

Assignment -4

Assignment Date	28 October 2022
Team ID	PNT2022TMID38150
Project Name	Project-Smart Farmer-IoT Enabled Smart Farming Application
Maximum Marks	2 Marks

Question-1:

Write code and connections in wokwi for ultrasonic. Whenever distance is less than 100 cms send "alert" to ibm cloud and display in device recent events.

Solution:

```
#define ECHO_PIN 2

#define TRIG_PIN 3

#define organisation = "a09qmv"

#define deviceType = "device1"

#define deviceId ="1234"

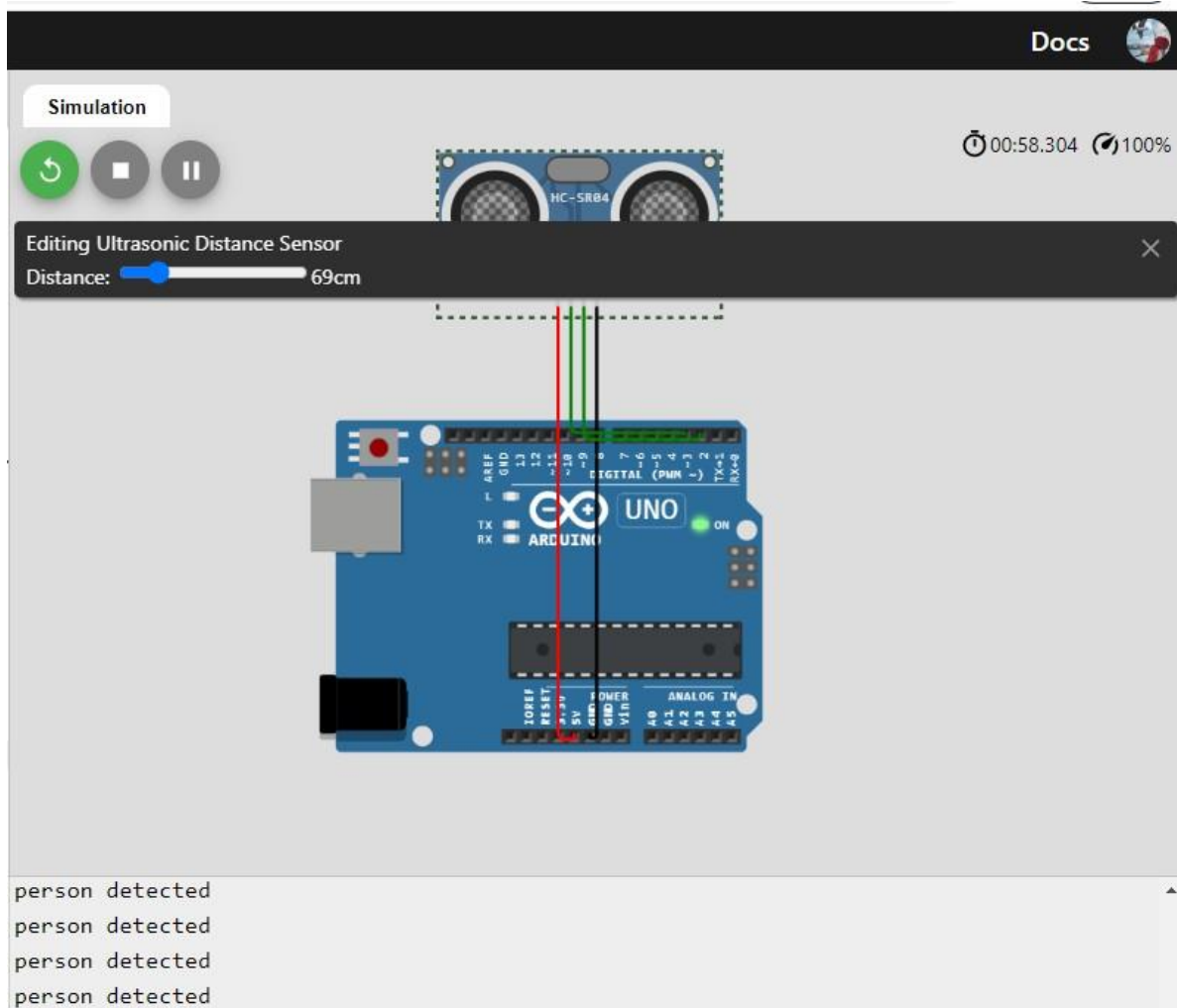
#define authMethod ="use-token-auth"

#define authToken ="12345678"

void setup() {
  Serial.begin(9600);
  pinMode(TRIG_PIN, OUTPUT);
  pinMode(ECHO_PIN, INPUT);
}

float readDistanceCM() {
  digitalWrite(TRIG_PIN, LOW);
  delayMicroseconds(2);
  digitalWrite(TRIG_PIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TRIG_PIN, LOW);
  int duration = pulseIn(ECHO_PIN, HIGH);
  return duration * 0.034 / 2;
```

```
void loop() {  
  float distance = readDistanceCM();  
  
  if(distance <= 100)  
  {  
    Serial.println("person detected ");  
  }  
  
  else{  
    Serial.print("Measured distance: ");  
    Serial.println(readDistanceCM());  
  }  
  
  delay(1000); }
```



Wokwi Link: <https://wokwi.com/projects/346567584774095442>

IBM Cloud

Device Recent Events

The screenshot displays the IBM Watson IoT Platform interface. At the top, the header shows the user's email (820419205063@smartinternz.com) and ID (a09qmv). The main navigation bar includes tabs for Browse, Action, Device Types, and Interfaces, along with an 'Add Device' button. Below the navigation bar, a search bar is labeled 'Search by Device ID'. A table lists devices, with one device (ID: 1234, Status: Disconnected, Device Type: device1) selected. The selected device's details are shown in a modal window, including its Identity, Device Information, Recent Events, State, and Logs. The device information section shows the following details:

Identity	Device Information
Device ID	1234
Device Type	device1
Date Added	Oct 26, 2022 1:15 PM
Added By	820419205063@smartinternz.com
Connection Status	Disconnected

At the bottom of the modal, it indicates 'Items per page: 50' and '1-1 of 1 item'. The bottom of the screenshot shows a Windows taskbar with various application icons and a system clock displaying 1:12 PM on 10/26/2022.

The screenshot shows the SmartThings IDE interface. At the top, there's a navigation bar with 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains icons for various functions. The main area displays a table of devices. One device is selected, and its details are shown below. The details section includes tabs for 'Identity', 'Device Information', 'Recent Events', 'State', and 'Logs'. The 'Recent Events' tab is active, showing a stream of events. A status box at the bottom right indicates '2 Simulations running'.

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location	Added By
1234	Disconnected	device1	Device	Oct 26, 2022 1:15 PM		820419205063@smartintertz.com

Event	Value	Format	Last Received
event_1	"person detected"	json	a few seconds ago
event_1	"person detected"	json	a few seconds ago
event_1	"person detected"	json	a few seconds ago

2 Simulations running