

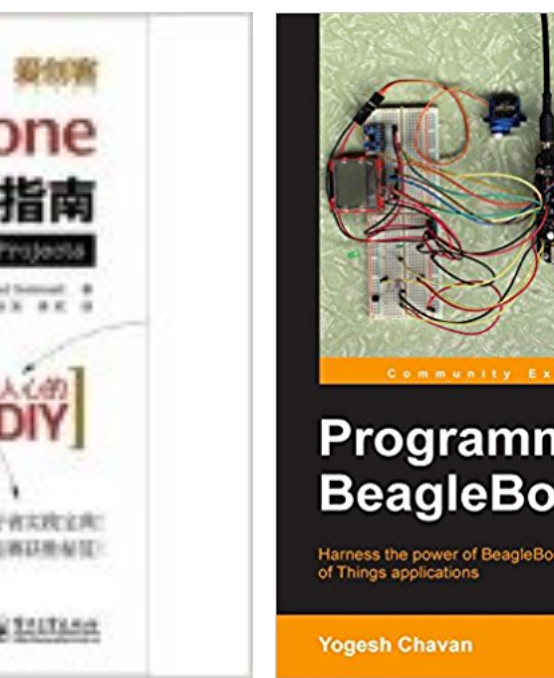
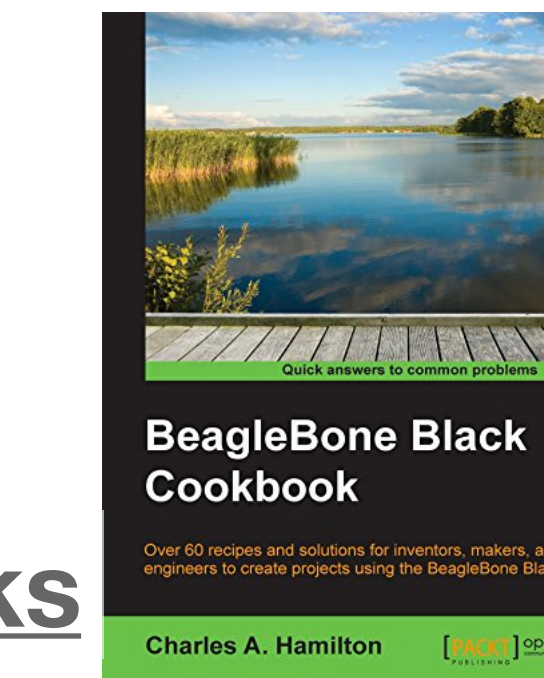
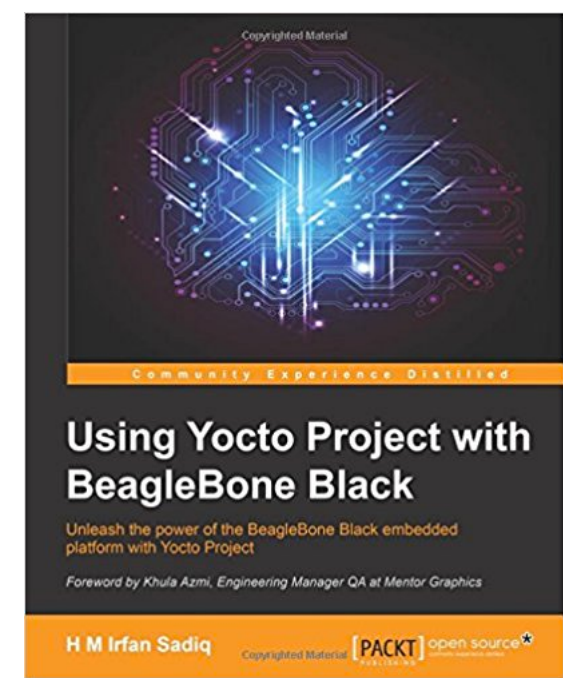
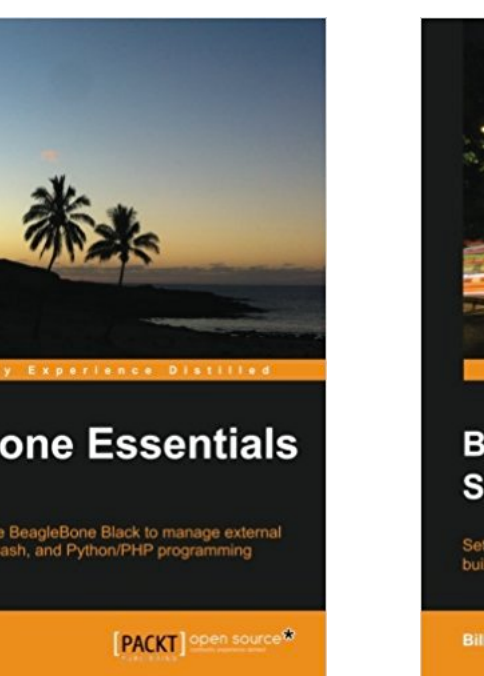
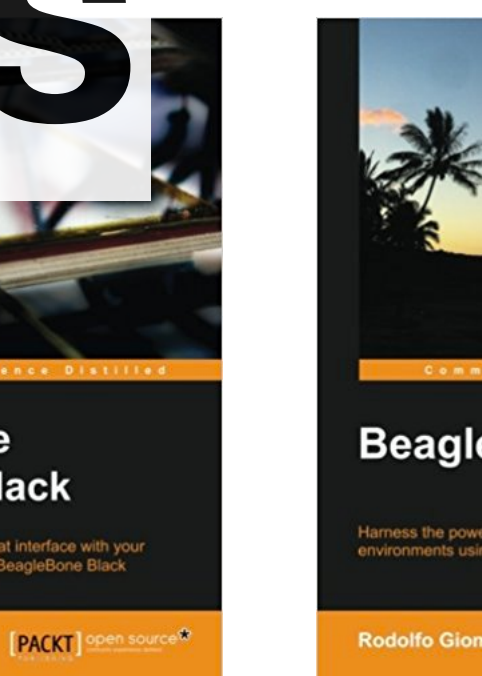
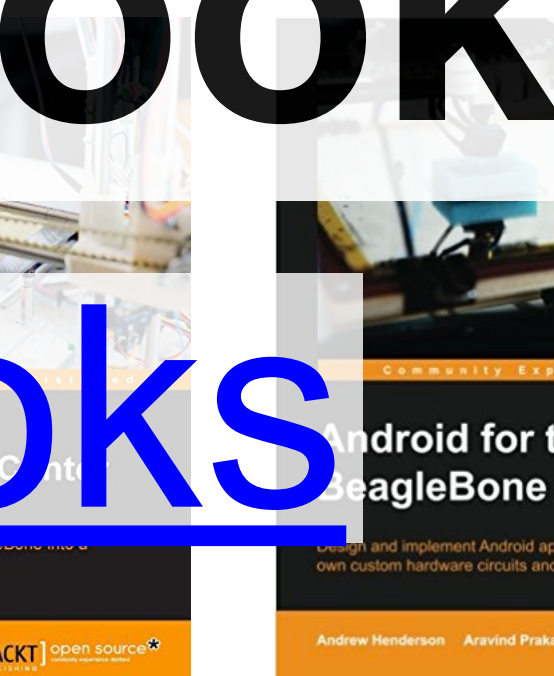
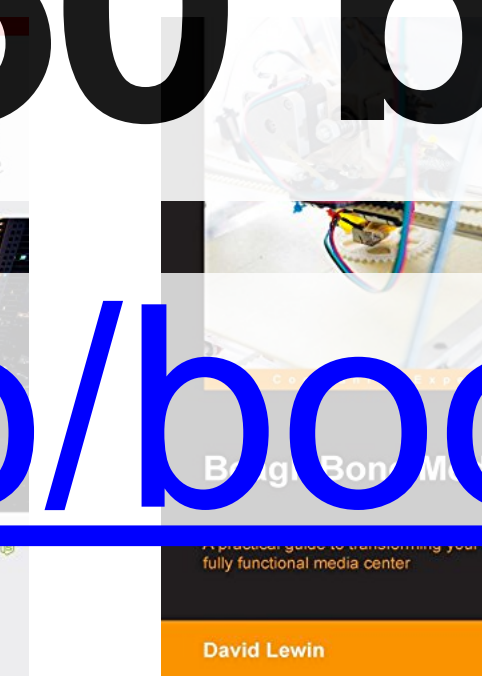
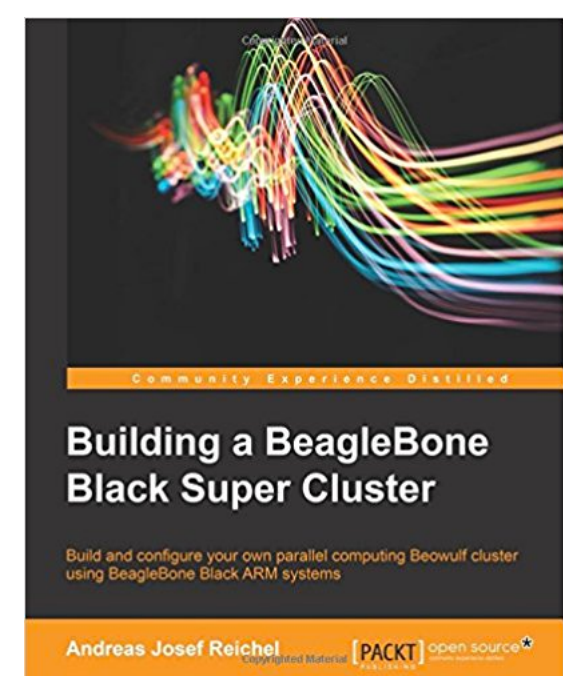
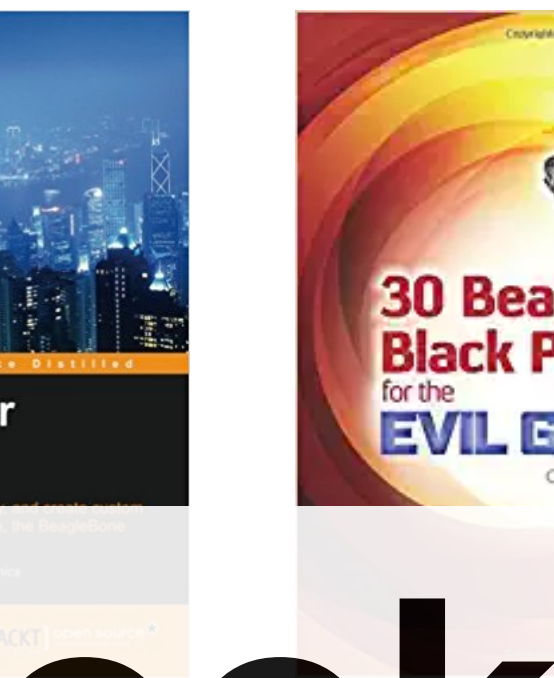
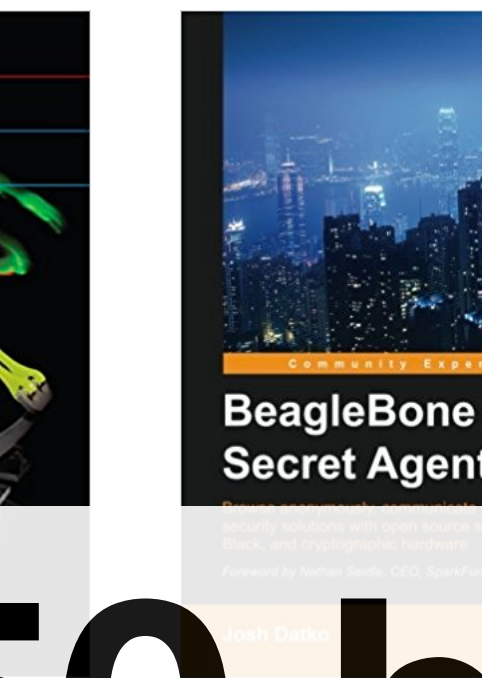
