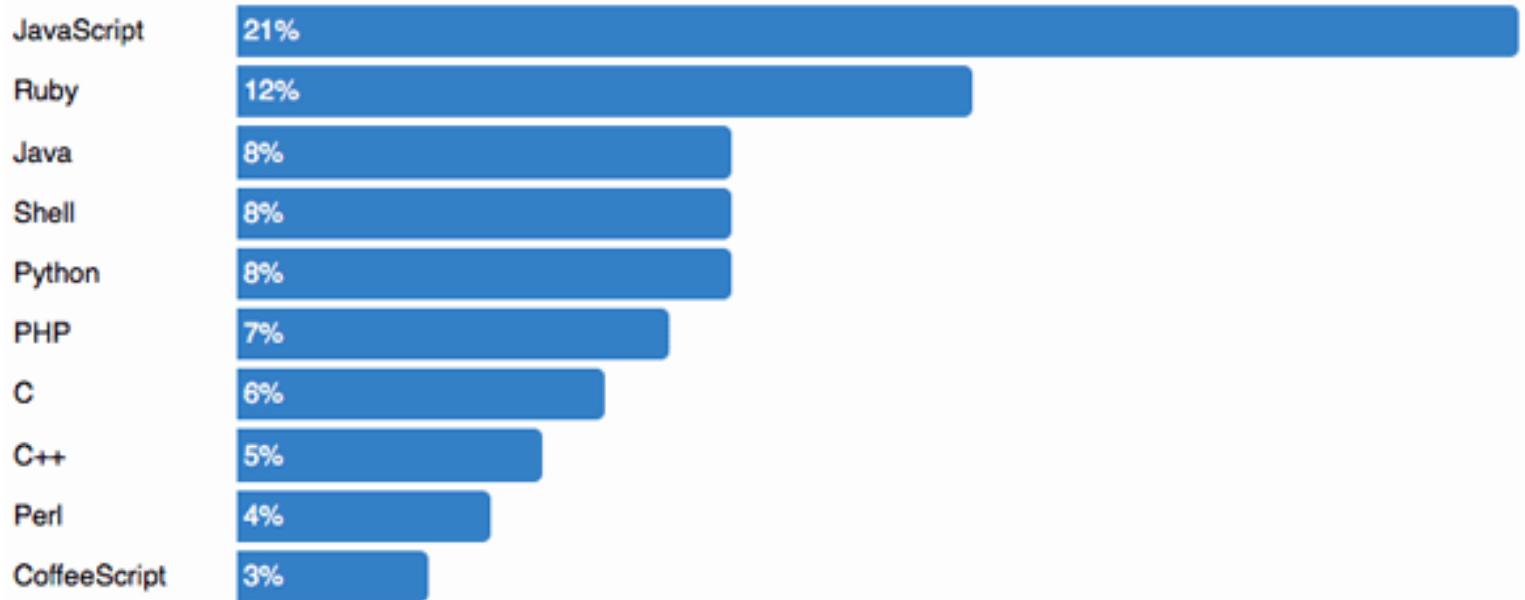
+25 MAKER PROJECTS

Covert Web Router • Laser Microscope
Two-Hour Table • Desktop Foundry
Hard Cider • Easy Silk-Screen



MAKER MEDIA

makezine.com



Source: Github Explore (retrieved June 2012)

Web Servers

> npm install -g express

...

> edit server.js

...

> git push

Web Servers

```
> npm install -g express  
...  
> edit server.js  
...  
> git push
```

Tessel

```
> npm install -g tessel  
...  
> edit server.js  
...  
> tessel push
```



