

BESTUURBARE BRANDBLUSROBOT

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Bestuurbare brandblusrobot

Project & wetenschappelijk rapporteren

Groep: ICTEO12

Odisee
DE CO-HOGESCHOOL

13-06-2022

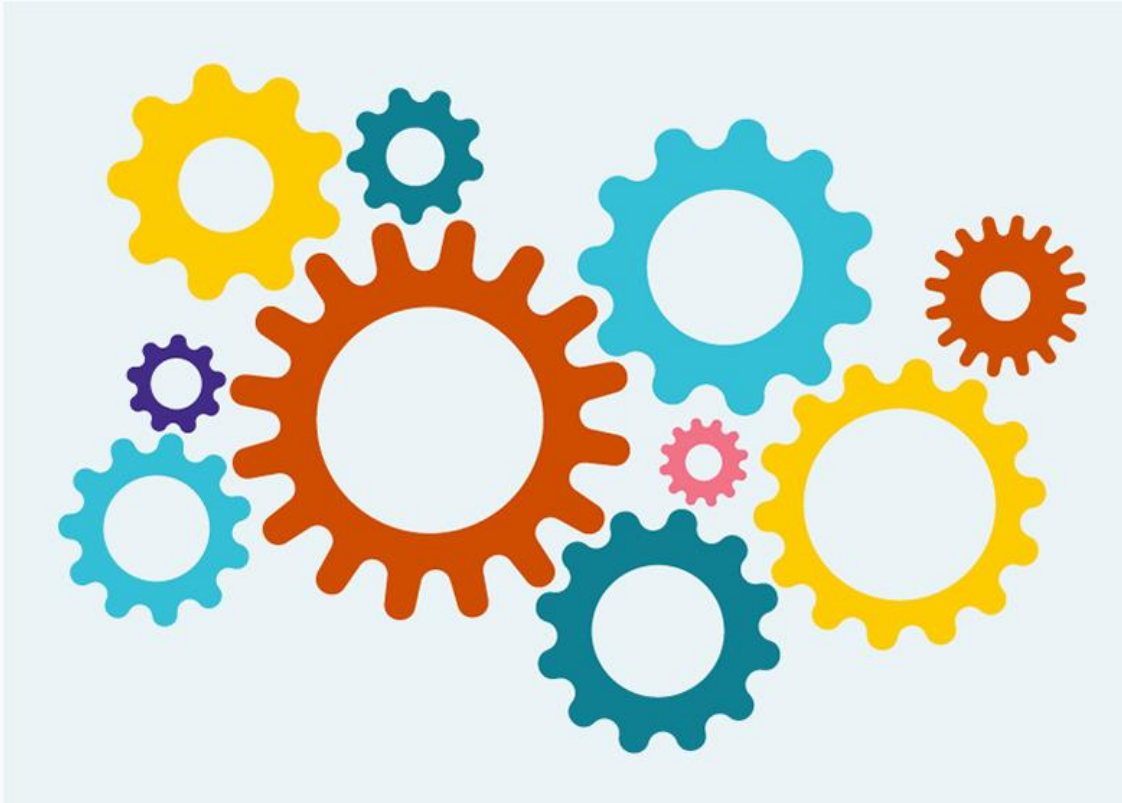
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Inhoud

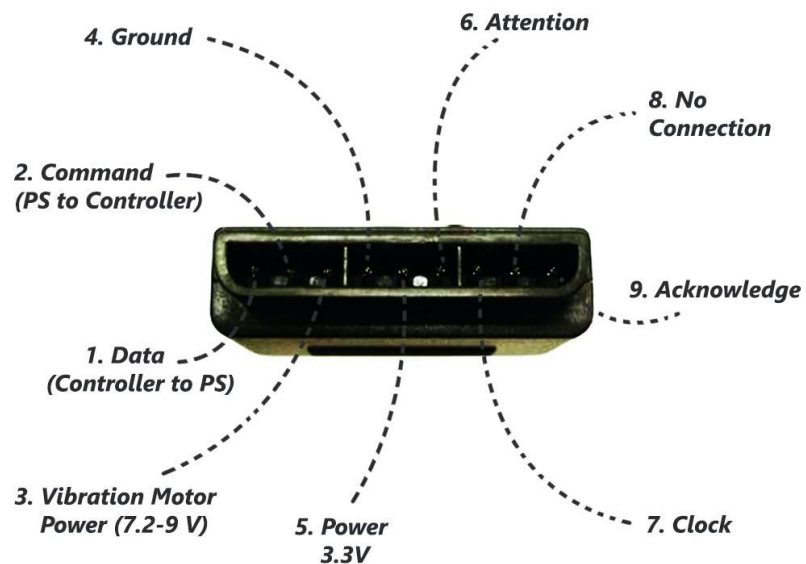
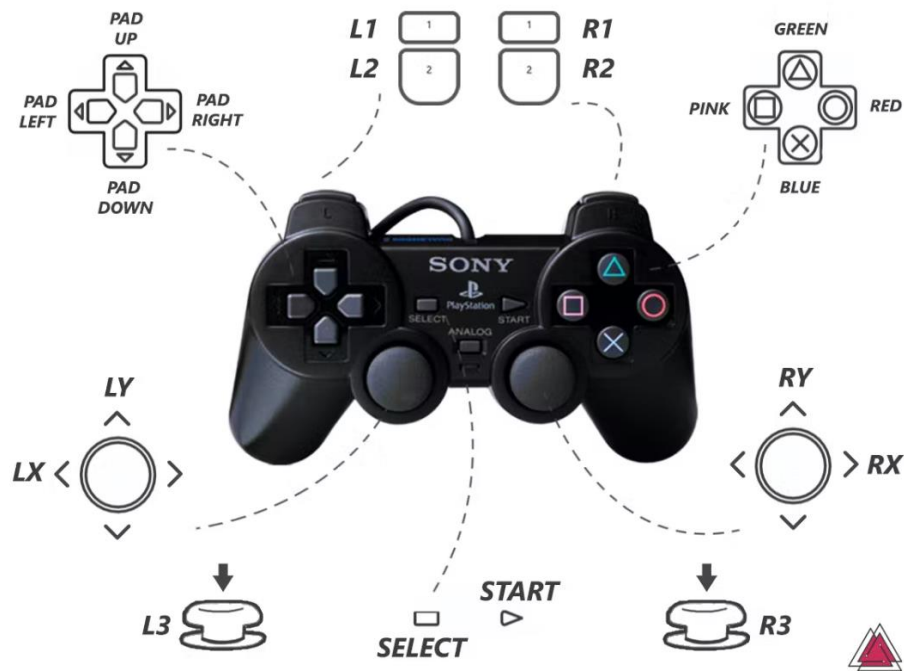
- Besturing / aandrijving
- Sensoren
- Visualisatie, app
- Waterreservoir
- PCB
- Lasercutten
- Problemen
- Optimalisatie
- Demo



Besturing / aandrijving



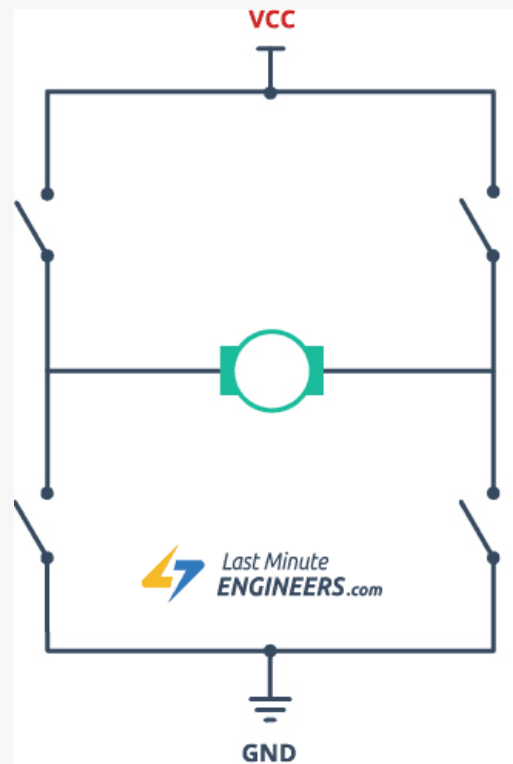
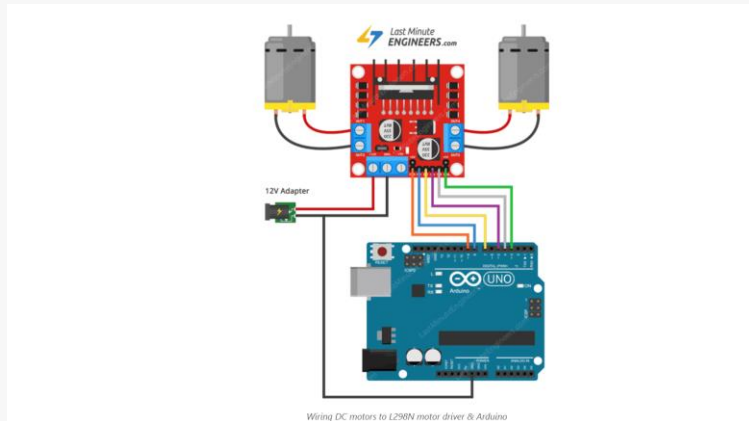
- PS2-controller
- DC-motor
- Stappenmotor
- Waterpomp



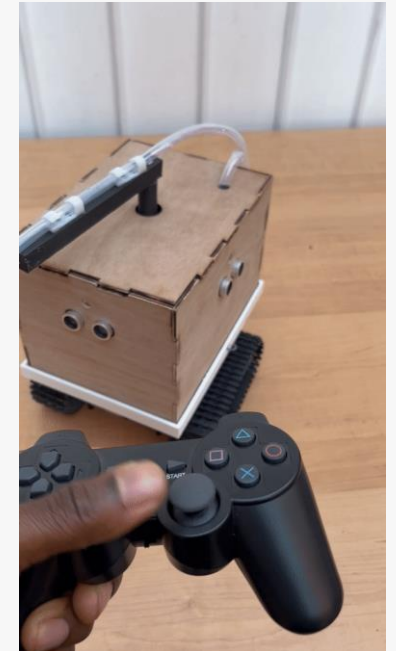
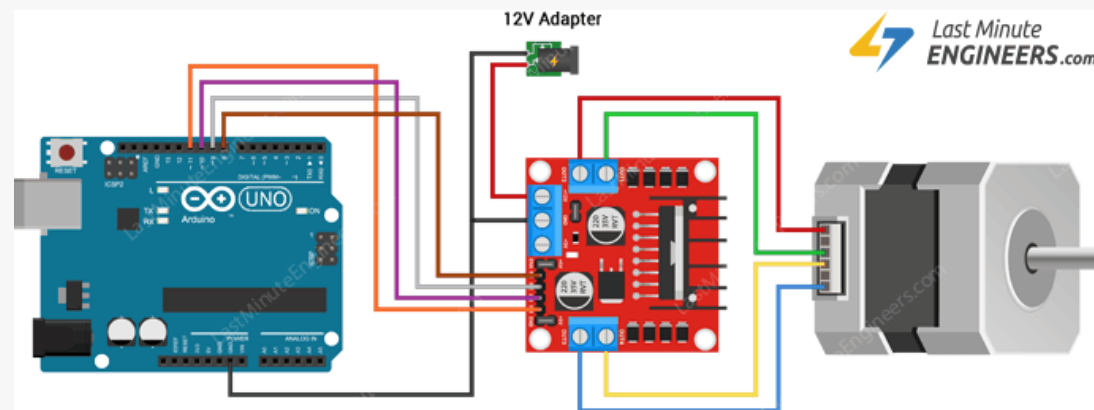
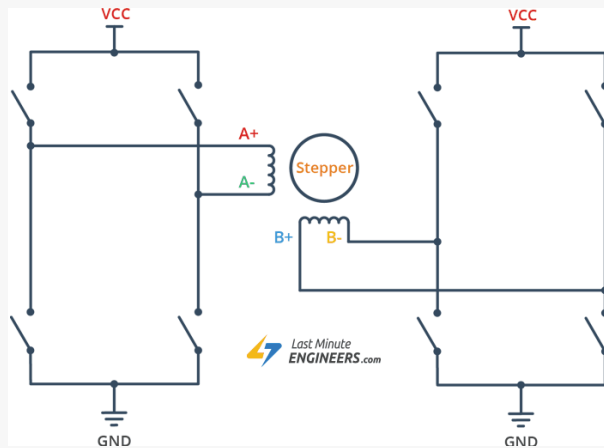
PS2-controller

KEY		F
PSB_LY > 200		ACHTERUIT
PSB_LY < 100		VOORUIT
PSB_LX < 100		LINKS
PSB_LX > 200		RECHTS
PSB_RX > 200		STEPPER MOTOR NA.
PSB_RX < 100		STEPPER MOTOR NA. DRAAIEN
PSB_R2		POMP UITZETTEN
PSB_R1		POMP AANZETTEN
PSB_L1		SENSOREN INLEZEN

