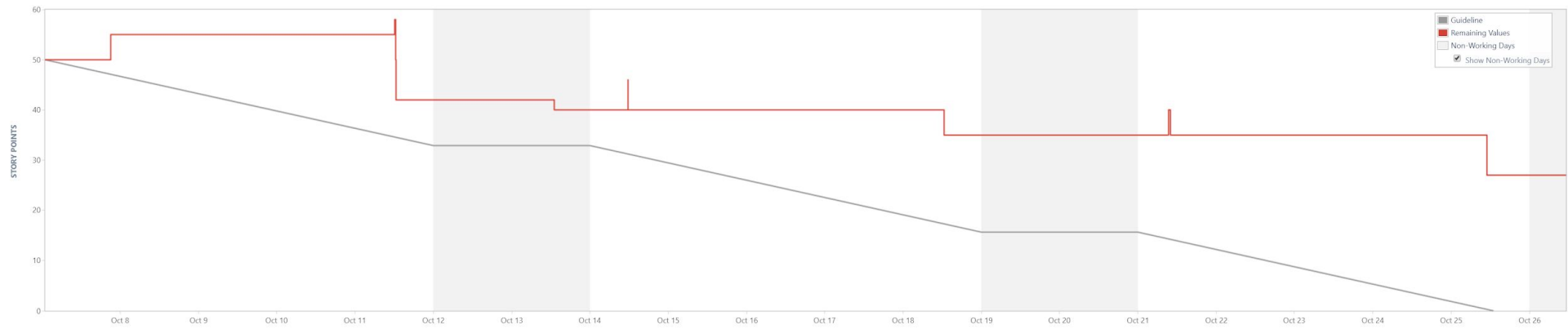
Medical Delivery

IoT - Tussentijdse presentatie 2

Burndown chart



User story done MD2-8

Medical Delivery #2 / MD2-8

Technical Story: Read GPS data into microcontroller

Edit | Comment | Assign | More | To Do | In Progress | Done

Details

Type:	Task	Status:	DONE (View Workflow)
Priority:	High	Resolution:	Done
Labels:	None		
Epic Link:	Hardware		
Sprint:	MD2 Sprint 1, MD2 Sprint 2		

Description

Narrative

Attach the GPS module to the microcontroller so that we can view the received position NMEA-data in the serial monitor.

Acceptance Criteria

- The GPS sends data to the MCU.
- GPS module sends with a Baud Rate of 9600 bps.
- The current consumption is not higher than ±30 mA.
- The GPS locks on to 3 or more satellites in good conditions (outside, clear view of the sky).
- Position accuracy of at least 10m.
- Position is logged on serial monitor.

User story done MD2-29

Medical Delivery #2 / MD2-29

Technical Story: Design PCB for the LoRa Module

Edit | Comment | Assign | More | To Do | In Progress | Done

Details

Type:	Story	Status:	DONE (View Workflow)
Priority:	Medium	Resolution:	Done
Labels:	None		
Epic Link:	Hardware		
Sprint:	MD2 Sprint 2		

Description

Design the PCB for the LoRa module and test the board. Make a connection for an antenna

Acceptance Criteria

- The PCB has been designed
- The components have been assembled
- The PCB has been tested

User story done MD2-15

Medical Delivery #2 / MD2-15

Technical Story: Read accelerometer data from 9dof sensor into microcontroller

Edit | Comment | Assign | More | To Do | In Progress | Done

Details

Type:	Story	Status:	DONE (View Workflow)
Priority:	Medium	Resolution:	Done
Labels:	None		
Epic Link:	Hardware		
Sprint:	MD2 Sprint 2		

