

Getting started with CircuitPython

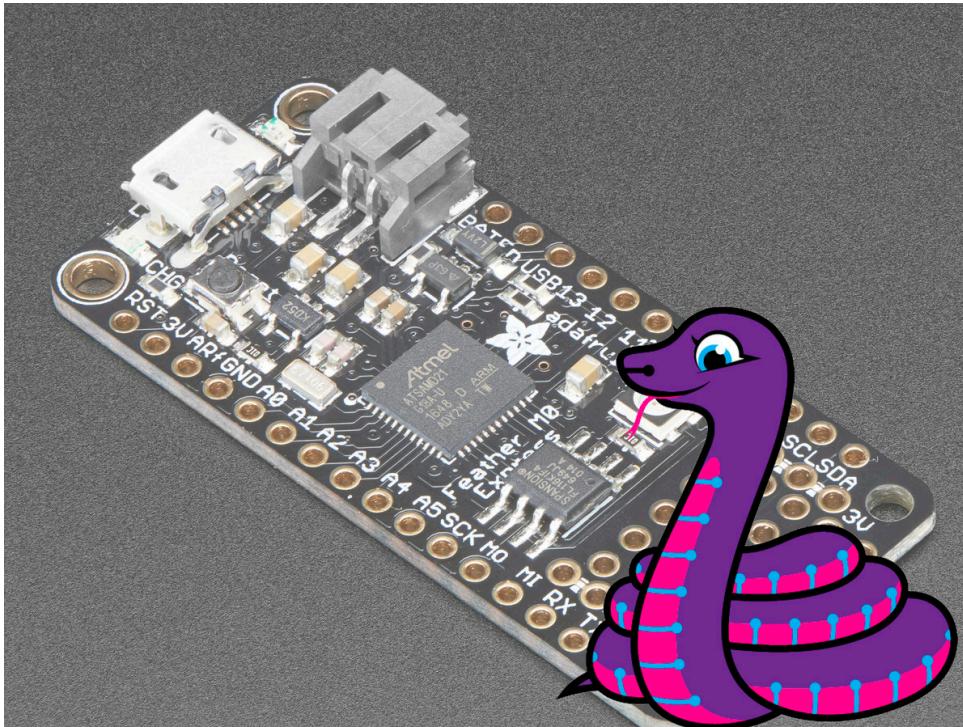
Flash talk @ PyData 4-12-2018

Robin Cole

<https://github.com/robmarkcole>

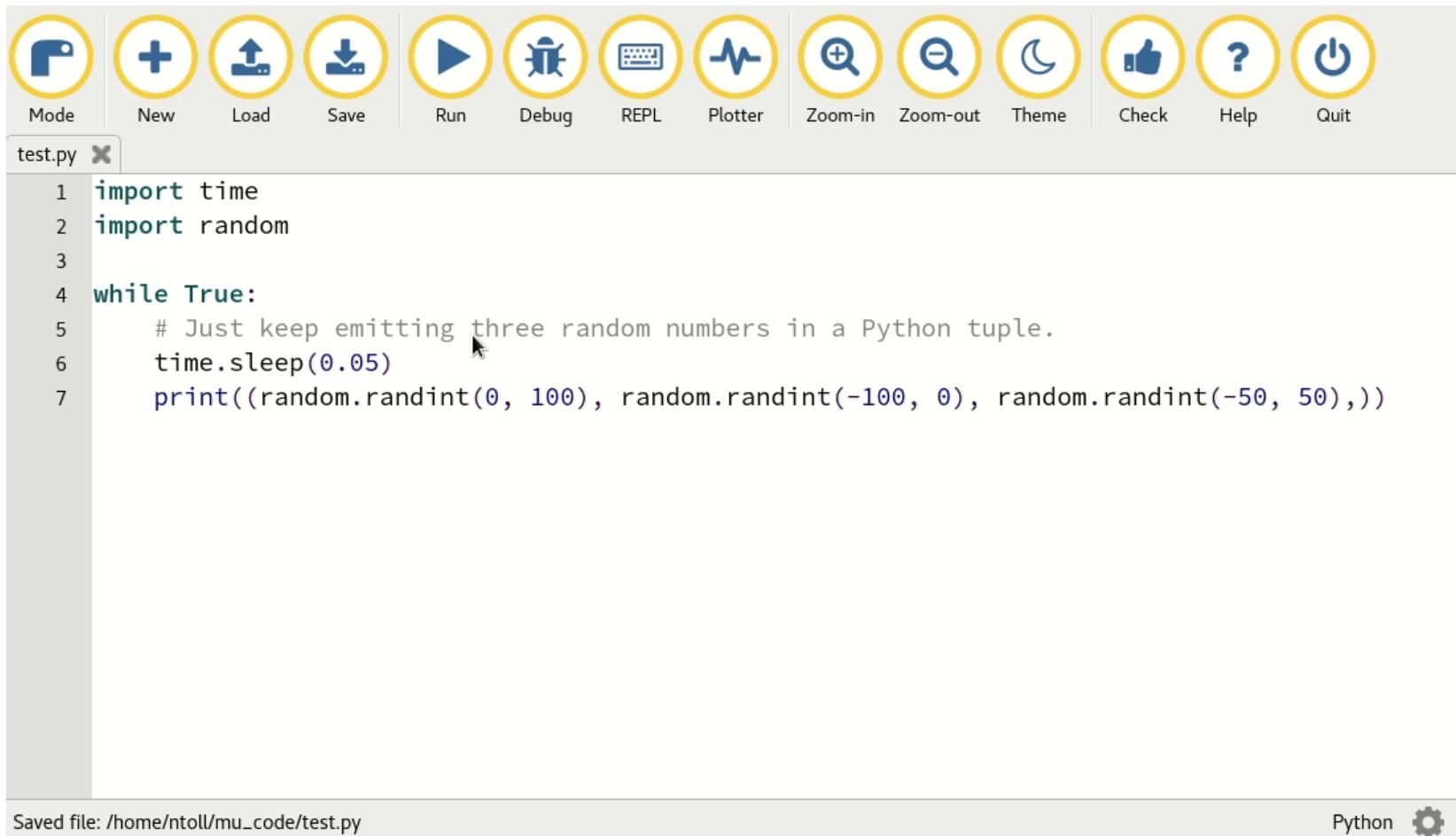
CircuitPython

- ▶ CircuitPython -> Python 3 on single board computer
- ▶ Beginner friendly -> boards show as USB drive
- ▶ Connect sensors and gather data



Mu editor

- ▶ Beginner friendly editor -> <https://codewith.mu/>
- ▶ Plot streaming data



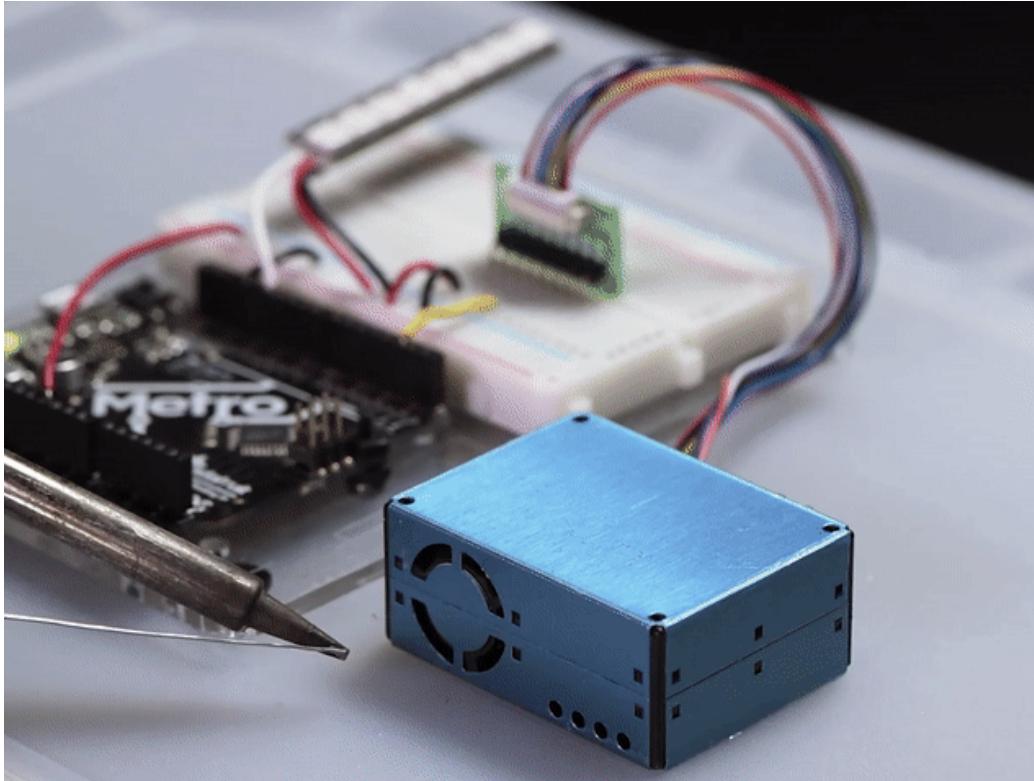
The screenshot shows the Mu editor interface. At the top is a toolbar with various icons: Mode, New, Load, Save, Run, Debug, REPL, Plotter, Zoom-in, Zoom-out, Theme, Check, Help, and Quit. Below the toolbar is a code editor window titled "test.py". The code in the editor is:

```
1 import time
2 import random
3
4 while True:
5     # Just keep emitting three random numbers in a Python tuple.
6     time.sleep(0.05)
7     print((random.randint(0, 100), random.randint(-100, 0), random.randint(-50, 50),))
```

