

Agenda



- Me
- Why test automation
- A Octoprobe Tentacle
- pytest
- How to contribute

Me



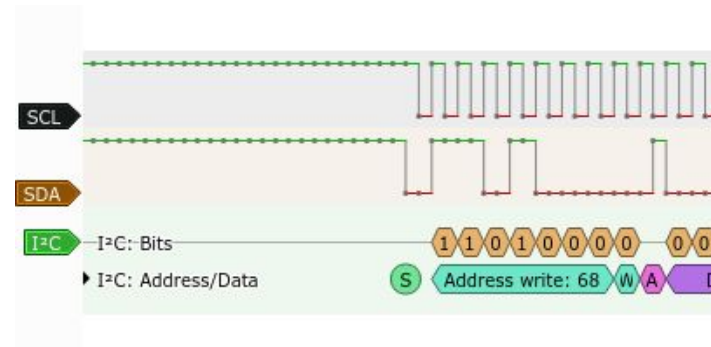
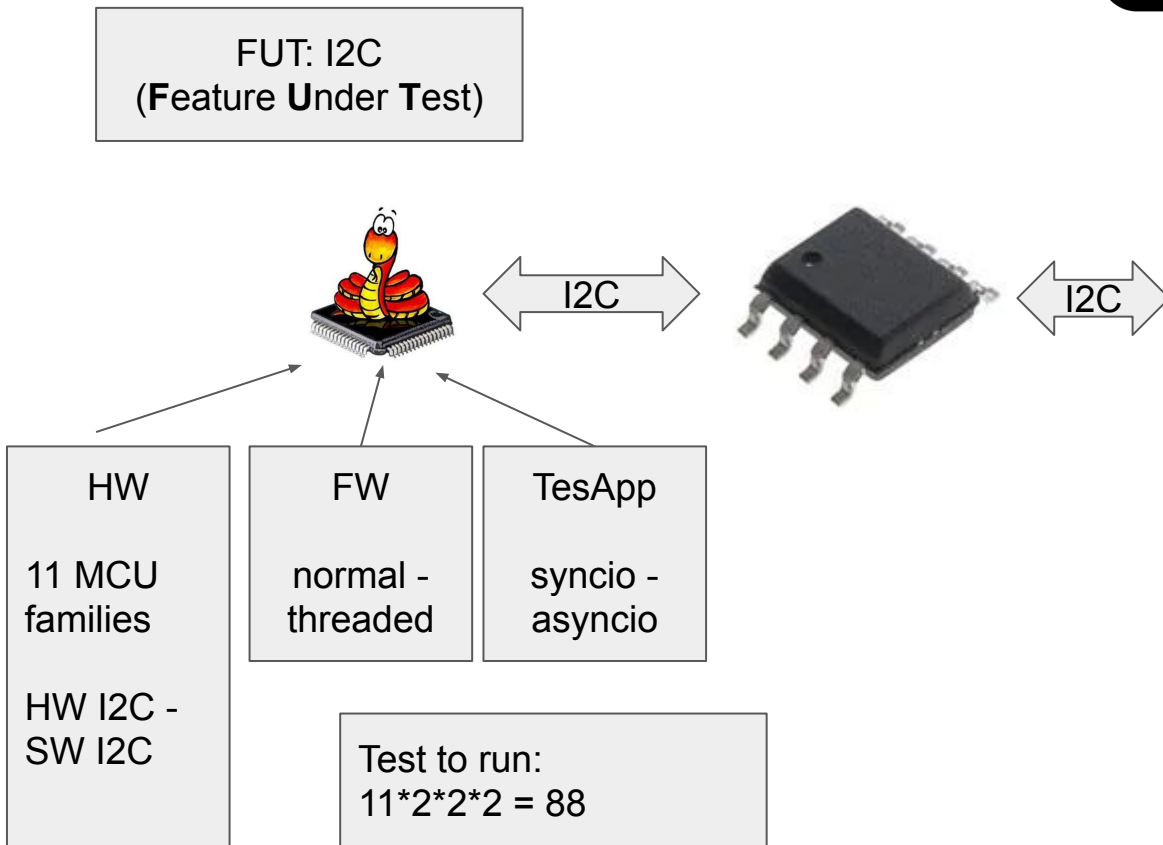
Using Open Source since ages and I am very thankful.

Admire successful projects

May I also contribute with a successful project?

