

# SmartBridge Externship Program

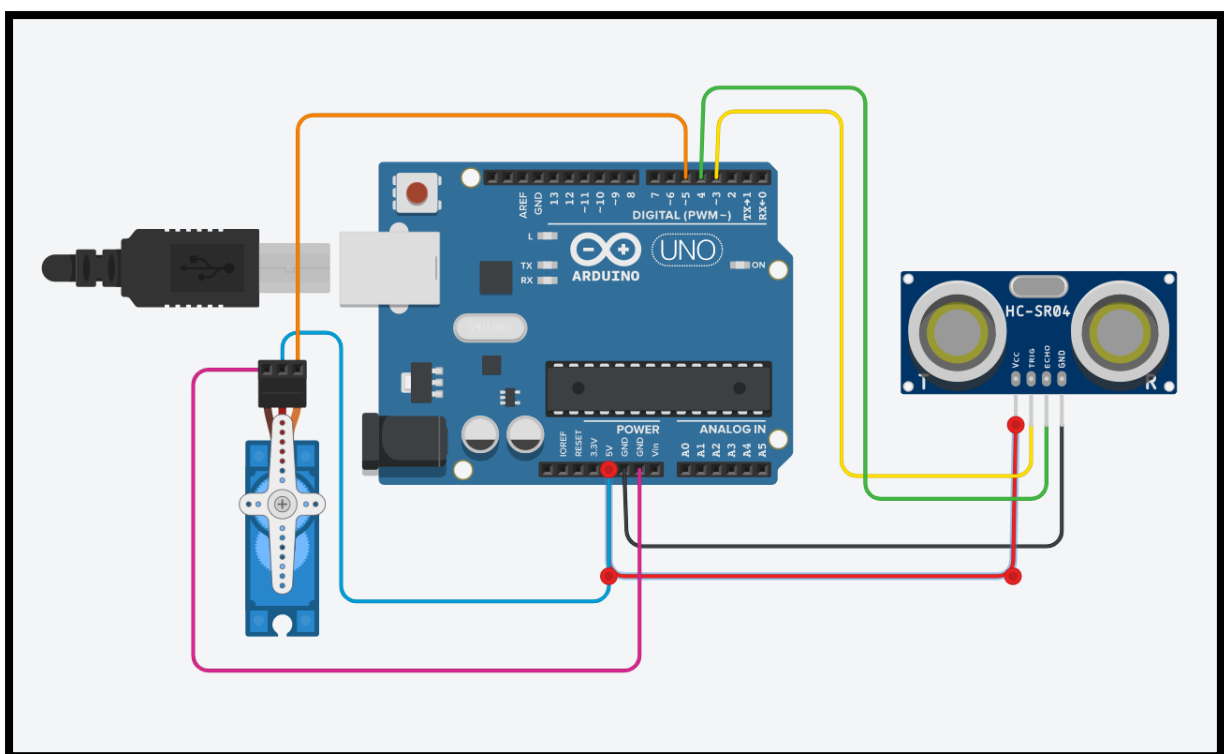
## Internet of Things

### Assignment 2

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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:



## Code:

```
#include<Servo.h>

Servo s;

void setup()
{
    pinMode(3, OUTPUT);
    pinMode(4, INPUT);
    Serial.begin(9600);
    s.attach(5);
}

void loop()
{
    digitalWrite(3, LOW);
    delayMicroseconds(2);

    digitalWrite(3, HIGH);
    delayMicroseconds(10);
    digitalWrite(3, LOW);

    float duration = pulseIn(4, HIGH);
    float distance= duration*0.034/2;

    Serial.print("Distance: ");
    Serial.println(distance);

    if (distance<50){
        for(int i=0;i<=180;i++){
            s.write(i);
            delay(100);
```

```

}

delay(2000);

Serial.print("Vehicle has approached, Opening Gate!!");

for(int j=180;j>=0;j--){

    s.write(j);

    delay(100);

}

delay(2000);

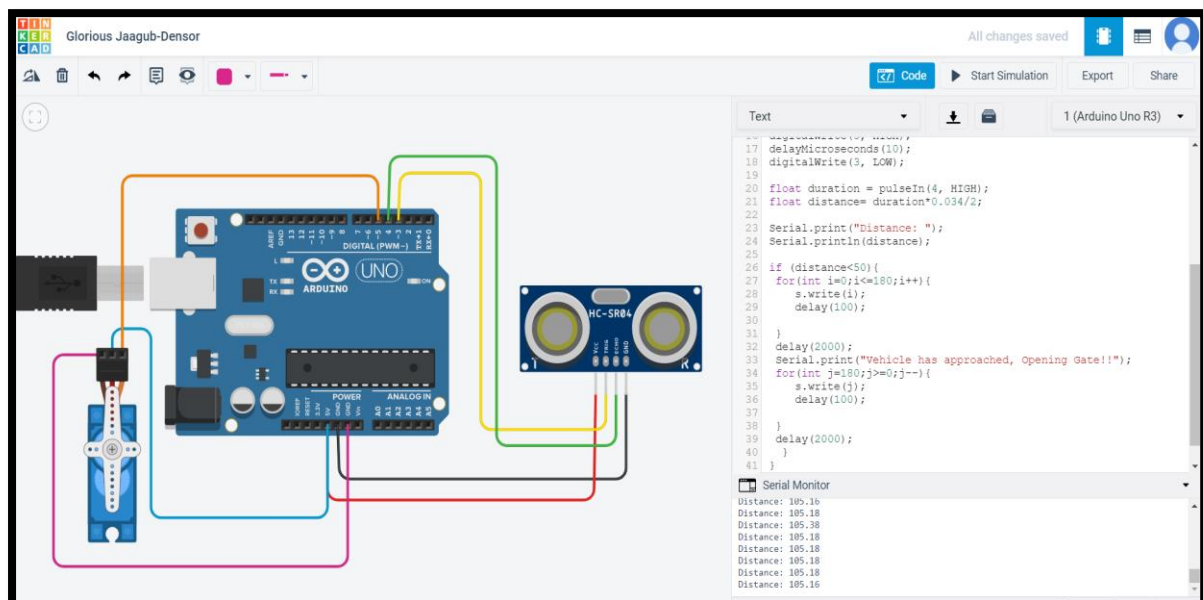
}

}

```

## Result:

When there is no vehicle:



When there is a vehicle approaching:

