Senzor de parcare

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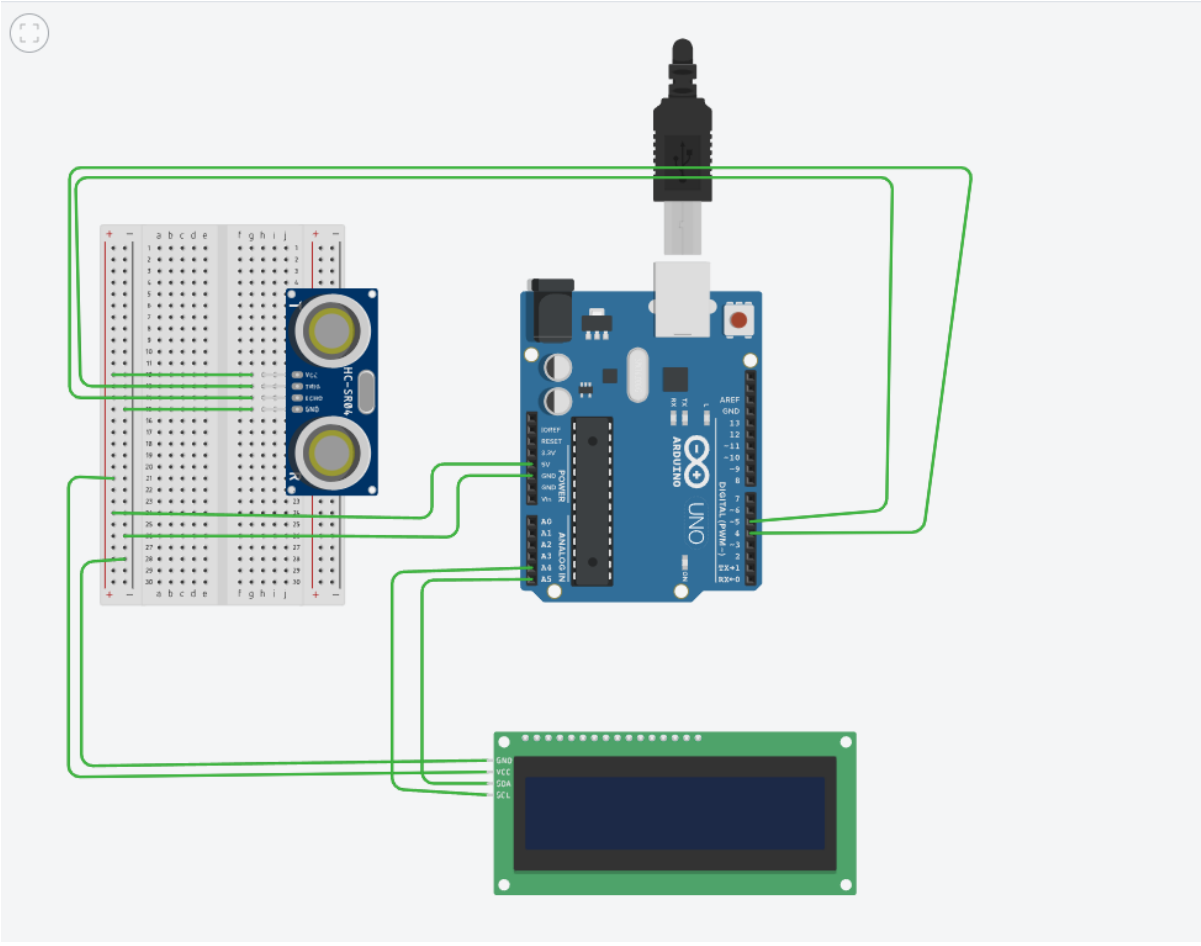
Introducere

Proiectul reprezinta un simplu senzor de parcare care ar ajuta soferii sa isi parcheze masinilie in timpul parcarii cu spatele.

Descriere generală

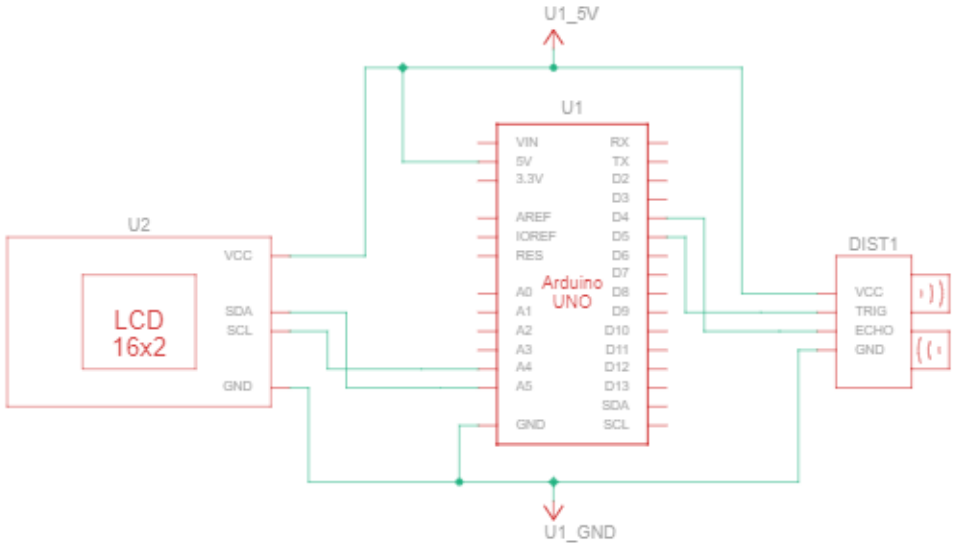
Dispozitivul se foloseste de un ultrasonic sensor pentru a capta distanta pana la un obstacol. Se va afisa pe un ecran LCD distanta pana la obstacol.



