Robotplatform

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PXL TECH

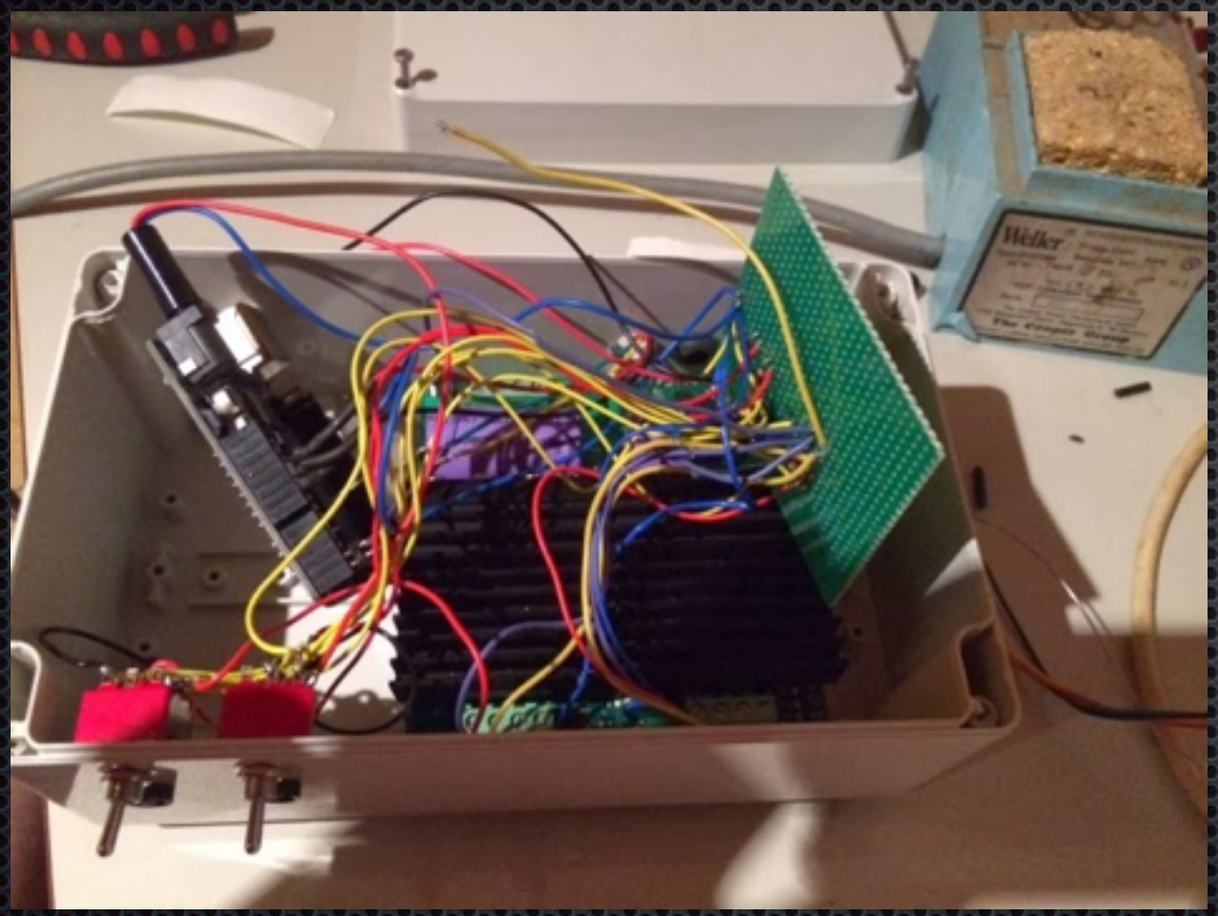
inleiding

-analyse project

-bekabeling
