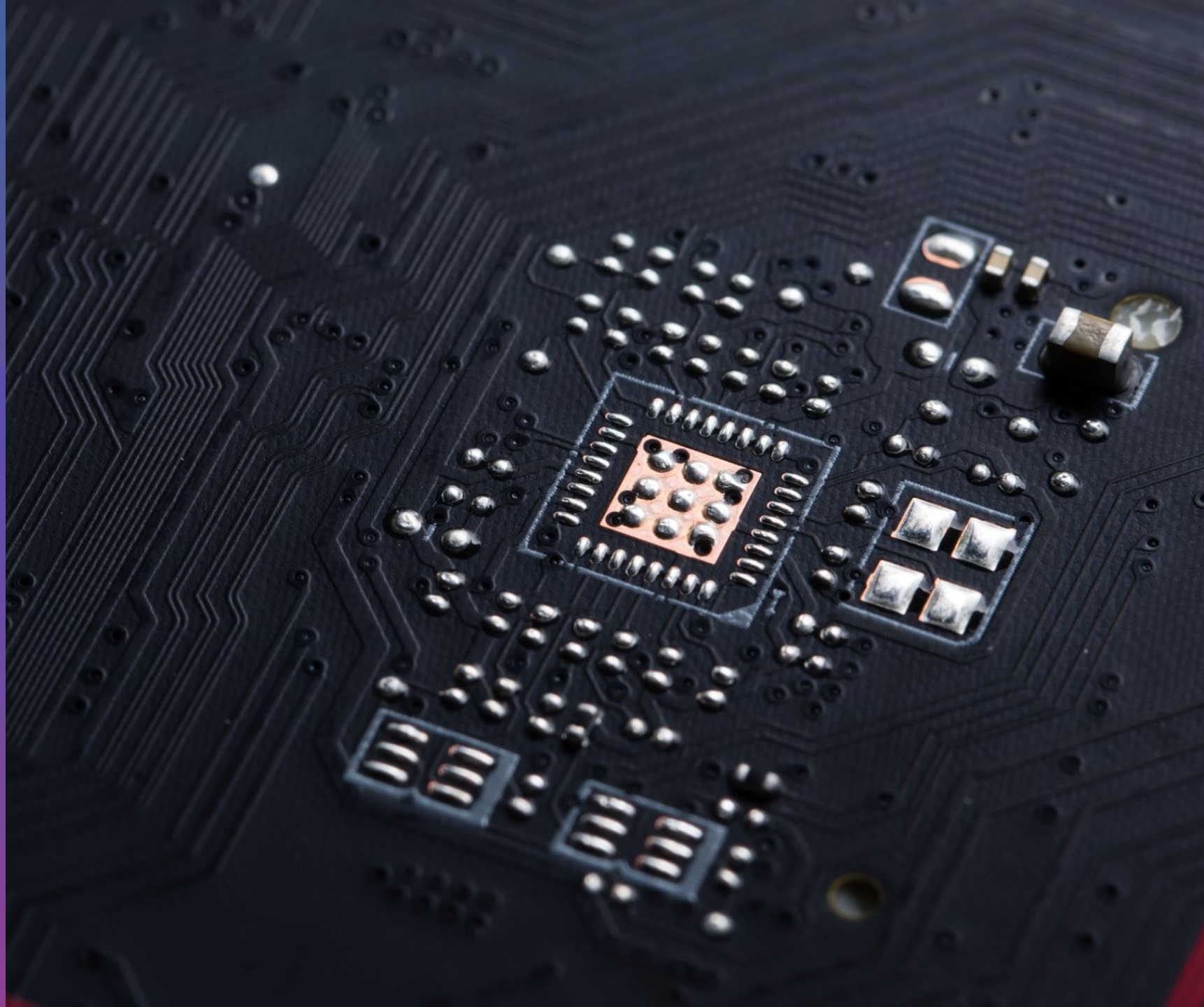
