

Project Name: UV-C Sterilizer Box

Objective:

Ultraviolet (**UV**) is a form of electromagnetic radiation with from 10nm (30 PHz) to 400nm (750 PHz). There are several types of UV light depends on its wavelength. Short-wave ultraviolet light is called UV-C with the range of 200-280nm. **It can damage DNA and sterilizes surfaces with which it comes into contact.**

For humans, **suntan** and **sunburn** are familiar effects of exposure of the skin to UV light, along with an increased risk of **skin cancer**.

Objective of the of the project is to kill up to 99% germs & bacteria including COVID-19 & Flu virus within **5 minutes** by using UV-C wavelength. It is proven by research that though UV radiation is bad for human but it is effective for weak & harmful virus.

References: 1. <https://en.wikipedia.org/wiki/Ultraviolet>
2. <https://www.healthline.com/health/does-uv-kill-coronavirus>
3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8107062>

Usage:

1. It can be used as a home appliance for cleaning our daily stuffs like Phone, Laptop, some books etc.
2. Also can be implanted in shopping malls, doctor's chambers & other important entrances.
3. Can use to clean up any liquid's surface.

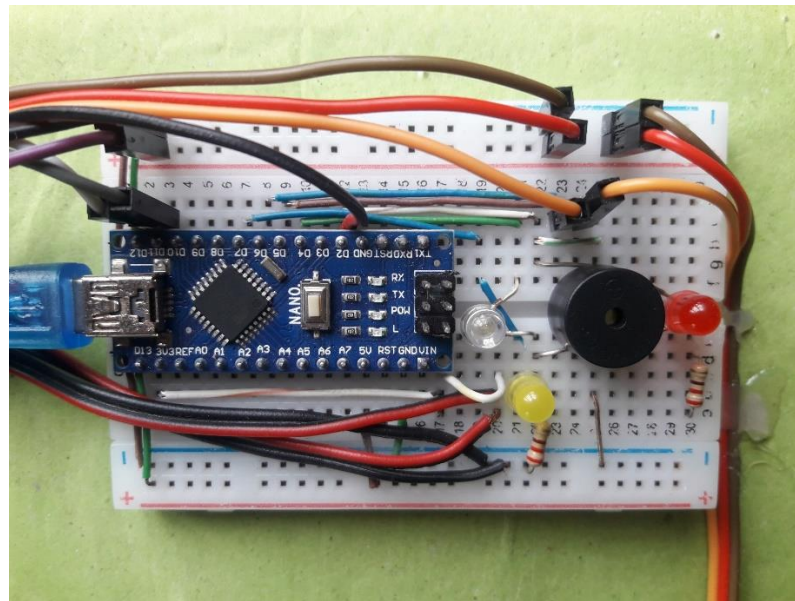
Hardware Components:

<i>SL No.</i>	<i>Name</i>	<i>Rated Value</i>	<i>Quantity</i>
1.	Arduino Nano	Input voltage: 7-12V Operating voltage: 5V Current per I/O pin: 40mA	1
2.	HC-SR04 Ultrasonic Sensor	Operating voltage: 5V Operating current: 15mA Measuring distance: 2-400cm	1
3.	SG-90 Servo Motor	Operating voltage: 5V Stall torque: 13kg/cm	2
4.	Buzzer	Operating voltage: 5V Operating current: < 32mA Resonate Frequency: 2300±300Hz	1
5.	UV LED (5mm)	3.3 - 3.7V	20
6.	White LED (5mm)	3 - 5V	10
7.	Red LED (5mm)	1.4 – 2.6V	1
8.	Yellow LED (5mm)	1.4 - 2.6V	1
9.	Green LED (3mm)	1.4 - 2.6V	1
10.	Resister	220 Ω	1
11.	Project Board (Mini)	-	1
12.	Jumper Wire	-	-
13.	Copper Wire	-	-

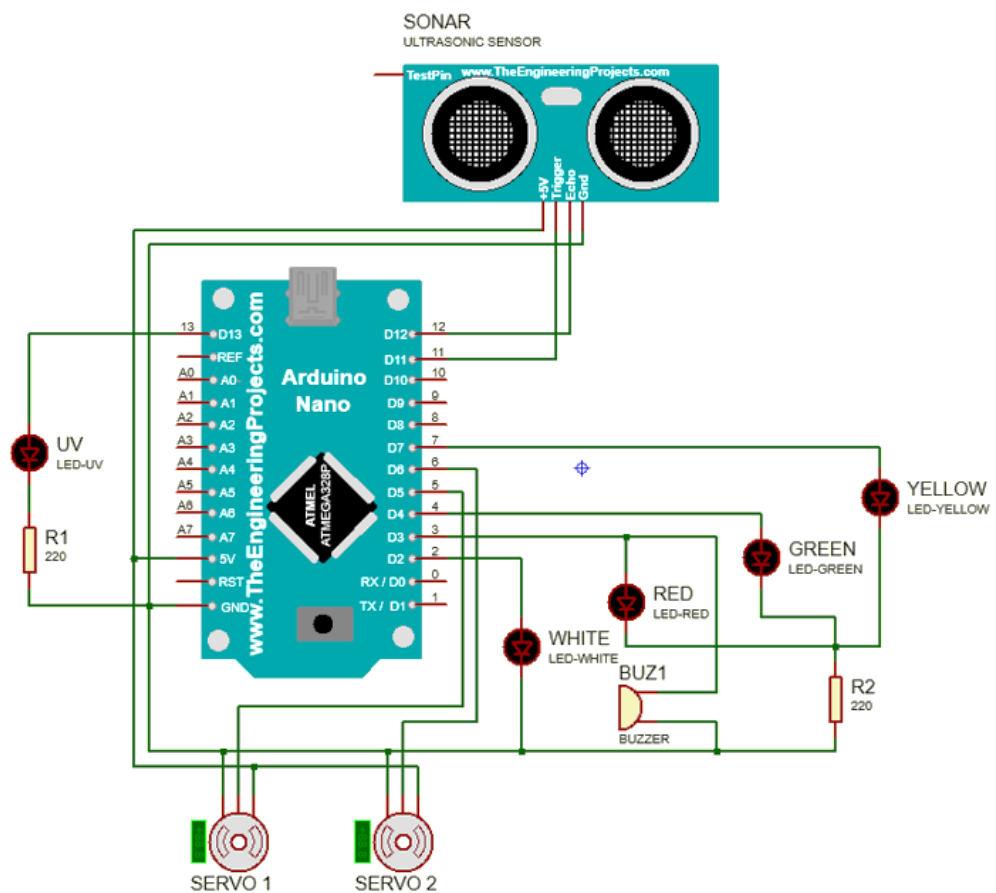
Project Overlook:



Real Life Circuit Connection:



Circuit Diagram:



Operating Algorithm:

