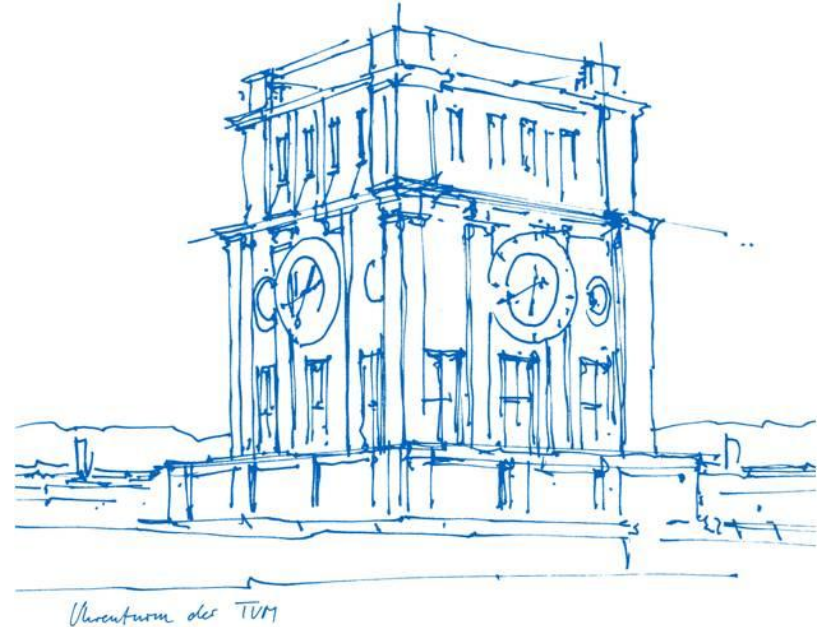


# Mobile Solar Panels

## *Sprint 1*

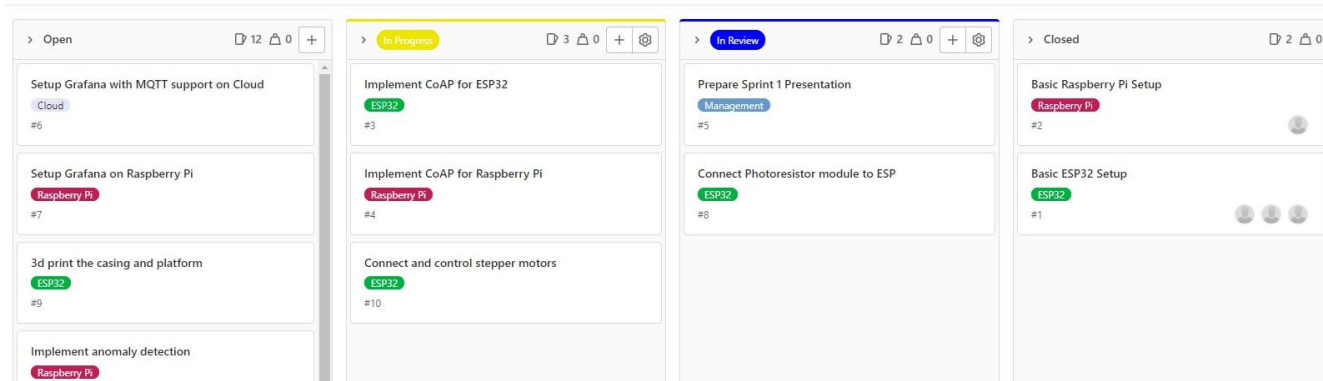
Eric Armbruster, Florian Freund, Sebastian Klinke

Garching, 03.06.2022



# Organization

## Issues and Labels



The screenshot displays a Kanban board with four columns representing different stages of task completion:

- Open (12 tasks):**
  - Setup Grafana with MQTT support on Cloud (Cloud label, #6)
  - Setup Grafana on Raspberry Pi (Raspberry Pi label, #7)
  - 3d print the casing and platform (ESP32 label, #9)
  - Implement anomaly detection (Raspberry Pi label)
- In Progress (3 tasks):**
  - Implement CoAP for ESP32 (ESP32 label, #3)
  - Implement CoAP for Raspberry Pi (Raspberry Pi label, #4)
  - Connect and control stepper motors (ESP32 label, #10)
- In Review (2 tasks):**
  - Prepare Sprint 1 Presentation (Management label, #5)
  - Connect Photoresistor module to ESP (ESP32 label, #8)
- Closed (2 tasks):**
  - Basic Raspberry Pi Setup (Raspberry Pi label, #2)
  - Basic ESP32 Setup (ESP32 label, #1)

## Milestones

### Sprint 1

May 23, 2022–Jun 3, 2022

Florian Freund / edge-iot

### Sprint 2

Jun 3, 2022–Jun 17, 2022

Florian Freund / edge-iot

### Interim Demo

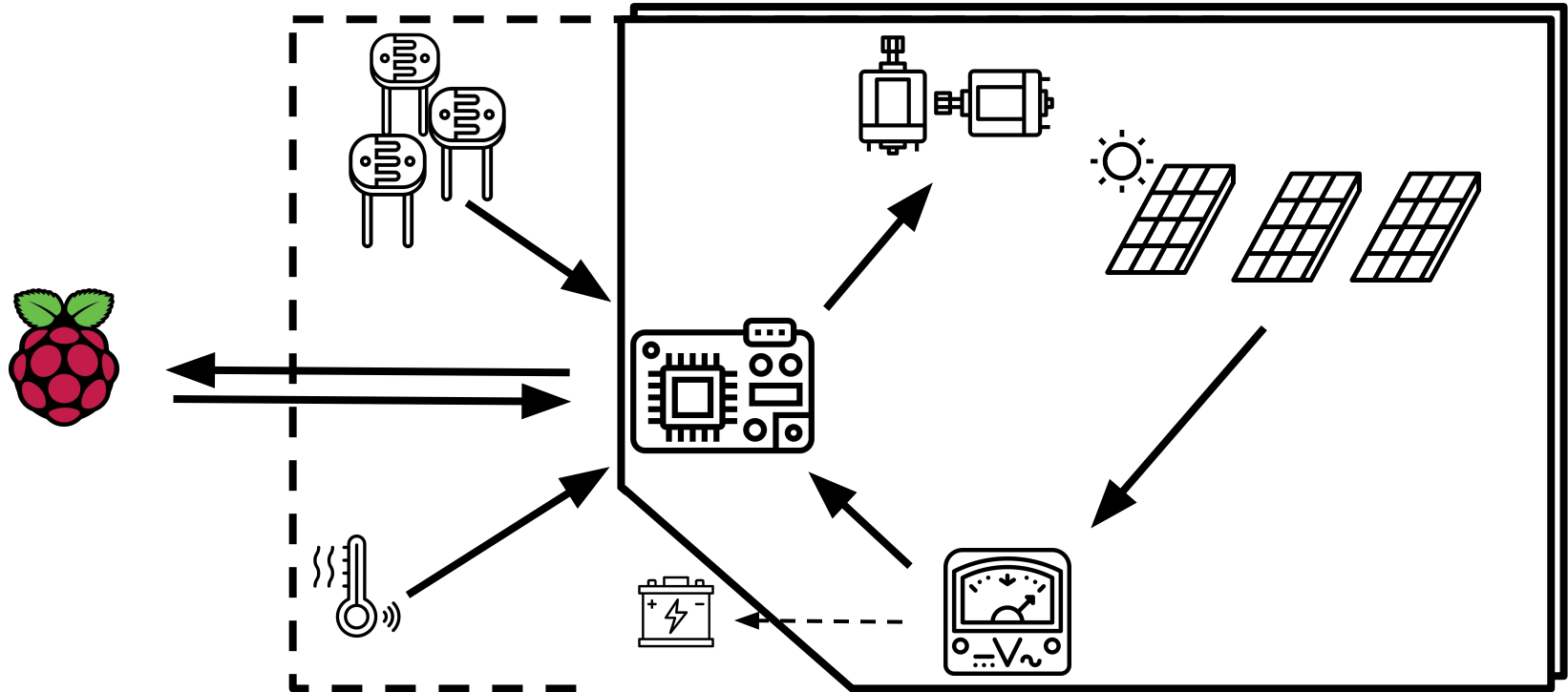
Jun 17, 2022–Jun 24, 2022

Upcoming Florian Freund / edge-iot

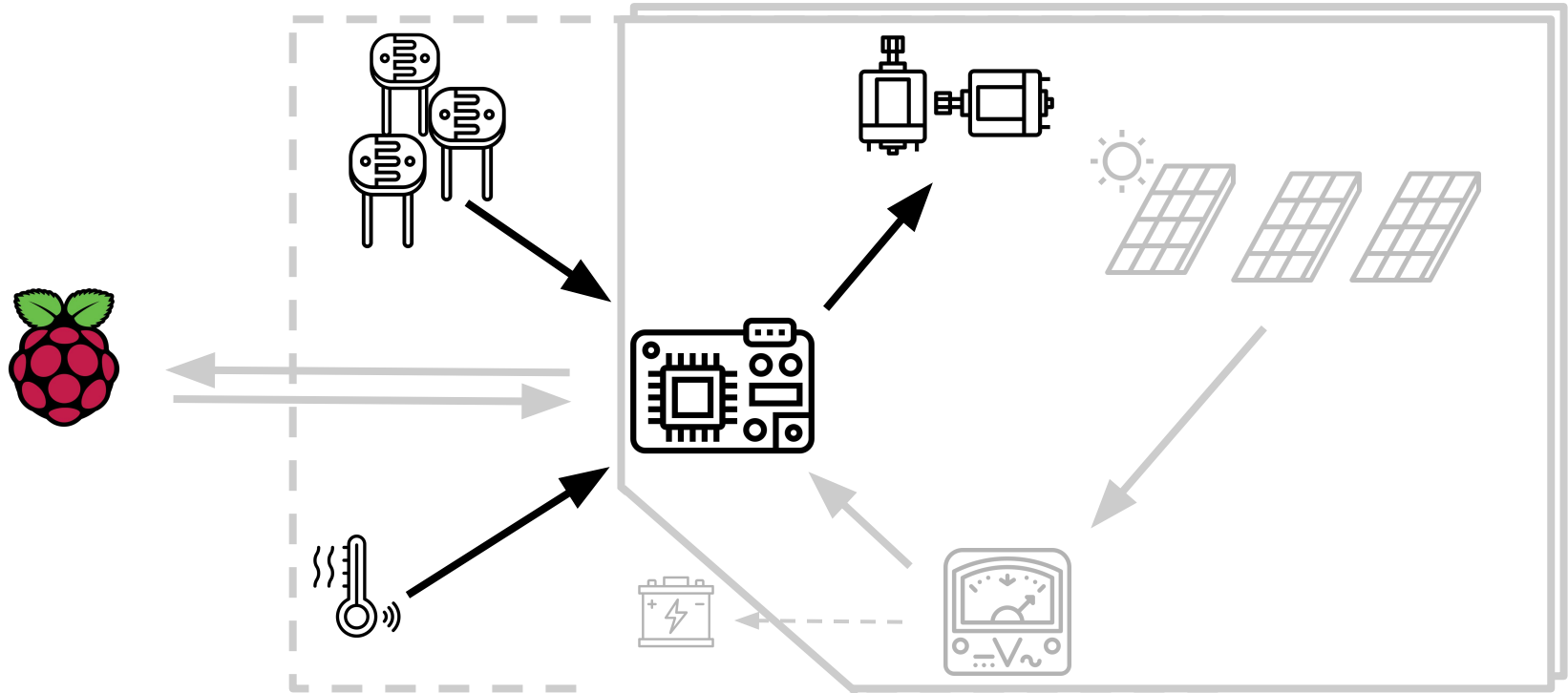
### Sprint 3

Jun 24, 2022–Jul 8, 2022

# Setup



# This Sprint

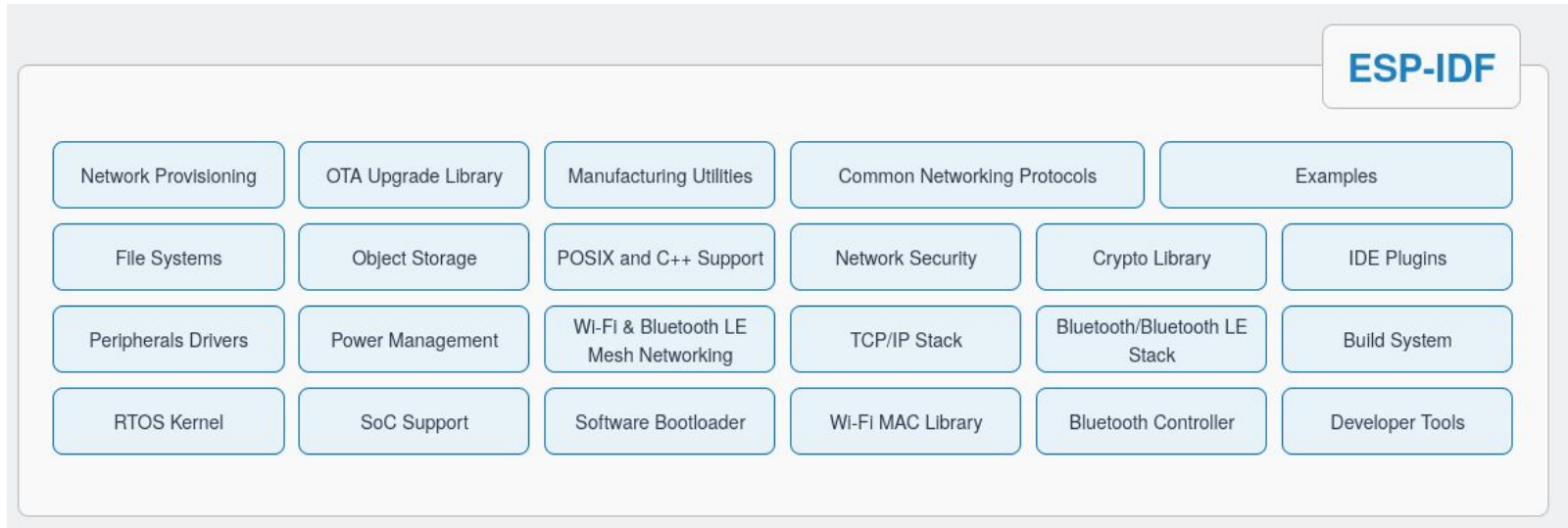


# Espressif IDF



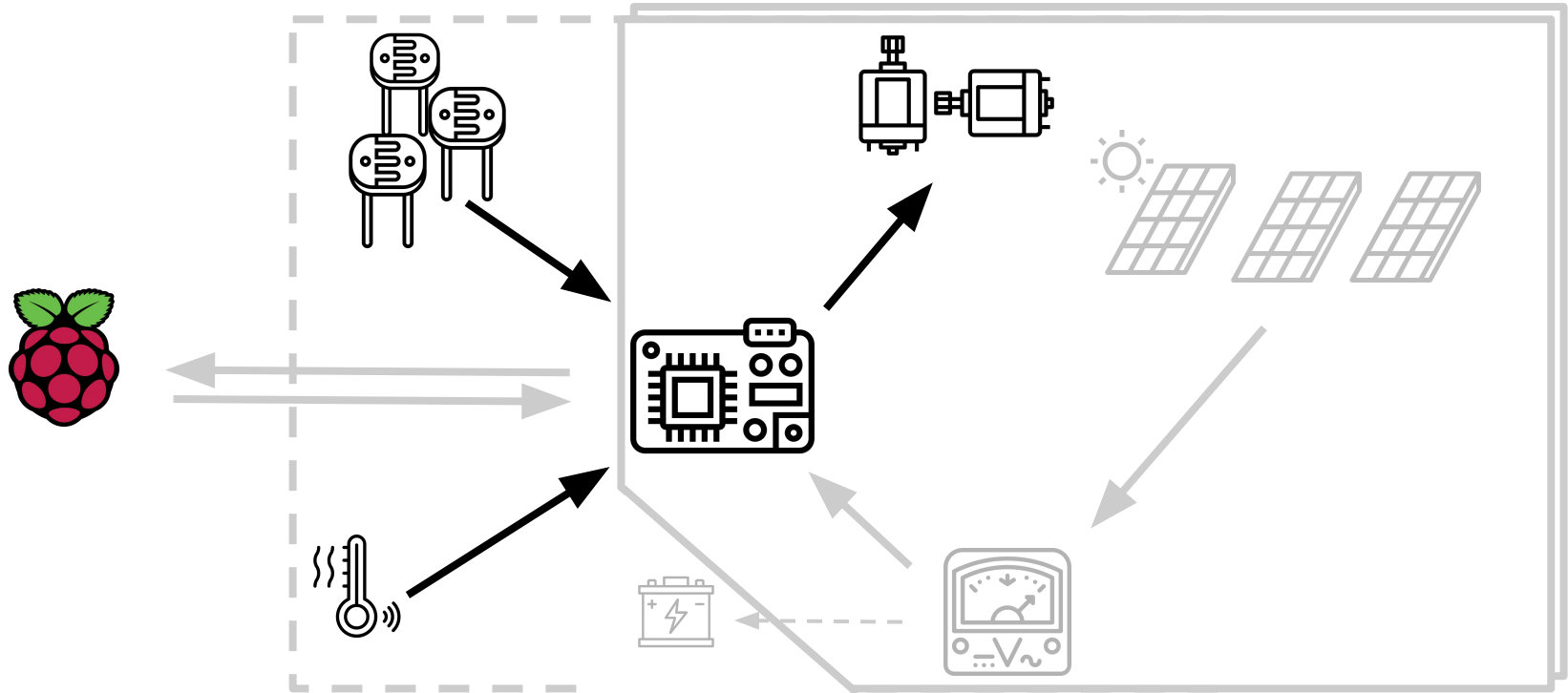
- IoT Development Framework from Espressif
- Full hardware support, RIOT does not support:
  - Multithreading
  - Bluetooth
  - Rust on ESP32
- Rust bindings
- Why Rust?
  - Memory safety guarantees at compile time
  - Same embedded cross-platform development like RIOT
  - It's cool 😎

# Espressif IDF

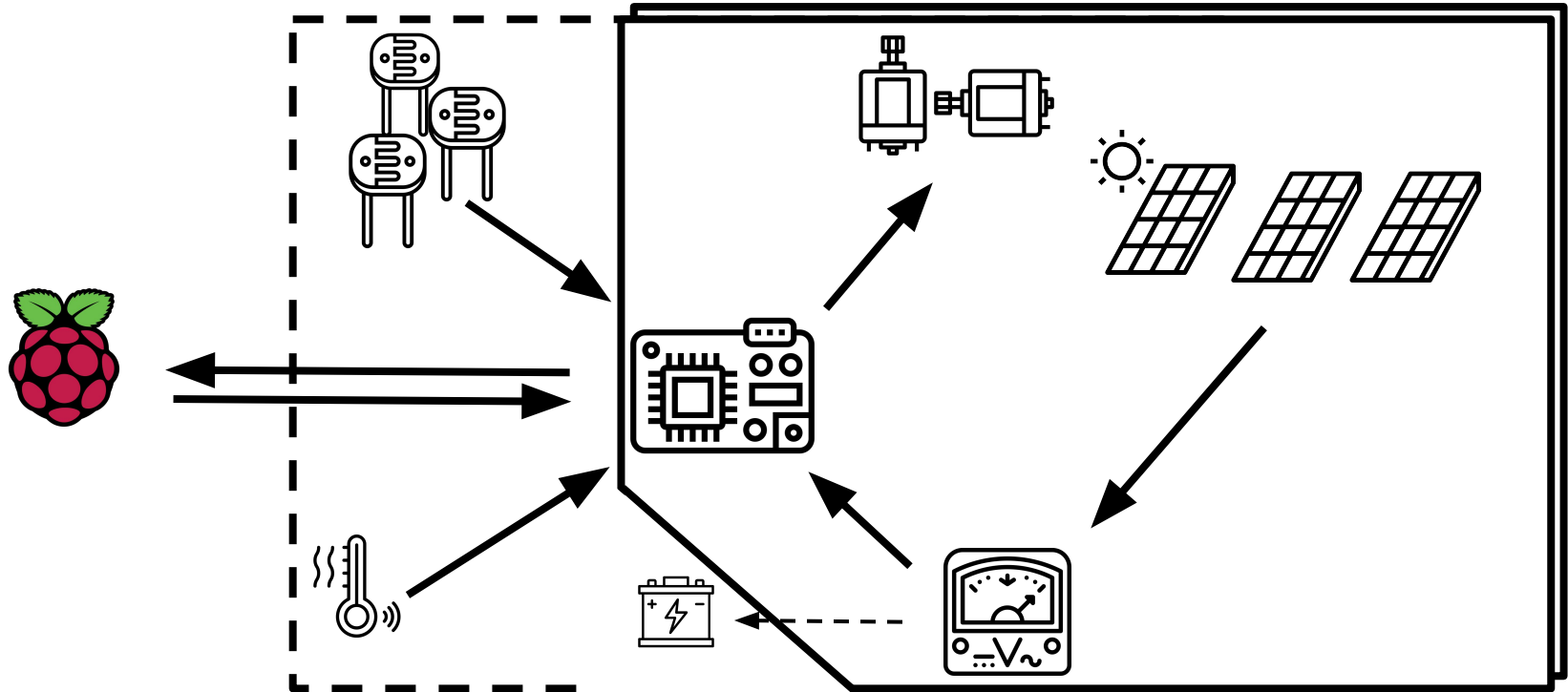


Source: <https://www.espressif.com/en/products/sdks/esp-idf>

# This Sprint



# Next Sprint





## Next Sprint

- 3D print platform and casing
- Implement CoAP on both ESP32 and Raspberry Pi
- Connect missing hardware (Solar panels, current and voltage sensor)
- Control platform rotation via photoresistor module

# Feedback from Tutors

- Todo