VIT SMART BRIDGE IOT EXTERNSHIP PROGRAM
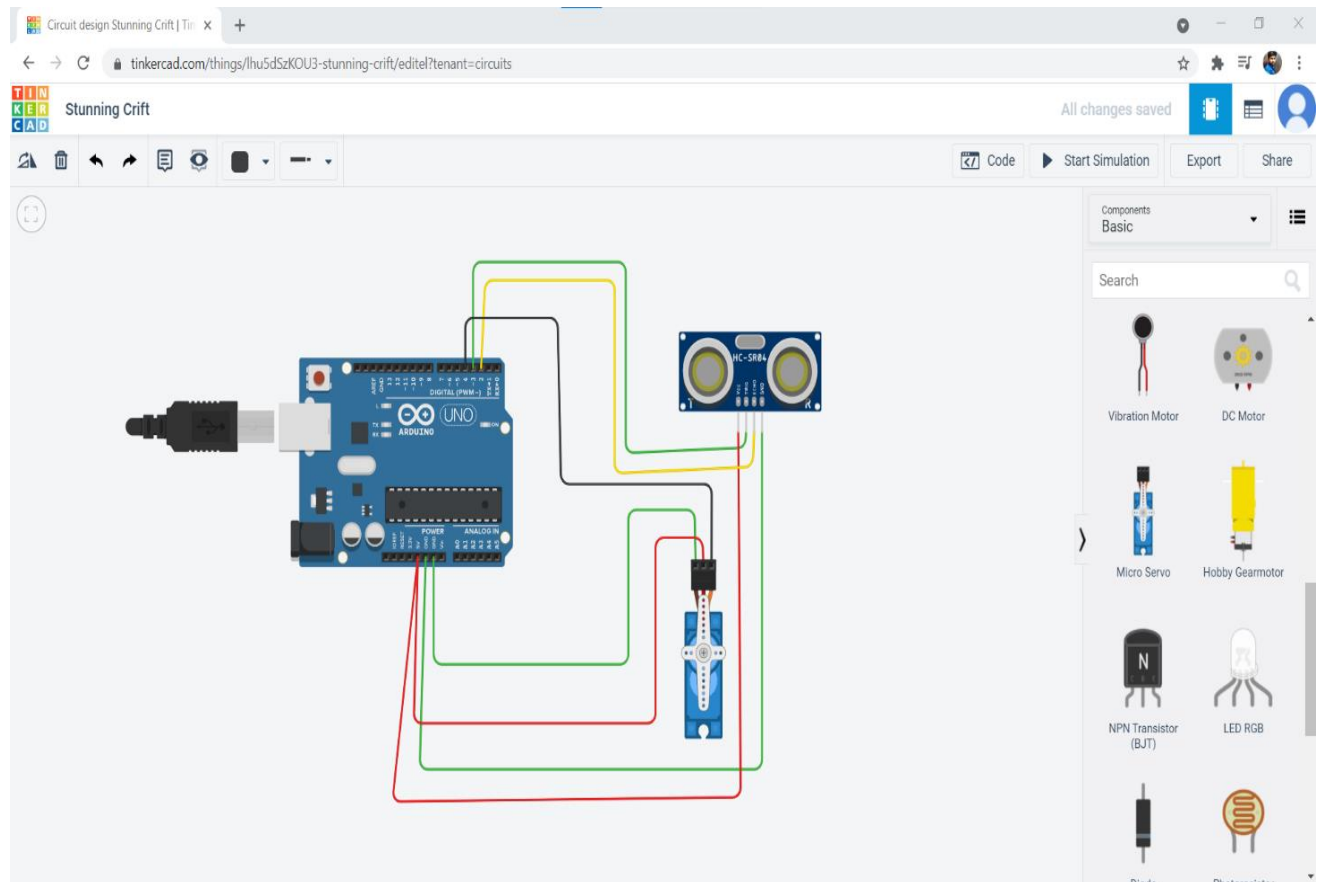
NAME: Tanniru Ram Sai Praneeth(18BEC7061)

praneeth7205@gmail.com

Assignment-2:

Develop an "Automatic garage door opening system". Use an Ultrasonic sensor to detect if there is a vehicle in front of the garage. if any vehicle is detected open the garage door (rotate the servo motor) for some time and close it.

Circuit Diagram:

Code:

```
#include<Servo.
h> Servo s;
void setup()
{
  pinMode(3,
  OUTPUT);
  pinMode(2, INPUT);
  Serial.begin(9600);
  s.attach(4); //attaching D3 pin to servo motor
}
void loop()
{
  digitalWrite(3, LOW);
  digitalWrite(3, HIGH);
  delayMicroseconds(1
  0); digitalWrite(3,
  LOW);
  float dur = pulseIn(2,
  HIGH); float dis = (dur /
  2)/29.1; if(dis < 100){
  s.write(180);
  Serial.println("garage door opened,vehicle detected");
  Serial.println(dis);
  delay(1000);
  }
  else if(dis >
  100){
  s.write(0);
  Serial.println("garage door closed,vehicle not detected");
```

```
Serial.println(dis

); delay(1000);

}

}
```

Output:

```
Serial Monitor                                              ▼

Vehicle not detected
215.52
vehicle detected in less than 100 CM,opening the door
63.06
Vehicle not detected
334.18
Vehicle not detected
334.18
Vehicle not detected
334.18
Vehicle not detected
111.84
Vehicle not detected
111.84
Vehicle not detected
111.80
Vehicle not detected
110.41
vehicle detected in less than 100 CM,opening the door
71.24
vehicle detected in less than 100 CM,opening the door
71.24
vehicle detected in less than 100 CM,opening the door
70.53
vehicle detected in less than 100 CM,opening the door
71.43


                                    Send    Clear    ⋀⋁
```