Hardware Design

Componente necesare:

1. Arduino Uno;
2. BreadBoard;
3. Fire mama-tata, tata-tata
4. Ultrasonic sensor hc-sr04
5. LCD I2C
6. Rezistente



Software Design

Descrierea codului aplicaţiei (firmware): Codul printeaza pe ecranul LCD distanta in centimetri inregistrata de senzorul ultrasonic. Am folosit librariile LiquidCrystal_I2C.h si Wire.h pentru a folosi ecranul LCD si libraria UltraDistSensor.h pentru senzorul ultrasonic. Cod:

#include<UltraDistSensor.h> #include <Wire.h> #include <LiquidCrystal_I2C.h>

LiquidCrystal_I2C lcd(0x27,20,4);

UltraDistSensor senzor; float distantainregistrata;

void setup() {

```
  lcd.init();
  lcd.backlight();
  Serial.begin(9600);
  senzor.attach(5,4);
```

}

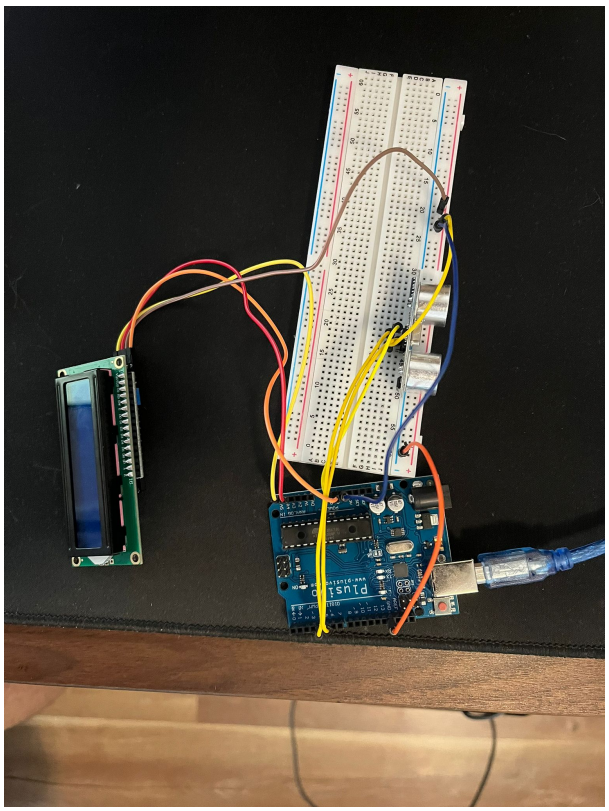
void loop() {

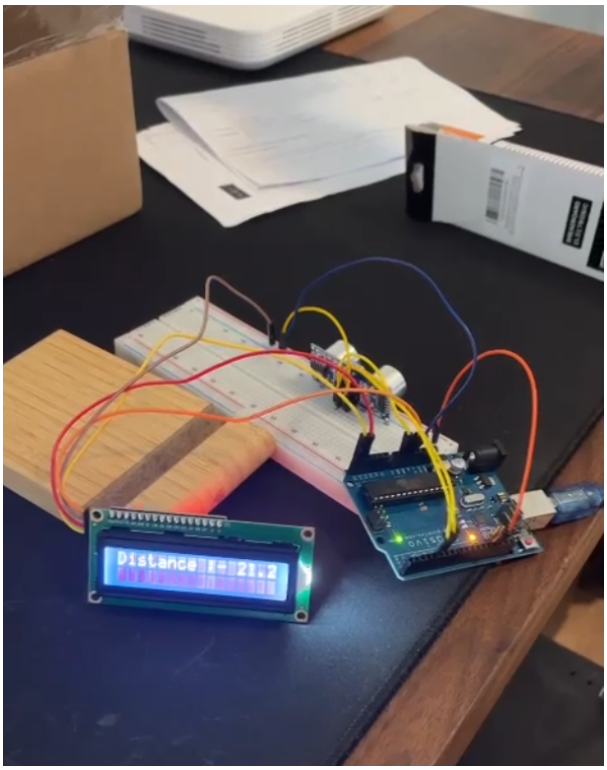
```
  distantainregistrata=senzor.distanceInCm();
   lcd.setCursor(0,0);
   lcd.print("Distance : ");
    lcd.print(distantainregistrata);
```

```
  delay(1000);
```

}

Rezultate Obţinute





Concluzii

Datorita acestui proiect am invatat cum sa folosesc software-ul Arduino, un ecran LCD I2C impreuna cu un ultrasenzor HCSR04.

Jurnal

```
    05.05.2022: Am ales tema proiectului.
    11.05.2022: Finalizare Milestone 1.
    13.05.2022: Achizitionare piese.
    19.05.2022: Finalizare parte hardware + incepere parte software.
    27.05.2022: Finalizare Milestone 2.
```

Bibliografie/Resurse

https://www.arduino.cc/

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