Noise Pollution Monitoring using IoT

HARDWARE SPECIFICATIONS:

Sound sensor
IoT device
- Raspberry Pi
- Arduino with WiFi/Lora module
- ESP8266/ESP32

Internet connection
Cloud service

SOFTWARE AND LIBRARIES:

Python

IoT communication libraries

Python code for noise pollution monitoring using IoT:

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from machine import Pin, ADC

from time import sleep

pot = ADC(Pin(2))

pot.atten(ADC.ATTN_11DB)       #Full range: 3.3v

#ADC.ATTN_0DB: Maximum voltage of 1.2V

#ADC.ATTN_2_5DB: Maximum voltage of 1.5V

#ADC.ATTN_6DB: Maximum voltage of 2.0V

#ADC.ATTN_11DB: Maximum voltage of 3.3V

while True:

   pot_value = pot.read()

   print(pot_value)

   sleep(0.1)

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import machine, time

a = machine.ADC(machine.Pin(32))

while True:
```

```
sample = a.read()     # we want 16 bits, a.read() return 10 bits

print(sample)

time.sleep(1/44100)
```