Description

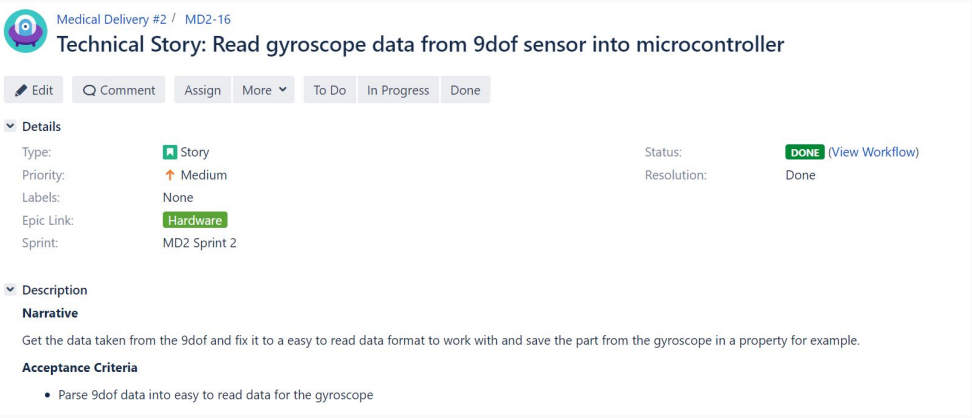
Narrative

Get the data taken from the 9dof and fix it to a easy to read data format to work with and save the part from the accelerometer in a property for example.

Acceptance Criteria

- Parse 9dof data into easy to read data for the accelerometer

User story done MD2-16



Medical Delivery #2 / MD2-16

Technical Story: Read gyroscope data from 9dof sensor into microcontroller

Edit | Comment | Assign | More | To Do | In Progress | Done

Details

Type:	Story	Status:	DONE (View Workflow)
Priority:	Medium	Resolution:	Done
Labels:	None		
Epic Link:	Hardware		
Sprint:	MD2 Sprint 2		

Description

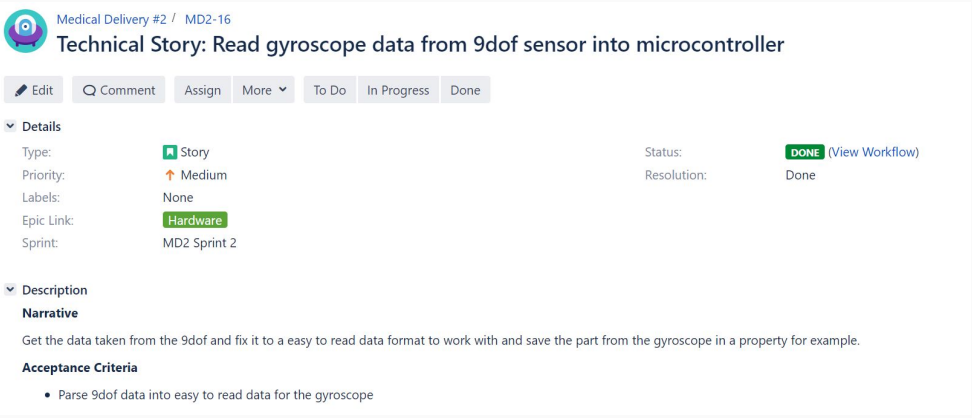
Narrative

Get the data taken from the 9dof and fix it to a easy to read data format to work with and save the part from the gyroscope in a property for example.

Acceptance Criteria

- Parse 9dof data into easy to read data for the gyroscope

User story done MD2-16



Medical Delivery #2 / MD2-16

Technical Story: Read gyroscope data from 9dof sensor into microcontroller

Edit | Comment | Assign | More | To Do | In Progress | Done

Details

Type:	Story	Status:	DONE (View Workflow)
Priority:	Medium	Resolution:	Done
Labels:	None		
Epic Link:	Hardware		
Sprint:	MD2 Sprint 2		

Description

Narrative

Get the data taken from the 9dof and fix it to a easy to read data format to work with and save the part from the gyroscope in a property for example.

Acceptance Criteria

- Parse 9dof data into easy to read data for the gyroscope

User story done MD2-14

Medical Delivery #2 / MD2-14

Technical Story: Send data from microcontroller via LoRa module to LoRa gateway

Edit | Comment | Assign | More | To Do | In Progress | Done

Details

Type:	Story	Status:	DONE (View Workflow)
Priority:	Highest	Resolution:	Done
Labels:	None		
Epic Link:	Hardware		
Sprint:	MD2 Sprint 1, MD2 Sprint 2		

Description

Narrative

Connect the microcontroller with the LoRa module. Send some test data over the LoRaWAN network. Since we only have chosen a microcontroller that would theoretically be good for this project, select an appropriate one that is available in the meantime in the labs.

Acceptance Criteria

- Is able to transmit data over the LoRaWAN network.
- Code and connections documented.