At the bottom of the editor window, it says "Saved file: /home/ntoll/mu_code/test.py". To the right of the file path is a "Python" button with a gear icon.

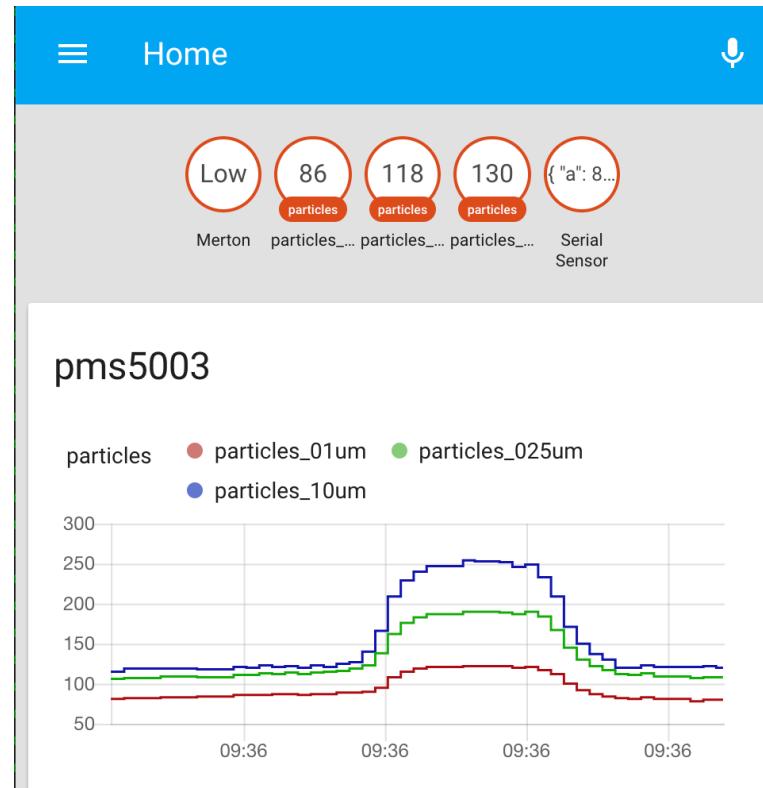
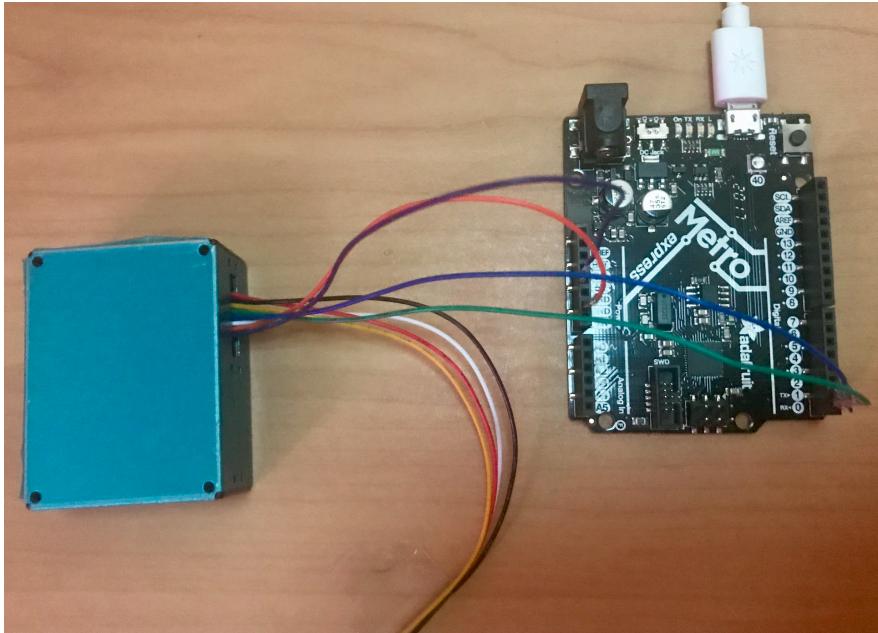
Air quality project

