

IC161P – PROJECT

PARKING SENSOR

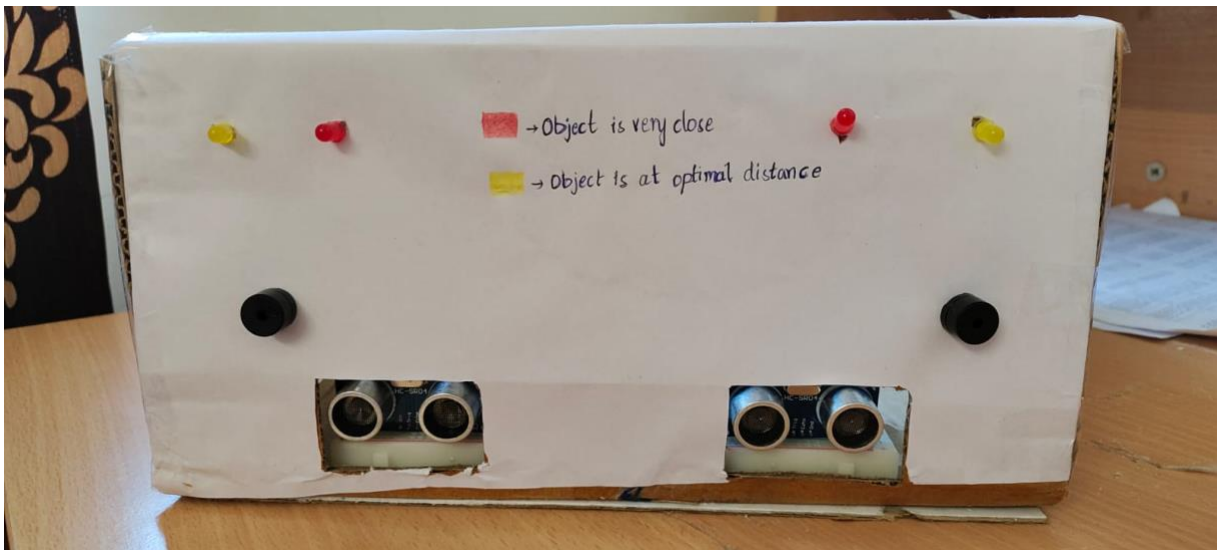
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Code for the Project

```
#include <Ultrasonic.h>

Ultrasonic ultrasonic(6,5);// 6 trig , 5 echo
Ultrasonic ultrasonics(11,12);// 11 trig , 12 echo

#define RedR 8
#define YellowR 9
#define RedL 3
#define YellowL 4
#define buzzer 7
#define buzzers 13

// const int buzzer = 7; // pin buzzer
// const int buzzers = 13; // pin buzzer

void setup(){
  Serial.begin(9600);
  pinMode(buzzer,OUTPUT);
  pinMode(buzzers, OUTPUT);
  pinMode(RedR, OUTPUT);
  pinMode(YellowR, OUTPUT);
  pinMode(RedL, OUTPUT);
  pinMode(YellowL, OUTPUT);
}

void loop(){
  int dist = ultrasonic.read(CM);
  if (dist < 50) {
    tone(buzzer,1000);
    delay(40);
    noTone(buzzer);
    delay(dist*4);
  }

  delay(100);

  int dists = ultrasonics.read(CM);
  if (dists < 50) {
    tone(buzzers,1000);
    delay(40);
    noTone(buzzers);
    delay(dists*4);
  }

  delay(100);

  if (dist<50 && dist>20){
    digitalWrite(YellowR, HIGH);
  }else{
    digitalWrite(YellowR,LOW);
  }

  if (dist<20 && dist>0){
    digitalWrite(RedR, HIGH);
  }else{
    digitalWrite(RedR,LOW);
  }

  if (dists<50 && dists>20){
    digitalWrite(YellowL, HIGH);
  }else{
    digitalWrite(YellowL,LOW);
  }

  if (dists<20 && dists>0){
    digitalWrite(RedL, HIGH);
  }else{
    digitalWrite(RedL,LOW);
  }
}
```

Salient Features

1. The Lights light up depending on the distance of the object.
2. The beeping intensity of the buzzer also depends on the distance of the obstacle.
3. The beeps are slower if the object distance is greater than 50cm and becomes faster as the object gets closer.

Difficulties Faced

1. Writing the code such that the beeping depends on the distance.
2. Making the LEDs light up independently and such that they depend on the distance
3. Making the setup for the circuit such that all the elements stand up and not fall down, and so there are no loose connections.