-verfijnen software
-nieuwe afstandsbediening
-draadloos
-applicatie

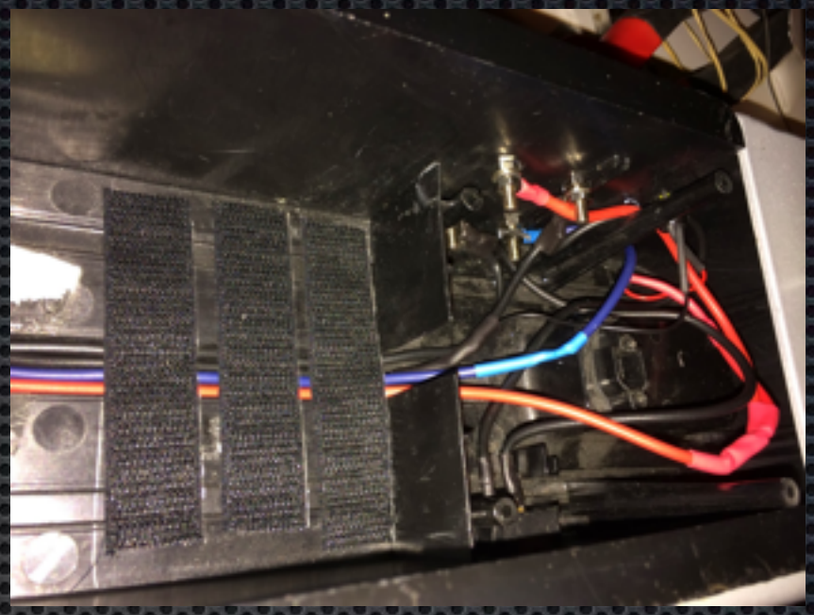
bekabeling

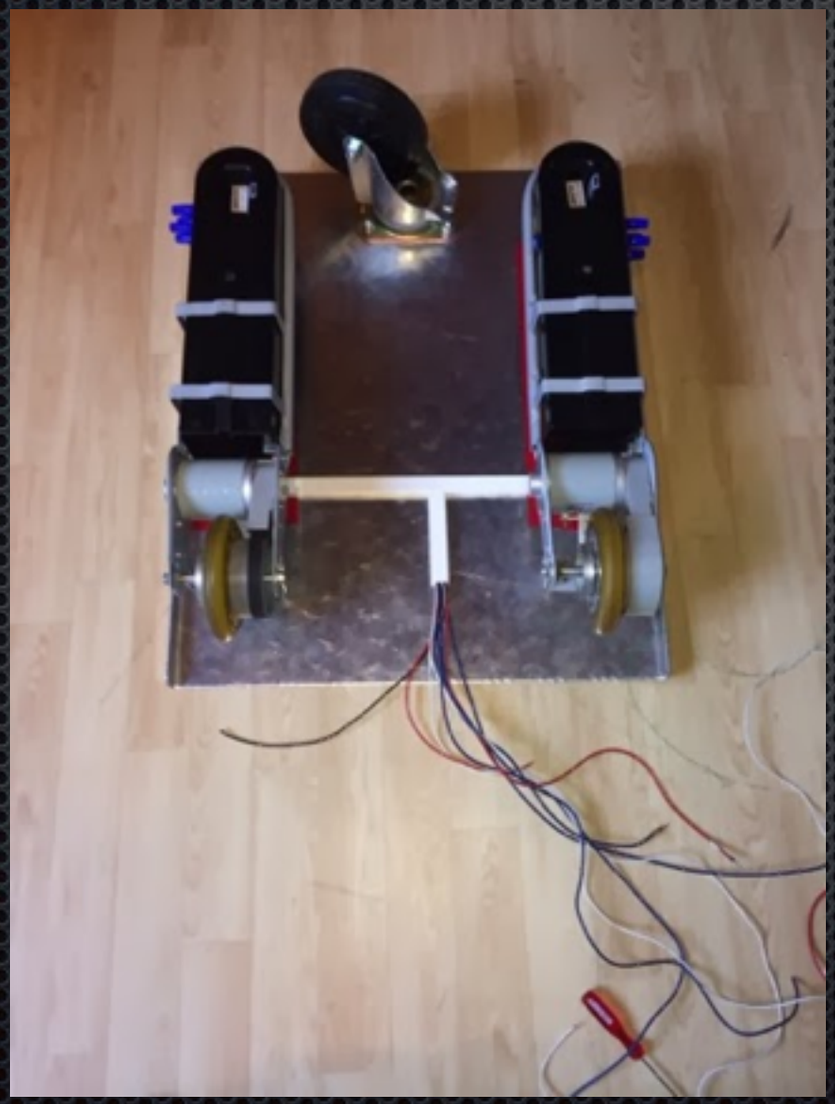
voor:

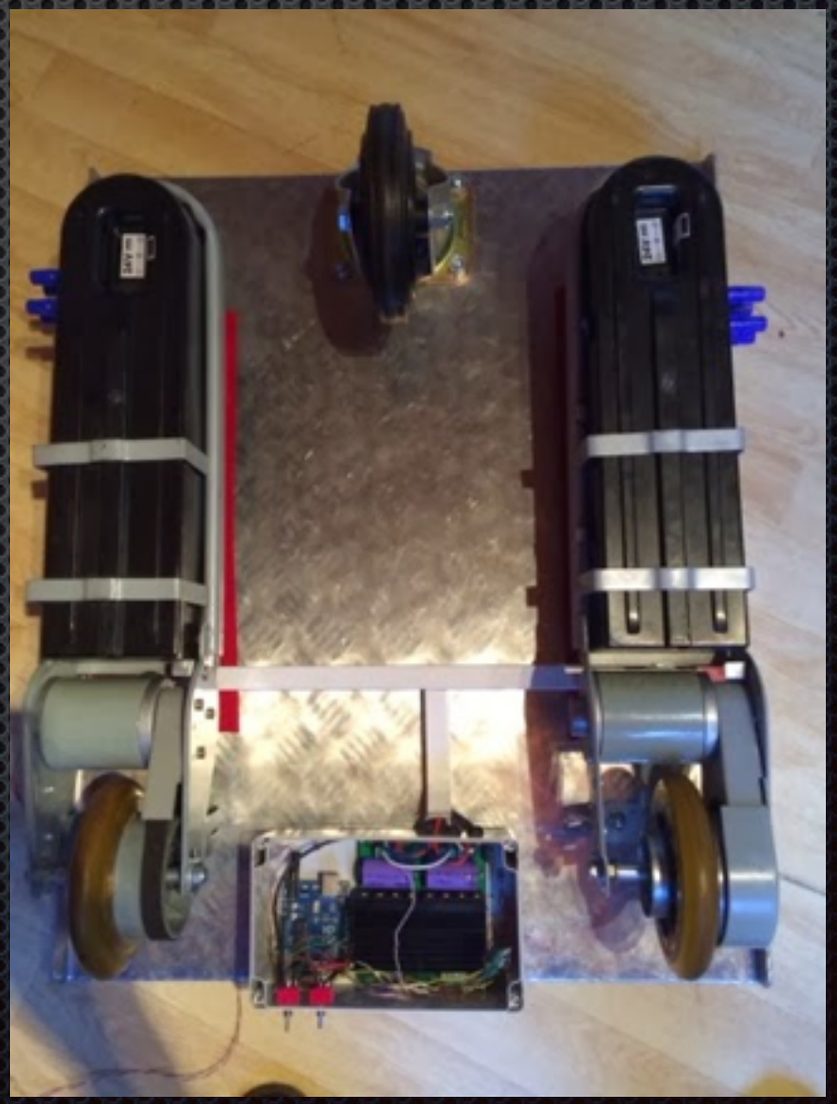


na:

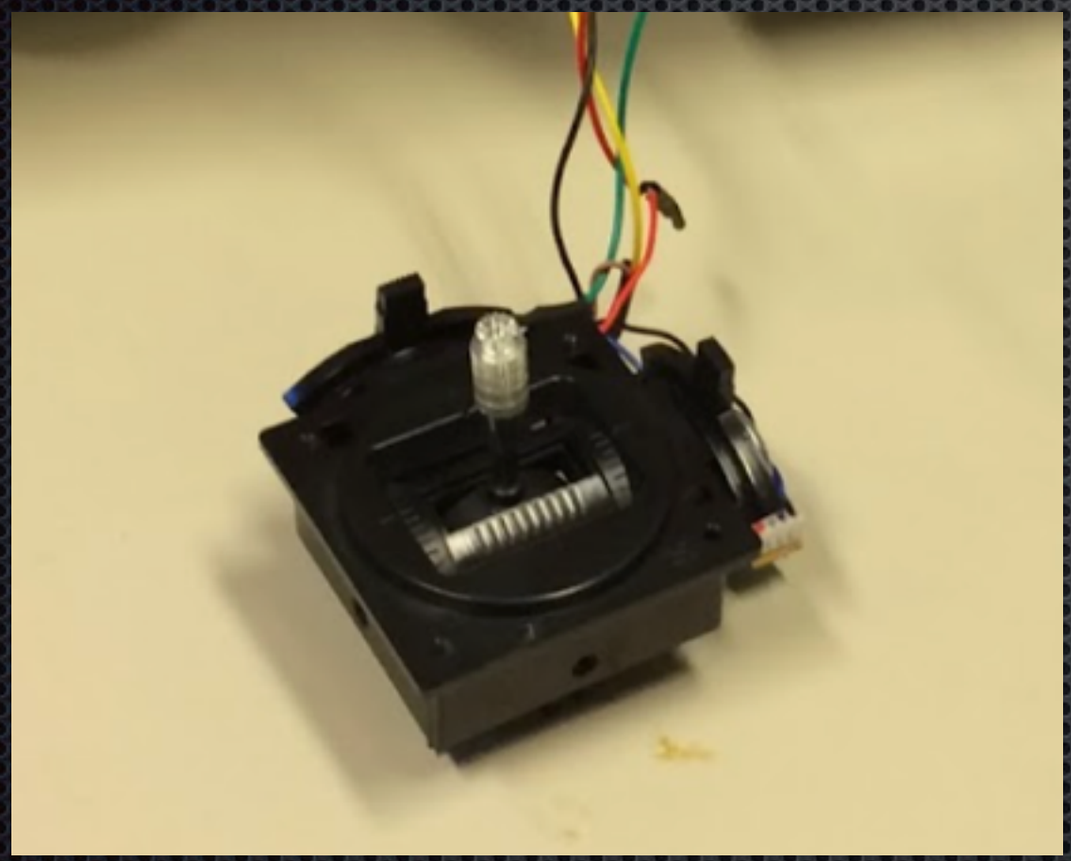
bekabeling



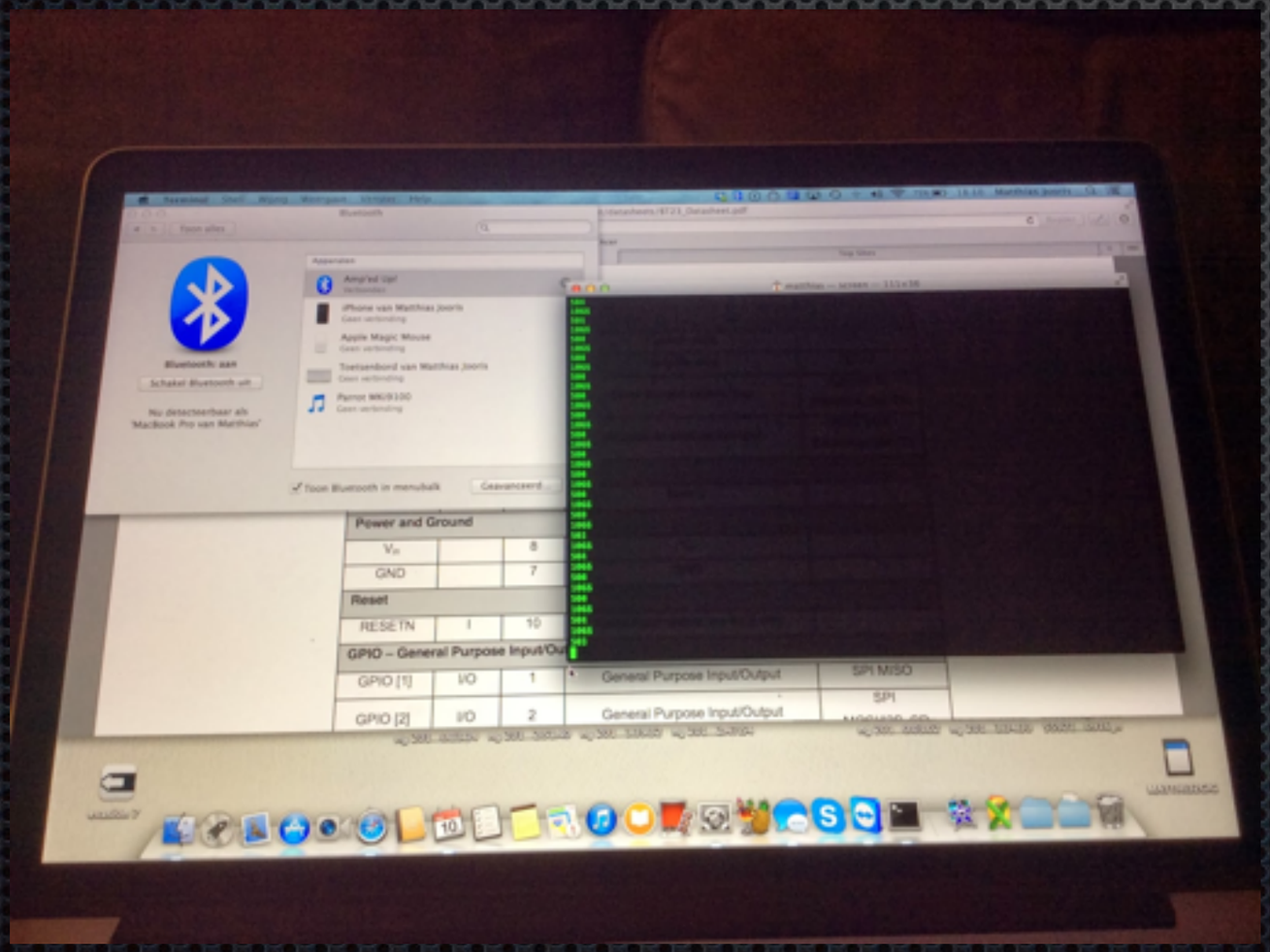


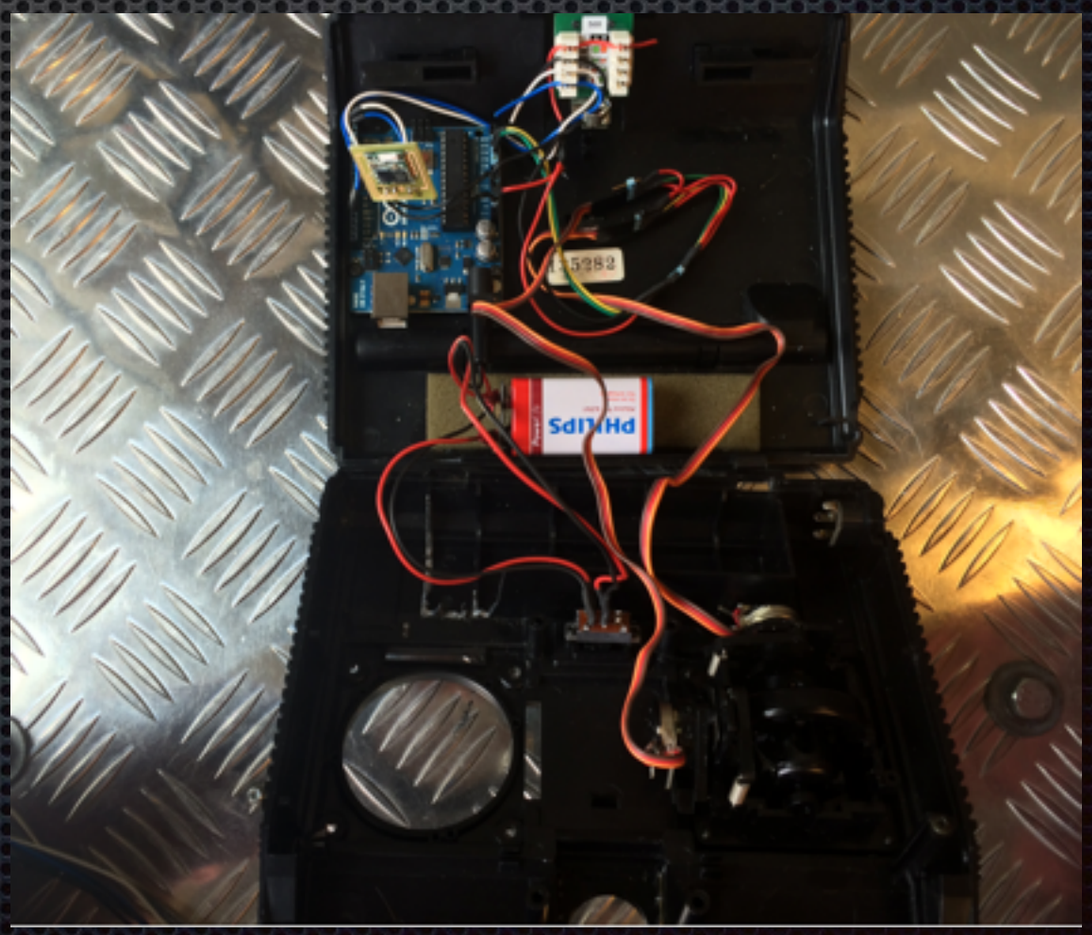


