As explained previously in the phase_2

project ,In this project we are using

MQ135 Sensors. In this phase we are

going to explain coding related to our

project

Sensors:

    System uses air sensors to sense presence of harmful gases/compounds in the air and constantly transmit this data to microcontroller. Also system keeps measuring sound level and reports it to the online server over IOT. The sensors interact with microcontroller which processes this data and transmits it over internet.

- Atmega Microcontroller
- MQ 135 Sensor
- Mic Sensor or ESP8266 Wifi module

Coding:

```
import requests            #for making HTTP requests
import json             #library for handling JSON data
import time             #module for sleep operation
from boltiot import Bolt      #importing Bolt from boltiot
                    module
import configuration          #configuration file
mybolt = Bolt(configuration.BOLT_API_KEY,configuration.DEVICE_ID)
def get_sound_sensor_value_from_pin(pin):
try:
response = mybolt.analogRead(pin)
data = json.loads(response)
    if data["success"] != 1:
        print("Request not successful")
        print("This is the response->", data)
        return -999
        sound_sensor_value = int(data["value"])
        return sound_sensor_value
except Exception as e:
print("Something went wrong when returning the sensor value")
        print(e)
    return -999
def send_telegram_message(message):
```

```python
url = "https://api.telegram.org/" + configuration.TELEGRAM_BOT_ID + "/sendMessage"
data = {
    "chat_id": configuration.TELEGRAM_CHAT_ID,
    "text": message
}
try:
    response = requests.request(
        "GET",
        url,
        params = data
    )
    print("This is the Telegram response")
    print(response.text)
    telegram_data = json.loads(response.text)
return telegram_data["OK"]
    except Exception as e:
print("An error occurred in sending the alert message via Telegram")
    print(e)
    return False
while True:
    #Step 1
    sound_sensor_value = get_sound_sensor_value_from_pin("A0")
    print("The current sensor reading is:", sound_sensor_value)
    #Step 2
    if sound_sensor_value == -999:
        print("Request was unsuccessful. Skipping.")
    time.sleep(10)
        continue
    #Step 3
    if sound_sensor_value >= configuration.THRESHOLD:
print("Sensor value has exceeded threshold")
message = "Alert! Noise disturbance around the XYZ Hospital. Random and unidentified
sound intensity has crossed " + str(configuration.THRESHOLD) + str("dB") + \
"The current sound sensor reading is " + str(sound_sensor_value) + str("dB") + str("To, The
Police Incharge, Immediate action required. Thankyou.")
telegram_status = send_telegram_message(message)
print("This is the Telegram status:", telegram_status)
# Step 4
            time.sleep(50)        #Time interval to get the status update.
```