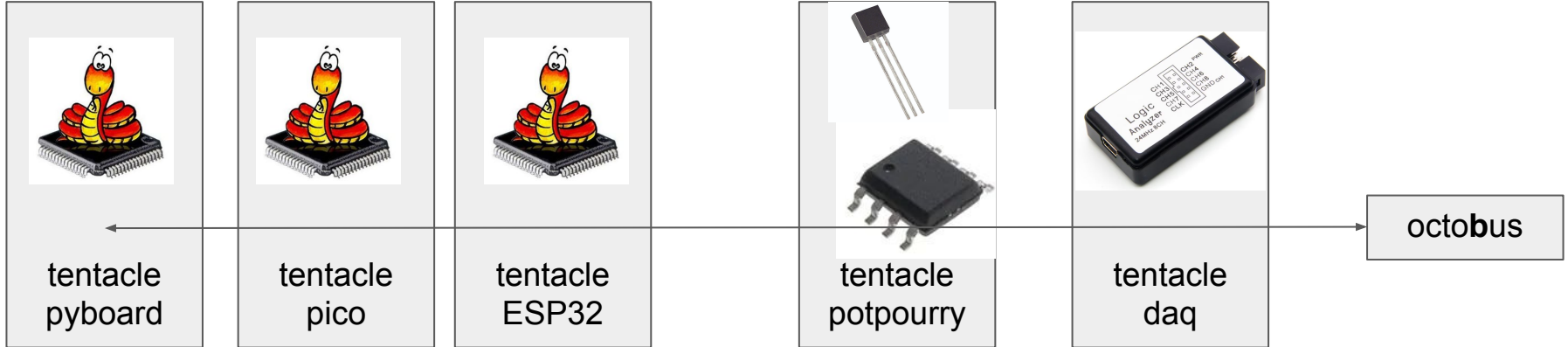
Make something new the world is waiting for.

Why test automation?



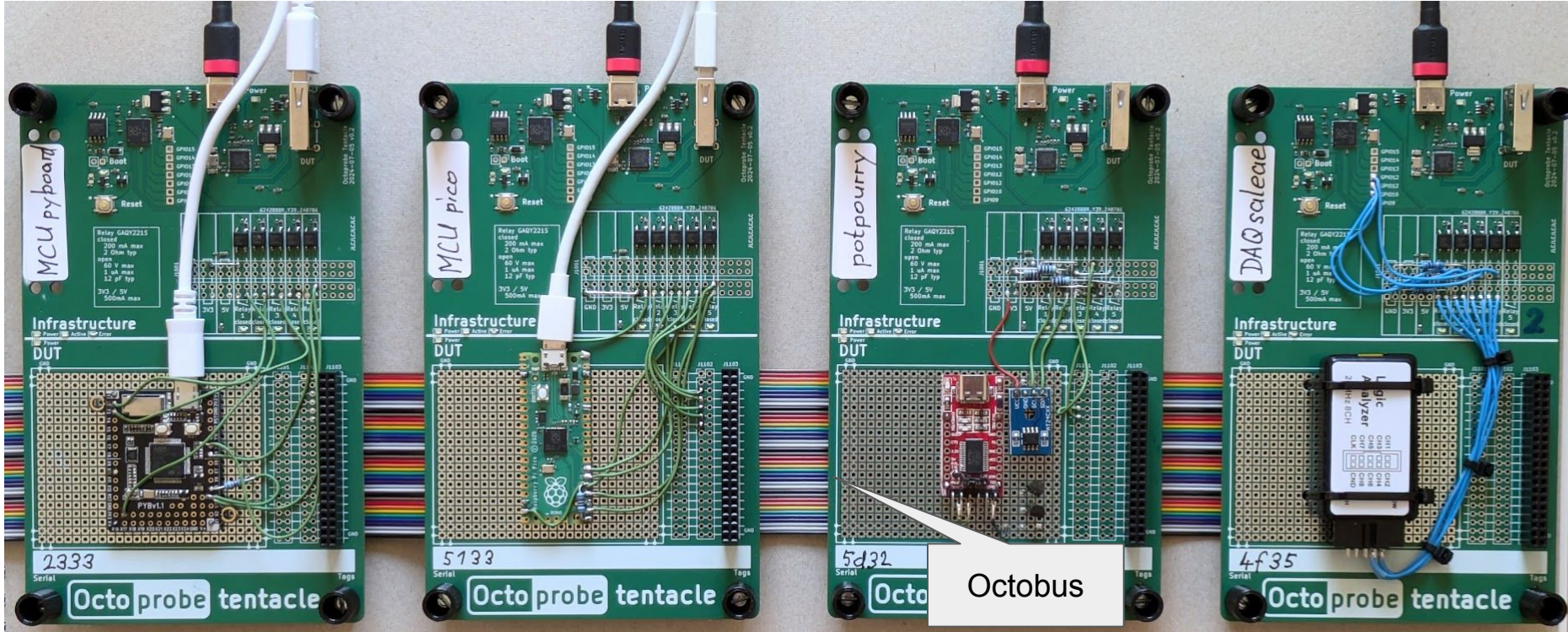
Many combinations to test
Many manual steps
Takes very long
Not scalable
Frustrating task

Why test automation?



