Tock Hardware CI

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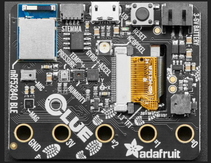
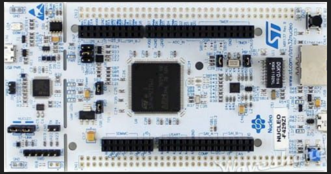
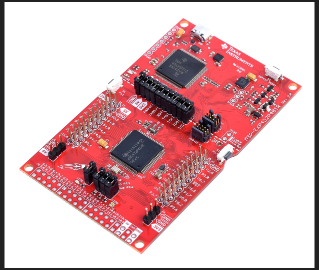
Jack Sheridan
Jefferson Chien

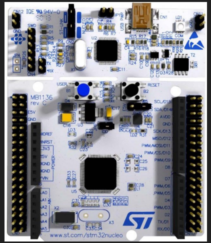
aconno
IoT made easy
ACD52832
aconno

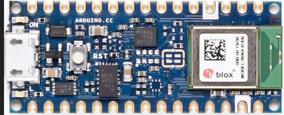

nRF52840 BLE
CLUE
adafruit


NUCLEO



NXP
IMXRT1050-EVKB


MB1136
www.st.com/stm32nucleo


ARDUINO.CC
RST
blox

5V
3V
22
21
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MIMXRT1062
DVL6A
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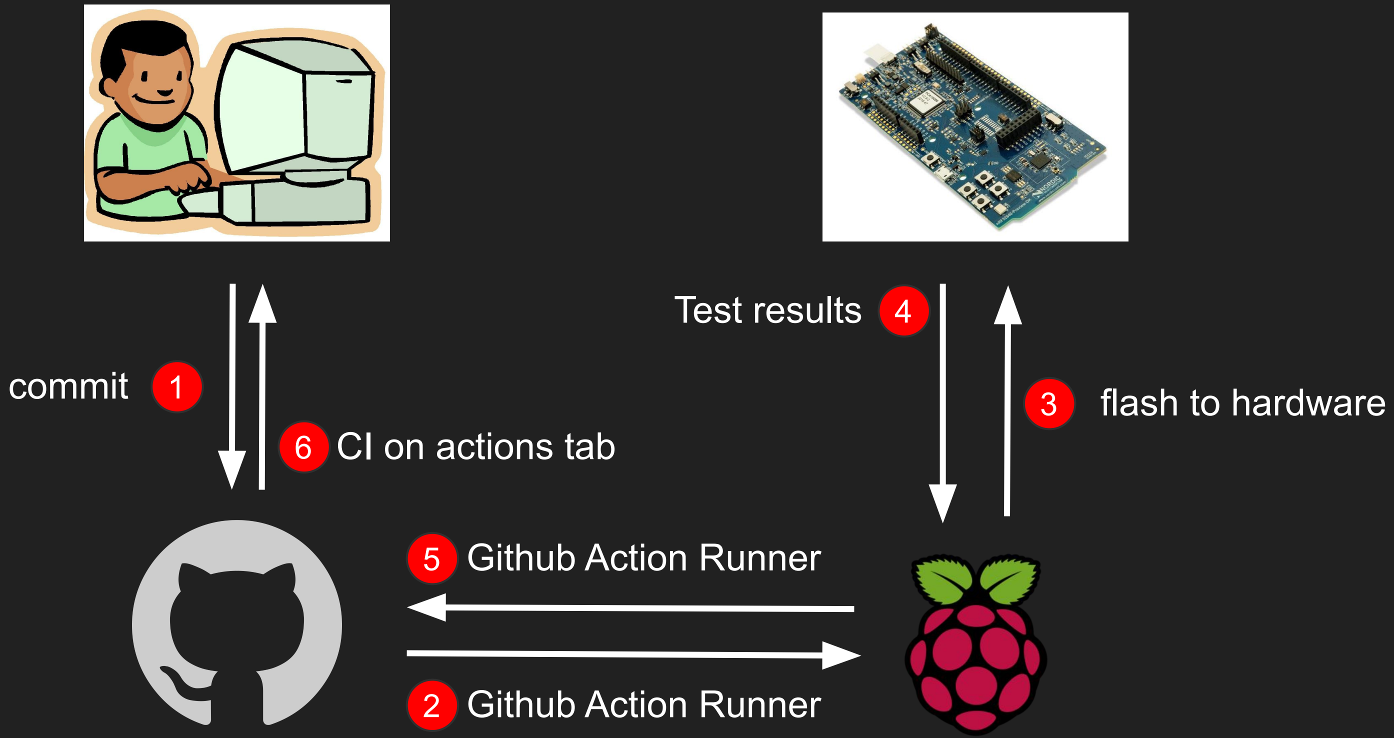


