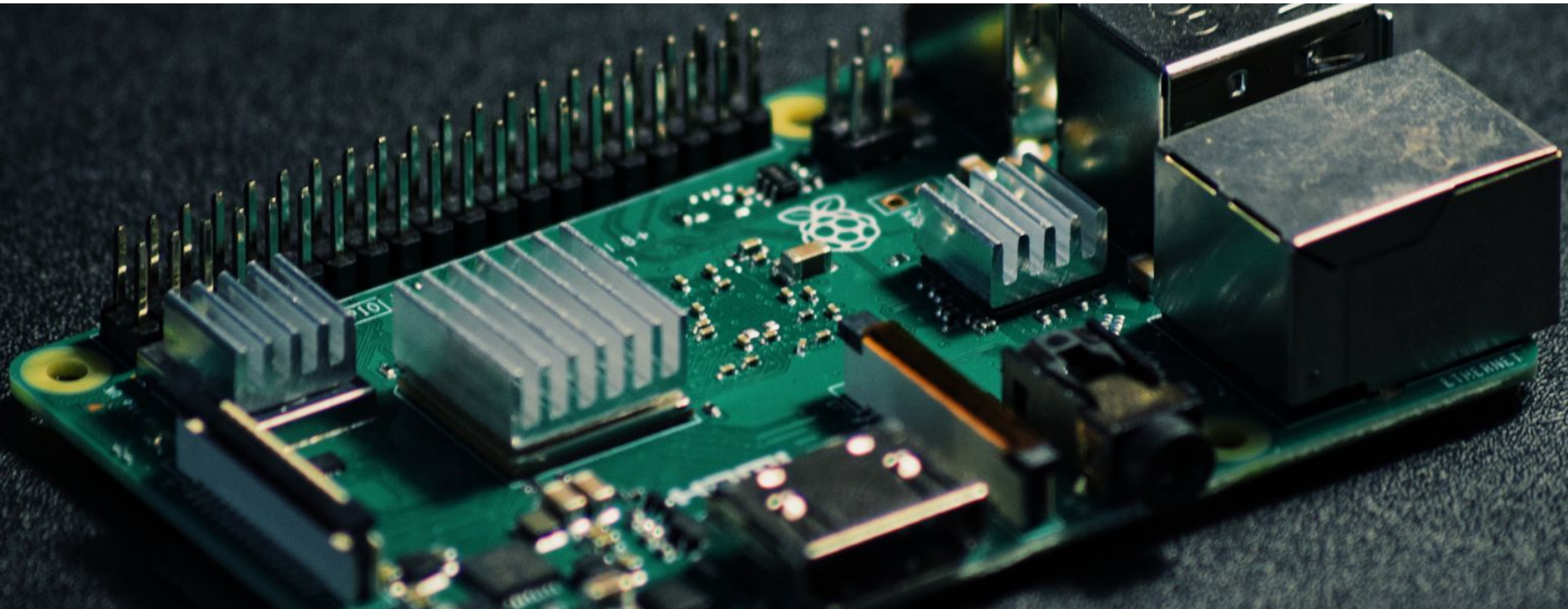


# WIND TURBINE GENERATOR

SPRINT 3



# SPRINT BACKLOG

Completed issues and pull requests	Story points
<div><div>✓</div><div>Prepare Raspberry Pi Environment <span>learning</span></div><div>wind_turbine_generator #2 added 1 days ago 000 Closed</div></div>	<div>3</div>
<div><div>✓</div><div>Install ChibiOS to Raspberry Pi <span>enhancement</span></div><div>wind_turbine_generator #3 added 1 days ago 000 Closed</div></div>	<div>2</div>
<div><div>✓</div><div>Connect Raspberry Pi to LCD Screen via serial port <span>enhancement</span></div><div>wind_turbine_generator #29 added 10 days ago 000 Closed</div></div>	<div>8</div>
<div><div>✓</div><div>Sprint 3 documentation <span>documentation</span></div><div>wind_turbine_generator #30 added 10 days ago 000 Closed</div></div>	<div>13</div>
Incomplete issues and pull requests that were not completed by the end of the sprint	Story points
<div><div>⦿</div><div>Arduino interaction with ESP-01 <span>enhancement</span></div><div>wind_turbine_generator #6 added 1 days ago 000 In progress</div></div>	<div>8</div>
<div><div>⦿</div><div>Test Supervision Station <span>testing</span></div><div>wind_turbine_generator #8 added 10 days ago 000 In progress</div></div>	<div>13</div>
<div><div>⦿</div><div>Data Consumer: Data log and Screen representation <span>enhancement</span></div><div>wind_turbine_generator #14 added 10 days ago 000 In progress</div></div>	<div>13</div>
<div><div>⦿</div><div>Arduino interaction with R.Pi <span>enhancement</span></div><div>wind_turbine_generator #16 added 10 days ago 000 In progress</div></div>	<div>13</div>
<div><div>⦿</div><div>Supervision Station documentation <span>documentation</span></div><div>wind_turbine_generator #31 added 10 days ago 000 In progress</div></div>	<div>13</div>

