COVID-19 CASH SANITATION MODEL USING UVC LIGHT

INTRODUCTION

In the present world of pandemic, how are we all doing our payments towards various amenities being provided? We all are making use of digital platforms like BHIM, Phone pay, Paytm and many more to achieve our goal of payments.

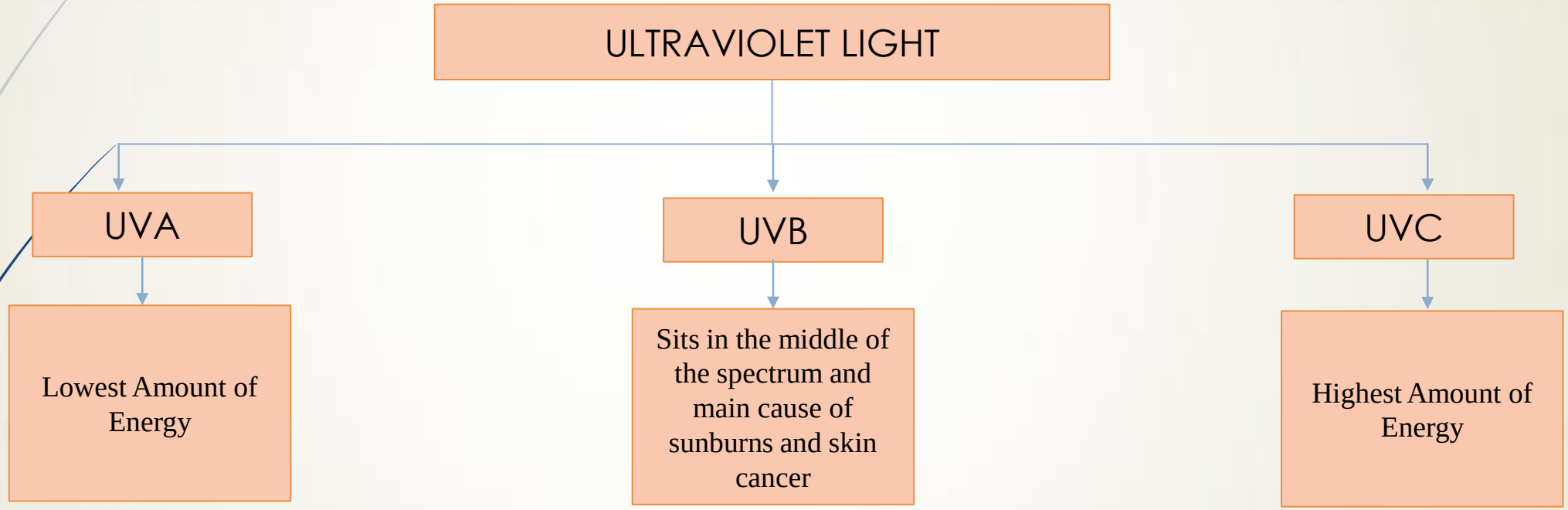
However, in some situations digital payments are not encouraged and cash transactions are preferred more over digital transactions. **In such conditions how safe is it to exchange currency through hands? What is the risk of us getting the flu? What if the currency we are exchanging might contain droplets when somebody sneezed?**

Like this many questions arise in our mind. So why to take a risk?

Hence a circuit or device has been designed where it will make use of ultraviolet light to sanitise the currency notes so that they can cease being a potential transport in transmitting different ailments among the people.