- ▶ Poor air quality is major contributor to ill health
- ▶ Develop simple air quality data logger

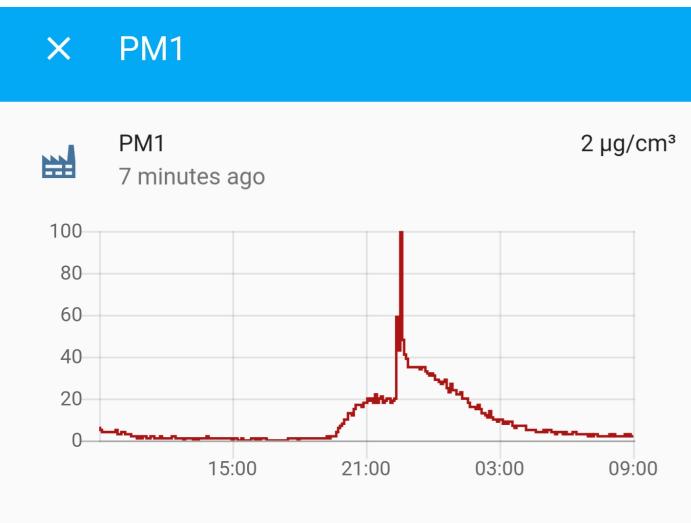


CircuitPython air quality logger

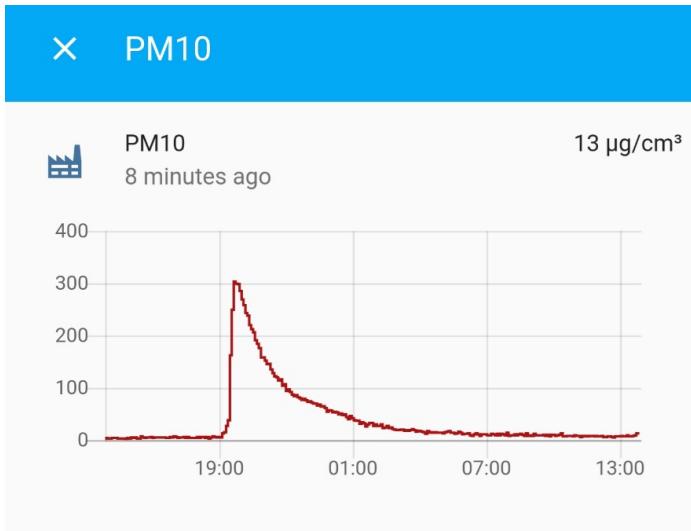
- ▶ Develop simple air quality data logger
- ▶ PM1, PM2.5 & PM10 particulates
- ▶ <https://github.com/robmarkcole/HASS-circuitpython-air-quality-sensor-node>



Data



Solder



Sausage

Future Work

- ▶ Get more people involved!
- ▶ Go wireless & low power
- ▶ Demo time..