1 commit

2 Github Action Runner

3 flash to hardware

4 Test results

5 Github Action Runner

6 CI on actions tab

Deliverables

1. Raspberry Pi to build and install Tock OS when the Tock repository has been updated.
2. A fully working Raspberry Pi Runner that completes a full cycle
3. A fully working Runner that completes a full cycle with extra feature
   a. Modularize test app
   b. Format log output
   c. Add levels of log output
   d. Power controller to manage power of the board

Deliverables

First Deliverable

- Automate compilation and installation
- Hook up GitHub with test harness

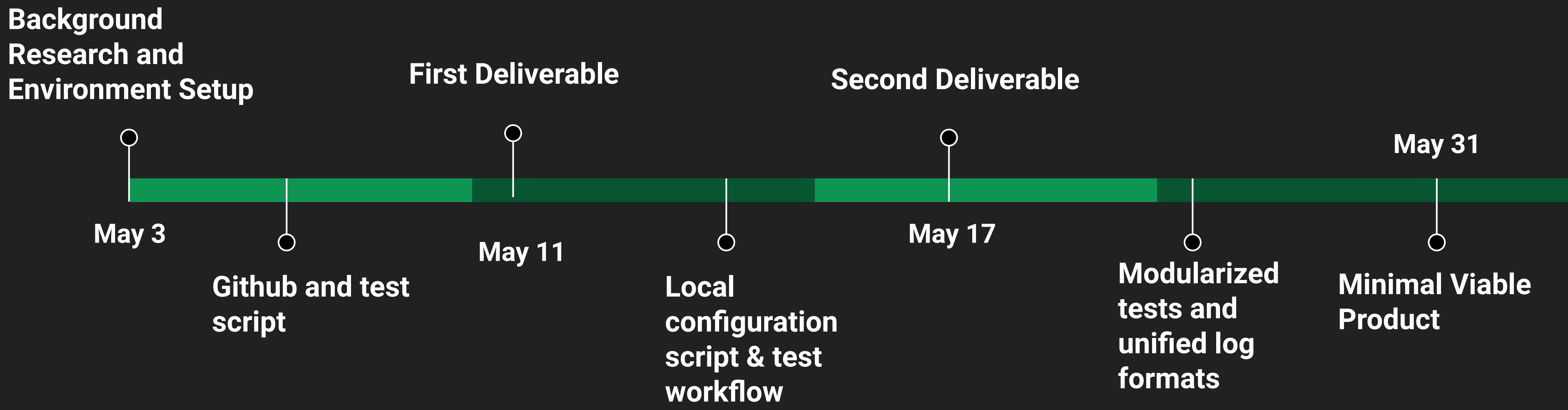
Second Deliverable

- Scripts for configuring local testing environment
- Integrated script to build, install, and test