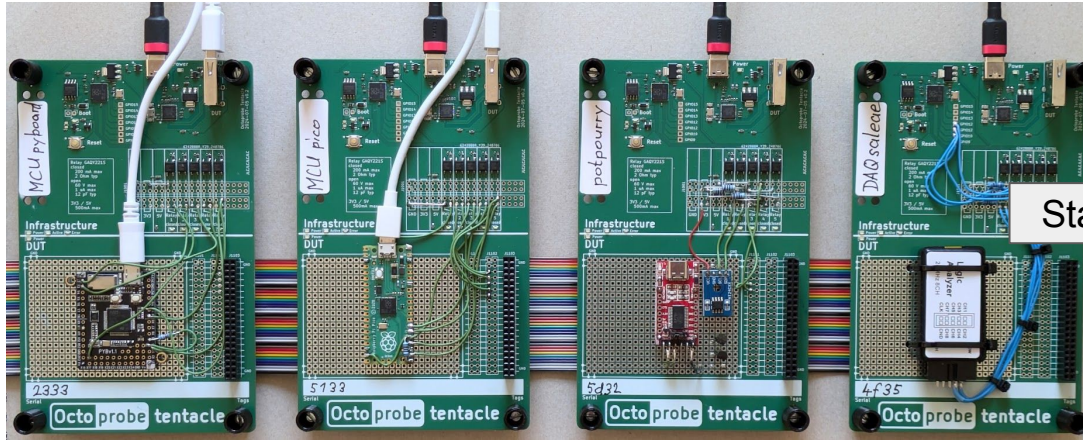
Fully automated / stable
cheap, scaleable
adaptable
fun

4 Tentacles & Octopus

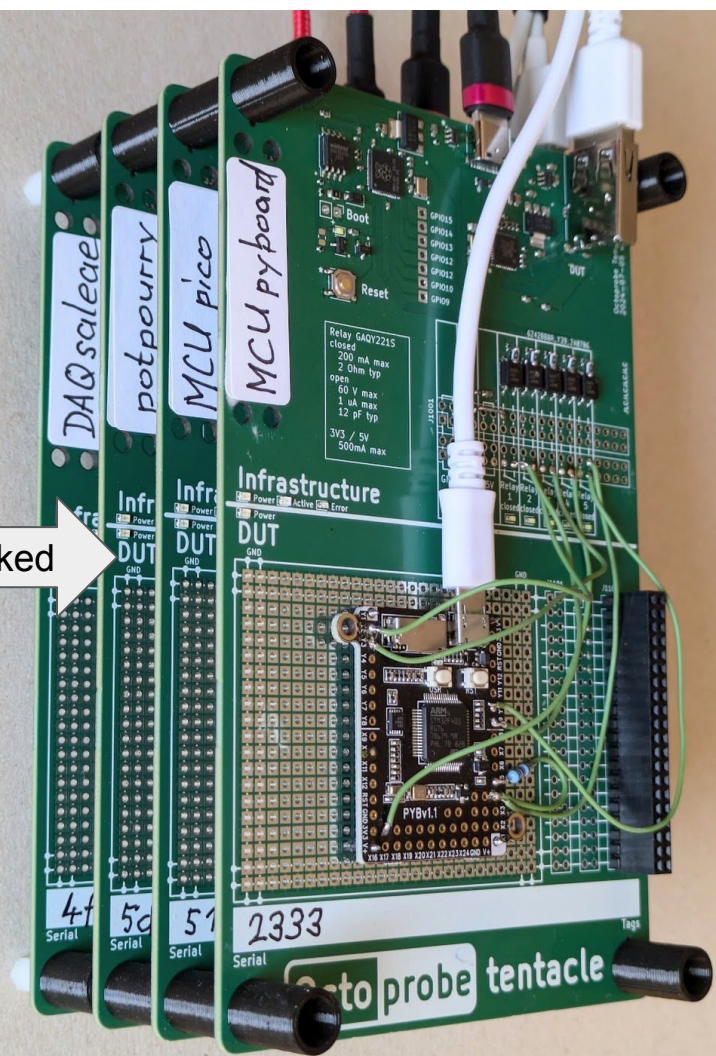


Octopus

4 Tentacles & Octopus



Stacked



A Octoprobe Tentacle

octo probe

RP2 (port 1)