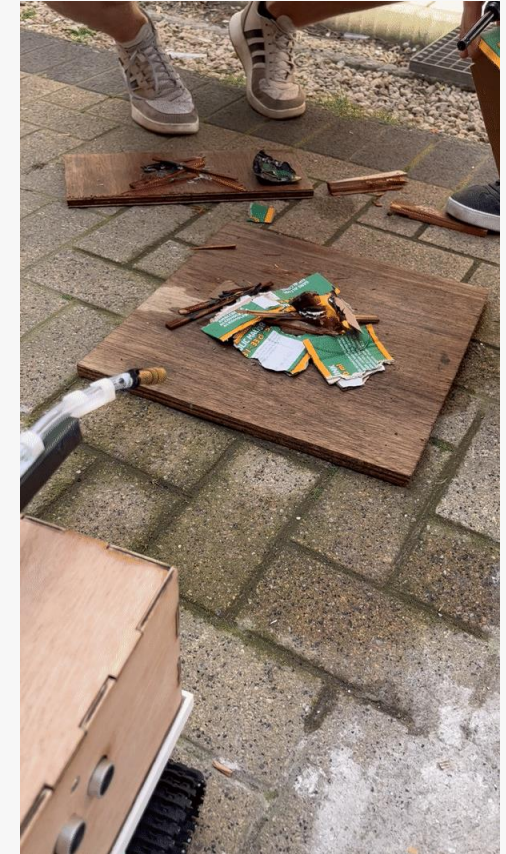
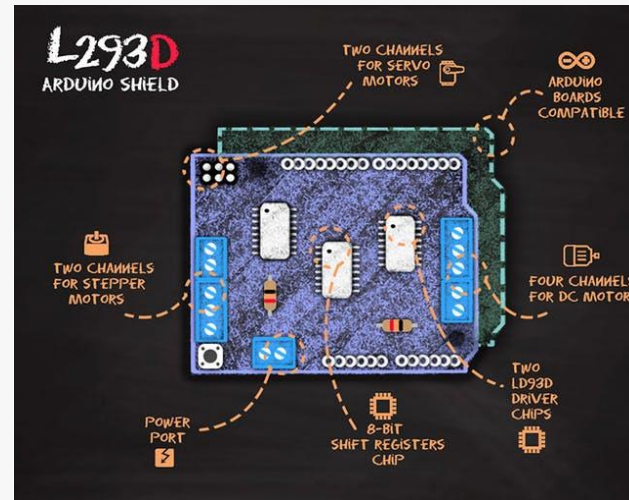
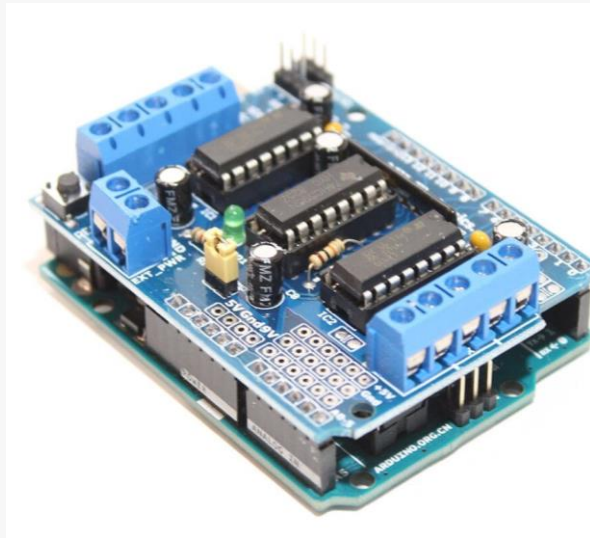
DC-motor



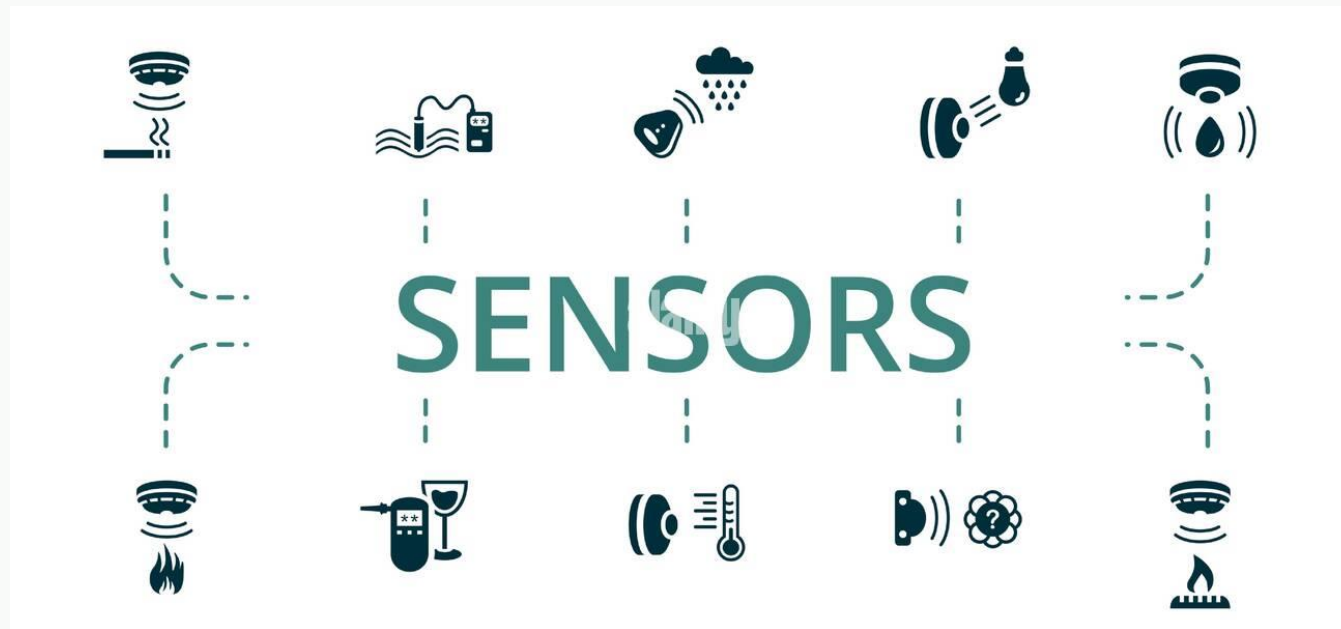
Stappenmotor



Waterpomp

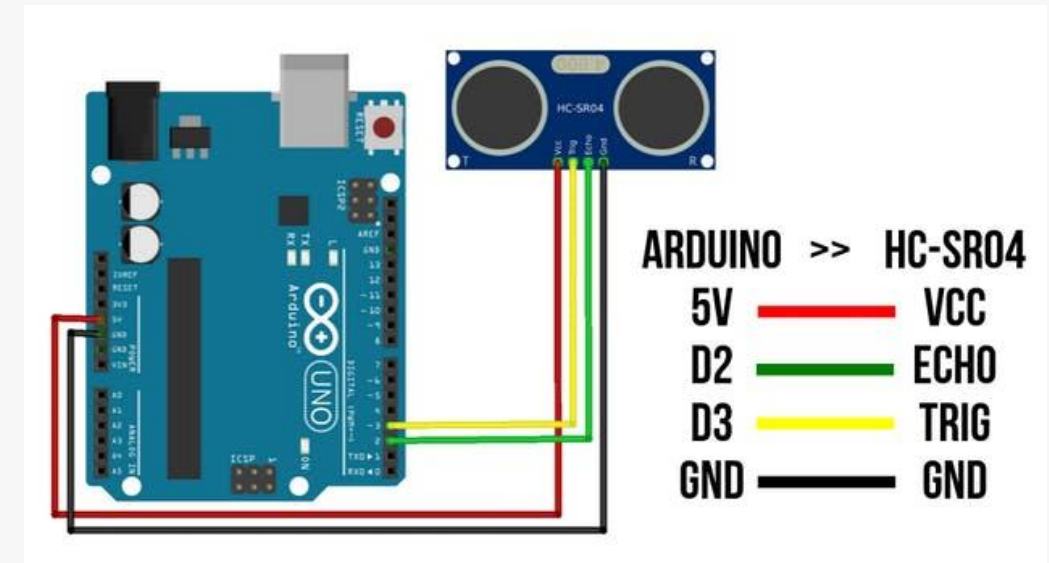
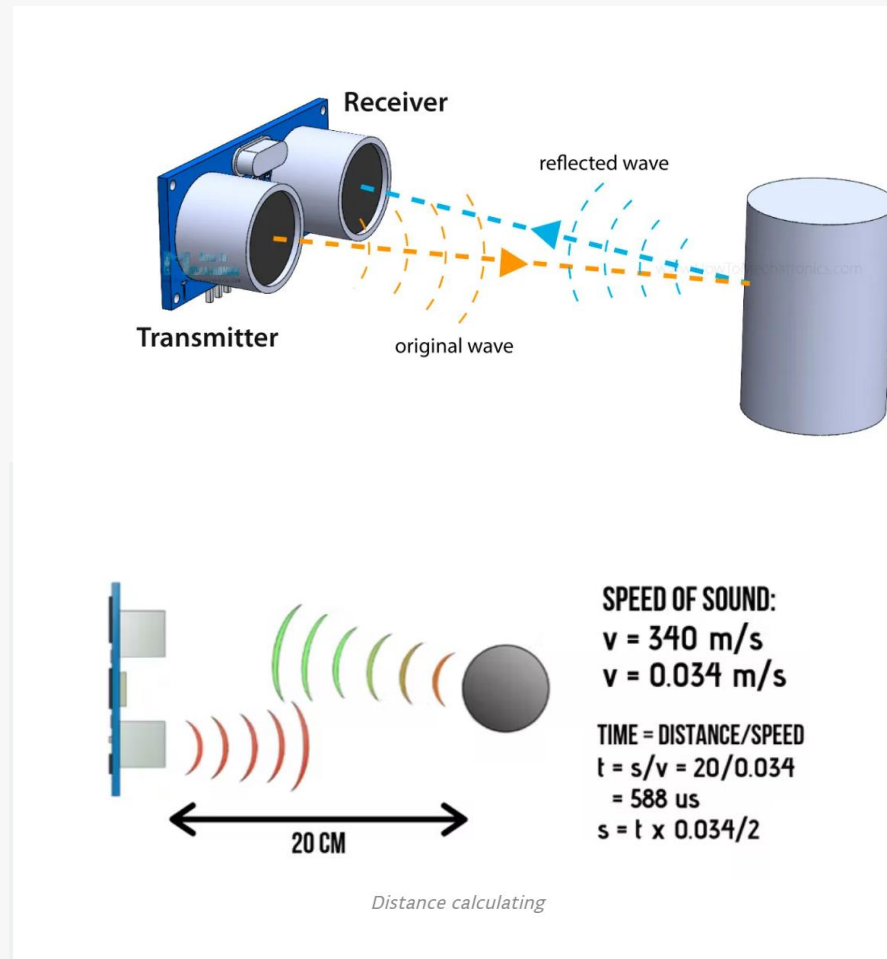


Sensoren

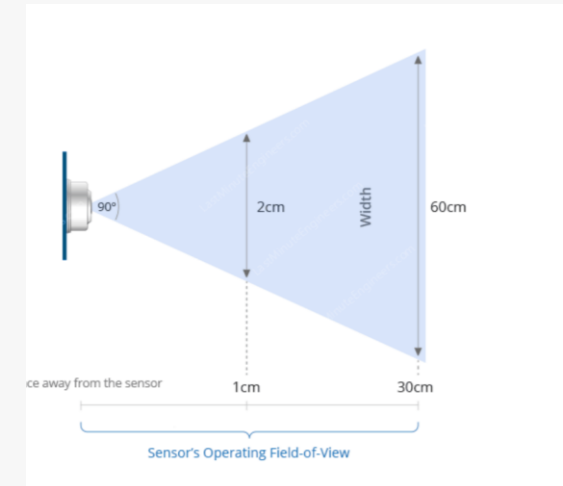
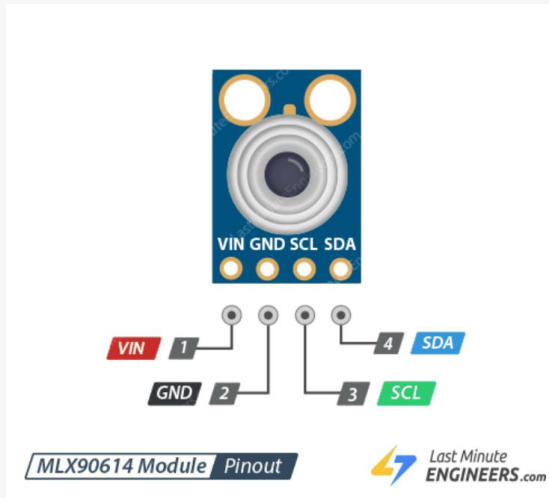


- HC-SR05 ultrasonic sensor
- MLX90614

HC-SR05 ultrasonic sensor



MLX90614



Visualisatie / app



- Visualisatie
- App
- HC-05-
bluetoothmodule

Visualisatie

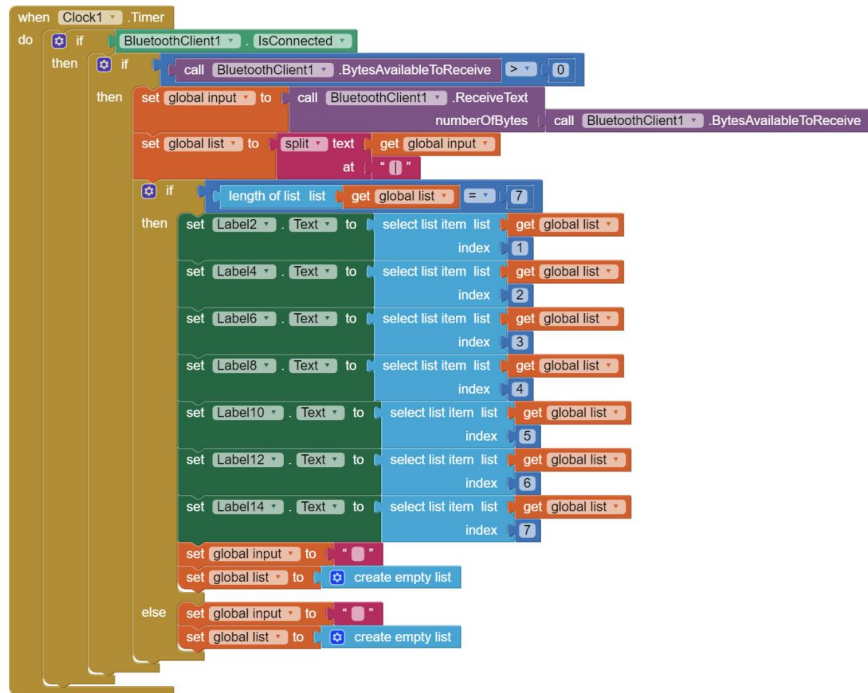
Connectiemethode: Bluetooth

- goedkoop
- efficiënter energieverbruik (tegenover wifi)
- PoC: geen groot signaalbereik nodig

App

- MIT App Inventor
- eenvoudig programmeren
- Android app

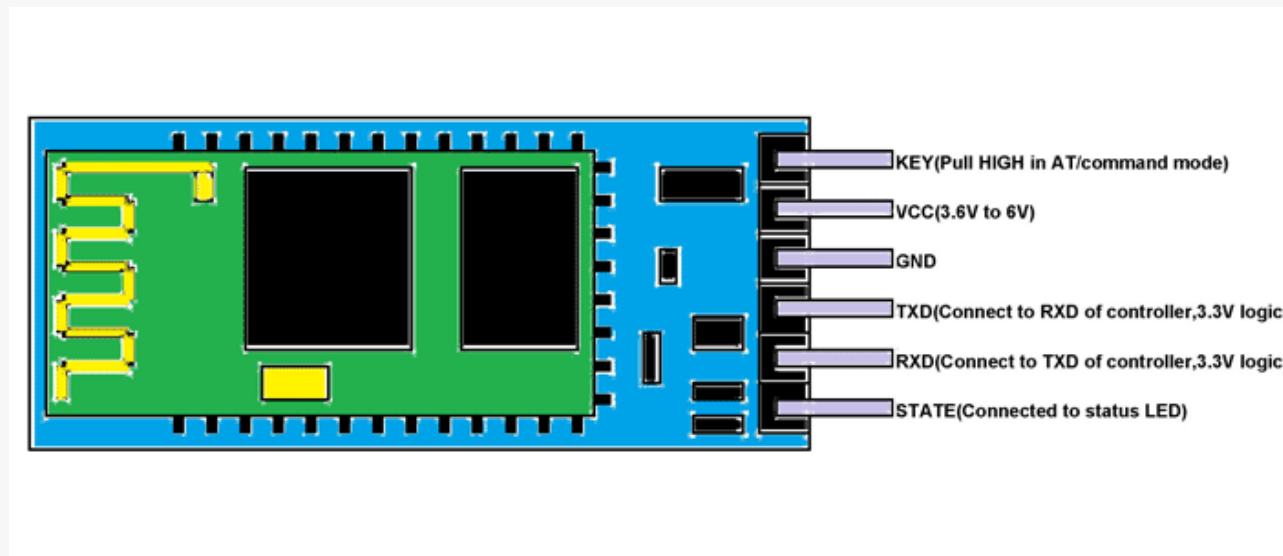
App



BRANDBLUSROBOT	
Afstandsensor	
Afstand Front	121cm
Afstand back	15cm
Afstand Links	7cm
Afstand Rechts	0cm

Vuursensor	
Vuursensor 1	26.35°C
Vuursensor 2	26.35°C
Vuursensor 3	1037.55°C

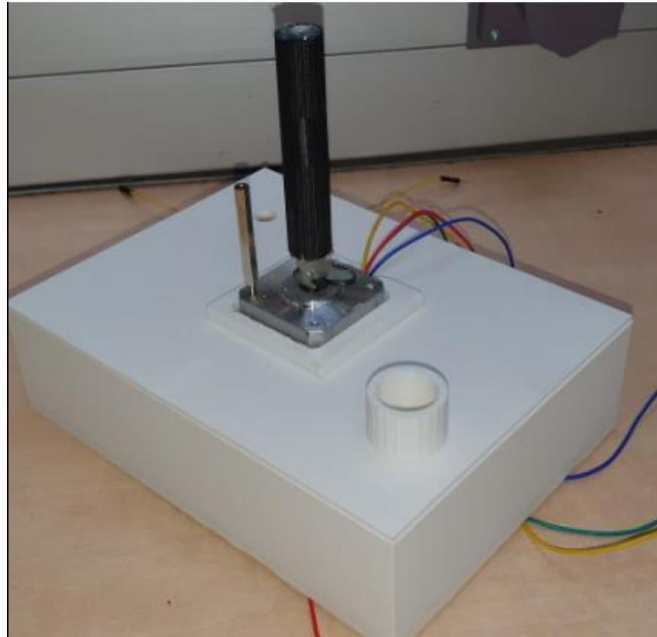
Bluetoothmodule



HC-05-bluetoothmodule

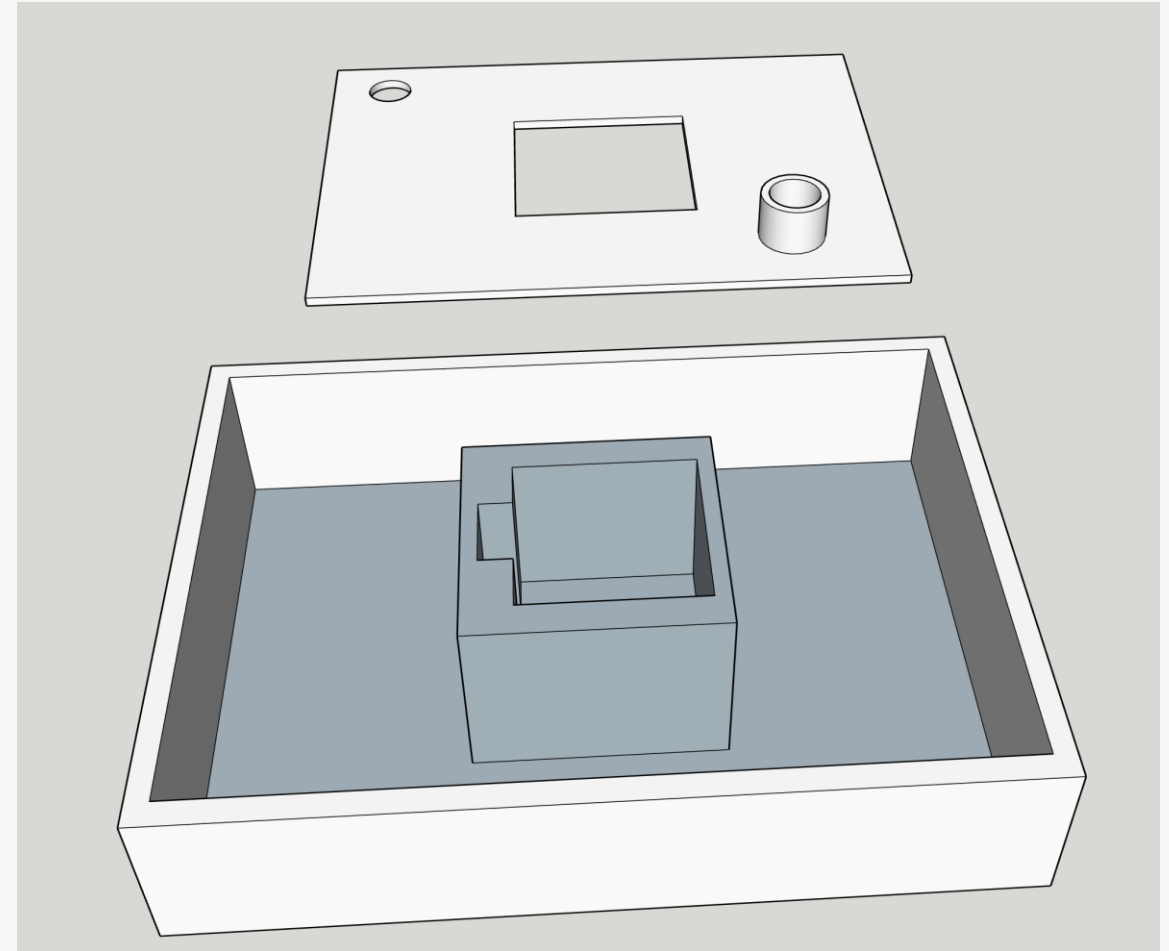
- SoftwareSerial library
- Sensoren → Arduino → BT module → App (component)