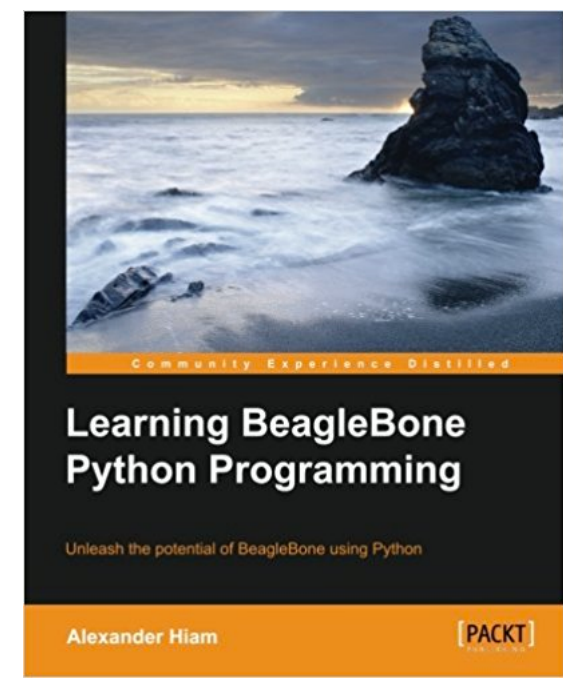
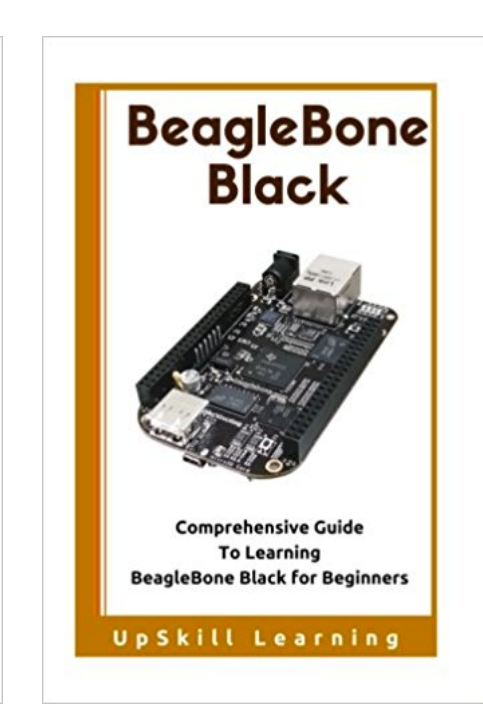
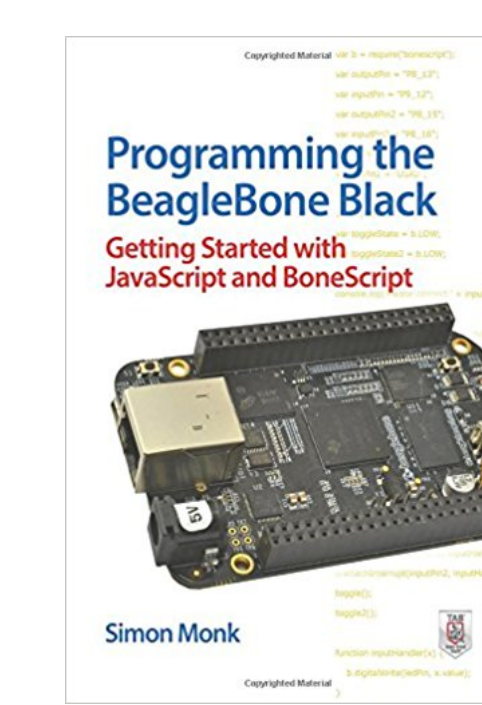
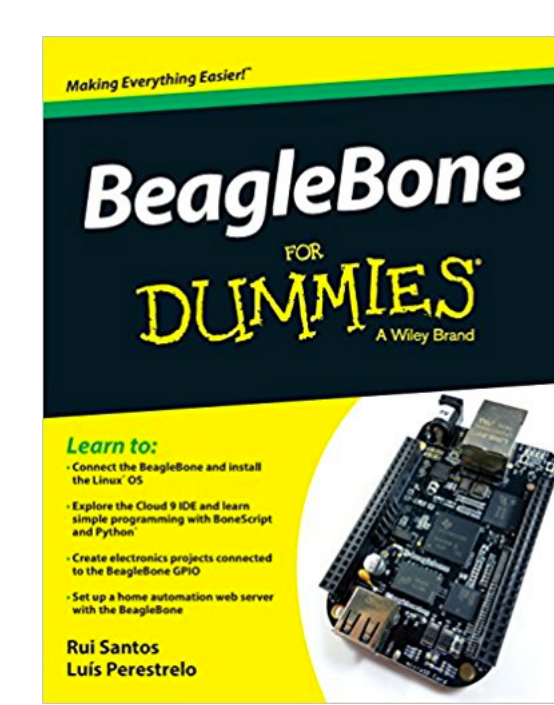
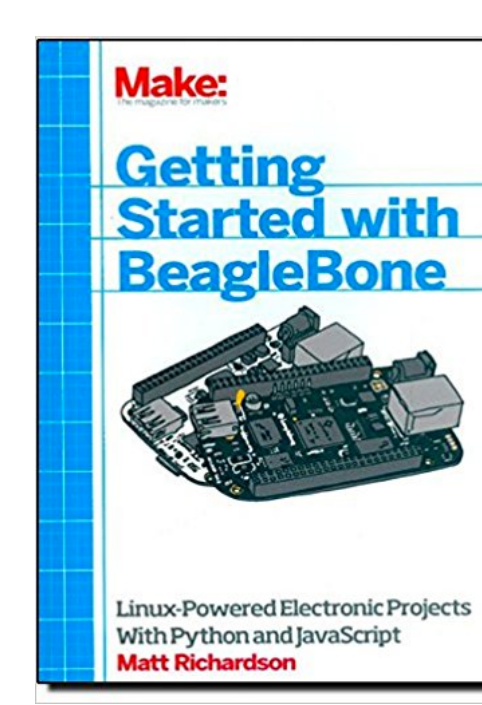
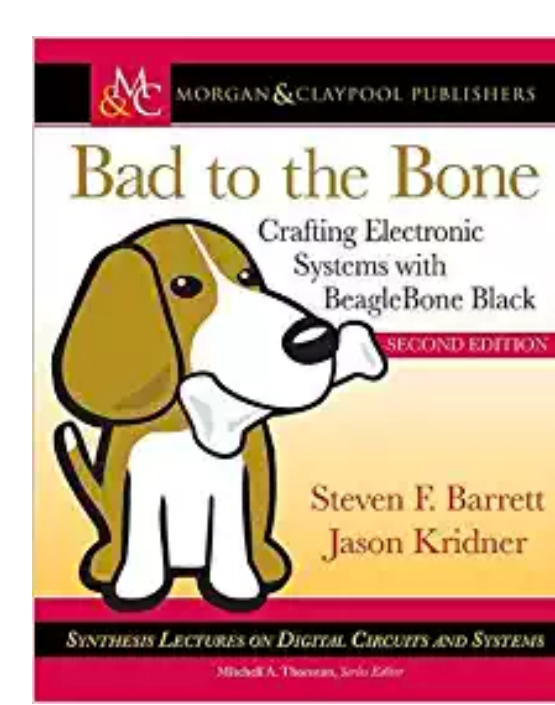
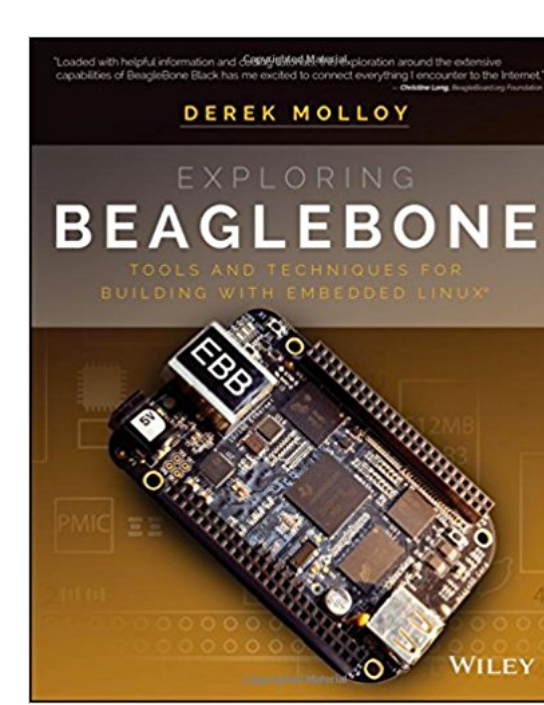
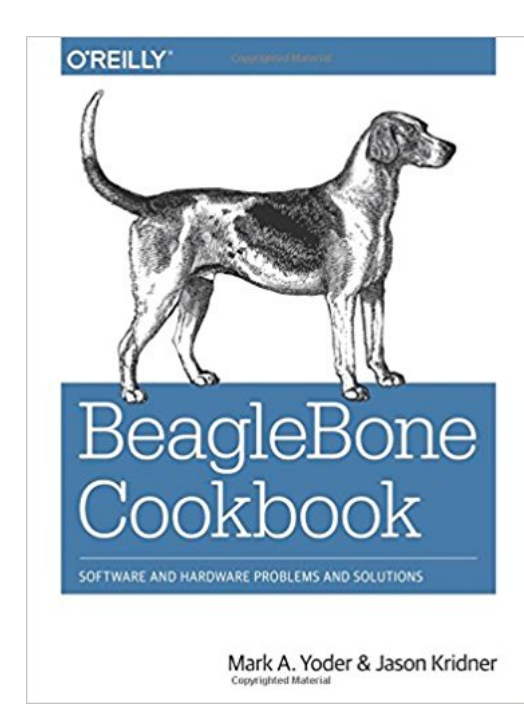
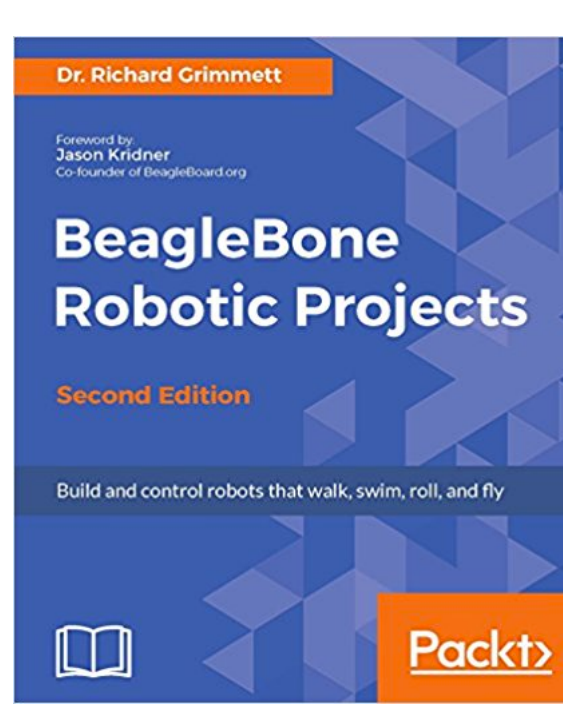
beagleboard.org[®]

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Jason Kridner



Traveled high and low



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SoundCape

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...





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Tens of thousands of developers

Voice of

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ASTROBIOLOGIST, NASA/JET PROPULSION LABORATORY
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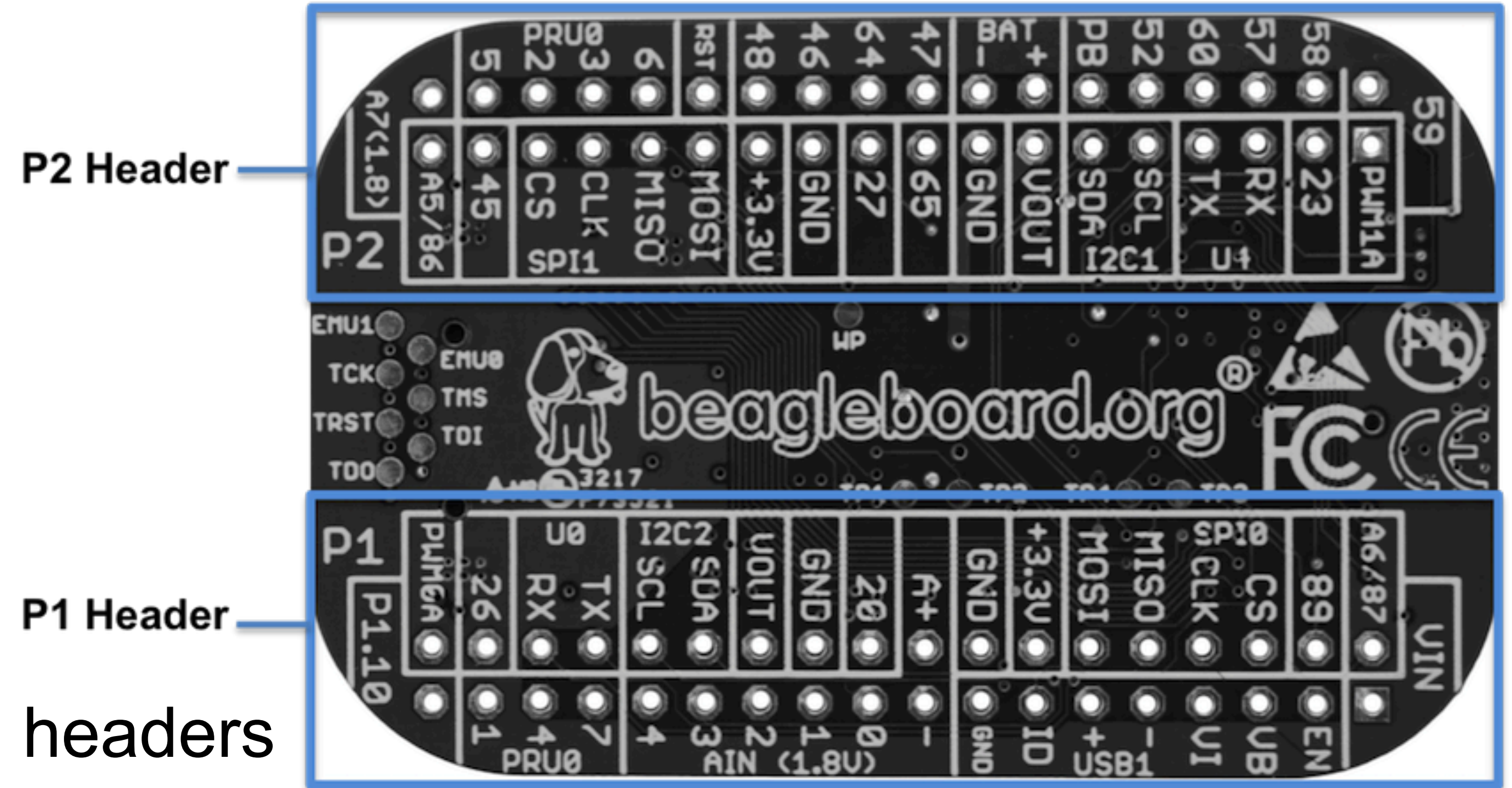
Over a million licensed boards

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Simplicity for developers

What is PocketBeagle and how is it special?

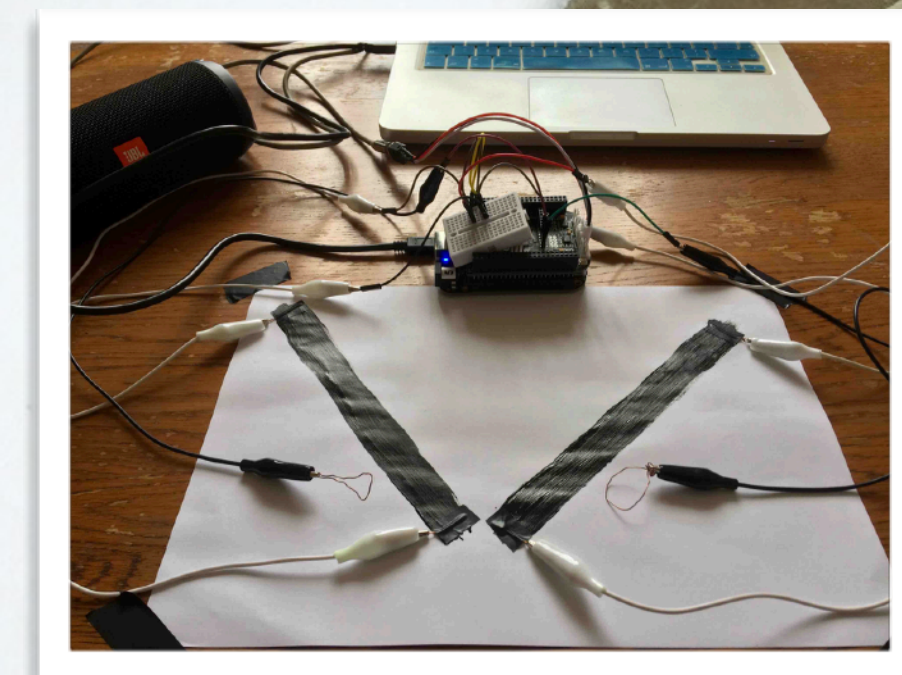


- \$25 1GHz tiny Linux computer
- USB powered with host/client and on headers
- Lots of expansion
- Same processor as BeagleBone Black including PRUs

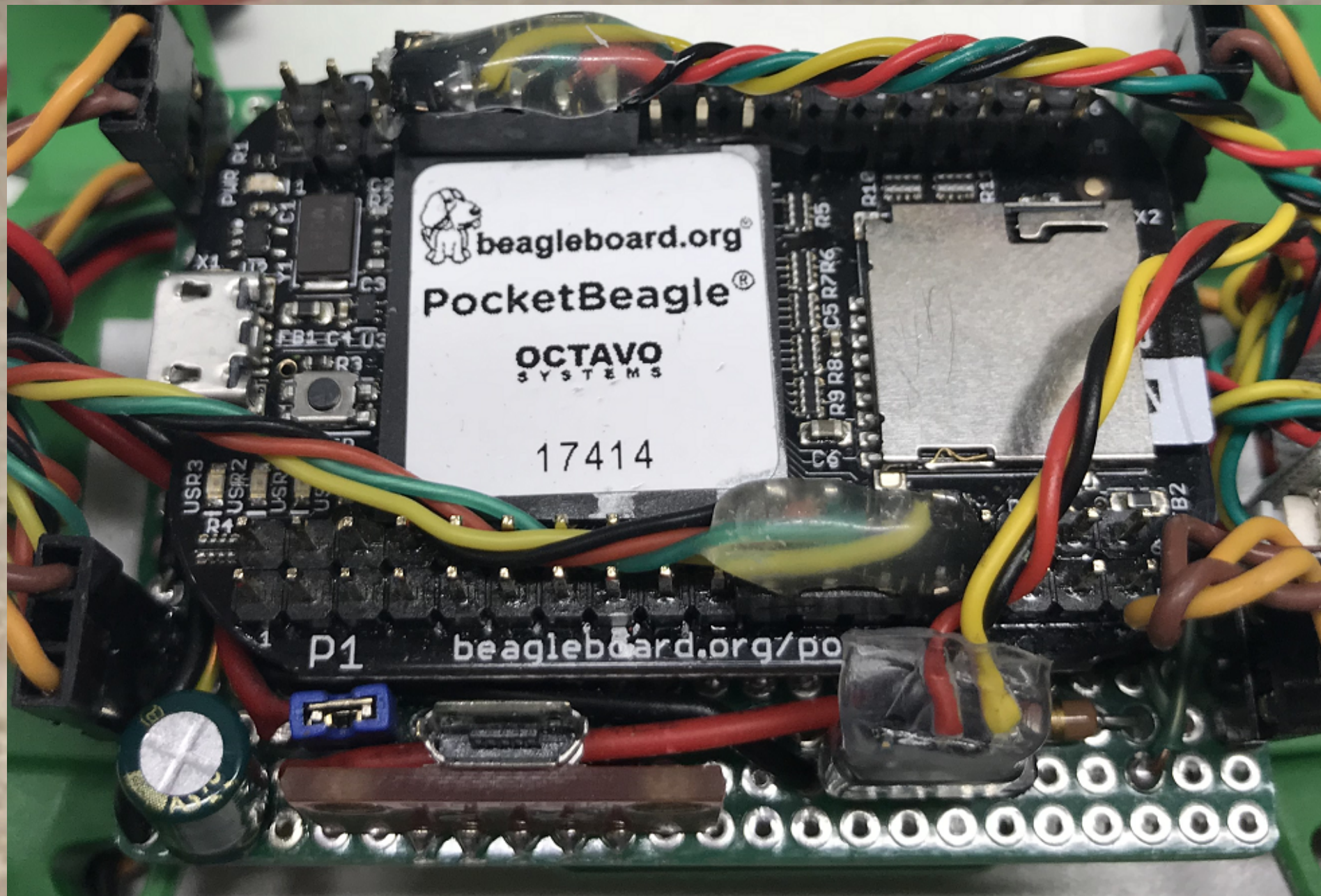




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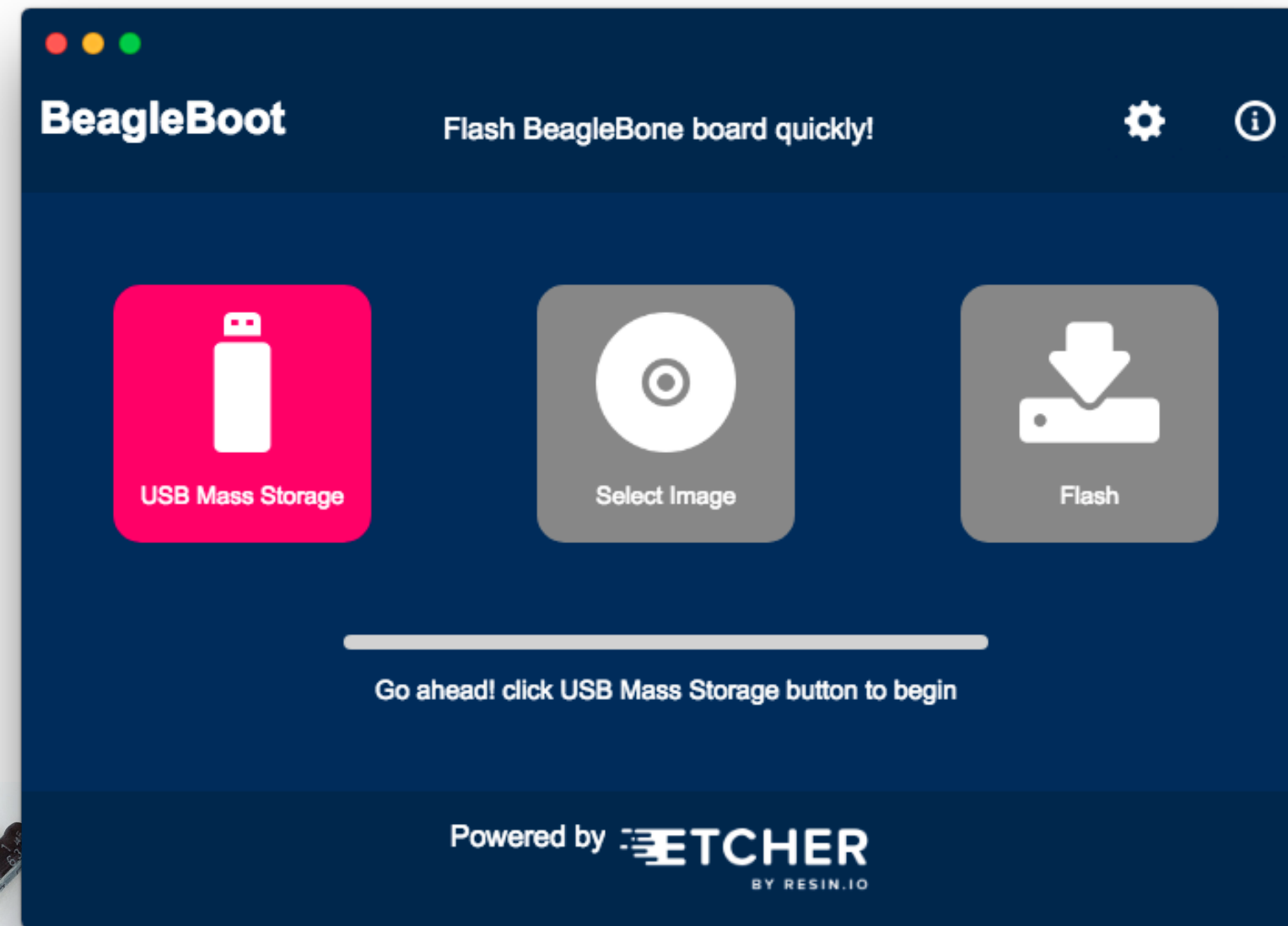
bbb.io/ppilot



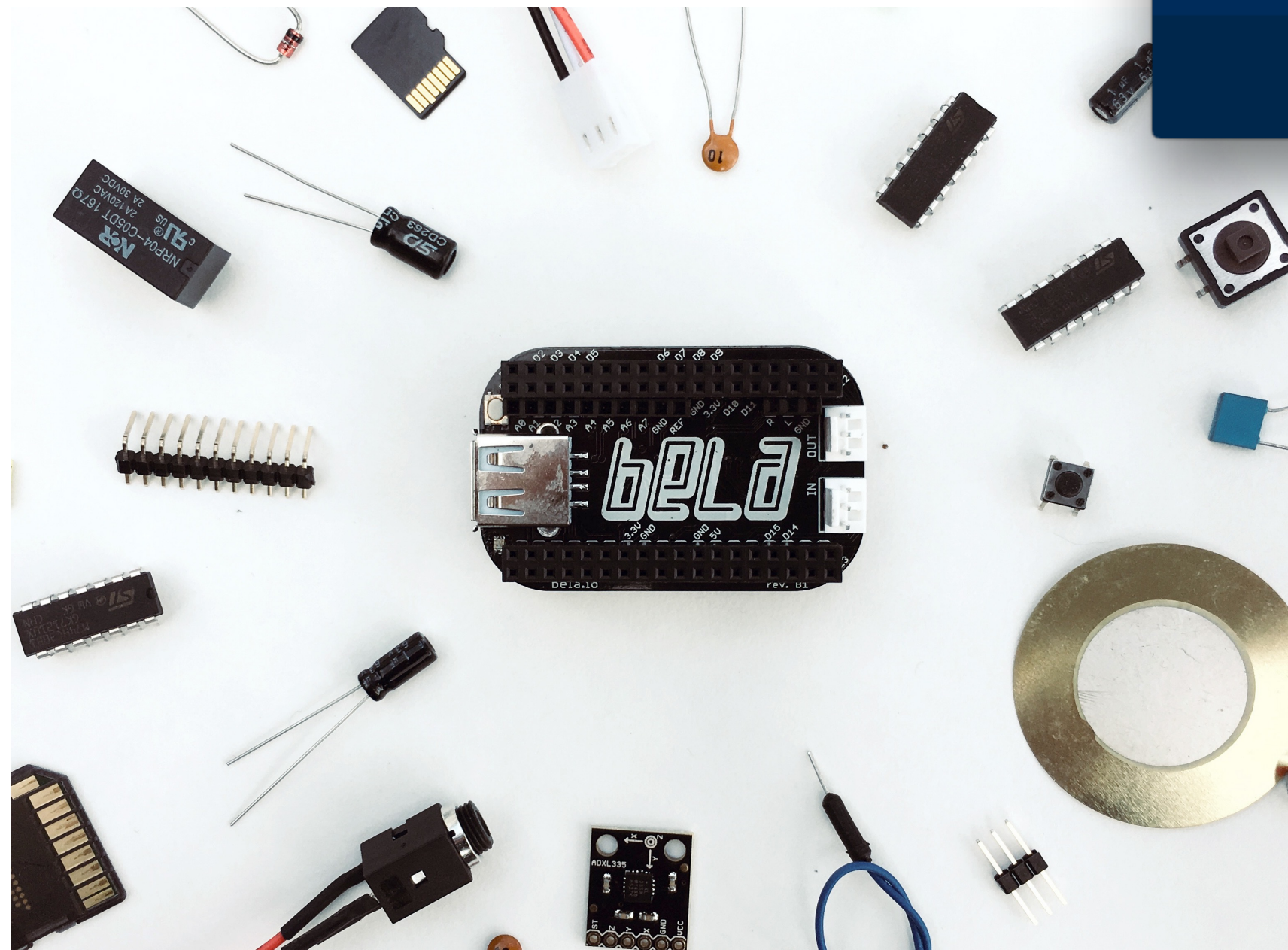
Why is it critical to learn PocketBeagle and Linux?