Stories mee te nemen naar volgende sprint

- MD2-9 Technical Story: Read humidity sensor — Hardware — 4
- MD2-26 Technical Story: Design PCB for the humidity/temperature sensor — Hardware — 6
- MD2-25 Technical Story: Design PCB for the GPS — Hardware — 6
- MD2-11 Technical Story: Read Temperature sensor — Hardware — 3
- MD2-27 Technical Story: Design PCB for the MCU — Hardware — 8

Narrative MD2-27

Design the schematic and pcb for the MCU ATSAMD21G and test it.

Acceptance criteria

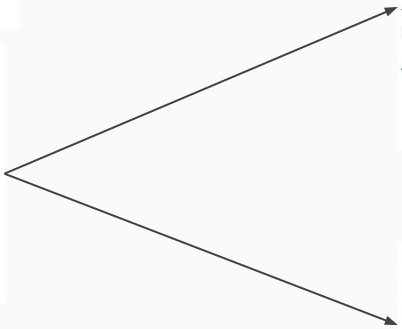
- Program the device
- Connect sensors to MCU
- PCB assembled

Narrative MD2-26

Design the PCB for the Humidity and temperature sensor (HONEYWELL - HIH8120-021-001) and test the board.

Acceptance Criteria

- The PCB has been designed
- The components have been assembled
- The PCB has been tested



Narrative MD2-9

The humidity sensor should be connected to a analog port of the microcontroller. How it is connected depends on the humidity sensor itself (resistive, capacitive). It could be possible that you have to do a formula to change the raw data to humidity in %.

Acceptance Criteria

- Being able to log the humidity in the air in % from 0 - 100 onto the serial monitor

Narrative MD2-11

Read the temperature sensor from an ADC port on the microcontroller.

Acceptance Criteria

- Log temperature data onto serial monitor

Integration belangrijk

Updates in analyse

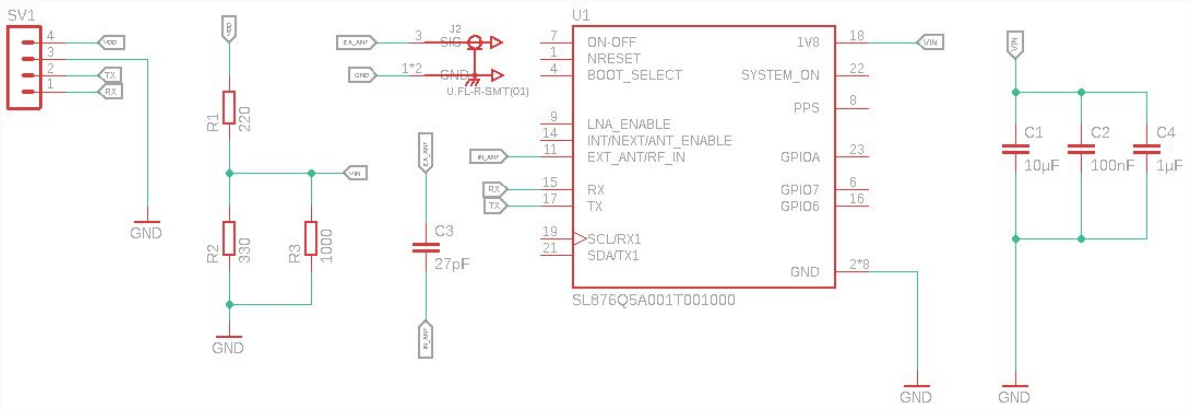
- 9DoF documentation

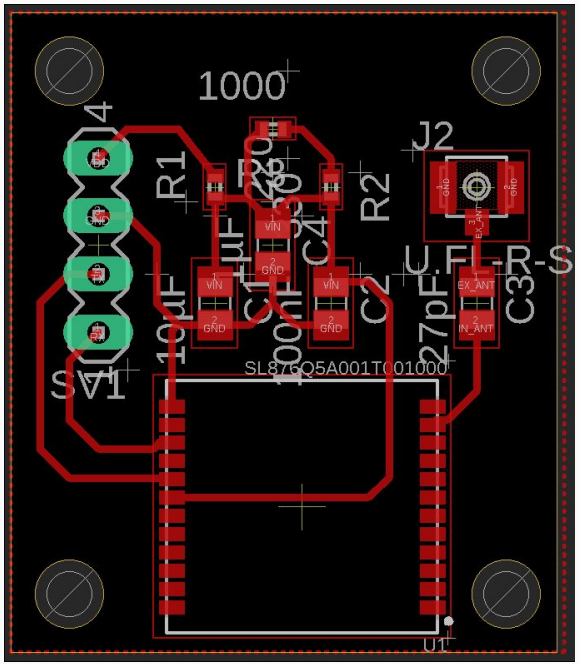
Jarno

- LoRa module pcb gesoldeerd en getest
- Integratie 9DoF - LoRa module
- Integratie GPS en 9DoF met LoRa module (Oussama)
- Tijdelijke breakout board voor humidity sensor gemaakt

Imad

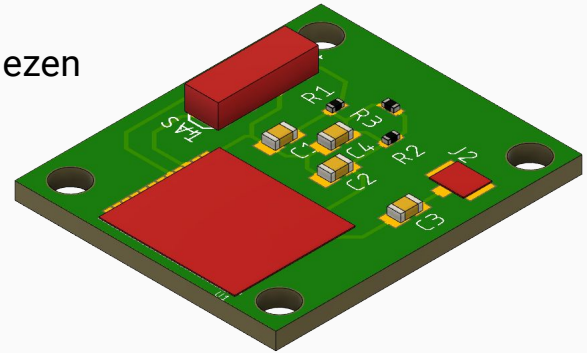
Update GPS module schema:





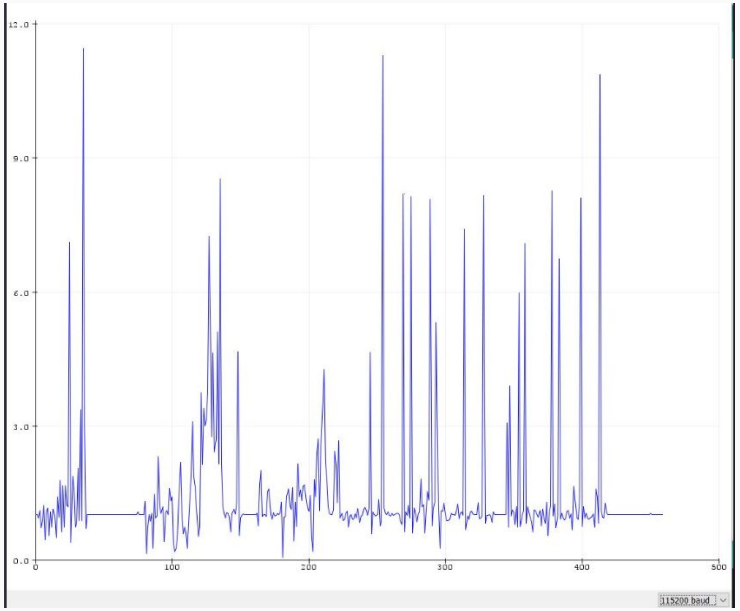
Temperature/Humidity sensor uitlezen

```
Relative Humidity :234.48 %RH
Temperature in Celsius :7.05 C
```

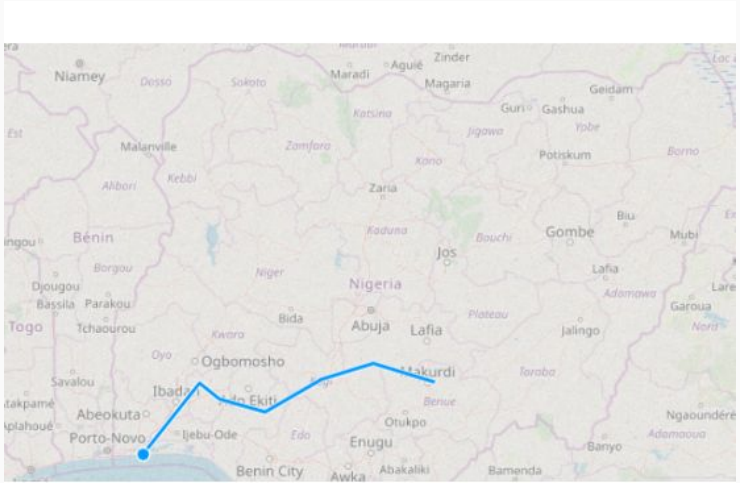


Cristian

- 9DoF sensor getest
- Map



OpenLayers Api



Oussama

- Verbinding GPS - MCU
- Integratie GPS - LoRa module
- Integratie GPS en 9DoF met LoRa module (Jarno)

Openstaande design vragen