Minimal Viable Product

- Modularize tests
- Documentations and specifications
- Unified log formats

Milestones



Background Research and Environment Setup

May 3

Github and test script

First Deliverable

May 11

Local configuration script & test workflow

Second Deliverable

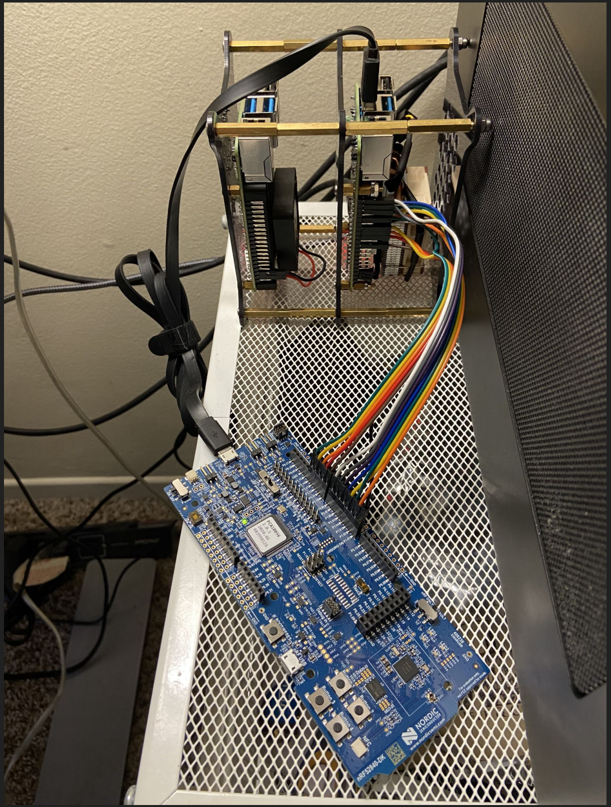
May 17

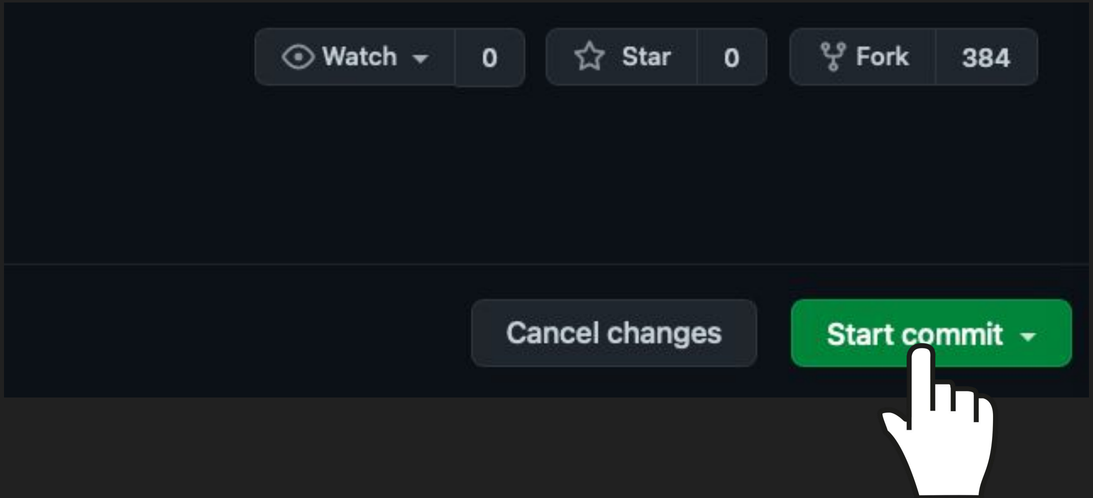
Modularized tests and unified log formats