# SPRINT DEFINITION

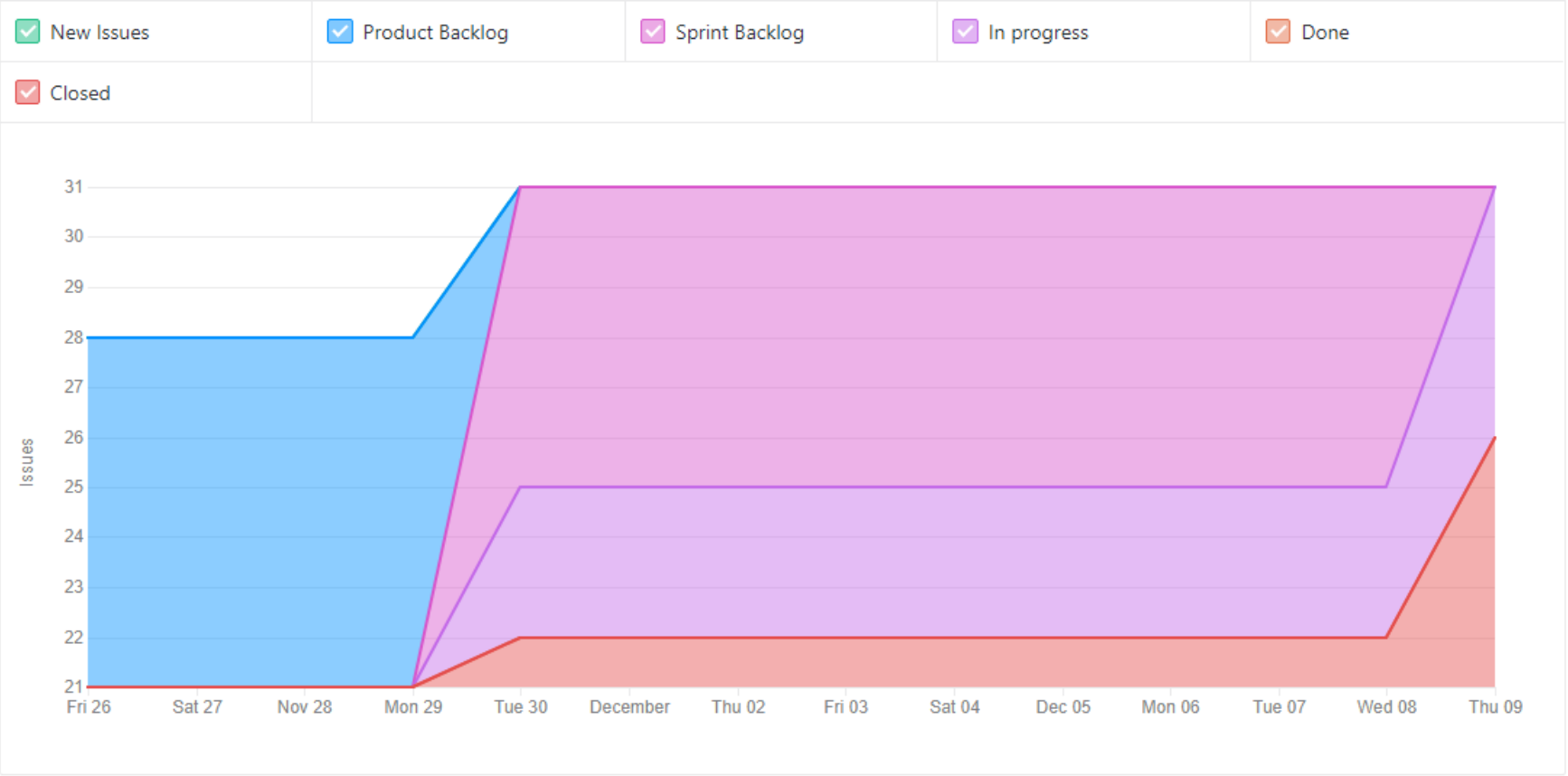
User Story

## Data Consumer

As a Maintenance manager I would like to represent graphically the obtained sensor data, within the last 24h, in the Supervision Station.