ACCELEROMETER



SD CARD



AUDIO



BLUETOOTH
LOW ENERGY



GPS



RFID



SERVOS



RELAY



TEMP + HUMIDITY



LIGHT + SOUND



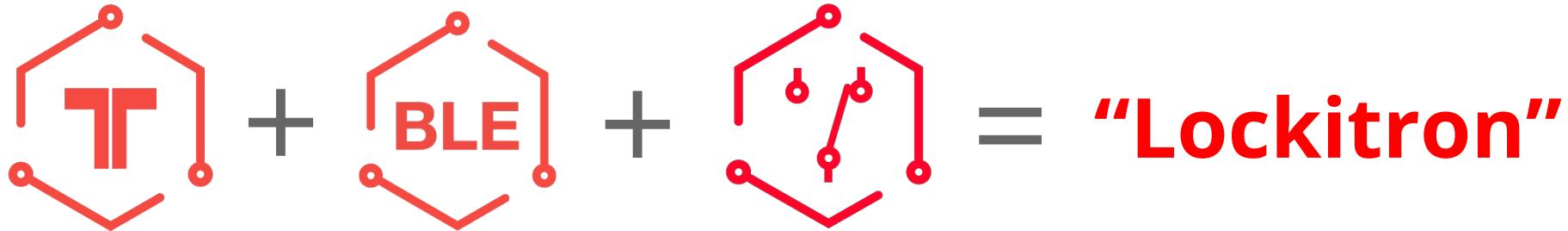
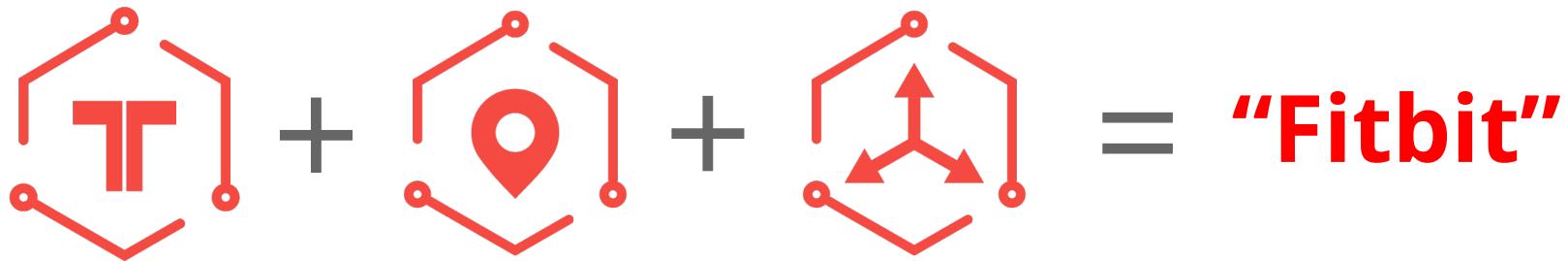
GPRS/SIM