Waterreservoir

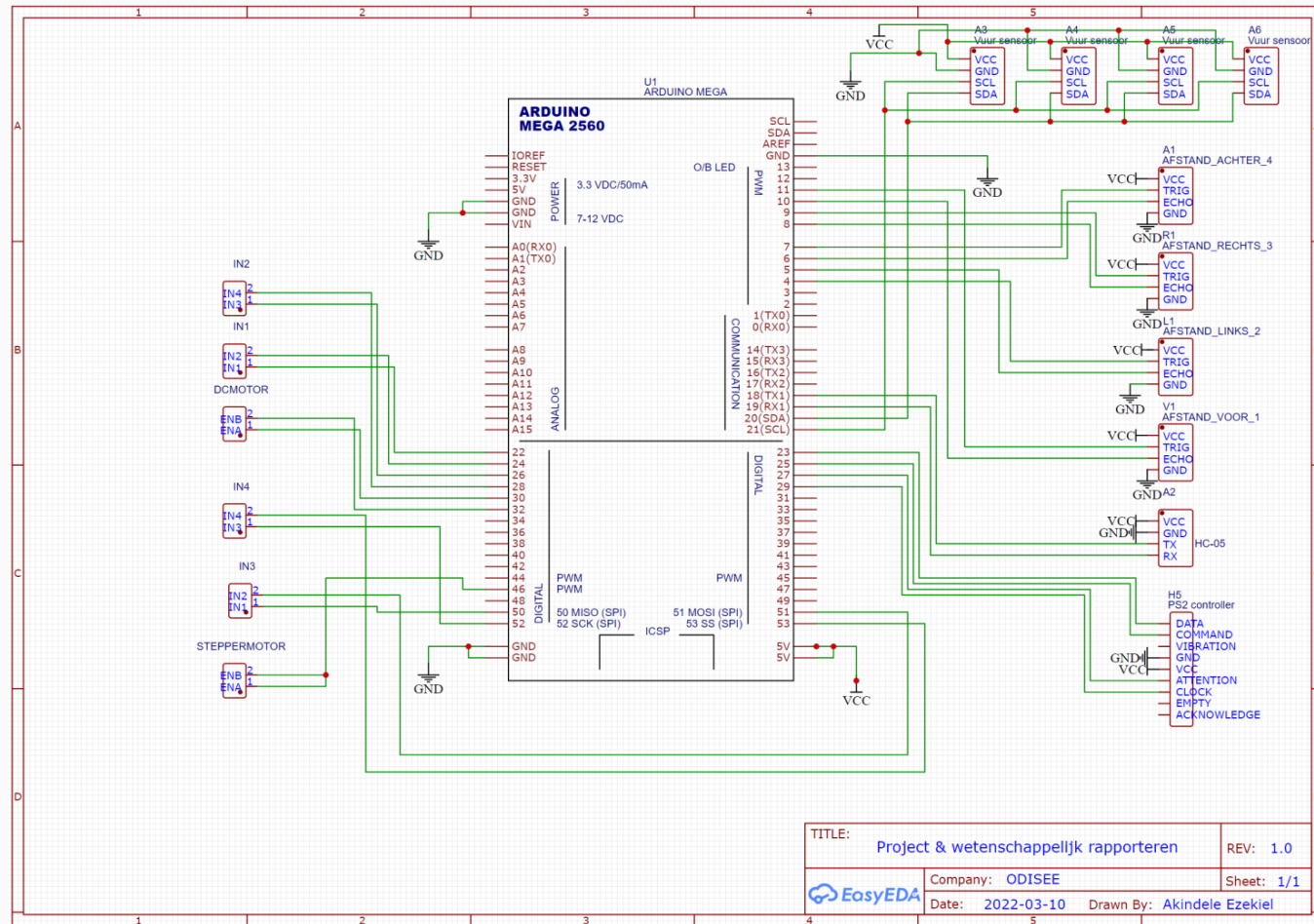


Waterreservoir

- PLA
- 5,0 mm dikte buitenranden
- Nozzle: 0,5 mm
- Siliconenspray
- Inhoud: +/- 0,5L

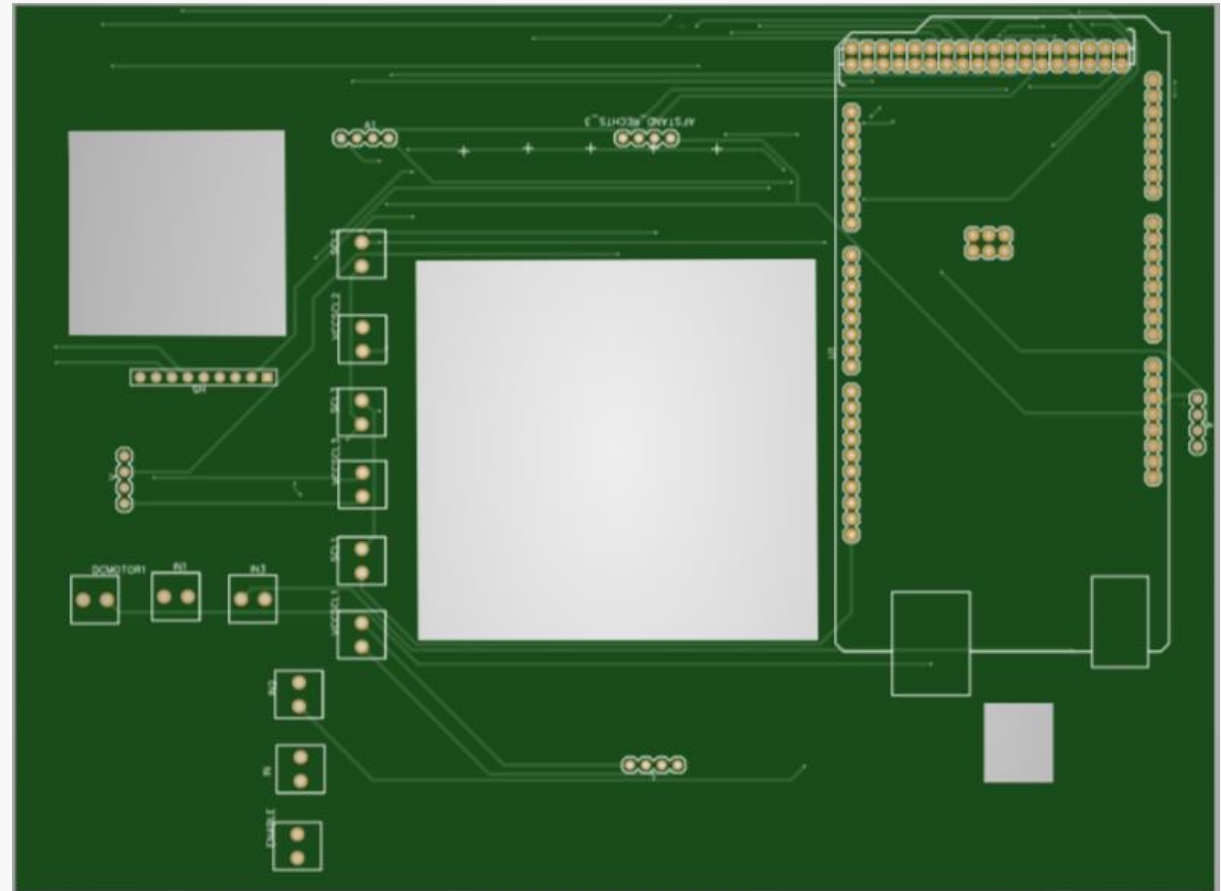
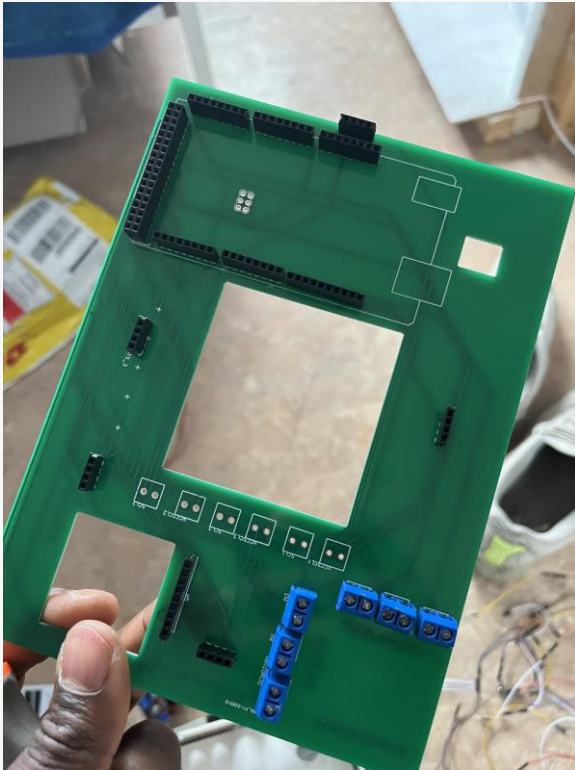