afstandsbediening



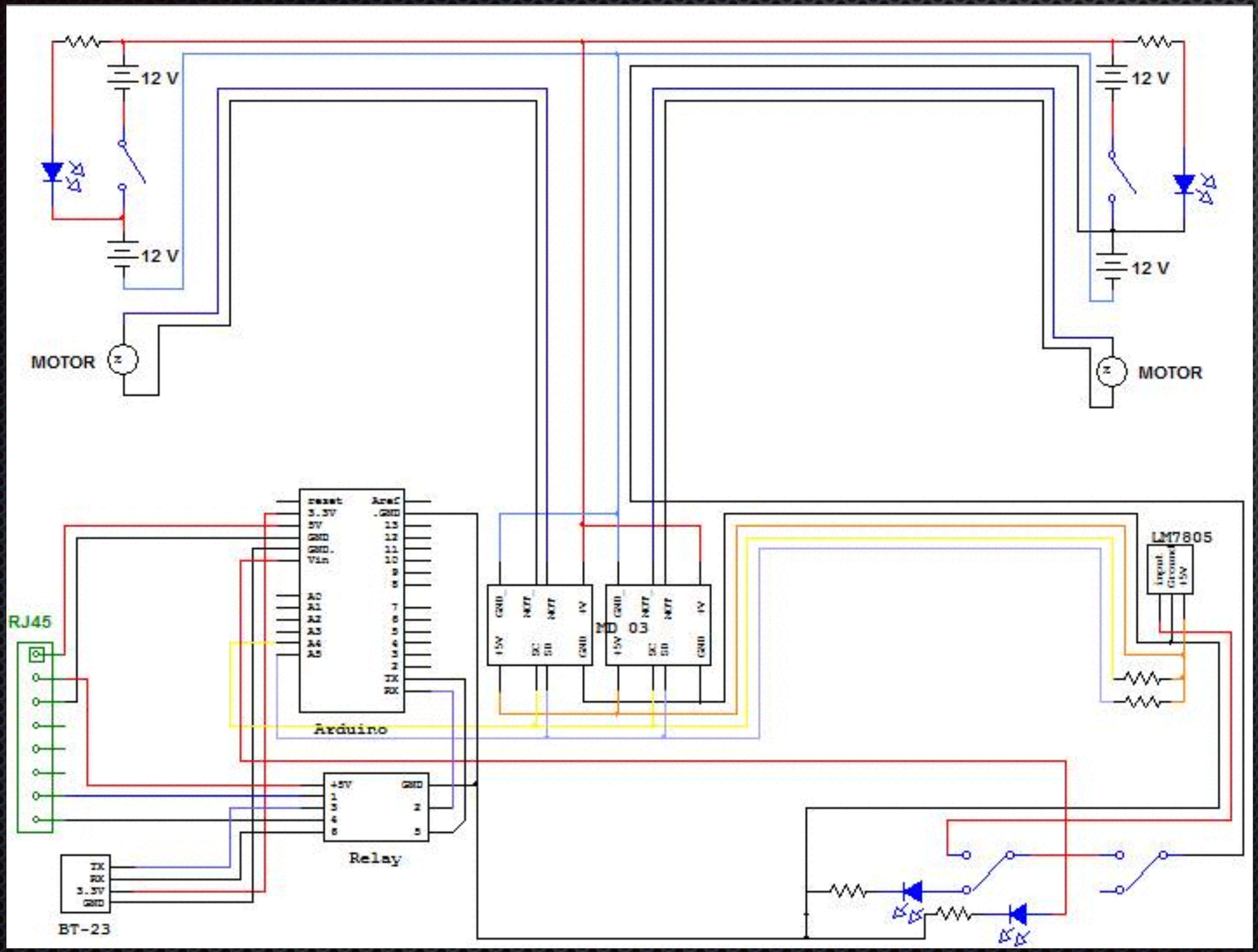
Bluetooth


Bluetooth: aan
Schakel Bluetooth uit
Power and Ground
Reset
RESETN
GPIO – General Purpose Input/Output
GPIO [1]
GPIO [2]
General Purpose Input/Output
SPI MISO
SPI