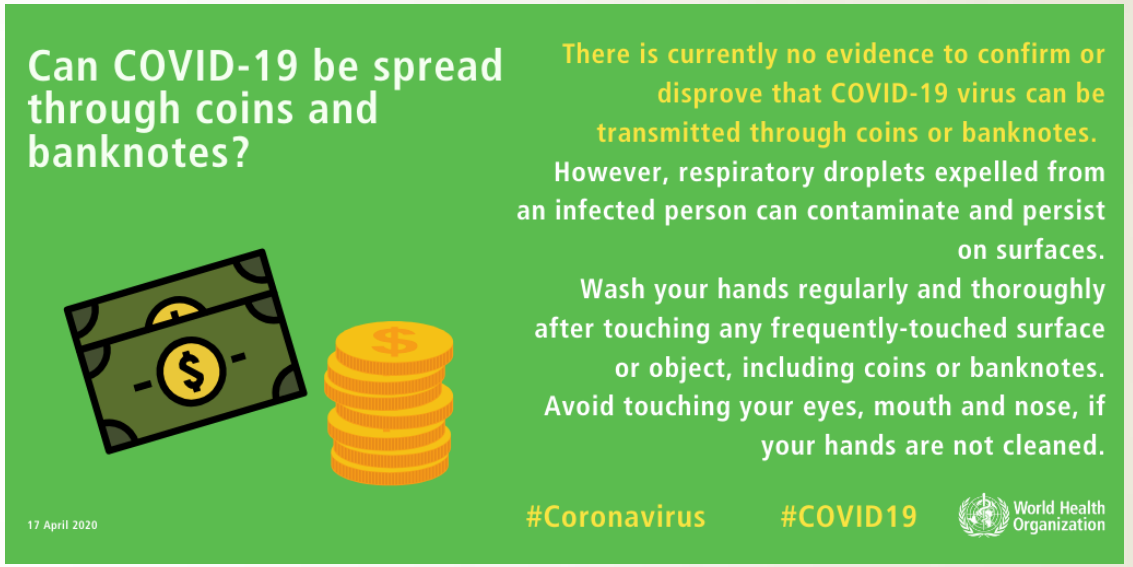
ULTRAVIOLET LIGHT

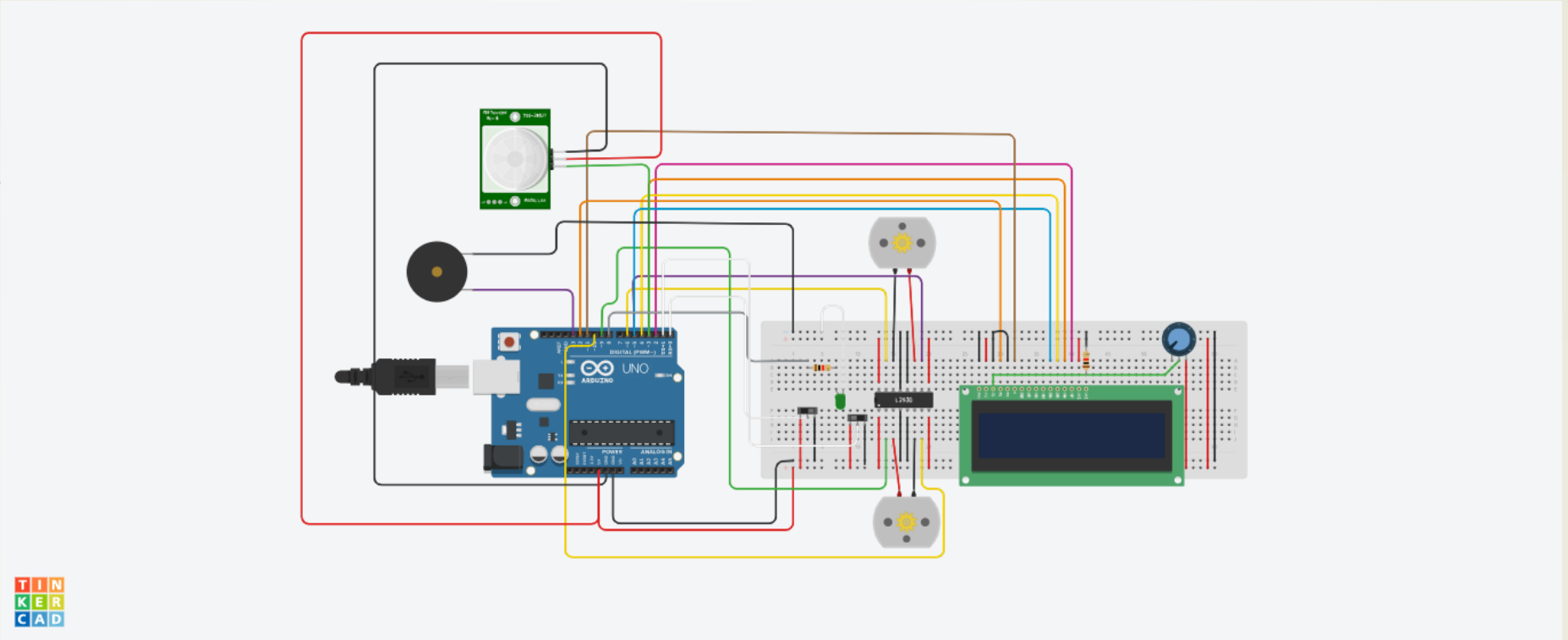
- Ultraviolet light is a type of radiation which has more energy as compared to radio waves or visible light. Ultraviolet light has been used to kill germs like virus and bacteria.



SANITATION OF CURRENCY NOTES

A virus has a different characteristic. It can last on different surfaces for different amounts of time. Hence if any person encounters that surface during that time period, he or she might develop a risk of contracting that virus or even common flu.





SIMULATION AND CODE

```
#include <LiquidCrystal.h>

LiquidCrystal lcd (12,11,5,4,3,2);
const int motorpin1=5;
const int motorpin2= 6;
const int motorpin3 = 10;
const int motorpin4= 9;
int switch_pin = 0;
int switchstate=LOW;
int ledPin = 8;
int pir_sensor = 3;
int pir_reader;
int buzzer = 13;

void setup()
{
  pinMode(switch_pin,INPUT);
  pinMode(motorpin1,OUTPUT);
  pinMode(motorpin2,OUTPUT);
  pinMode(motorpin3,OUTPUT);
  pinMode(motorpin4,OUTPUT);
  pinMode(switch_pin,INPUT);
  pinMode(3,INPUT);               // For set the PIR signal pin as input mode
  pinMode(buzzer,OUTPUT);         // For set the Buzzer pin as OUTPUT mode
  pinMode(ledPin, OUTPUT);        //For set the led sihnal pin as output mode


   lcd.begin(16, 2);                  //Start the 16x2 LCD
   lcd.setCursor(2,0);                // Set the LCD Cursor using lcd.setCursor
   lcd.print("HELLO");                //Print the message on LC              //Again set the LCD cursor
              //Again print the another message on different line
   delay(1000); //Set the delay
      lcd.clear();                    // clear the LCD

 }
```