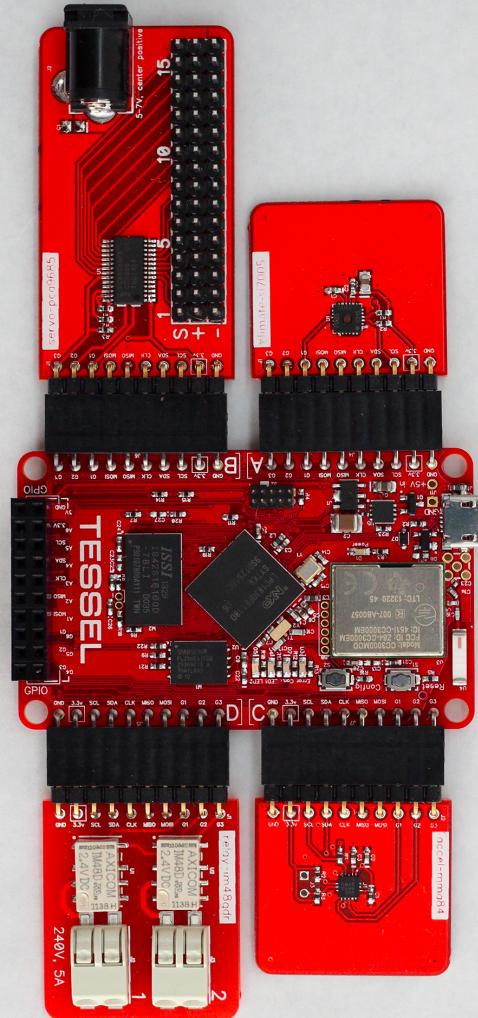


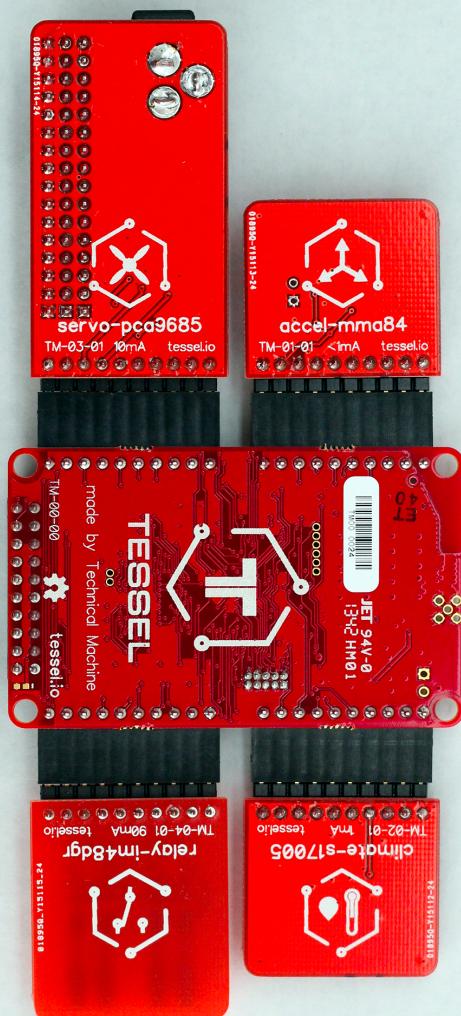
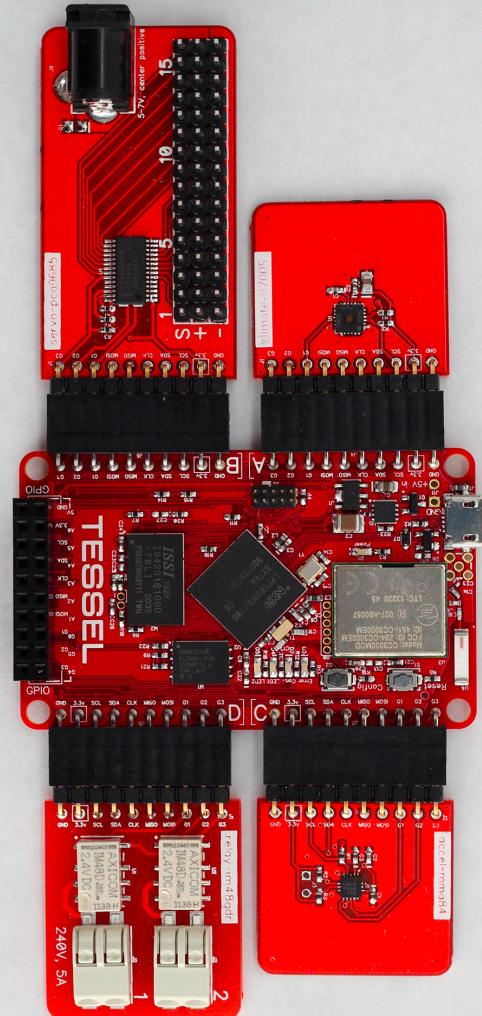
NRF24



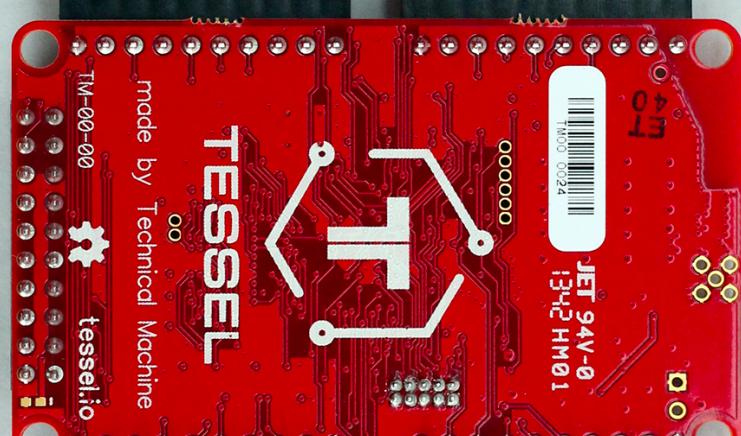
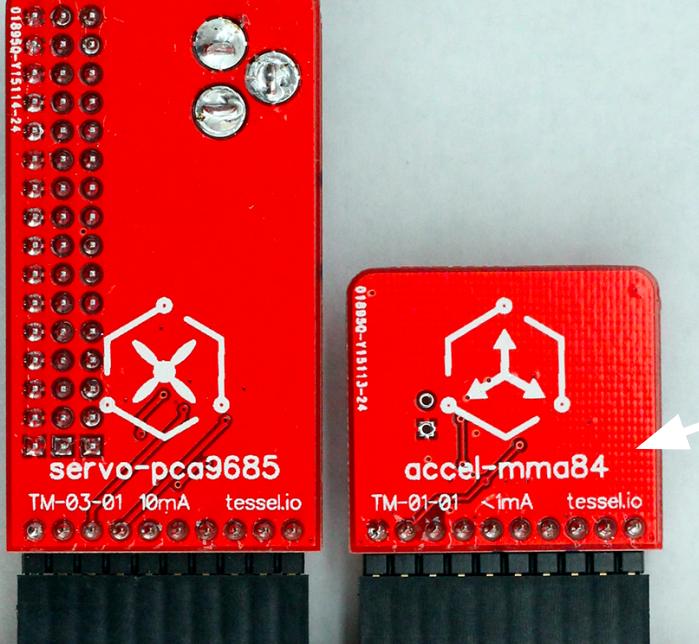
CAMERA







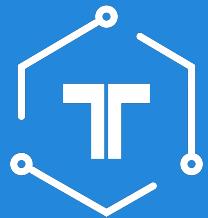
Tessel with
Servo +
Accelerometer +
Climate +
Relay modules



\$ npm install accel-mma84

> require('accel-mma84').connect('a')

<http://github.com/tessel/accel-mma84>



Development

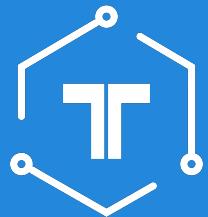
Sales

Product Lifecycle

Hardware
Prototyping

Manufacturing

Runtime / Libraries / Telemetry / Support



Development

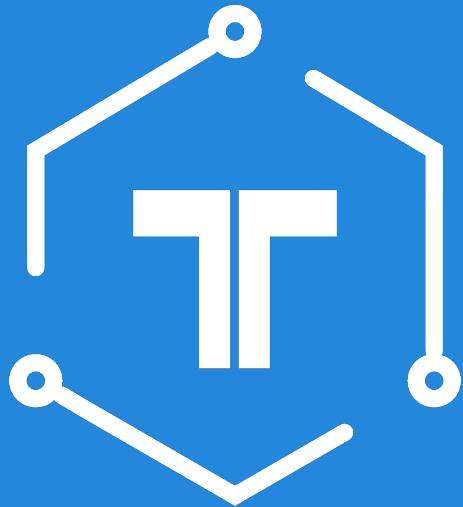
Sales

Product Lifecycle

Hardware
Prototyping

Manufacturing

Runtime / Libraries / Telemetry / Support



<http://tessel.io>

(Preorder now! Ships spring 2014)

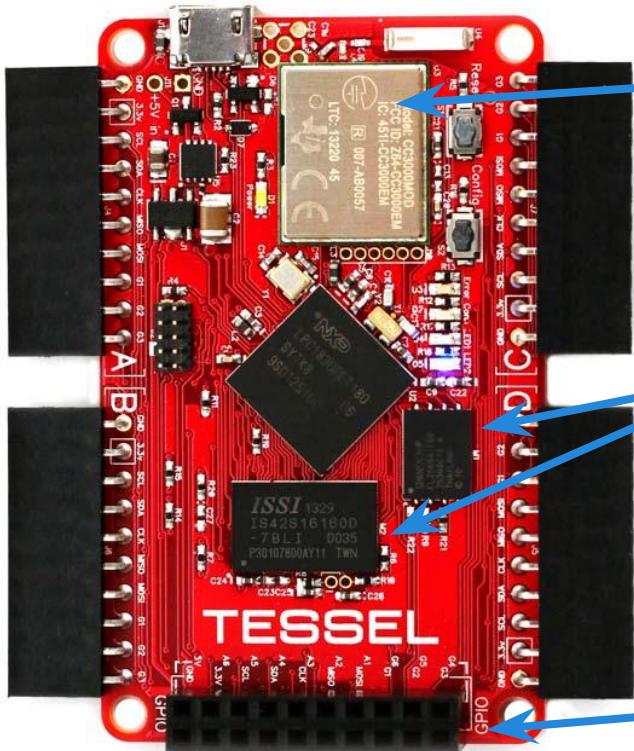
tim@technical.io

@technicalhumans

The people who know the Internet best
are web developers.

