Datei: Laser-Schießstand.ino

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Erstellung: 07.10.2020

Letzte Änderung: 09.12.2020

Implementation: Arduino

Funktion:

  Laser Schießstand mit vier Zielpunkten. Ziel ist es mit Hilfe eines Lasers alle Ziele zu treffen. Treffer sollen

  über LED´s, Display und Geräusch signalisiert werden.


```
#include <PCM.h>

#include <SPI.h>

#include <Wire.h>

#include <Adafruit_GFX.h>

#include <Adafruit_SSD1306.h>


Adafruit_SSD1306 display(OLED_RESET);



//_____*L_A_S_E_R*_____

#define SOUND   8 // pin 2 für die Soundausgabe "BUZZER" _

#define LASER1  3 // pin 3 für den Sensor

#define LASER2  4 // pin 4 für den Sensor

#define LASER3  5 // pin 5 für den Sensor

#define LASER4  6 // pin 6 für den Sensor "RESET"

#define Playback  2 // pin 2 für den Lautsprecher

//_____


//_____*L_E_D*_____

byte LED1 = 12;  //

byte LED2 = 10;  //
```

byte LED3 = 13; //

byte LED4 = 9; //

//_____

//_____*S_O_U_N_D___C_O_D_E*_____

```
const unsigned char sample [] PROGMEM = {

129, 129, 129, 127, 127, 127, 129, 128, 128, 129, 129, 131, 128, 129, 129, 129, 130, 129, 128, 125,
126, 126, 126, 128, 126, 126, 125, 127, 130, 128, 126, 123, 124, 125, 126, 129, 126, 129, 129, 128,
128, 129, 130, 127, 128, 127, 126, 127, 124, 126, 128, 127, 127, 125, 125, 125, 129, 127, 123, 124,
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122, 135, 129, 120, 125, 126, 125, 121, 126, 124, 125, 126, 124, 132, 125, 122, 130, 127, 119, 126,
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112, 110, 136, 163, 155, 132, 113, 99, 145, 150, 128, 131, 110, 109, 138, 142, 102, 117, 126, 93, 110,
109, 105, 119, 124, 100, 105, 128, 99, 122, 126, 114, 120, 103, 95, 100, 131, 103, 115, 140, 97, 126,
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125, 255, 119, 75, 255, 255, 255, 255, 255, 225, 123, 152, 5, 128, 254, 0, 116, 215, 125, 255, 224, 190,
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237, 255, 255, 255, 255, 160, 107, 255, 51, 0, 0, 0, 0, 0, 0, 53, 78, 39, 59, 0, 0, 0, 0, 0, 0, 255, 255, 255,
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185, 78, 255, 255, 0, 0, 59, 113, 187, 255, 47, 0, 70, 0, 0, 0, 63, 0, 0, 0, 51, 161, 122, 0, 0, 0, 32, 41, 0,
114, 208, 240, 255, 0, 0, 248, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 165, 245, 255,
247, 255, 255, 140, 9, 77, 128, 6, 50, 56, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 39, 24, 0, 224, 255,
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255, 95, 64, 31, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 19, 0, 9, 237, 255, 255, 162, 203, 231, 156, 63, 37, 0, 0, 70,
131, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 9, 0, 0, 0, 0, 0, 0, 0, 0, 0, 145, 182, 0, 249, 255, 57, 0, 71, 37,

