Social Distancing Sensor

Dany Rashwan

04/08/2020

—

PHY2049.002

Spring 2020

—

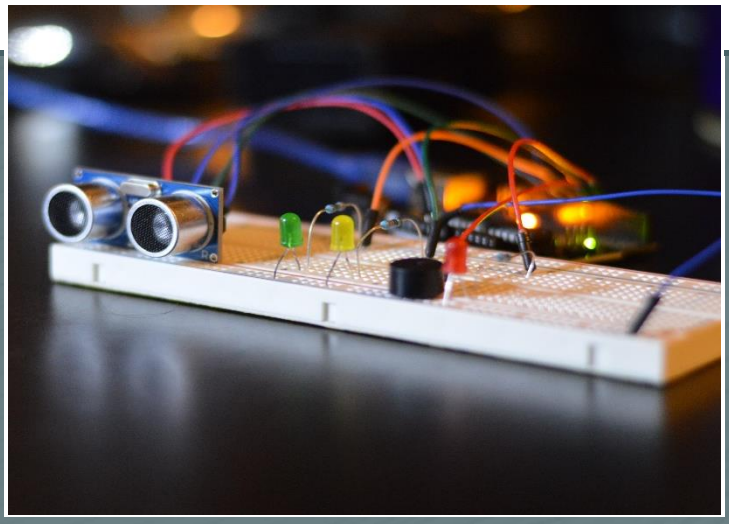
Dr. Karim Diff

Abstract

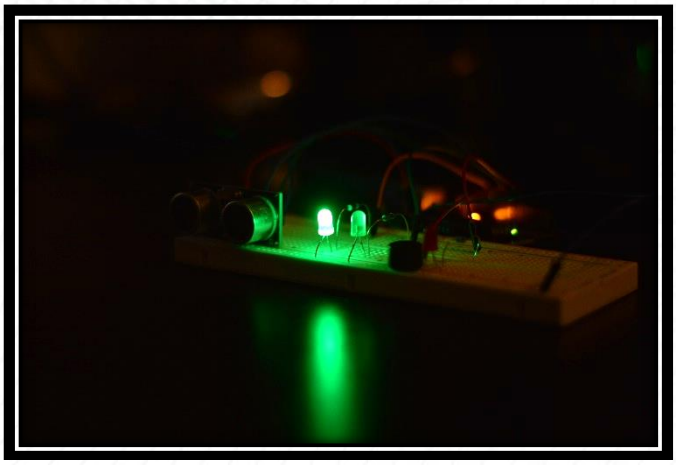
To reduce the spread of COVID-19, social distancing has been advised by many health and government officials.

The “Social Distancing Sensor” is a solution for individuals, businesses, and hospitals to alert and keep people within a safe distance.

This device is composed of an ultrasonic sensor, an active buzzer, and 3 LED lights wired to an Arduino.



3 Zones, 3 Settings

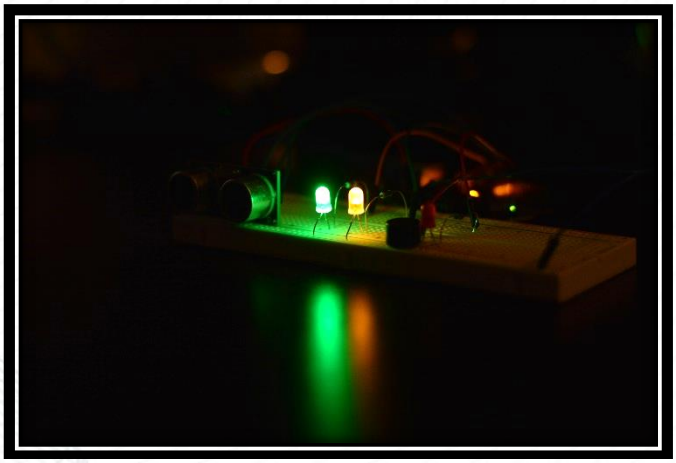


Green Zone

The green LED turns on when the distance between the sensor and the individual is **8 feet** or less

This shows that the person is within the safe zone.

Prototype Distance:
60 cm

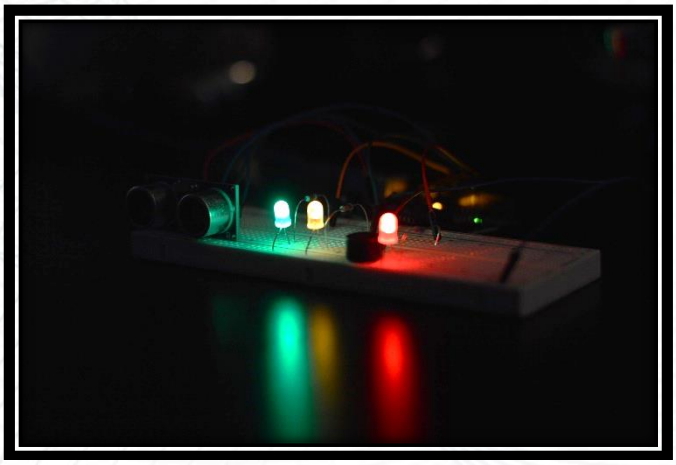


Yellow Zone

The Yellow LED turns on when the distance between the sensor and the individual is **7 feet** or less.

This shows that the person is approaching the danger zone.

Prototype Distance:
40 cm



Red Zone

The Red LED and Buzzer turn on when the distance between the sensor and the individual is **6 feet** or less.

This shows that the person is in the danger zone and can get infected.

Prototype Distance:
20 cm

Watch demonstration on YouTube here