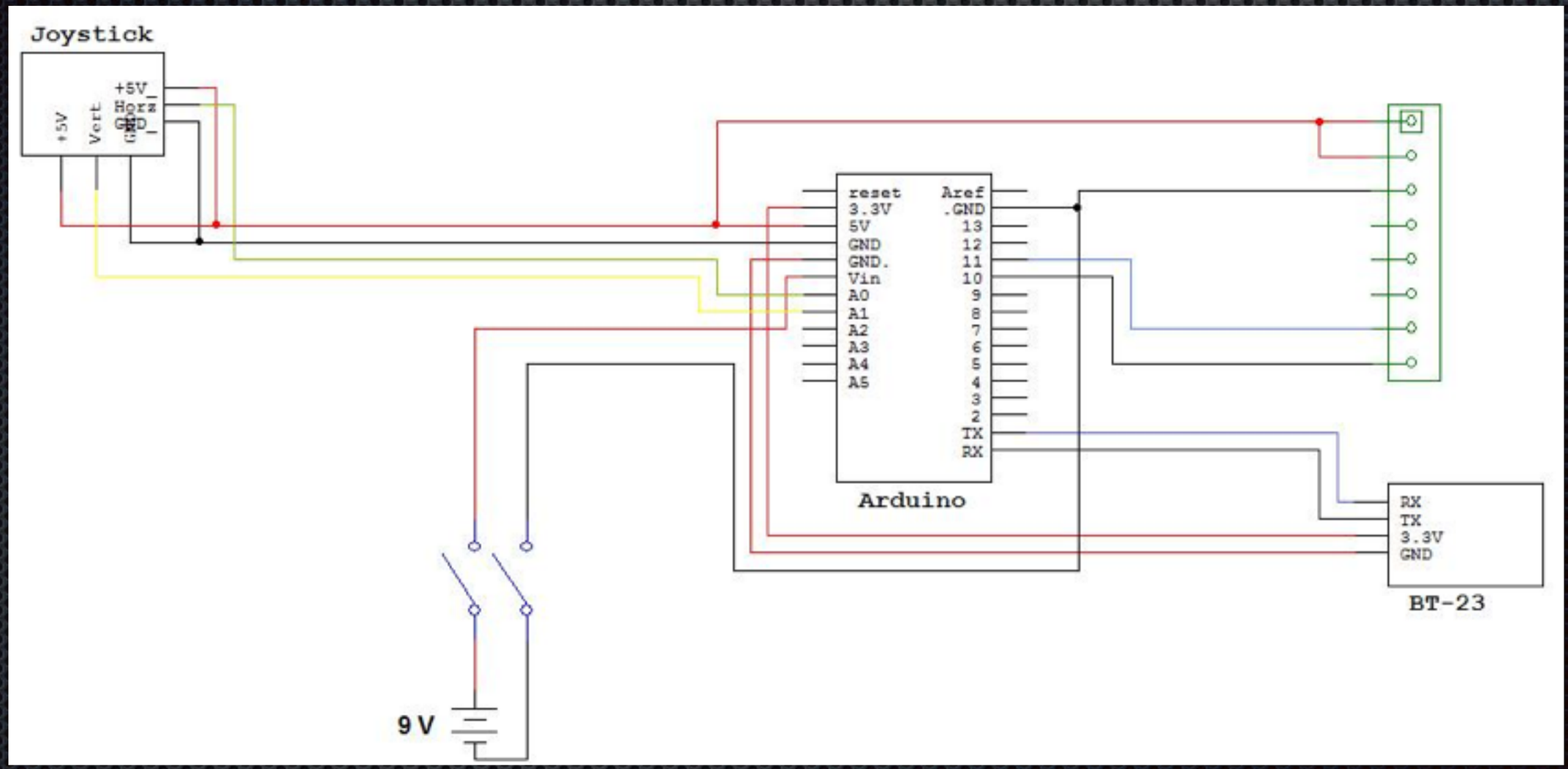

PHILIPS

bekabelde verbinding

schema platform



schema afstandsbedieningen



code platform

```
recievedChar =Serial.parseInt();
 if (recievedChar > 0)
 {
  if(recievedChar==1066){// if it sees 1066 then it knows that valueFB is comming
  valueFB = Serial.parseInt();  //Reads integers as integer rather than ASCI. Anything else returns 0
  Serial.println(valueFB);// prints valueFB so I could see it int the serial monitor

  }
  if(recievedChar==1065){// if it sees 1066 then it knows that valueLR is comming
  valueLR = Serial.parseInt();  //Reads integers as integer rather than ASCI. Anything else returns 0
  Serial.println(valueLR);// prints valueLR so I could see it int the serial monitor


  }
}else{
valueLR = 500;
valueFB = 500;
}
```

