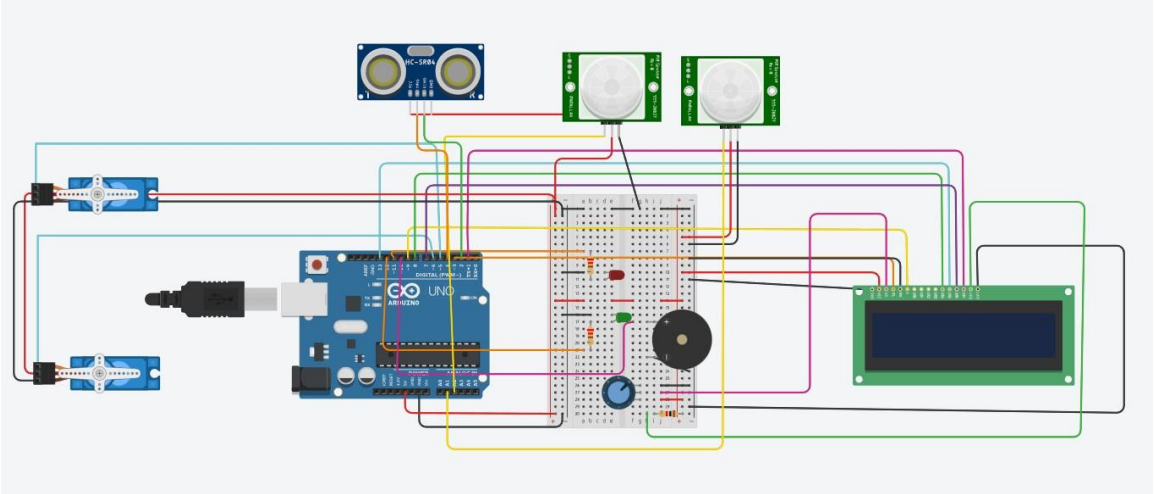
```
  delay(100);
  lcd.clear();
 }
}
```

METHODOLOGY:

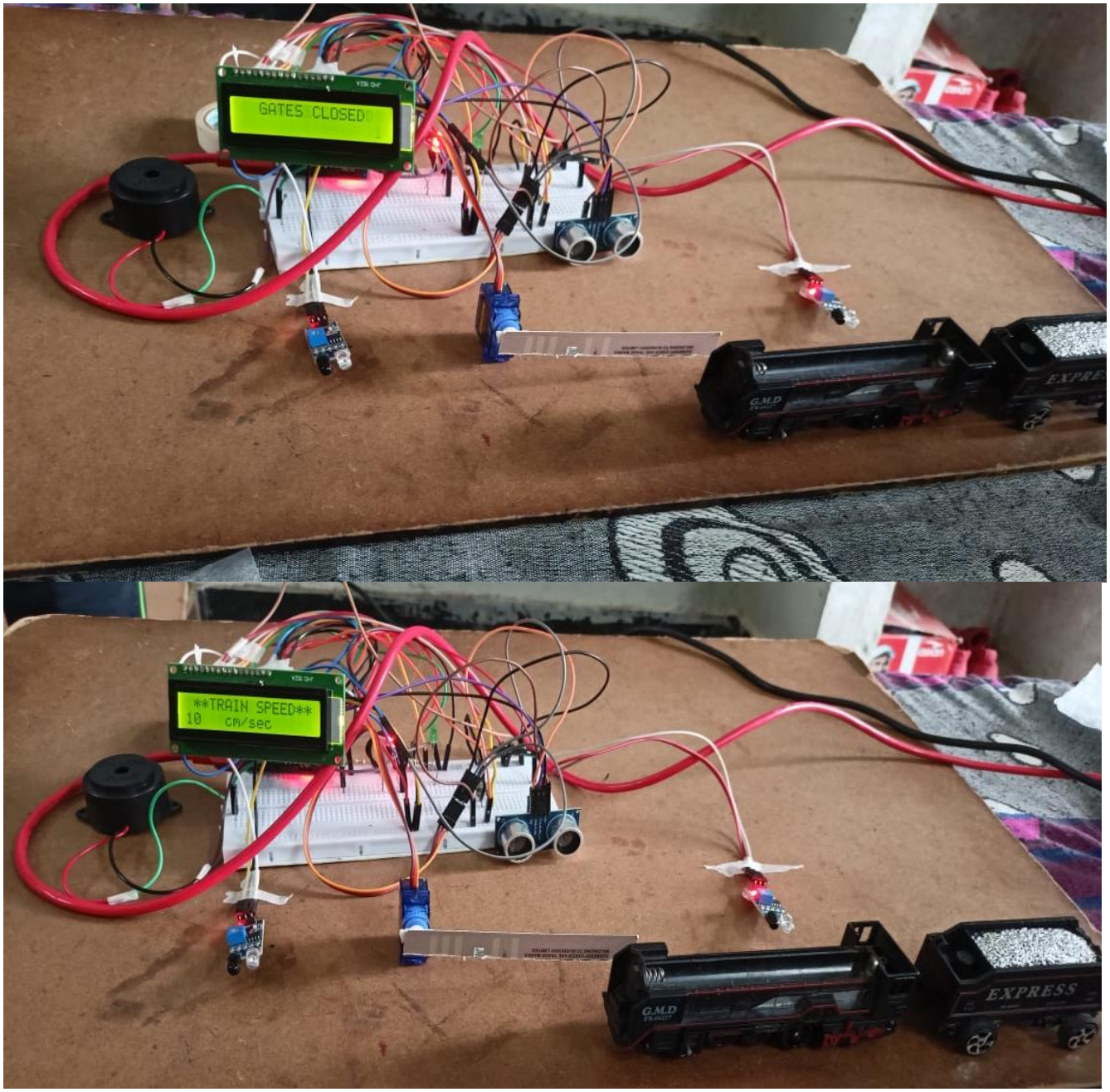
STEP1:

First of all, we need to place the components correct position for the perfect work of this system as shown below.



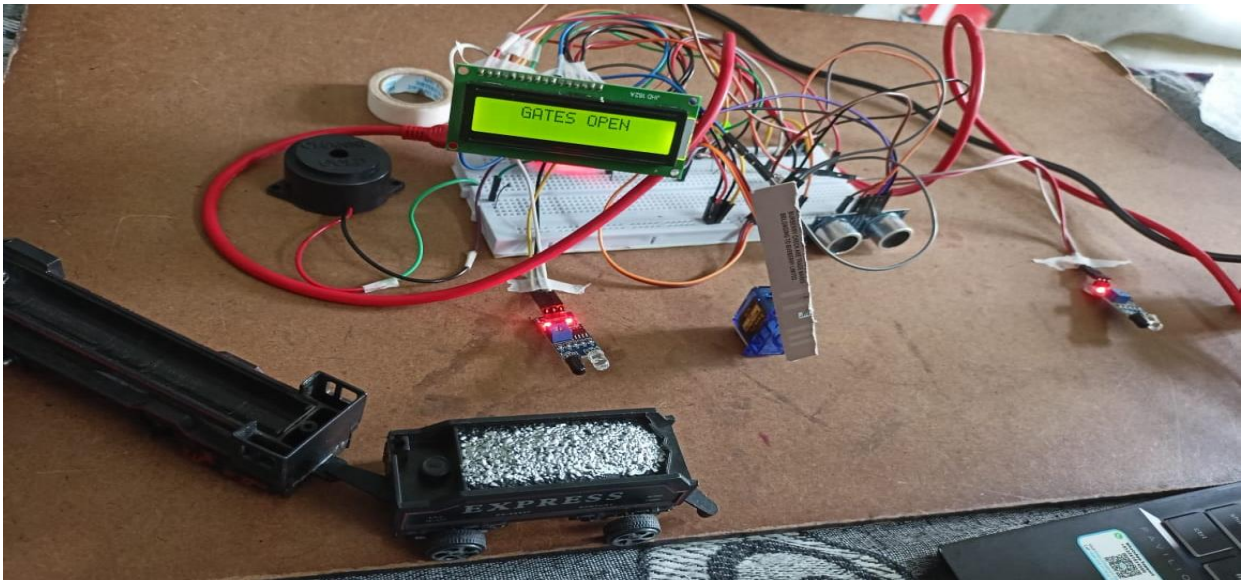
STEP2:

When the train comes in front of the **IR sensor-1**. Then IR sensor-1 **detects** the arrival of the train and produces **Low(0)** output from its Data Pin. But, on the other side, the **IR Sensor-2** output is HIGH (1) because this time sensor-2 **does not detect** the train. When the Arduino gets this signal from **two sensors**, then the Arduino sends the **PWM signal** to the **servo motors**. As a result, servo motor working and **close the gates star** At this time, the Arduino sends commands to turn on **Red LED** and the **buzzer** starts to generate Beep sound which means that the **train is coming**.At this time by using ultrasonic sensor detects speed and displays on the display .



STEP3:

When the **train crosses the level crossing** and the train comes in front of the IR sensor-2. Then **IR sensor-2** detects the arrival of the train. So, the sensor-2 output goes **LOW(0)**. But, on the other side, the IR
Sensor-1 output is **HIGH (1)** because this time sensor-1 does not detect the train. When the Arduino gets this signal from two sensors, then again the Arduino sends the **PWM signal** to the servo motors. As a result, the **servo motors back to the first position**, and automatically open the gate. This time **Green LED** will turn on and the buzzer will stop, it means that the train is gone.



STEP4:

When **IR sensor 1** and **IR sensor 2** does not detect the train, then the output of the sensor is **High (1)**. In this condition, the gate is open and the Green LED will turn on and the buzzer will stop, it means that the train does not come.