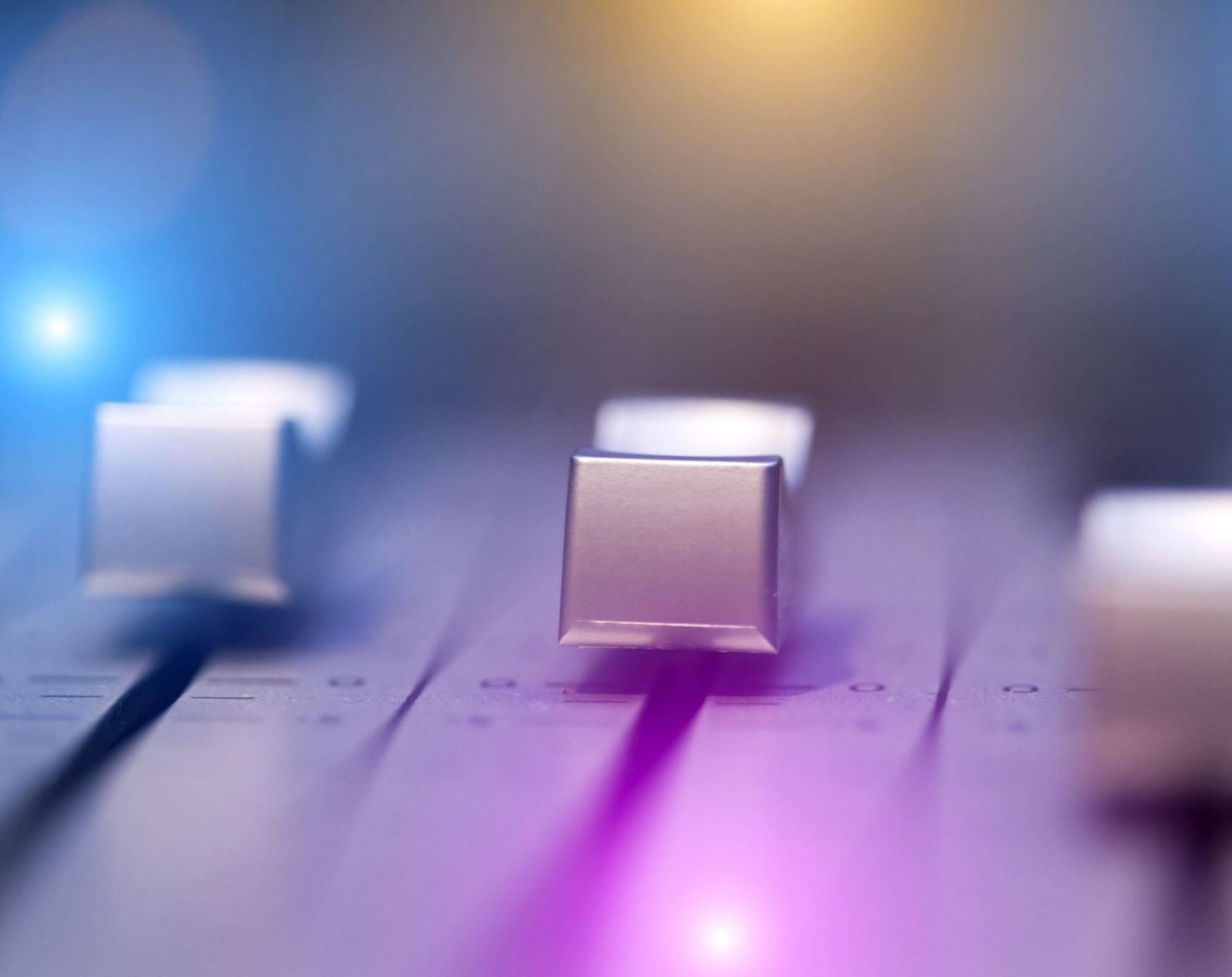