code platform

```
if(valueFB>510){                                          //forwards
    if(valueLR>505){                                      //forwards+left
    speed1 =((valueFB-400)/2);
    speed2 =((valueFB-400)/2)-((valueLR-450)/2) ;      //  left motor slows down
    }
    else if(valueLR<495){                                 //forwards+right
    speed1 = ((valueFB-400)/2)-((550-valueLR)/2);      //  right motor slows down
    speed2 =((valueFB-400)/2) ;
    }
    else{                                                 //forwards
    speed1 = ((valueFB-400)/2);
    speed2 = ((valueFB-400)/2);
    }
```

code platform

```
Wire.beginTransmission(MD03_1);
  Wire.write(SPEED_reg);
  Wire.write(speed1);
  Wire.endTransmission();
  Wire.beginTransmission(MD03_2);
  Wire.write(SPEED_reg);
  Wire.write(speed2);
  Wire.endTransmission();
```

```
Wire.beginTransmission(MD03_1);
  Wire.write(ACC_reg);
  Wire.write(27);
  Wire.endTransmission();
  Wire.beginTransmission(MD03_2);
  Wire.write(ACC_reg);
  Wire.write(27);
  Wire.endTransmission();
  Wire.beginTransmission(MD03_1);
  Wire.write(CMD_reg);
  Wire.write(1);          // sets motor forward
  Wire.endTransmission();
  Wire.beginTransmission(MD03_2);
  Wire.write(CMD_reg);
  Wire.write(1);          // sets motor forward
  Wire.endTransmission();
```

code afstandsbediening

```
#include <SoftwareSerial.h>
SoftwareSerial mySerial(10, 11); // RX, TX
int joyFB = A1 ; //joystick forward and backward
 int joyLR = A2 ; //joystick left and right
 int valueFB = 500; //variable value forward backward
 int valueLR = 500; //variable value left right

void setup()
{
  Serial.begin(115200);
  pinMode(joyFB,INPUT);
  pinMode(joyLR,INPUT);

  mySerial.begin(115200);
}
```

code afstandsbediening

```
void loop()
{
valueFB = analogRead(joyFB);
valueLR = analogRead(joyLR);

Serial.println(1066);
mySerial.println(1066);
Serial.println (valueFB); / / send valueFB to rx arduino
mySerial.println(valueFB);
delay(80);
Serial.println(1065);
mySerial.println(1065);
Serial.println (valueLR); / / send valueLR to rx arduino
mySerial.println(valueLR);
delay(80);
Serial.println("AT+AB SPPConnect 00043e26120c");
delay(80);
}
```

Android App

Android App

```
/*BluetoothAdapter ba = BluetoothAdapter.getDefaultAdapter();
    Set<BluetoothDevice> devices = ba.getBondedDevices();
    for(BluetoothDevice device : devices) {
      Log.i("BT", "device: " + device.getAddress() + "=> " + device.getName());
      if(device.getAddress().equals("00:04:3E:26:12:0C")) {
        Log.i("platform","gevonden");
UUID uuidSPP = UUID.fromString("00001101-0000-1000-8000-00043E26120C");
try {
  BluetoothSocket sock = device.createRfcommSocketToServiceRecord(uuidSPP);
  Log.i("BT", "socket ok **" + sock + "**");
  OutputStream os = sock.getOutputStream();

  Log.i("BT", "outputstream **" + os + "**");
  if(os == null)
    Log.i("BT", "os null");
  else
  Log.i("BT", "os niet null");
```

Android App

```
//os.write(1065);
                /*os.flush();

                    try {
                        Thread.sleep(80);
                    } catch (InterruptedException e) {
                        e.printStackTrace();
                    }
                os.write(1065);
                os.write(600);
                os.write(1065);
                os.write(600);
```