# SPRINT REVIEW



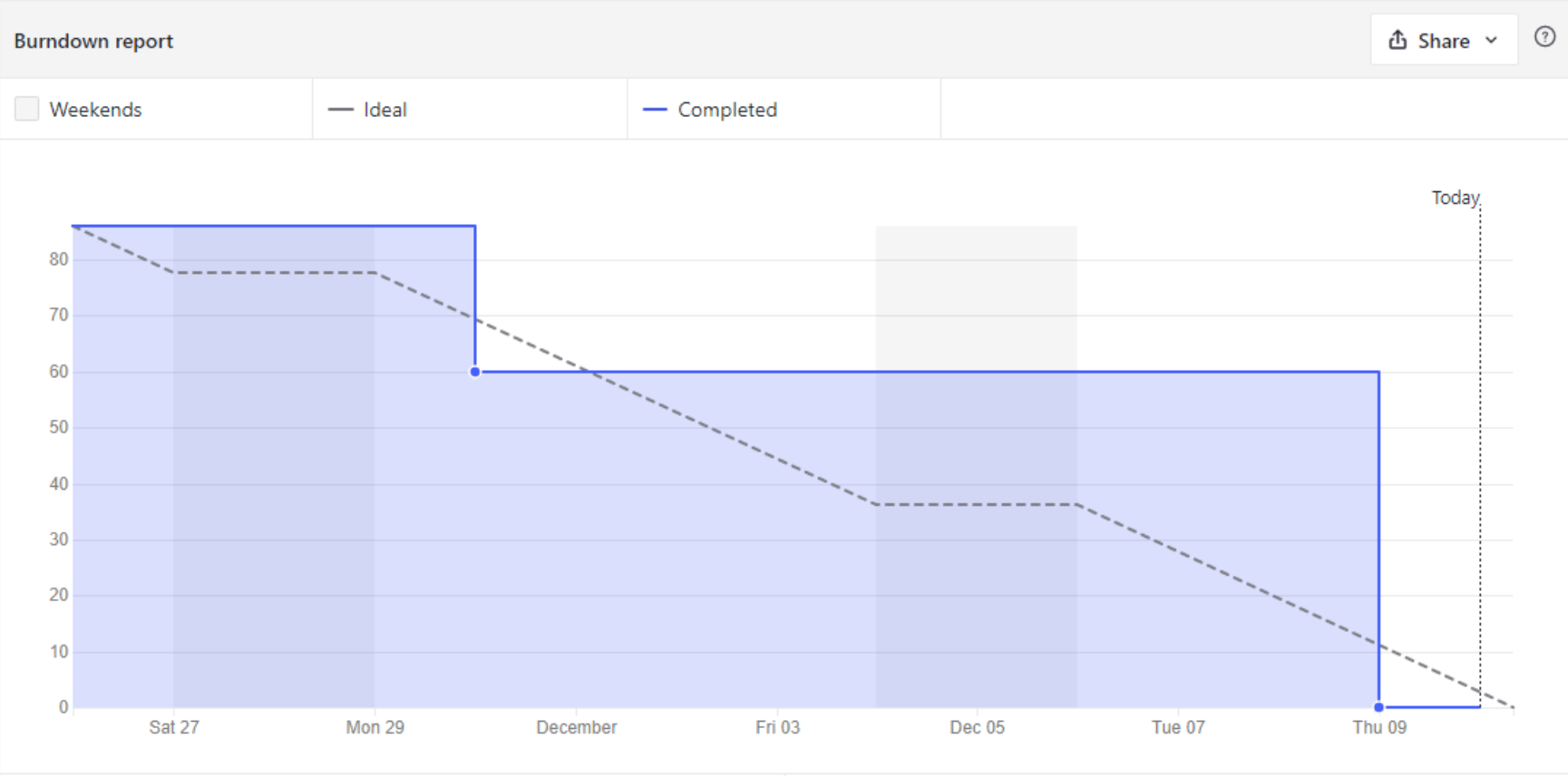
14 days

22h dedication time

52/86

story points completion

# SPRINT REVIEW



14 days

22h dedication time

52/86

story points completion

# SPRINT COMPLETION

Task	Completion (%)	Team dedication time (h)
Prepare Raspberry Pi Environment	100	1h
Install ChibiOS to Raspberry Pi	100	1h
Arduino interaction with R.Pi	80	3h
Connect Raspberry Pi to LCD Screen via serial port	100	2h
Arduino interaction with ESP-01	50	2h
Test Supervision Station	80	5h
Data Consumer: Data log and Screen representation	70	4h
Sprint 3 documentation	100	3h