SENSORE DI
PARCHEGGIO

PROGETTO ARDUINO

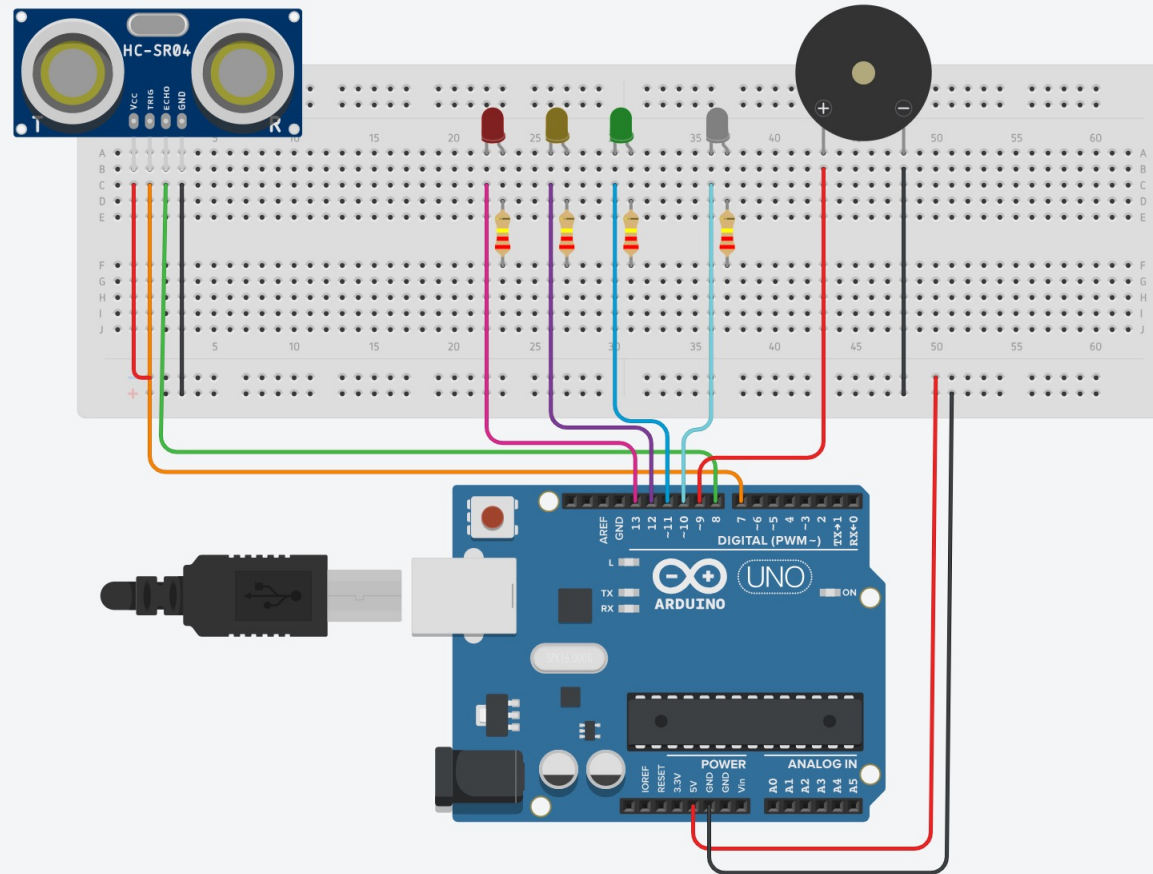




COSA ABBIAMO UTILIZZATO

- Arduino uno
- breadboard
- Pin
- Led
- Buzzer
- Sensore ultrasuoni

IL CIRCUITO



```

1  int triggerPort = 7;
2  int echoPort = 8;
3  int cicalino = 9;
4  int ledPin1 = 10;
5  int ledPin2 = 11;
6  int ledPin3 = 12;
7  int ledPin4 = 13;
8
9  #include <LiquidCrystal.h>
10 const int pot = A0;
11 float value;
12
13 // Initialize the LCD library
14 const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;
15 LiquidCrystal lcd(rs, en, d4, d5, d6, d7);
16
17 void setup() {
18     pinMode(triggerPort, OUTPUT);
19     pinMode(echoPort, INPUT);
20     pinMode(cicalino, OUTPUT);
21     pinMode(ledPin1, OUTPUT);
22     pinMode(ledPin2, OUTPUT);
23     pinMode(ledPin3, OUTPUT);
24     pinMode(ledPin4, OUTPUT);
25     Serial.begin(9600);
26     Serial.println("Sensore ultrasuoni:");
27
28 }
29
30 void loop() {
31     digitalWrite(triggerPort, LOW);
32     digitalWrite(triggerPort, HIGH);
33     delayMicroseconds(10);
34     digitalWrite(triggerPort, LOW);
35     long duration = pulseIn(echoPort, HIGH);
36     long r = 0.034 * duration / 2;
37     Serial.print("durata: ");
38     Serial.print(duration);
39     Serial.print(" , ");
40     Serial.print("distanza: ");
41     if (duration > 38000)
42         Serial.println("fuori portata");
43     else {
44         Serial.print(r);
45         Serial.println("cm");

```

```

40     }
41
42     // Controllo pericolo e suono buzzer
43     if (r < 100) {
44
45         analogWrite(cicalino, map(r, 0, 100, 0, 255)); // Modifica l'intensità del suono in base alla distanza
46     } else {
47
48         digitalWrite(cicalino, LOW); // Spegni il buzzer se non c'è pericolo
49     }
50
51 // Accensione dei LED in base alla distanza
52 if (r < 400) {
53     digitalWrite(ledPin1, HIGH);
54     digitalWrite(ledPin2, LOW);
55     digitalWrite(ledPin3, LOW);
56     digitalWrite(ledPin4, LOW);
57 } else if (400 <= r < 700) {
58     digitalWrite(ledPin1, LOW);
59     digitalWrite(ledPin2, HIGH);
60     digitalWrite(ledPin3, LOW);
61     digitalWrite(ledPin4, LOW);
62 } else if (700 <= r < 1000) {
63     digitalWrite(ledPin1, LOW);
64     digitalWrite(ledPin2, LOW);
65     digitalWrite(ledPin3, HIGH);
66     digitalWrite(ledPin4, LOW);
67 } else {
68     digitalWrite(ledPin1, LOW);
69     digitalWrite(ledPin2, LOW);
70     digitalWrite(ledPin3, LOW);
71     digitalWrite(ledPin4, HIGH);
72 }
73
74 }
75
76 }
77
78
79
80
81
82
83
84
85
86
87
88
89
90

```

GRAZIE PER L'ATTENZIONE