So how do we teach
web developers about hardware?

Let's teach *hardware* about *web developers*.



CC3000 WiFi Chip

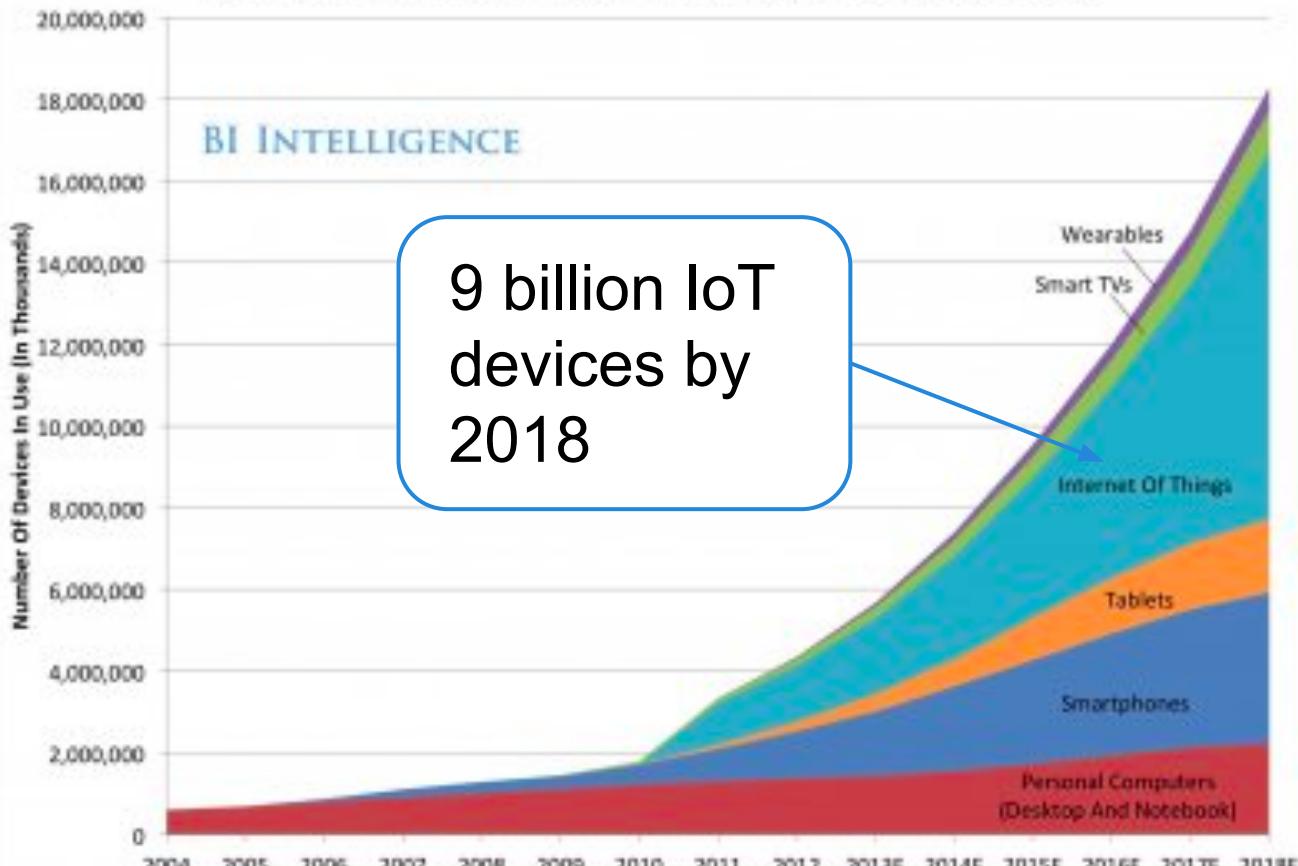
Constant connection
Remote Deployment
Mobile Friendly

32mb of Flash, 32mb of RAM

JavaScript-powered
Node.js compatible

4 horizontal module headers 20-pin GPIO “prototyping” port

Global Internet Device Installed Base Forecast



Source: Gartner, IDC, Strategy Analytics, Machine Research, company filings, BI estimates

9 billion IoT
devices by
2018