Schakeling

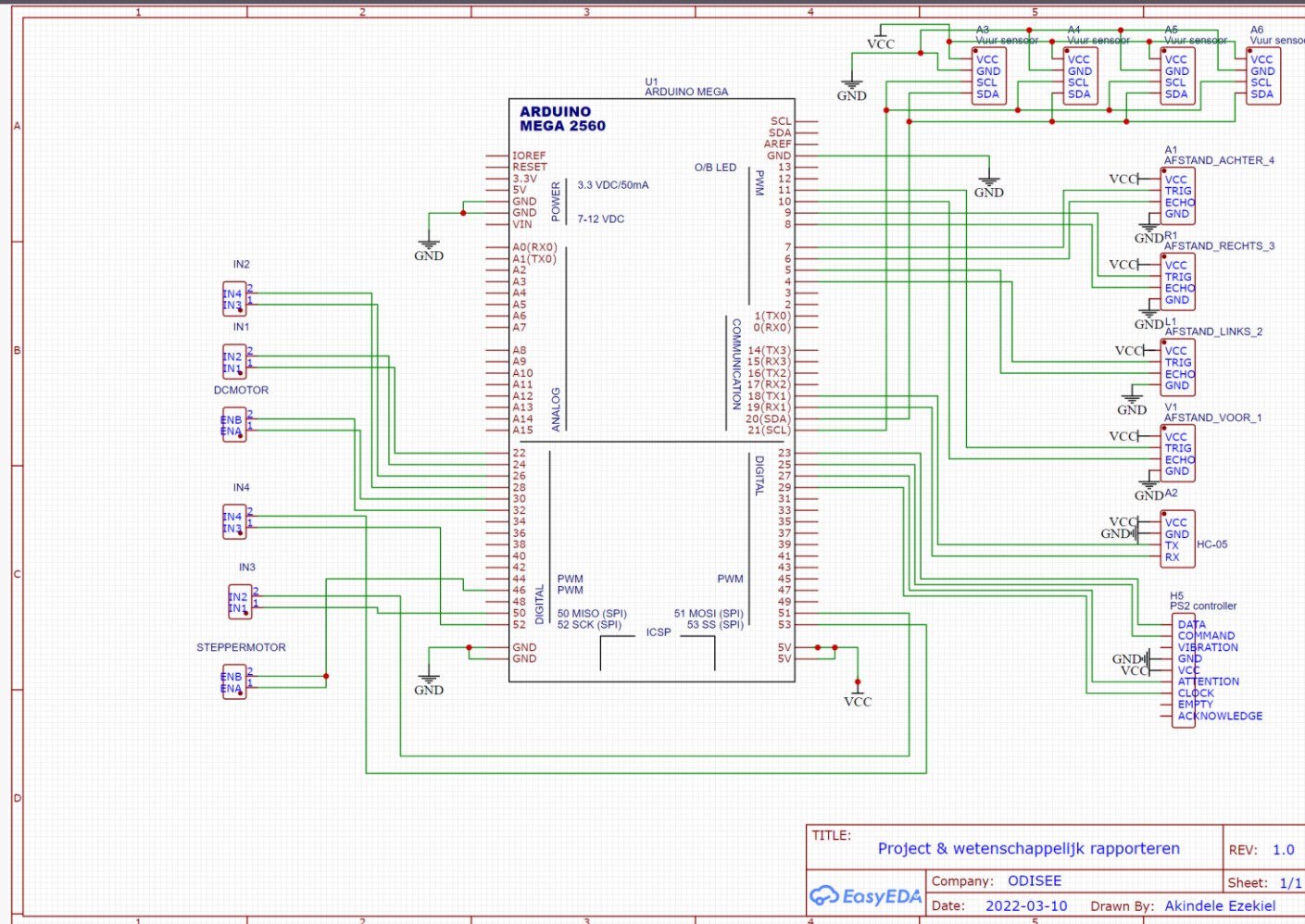


- PCB
- Schema

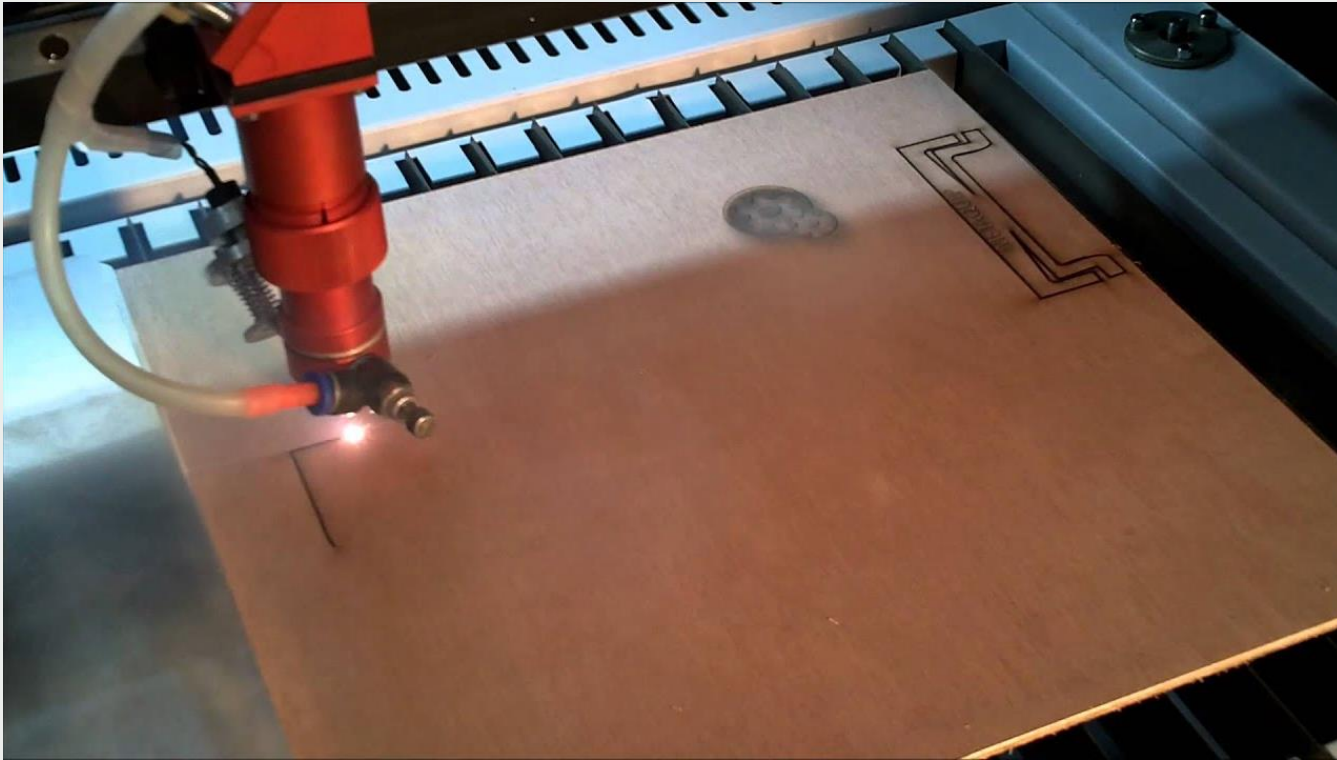
PCB



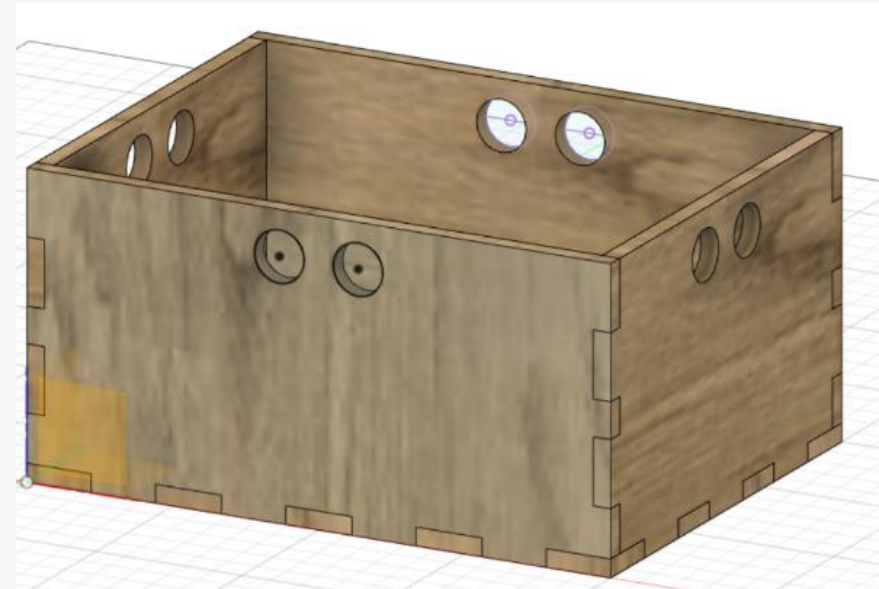
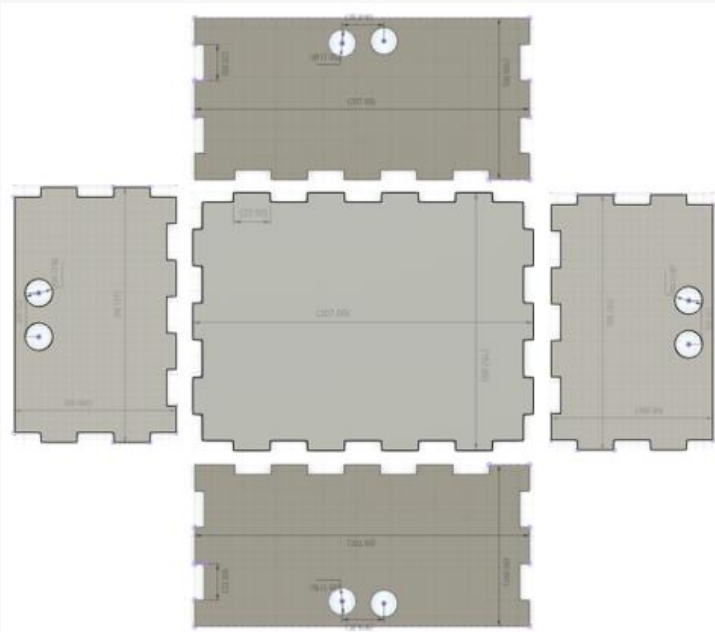
Schema



Lasercutten



Fusion 360



Problemen

Waarop zijn we gestoten?

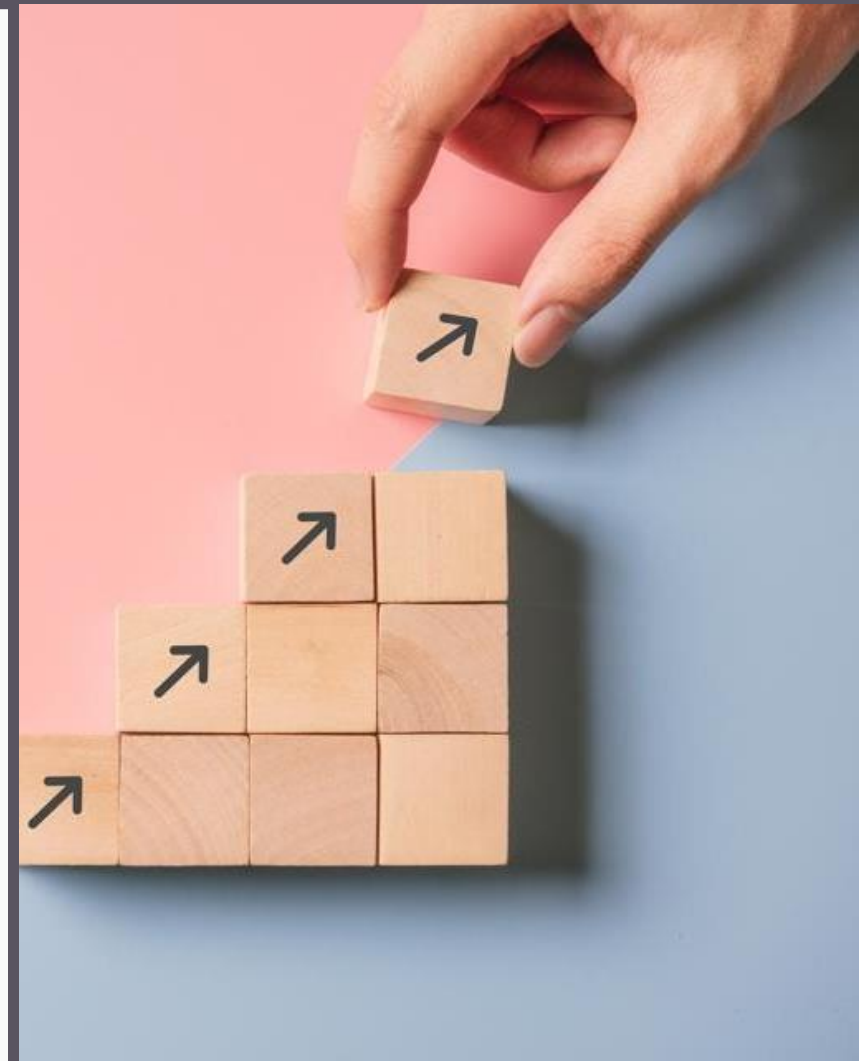
- Behuizing
- Vuursensor
- Afstandssensor
- App
- Stappenmotor



Optimalisatie

Wat kan er nog worden verbeterd?

- Aandrijving
- Sensoren
- Blusonderdelen
- App



“Het is precies
eerder om
planten water
te geven”



Demo

Demo video brandblusrobot



BEDANKT

Odisee
DE CO-HOGESCHOOL