May 31

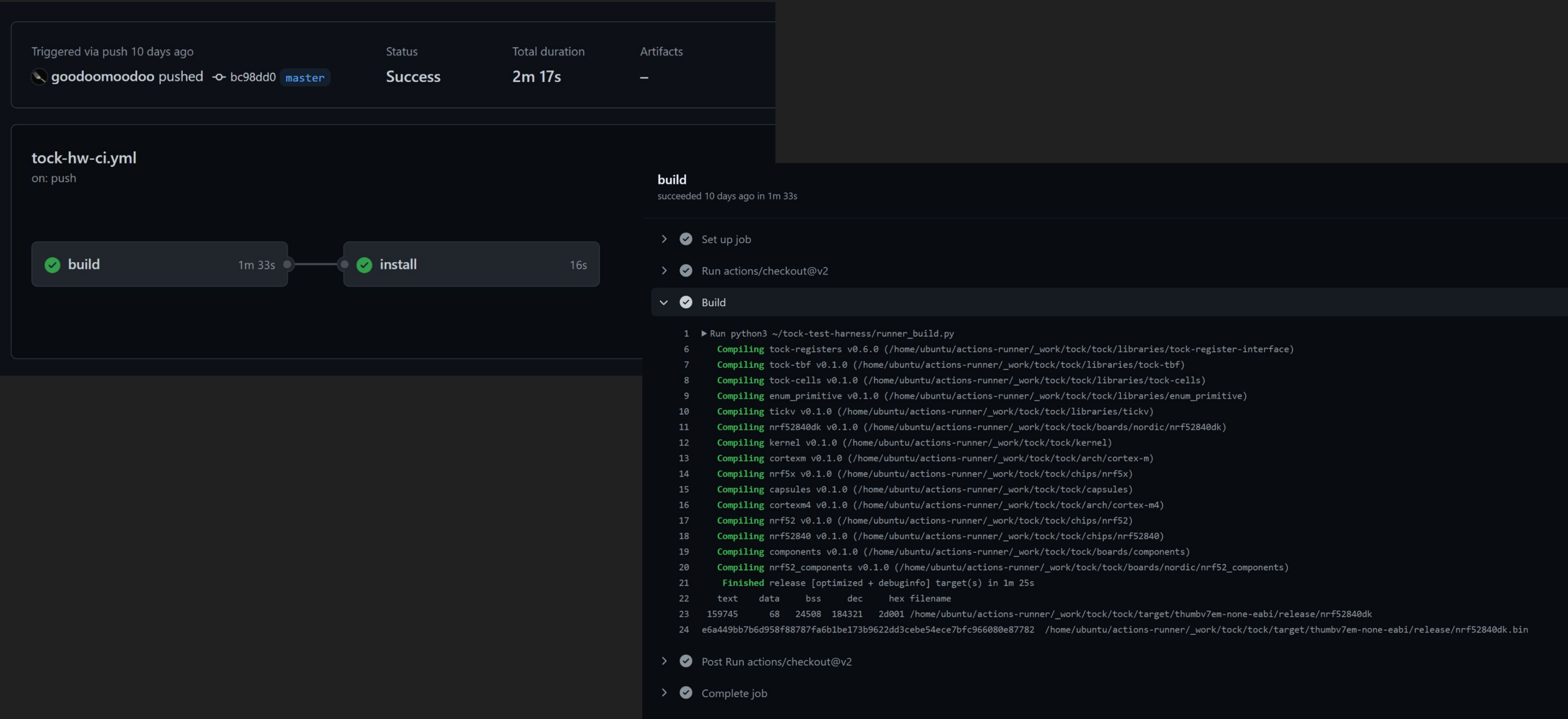
Minimal Viable Product

Demo





Demo



Triggered via push 10 days ago

goodoomoodoo pushed -o- bc98dd0 `master`

Status

Success

Total duration

2m 17s

Artifacts

–

tock-hw-ci.yml

on: push

build

succeeded 10 days ago in 1m 33s

```
▶ Run python3 ~/tock-test-harness/runner_build.py
   Compiling tock-registers v0.6.0 (/home/ubuntu/actions-runner/_work/tock/tock/libraries/tock-register-interface)
   Compiling tock-tbf v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/libraries/tock-tbf)
   Compiling tock-cells v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/libraries/tock-cells)
   Compiling enum_primitive v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/libraries/enum_primitive)
   Compiling tickv v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/libraries/tickv)
   Compiling nrf52840dk v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/boards/nordic/nrf52840dk)
   Compiling kernel v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/kernel)
   Compiling cortexm v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/arch/cortex-m)
   Compiling nrf5x v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/chips/nrf5x)
   Compiling capsules v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/capsules)
   Compiling cortexm4 v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/arch/cortex-m4)
   Compiling nrf52 v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/chips/nrf52)
   Compiling nrf52840 v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/chips/nrf52840)
   Compiling components v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/boards/components)
   Compiling nrf52_components v0.1.0 (/home/ubuntu/actions-runner/_work/tock/tock/boards/nordic/nrf52_components)
    Finished release [optimized + debuginfo] target(s) in 1m 25s
   text	   data	    bss	    dec	    hex	filename
 159745	     68	  24508	 184321	  2d001	/home/ubuntu/actions-runner/_work/tock/tock/target/thumbv7em-none-eabi/release/nrf52840dk
e6a449bb7b6d958f88787fa6b1be173b9622dd3cebe54ece7bfc966080e87782  /home/ubuntu/actions-runner/_work/tock/tock/target/thumbv7em-none-eabi/release/nrf52840dk.bin
```

Past Quarter Plan

Deliverable 1

(04/19)

Automated build and install

Completed

Deliverable 2

(05/03)

Automated full cycle

(Ongoing)

Deliverable 3

(05/17)

Automated full cycle with features

(Planning)

Current Quarter Plan

A: Local configuration script
B: Config file design/parsing
C: README/setup tutorial

D: Custom libtock-c test
E: Python listener

F: Action runner workflow configuration
G: Local setup scripts

	Week 6	Week 7	Week 8
A	▬		
B		▬	
C		▬	▬
D	▬	▬	
E		▬	▬
F	▬	▬	
G	▬		

The Future

BLE

elastic stack

Web configuration portal

Dashboards

Sensor testing

Proprietary harnesses

Thank You!

Questions?