**NOISE POLLUTION MONITORING**

**USING**

**INTERNET OF THINGS**

**PHASE - 03:**

**Submitted by:**

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**Noise Pollution Monitoring in Public Places**

**Introduction :**

Noise pollution is a growing concern in urban areas. This report presents the data collected from noise pollution monitoring in various public places using a Python script. The purpose of this report is to provide insights into noise pollution levels and their impact.

**Things used :**

A noise dosimeter, also known as a noise dosimeter or a noise dosimeter, is a portable device used to measure and record a person's exposure to noise over a specified period, typically a full work shift. Here are the key components and features commonly found in a noise dosimeter:

1. Microphone:

The microphone is the primary sensor that captures sound waves and converts them into electrical signals for measurement.

1. Preamplifier:

A preamplifier is often used to amplify the microphone's signal to ensure accurate and sensitive noise measurement.

1. Microcontroller:

The microcontroller processes and records noise data, controls the dosimeter's operation, and manages the display and user interface.

4. Data Storage:

Noise dosimeters typically have internal memory for storing noise level

data.

5. Calibration Controls:

Noise dosimeters may have calibration controls to ensure the accuracy of noise level measurements. Users can periodically calibrate the device to maintain its precision.

1. Battery or Power Supply:

Noise dosimeters are battery-operated, and some models come with rechargeable batteries or external power options.

1. Mounting Clip or Holster:

A clip or holster allows the user to attach the dosimeter securely to their clothing.

1. Rotating Microphone Boom:

Some dosimeters have a rotating microphone boom to ensure that the microphone is properly oriented and aligned with the user's ear

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1. Data Logging and Analysis Software:

Typically, noise dosimeters come with software for downloading, analyzing, and reporting the recorded noise exposure data. This software often generates reports that comply with regulatory requirements.

1. Exposure Limits:

Dosimeters may allow users to set specific noise exposure limits or thresholds that trigger alarms or warnings.

11 . Ingress Protection (IP) Rating:

An IP rating indicates the device's level of protection against dust and moisture. This is important for outdoor and industrial environments.

12. Noise Criteria (NC) Curves:

Some dosimeters may allow users to select different noise criteria curves, such as NIOSH or OSHA, to calculate noise exposure.

**Python code :**

# Sample Python script to collect noise data (assumes the use of a noise sensor)

import time

import random

def collect\_noise\_data():

noise\_data = []

for \_ in range(8):

noise\_level = random.randint(60, 85)

noise\_data.append(noise\_level)

time.sleep(1800) # Collect data every 30 minutes

return noise\_data

noise\_data = collect\_noise\_data()

THANK YOU