Supervision Station documentation	25	1h

14 days

22h dedication time

1.5 hour

per day

# DATA CONSUMER

## Material

---

1. ESP-01 (3.3 V)
2. BreadBoard
3. LCD Screen (5V)
4. Raspberry Pi
5. VCC Protoboard Adapter (3.3V, 5V)
6. ESP Programmer Module (**Driver required**)
7. Wires
8. Arduino UNO
9. ChibiOS RTOS (Software)
10. SD Memory

## Main Dependencies

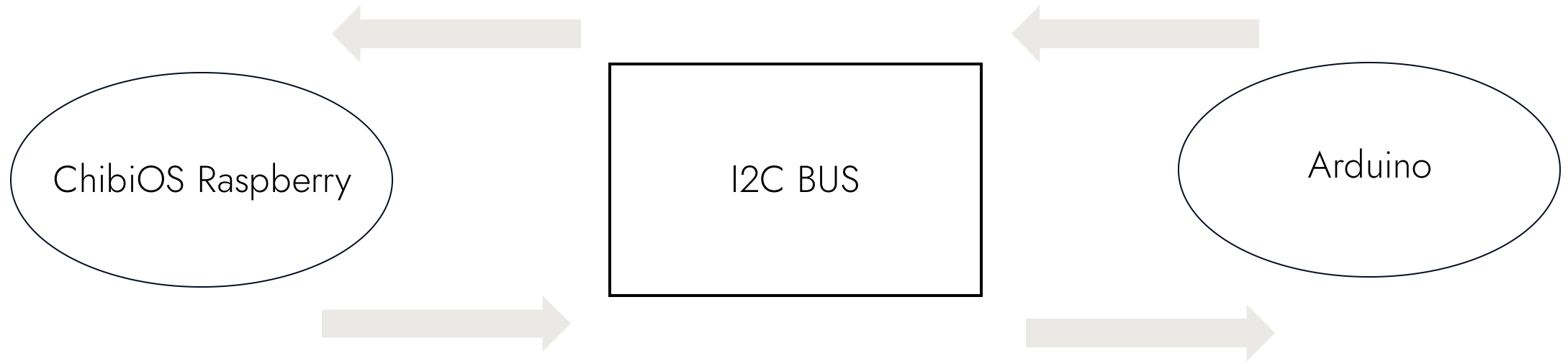
---

- **ChibiOS Raspberry**
  - ch.h ( all the required kernel headers )
  - hal.h
  - chprintf.h
  - chbsem.h
- **Arduino**
  - Wire.h
  - Arduino.h
  - ESP8266WiFi.h