Programming is a human endeavor where we learn from history



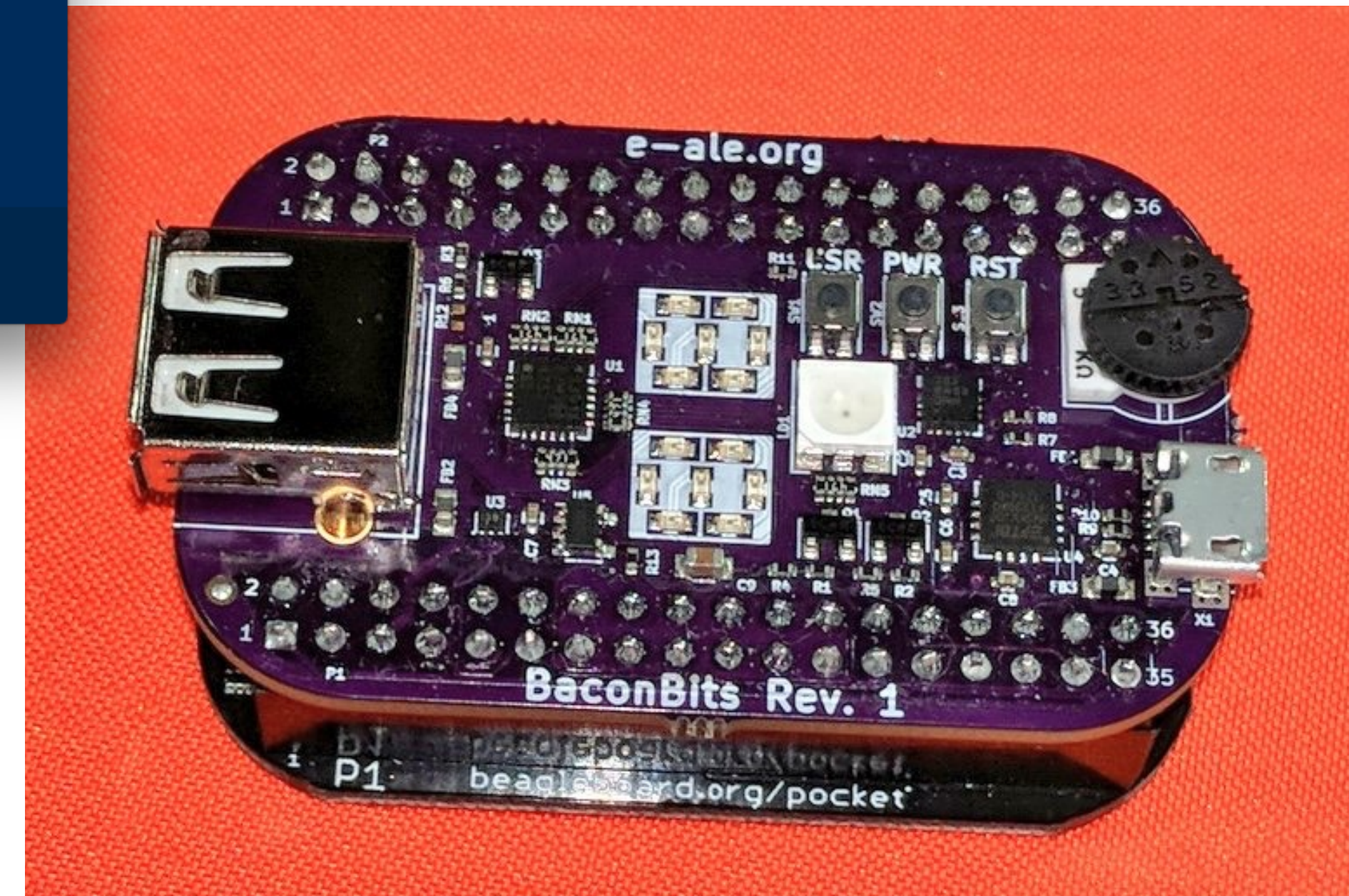
Predictable and low-cost



Unique real-time capabilities



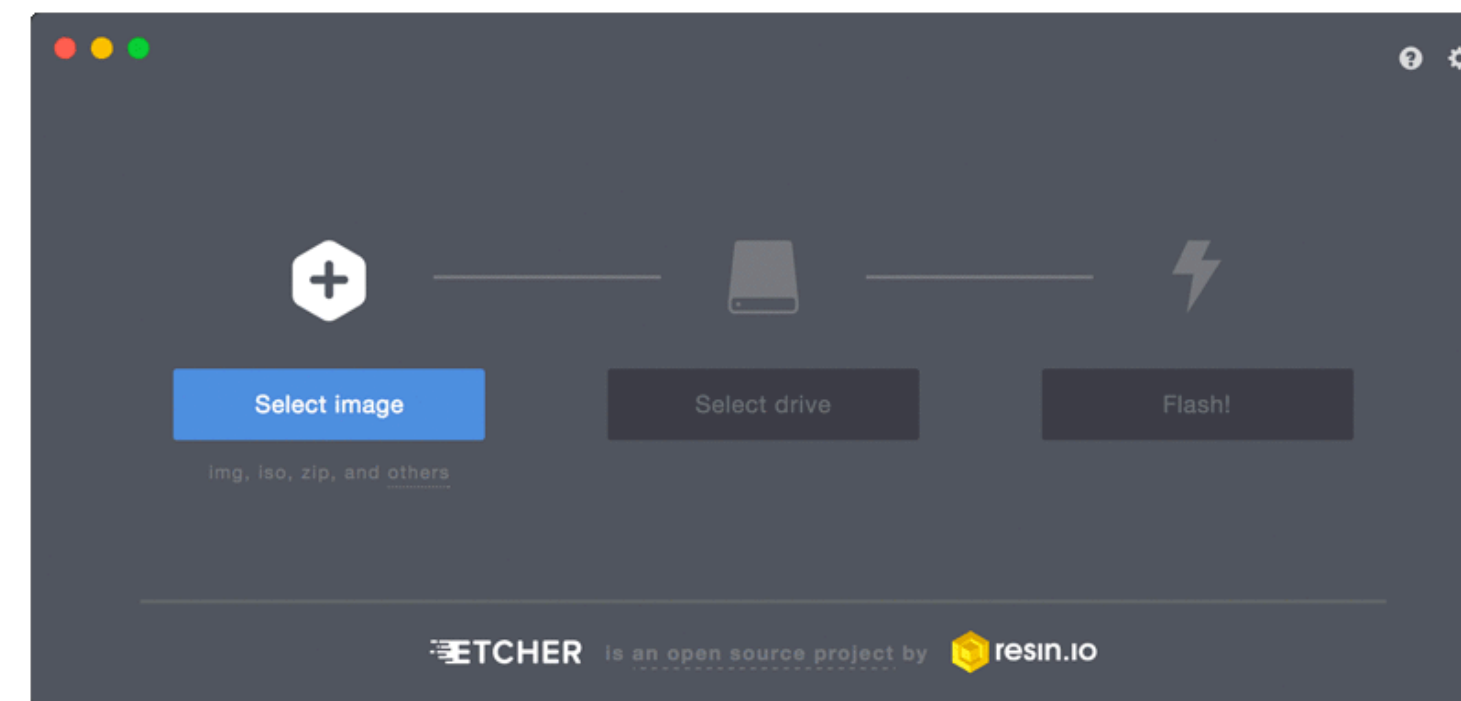
Collaboration, not cut-and-paste



Same tools as the pros

Getting started

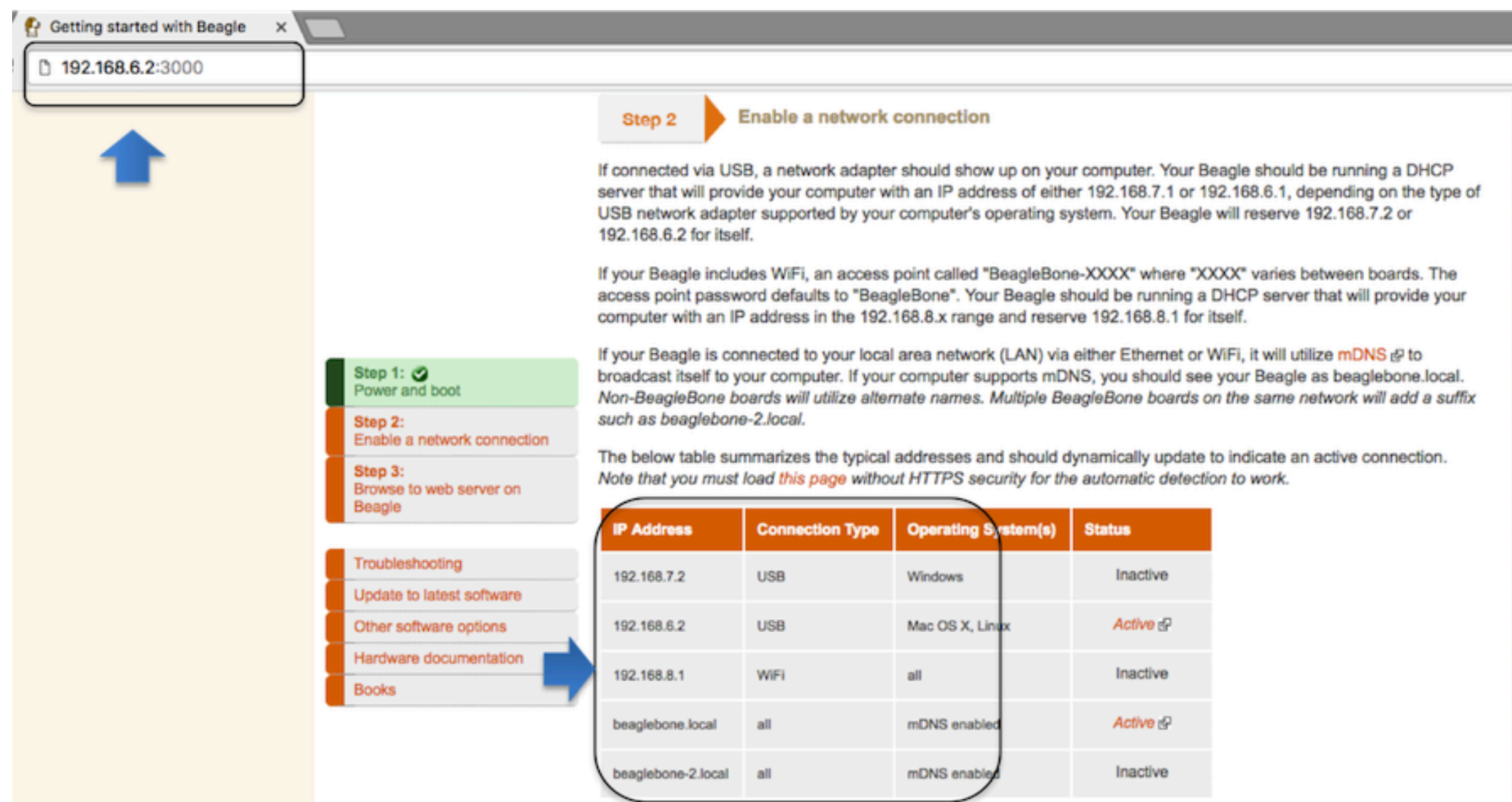
1) Boot the board



bbb.io/pb-start

Getting started

2) Get to the editor and command line



Getting started with Beagle

192.168.6.2:3000

Step 2: Enable a network connection

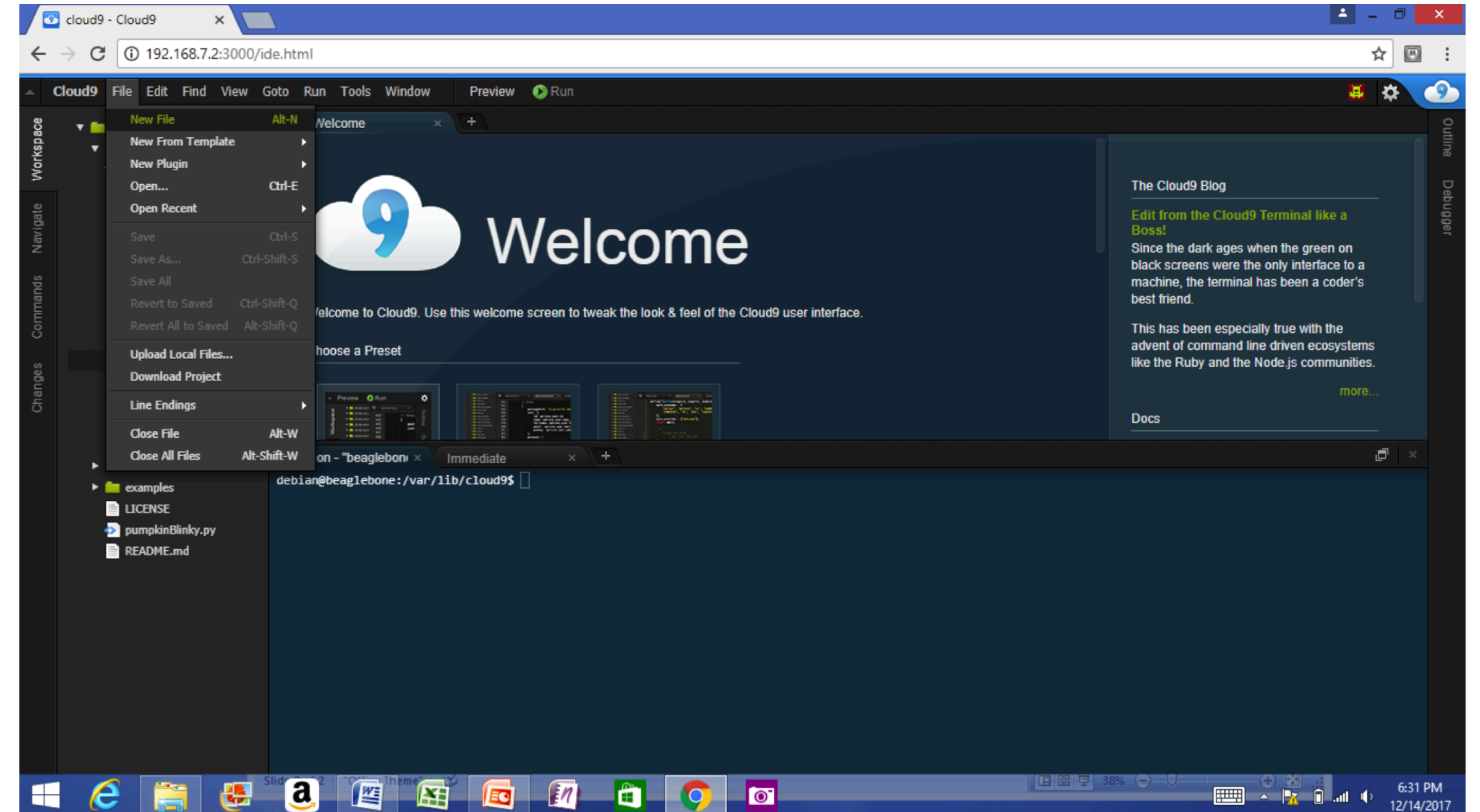
If connected via USB, a network adapter should show up on your computer. Your Beagle should be running a DHCP server that will provide your computer with an IP address of either 192.168.7.1 or 192.168.6.1, depending on the type of USB network adapter supported by your computer's operating system. Your Beagle will reserve 192.168.7.2 or 192.168.6.2 for itself.

If your Beagle includes WiFi, an access point called "BeagleBone-XXXX" where "XXXX" varies between boards. The access point password defaults to "BeagleBone". Your Beagle should be running a DHCP server that will provide your computer with an IP address in the 192.168.x range and reserve 192.168.8.1 for itself.

If your Beagle is connected to your local area network (LAN) via either Ethernet or WiFi, it will utilize mDNS to broadcast itself to your computer. If your computer supports mDNS, you should see your Beagle as beaglebone.local. Non-BeagleBone boards will utilize alternate names. Multiple BeagleBone boards on the same network will add a suffix such as beaglebone-2.local.

The below table summarizes the typical addresses and should dynamically update to indicate an active connection. Note that you must load this page without HTTPS security for the automatic detection to work.

IP Address	Connection Type	Operating System(s)	Status
192.168.7.2	USB	Windows	Inactive
192.168.6.2	USB	Mac OS X, Linux	Active
192.168.8.1	WiFi	all	Inactive
beaglebone.local	all	mDNS enabled	Active
beaglebone-2.local	all	mDNS enabled	Inactive



cloud9 - Cloud9

192.168.7.2:3000/ide.html

Welcome

Welcome to Cloud9. Use this welcome screen to tweak the look & feel of the Cloud9 user interface.