Port 3

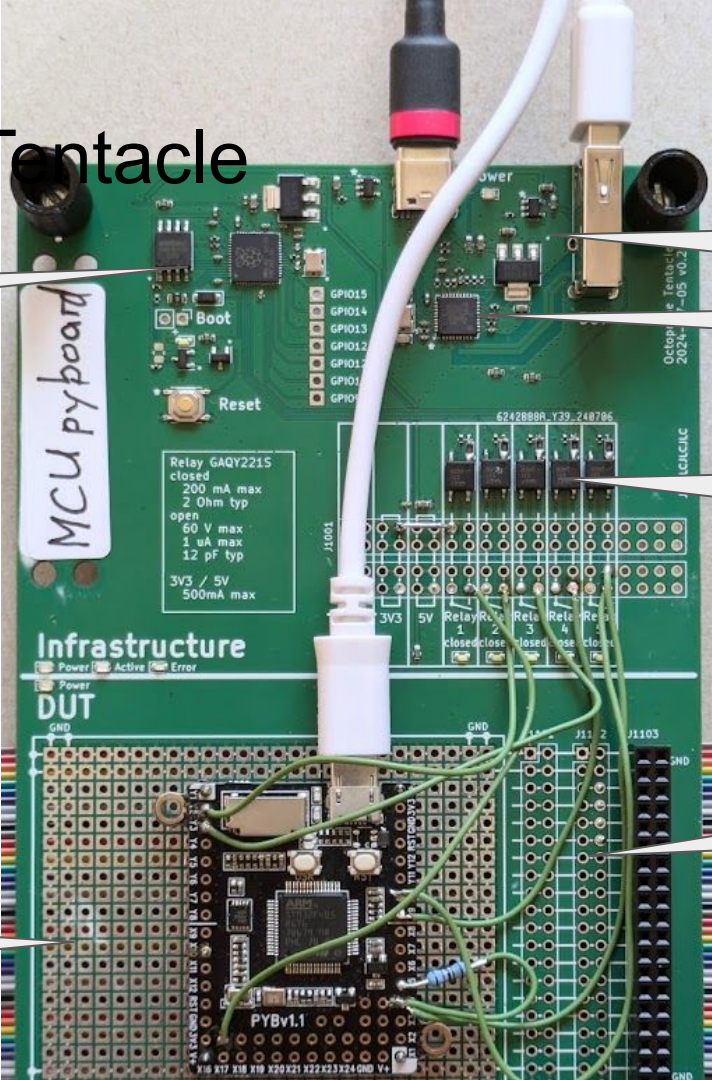
USB Hub
allow Powerswitching

5 Relays
with LEDs

Indicator LEDs

Mount your DUT
(Device under
Test) here

Octopus



2024-07-24, Hans Märki
MicroPython Meetup Melbourne

pytest

Octo probe

```
121 for number in (2, 3, 4):
122     mcu.infra_relay(number=number, close=True)
123 for number in (1, 2, 3, 4):
124     daq_saleae.infra_relay(number=number, close=True)
125 for number in (5,):
126     device.potpourry.infra_relay(number=number, close=True)
```

Test Setup

```
131 mp_program = """
132 from machine import Pin
133 import onewire
134 import time
135 import ds18x20
136
137 ow = onewire.OneWire(Pin('{onewire}'))
138 ds = ds18x20.DS18X20(ow)
139
140 pin_trigger_1 = Pin('{trig1}', mode=Pin.OUT, value=0)
141 pin_trigger_2 = Pin('{trig2}', mode=Pin.OUT, value=0)
142 pin_trigger_1.value(1)
143 roms = ds.scan()
144 pin_trigger_1.value(0)
145
```

Stimuli

Assertion

```
155 assert (
156     len(roms) == 2
157     ), f"Two DS18 temperature sensors expected"
158
```


pytest - Test discovery

Octo probe

test_onewire()

```
113
114 @pytest.mark.required_futs(EnumFut.FUT_ONEWIRE)
115 def test_onewire(
116     mcu: Tentacle,
117     device_potpourry: Tentacle,
118     daq_saleae: Tentacle,
119 ) -> None:
```

test_onewire()

- ✓ test_simple.py
- ✓ test_j2c
 - ✓ [stm32_2333-POTPOURRY_5d32-DAQ_SALEAE_4f35]
 - ✓ [rp2_5133-POTPOURRY_5d32-DAQ_SALEAE_4f35]
- ✓ test_onewire
 - ✓ [stm32_2333-POTPOURRY_5d32-DAQ_SALEAE_4f35]
 - ✓ [rp2_5133-POTPOURRY_5d32-DAQ_SALEAE_4f35]

How to contribute



- Matt: Technical Reviewer
- Who would be interested to use a github runner to add tests into the workflow? I could host the runner in switzerland.
- Who would be interested to write some tests? This could be done remotely on my infrastructure using VS Code.
- Who would be interested to get hardware (10 octopus tentacles) to write/run tests 'in house'?