

Environmental Monitoring

Phase 3: Development part

To build a complete environmental monitoring system using sensors, microcontrollers (Arduino, Raspberry Pi) is a complex task involving different components and hardware, so here going with a simplified python script for Arduino

Below is a simplified Python script that collects environmental data and uploads it to a website.

```
import Adafruit_DHT
import requests

sensor = Adafruit_DHT.DHT22
pin = 4
data_upload_url = "https://yourwebsite.com/upload"

def read_sensor_data():
    humidity, temperature = Adafruit_DHT.read_retry(sensor, pin)
    return temperature, humidity

def upload_data(temperature, humidity):
    payload = {'temperature': temperature, 'humidity': humidity}
    try:
        response = requests.post(data_upload_url, data=payload)
        if response.status_code == 200:
            print("Data uploaded successfully")
        else:
            print("Failed to upload data")
    except Exception as e:
        print("Error: ", str(e))

while True:
    temperature, humidity = read_sensor_data()
```

```
if temperature is not None and humidity is not None:
```

```
    upload_data(temperature, humidity)
```

```
else:
```

```
    print("Failed to read data from the sensor")
```

```
time.sleep(300)
```

This code reads sensors data. for this function to work, we need to add the following items.

- Appropriate libraries and drivers for communication.
- A web page or database that is loaded and displayed on stored data.
- Proper Arduino code for communication.