Choose a Preset

examples

- LICENSE
- pumpkinBlinky.py
- README.md

debian@beaglebone:~/var/lib/cloud9\$

<http://192.168.7.2:3000>

linuxcommand.org

Getting started



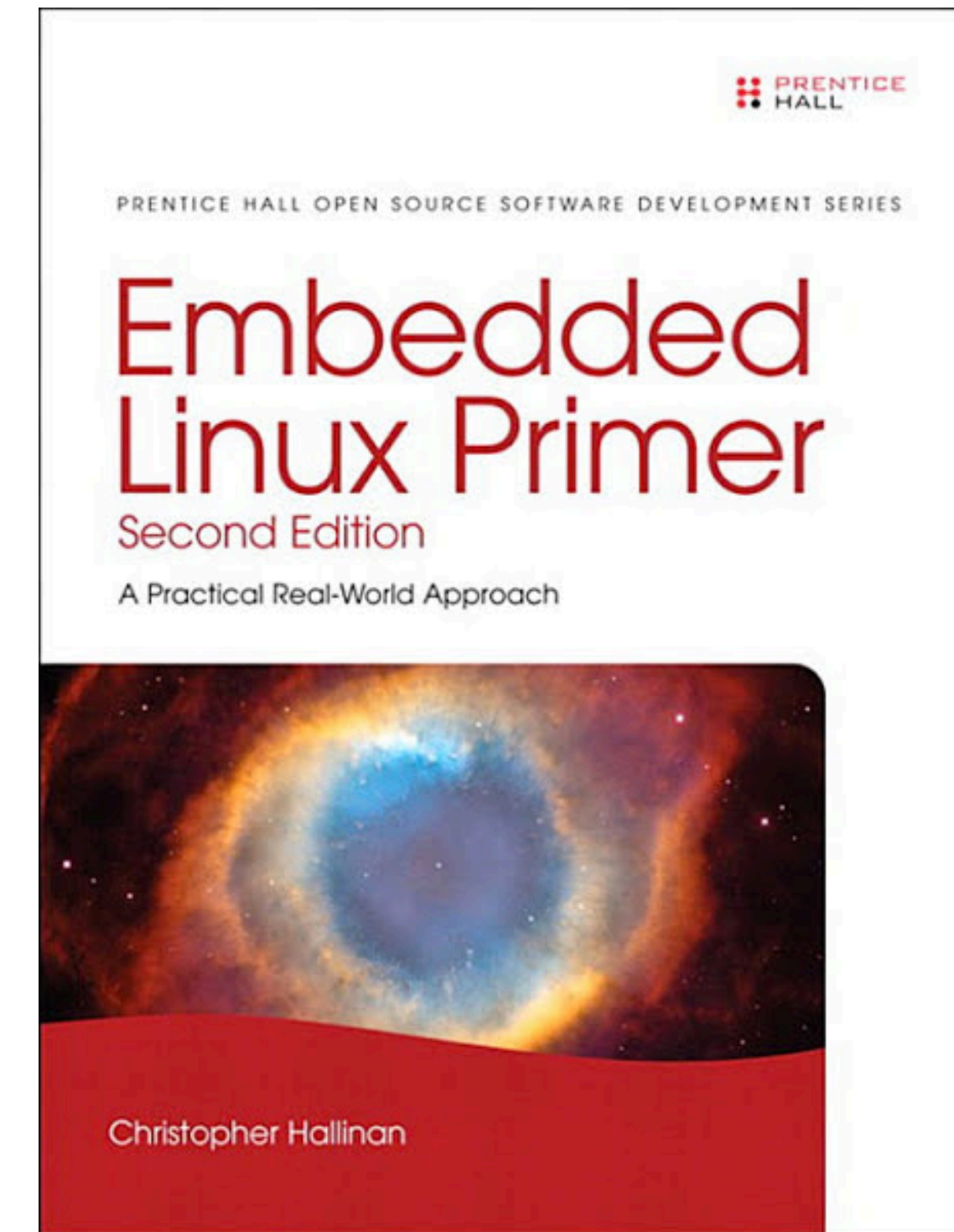
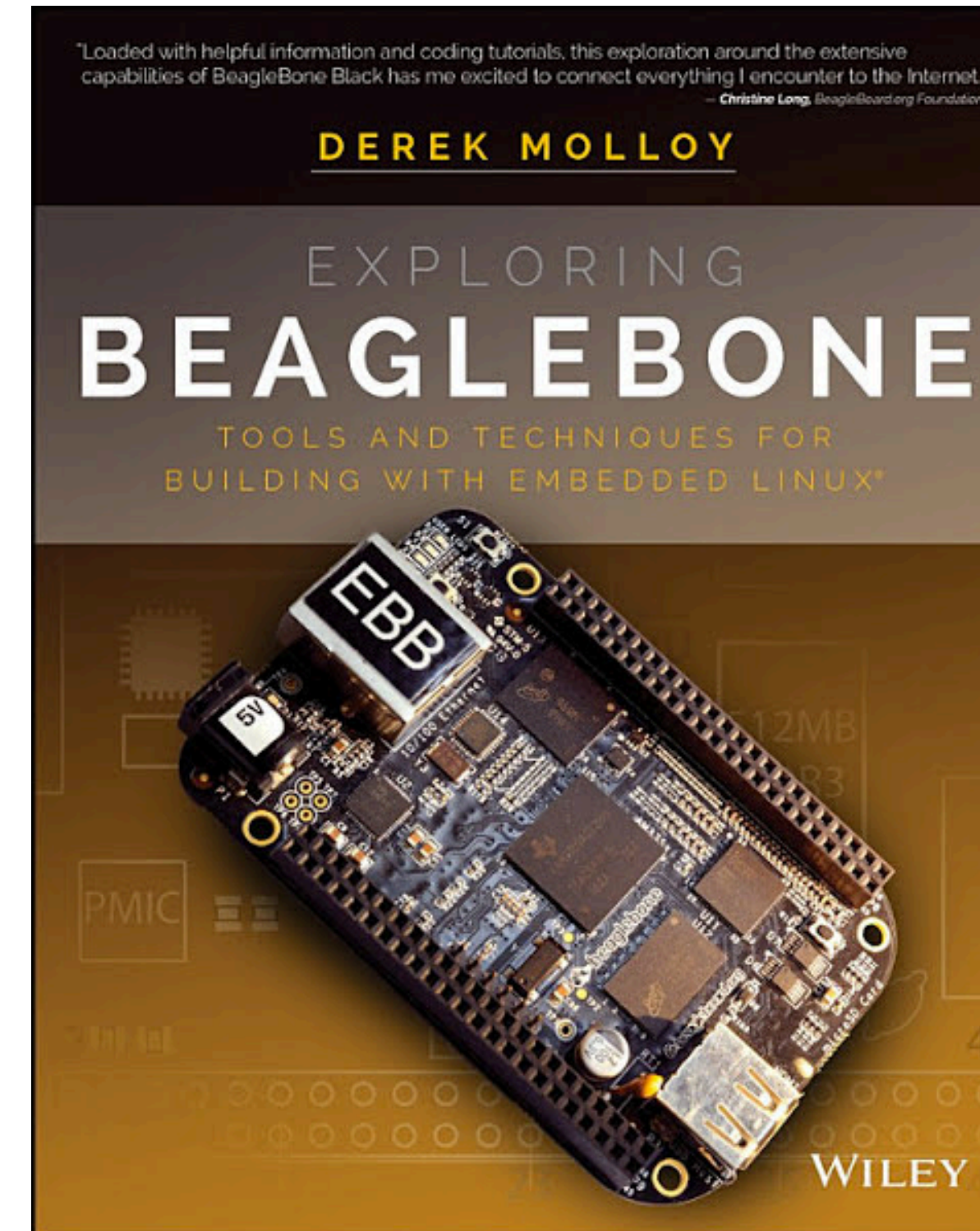
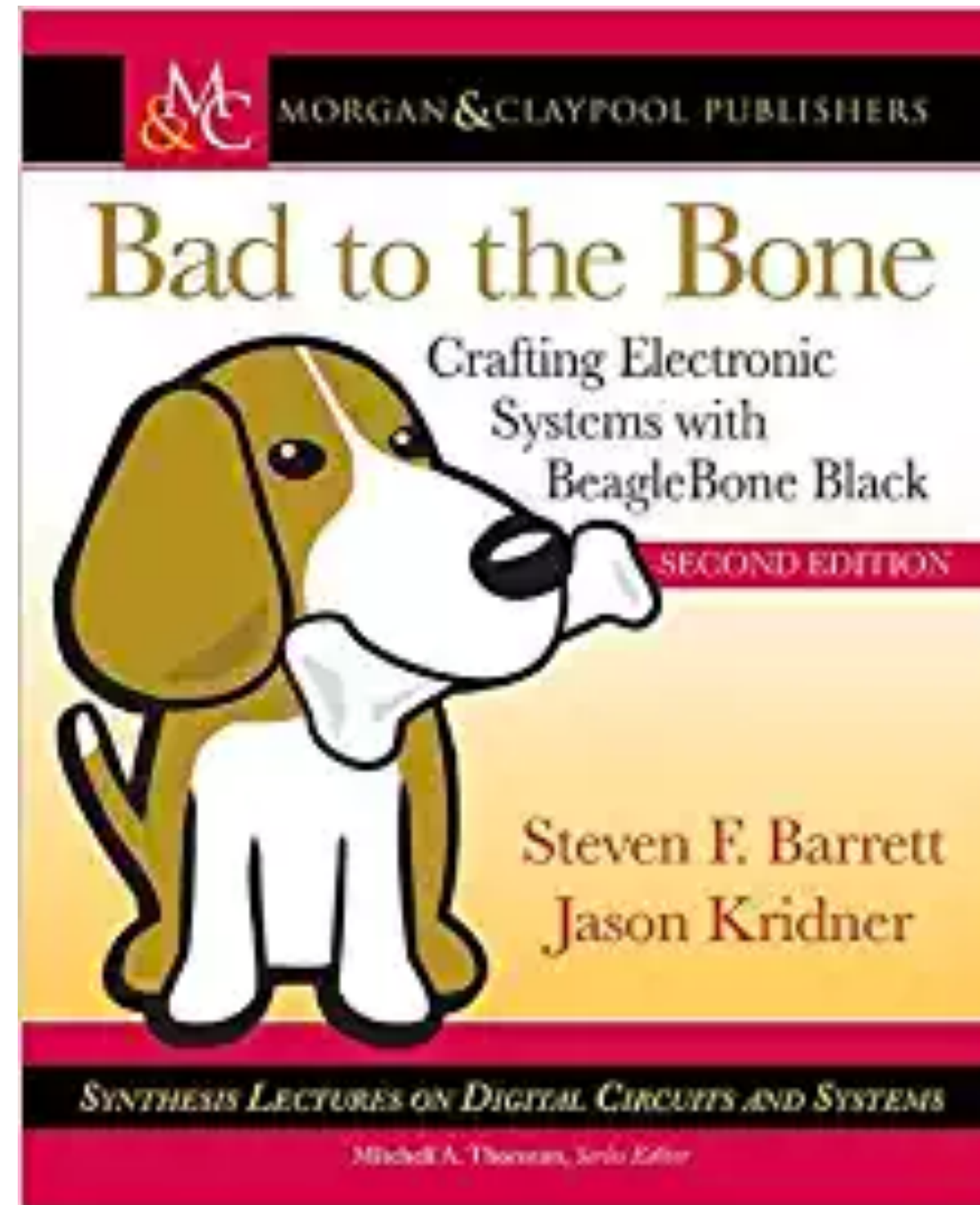
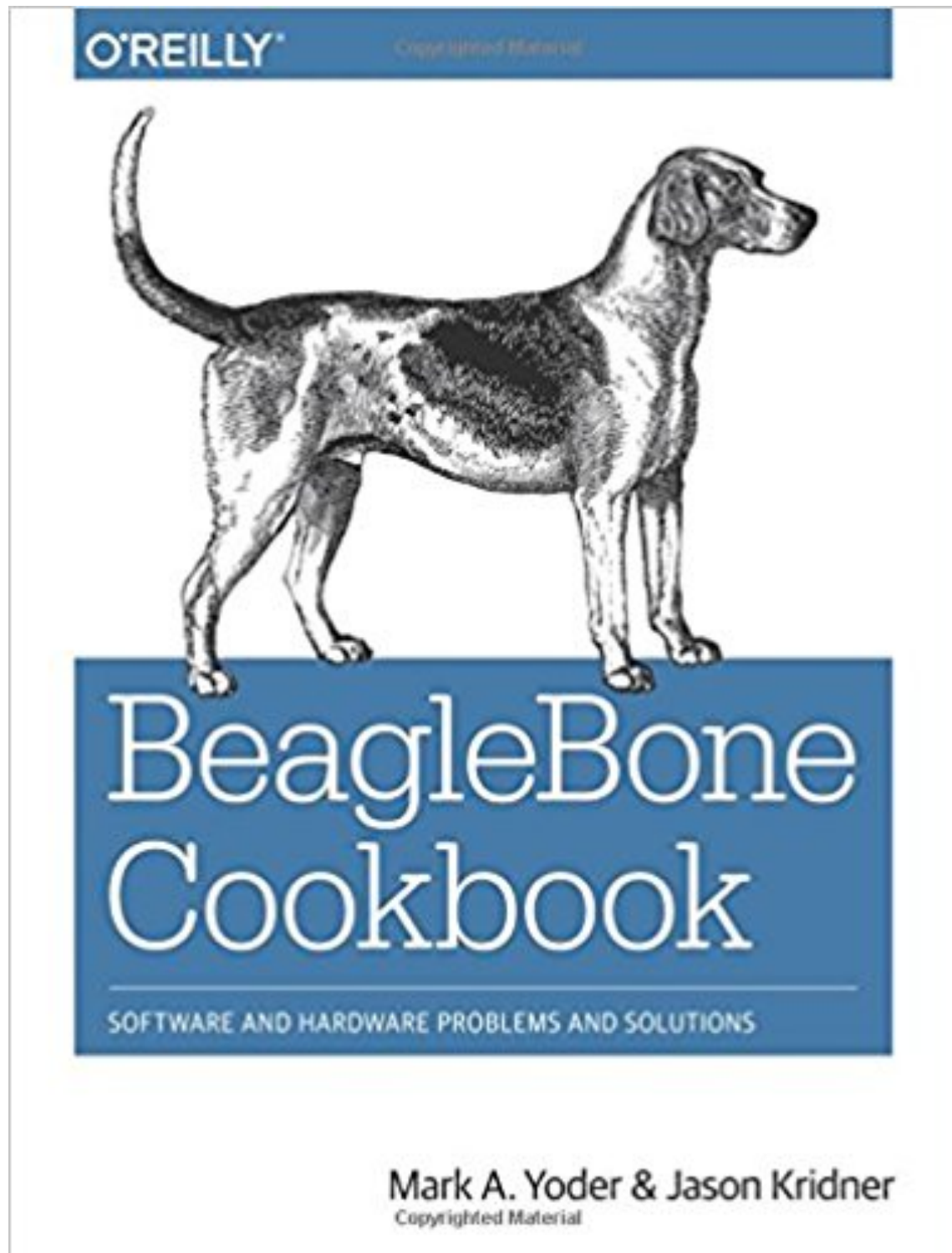
3) Blink an LED

```
1. var b = require('bonescript');
2. var state = b.LOW;
3. b.pinMode("USR3", b.OUTPUT);
4. setInterval(toggle, 250); // toggle 4 times a second, every 250ms
5. function toggle() {
6.     if(state == b.LOW) state = b.HIGH;
7.     else state = b.LOW;
8.     b.digitalWrite("USR3", state);
9. }
```