# DATA CONSUMER

**Master**

**Slave**



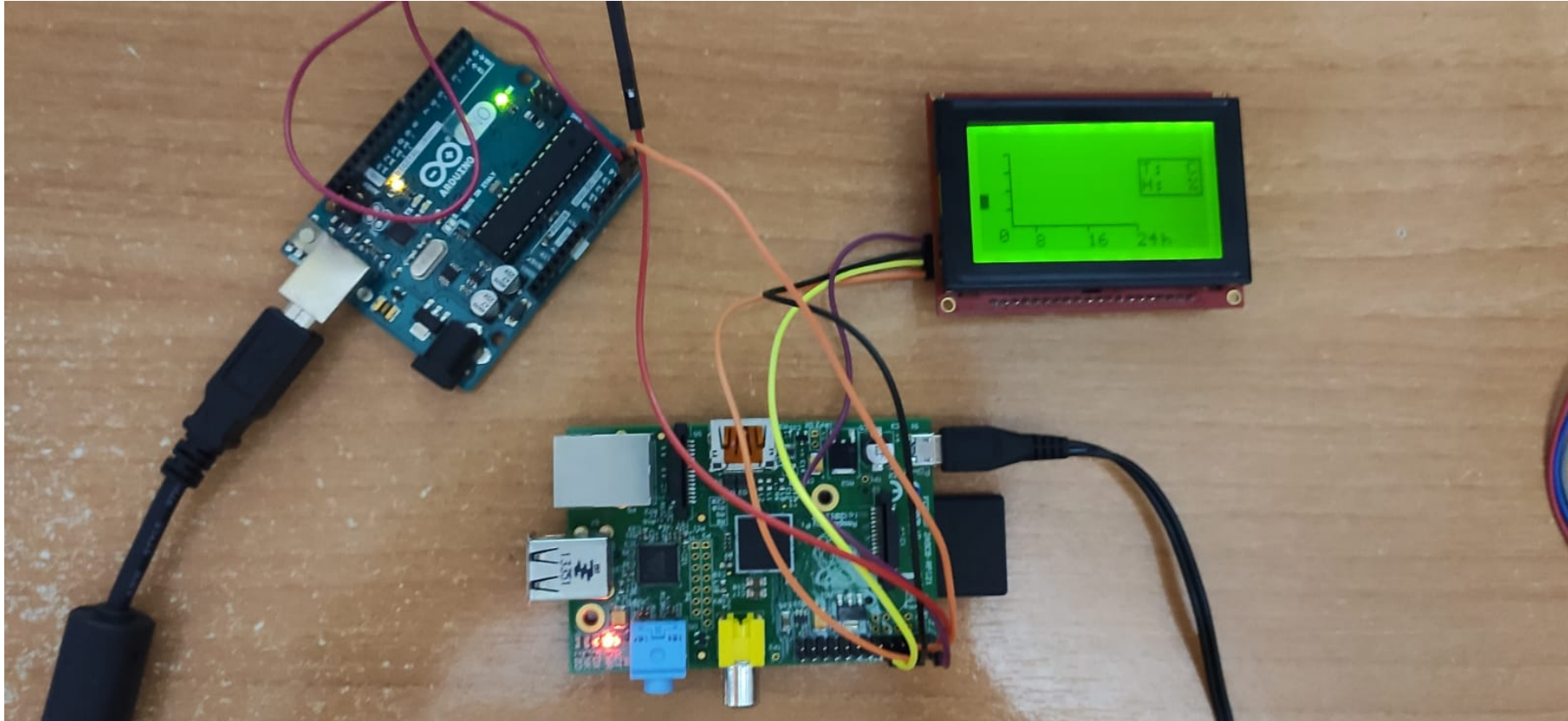
`i2cMasterReceiveTimeout()`

`Wire.onRequest(): callback`

`Wire.write(data)`



# DATA CONSUMER



# PROBLEMS ENCOUNTERED

- 
1. Failing Wires
  2. LCD Screen not working
  3. SD Adapter not available
  4. Migration to Native Ubuntu



- 
1. Raspberry Pi and Arduino I2C BUS communication

# NEXT SPRINT

Incomplete issues and pull requests that were not completed by the end of the sprint	Story points
<div><div>•</div><div>Arduino interaction with ESP-01 <span>enhancement</span></div><div>wind_turbine_generator #6 added 1 days ago 000 In progress</div></div>	8
<div><div>•</div><div>Test Supervision Station <span>testing</span></div><div>wind_turbine_generator #8 added 10 days ago 000 In progress</div></div>	13
<div><div>•</div><div>Data Consumer: Data log and Screen representation <span>enhancement</span></div><div>wind_turbine_generator #14 added 10 days ago 000 In progress</div></div>	13
<div><div>•</div><div>Arduino interaction with R.Pi <span>enhancement</span></div><div>wind_turbine_generator #16 added 10 days ago 000 In progress</div></div>	13
<div><div>•</div><div>Supervision Station documentation <span>documentation</span></div><div>wind_turbine_generator #31 added 10 days ago 000 In progress</div></div>	13

Integration Test

Whole project documentation