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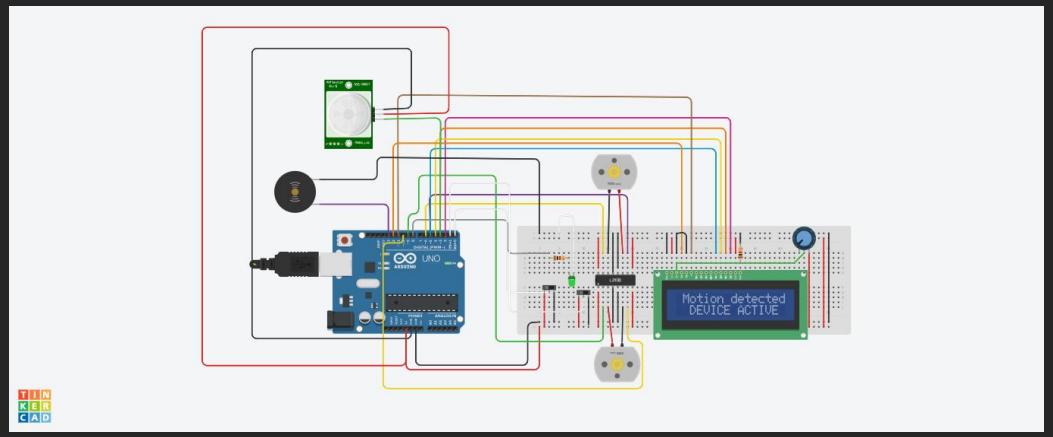
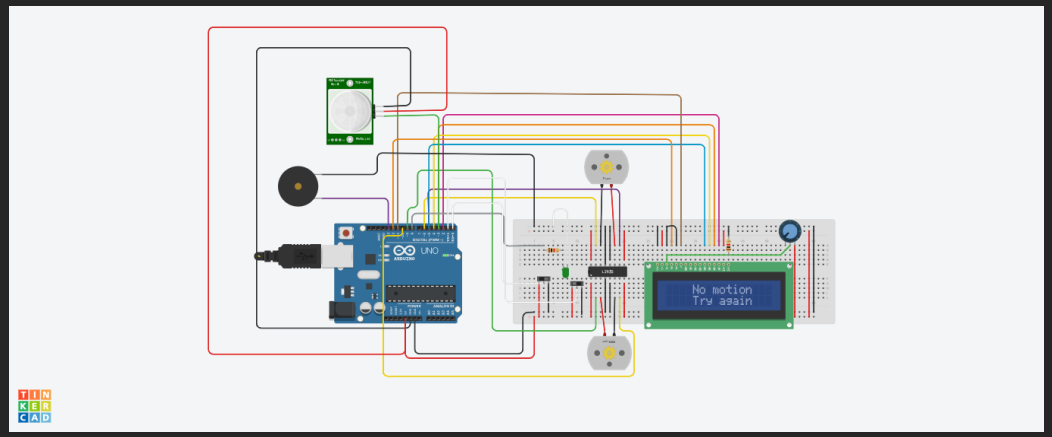
```
void loop()
{
  digitalWrite(motorpin1,HIGH);
  digitalWrite(motorpin2,LOW);
  digitalWrite(motorpin3,HIGH);
  digitalWrite(motorpin4,LOW);
  switchstate = digitalRead(switch_pin);
  if(switchstate!= LOW)
  {
    pir_reader= digitalRead(pir_sensor);
    digitalWrite(ledPin,HIGH);
    lcd.setCursor(1,0);
    lcd.print("Motion detected");
    lcd.setCursor(2,1);
    lcd.print("DEVICE ACTIVE");
     delay(5000);
   digitalWrite(buzzer,HIGH);
    tone(buzzer,500);
```

```
  }
  else
  {
    digitalWrite(buzzer,LOW);
    noTone(buzzer);
    digitalWrite(ledPin,LOW);
    lcd.setCursor(4,0);
    lcd.print("No motion");
    lcd.setCursor(4,1);
    lcd.print("Try again");
    delay(300);
    lcd.clear();
  }
}
```





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APPLICATIONS

- These portable devices can be made available in ATM’S across the country where after withdrawing currency, one can place them in the sanitiser and collect the sanitised currency.
- These devices can be placed in the banks across the country where currency counting machines are widely used. Instead of discarding them this device performs both the tasks of counting and sanitising and hence this device can be deployed.
- Use of this device can make hand to hand cash transactions safer and more hygienic.

CONCLUSION

This circuit can find its vast applications and can play a major role in minimising the transmission of various risks through the currency notes.
Through this project awareness towards Arduino IDE and tinker cad software have been created.
Also, awareness towards different new components like sensors, buzzers, drivers and many more and their working have been created.
Overall, through this software an attempt towards demonstrating a successful simulation has been made.

THANK YOU