-

Getting started

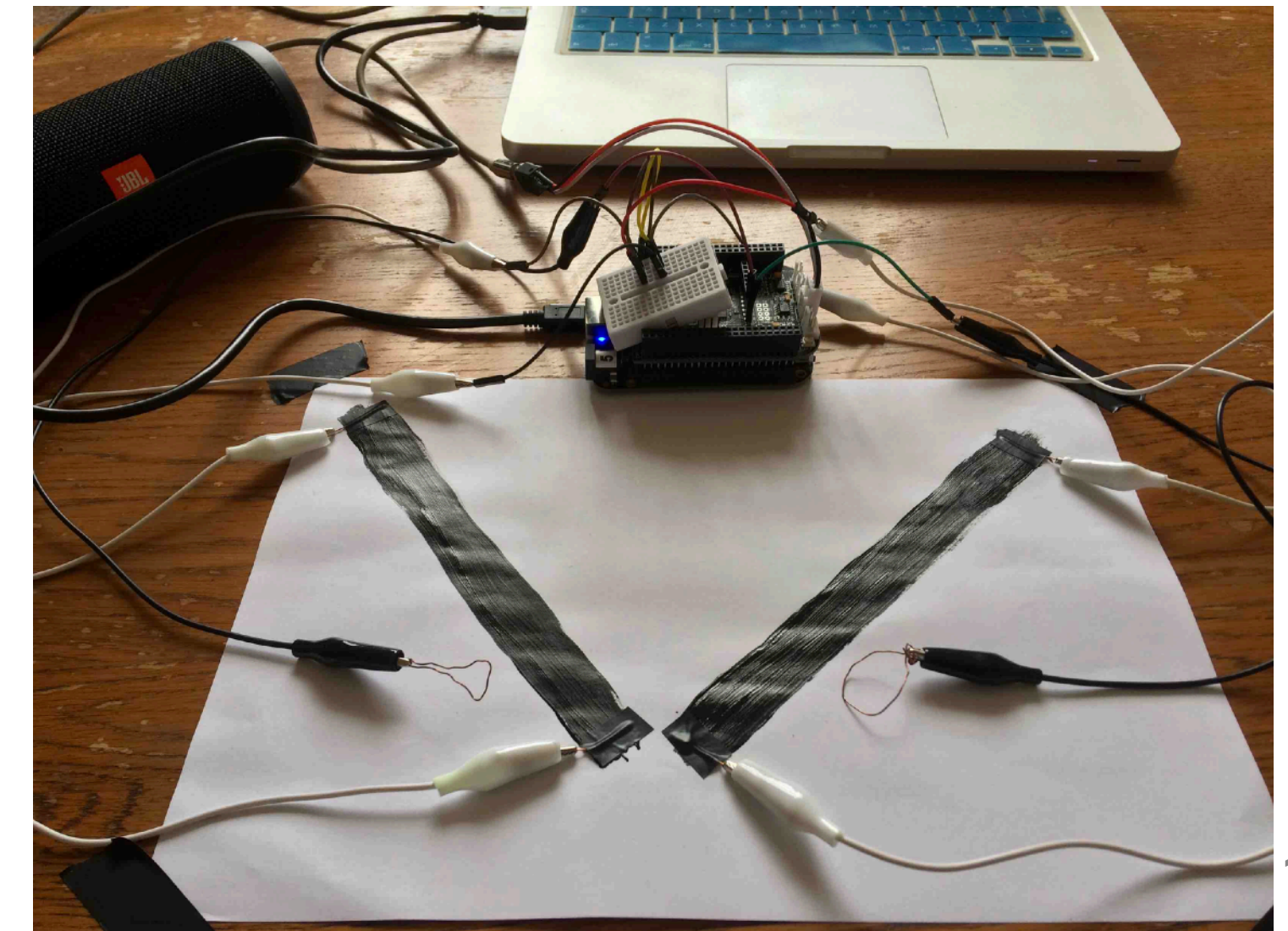
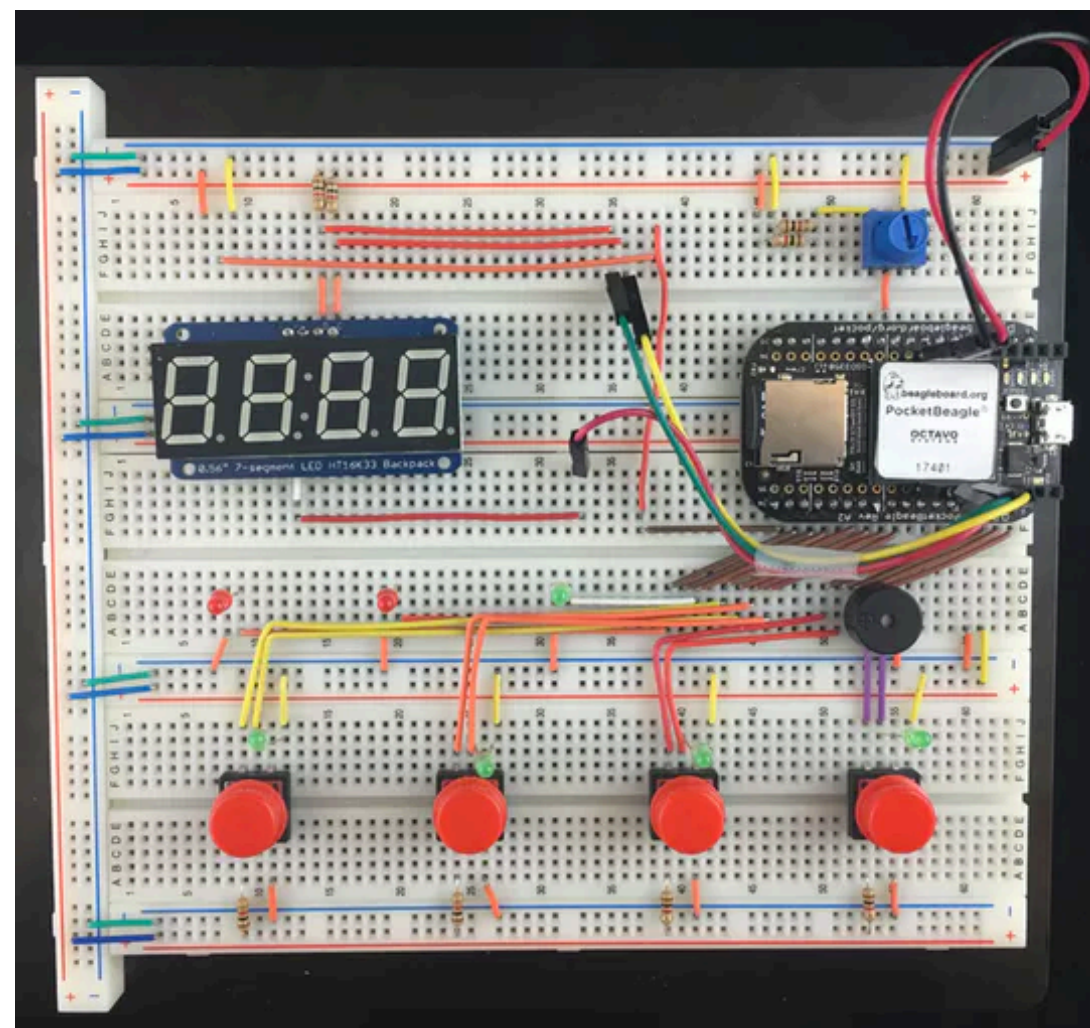
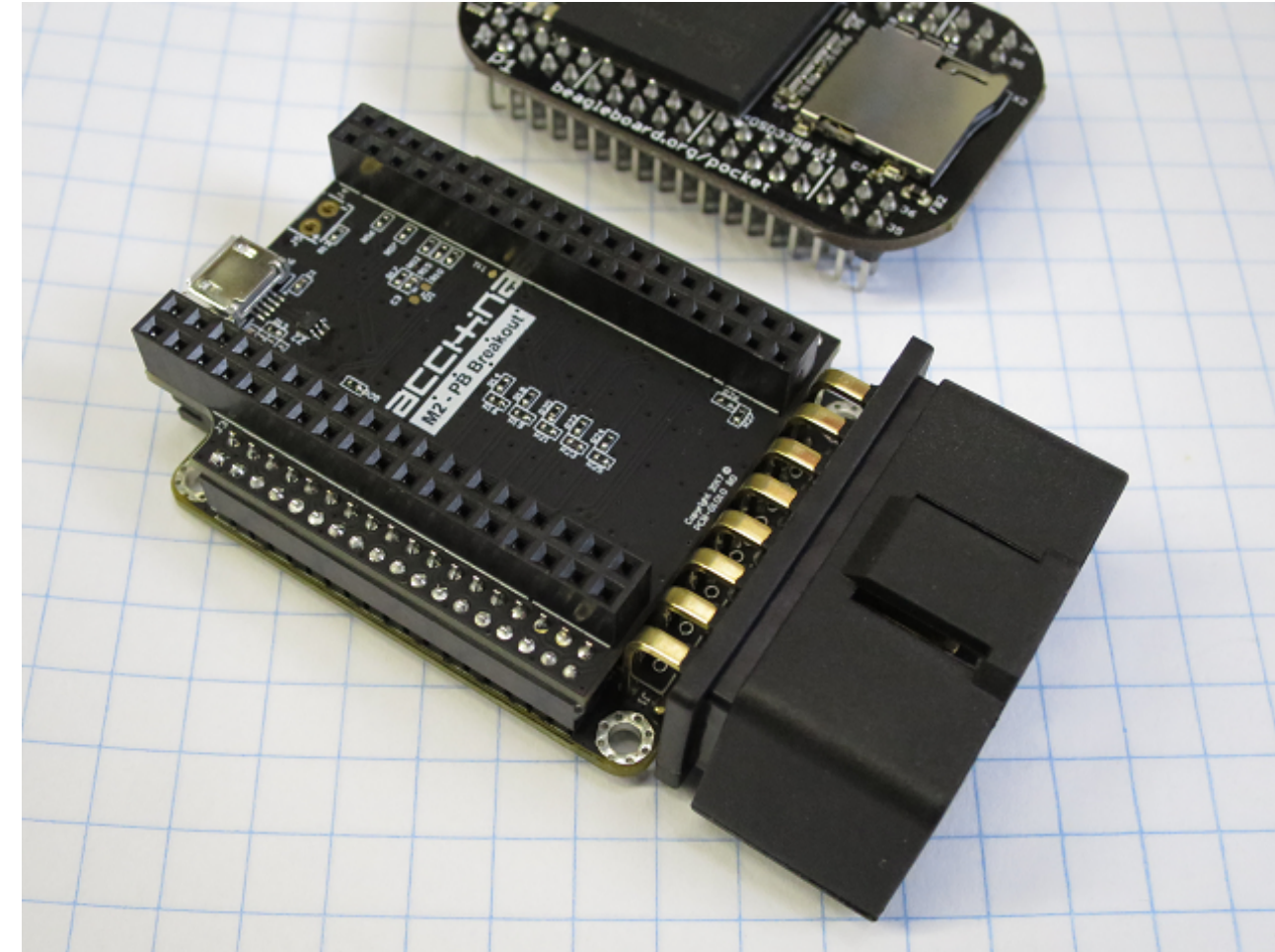
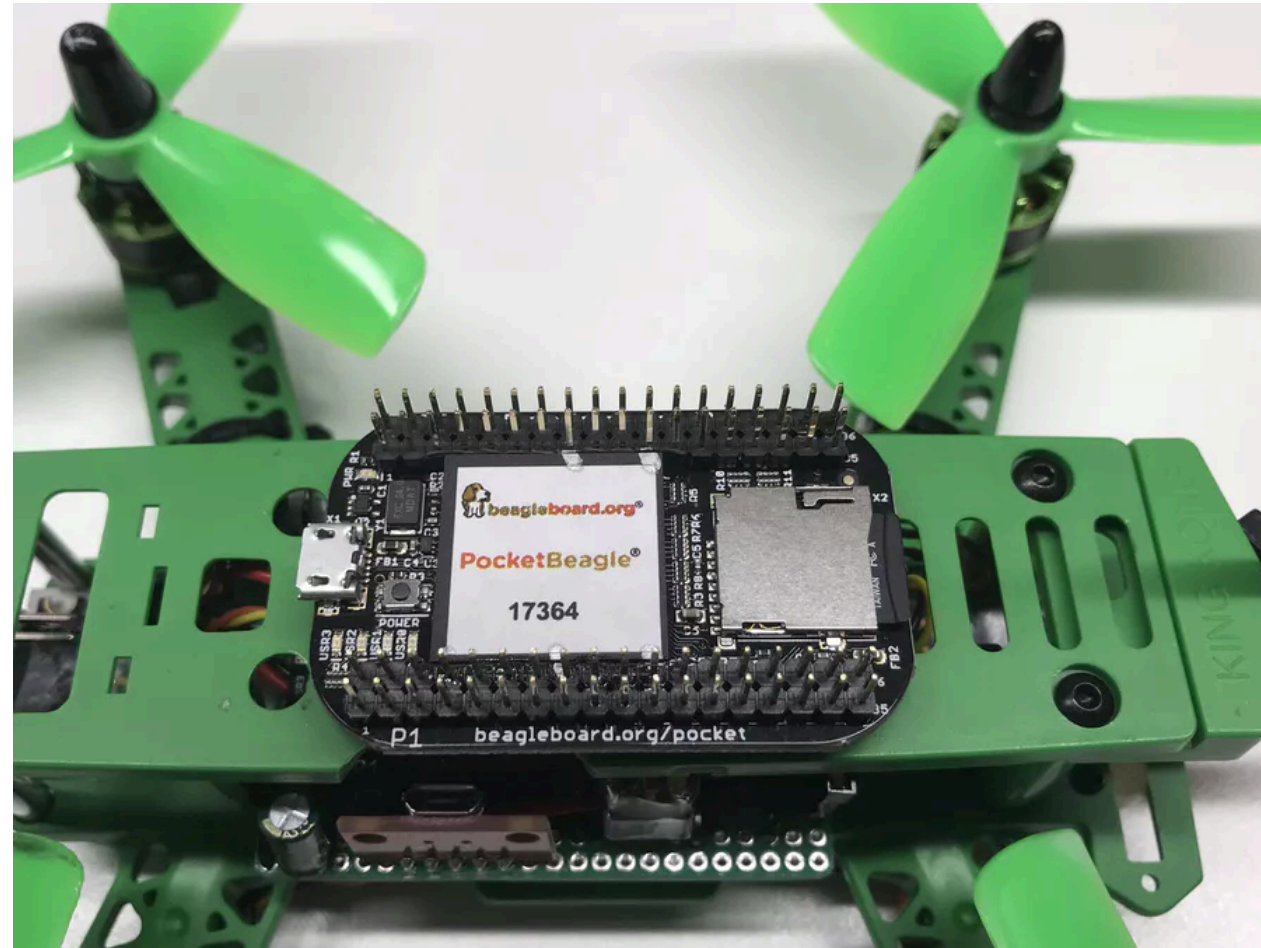
4) Explore some books



Getting started

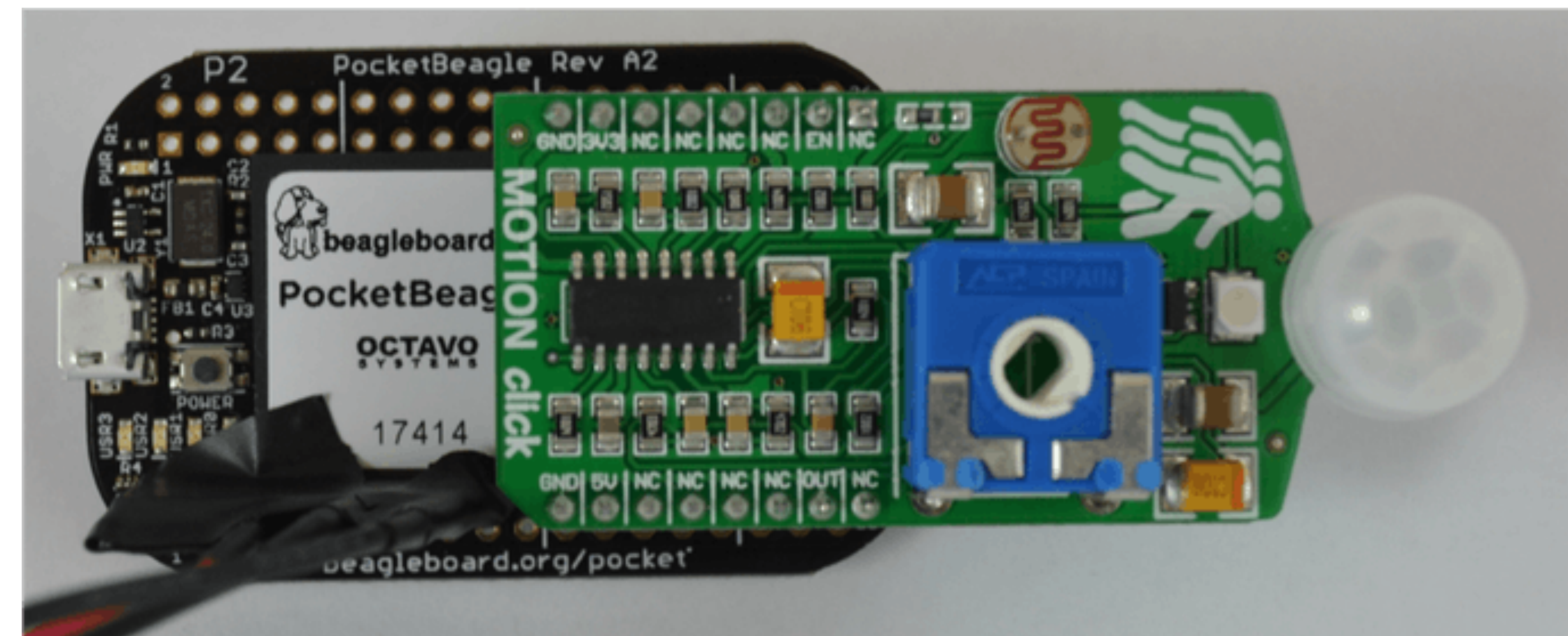
5) Build a project

bbb.io/p-pocket



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- mikroElectronica Click Boards™ boards can connect directly to PocketBeagle and provide hundreds of sensors and actuators
- Getting to more interesting sensors quickly builds motivation
- Linux drivers provide a better opportunity to learn the “right” way to do things from the community
- Abstractions make the software easy



Apply for up to 30 PocketBeagle boards
for your classroom or makerspace by contributing a project

- Must submit a repeatable project for your students on beagleboard.org/p
- Document your procedures, learning outcomes & advice on how to integrate into a bigger classroom/course experience
- Projects must be well-documented, open source and available for reuse by the BeagleBoard.org Foundation
- Projects evaluated on:
 - Documentation quality in both appearance and understanding
 - Personal and educational value of lessons learned by students
 - Applicability across broad age range and skill levels
- Planned evaluation dates: Nov 29, 2018 & Feb 28, 2019



Get started today! Contact us at bbb.io/classroom

Thanks!

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