

Smart Indoor Gardening Ecosystem

Batch 3 (Group-4)

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Software Installations:

1. Update your Raspberry Pi

```
sudo apt-get update
```

```
sudo apt-get upgrade
```

2. Install Python and pip if not already installed

```
sudo apt-get install python3 python3-pip
```

3. Install required Python packages

```
pip3 install RPi.GPIO
```

```
pip3 install pad4pi
```

```
pip3 install flask
```

```
pip3 install flask-cors
```

```
pip3 install requests
```

4. Create a project directory

```
mkdir smart_indoor_gardening
```

```
cd smart_indoor_gardening
```

5. Create a static directory for web files

```
mkdir static
```

Project Setup :

1. Create the main Python file:

```
nano smart_indoor_gardening.py
```

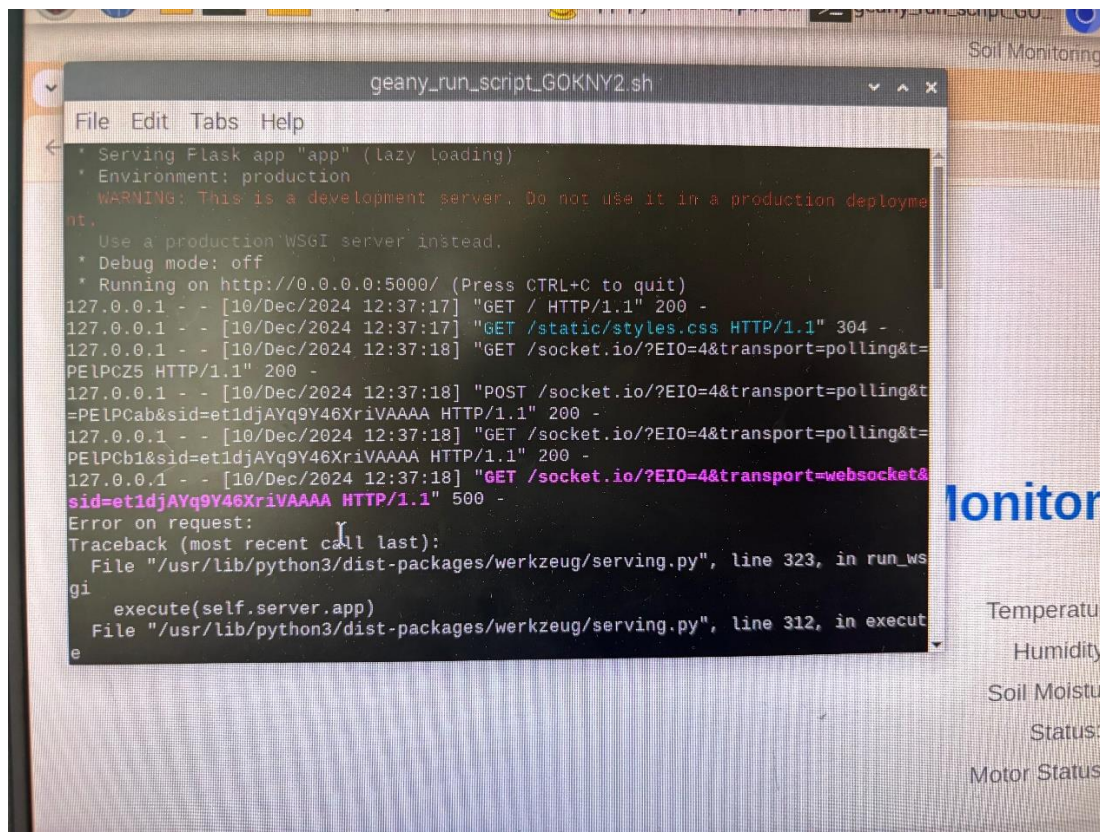
2. Copy the code into this file.
3. Make the script executable:
`mod + smart_indoor_gardening.py`

Running the Project :

1. Start the system:
`python3 smart_indoor_gardening.py`
2. Access the web interface:
3. From the same Raspberry Pi: `http://localhost:5000`
4. From other devices on the network: `http://[raspberry_pi_ip]:5000`

To find your Raspberry Pi IP: `hostname -I`

Screenshots:



The screenshot shows a terminal window titled `geany_run_script_GOKNY2.sh`. The terminal output displays the Flask development server running on `http://0.0.0.0:5000/`. It shows several GET requests from `127.0.0.1` to `/static/styles.css` and `/socket.io/?EI0=4&transport=polling&=PElPCb1&sid=etldjAYq9Y46XriVAAAA`. A 500 error occurs on a subsequent GET request to `/socket.io/?EI0=4&transport=websocket&sid=etldjAYq9Y46XriVAAAA`. The error message is: `Error on request: Traceback (most recent call last): File "/usr/lib/python3/dist-packages/werkzeug/serving.py", line 323, in run_wsgi execute(self.server.app) File "/usr/lib/python3/dist-packages/werkzeug/serving.py", line 312, in execut`. To the right of the terminal, a portion of a web interface titled "Soil Monitoring" is visible, showing labels for "Temperature", "Humidity", "Soil Moisture", "Status:", and "Motor Status:".

Fig. The Terminal

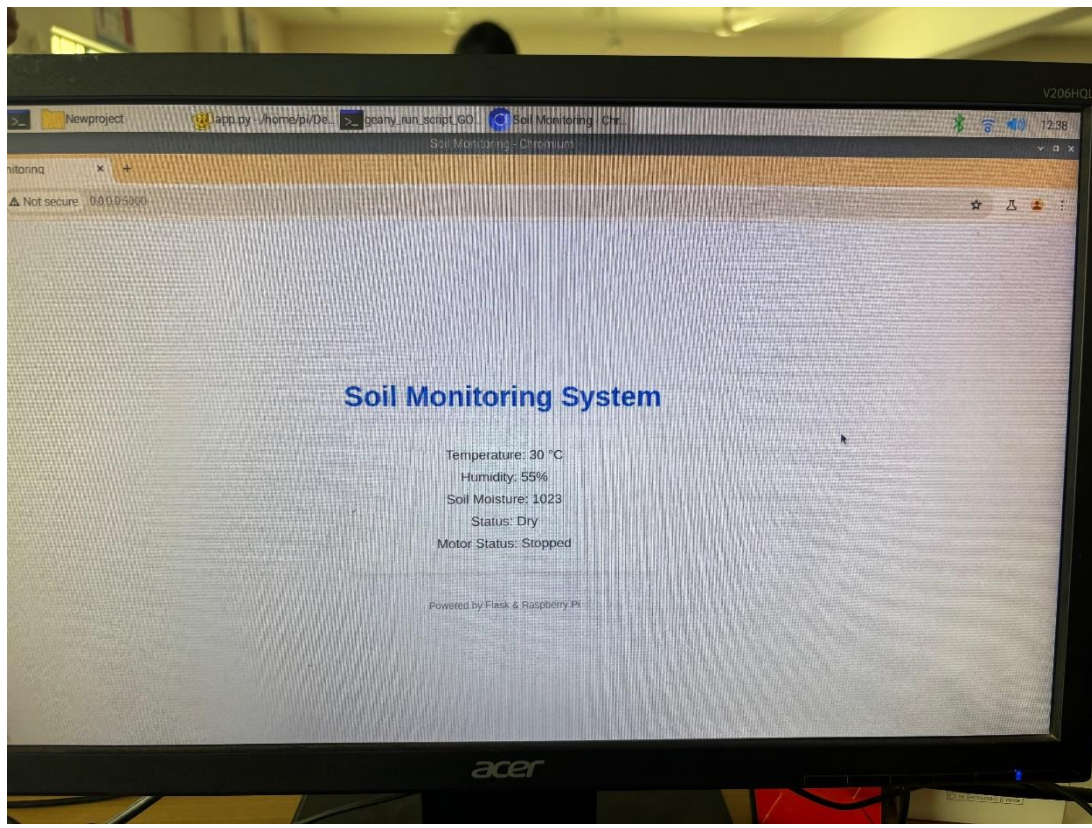


Fig. The webpage of the project