```
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174, 252, 51, 41, 255, 203, 182, 171, 10, 68, 139, 189, 245, 74, 0, 45, 135, 134, 206, 5, 0, 0, 0, 0, 0, 0,
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239, 255, 255, 255, 255, 249, 151, 80, 149, 255, 221, 124, 0, 0, 0, 0, 23, 0, 0, 0, 0, 146, 59, 0, 243, 3, 0,
71, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 28, 98, 185, 164, 142, 103, 0, 41, 212, 115, 100, 165, 131, 59, 0, 22,
110, 232, 255, 208, 130, 149, 183, 129, 48, 42, 72, 115, 136, 174, 219, 153, 113, 194, 216, 175, 171,
175, 235, 255, 158, 158, 145, 93, 170, 131, 103, 158, 31, 93, 239, 54, 30, 141, 28, 41, 139, 119, 133,
94, 48, 122, 122, 98, 196, 194, 90, 112, 105, 68, 185, 214, 164, 253, 255, 152, 91, 81, 83, 123, 157,
123, 100, 107, 107, 143, 158, 163, 135, 24, 13, 112, 205, 193, 83, 116, 163, 82, 87, 151, 117, 0, 0, 28,
95, 183, 235, 204, 169, 119, 139, 138, 159, 185, 110, 152, 192, 206, 255, 245, 255, 253, 157, 198, 189,
112, 71, 107, 211, 203, 105, 155, 209, 109, 108, 126, 106, 134, 101, 159, 133, 98, 255, 255, 251, 131,
20, 139, 115, 80, 136, 119, 217, 157, 68, 155, 83, 51, 77, 0, 0, 0, 0, 0, 0, 0, 11, 108, 176, 171, 140, 156,
197, 162, 137, 141, 126, 112, 74, 68, 76, 93, 168, 201, 223, 214, 134, 115, 88, 71, 113, 93, 130, 205,
124, 49, 91, 146, 199, 172, 78, 66, 51, 20, 92, 133, 98, 71, 10, 0, 47, 137, 160, 141, 89, 61, 54, 100,
191, 142, 90, 141, 97, 57, 102, 116, 94, 115, 165, 171, 221, 255, 179, 159, 177, 127, 58, 32, 68, 96,
106, 118, 85, 82, 93, 63, 138, 173, 77, 71, 101, 134, 125, 98, 174, 157, 138, 109, 32, 98, 55, 94, 253,
171, 152, 181, 130, 119, 163, 210,

};
//_____


 void setup()
{

display.begin(SSD1306_SWITCHCAPVCC, 0x3C);



  Serial.begin(9600);


  pinMode(SOUND, OUTPUT);//definiert die Soundausgabe Pin 2


  pinMode(LASER1, INPUT);// definiert den Laserinput Pin 3
  pinMode(LASER2, INPUT);// definiert den Laserinput Pin 4
```

```cpp
  pinMode(LASER3, INPUT);// definiert den Laserinput Pin 5

  pinMode(LASER4, INPUT);// definiert den Laserinput Pin 6



  pinMode(LED1, OUTPUT);// Pin 9

  pinMode(LED2, OUTPUT);// Pin 10

  pinMode(LED3, OUTPUT);// Pin 11

  pinMode(LED4, OUTPUT);// Pin 12


}


#define DRAW_DELAY 118

#define D_NUM 47

int i;


 void loop() {


 #define Size 4

 int laserinput[Size] = {digitalRead(LASER1), digitalRead(LASER2), digitalRead(LASER3),
digitalRead(LASER4)};


    display.setTextColor(WHITE);

     display.setTextSize(2);

     display.setCursor(1,0);

     display.println("Viel Spass");

    display.setCursor(40,20);

     display.display();

     display.clearDisplay();


 for(int i = 0; i < Size; i++)

 {
```

```
  if( laserinput[0] == HIGH)
{


    Serial.println("Input1");

    digitalWrite(SOUND,HIGH);


    startPlayback(sample, sizeof(sample));

    digitalWrite(LED1,HIGH);

    Serial.println("Detected!");

    display.setTextColor(WHITE);

    display.setTextSize(2);

    display.setCursor(1,0);

    display.println("Treffer1");

    display.setCursor(40,20);

    display.display();

    display.clearDisplay();


}



if( laserinput[1] == HIGH)
{


    Serial.println("Input2");

    digitalWrite(SOUND,HIGH);
                */
    startPlayback(sample, sizeof(sample));

    digitalWrite(LED2,HIGH);

    Serial.println("Detected!");

    display.setTextColor(WHITE);

    display.setTextSize(2);
```

```cpp
            display.setCursor(1,0);

            display.println("Treffer2");

            display.setCursor(40,20);

            display.display();

            display.clearDisplay();




    }
    if( laserinput[2] == HIGH)

    {


            Serial.println("Input3");

            digitalWrite(SOUND,HIGH);

            startPlayback(sample, sizeof(sample));

            digitalWrite(LED3,HIGH);

            Serial.println("Detected!");

            display.setTextColor(WHITE);

            display.setTextSize(2);

            display.setCursor(1,0);

            display.println("Treffer3");

            display.setCursor(40,20);

            display.display();

            display.clearDisplay();


    }



    if( laserinput[3] == HIGH)

    {


            Serial.println("Input4");

            digitalWrite(SOUND,HIGH);
```

```
        startPlayback(sample, sizeof(sample));

        digitalWrite(LED4,HIGH);

        Serial.println("Detected!");

        display.setTextColor(WHITE);

        display.setTextSize(2);

        display.setCursor(1,0);

        display.println("Treffer4");

        display.setCursor(40,20);

        display.display();

        display.clearDisplay();


    }
    else
    {


    }
}



  delay(200);
}
```